

TENNESSEE 2020

VISION FOR PARKS, PEOPLE & LANDSCAPES

2009

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STATE OF TENNESSEE

PHIL BREDESEN
GOVERNOR

Dear Tennessee Citizens:

I am pleased to present Tennessee 2020, a 10-year plan for the future of Tennessee's parks, people and landscapes. This plan outlines a number of initiatives, including strategic management of our parks, 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 importance of long-term, comprehensive planning for recreation and conservation benefitting Tennesseans now and into the future cannot be overstated.

The Tennessee Department of Environment and Conservation developed Tennessee 2020 with strong public support and input from a variety of citizens and stakeholders. I am a strong believer in developing partnerships and leveraging resources to accomplish conservation goals and this plan supports that philosophy through inclusion of strategies for all levels of government, the public, the business community and other organizations.

Working together, we have protected more than 200,000 acres of priority lands in Tennessee since 2003. This was made possible through comprehensive planning and critical partnerships. I pleased to introduce a plan that will carry Tennessee's goals for our parks, people and landscapes forward into 2020.

Warmest regards,

A handwritten signature in blue ink that reads "Phil Bredesen".

Phil Bredesen



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37242-0435

PHIL BREDESEN
GOVERNOR

JAMES H. FYKE
COMMISSIONER

Dear Citizens of Tennessee:

I am proud to present to you Tennessee 2020, a comprehensive planning document focused on the future of Tennessee's parks, people and landscapes. This plan represents an ambitious undertaking, expanding the scope of previous recreation plans by extending our vision 10 years into the future.

Tennessee 2020 documents the most critical needs facing conservation and recreational infrastructure over the next 10 years. It outlines goals, determined through an in-depth public process, for everything from improving public information about recreational opportunities to improving Tennesseans' health and our state's economic climate through sustainable practices. This plan will serve as a catalyst for the state to work with communities and other stakeholders to maintain the resources we have, prioritize specific needs for the future and take action to meet those needs.

We appreciate all the input received through surveys, public meetings, working groups and more. Tennessee 2020 is designed to help improve the quality of life we enjoy in Tennessee by helping us to work with a variety of partners to protect and improve our recreational assets.

Sincerely,

A handwritten signature in black ink that reads "Jim".

James H. Fyke
Commissioner





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A list of 144 documents included as background reference for the issues addressed in this plan.

These digital files can be accessed on the Reference Disc attached to the inside back cover.

PHOTOGRAPHIC CREDITS

Byron Jorjorian: 97 bottom, 104 both, 106, 112 both, 114

Tennessee State Photographic Services: 4, 6, 10, 15, 16, 20, 22, 23, 24, 29, 30, 33, 35, 37, 39, 41, 43, 44, 47, 49, 50, 53 both, 54, 55, 66 both, 69, 70, 73, 76, 77, 78, 81, 83, 87, 88, 89, 93, 95, 98, 100 both, 102 both, 103, 109, 111, 117, 118

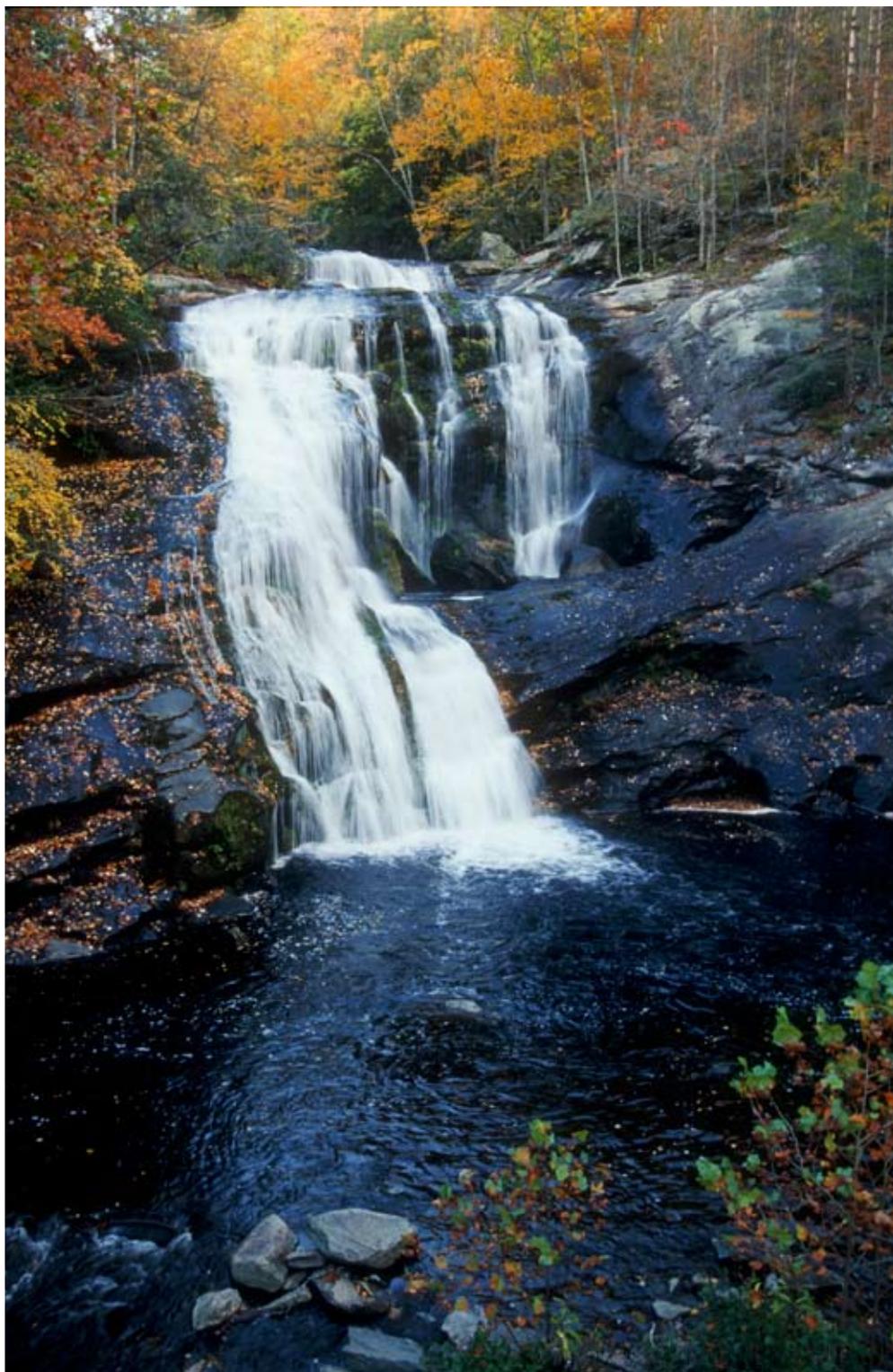
Chattanooga Parks & Recreation Department: 56, 59, 74, 90, 97 top

Warner Parks Nature Center, Metro Nashville Parks & Recreation Department: 22 top

PlayCore, Inc.: 64

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Special thanks to Byron Jorjorian for his generous contribution of images.



INTRODUCTION

The Tennessee Department of Environment and Conservation (TDEC) has prepared a state recreation plan every five years since 1965. In that year the Land and Water Conservation Fund Act established a mandate for each state to develop a set of priorities for federal grants to state and local parks and other recreation projects.

The original focus of a state comprehensive outdoor recreation plan (SCORP) was to compare the projected demand for various kinds of recreation resources in the next five years with the state's existing resource supply and to prioritize the types of recreation investments that were needed. This supply-and-demand model continues to be a component of the SCORPs, since recreation demand continually evolves.

Following the report of the Tennesseans Outdoors Commission in 1985, which addressed a broad range of issues relating to resource conservation and recreation over a 20-year timeframe, TDEC began to expand the scope of recreation planning beyond the confines of supply-and-demand metrics. In the last 20 years, Tennessee has increasingly leveraged the federally funded SCORP process to consider recreation and conservation in the broadest sense as a determinant of Tennesseans' quality of life.

This Tennessee 2020 plan expands the scope of the process to a more ambitious level. It has adopted a ten-year perspective to help maintain continuous improvement of quality in the state's parks and recreation infrastructure. It adopts multi-level strategies for complex, critical issues facing parks and recreation and resource conservation in the years ahead. It sets the state on a path toward becoming a national model in harnessing new technologies to achieve greater efficiencies and to engage the public as never before.

TDEC began this planning process with five primary objectives in mind:

- To review the implementation status of the 2003 Tennessee State Recreation Plan and recommend modifications as needed.
- To identify high-priority issues and trends that will affect recreation and conservation in Tennessee in the next ten years and discover opportunities to address them.
- To develop an issues-oriented vision to serve as a consistent compass for the state's conservation and recreation agenda in the next ten years.
- To develop an implementation-oriented action program to move the state toward achieving this vision in the next five years.
- To satisfy the National Park Service's SCORP plan priorities and qualify the state for continued federal grants from the Land and Water Conservation Fund.

Systematic Implementation Approach

The 2003 State Recreation Plan proposed creation of a Tennessee Recreation System. As the 2009 planning process evolved, it became clear that such a system was more critical than ever, as several high-priority issues could not be adequately addressed without the active participation of local recreation agencies. Accordingly, this plan integrates the concept of a seamless recreation

system into the implementation of the Tennessee 2020 vision. Three of this plan's initiatives - Public Health, Children in Nature, and Environmental Education - are to be implemented through state/local partnerships. And since implementation will require strong local partners, this plan proposes three initiatives - Advocacy and Funding, Recreation Information, and Quality Growth - that address the priority needs of these agencies. In addition, one initiative was specifically developed to strengthen the abilities of these agencies to serve as partners in a seamless recreation delivery system.

Sources of Input

The planning process made use of several sources of input to gain understanding of the issues, concerns and priorities relating to recreation and conservation in Tennessee:

- **Seven public meetings.** These were held in the four major metropolitan areas of Tennessee.
- **Online Public Survey.** The opportunity to participate in an online survey was widely advertised among conservation and recreation-related organizations. The respondents were self-selected, making this an unscientific but useful survey.
- **2009 Tennessee Recreation Attitudes and Behavior Survey (TRAB)** This was a scientific survey using randomly selected respondents to represent Tennessee's adult population as a whole.
- **Recreation Provider Survey.** This survey was circulated to all local parks and recreation departments in Tennessee and to all State Parks.
- **Tennessee Recreation Advisory Committee (TRAC).** This committee provided expert input and guidance for the plan.
- **TRAC Working Groups.** Four special-focus groups worked on specific issue areas and developed most of the initiatives in this plan.

Structure of the Plan

This plan's initiatives are organized under three domains - Parks, People, and Landscapes - each with

its own set of stakeholders and its own set of critical issues. The initiatives in the plan are defined in terms of nine statements of need:

Parks

1. The need of decision-makers for accurate information about the value of funding for parks, recreation, and conservation.
2. The need of the State Parks for a comprehensive systems approach to strategic management.
3. The need of Tennessee's cities and counties to provide diverse, close-to-home recreation opportunities for all their residents.

People:

4. The need of the public for more accessible information about recreation opportunities and better ways to participate in advocacy and planning.
5. The need of the public to avoid preventable diseases through increased physical activity.
6. The need of children to interact with nature as a necessary part of their healthy development.
7. The need of students to understand the natural world they will inherit in a time of daunting environmental challenges.

Landscapes

8. The need of rural regions for help in managing growth and preserving their quality of life.
9. The need of communities for more opportunities to enjoy and protect their local rivers, streams, and creeks.
10. The need of rural regions for help in harnessing their recreation assets for economic development.

To address each of these needs, the plan proposes an initiative composed of a Vision statement for 2020 and an Action Plan to be implemented by 2015. Since the critical issues addressed in this plan are interrelated in many ways, each initiative contains Coordination Links to integrate it with the implementation of other initiatives.

ACKNOWLEDGEMENTS

This plan has been made possible by the many individuals who contributed long hours of effort and many creative ideas to its development. The planning team is grateful for their generous investment of time and their relentless commitment to excellence.

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Lanny Goodwin, Director, Murfreesboro Parks & Recreation Department
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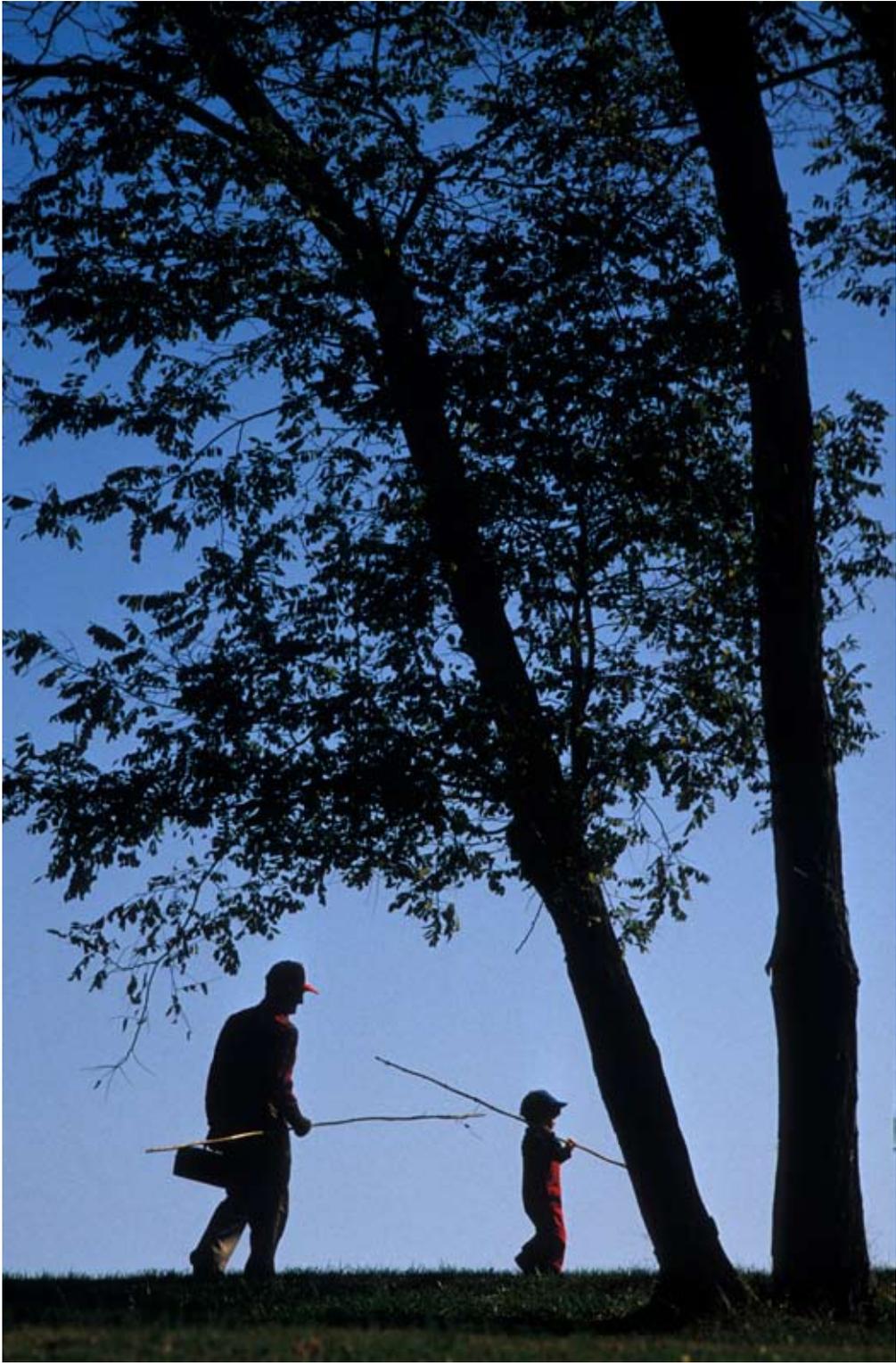
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EXECUTIVE SUMMARY

This plan has boiled down a large volume of input from surveys, public meetings, expert advisors, special-focus working groups, and issues research to arrive at 10 Statements of Need. These need statements express the most critical issues facing conservation and the recreation infrastructure in the next ten years in Tennessee. They fall into three domains: Parks, People, and Landscapes.

PARKS

1. *The need of decision-makers for accurate information about the value of funding for parks, recreation, and conservation.*

Parks have been underfunded in Tennessee for many years, yet the state's population continues to grow, and with it demand for more parks and recreation. Tennessee's State Parks produce \$37 in economic impacts for every dollar the state invests in running them, yet at current funding levels, they will be challenged to maintain their high standards of excellence in the future. No source of dedicated funding for parks and recreation exists in the state, leaving the recreation infrastructure vulnerable to further budget cuts in the future. The need to make a stronger case for the value of public investments in parks and recreation was the highest priority issue to emerge in this planning process.

2. *The need of the State Parks for a comprehensive systems approach to strategic management.*

Tennessee's State Park system, cited as the best in the nation in 2007, is facing a more complex array of management issues than ever before. Some types of facilities are an economic drain on the system and may need to be eliminated. Many others are growing old, creating a significant maintenance backlog. The need to implement sustainable practices calls for a sophisticated understanding of emerging solutions. Invasive plants

and pest insects are attacking the parks' biodiversity. New development can threaten the integrity of park boundaries and impair water quality in the park. To address new challenges effectively, park managers need a systems-oriented approach to strategic management. New technologies make such an approach possible for the first time.

3. *The need of Tennessee's cities and counties to provide diverse, close-to-home recreation opportunities for all their residents.*

Access to nearby parks and recreation centers is essential to the well-being of every Tennessee resident. Only local parks departments can deliver critically important opportunities to work recreation into daily life, where it is most needed. An effective recreation delivery system requires a statewide network of professional parks and recreation departments that is able to give all Tennesseans access to the recreation they need, regardless of where they live. The local recreation infrastructure as it currently exists in Tennessee contains wide disparities in the levels of recreation opportunities available to residents of the 95 counties, and all local providers are continually challenged to keep pace with growing demand. Local recreation providers can close gaps in service and expand recreation opportunities economically by using cooperative agreements to leverage existing resources and programs.

PEOPLE

4. The need of the public for more accessible information about recreation opportunities and better ways to participate in advocacy and planning.

Surveys of public participation in recreation activities have consistently identified lack of information as a significant barrier. Information about recreation opportunities is currently fragmented in Tennessee among many different federal, state, and local agencies. Likewise, information about recreation planning, resource conservation, and related legislation is difficult to locate, hindering the public's ability to participate in important decisions. Most of the other needs addressed in this plan also involve a need for a better information delivery system.

5. The need of the public to avoid preventable diseases through increased physical activity.

Nearly two-thirds of Tennesseans are not getting enough exercise to sustain good health, and a sizeable percentage take no exercise at all. Obesity is increasing at an alarming rate in Tennessee, and our state has the nation's highest incidence of diabetes. If the trend of the last 10 years continues in the next decade, the burden of preventable healthcare costs in the state could skyrocket. Increasing levels of regular exercise is now a goal of the highest priority for the entire recreation community.

6. The need of children to interact with nature as a necessary part of their healthy development.

Teenagers are turning away from nature and the out-of-doors in favor of television and computers, and younger children have far less unstructured outdoor play than previous generations. Unstructured play in nature is essential for a child's healthy physical and emotional development, and the lack of it is reflected in the rising incidence of a host of disorders in the young: ADD/ADHA, teen depression and suicide, and obesity.

7. The need of students to understand the natural world they will inherit in a time of daunting environmental challenges.

The environment is not something most of Tennessee's students are learning about in school; and that, coupled with the decline in outdoor play in nature, is giving them little reason to care. They should be learning now what they will need as adults to make difficult decisions in the face of climate change and other environmental issues. At the same time, integrating environmental content into the curriculum has been shown to increase student engagement in all subjects and produce measurable improvements in test scores.

LANDSCAPES

8. The need of rural regions for help in managing growth and preserving their quality of life.

Our state's population has grown rapidly in the last 20 years, but the land consumed by development has grown twice as fast. Water quality, wildlife habitats, and future opportunities for recreation are threatened by rapid conversion of farm and forest land. The burden of runaway growth is falling most heavily on rural counties that adjoin metropolitan areas. Tennessee cannot preserve its cultural heritage, natural environment, and quality of life unless the counties have better ways to deal with growth issues.

9. The need of communities for more opportunities to enjoy and protect their local rivers, streams, and creeks.

There are 60,417 miles of rivers, streams, and creeks in Tennessee, with at least one within half a mile of every community, home and school. All surface waters of the state are property of the state, making them the largest and most widely available class of publicly owned recreation resources in Tennessee. Most of these waterways are not fulfilling their potential for recreational use because they have not been made accessible to the public. Tennesseans can become better stewards of

water quality if they have opportunities to enjoy and appreciate these important assets.

10. *The need of rural regions for help in harnessing their recreation assets for economic development.*

Many of Tennessee's rural counties have lagging economies with high rates of joblessness and poverty. Yet these tend to be the same counties that are richest in recreation assets. Some of these assets - recently acquired conservation lands, State Forests, and Wildlife Management Areas - are not being managed to maximize their value as resources for public recreation. The challenge is to turn these recreation resources into drivers of local economic development.

Tennessee 2020 Initiatives

This plan proposes 10 strategic initiatives to address each of these critical needs. Each initiative is composed of:

- A 2020 Vision to define overarching goals, and
- A 2015 Action Plan to be implemented within the next five years.

Because the needs to be addressed are interrelated in many ways, the plan specifies measures to coordinate these initiatives into an integrated set of strategies. The 10 Tennessee 2020 initiatives are:

1. Advocacy and Funding

2020 Vision

Decision makers at the state and local levels will be fully informed about the economic impacts of parks and recreation in Tennessee, will recognize the value of public investments in this sector, and will be empowered to make sound economic decisions related to parks and recreation.

2015 Action Plan

TDEC will recruit a committee of the state's business leaders to provide advocacy for Tennessee's parks and recreation infrastructure through research to document the total economic impacts of parks and recreation in the state.

The General Assembly should restore permanent funding to the Heritage Conservation Trust, the Local Parks and Recreation Fund and the State Lands Acquisition Fund.

The Tennessee General Assembly should enact a dedicated funding source for parks and recreation.

2. State Parks Management

2020 Vision

Tennessee's State Parks will be a national model of a modernized, strategic park management process characterized by a dynamic, systems-oriented approach that ensures high standards of professionalism and consistency, eliminates wasteful spending, provides superior protection for park resources, and delivers a quality visitor experience.

2015 Action Plan

TDEC will develop a Tennessee State Parks Stewardship System designed to ensure system-wide consistency and provide a streamlined approach for all strategic management decisions.

This initiative will include system-wide core principles, the use of an online Geographic Information System (GIS) to inventory all park resources, and procedures for cost-benefit analysis of facilities. If effectively implemented, this system will more than pay for itself in cost savings.

3. Local Parks and Recreation

2020 Vision

All Tennesseans, regardless of where they live, will have access to consistent recreation services and close-to-home opportunities to enjoy recreation, exercise, and interaction with nature.

2015 Action Plan

TDEC/RES and PARTAS will develop incentives to encourage cities and counties to enter into school-parks agreements that open school recreation facilities to the public; to encourage high growth counties that lack a county-wide department to form one; to encourage creation of local greenways, with an emphasis on con-

nectivity of greenways, bicycle lanes, and sidewalks into local or regional networks; to help underserved counties develop multi-county parks and recreation entities, and to hold a Recreation Summit in 2010 to focus on issues relating to local parks and recreation departments.

This plan's Quality Growth initiative will encourage county planning commissions to recognize recreation resources as significant community facilities in their comprehensive plans, to include parks representatives on their commissions, to include funding for parkland acquisition as part of the subdivision permitting process, and to ensure that undeveloped land will be protected to provide for future recreation needs.

4. Recreation One-Stop

2020 Vision

Tennessee will pioneer the creative use of emerging Internet and geospatial technology to encourage greater public participation in all aspects of recreation. All Tennesseans will have access to a user-friendly source of information about the entire spectrum of the state's recreation opportunities. A vibrant, online community will enable the public to share recreation experiences with others, receive training for new activities, find partners for outings, encourage others to become more active, and get more directly involved in advocacy for parks, recreation and natural resource conservation.

2020 Action Plan

TDEC will establish a public/private partnership to develop a Tennessee Recreation One-Stop website with a user-friendly database of all federal, state, and local recreation resources and programs in the state, organized on a geospatial platform.

This website will include robust search functions, an information-rich page for each site, social networking functions, links to recreation- and conservation-related organizations, user-generated content, and online surveys.

5. Public Health

2020 Vision

TDEC, the Tennessee Department of Health, and the state's network of local parks and recreation departments will be active partners in encouraging the population to increase their levels of activity and exercise. The state will achieve a measurable decrease in levels of inactivity and obesity through a well-coordinated set of intervention strategies on many fronts.

2015 Action Plan

TDEC will assist the Department of Health's Obesity Task Force in developing strategies for integrating the efforts of local parks and recreation providers into the new State Obesity Plan and in improving their ability to provide effective fitness programming and outreach to high-risk groups.

6. Every Child Outdoors

2020 Vision

Tennessee's children will have high-quality, close-to-home opportunities for unstructured play in nature; families will become more engaged in nature and the outdoors; and school children will learn to appreciate the natural world and the need for environmental stewardship.

2015 Action Plan

TDEC will help local parks and recreation departments develop new parks and playgrounds and retrofit existing ones to create more opportunities for unstructured play in nature.

TDEC and the Department of Agriculture will establish a partnership to encourage increased use of native plants by parks, schools, and communities for creating micro-habitats and to encourage the use of farms as places for families to connect with nature.

Tennessee State Parks will establish outreach programs with schools, inner city neighborhoods and community centers to re-connect more children and families with the natural world.

7. Environmental Education

2020 Vision

Tennessee's schools will achieve measurable improvements in student performance by using the interaction of local natural and human systems as an integrating concept in all subjects and all grades, with the assistance of a well-organized, statewide network of professional interpretive specialists and a comprehensive, online information delivery system.

2015 Action Plan

TDEC, the Tennessee Wildlife Resources Agency (TWRA), the Department of Education and the Tennessee Environmental Education Association (TEEA) will form a partnership to develop a State Environmental Literacy Plan.

This plan will use Tennessee's environment as an integrating concept, provide hands-on experiential learning at outdoor classroom sites at each school's nearby streams or creeks, parks and nature centers, and use each school's local watershed as the framework for a Tennessee place-based curriculum.

The TEEA, TWRA and TDEC will organize Tennessee's professional interpretive specialists into an organized network with a consistent, statewide program specifically designed to meet the needs of teachers in implementing the state's Environmental Literacy Plan.

The Department of Education should seek federal



funds for climate change education, if such funding becomes available under legislation now under consideration, and should integrate this program into the State Environmental Literacy Plan.

8. Quality Growth

2020 Vision

Every Tennessee county will incorporate Quality Growth tools and principles in its land use planning and development permitting, so that each county's valuable natural infrastructure - parklands, greenways, streams and buffers, wildlife habitat, and conservation landscapes - will be protected as part of a systematic growth management process. These tools will include greenways and buffers to preserve the integrity of streams and protect state and local parks from impacts of adjacent development.

2015 Action Plan

The Tennessee Department of Transportation (TDOT), TDEC, and Cumberland Region Tomorrow (CRT) will form a partnership to establish new regional organizations or work with existing ones to implement the CRT Quality Growth methodologies.

The partners will assist these entities in building region-specific GreenPrint geospatial databases of natural infrastructure and region-specific Quality Growth Toolboxes and will help train the staff to use of these tools and provide training and technical assistance for county decision-makers.

9. Recreational Waters

2020 Vision

Tennessee's rivers, streams, and creeks will be the centerpiece of a coordinated approach to water quality regulation, quality growth planning, public stewardship of the environment, and environmental education. Ready access to these resources will be available along greenways and at road crossings. Tennesseans will be proud of their local watersheds and aware of their personal responsibilities to help protect water quality through their everyday actions.

2020 Action Plan

TDOT, TDEC, and CRT will include strategies for developing regional Blueways as part of the Quality Growth Toolbox. TDEC will share watershed data with these partners to facilitate this process. The Park and Float program should expand to meet the need for new boat launch sites.

The Quality Growth Toolbox will encourage communities to provide local stream and creek access along streamside greenways and at bridge crossings. TDEC's local grants priorities should encourage local projects which provide more access to recreational waters.

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

To continue wetlands protection, regular funding should be restored for TWRA's wildlife habitat conservation programs. The state should establish at least one wetland mitigation bank in each of Tennessee's fifty-four watersheds.

10. Rural Economies

2020 Vision

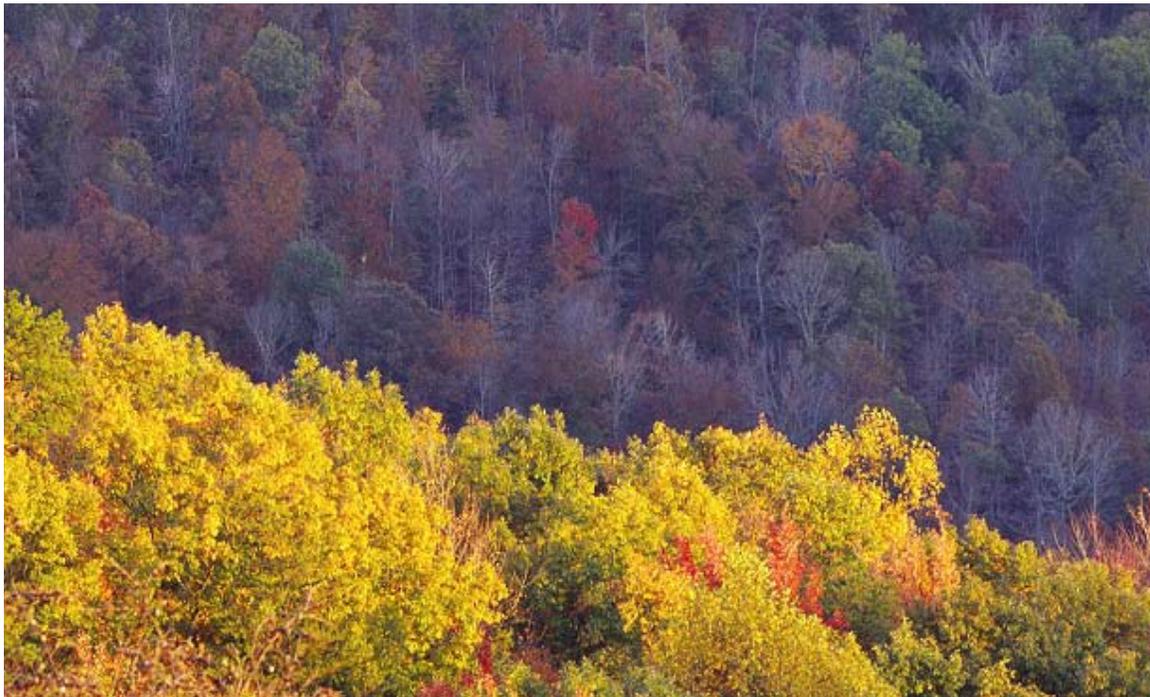
Tennessee's rural regions will gain significant economic benefits from their rich heritage of natural, historic, and cultural resources, will value them as significant assets, and will take steps to preserve and protect them.

2015 Action Plan

TDEC will complete development of the Tennessee State Heritage Areas program and introduce legislation to have the designation formally established.

TDEC, TWRA, the Department of Agriculture, and non-profit organizations will partner to develop a framework for a State Recreation Areas designation and seek legislation to establish the designation. The newly acquired North Cumberland Plateau lands of the Sundquist, Royal Blue, Emory River and Brimstone tracts should be designated as a pilot project under this program.

TDOT will proceed immediately with development of the Tennessee State Scenic Byways Plan.



CONTEXT OF THIS PLAN

Recreation Planning Trends

Of all the possible changes in the recreation and conservation planning in the next ten years, the most dramatic, if the recent past is any guide, will likely occur in the area of information technology. Already, technology is beginning to bring radical change to recreation resource management.

Geographic Information Systems (GIS) allow many different kinds of information, previously fragmented among many sources, to be overlaid on a single base map so that interrelationships, conflicts, and opportunities can be readily identified. The capability of this new technology is so great that agencies that once hoarded their data are now eager to share it, allowing new levels of coordination and cooperation. GIS has opened up fertile possibilities for comprehensive, multi-level, regional perspectives. Combining GIS with the Internet makes these data pools completely accessible, with no delays in receiving upgraded information. The most ambitious feature of this Tennessee 2020 plan is its embrace of online GIS inventories to produce solutions that would have been impossible a few years ago. This plan's initiatives will make key use of four online GIS systems, each with a different data set and a different function:

State Parks Stewardship System. An inventory of each park's facilities and resources, combined with an online toolkit, to help managers keep track of all resources they are managing and stay aware of procedures, directives or guidelines that apply to those resources.

Tennessee Recreation One-Stop. An inventory of all state, federal, and local recreation opportunities in the state, to give the public quick, convenient access to information. This GIS site will also support the following initiatives in this plan:

- **Advocacy and Funding.** Opportunities for public participation in advocacy for recreation resources and citizen action relating to pending legislation and recreation planning.
- **Public Health.** Information about close-to-home fitness programming and facilities.
- **Children in Nature.** Information about close-to-home locations where children can engage in unstructured play in nature.
- **Environmental Education.** Information for teachers about outdoor classroom locations and parks and nature centers with interpretive programs near their schools.
- **Recreational Waters.** Information about Blueways, locations for access to creeks and streams, and opportunities for watershed stewardship.

- **Rural Economic Development.** Information for potential visitors about a rural region's recreation opportunities involving natural, historical, and cultural resources.
- **Quality Growth GreenPrints.** An inventory of each region's natural resources, conservation landscapes, habitat corridors, historic sites, infrastructure, and other elements, to allow permitting agencies to foresee potential impacts of their decisions.
- **Watershed GIS.** An inventory of each of Tennessee's 55 watersheds containing all permit information, infrastructure planning information, and natural resources, to allow for a unified, interagency regulatory framework.

This plan is designed to make good use of other emerging features of the Internet as well, such as social networking, user-generated content, mobile computing, GPS uploads, and online surveys. These features can allow dynamic, interactive forms of communication between recreation resource managers and the public they serve, can encourage greater public participation of all kinds, and can place a new focus on individual experiences and needs. By starting now to incorporate these new features, the state will be in a better position to capitalize on future technological opportunities as they emerge.

Many of the concepts incorporated into this plan correspond with an evolution in recreation planning currently underway at the national level. With the Land and Water Conservation Fund due for reauthorization in 2015, professionals in the field of parks and recreation have recently been engaged in assessing the status of recreation in America and developing recommendations for improvements. Two of the most noteworthy are the Outdoor Recreation Review Group and the National Park Service.

Outdoor Recreation Review Group

It has been 20 years since the last major effort of this kind, the Americans Outdoors Commission chaired by Lamar Alexander while Governor of Tennessee. In 2008, Senator Alexander and other leaders in recreation and conservation convened the Outdoor Recreation Review Group (ORRG) to take a fresh look. TDEC's Commissioner Fyke was an active participant in this group. Their report, released in 2009, contains an ambitious new set of proposals. This Tennessee 2020 plan's initiatives reflect five of the eight ORRG proposals:

- Advocacy to promote the value of outdoor resources to community life and their benefits to the economy, public health, and youth education,
- Promoting recreation and nature education for America's youth,
- Use of geospatial planning tools and interagency data sharing to overcome fragmentation,
- Regional planning for landscape-level conservation through partnerships across levels of government, and with land trusts, other nonprofit groups, and private landowners,
- Development of a national network of Blueways and water trails.

National Park Service

The National Park Service has established a goal of enhancing children's interaction with nature through such efforts as the Get Outdoors, It's Yours initiative. The NPS is encouraging state and local projects to contribute to reconnecting youth with the land and water in order to create a new generation of stewards with a public service ethic; improve the mental and physical health of our nation; reduce the cost of health care; increase awareness of the important role that nature and science plays in our lives; encourage a more competent and competitive workforce; and ensure the perpetuation of the resources entrusted to our care. This Tennessee 2020 plan addresses these NPS priorities in three initiatives: Public Health, Children in Nature, and Environmental Education.

Recreation Infrastructure

State Parks

Tennessee's 53 State Parks received the National Parks and Recreation Association's 2007 Gold Medal Award as the best state park system in America. This recognition was the most recent example of Tennessee's long tradition of national leadership in its State Parks system and in resource conservation efforts:

- In 1974, under the visionary leadership of Walt Criley, TDEC's Director of Planning, the department developed the **Tennessee Outdoor Recreation Area System (TORAS)**, a systematic, comprehensive plan for all state park units. This plan was the first of its kind in the US.
- In 1975 Tennessee established one of the nation's first **State Natural Heritage programs**, designed to inventory all occurrences of rare, threatened, and endangered species in the state. The Heritage program gave Tennessee's State Parks the nation's first system for defining park critical habitat zones for protection of biodiversity.
- Tennessee established the nation's first **State Scenic Rivers Program** in 1968, the same year that the National Wild and Scenic Act was passed. The state also enacted one of the nation's first **State Natural Areas programs** in 1971. As of 2009 there are 80 publicly accessible State Natural Areas, and 13 State Scenic Rivers in Tennessee.
- Tennessee has the only state park system in the nation that is participating system-wide in the **All Taxa Biodiversity Inventory (ATBI) program**, documenting all species of plants, insects, and animals found in each park. Thirty State Parks are currently collecting this information in order to better manage their natural resources.

This Tennessee 2020 plan builds on this foundation of excellence with a new vision of forward-thinking innovation in the management of State Parks.

Local Parks

There are currently 140 organized parks and recreation departments located in 74 of the state's 95 counties. Local parks fill a critical need for close-to-home places to engage in sports, exercise, play, leisure, and interaction with nature. Local parks also offer programming for important target groups, such as sports leagues for young people and fitness programs for seniors. With Tennesseans increasingly living in urban and suburban settings, the public need for local parks continues to grow. This need is especially pronounced for urban minorities, who show the highest incidence of poor nutrition and lack of exercise and who often lack transportation to reach State Parks.

The network of local parks also appears to represent a psychological safety net for many families. A 2009 Harris poll suggests that the current economic downturn has spurred a sharp increase in public park and

The Cumberland Trail

The Cumberland Trail is an ambitious project of the Tennessee State Parks that began in 1998. Upon completion, the trail will be 300 miles long, crossing 11 Tennessee counties from the Cumberland Gap National Historic Park on the Tennessee-Virginia-Kentucky border, to Signal Point National Historic Park near Chattanooga. It will connect some of the most scenic areas of the Cumberland Plateau, including 13 State Parks, Forests, Natural Areas, and Wildlife Management Areas and four National Park units.

One hundred fifty miles of the Cumberland Trail are now completed and open to the public. Over the next eight to ten years, the state will work in partnership with the Cumberland Trail Conference, an associated organization of the Tennessee Trails Association, and other volunteers to solicit public and private support for acquisition of additional land along the trail.

playground use among families with children, especially those with younger ones. Asked how the recession had influenced their use of parks and playgrounds, 38% with children under 6 reported greater use.

In this plan's TRAB Survey, the number-one reason Tennesseans cited for not getting more exercise was lack of time. The emerging national focus on disease prevention places much stronger emphasis on regular exercise, and achieving this goal requires opportunities to fit exercise conveniently into the weekly schedule. An important solution to the lack-of-time problem is having parks and greenways located near to where people live and work.

TDEC's Recreational Education Services Division (RES) assists local parks departments through four grant programs for development of local recreation projects:

- **Land and Water Conservation Fund (LWCF)** grants to local governments and state agencies for the acquisition and development of public outdoor

recreation areas and facilities.

- **Local Parks and Recreation Fund (LPRF)** grants to local governmental entities for the purchase of lands for parks, natural areas, and greenways, for trail development and for capital projects in parks, natural areas, and greenways.
- **Natural Resources Trust Fund (NRTF)** grants to local governmental entities and state areas for outdoor recreation, historical or archaeological sites, and acquisition of lands or waters.
- A related grant program, the **Recreation Trails Program (RTP)**, administered through the Tennessee Department of Transportation, provides grants primarily to government entities for recreation trail projects. Grants totaling more than \$200 million have been awarded to 180 Tennessee communities to build sidewalks, bike and pedestrian trails, and to renovate historic train depots and other transportation-related structures.

To maximize the effectiveness of these grant



programs, TDEC’s Parks and Recreation Technical Assistance Service (PARTAS) works in partnership with local parks departments, offering them planning expertise to address the challenges of changing recreation needs and increasing demand for services. An important component of this service is helping to establish and improve the local government’s ability to deliver leisure services.

Land and Water Conservation Fund

At the time of its passage in 1965, the Land and Water Conservation Fund was intended to serve as the nation’s primary source of funding for resource conservation and recreation. From 1965 to 2009, 718 LWCF grants in Tennessee provided a total of \$71 million to acquire parklands and build recreation facilities in nearly every county of the state.

Beginning in 2000, Congress diverted LWCF funds and applied them to land maintenance needs of federal agencies, historic preservation, state and private forestry programs, and endangered species grants. The amount allocated to the states declined sharply. Tennessee’s annual LWCF funding, formerly in the range of \$5-6 million, steadily decreased over the last ten years and is now less than \$1 million.

As the ORRG report notes, this funding decline has happened “even as population and demographic changes have occurred, as anxieties about childhood obesity and public health have emerged, as community livability concerns have moved to the forefront, and as other urgent and unmet needs at the national, state, and

local level have surfaced.” The result has been a growing backlog of recreation infrastructure needs at both the state and local levels. Accordingly, this plan’s survey of local recreation providers found that inadequate funding for new parks and facilities and for programming and maintenance was their highest concern.

While this plan takes pains to maximize the effectiveness of available recreation funding by leveraging new technology, interagency cooperation and public/private partnerships, much of the important work outlined here will depend on adequate federal funding in the future. The ORRG report concluded that the LWCF is severely underfunded:

“The impact and utility of the LWCF, intended as the main funding mechanism for federal and state land acquisition, has declined because of inadequate, undependable appropriations, making it nearly impossible to plan future projects. This is particularly so for the state share and, in turn, for urban areas, even though states and localities are on the front lines in providing parks and recreation opportunities as elements critical to their economic well-being, community livability, public health, and education.

“Funding levels are woefully inadequate to meet identified needs for land and water conservation and outdoor recreation: the stateside LWCF backlog for acquisition and related facilities development in 2008 was \$27 billion; and demand for recreation facilities to meet the needs of a growing population remains significant. At its peak, in 1977, LWCF was authorized at \$900 million a year. In order to fund LWCF fully at the \$900 million level Congress envisioned in

LWCF Grants in Tennessee, 1965-2009

Grant Type	Number	Amount
Planning	17	1,395,969
Acquisition	97	20,506,534
Development	402	41,803,772
Redevelopment	128	7,618,694
All Grant Types	718	71,324,969

1977, adjusting for inflation, this figure would be \$3.2 billion today.

“Congress should permanently dedicate funding at the highest historical authorized level (\$900 million a year) adjusted for inflation. This financial support is needed to protect natural, historical, ecological, cultural, and recreational resources around the country, including parks, wildlife refuges, forests, and other resource lands and waters.”



Benefits of the Land and Water Conservation Fund

The LWCF serves a vital national need, the need to get the American public active and healthy, fulfill local conservation priorities, and allow access to close-to-home public lands and recreation facilities.

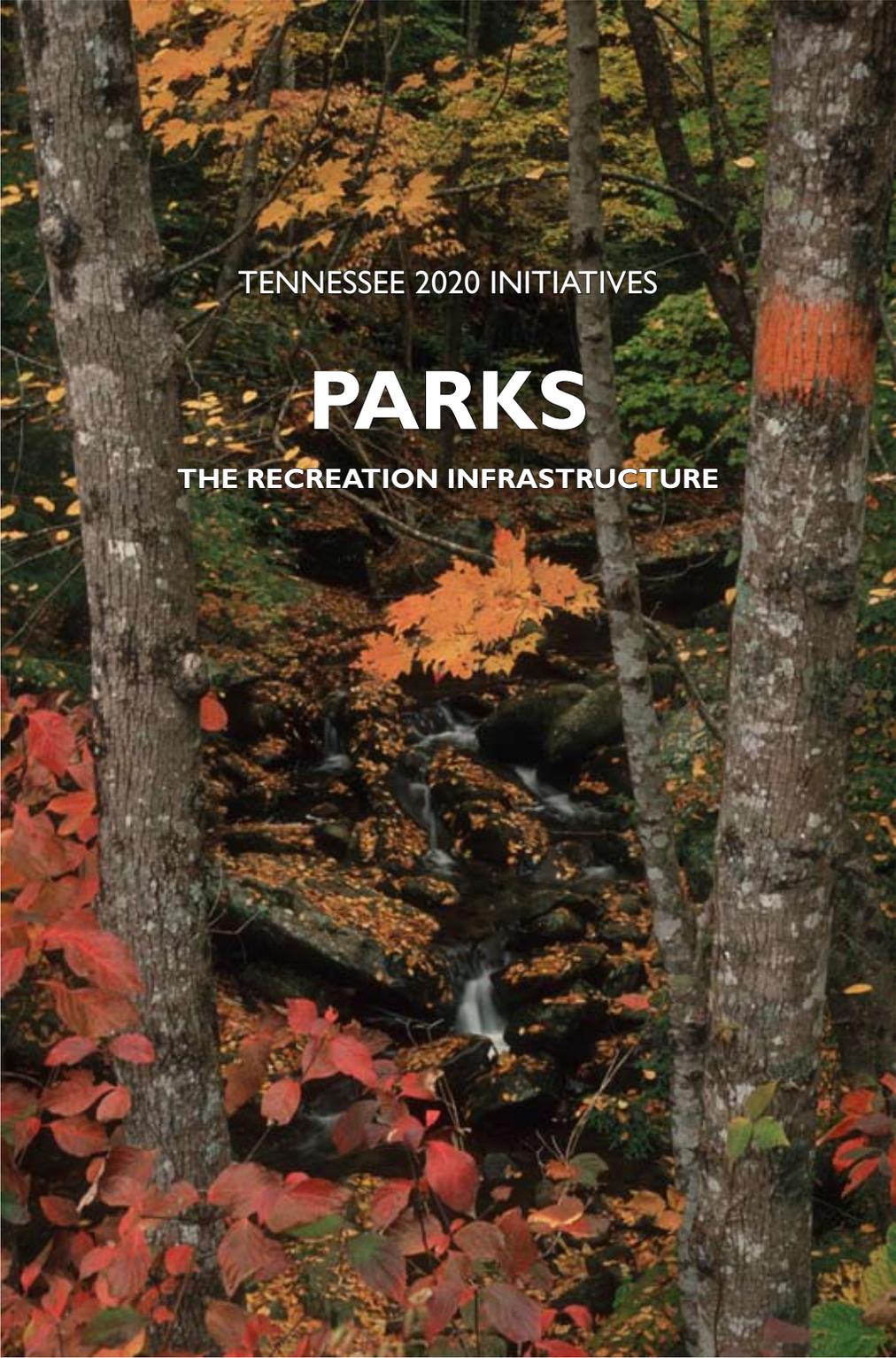
Funding provided through LWCF stimulates local economies, promotes job creation, and provides community health resources and protects environmental resources.

LWCF State Assistance funds help to develop sports fields, neighborhood parks, community gathering places, as well as the acquisition of green space for state and local conservation and park purposes.

These resources allow park and recreation agencies to play a key role in solving national issues such as climate change, obesity, reduction of crime, and energy and land conservation.

Source: National Parks and Recreation Association





TENNESSEE 2020 INITIATIVES

PARKS

THE RECREATION INFRASTRUCTURE



I. ADVOCACY AND FUNDING

THE NEED of decision-makers for accurate information about the value of funding for parks, recreation, and conservation.

An estimated 16.9 million people visited Tennessee's State Parks in FY 2008, and their total spending during these trips contributed \$1.5 billion directly or indirectly to Tennessee's economy and to the local economies of many rural counties. This impact represented a return of \$37 for every dollar the State invested in State Parks during the fiscal year.

These new findings from the 2009 TRAB survey are reported in detail in a report on this plan's Reference Disc. State Park visitor impacts are only one component of the overall economic impact of Tennessee's parks, trails, greenways, rivers, wildlife management areas, and local recreation programs, an impact that has never been measured.

Additional spending for recreation projects or acquisition of conservation lands, especially in the economic climate of 2009, can be too easily dismissed as a luxury the state can ill afford. Decision makers at the state and local levels have no reason to maintain or increase

funding for parks, recreation and conservation when they have not seen hard evidence that such funding yields a high rate of return on investment.

Visitor spending on trips to state and federal parks bolsters the local economies of many rural counties. Spending on equipment for sports, hunting and fishing, boating, hiking, camping, birding, and other recreational activities contributes substantially to state and local sales tax revenues. Case studies in corporate siting decisions suggest that Tennessee's outstanding recreation amenities play an important role in attracting new jobs and talent to the state. In addition, recreation providers

are on the front lines in addressing costly public health issues that severely threaten the state's economy. These factors make investments in the recreation infrastructure critically important to the state's economy, as much so as those in roads and schools.

Park Visitation Impacts

Studies in other states reinforce the TRAB survey finding that the total impact of economic activity related to the state's recreation assets may be far greater than is generally appreciated. A sample of these findings is as follows:

Virginia State and Federal Parks. "Virginia State Parks report 741,043 overnight visitors and 6,255,332 day-use visitors to the parks in 2005...The direct economic impact of state park visitation was \$155,663,537 statewide...Visitors to National Park Service sites had an economic impact of \$263 million supporting 6,100 local jobs." (The Virginia Outdoors Plan, 2007.)

North Carolina State Parks. "Analysis of data...reveals that the state parks make a considerable economic contribution to North Carolina's economy: \$289 million in sales; \$120 million on residents' income; 4,924 full-time equivalent jobs." (Economic Contribution of Visitors to Selected North Carolina State Parks, Jerusha B. Greenwood, Ph.D. and Candace G. Vick, Re.D., Recreation Resources Service, North Carolina State University, 2008)

Texas State Parks. "For all 123 Texas State Park units...the economic activity based on sales was estimated to be \$935 million, the impact on residents' income was \$538 million, and the number of jobs created was estimated at 14,061. (The Economic Contributions of Texas State Parks in FY 2006, John L. Crompton and Juddson Culpepper, Department of Recreation, Park and Tourism Sciences, Texas A&M University, December 2006)

Texas Municipal Parks. "The incremental net fiscal revenue to the State government from local parks activity is approximately \$171.6 million per year...Local parks across the state lead to the creation of 45,623 jobs through their maintenance and operations activity, capital investment, and direct tourism." (Sunshine, Soccer,

and Success: An Assessment of the Impact of Municipal Parks and Recreation Facilities and Programs on Business Activity in Texas, 2006)

Colorado Recreation. "Annual economic activity generated by outdoor recreation in Colorado is likely \$10 - \$15 billion dollars based on the results of nine known economic studies related to outdoor recreation activities." ("Economic Activity Attributed to Outdoor Recreation," Colorado State Comprehensive Outdoor Recreation Plan, 2007)

Costs of Obesity

The obesity epidemic involves a different kind of economic impact, a significant one that can result from failure to adequately fund Tennessee's parks and recreation infrastructure. Tennessee has the nation's 4th highest rate of adult obesity, 30.2%, and the incidence of obesity in Tennessee has risen steadily for the last ten years. The total annual costs of obesity-related diseases in Tennessee can be estimated as follows:

6.2 million TN population
x 30.2% obesity rate
x \$1429 additional costs per obese person
= **\$2.7 billion/year**

This figure squares with a previous research estimate of \$1.84 billion for Tennessee in 2000. The rate of obesity in Tennessee has continued to climb steadily for the past ten years, and with 36.5% of Tennessee's young people age 10-17 overweight or obese, that generation could be a ticking time bomb of future obesity-related costs.

A 2009 study of the national impacts of obesity by the research center RTI International finds:

- Obesity is now responsible for 9.1 percent of annual medical expenditures, compared with 6.5 percent in 1998.
- An obese person has \$1,429 per year more medical costs, or about 42 percent more costs, than someone of normal weight. Costs for an obese Medicare recipient are even greater.
- Obesity will continue to impose a significant burden

on the health care system as long as the prevalence of obesity remains high.

The behavioral causes of obesity are twofold: lack of regular exercise and poor nutrition. Centers for Disease Control figures for 2007 showed that 31.5 % of Tennesseans engaged in no leisure time physical activity. This was the second highest inactivity rate among all states. Inactivity rates are especially acute among the poor, whose healthcare depends on public funding. The rate of obesity among Tennessee's African-Americans and Hispanics is 35%.

One of the primary contributing factors of obesity - lack of sufficient exercise - is addressed in two other initiatives of this plan. The **Quality Growth** initiative addresses the relationship between land use or community design and physical activity. The **Public Health** initiative proposes actions to understand the root causes of inactivity, especially among high-risk demographic groups, and to motivate more people to engage in active recreation. While these are important components of a solution, a third issue also demands attention: the levels of funding provided for local parks and recreation departments.

Local parks clearly have a significant role to play in any public health solution, because they provide places and programs that can encourage the public to get more exercise. Well-funded local parks can do the job better because new, renovated, or well-maintained facilities have stronger public appeal; and increased staffing can provide a wider range of fitness and sports programming. Thus, ample funding of parks to help them address one of the primary causes of obesity is a recreation-related factor that can have a significant impact on Tennessee's economy.

The Need for Quantified Data

As noted in the 2003 Tennessee State Recreation Plan, funding for parks and recreation in the state has not kept pace with population increases, inflation or increasing demand. A prime example is funding for

State Parks. Since 2003 appropriations for State Parks have remained essentially flat, while the costs of transportation, utilities, and supplies have risen. As park buildings have grown older, maintenance costs have continued to rise. Some 100 employee positions lost during park closures in 2002 have never been restored, leaving many parks shorthanded. Clearly the State Parks have done an outstanding job of stretching their available resources, as they were named the best state park system in the nation in 2007, but this quality will be unsustainable if the system does not receive the funding it needs. Similar situations exist at the local level, with city and county governments failing to provide adequate funding for parks and recreation.

To make matters worse, in an economic downturn parks and recreation funding sources tend to be eliminated altogether rather than trimmed, as happened in 2009 when the Tennessee General Assembly withdrew all funding for the Heritage Conservation Trust Fund, the Local Parks and Recreation Fund (LPRF) and the State Lands Acquisition Fund. It is evident that decision-makers are simply unaware that investments in parks and recreation return significant benefits to the state.

Much documentation already exists about economic impacts of parks and recreation, but it is currently fragmented among a wide variety of entities and studies. It includes but is not limited to:

Direct Impacts:

- Recreation-related visitor spending (in-state and out-of-state)
- State and federal park direct revenues: State Parks, TWRA, federal parks, TVA, Corps of Engineers
- Private recreation infrastructure revenues (marinas, horse livery services, etc.)
- Local parks and recreation department direct revenues
- Amateur sports event and tournament revenues
- Recreation equipment spending (state sales tax data)
- Recreation sector employment and income

Indirect Impacts:

- Multiplier effects of direct spending (including jobs creation and income)
- Real estate property tax differentials attributable to proximity of parks and greenways
- Corporate recruitment attributable to recreation amenities, such as the Volkswagen plant siting in Chattanooga (increase in jobs and incomes)

New Research:

Interpretation of existing data could be made significantly more precise through telephone and intercept surveys, focus groups of target populations, and other research to clarify important underlying factors and to document impacts that have no readily available metric. For example, what relationship exists between local parks and greenways and reduced health costs from obesity and inactivity-related diseases?

Dedicated Funding

While decision-makers may assume parks and recreation to be less essential than other vital government services, the public does not share that sentiment. In the 2009 TRAB Survey, 71.2% ranked repairing and maintaining State Parks as an extremely important priority, and 63% gave the same importance to repairing and maintaining local community parks.

With the state's parks in need of repair and local recreation providers increasingly called upon to undertake the tough job of combating the obesity epidemic, Tennessee needs to consider what many other states have done in providing dedicated funding sources for parks and recreation. Such a funding source must support the costs of programming as well as facilities. New data on recreation's very high rate of return, such as that for State Park spending, should begin to convince



decision-makers that a dedicated funding source would be a wise investment for Tennessee. The question, then, becomes one of choosing the funding source with the highest public support.

The 2009 TRAB Survey tested public support for seven options for recreation funding. The results are presented in the table below.

These results break cleanly into three groups. The public strongly supports having some funds diverted from an existing revenue source. They show moderate support for new taxes on activities that can affect the environment. And they are generally opposed new taxes that would fall on the general public.

It should be noted that these responses were obtained during the summer of 2009, when many social services were being trimmed or cut. It can be assumed that public attention was focused more than is usual on the competition for every dollar of government revenue. Thus, it is especially significant that the public showed strong support for diverting a portion of state revenues to parks and recreation.

Conclusions

Stable, dedicated funding for Tennessee’s parks and recreation infrastructure is clearly needed. Realistically, however, this objective cannot be achieved by the efforts of the recreation and conservation community alone.

The stakeholder support base must be expanded to include the business community. Tennessee’s businesspeople may have the most to gain from increased public funding for parks and recreation, because the economic impacts of parks and recreation benefit the state’s economy significantly. High-quality recreation amenities have been shown to strengthen the overall business climate and attract new talent. The business community is best prepared to assess the return on investment of recreation funding and can serve as the most credible advocates for increasing these investments.

2015 Action Plan

TDEC, with the assistance of the Tennessee Conservation Commission, should recruit a committee of the state’s business leaders to provide advocacy for Tennessee’s parks and recreation infrastructure. The function of this committee should be as follows:

Undertake a compilation of existing economic data and research findings, and undertake new research as needed, to document in quantitative terms the total value of parks and recreation to the state’s economy.

Explore options for a dedicated funding mechanism for parks and recreation facilities and programs and propose a solution to the General Assembly.

Seek funding for this initiative from Tennessee’s

Recreation Funding Options	Oppose %	Neither %	Support %
Dedicating 7% of the state sales tax rate on the sale of equipment purchased for outdoor recreation	12.9	18.4	68.8
Dedicating 1/8 of 1% of all state sales tax revenue	11.5	19.9	68.6
Dedicating 1 cent of the 20-cent per gallon gasoline tax	21.2	12.5	66.3
Increasing the tax on the removal of coal, gas and oil from land in Tennessee	26.2	20.0	53.8
Increasing fees for solid waste disposal	22.6	26.8	50.7
Adding 1/8 of 1% to the state sales tax on all taxable items	36.4	18.4	45.2
A surcharge of 3% on the purchase of outdoor recreation equipment (binoculars, canoes, cameras, tents, sleeping bags, etc.)	37.1	20.9	42.0

business community and from private foundations with an interest in recreation and public health. Prospects include: the Robert Wood Johnson Foundation, the Doris Duke Charitable Foundation, the Laurance S. Rockefeller Fund, the Richard King Mellon Foundation, and the David and Lucile Packard Foundation.

Serve as credible spokespersons for communicating the findings of this research to the Governor, members of the General Assembly and to local government officials.

TDEC and local parks and recreation departments should use the results of this research to reinforce budget proposals.

The General Assembly should restore permanent funding to the Heritage Conservation Trust, the Local Parks and Recreation Fund (LPRF) and the State Lands Acquisition Fund (SLAF).

The Tennessee General Assembly should enact a dedicated funding source for parks and recreation which supports recreation programming as well as facilities.

2020 Vision

Decision makers at the state and local levels will be fully informed about the economic impacts of parks and recreation in Tennessee, will recognize the value of public investments in this sector, and will be empowered to make sound economic decisions related to parks and recreation.

Coordination Links

Local Parks and Recreation: Local decision-makers are more likely to fund parks and recreation adequately when they understand the value to the community.

Public Health: State and local decision-makers will have information about how investing in public recreation can help to decrease the massive burden of health care costs.

Quality Growth: The findings of this research project will reinforce local governments' understanding that preserving open space for recreation benefits the local economy.





2. STATE PARKS MANAGEMENT

THE NEED of the Tennessee State Parks for a comprehensive systems approach to strategic management.

During the ten years covered by this plan, TDEC will transition through two changes of leadership. Fortunately, the Division of State Parks is now led by the most professional management team in its history, with a record of excellence that was nationally recognized by the National Parks and Recreation Association's 2007 Gold Medal Award as America's best state park system.

The goal for the next ten years is to retain this high level of professionalism in Tennessee's park system managers and equip them with a new, comprehensive, strategic management system, enabling them to continue to improve the quality of the State Parks and the park visitor experience.

A major transition toward such a system is already underway. In the last four years, TDEC has undertaken a surprising number of initiatives, which together are moving the department toward a more strategic, mod-

ernized approach to parks management.

- Formation of a new **Resource Management Division** to manage the department's natural and cultural resource protection strategies, outdoor recreation and conservation education components (which also includes interpretive programming) and rivers and trails programs. A major priority of this new division is to implement and enforce a new **Natural and Cultural Resource Protection Policy**. This policy mandates that no change of landscape or

land use can take place on state park lands without rigorous internal review. This policy also includes the protection of historic structures and areas and prehistoric sites.

- **Tennessee State Parks Strategic Direction** provides an overall vision statement which expresses a set of core principles for managing the parks and reinforces the primacy of their conservation mission. Strategic initiatives established for State Parks include: professional management practices; protecting valuable resources; developing natural and cultural resources; acquisition of special places, including conservation priorities and acreage to provide buffers for and corridors between existing public lands; encouraging volunteers; marketing park authenticity; hospitality services; greening the parks; making the most of State Parks as classrooms; improving and maintaining exhibits and signage; expanding use of GIS and GPS technology; park management plans; and greater public involvement.
- Initiation of a **comprehensive GIS inventory** database of all State Park resources and facilities, which makes use of newly available GPS technology to facilitate the data collection process.
- The **Program Services Unit**, within the Resource Management Division, manages some 16,000 interpretive programs presented annually within the park system. This unit has initiated a mandate of 32 hours per year of training for uniformed staff in the areas of interpretive skills and resource management.
- An **Interpretive Action Plan template** designed to help the parks increase their focus on visitor experience and to align interpretive programming with each park's unique characteristics. Each park is currently developing an individual Interpretive Action Plan, which includes an inventory of interpretive facilities, programs and special events, interpretive staff, outside personnel, resource materials, equipment and live animal facilities available at each

park as well as goals to be accomplished over the next four years.

- A **Department of Education partnership** with Tennessee State Parks, under which 20 parks have established year-round environmental education classrooms. Fall Creek Falls State Park now conducts a residential environmental education program that serves students statewide.
- A new **Management Direction Statement** template to help park managers identify management issues and develop consistent strategies for addressing them. Each park has developed its own management direction based on this template.
- A **Greener State Parks Commitment** that has produced reductions in waste and energy savings. Any new construction must now include consideration of energy efficient alternatives as part of the design. All parks are sharing in this initiative.
- A **Land Use Planning process** that is eliminating over-mowing in most of the State Parks, resulting in reduced use of fossil fuels and lower emissions. By utilizing native grasses and plants, mowing will eventually be reduced by as much as 40% statewide. Under this initiative the parks are also working to remove invasive exotic plants and fighting the Hemlock wooly adelgid in the eastern part of the state.
- The **All Taxa Biodiversity Inventory (ATBI)** program, the parks' first comprehensive biological inventory. This program utilizes park staff, local universities and schools, scientists, community volunteers and others with interests in biology to create standard protocols and an inventory database. This inventory will be used to protect the plant and animal species found in the parks. Presently, 33 State Parks are now participating in the ATBI with 14 universities and numerous volunteer groups. Several new state records have been discovered, and it is suspected that there may be thousands of plants and animal species yet to be identified.

The sheer volume and scope of these initiatives sug-

gests a need for a systems approach to ensure coordination, collaboration, and consistency and to streamline the decision-making processes involved in managing a park's day-to-day operations.

On a related front, the park manager's job is becoming more complex than ever as technology begins to play a far more central role, demanding new skills but offering significant opportunities for taking management processes to a new level of effectiveness. **Geographic Information System (GIS)** technology can provide a far more accurate representation of the resources being managed, one that can be continually refined as conditions change. **Geographical Positioning System (GPS)** devices can quickly capture the geospatial data needed to build a working GIS database. The state's transition to the **Edison system** will allow greater control over many park operations.

New technology can be a blessing or a nightmare, depending on how it is organized and implemented, and whether it arrives with the necessary level of training and support. In recent years, a new generation of park managers has moved into place, all with degrees in park management and a more professional perspective. They can make more effective use of new tools if these are organized as components of an integrated management system.

Management Issues

State Park managers today are also confronted with a number of challenging new issues that call for innovative approaches and new strategies in State Park operations. Many of these issues involve factors from outside the park boundaries that are demanding increasing attention.

Facilities Costs

Economic conditions and state budget cuts in 2009 are spurring an objective assessment of the net costs of operating State Park facilities. Few facilities have been built in recent years, as the parks system has returned to its core mission of resource preservation. Yet there

exists a legacy from a previous era that placed a greater emphasis on revenue-producing facilities. During this period legislators sometimes pressed for new park facilities in their districts, often without regard to whether these would be economically sustainable. Thanks to good management, revenues currently generate most of the total costs of operating all State Park facilities, but the department's goal is to eliminate operating deficits altogether. Some types of facilities clearly contribute significantly to this deficit and need to be considered for closure. In addition, the age of many park facilities and structures has made them very expensive to maintain, resulting in a maintenance and renovation backlog estimated at \$100 million. With heightened attention now being paid to wasteful spending in state government, this is the optimum time for TDEC to make hard choices about which park facilities represent a drain on the system and need to be closed.

Sustainability

The State Parks are called upon to fill a unique role in the greening of Tennessee. As places where millions of people go to be closer to nature, they serve as natural role models for demonstrating how human beings can live in balance with nature in ways that are practical and appealing. Indeed, the legislation creating the State Parks system calls for this kind of balance: "Every park under the provisions of this Act shall be preserved in a natural condition so far as may be consistent with its human use and safety and all improvements shall be of such character as not to lessen its inherent recreational value."

While the sustainability concept is simple, implementing it can be extremely complex. New green technologies for buildings are emerging constantly, some far more cost-effective or practical in the long run than others. The same applies to sustainability solutions for park operations. To be able to incorporate the Greener State Parks directives into their decision-making processes, park managers need an easily accessible set of

reference guidelines, one that can be quickly updated as new sustainable technologies and practices emerge.

Invasive Plants and Pests

Most nursery plants imported from other continents have no natural predators in North America to hold them in check. Some of these are now identified as “invasives” because of their ability to spread rapidly over the landscape, displacing native species. Tennessee’s State Parks are not immune to the insidious threat of invasives. A well-known example, kudzu, has engulfed parts of the forest in several State Parks. Protecting the biodiversity of the parks calls for well-defined measures to control and, where possible, eliminate alien invasives.

Insect pests have emerged as a major new threat to the parks. Perhaps the most worrisome is the Hemlock

wooly adelgid, which can rapidly kill whole stands of hemlock trees. In many of Tennessee’s most scenic State Parks, especially those on the Cumberland Plateau and in East Tennessee, old stands of hemlocks are among the park’s most beautiful features. Left unchecked, the wooly adelgid will significantly impair many of the most scenic gems of the State Park system in the next few years. Preventive treatments do exist but can be expensive and limited in scope. In the coming years, the parks system will need to monitor emerging new strategies for combating insect pests and be able to deploy them quickly when they become available.

Water Quality

Some State Parks have water in their streams or lakes that is unfit for bodily contact or fishing because of upstream pollution. Some 20 years ago, the lake at



Cumberland Mountain State Park, created by a beautiful stone dam constructed by the Civilian Conservation Corps (CCC), was an ideal swimming place that was the jewel of the park. Pollution from upstream in the watershed contaminated the lake, forcing the park to build a swimming pool.

As development increases in park watersheds, park managers need resources for staying aware of new contamination sources that affect their resources and for addressing these sources early. Since much of today's water pollution results from land uses rather than industrial sources, park managers also need tools to help them work in partnership with local governments, which have jurisdiction over land use.

Boundary Encroachments

New developments adjacent to a park's boundaries can impair the scenic values of the park, its water quality, and the viability of its biodiversity. Some park managers are addressing this issue on an informal basis by working in partnership with local governments and

other entities. This is a strategy that can protect many of Tennessee's State Parks from encroachments, but many park managers will need tools for implementing it.

Historic Resources

While the State Parks mission includes preserving historic resources, it has not always been recognized that some of the park structures are themselves historic. Many are now over 50 years old and are classified under U.S. Department of the Interior guidelines as historic structures worthy of special protection. Prime examples are the cabins built by the CCC, whose proportions, craftsmanship, and materials use make them rare and significant remnants of an important era in Tennessee history. In two State Parks, CCC cabins have been either renovated inappropriately, eliminating their historic integrity, or allowed to collapse for lack of maintenance.

The department's Natural and Cultural Resource Protection Policy will help prevent inappropriate alterations and neglect of historic State Park structures

Harpeth River: Managing Outside the Park

The Harpeth State Scenic River has demonstrated the value of "managing outside the borders." The park has developed partnerships with government and non-governmental agencies including the Tennessee Department of Transportation (TDOT), city and county agencies, businesses, property owners, and local media venues. Through TDOT, park roads, signage and roadsides have been improved and maintained. City firefighters have assisted with river rescues and the installation of mile markers along the river. County officials have assisted in efforts to create a vegetated buffer zone along sections of the river. Commercial outfitters work alongside park staff to provide quality experiences for river enthusiasts. Adjacent park property owners have been willing to provide easements, and even to deed or sell land to the state for park expansion. The local media promotes

park activities through publications and television. Other resources have come from volunteers. One man donated his time and talent to create a bluebird trail at Hidden Lake. Now he monitors and maintains the nesting boxes. Another family visiting from Virginia cleared exotic and invasive plants from Hidden Lake. Two Boy Scouts of America Scout Masters have helped 12 young people achieve the rank of Eagle Scout through projects to enhance hiking trails and reduce vandalism inside the park. Several scout troops, university organizations, and leadership development programs, along with interested local volunteers have participated in river clean-up events, planted trees along trails, cleared dead tree branches from the river, and assisted park staff with general park maintenance projects. Numerous other volunteers have helped with interpretive programs.

in the future, but the process could also benefit from a formal, independent review mechanism. In most states, approval from the State Historic Preservation Officer is mandated for alterations to state-owned historic structures.

Some natural features also have historic significance that makes them worthy of special protection. For example, Great French Lick, a mineral spring located within Bicentennial Mall State Park, was the original reason for Nashville becoming a center for Native American hunters and later a trading post for early settlers. This historic feature, covered over during the redevelopment of the area, could tell an important story of the founding of Nashville if it were restored.

Several State Parks contain recognized Native American archaeological sites, some of national importance. Given the widespread distribution of Native Americans in Tennessee before European settlement, others probably exist that are yet to be discovered. Accordingly, the Tennessee Commission of Indian Affairs passed a resolution in 2005 calling for “development of Management Direction Statements and full Management Plans, with full and direct Native American participation, for all state-owned sites of Native American significance.”

Conclusions

Tennessee’s State Parks system appears to be evolving on many fronts toward a new level of management expertise. In the past, park management guidelines and directives have resided in printed reference documents, which were difficult to revise. Digital technology now allows a far more dynamic, fluid, systems-oriented approach. An online GIS database can give a park manager a continually updated picture of all resources and facilities under management, including directives relating to each feature. If a park manager is faced with a decision regarding a particular historic structure, a click of the mouse can call up all department directives and procedures that relate to that feature. If a more effective treatment for a pest species emerges, an online GIS can be globally updated to add that information for all areas in the park system affected by that pest. Management decisions can be based not on a bookshelf of quickly out-of-date reference documents but on a dynamically evolving toolkit.

The toolkit model is also appropriate for many of the issues facing park managers today. An online tool can help a park manager compute a cost-benefit analysis of a park facility based on continually updated expense,



revenue, and visitation data. The anticipated online GIS for the department's new Watershed Management Approach will give the park manager access to all local sources of pollution of the park's streams, giving the manager the ability to work with local officials to mitigate those sources, for the good of the park as well as the local economy.

Bringing all the department's strategic management initiatives under a single, GIS-based, online system will keep the Tennessee State Parks in the forefront nationally in terms of continual quality improvement.

2015 Action Plan

To continue the high level of excellence in the State Parks system, TDEC must maintain the current level of professionalism in its management team, especially at the Assistant Commissioner and Park Director positions.

TDEC's Resource Management Division should develop a Tennessee State Parks Stewardship System designed to ensure system-wide consistency and provide a streamlined approach for all park strategic management decisions.

This initiative should begin with the development of a Design Document that will define content, functionality, and information architecture for the system.

Content may include system-wide core principles as well as directives, policies, and procedures that apply to all types of park resources, facilities, structures, landscapes, and programming (see "Checklist-State Parks-Stewardship-Design-Document.doc" on the Reference Disc.)

Functionality may include a GIS inventory of facilities and natural, historic, and cultural resources; an online calculator for cost/benefit evaluation of facilities; a calculator for energy use analysis; identification of visitor use zones using the USFS Recreation Opportunity Spectrum; and a toolkit for "managing outside the park" issues such as boundary encroachments and water quality impairments.

This document should also describe a training/

technical assistance program for helping park personnel make optimal use of the system.

It will be critical to incorporate robust input from state park personnel in this design phase, to ensure that the resulting system will be convenient and practical in the context of their day-to-day operations. For this system to be effective, the park managers and staff must regard it not as a top-down burden but as a user-friendly set of tools that help them do their jobs more effectively.

The department should then implement this Design Document across the whole park system. This process should proceed over a period of 3-5 years, to be determined by the department, based on available funding and staffing and competing demands on parks personnel. Implementing this system for an individual park will require collecting the park's complete GIS inventory and training staff in the use of the technology and system functions. GIS inventory can be performed with park-based GPS units.

This Stewardship System should be allocated sufficient resources to allow continuous updating and improvement. If effectively implemented, this system will more than pay for itself in cost savings.

2020 Vision

Tennessee's State Parks will continue to be a national model for a modernized strategic park management process characterized by a dynamic, systems-oriented approach that ensures high standards of professionalism and consistency, eliminates wasteful spending, provides superior protection for park resources, and delivers a quality visitor experience.

Coordination Links

Tennessee Recreation One-Stop: Includes a mechanism for park user comments, which can provide feedback for park managers. Possible assistance from user-generated GPS data uploaded to the site.



3. Local Parks and Recreation

THE NEED of Tennessee's cities and counties to provide diverse, close-to-home recreation opportunities for all their residents.

Satisfying the full spectrum of diverse recreation needs is primarily the job of local parks and recreation departments. Only local parks departments can deliver critically important opportunities to work recreation into daily life, where it is most needed. An effective recreation delivery system requires a state-wide network of parks and recreation departments that can give all Tennesseans access to the recreation they need, regardless of where they live.

Access to nearby parks and recreation centers, like fire and police protection, is essential to the well-being of every Tennessee resident. One of the things that distinguishes human beings from all but the most intelligent animals is the need for play. Young children need playgrounds and natural environments for healthy mental and physical development. Older children need places for regular exercise, such as sports and active play. To counter the stresses of daily life, adults need quiet, reassuring places for walking, running, bicycling, playing sports, or just sitting under a tree and reading. Those with physical or mental challenges need acces-

sible places and facilities for regular therapeutic exercise. Older adults need routine exercise to maintain their mobility and alertness. Families need attractive places where they can gather with relatives and friends.

Recreation Delivery System Analysis

If the goal of an effective statewide recreation delivery system is to serve all Tennessee residents, the first step is to identify the gaps that may exist in the system now and those that can be anticipated in the next decade. The following analysis is based on a geospatial

analysis comparing the locations of existing parks and recreation departments in Tennessee with US Census population data and density patterns.

The local recreation infrastructure as it currently exists in Tennessee contains wide disparities in the levels of recreation opportunities available to residents of the 95 counties. Twenty-six of Tennessee's counties and 118 municipalities have organized parks and recreation departments. Eighteen counties have both municipal and county departments. Forty-three counties have one or more municipal departments but no county department to address the needs of residents living outside municipal jurisdictions. Twenty-two counties have no organized recreation delivery system at all.

For this discussion, the counties are categorized into three groups according to their levels of unmet needs:

- Counties without a recreation delivery system,
- Counties with the largest populations and highest growth rates,
- High-sprawl counties without a county-wide parks department.

Counties with No Recreation Delivery System

The 24 counties in the table at right have neither a municipal nor a county parks and recreation department. These counties may have ballfields and sports leagues organized by committed volunteers, but they are not able to provide a range of opportunities as required by a diverse population. These are low-population rural counties, many of them economically depressed, which contain a total of 303,384 residents. The populations of most of these counties is stable or declining slowly. Four of them - DeKalb, Moore, Smith, and Union - are projected to experience double-digit growth in the next decade.

Assisting these counties in establishing at least minimal recreation delivery systems should be a high priority. Many of them lie in geographic clusters, suggesting the option of organizing regional park entities, possibly with assistance from neighboring counties. These clusters are as follows:

Houston, Humphreys, Perry, and Benton. These counties are already organized regionally under the Tennessee River Trails initiative. This organization could serve as the basis for a regional parks entity. Lewis County, which abuts Perry, might be included.

Crockett, Henderson, and Chester. All of these counties adjoin Madison County, which has a well established parks and recreation department. This linkage suggests a mentoring partnership to share expertise and help the three unserved counties organize their own recreation delivery systems.

24 Tennessee Counties with No Recreation Delivery System

County	% Growth 2008-2020	Pop. 2008
Benton	-3%	16,193
Bledsoe	7%	13,142
Cannon	4%	13,804
Chester	2%	16,309
Clay	4%	7,794
Crockett	-4%	14,186
DeKalb	15%	18,694
Fentress	4%	17,667
Hancock	-2%	6,693
Henderson	4%	26,916
Houston	-8%	8,137
Humphreys	-2%	18,149
Lake	0%	7,323
Lewis	-1%	11,564
Moore	10%	6,195
Overton	5%	20,975
Perry	-4%	7,753
Pickett	-5%	4,801
Polk	-9%	15,671
Smith	10%	19,107
Trousdale	-4%	7,822
Union	15%	19,008
Van Buren	-15%	5,481

DeKalb, Cannon, Trousdale, and Smith. These neighboring counties could form a regional park entity, with possible assistance from the city or county departments in Rutherford or Putnam. Two of these counties, DeKalb and Smith, are projected to experience 10% population growth by 2020, making them high priority targets for assistance.

Clay, Overton, Pickett and Fentress. These counties adjoin Putnam and Cumberland Counties, both of which have organized departments. All have shown a willingness to cooperate on a regional basis, having worked together for the Cumberland Plateau Heritage Corridor and the Borderlands Project. There is potential for a regional park entity with assistance from professionals in Putnam and Cumberland.

Van Buren and Bledsoe. These neighboring counties could form a regional park entity, with possible assistance from the city or county department in Cumberland County.

Largest Population and Highest Growth Counties

Tennessee’s ten metropolitan counties contain 53% of the state’s population, making the metropolitan parks

and recreation departments in those counties the most significant recreation providers in the state. The total population of these counties is projected to grow by 11% by 2020, with a total of 357,254 new residents.

10 Highest Population Tennessee Counties, 2008 & 2020

County	Pop. 2008	Pop. 2020
Shelby	906,825	875,972
Davidson	626,144	736,606
Knox	430,019	471,912
Hamilton	332,848	328,290
Rutherford	249,270	347,974
Williamson	171,452	241,933
Sumner	155,474	190,388
Montgomery	154,756	167,895
Sullivan	147,465	147,465
Blount	151,018	151,018

These urban counties face many challenges. They must serve diverse populations with a wide range of recreation interests. They are home to the largest numbers



of African-American residents in the state and must ensure that their needs for safe, close-to-home recreation are served. They also have the highest percentages of newcomers, who often arrive from other cities with high expectations of diverse recreation opportunities and facilities. Operating in urban environments means they must contend with safety and security issues. These departments are constantly faced with increasing demand and the need for additional sports and fitness programming. Higher volume use of parks and facilities means that their maintenance costs are higher. All of these counties except Davidson have both city and county parks systems, and coordination between these can be a challenge as well.

The Trust for Public Lands annually assesses the parks departments of the nation's 77 most populous cities, which includes Tennessee's two largest cities. The data from this study allows a comparison of the state's largest parks departments with those of other southeastern states. As the tables below indicate, both Memphis and Nashville rank near the bottom in terms of park acres per thousand residents. While Nashville is in the mid-range of cities in terms of operating budgets per capita, Memphis ranks at the bottom, spending significantly less per resident than other southeastern cities.

The 13 counties with the highest rates of projected population growth will account for 31% of Tennessee's

total population growth in the next decade. Most of these counties have become bedroom communities for adjoining metropolitan counties, and new residents have come there seeking larger lot sizes and rural amenities. This kind of demand continues to encourage sprawl, making it difficult for the parks and recreation departments to keep up with the pace of new growth.

The parks and recreation departments in both the large population counties and the high growth counties face significant obstacles in serving their residents. New parks are needed, but land values have risen in response to increasing demand, making it ever more expensive to acquire new parklands. If current sprawl patterns continue, the new residential developments are likely to be located not close to town but farther out in the county, far from existing parks and facilities. These counties typically experience traffic congestion and increased driving times, making it harder for residents to get to distant parks and more important to have recreation opportunities close to where people live. Since a lack of time is cited most often as the reason for not participating in recreation activities, having to drive a long way to reach a park will mean fewer people will engage in any form of recreation or exercise.

High-sprawl Counties with No County Department

Three of the fastest growing counties in the state - Fayette, Wilson, and Sumner - have municipal departments but no county-wide parks and recreation department. In these counties, suburban sprawl has

	Park Acres per 1,000 Residents
Jacksonville	128.8
Virginia Beach	41.1
Raleigh	32.6
Greensboro, N.C.	24.9
Louisville	22.3
Lexington/Fayette	20.7
Charlotte/Mecklenburg	20.2
Nashville/Davidson	17.6
Memphis	13.6
Atlanta	7.4

	Park Operations Spending per Capita
Virginia Beach	\$104
Raleigh	\$95
Atlanta	\$85
Greensboro, N.C.	\$76
Lexington/Fayette	\$66
Nashville/Davidson	\$55
Jacksonville	\$40
Charlotte/Mecklenburg	\$39
Louisville	\$35
Memphis	\$23

13 Highest Growth Rate Counties, 2008-2020

County	Pop. Change 2008-2020	% Pop. Change 2008-2020	Pop. Density 2020
Fayette	15,878	42%	77
Williamson	70,481	41%	415
Rutherford	98,704	40%	562
Bedford	12,833	29%	121
Sequatchie	3,663	27%	65
Sevier	22,093	26%	181
Wilson	26,989	25%	240
Loudon	11,318	24%	253
Blount	29,507	24%	270
Monroe	10,633	23%	89
Sumner	34,914	22%	360
Cumberland	11,753	22%	96
Robertson	14,040	22%	166



Counties with No County-wide P&R - 15 with Highest Growth Rate, 2008 - 2020

County	Pop. Projection 2020	% Pop. Change 2008-2020	Projected Pop. Density 2020
Fayette	54,051	42%	77
Bedford	57,529	29%	121
Sevier	106,928	26%	181
Wilson	136,792	25%	240
Monroe	56,281	23%	89
Sumner	190,388	22%	360
Robertson	78,938	22%	166
Jefferson	61,411	20%	224
Coffee	60,017	15%	140
Macon	24,848	14%	58
Carter	67,605	14%	198
Dickson	54,281	13%	111
Tipton	66,124	13%	144
Hawkins	64,667	13%	133
Franklin	45,531	11%	82

Counties with No County-wide P&R - 15 with Highest Projected Density by 2020

County	Pop. Projection 2020	% Pop Change 2008-2020	Projected Pop Density 2020
Washington	129,326	9%	396
Sumner	190,388	22%	360
Sullivan	147,465	-4%	357
Wilson	136,792	25%	240
Jefferson	61,411	20%	224
Carter	67,605	14%	198
Sevier	106,928	26%	181
Robertson	78,938	22%	166
Tipton	66,124	13%	144
Coffee	60,017	15%	140
Hawkins	64,667	13%	133
Bedford	57,529	29%	121
Greene	71,155	8%	114
Dickson	54,281	13%	111
Rhea	33,862	10%	107

resulted in large populations living outside the range of a parks jurisdiction. Similar situations exist in the other counties shown in the table on page 42. In Fayette, Monroe, Macon, and Franklin counties, low population densities are likely to encourage sprawl far beyond municipal boundaries. As the state's fastest growing county in the next decade, Fayette County should be considered a special priority. This county, with only one small municipal department, is unprepared to provide adequate parks for its new residents. In all these cases, a county-wide parks and recreation department appears to be severely needed.

Analysis of population density patterns yields another perspective on the gaps that exist in counties without county-wide parks departments. Counties with high densities are more likely to have many residents living outside urban boundaries. High density is most evident in the easternmost counties of Tennessee, many

of which do not have county-wide parks departments. While these counties enjoy proximity to outstanding recreational resources in the Cherokee National Forest and the Great Smoky Mountains National Park, these resources are no substitute for close-to-home opportunities for regular exercise and relaxation. The most significant gap exists in the cluster of Sullivan, Washington, Carter, and Greene counties, where several cities have expanded outward, creating an area of nearly continuous urban density which lies outside municipal jurisdictions. These counties should be considered high priority candidates for unified county-wide systems.

Sumner County represents a special case among counties without county-wide parks departments. It has the highest population of this category, it is one of the fastest growing counties in the state, and it already has relatively high population density. The county has four municipal departments, located in Gallatin,



Hendersonville, Portland, and White House. This county may already have the state's largest number of unserved residents, and the problem will get much worse in the next decade unless a county-wide system is established.

Ongoing Assessment

While analysis based on population and geospatial data alone cannot provide a complete picture of conditions on the ground in Tennessee's counties, it does suggest where gaps appear to exist in the state's recreation delivery system. Developing a full-coverage, statewide system will require a more detailed assessment of every county's recreation delivery system and the opportunities that exist to expand its scope of services. The Tennessee Recreation One-Stop database, described



elsewhere in this plan, will further this process by building a GIS inventory of all local recreation resources in the state. This data can be overlaid with population data to pinpoint critical gaps that exist in specific locations. In the meantime, this plan's analysis can serve as a guide to allow TDEC, through its Recreation Educational Services Division (RES) and Parks and Recreation Technical Assistance Service (PARTAS), to prioritize locations where grant funding and technical assistance will address the most significantly underserved areas.

Strategies

This plan's survey of local recreation providers reveals the highest priority issue to be a lack of adequate funding for programming, new parks, and maintenance. Underfunding, coupled with population growth and the high cost of new parklands means that all departments, especially those in high growth counties, are challenged keep up with increasing demand for services. The funding issue is addressed in this plan's **Advocacy and Funding** initiative.

Local recreation departments must also implement strategies to do more with the funds available, especially in a time of restricted government budgets. Partnerships and cooperative agreements can leverage existing resources and programs to help providers close gaps in service and expand recreation opportunities economically. The following strategies make use of such mechanisms.

Coordination of Recreation and Planning

Since recreation is a basic human need, a county's existing and potential recreation resources should be considered as vital amenities that deserve consideration in zoning, infrastructure planning, and permitting processes. Too often these resources are overlooked in such processes because the county's planning body works independently of the local parks agency. Parks departments can be in a better position to address growth issues if they are represented on their county

planning commissions and can urge these bodies to consider the public's needs for close-to-home parks as an integral part of planning and permitting. Specifically, recreation resources should be identified as vital community facilities in the county's Comprehensive Plan, as required under Tennessee's Growth Policy Act. These plans can include measures to protect open space for recreation, but that often does not happen unless there are recreation professionals at the table.

When counties issue permits for new subdivisions, they can require a certain percentage of land to be set aside and dedicated for conservation or recreation purposes. The reasonable premise behind such a requirement is that new developments need to mitigate their negative impacts on the community, one of which is the loss of open space for recreation and natural habitat and increased population pressure on existing recreational resources. Unfortunately, the lands that are dedicated in this way may benefit only the immediate subdivision, or may be of little value for public recreation. A better alternative is to allow developers to provide off-site open space by paying fees in lieu of dedication, which are placed in a fund the county uses for parkland acquisition and open space preservation. The county can provide an incentive for this alternative by permitting higher density development, allowing the developer to build more units on the same parcel. This option can enable a county to acquire high-value parklands as needed to serve a growing population. In a county such as Fayette, which is experiencing rapid growth but still has plenty of undeveloped land, this strategy could allow the county to acquire high quality parklands and greenways while open space is still available.

School/Parks Joint Use Agreements

Perhaps the most economical way a city or county can expand public recreation opportunities is to negotiate school/parks joint use agreements between the parks agency and the local public schools. Such agreements can be beneficial for both partners: the parks department is able to offer the public more recreation centers

and sports fields without having to build them, and the schools can reduce costs by shifting a share of the operation and maintenance to the parks. PARTAS has developed a model school/parks joint use agreement and provides technical assistance in negotiating such agreements. There are now 50 such partnerships in the state, and these have been highly successful in several counties. Davidson County has a representative of the school board on its parks commission, and its ten-year parks master plan includes building a playground at every elementary school in the county.

A school/parks agreement can be especially effective when a new school is being planned. A partnership between the City of Paris Parks and Recreation Department and the Paris Special School District in the design of a new county elementary school resulted in an impressive sports complex and public recreation center managed jointly by both agencies. In addition, the Henry County School District donated land for six tennis courts managed by the city.

School grounds and facilities are publicly owned resources paid for with tax dollars, and by rights they ought to be universally available to residents who need to use them. Ultimately, however, the decision rests with individual school principals, who may have concerns about safety and security that can make them reluctant to invite the public onto the school grounds or into the building. These concerns can be addressed through separate school entrances for public users and interior security barriers installed to prevent access to the rest of the building, but first the principal has to be willing to entertain the concept of public use. An important part of the decision process is to provide incentives for the schools to participate. These may include:

- Increased student access to sports grounds and facilities in public parks.
- Parks department maintenance of school grounds and shared maintenance and operating costs for indoor facilities.

- Lease revenue for the school, paid with funds appropriated by the county

School/parks agreements could be a solution to gaps in recreation opportunity all across Tennessee. For metropolitan and high growth counties, they could help address the problem of the high cost of new park land. In small rural counties, especially those with few recreation facilities, they may be the only way to help residents get regular exercise, a critical goal given the state's epidemic of obesity and diabetes. The Tennessee Department of Education could essentially transform the local recreation picture in the state by simply encouraging, or ideally mandating, the schools to enter into joint use agreements.

Alternative Transportation

The online survey conducted for this plan registered the highest level of demand for connecting greenways, trails, bicycle lanes, and sidewalks into an integrated network to facilitate alternative transportation. One benefit of addressing this demand is that it can provide opportunities for the greatest number of residents, since walking for pleasure is the number-one recreation activity among Tennesseans, according to the National Survey on Recreation and the Environment. Walking and bicycling, being human-powered, also serve as excellent recreational fitness activities, contributing to public health while lowering greenhouse gas emissions. As with school facilities, the resources required, such as street rights-of-way, are often in the public domain or can be created through easement agreements, offering a more economical way to expand opportunities without having to acquire land. Alternative transportation is especially appropriate for urban dwellers, who already have two good reasons to walk or ride bicycles: congested traffic and diverse destinations located close together. In many Tennessee cities and towns, a three-mile bicycle ride can take one to work, school, church, and

stores. TDOT has established a priority for alternative transportation, and their cooperation will be necessary to create the required infrastructure.

County-wide Consolidation

For counties that have one or more municipal departments but no county-wide department, consolidating the existing agencies into county-wide departments can eliminate duplication of effort and save money while expanding the coverage of recreation services. Three established examples of joint city/county departments - Maryville-Alcoa-Blount County, Brownsville-Haywood County, and Mountain City-Johnson County - could serve as models. The same consolidation strategy could also bring greater efficiencies to urban counties, most of which have both city and county departments.

Multi-County Partnerships

For cash-strapped rural counties that have no recreation delivery system, a way to begin providing recreation and fitness opportunities for their residents would be to partner with other counties. Opportunities exist to form mentoring partnerships with neighboring counties that are staffed with recreation professionals. Unserved counties that fall into clusters may be able to bootstrap by forming regional parks and recreation entities with assistance from neighboring counties. The state can assist such efforts by establishing a program modeled after the South Carolina Rural Recreation project, which provides small rural counties with recreation directors in the summer months. Clemson University's Parks, Recreation and Tourism Management Department provides management support and field staff. Providing seasonal recreation directors for Tennessee's unserved rural counties can begin to demonstrate the value of having a local recreation provider and help create demand for an organized multi-county recreation agency.

2015 Action Plan

Quality Growth

The regional entities involved in this plan's Quality Growth initiative should:

- Encourage counties to include a representative of the local parks and recreation department on the county planning commission;
- Define recreation resources as community facilities in their comprehensive plans;
- Propose the use of parkland acquisition fees as an alternative to land set-asides for new developments;
- Stress the value of creating interconnected networks of greenways, bicycle lanes, and sidewalks; and
- Encourage counties and communities to conserve open space for future recreation needs.

County-wide Departments

PARTAS should encourage the high growth counties that lack a county-wide department to form one. The highest priority should be given to Fayette County; Sullivan Washington, Carter, and Greene Counties; and Sumner County. TDEC/RES should consider a grant priority for high-growth counties that establish county-wide recreation delivery systems.

School/Parks Agreements

PARTAS should continue to assist cities and counties in developing school-parks agreements and should develop a model incentive program for local agencies to use in encouraging school principals to enter into such agreements. TDEC/RES should consider a grant priority for joint use projects undertaken through such partnerships.



The regional Quality Growth entities should encourage counties to define school recreation facilities and grounds as community amenities in their comprehensive plans.

The Tennessee Department of Education should establish a mandate for schools to enter into joint use agreements with local parks and recreation departments.

Alternative Transportation

TDEC/RES should continue to encourage creation of local greenways in its technical assistance and grant priorities, with an emphasis on connectivity of greenways, bicycle lanes, and sidewalks into local or regional networks.

TDOT should continue to fund TDEC's Greenways Coordinator position as a means of encouraging the growth of alternative transportation and should cooperate with local governments in providing sidewalks and bicycle lanes.

Multi-County Partnerships

For counties that currently lack recreation delivery systems, PARTAS should develop a multi-county partnership template and encourage recreation professionals in counties with established parks and recreation departments to enter into mentoring relationships with neighboring counties. TDEC/RES should establish a special priority in the grants program for counties that enter into such relationships. The four counties in this class which will experience relatively high growth in the next decade - DeKalb, Moore, Smith, and Union - should receive special attention.

Recreation Summit

TDEC will convene a recurring series of Recreation Summits on Parks, People, and Landscapes in 2010 as a means to encourage ongoing implementation of this Tennessee 2020 plan. The first of these summits should focus on issues relating to local parks and recreation departments as a way to implement and create awareness of this initiative and develop other strate-

gies to expand and improve the state's local recreation delivery system.

2020 Vision

All Tennesseans, regardless of where they live, will have access to consistent recreation services and close-to-home opportunities to enjoy recreation, exercise, and interaction with nature.

Coordination Links

Advocacy and Funding. Research findings on the economic impacts of parks and recreation will give local decision-makers information to help them appreciate why parks and recreation departments should be fully funded.

Tennessee Recreation One-Stop. The statewide recreation resource database to be built for this initiative will provide a detailed geospatial inventory of all municipal and county parks, facilities, greenways, sports fields, and recreation programming. This data will allow TDEC to identify locations where gaps exist in the state's recreation delivery system.

Public Health. Closing the gaps in the state's recreation delivery system will allow more Tennessee residents to have access to exercise and fitness opportunities.

Children in Nature. This initiative will help local parks and recreation departments serve the needs of children and families for opportunities to interact with nature.

Environmental Education. This initiative can encourage school/parks agreements by establishing education-related partnerships between schools and local parks and recreation departments.

Quality Growth. The Quality Growth initiative will give local parks and recreation departments a voice in the process of land-use planning and permitting.

Recreational Waters. Increasing access to publicly owned waterways, both through stream and creek access and through the creation of Blueways, will allow local parks to provide more diverse opportunities without having to acquire new parklands.

TENNESSEE 2020 INITIATIVES

PEOPLE

OUTREACH AND ENGAGEMENT





4. RECREATION ONE-STOP

THE NEED of the public for more accessible information about recreation opportunities and better ways to participate in advocacy and planning.

Surveys of public participation in recreation activities have consistently identified lack of information as a significant barrier. The 2009 TRAB Survey probed the question of recreation information and found that, for 23.5% of Tennesseans, not knowing where to go is a reason why they do not participate more often in outdoor recreation.

The primary constraint, cited by 50% of Tennesseans, was lack of time; and it is possible that this perception arises in part from not knowing about parks located close to where they live. In another question, 27.7% of respondents who had visited a State Park within the past two years said they were not familiar with the State Parks, and another 37.5% were only moderately familiar. Asked for their opinion about the availability of recreation information in Tennessee, 28% said they were dissatisfied or neither satisfied nor dissatisfied. Given the option of a single website with all Tennessee recreation information in one place, 72.2% said they

would use such a site somewhat (29%) or very much (43.2%), and 63.2% said this improved information access would increase their participation in recreation either somewhat or a lot or very much. In a different question in the online survey for this plan, 79.9% said that, if a website existed where they could find more information about recreation and conservation issues, that would encourage them to become more involved.

Information about recreation opportunities is highly fragmented in Tennessee, as it is in all states, among many different federal, state, and local agencies. As one public meeting participant put it: “Figuring out

where to go for outdoor recreation is a major research project.” Lack of easily accessible information touches on several of the issues identified in this plan. Families who do not know about safe, appropriate places for unstructured play in nature near their homes are less likely to give their children these experiences. If the 67.9% of adult Tennesseans who are overweight or obese are unaware of nearby fitness programs and facilities, they are less likely to take advantage of them. Likewise, knowing more about accessible fitness programs could make a real difference in the lives of the 26.7% of Tennesseans, including 31% of women, who believe they are not physically able to engage in recreation activities, according to the 2009 TRAB Survey.

The TRAC committee that guided this planning effort was especially interested in addressing issues relating to public participation in recreation. In their discussions, it was decided that public participation should be defined to include three related areas:

Participation in recreation activities. Tennessee is experiencing high rates of preventable diseases, such as obesity and diabetes, which could be avoided through regular exercise. In addition, studies show that young people are getting far less exercise and exposure to nature than any generation before them. These two conditions alone warrant an aggressive effort to motivate more adults and children to get outside and engage in recreational activities.

Participation in recreation planning. Holding public meetings has been the traditional means used by recreation planners to learn more about the needs and concerns of the public. For past State Recreation Plans, meetings have been held at locations all across the state, and the total attendance has barely risen above 100. The TRAC members were not satisfied that such a limited amount of input could yield an accurate and comprehensive representation of the needs of all Tennesseans. They challenged the planning team to develop more effective methods for public input that would engage far greater numbers of Tennesseans in the future.

Participation in advocacy for parks and recreation.

Parks have long been undervalued and underfunded in Tennessee. They will receive the priority they deserve among legislators, agency decision-makers, and local land use planners and permitting agencies only if the public gives these resources more vocal support. The TRAC called for an increased effort to engage the public as advocates for parks and recreation.

Fortunately, a single solution has emerged for all three of these public participation issues. The Internet’s role as a source of public information continues to grow, with research showing the public increasingly turning to online searches to plan recreational outings and trips. Several recent developments suggest that the time has arrived to pursue the concept of a recreation one-stop website at the state level.

- The emergence of Web 2.0, now allows robust forms of online interaction and mobile computing. Options for geospatial online platforms have emerged that allow information to be presented via interactive maps, making trip planning far easier.
- The Web now offers new comment and survey opportunities for agencies that plan and manage recreation resources and for advocacy organizations, allowing them to connect more directly and dynamically with the public, to gain a much better understanding of their needs and interests, and to engage participation at the grassroots level. This plan’s online survey was a first for a State Recreation Plan in Tennessee.
- Recreation.gov, the National Park Service’s national recreation one-stop, was intended to serve this purpose but has proved to be a disappointment. The site does contain information about most federal resources, linked with a centralized reservation system for cabins and campsites, but it has very little state information and virtually no local information, making it ineffective as a way to increase participation.

It is not difficult to imagine a future in which highly mobile, user-friendly computing will become an integral part of everyday life. Indeed, the recent explosive growth of iPhone applications and GPS use suggest that this future is arriving very quickly. Tennessee has an opportunity to establish a national model through proactive adoption of these emerging information technologies.

Public/Private Partnership

Discussion of this proposal by the TRAC and its Working Group on Public Participation and Advocacy arrived at a consensus that no state agency in Tennessee has the resources and special talents needed to implement a comprehensive, Web 2.0 recreation one-stop. The Tennessee Department of Tourist Development's (TDTD) "Tennessee Vacations" website does an excellent job of connecting in-state and out-of-state visitors with the information needed to select and plan trips, but it is not designed to facilitate recreation down to the level this plan envisions. The two sites do share commonalities, since a Recreation One-Stop can certainly help visitors plan trips in Tennessee, but neither site can accomplish what the other is designed to do best. It is likely this new site will help TDTD reach certain visitor market niches that their Sustainable Tourism initiative is designed to address.

A few other states have developed websites with some Web 2.0 functionalities. State park agencies in Georgia, North Carolina, and California now have websites based on the Google Maps platform. North Carolina's site includes the ability to upload linked photos to the Flickr website. The private state parks website N. Georgia.com includes some social networking features. All these sites are limited to the state parks system, except for Georgia's site, under development in partnership with Google, which does plan to include local resources at some point. None provides robust search functions by activity and resource types.

A public/private partnership appears to be the most effective path for achieving the goal of implementing a

website that can increase public participation in recreation activities and generate grassroots advocacy. Each partner will be able to contribute what it does best. The State already has GIS data for all state and federal recreation resources as well as a network of contacts across the state well-suited to provide local data. A private entity will have access to the investments needed to build and market the site and the ad revenues needed to operate and maintain it at a level of high quality. A negotiated contract between the partners can define whatever provisions are necessary to protect the State's image and interests.

2015 Action Plan

It is recommended that TDEC should recruit a private partner to develop a Tennessee Recreation One-Stop website. The features of this site are envisioned to include:

1. **Comprehensive recreation database.** Initially, all state and federal recreation resources in Tennessee, using currently available data shared through existing interagency partnerships. Local and private resource information will be added as it becomes available through existing networks of local and regional partners.
2. **Geospatial platform.** Google Maps or Google Earth platform, with latitude/longitude coordinates attached to each site in the resource database.
3. **User profiles.** New visitors to the site define their personal recreation activity preferences with a questionnaire, creating a user profile that allows them to receive individually tailored information.
4. **Robust search functions.** Users request searches based on a comprehensive list of activities or resource types. The search can be limited to a given area or a specified radius from a starting point.
5. **Information-rich site pages.** For each site, a page containing a general description, recreation opportunities, unique or interesting features, a site map, link to USGS topo maps, visitor information about hours and regulations, photos, guidebook

information (nature and history), GPS data, trail descriptions if applicable, and events descriptions if applicable.

6. **Social networking.** The user's personal profile allows the site to connect the user with others who share the same interests. This feature addresses two of the barriers to recreation participation: not having someone to go with and needing an expert guide. The user can become aware of organized groups that provide outings or instruction in areas of interest and learn about opportunities for targeted citizen action.
7. **Organization links.** The site encourages active grass-roots involvement by displaying links to non-profit advocacy organizations that focus on the resource types preferred by the user.
8. **User-generated content.** The user can contribute content to the pages of sites visited, allowing the website to grow richer over time, giving resource

managers input about user impressions, and giving the public a greater sense of ownership and participation. Uploadable content includes: photos, comments, GPS data (to help park managers collect geographic data about their resources), and suggestions for related outings ("Users who liked this destination also recommended...")

9. **Online surveys.** An online survey mechanism captures data about the behavior, preferences, and unmet needs of resource users, giving resource managers and decision-makers an ongoing stream of information that can inform policy and management decisions. This may include park visitor spending data to help measure economic impacts.

Development Stages

The goal is for this website to be online and operational by 2015. The following sequence of actions is designed to achieve that:



1. TDEC will recruit a private partner for this project, and negotiate a formal a public/private partnership agreement.
2. TDEC will convene a Parks and Recreation Summit in 2010 of all state and federal agencies that manage recreation resources in Tennessee to solicit ideas and suggestions for the website content and to develop agreements for data sharing.
3. TDEC will convene a forum of all recreation-related non-profit organizations in Tennessee to solicit ideas and suggestions for the website content and functions.
4. The private partner will seek federal R&D funding to develop the technical components and design of the website.
5. During the R&D period, the State partners will provide GIS resource data for the site.
6. The site will undergo beta testing.
7. The site will go live, accompanied by high-profile public announcements from the Governor and from the partnering agencies to build widespread public awareness.

2020 Vision

Tennessee will be the national model in the creative use of emerging Internet and geospatial technology to encourage greater public participation. All Tennesseans will have access to a user-friendly source of information about the whole spectrum of the state's recreation opportunities. A vibrant, online community will enable the public to share recreation experiences with others, receive training for new activities, find partners for outings, and become more directly involved in advocacy for parks, recreation and natural resources.

Coordination Links

Advocacy and Funding. The website will make the findings of economic impact research available at the grassroots level, giving citizen activists and organizations the tools to make their efforts more effective.

State Parks Management. Online comments and

surveys will establish an ongoing dialogue between resource managers and the public they serve.

Public Health. The website will ensure that information about programming and places for fitness activities is readily accessible and that users will be able to find close-to-home opportunities with ease.

Children in Nature. The website will contain information about local parks and stream sites where families can take children for unstructured play in nature.

Environmental Education. The website will give teachers access to information about local creeks and stream sites that can serve as outdoor classrooms to help them meet curricular requirements and improve student outcomes, as well as information about interpretive specialists and environmental educators in their area.

Recreational Waters. The website will provide information about Blueways and opportunities to interact with nature in local creeks and streams.

Rural Economies. For the many rural counties that contain most of the state's large parks, protected lands, and historic sites, the website will make the public more aware of what they have to offer, attracting increased visitation and contributing to the local economy. State Heritage Areas, State Recreation Areas, and State Scenic Byways will become more viable with this higher level of exposure.





5. PUBLIC HEALTH

THE NEED of the public to avoid preventable diseases through increased physical activity.

The Centers for Disease Control and Prevention reports that nearly two-thirds of Tennesseans do not get enough regular exercise to sustain good health, and 31.5% get no exercise at all. Inactivity in the population is taking its toll: 67.4% of adult Tennesseans are now overweight or obese, and the state has the nation's highest rate of preventable adult diabetes.

Encouraging physical activity, a longtime priority of the parks and recreation community, has become a major concern as obesity and diabetes have continued to rise steadily over the past ten years. There are multiple of causes of inactivity, which vary by age, race, and income. Any effective solution will require a concerted effort to find and fight these causes on many fronts. For this reason, recreation providers are beginning to work with the public health community as never before.

Despite a convergence of priorities, the recreation and public health professions have not had a history of coordinating their efforts, because their disciplines

and perspectives are almost diametrical opposites. One focuses on providing resources and services at the local, personal level. The other concentrates on addressing large-scale, structural factors. In addition, the two disciplines are oriented toward different federal agencies with different policies and priorities. The recreation community receives direction and funding through the Land and Water Conservation Fund in the Department of Interior, while the public health field looks to guidance and support from the Department of Health and Human Services and related public health entities.

These two perspectives are, in fact, complements of

one another. Both are attacking the problem of physical inactivity from different angles.

Inactivity and Human Evolution

Contemporary life is so filled with hours of inactivity – working at a desk, driving a car, watching television, etc. – that it is important to consider the sedentary lifestyle in a historical context. As the human body evolved over millions of years, its physiology adapted to the need for prodigious amounts of walking, running, climbing, and other physical activities. Unlike the sloth, which hardly ever moves, we are built to function as natural athletes.

As late as the 1950s, the majority of Tennesseans lived in rural areas and engaged in some form of physical labor almost every day. The concept of a fitness center would have seemed ludicrous in those days. The transition to an urban, sedentary life took place very rapidly, bringing with it a new preoccupation with convenience and comfort. Contemporary life has freed us from demands for vigorous exercise, but our bodies

still require physical activity, oxygen, water, and food, just as they did in prehistoric times.

The physiological responses to stress appear to magnify the impact of inactivity. Our prehistoric ancestors adapted to the stress of being a prey species with a “flight or fight” response, producing a sudden burst of adrenaline when needed to mobilize extra power in a life threatening encounter. We no longer have to worry about being eaten today, but stress is still a part of our daily lives. It takes the form of chronic stress about things like long work hours, job insecurity, and a host of other worries. But these kinds of stresses do not impel us to run or fight, and recent research suggests that chronic stress coupled with inactivity predisposes human beings to overeat and put on fat.

The Role of Local Parks and Recreation

A report by the President’s Council on Physical Fitness and Health regarding the effectiveness of local parks in promoting healthy exercise is summarized in the box at right. It should be noted that this report did



President's Council on Fitness and Sports: The Role of Parks in Encouraging Physical Activity

The President's Council on Fitness and Sports published a report in its March, 2008, Research Digest, which summarized recent research regarding the potential role of parks in shaping physical activity levels. Some of these findings are as follows:

Potential

- The current evidence suggests that there is enormous potential for parks to increase physical activity across the United States.
- To effectively address public health issues such as obesity and sedentary lifestyles, residents can benefit greatly from access to parks and open spaces for physical activity.

Proximity

- The level of neighborhood walking engaged in by older adults in Portland was significantly associated with both the total acreage of green space in the neighborhood and the number of parks, paths, and trails per neighborhood acre.
- Neighborhoods with a greater proportion of park area were associated with greater physical activity levels in young children.
- An increased diversity of park facilities and supporting amenities was related to increased physical activity levels of both children and adult park visitors.
- Children with a playground within 1 km of home were almost five times more likely to be classified as being of a healthy weight compared to those children without playgrounds in nearby parks.

Park Design

- In predicting whether a park was used for physical activity, the number of features in the park was more important than its size or its distance from study participants.

- Parks with paved trails were almost 27 times more likely to be used for physical activity than parks without trails.
- Structured activity opportunities (or programming) at parks may be a key facilitator of park use and of the type of physical activity that occurs in parks.
- An emerging trend in community park design is to include a wide variety of features (trails, skate parks, picnic pavilions, boulder climbing areas, tennis courts, playgrounds, and open land) in close proximity to one another in order to promote intergenerational park activity.

Recreation Programming

- Programming is necessary to attract people to parks where park location is not optimal and park features are not unique.
- Having a critical mass of programs gives self-directed park visitors some guarantee that there will be people using the park, and may increase real and perceived safety.
- In order to increase park use and participation in park-based programming, people need to be aware of available opportunities. Providing more information about parks is often cited as a strategy to increase park use.

Park Funding and Spending

- The importance of funding and organizing park maintenance should not be underestimated. Park and leisure experiences rely on the quality of surroundings and overall cleanliness of facilities and the environment. Park-based physical activity interventions that do not first create safe and clean park environments are doomed for failure.

not consider the role of indoor facilities in encouraging greater participation. Many local parks departments have recreation centers with workout rooms and indoor sports courts. Many metropolitan departments have indoor swimming pools. Indoor facilities are in use year-round, are more focused on fitness activities than are passive parks, and tend to be free of concerns about crime and safety. These are places where people congregate in large numbers, allowing fitness programming to reach the more people. In addition, urban minority populations maybe less drawn to outdoor parks than to indoor facilities because of safety concerns. A comprehensive picture of the role of parks and recreation providers requires that these facilities be considered as a critical part of the mix of local recreation opportunities.

Tennessee’s Active Recreation Infrastructure

There are currently 140 organized parks and recreation departments located in 74 of the state’s 95 counties. This plan’s Recreation Provider Survey received responses from 55 departments located in 41 of the 95 Tennessee counties. The reporting counties contain 74% of Tennessee’s total population.

The survey asked for the total land and water resources and recreation facilities managed by the agency. The departments reported a total of 37,338 land acres. Developed recreation facilities in these parks included those listed in the table below.

This inventory indicates a significant investment in facilities for encouraging active recreation. What it does not show is where these facilities are located in relation to demographic groups that are at risk for low activity levels and high obesity incidence. This plan’s proposal for a **Tennessee Recreation One-Stop** website will address that inventory need by developing a GIS inventory of all local facilities in the state. It is anticipated that local parks and recreation departments will be motivated to supply such data because inclusion on the website will help them reach a far greater audience.

Increased information about parks and recreation

opportunities will benefit the public as well as recreation planners. As the PCPFS report states: “In order to increase park use and participation in park-based programming, people need to be aware of available opportunities. Providing more information about parks is often cited as a strategy to increase park use.” The 2009 TRAB Survey confirmed the importance of information access:

- 28.5% were dissatisfied or neither satisfied nor dissatisfied with the current availability of recreation information.
- 23.5% said not knowing where to go was a reason they did not participate more.
- 72.2% said having recreation information accessible on the Internet would increase their participation somewhat to very much

Local Park Facilities in Tennessee

Baseball, softball fields	576
Football, soccer fields	299
Tennis courts	296
Playgrounds	286
Multiuse trails (mi.)	206
Foot trails (mi.)	187
Basketball outdoor	131
Indoor sports facilities	93
Multipurpose fields	71
Interpretive trails (mi.)	33
Swimming pools outdoor	31
Hike trails (mi.)	30
Mountain bike trails (mi.)	30
Horse trails. (mi.)	25
Swimming pools indoor	16
Skate parks	14
Swimming lakes	10
Disc golf courses	9
Dog parks	6

A GIS inventory will allow TDEC to compare the locations of park facilities with areas of high target group densities. A “catchment area” can be defined for each park, based on a standard distance which people can be expected to travel to reach a park, with variations for specific demographic groups. It has been suggested that each Tennessee resident should have a park within one-half mile of home. Analysis of the GIS local parks data will show which areas in the state have an insufficient supply of recreation opportunities to encourage greater physical activity. The net result of this inventory process will be to match solutions with needs, for both recreation planners and the public, with a level of accuracy that has not been possible in the past.

TDEC is seeking ways to help the local parks and recreation infrastructure become more effective in addressing public health issues. In 2006 the department’s Recreation Educational Services division undertook a survey of local parks and recreation departments to identify the condition and extent of health and fitness

facilities and programs provided by these departments and formulate opportunities for partnership and collaboration between parks and public health, with the goal of reducing obesity and improving physical fitness among Tennesseans. The study had several significant findings:

- Lack of adequate funding for staff and facilities is a primary constraint facing these departments.
- They are not targeting high-risk populations or offering programming to attract participation by inactive residents. Programs are more centered toward athletics for those already physically active.
- They are not providing adequate educational programming about fitness and health.
- More partnering is needed with public health entities, schools, private health clubs, hospitals, and cooperative extension agencies.

TDEC continues to seek ways to integrate local parks and recreation providers into the larger fight against obesity and preventable diseases.



Conclusions

Available research suggests that close-to-home parks that are properly designed and maintained can achieve a measurable improvement in levels of activity, especially when coupled with fitness and health programming and education. TDEC-PARTAS, through its technical assistance and grants to local parks departments, is in a central position to facilitate the role of parks in combating inactivity and obesity in Tennessee. The Tennessee Recreation and Parks Association (TRPA), which includes most organized parks and recreation departments in its membership, can help as well.

Fortunately, there exists a mechanism for aligning the priorities of local parks departments with the state's broader public health initiatives. Interagency contacts initiated while developing this plan have resulted in a TDEC representative being invited to serve on the Tennessee Department of Health's Obesity Task Force, which is currently developing a State Obesity Plan. This plan can be more effective if it includes the local parks and recreation infrastructure as a key element in a comprehensive set of strategies.

It should be noted, however, that local parks and recreation departments are chronically underfunded in Tennessee, giving them little room to expand their range of services into fitness and health programming or outreach to targeted populations. A dedicated state funding source for parks and recreation, one that includes funding for programming as well as facilities, as proposed in this plan's **Advocacy and Funding** initiative, will be needed to support the role of Tennessee's parks and recreation infrastructure as part of the state's overall strategy for combating inactivity and obesity.

2015 Action Plan

A TDEC representative should serve as an active partner on the Tennessee Obesity Task Force, and should develop specific strategies for integrating the efforts of local parks into the State Obesity Plan. In developing these strategies, the following should be considered:

- Follow-up research to the 2009 TRAB Survey, to gain deeper insight into the participation constraints identified in the survey. Such research could be funded through a private foundation grant to TRPA.
- Focus groups of targeted high-risk populations (African-Americans, Hispanics, senior citizens, teens) to identify specific participation constraints and develop strategies for addressing them.
- TDEC grant funding priority for applicants with effective outreach programs, especially those targeted to high-risk populations.
- Technical assistance and training in overcoming barriers to participation through park design, programming, and community outreach.
- Addressing the information barrier by facilitating the collection of geospatial information about parklands, facilities and programming from local parks, for incorporation in the Tennessee Recreation One-Stop website.
- Analysis of the GIS inventory of local parks to identify critical local gaps in the recreation delivery system, coupled with TDEC technical assistance and grants to help local entities to help fill those gaps.

2020 Vision

TDEC, the Tennessee Department of Health, and the state's network of local parks and recreation departments will be active partners in encouraging the population to increase their levels of activity and exercise. The state will achieve a measurable decrease in levels of inactivity and obesity through a well-coordinated set of strategies on many fronts.

Coordination Links

Tennessee Recreation One-Stop. The website will ensure that information about parks and recreation is readily accessible and that users will be able to find close-to-home opportunities with ease.



6. CHILDREN IN NATURE

THE NEED of children to interact with nature as a necessary part of their healthy development.

The Baby Boomers may have been the last generation of “free range kids,” allowed to roam without supervision, play in nearby woods creeks, climb trees, build forts, and generally explore nature at will. In recent years, a sharp decline in unstructured outdoor play among children has sparked a new concern in Tennessee about getting children back in touch with nature.

Richard Louv’s 2001 book *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder* presents evidence that the current generation of children is growing up in ways that are very different from those of the past. Louv cites an extensive body of research showing that unstructured play in nature is essential for a child’s healthy physical and emotional development and that such exposure has become increasingly less common for the current generation of children. The

result - what Louv calls “nature-deficit disorder” - is reflected in the rising incidence of a host of disorders in the young: ADD/ADHA, teen depression and suicide, and obesity. On the other side of the coin, he offers an impressive list of creative thinkers whose formative years were shaped by a deep fascination with nature and wildlife.

Louv cites a number of reasons for the fundamental change in the way children are growing up today:

- More Americans live in suburban areas, where the native vegetation has been replaced by lawns, and where they have to drive to get to a park or a natural environment. In addition, existing parks often discourage visitors from leaving the trail, climbing trees, etc.
- Children are kept inside by parents fearful of traffic or sexual predators, or of nature itself, whereas previous generations were allowed to roam freely.
- Outdoor play is more often offered in the form of organized sports, which take place on grass fields, not in the natural environment of a creek or woodlot.

Another major cause is that children today are simply more interested in other things. In the 2009 TRAB Survey, 48% of parents reported that computers, television, and electronic games were the primary reason their children did not spend more time outdoors. Screen viewing has come to dominate the leisure hours of the young. According to the Kaiser Family Foundation (KFF):

- Two-thirds of infants and toddlers watch a screen an average of 2 hours a day.
- Children under age 6 watch an average of about 2 hours of screen media a day, primarily TV and videos or DVDs.
- Children and teens 8 to 18 years spend nearly 4 hours a day in front of a TV screen and almost 2 additional hours on the computer (outside of schoolwork) and playing video games.

For adults who grew up playing outside, it can be hard to imagine why any child would prefer to stay indoors and stare at a screen. In the TRAC discussions of this problem, a general consensus arose that entertainment media are simply more immediately engaging than nature and that recreation providers need to do a better job of competing for the interest of young people. Research into television and computer use points to far more disturbing implications. Studies reported in *Scientific American* (“Television Addiction

Is No Mere Metaphor,” February, 2002) suggest that heavy television viewing has many symptoms in common with addiction and substance abuse, including failed attempts to quit and withdrawal symptoms. Reported findings include:

- TV’s addictive power springs from our biological “orienting response”—an instinctive reaction to any sudden or novel stimulus. This involuntary physiological response is part of our evolutionary sensitivity to movement and potential predatory threats. The basic techniques of television production - cuts, edits, zooms, pans, sudden noises - activate the orienting response, thereby holding attention on the screen, independent of the actual program content.
- In Gallup polls in 1992 and 1999, seven out of 10 teenagers said they spent too much time watching TV.
- Survey participants commonly reflect that television has somehow absorbed or sucked out their energy, leaving them depleted.
- Researchers studied a mountain community that had no television until cable finally arrived. Over time, both adults and children in the town became less creative in problem solving, less able to persevere at tasks, and less tolerant of unstructured time.
- Computer games create a strong reinforcement loop by minutely increasing in difficulty along with the increasing ability of the player, providing a near-perfect match of challenge to skill.
- For a growing number of people, the life they lead online may often seem more important, more immediate and more intense than the life they lead face-to-face.

Television addiction may also be a major factor in the recreation behavior of adults as well as the young. The 2009 TRAB Survey found that 50% of Tennesseans feel they do not have enough time to participate more in outdoor recreation; yet, judging from other findings, they still find the time for several hours of television watching per day.

Nature is the ultimate non-programmable reality; it does not respond to undo buttons or remote controls. Louv suggests that, having missed the chance to interact and bond with nature as children, the next generation of adults may neither know nor care about such things as the environment, biodiversity, or sustainability. At a moment in history when mankind is urgently called upon to become more sensitive to the needs of the planet, nature deficit disorder could produce a whole generation of future adults who may be unprepared to rise to the challenge.

What the parks and recreation community clearly can do is make interaction with nature a regular part of the lives young people. This plan addresses two strategies for accomplishing that goal:

- Parks and nature centers can provide opportunities for hands-on environmental study as a key component of structured academic learning. This strategy is described in this plan's initiative on **Environmental Education**.
- Parks and communities can find new ways to encourage unstructured play in natural settings, especially for younger children while they are forming their first impressions of nature. Strategies for doing so are discussed in this section of the plan.

Integrating Nature into Parks

The 2009 TRAB Survey found that, for 68% of Tennessee children, outdoor play occurred most often in a neighborhood park. This finding points to park design as a critical factor in addressing nature deficits in children. Almost any community park can be retrofitted to make it a place where unstructured nature play can occur.

The first step is to make parks places that attract more frequent visits, because simply putting more natural features in a park does not ensure that they will be used. A 2008 survey of community park design research for the President's Council on Physical Fitness and Sports noted that "an emerging trend in community park design is to include a wide variety of features

(trails, skate parks, picnic pavilions, boulder climbing areas, tennis courts, playgrounds, and open land) in close proximity to one another in order to promote intergenerational park activity." This trend recognizes the fact that different age groups are attracted to different components of a park. Young children gravitate toward playground equipment, because it allows them to do physical activities like climbing, sliding, and swinging that they generally cannot do at home. Once introduced to a neighborhood playground, a child will often beg to be taken back. For older children, the hooks can be features like skate parks, climbing areas, and mountain bike trails, which can offer a sense of adventure. And of course sports fields draw large numbers of children to parks as well. For parents, the presence of shade trees, comfortable seating, and attractive planted areas close to where children play can make them more likely to frequent a local park, and bring their children with them.

Once these hooks are present close together in a local park, the potential has been created to enrich the child's experience with elements of nature. Research into the integration of nature into parks at North Carolina State University suggests that, again, good design is the key to success. This research has resulted in a set of design guidelines for what are called "naturalized playgrounds."

The naturalized playground movement represents a dramatic shift away from the traditional industrial playground based solely on manufactured equipment and artificial surfaces. By combining playground equipment with natural elements, this new model provides a greater diversity of play opportunities and meets the needs of a broader range of children and their families. This integration of natural and built components has been found to create richer play experiences, to elicit higher levels of physical activity, and to attract more children to use parks. These playgrounds often include curvy pathways to connect active play for children and provide social strolling by adults. One additional benefit is to provide a resource for nature-based professionals

to offer outdoor educational programs. Naturalized playgrounds can produce more unstructured play in nature in two ways: playground equipment serves as the initial attractor for children, who then transition into nature play; and the natural environments are more attractive and comfortable for adults, encouraging caregivers to spend more time outdoors with their children. This new playground model represents a promising way to address the nature deficit problem in younger children.

This model can be applied to larger parks as well. A traditional park design focus on large expanses of lawn has tended to relegate natural elements to small flower beds or to the periphery, when it has not eliminated them altogether. By integrating natural elements in closer proximity to developed features, and designing them as places to play, not just to look at, parks can be more successful in luring young people into nature play experiences. Even highly developed sports fields can serve this purpose by offering younger children places to play nearby in nature while an older sibling is competing on the field.

A critical question in integrating nature into park design is: what kinds of natural elements are most effective in attracting and holding the interest of children? Findings of the National Survey of Recreation and the Environment may suggest an answer. Though this survey does not include children, it does reveal high and strongly increasing interest in viewing wildlife among adults. In the latest version of this survey, 55% of Tennesseans reported participating in wildlife observation, a figure that has risen by 22% since the 2003 data. Watching wildlife was, in fact, the highest participation activity of all forms of interaction with nature in the survey. What is true for adults in this case could easily be as true or more so for children. Indeed, the presence of animals may be the single aspect of nature most appealing to children.

Micro-Habitat Enhancement

Discovering a praying mantis, a Luna moth, or a caterpillar, watching a bird build a nest, catching a frog or turtle, seeing lightning bugs appear at dusk – these



are experiences that can engage children intensely. For that reason, the value of a neighborhood park or any community setting as a place to experience nature can depend in a major way on how well it functions as a micro-habitat that supports a diverse animal population. As with any habitat, a micro-habitat will contain a diversity of animals only if it has appropriate food sources.

The complex evolutionary relationships between insects and plants are often unappreciated. It is easy to assume that bugs simply feed on whatever leaves are available. In fact, evolutionary survival has dictated that most plant species have had to develop chemical and other defenses to make them unappetizing or even poisonous to most insects. Insects have responded with specialized adaptations to these defenses, giving each species the ability to tolerate the leaves of a limited number of plant species. Monarch butterfly caterpillars, for example, are specialized to feed on milkweed. Thus a particular insect will be present in a micro-habitat only if one of its particular food sources is present.

Plant and tree species that evolved on other continents, even in other regions of North America, cannot provide a functioning habitat, because the local insect populations have not evolved the ability to eat them. Bugs are the base of the habitat food pyramid, providing sustenance for birds – especially during nesting season – as well as frogs, lizards, small mammals, and so forth. A park that does not provide food for local insects may look beautiful but be a sterile desert from a wildlife perspective.

A park's value as a natural habitat entirely depends, therefore, on whether it contains locally native species of plants and trees; and the more varieties it contains, the greater the park's biodiversity. Flowering native plants can be just as showy as their foreign cousins, and a strategic plant selection can provide year-round food sources to attract local animals and migrating birds in all seasons.

Recognizing the connection between native plants and biodiversity, TDEC has instituted a native-plants-

only policy for the State Parks. This is a practice that can also enhance the value of local parks as places for children to interact with nature. Applying it to urban street trees as well can help make an entire community a haven for wildlife.

In recent years a small native plant industry has become established in Tennessee, but its ability to provide for the needs of local parks and communities is limited. To improve the availability and competitiveness of native plant nurseries, a model to consider is Missouri's Grow Native! Program. This is a joint program of the state's Departments of Conservation and Agriculture designed to increase the demand for native plants. The program also encourages farmers to grow and market native plants as a way to increase profitability.

Tennessee's ECO Coalition

In 2008 an organization was formed in Tennessee to address the issues raised by Richard Louv's book. The Every Child Outdoors-Tennessee (ECO) coalition has set out to make unstructured play in nature a part of growing up in Tennessee. The organization was formed by a stakeholders group made up of members from the Tennessee Environmental Education Association, Tennessee State Parks, Metro Nashville Parks and Recreation-Warner Parks Nature Center, the Tennessee Wildlife Federation, the Tennessee Wildlife Resources Agency and more than 100 other groups, including local, state and national organizations and agencies, governments, non-profits and businesses representing health, natural resource, education, hunting and fishing, recreation and youth stakeholders. The goals of this organization include:

- To raise awareness of the benefit of outdoor experiences for children through media campaigns.
- To provide resources to increase children's outdoor experiences by creating a clearinghouse and a network of partnerships.
- To increase outdoor learning and stewardship opportunities for children through partnerships with parks and non-profit groups.

- To improve children’s health by promoting opportunities for outdoor experiences.
- To expand access to the outdoors for children through school and community infrastructure planning, development and policy.

ECO Centers

Periodic trips to a State Park can complement a child’s regular encounters with nature in a local park. State Parks offer outstanding opportunities for children to expand a budding interest in nature into new envi-



ronments, but their parents have to be willing to take them there. The 2009 TRAB Survey asked respondents about reasons they might be reluctant to visit a park, and found a remarkably high level of fear of ticks, biting and stinging insects and even of the woods themselves. Fully 75% of women expressed one or more of these fears as a reason for staying away. This can be a major deterrent, because, as the saying goes, “if Mama ain’t happy, ain’t nobody happy.” It appears that overcoming nature deficits in children may require more attention to helping parents feel more confident in the natural environment.

TDEC is currently in the early stages of addressing this point. Paris Landing State Park, in partnership with the Tennessee ECO Coalition, is exploring a proposal to develop an ECO Center at the former Camp Hazelwood, located near the park on Kentucky Lake. The purpose of this center will be to help children and parents develop outdoor skills and knowledge needed to make them comfortable in the woods. Skills to be taught will include wildlife observation and nature study, way-finding, camping, outdoor cooking, water sports, fishing, hunting, adventure recreation, and clothing and equipment. What makes the ECO center concept unique is that it blends the functions of a nature center with outdoor skills training. Individuals or families will come to the center for weekends or longer programs. The camp infrastructure makes this an ideal location for a residential program. If successful, this center may be the pilot project for additional ECO centers in other parts of the state.

The ECO Center concept may have promise for closing a critical gap that exists between people and nature in Tennessee. Becoming comfortable in nature is a long process of acquiring skills and building confidence, usually with the help of a parent, friend, or mentor. A child without access to that kind of influence has virtually no opportunity to develop the necessary skills, and as a result is more likely to view the natural world as alien and possibly dangerous. An ECO center has the potential to introduce a lifelong appreciation of

getting out in nature to many young people, and can especially benefit urban minority youth.

Pittsburgh’s Walls Are Bad program offers a model for extending this concept to reach more people across the state. That program works to encourage greater participation in outdoor recreation by matching up individuals with non-profit organizations that provide trips and training in a wide variety of outdoor pursuits.

Farms as Nature Centers

Tennessee’s farmland has great potential for helping to connect children with nature. Every county in the state has family farms that contain uncultivated natural habitat areas, such as woodlots, streams and creeks, caves, springs, ponds, and wetlands. Cultivated areas, pastures, and fallow fields also provide habitat for birds, insects, and other creatures. For many communities that do not have a natural-habitat park, nearby farms are the only places close to home where families might have an opportunity for interaction with nature. As natural magnets for children, farms have the ability to attract visitors, but they may often need technical assistance in creating safe, meaningful experiences for the public. The Department of Agriculture’s Pick Tennessee Products program promotes various kinds of agri-tourism enterprises as a way to help farmers become more profitable. Adding a Farm Nature Center component to this program could provide important new opportunities for Tennessee’s families and children.

2015 Action Plan

TDEC, through its PARTAS service, should provide local parks and recreation departments with technical assistance and research-based guidelines for designing new parks and playgrounds or retrofitting existing ones to incorporate opportunities for unstructured play in nature. Guidelines should include best uses of native plants to provide viable habitats. PARTAS should seek to partner with the ECO Coalition in this effort.

TDEC should also consider placing a priority in its local park grants program on projects that integrate

natural micro-habitat areas in close proximity with other park and playground features.

TDEC and the Department of Agriculture should establish a partnership to encourage increased use of native plants by parks and communities and greater availability and competitiveness of native plant nurseries in Tennessee, following the Missouri Grow Wild! model. This effort should include outreach to urban foresters to encourage the use of appropriate native street trees.

Paris Landing State Park and the ECO Coalition should pursue the proposal to develop Tennessee's first ECO Center on Kentucky Lake. If this model proves successful, it should be expanded to other sites across the state.

TDEC, TWRA, the Tennessee Wildlife Federation, and other members of the ECO-Tennessee coalition should urge passage of the Tennessee Children's Outdoor Bill of Rights and a Governor's Proclamation during the 2010 General Assembly.

The Outdoor Recreation and Conservation Education section within the State Parks Resource Management Division should take the lead in Tennessee in establishing outreach programs with schools, inner city neighborhoods and community centers to re-connect more children and families with the natural world.

2020 Vision

Tennessee's children will have high-quality, close-to-home opportunities for unstructured play in nature; families will become more engaged in nature and the outdoors; and school children will learn to appreciate the natural world and the need for environmental stewardship.

Coordination Links

Tennessee Recreation One-Stop. The website will provide easily accessible information on local opportunities for families to expose their children to interaction with nature, including naturalized playgrounds and parks, local greenways, and stream and creek play places. It will also contain social networking links to organiza-

tions that provide nature-based outdoor recreation and training for adults and families

Quality Growth. The Quality Growth Toolbox will include guidelines for incorporating wildlife habitat corridors into community design through the use of native plants in parks and street trees. The Toolbox will also encourage communities to provide public access to streams and creeks, making additional opportunities for play in nature available.

Recreational Waters. Providing greater public access to local streams and creeks will make more opportunities available for meaningful, close-to-home interactions with nature.

Tennessee Children's Outdoor Bill of Rights

With recent concerns about youth detachment from the outdoors, lack of physical exercise and increased health risks, ECO-Tennessee has drafted a Tennessee Children's Outdoor Bill of Rights, which defines a list of experiences from which every child in Tennessee would benefit.

The Tennessee Children's Outdoor Bill of Rights states that every Tennessee child, before entering high school, should have the opportunity to:

- Walk in the woods
- Play outside
- Explore nature
- Watch wildlife
- Grow a garden
- Splash in the water
- Camp under the stars
- Learn to swim
- Climb a tree
- Go fishing
- Fly a kite
- Visit a farm



7. ENVIRONMENTAL EDUCATION

THE NEED of students to understand the natural world they will inherit in a time of daunting environmental challenges.

Tennessee’s rich environments and biodiversity represent valuable assets for teaching students to appreciate nature while improving academic performance. The comparative advantages of using the local environment as a framework and focus for learning in all subject areas is well established.

A 1998 study by the Pew Center, for example, looked at 40 schools nationwide that had adopted a teaching model called Environment as an Integrating Concept (EIC). The study concluded:

“Evidence gathered from this study indicates that students learn more effectively within an environment-based context than within a traditional framework. By providing a comprehensive educational framework instead of traditional compartmentalized approaches, EIC appears to significantly improve student performance in reading, math, science and social studies and

enriches the overall school experience.”

Fourteen schools in the same study conducted comparative analyses of test data from both EIC and traditional students. These studies found that “92% of these comparisons indicate that students who have been in EIC programs academically outperform their peers in traditional programs.”

That this kind of model has advantages should come as no surprise. It is a well established principle of effective teaching that students are more engaged when offered opportunities for hands-on learning, and

the level of engagement is the single most significant factor in student performance in any subject. The EIC model builds on this principle, using several interrelated components:

- **Local Context.** Following a place-based model, use local natural and community surroundings as a context for standards-based instruction.
- **Natural and Social Systems.** Develop students' understanding of natural systems, of social systems and their community's cultural characteristics, and of interrelationships and interactions among natural and social systems.
- **Hands-on Learning.** Use direct student interaction with natural and social systems to provide greater personal engagement with the learning process.
- **Integrated, Interdisciplinary Instruction.** Work across traditional disciplinary boundaries to develop comprehensive understanding of natural and social systems. The real-world interdependence of these

systems makes them an ideal vehicle for integrated, cross-curricular instruction.

- **Community-based Investigations.** Provide students with opportunities to investigate real-world community problems and issues and to use higher-level thinking and creative problem-solving skills in pursuit of authentic issues of personal interest to them.
- **Service-Learning.** Create a continuum of learning and long-term engagement that crosses grade levels and allows students to conduct multi-year research and service-learning projects that contribute to their community.

EIC and other environment-related models appear to show potential for improving student performance in Tennessee, and there is strong public support for implementing the concept. The 2009 TRAB Survey found that 86% of Tennesseans somewhat or strongly support a proposition that Tennessee's teaching standards should



include the use of outdoor nature education to learn math, science, reading and writing. Likewise, 92% of respondents to this plan's online survey expressed the highest level of support for environmental education of young people.

Use of the environment in teaching could provide benefits that Tennessee's students clearly need. While standardized test scores have continued to show improvement in the state over the past nine years, in 2009 Tennessee still ranks 37th among states for overall educational performance. A spokesperson for the Tennessee Department of Education acknowledged the disparity, saying "Tennessee students need to do a lot better nationally compared to their peers." In this context, Environment as an Integrating Concept deserves serious consideration.

No Child Left Inside Legislation

As this planning process was getting underway, a new opportunity in the area of environmental education was just emerging. The U.S. House of Representatives passed the No Child Left Inside Act, which authorized a total of \$500 million over five years to fund environmental education for K-12 students. While the Act did not become law in the last Congress, it has been reintroduced with strong bipartisan support, and enactment could occur by 2011. Provisions of the No Child Left Inside Act are expected to apply to Tennessee as follows:

1. Federal Grants for Environmental Education

A federal grants program will provide funding to the Tennessee Department of Education (TDOE) in the range of \$2 million annually for five years to fund professional development of teachers and educators and to provide outdoor learning experiences for students. Eligible partners in these programs can include TDEC, TWRA and other state natural resource management agencies; local parks and recreation departments; and

nonprofit or for-profit organizations that provide outdoor environmental education experiences, such as private nature centers and zoos.

2. State Environmental Literacy Plans

To qualify for environmental education grants, TDOE will develop a K-12 plan and submit it to the U.S. Department of Education. The purpose of this plan, called a State Environmental Literacy Plan (SELP), is to ensure environmental literacy among elementary and secondary school students. It will be prepared in consultation with TDEC, TWRA and other state natural resource management agencies, with input from the public and relevant non-profit organizations. The SELP must include:

- Relevant content standards, content areas or subjects where instruction will take place.
- Description of how the plan relates to state graduation requirements.
- Description of programs for professional development of teachers to improve their environmental content knowledge, skill in teaching about environmental issues, and field-based pedagogical skills.
- Description of how TDOE will measure the environmental literacy of students.
- Description of how TDOE will implement the plan, including securing funding and other necessary support.

The TRAC committee, which guided this planning process, placed a high priority on making the most of this anticipated opportunity. It was agreed that Tennessee should adopt the EIC learning model in its Environmental Literacy Plan and that the curriculum should be place-based, with a focus on Tennessee's environment. Recognizing that the anticipated NCLI federal funding will be limited, the committee set a goal of developing an innovative approach that could serve as a national model, qualifying it for supplemental funding from private foundations and federal agencies.

The framework proposed in this plan is designed to incorporate best practices while making use of Tennessee’s natural and cultural systems itself to provide an optimal learning environment.

Climate Change Legislation

As of the summer of 2009, climate change “cap and trade” bills introduced in Congress contain provisions for a percentage of auction proceeds to be applied to climate change education. This additional funding source is certainly appropriate, as climate change is an exceptionally complex, long-term problem that calls for an educated electorate. This is an issue that will confront the entire adult lives of today’s students, as well as their descendants, and the more they understand its causes, the better chance they will have to reach effective solutions.

The general themes of environmental education complement the goals of climate change education, because both stress the interconnections between human and natural systems and point out the results of imbalance between the two. Thus, implementation under this second source of funding for environmental education can be easily integrated into and leveraged by the NCLI program. Congress should be encouraged to include climate change education funding in the final cap and trade legislation.

Watersheds as Teaching Tools

Tennesseans love to celebrate their relationship with the land, especially the rural countryside. They sing about it, tell stories about it, and have built a global entertainment industry around the vicissitudes of rural life. This cultural asset can serve to boost environmental learning in Tennessee by tapping into our innate sense of our state as a collection of unique places.

A strategy of environmental education content focused on Tennessee places will mesh well with TDEC’s transition toward the Watershed Manage-

Watershed-based School Programs in Tennessee

Some of Tennessee’s schools have already embraced the concept of integrating watershed-based service learning into their curriculum.

- **Del Rio Elementary School.** Students test local waters for dissolved oxygen and pH weekly, as well as studying stream quality through organisms present. Students have been involved in the clean-up and development of an eight-acre plot of land belonging to the school district, located across from the school. The community is working to develop this into a Nature Center.
- **Elizabethton High School Ecology Club.** The club’s efforts have been concentrated on adopted watersheds of two streams: Buffalo Creek and the Doe River. Each May the club participates in the Annual Watauga River Clean-up sponsored by Trout Unlimited. After the Doe River flood in 1998, the Ecology Club helped with the clean-up. They also helped with stream bank restoration by planting trees. Club members utilize digital test kits to test for chemical parameters on a monthly basis.
- **Wolf River/WET.** Wolf River/WET Program at Germantown High School monitors the Wolf River and works with East High School (Shelby County) and Fayette-Ware High School (Fayette County) on test sites spread miles apart. The group shares data with the local rangers, conservation groups, university faculty and the public through various presentations.

ment Approach, described in this plan's initiative on **Recreational Waters**. As the department shifts its regulatory framework to the watershed as the basic unit of reference and compiles new online GIS data for each watershed, educators will have access to the same watershed data to help students in conducting local investigations. Hands-on field studies of local streams coupled with service-learning projects will help foster a sense of stewardship of the local watershed.

An excellent model for such an approach is the innovative **Meaningful Watershed Experiences** program developed by the multi-state Chesapeake Bay Compact. In this program, students use natural and social systems of their local watershed as an integrating concept for multidisciplinary learning. They choose their own issues and questions, conduct hands-on field research to answer these questions, upload their field data to an online database, follow up with student action to restore stream resources, and communicate to the public what they have learned about water quality impacts of human activities.

The Educators

Responsibility for implementing a State Environmental Literacy Plan will fall on the school districts and, ultimately, on the classroom teachers themselves. To be successful, the teachers will need to receive outside assistance in several areas:

- **Integration.** Since the environmental education approach recommended in this plan would be integrated into all subjects, teachers in disciplines not traditionally associated with nature studies will need materials and training to integrate the environmental framework into their subject areas.
- **Field Studies.** The experiential approach recommended here stresses the importance of learning environments that provide hands-on engagement. Students will need opportunities to learn from nature, not just about nature. Each school will need assistance in identifying appropriate outdoor classroom sites, ideally within walking distance, and in connecting with learning resources and interpretive specialists at nature centers and parks.
- **Interpretive Specialists.** Tennessee's existing corps



of professional interpretive specialists will be needed as partners to provide critical expert resources both to teach students and to train classroom teachers. These professionals are trained in integration of environmental subject matter into many disciplines.

A priority in developing a state environmental education program must be to streamline the process as much as possible. Already overburdened schools and teachers will not have time to evaluate individual interpretive programs or determine which potential field trip sites are appropriate for their students. Implementation of a state ELP will therefore require that all schools will have access to a well-organized, certified network of interpretive specialists with consistent, high-quality programming that directly addresses the needs of teachers and students. All the State Parks in East Tennessee have developed interpretive programs that are fully integrated with the state's curriculum frameworks in all subjects and at all grade levels. This effort will

need to be expanded to include all of Tennessee's State Parks, local nature centers, and other environmental education providers.

The Tennessee Environmental Education Association (TEEA), which represents the state's network of environmental education providers, is ideally suited to assist the state in developing a high-quality SELP. The organization is a well-established resource for best practices in environmental education and interpretive program implementation. It will be critical for the SELP to be fully integrated with the TEEA network, which includes 70 parks and nature centers located in 43 counties. This is a good beginning for a statewide network but 52 counties currently lack an organized environmental education facility. One solution for filling this gap could be the Tennessee Citizen Naturalist program now being organized with support from TDEC and TWRA. Volunteers in this program could be trained to assist schools in implementing environmental education programs using locally available outdoor classroom sites.



As a first step toward implementing the State ELP, the TEEA can facilitate organizing these and other environmental education providers into an integrated network readily accessible to every school in every county of the state. These efforts, coupled with online access to teacher resources at the Tennessee Recreation One-Stop website, can result in a user-friendly turnkey solution with a simplified cost structure for Tennessee's schools.

2015 Action Plan

TDEC, TWRA, TDOE and the TEEA should form a partnership to develop a State Environmental Literacy Plan designed to:

- Use Tennessee's environment as an integrating concept for all academic disciplines at all grade levels.
- Provide hands-on experiential learning at outdoor classroom sites on each school's nearby streams and creeks and at nearby parks and nature centers.
- Use each school's local watershed and the interdependence of human and natural systems within it as the framework for a Tennessee place-based curriculum.

The TEEA, TWRA and TDEC should organize Tennessee's professional interpretive specialists into a well-organized network with a consistent, statewide program specifically designed to meet the needs of teachers in implementing the state's Environmental Literacy Plan.

Steps to implement this initiative include the following:

- TDEC and its partners will organize an Environmental Education Summit of all environmental education providers in the state. The objective will be to generate interagency collaboration, establish a formal provider network partnership, and begin work on a standardized environmental education framework based on Tennessee watersheds. The Tennessee Citizen Naturalist program should be included in this effort.

- The TEEA will seek supplemental private and government grant funding, based on Tennessee's goal of developing a national model of best practices for NCLI implementation.
- The partners will develop a Tennessee-specific watershed-based learning model that coordinates directly with the state's standards in all subjects at all grade levels and leverages TDEC's Watershed Management Approach to provide a template that can be adapted for any location or watershed in the state.
- TDOE will establish a policy that Tennessee's NCLI fund distributions shall have a local, place-based focus with a priority of contracting with Tennessee providers teaching the standardized Tennessee-specific model.
- The Tennessee Recreation One-Stop website will post geospatial and descriptive information about the state's environmental education provider network and local outdoor classroom sites to make it easy for schools, teachers, parents, and others to find these resources close to home.
- The TEEA members will train teachers to integrate the Tennessee watersheds model into their classroom teaching and to make use of nearby outdoor classroom opportunities. An online resource library at the Tennessee Recreation One-Stop will facilitate this training.

The Department of Education should seek federal funds for climate change education, if such funding becomes available under legislation currently under consideration, and should integrate this program into the State environmental Literacy Plan.

2020 Vision

Tennessee's schools will be a national model for using the interaction of local natural and human systems as an integrating concept in all subjects and all grades, with the assistance of a well-organized statewide network of professional interpretive specialists and a

comprehensive online information delivery system. This well-integrated program will increase student engagement and achieve measurable improvements in performance.

Coordination Links

Every Child Outdoors. Naturalizing local parks, play grounds, and school grounds with native plants to provide wildlife micro-habitats will increase the availability of outdoor classrooms and give students more opportunities to interact with nature on a regular basis.

Tennessee Recreation One-Stop. The website

will include information on Tennessee's organized network of environmental education providers and resources, consolidated on a geospatial platform to enable schools to find nearby providers and outdoor classroom locations.

Quality Growth. Communities will be encouraged to pursue connectivity of greenways and trails, which will facilitate the ability of teachers and students to walk to local outdoor classroom sites.

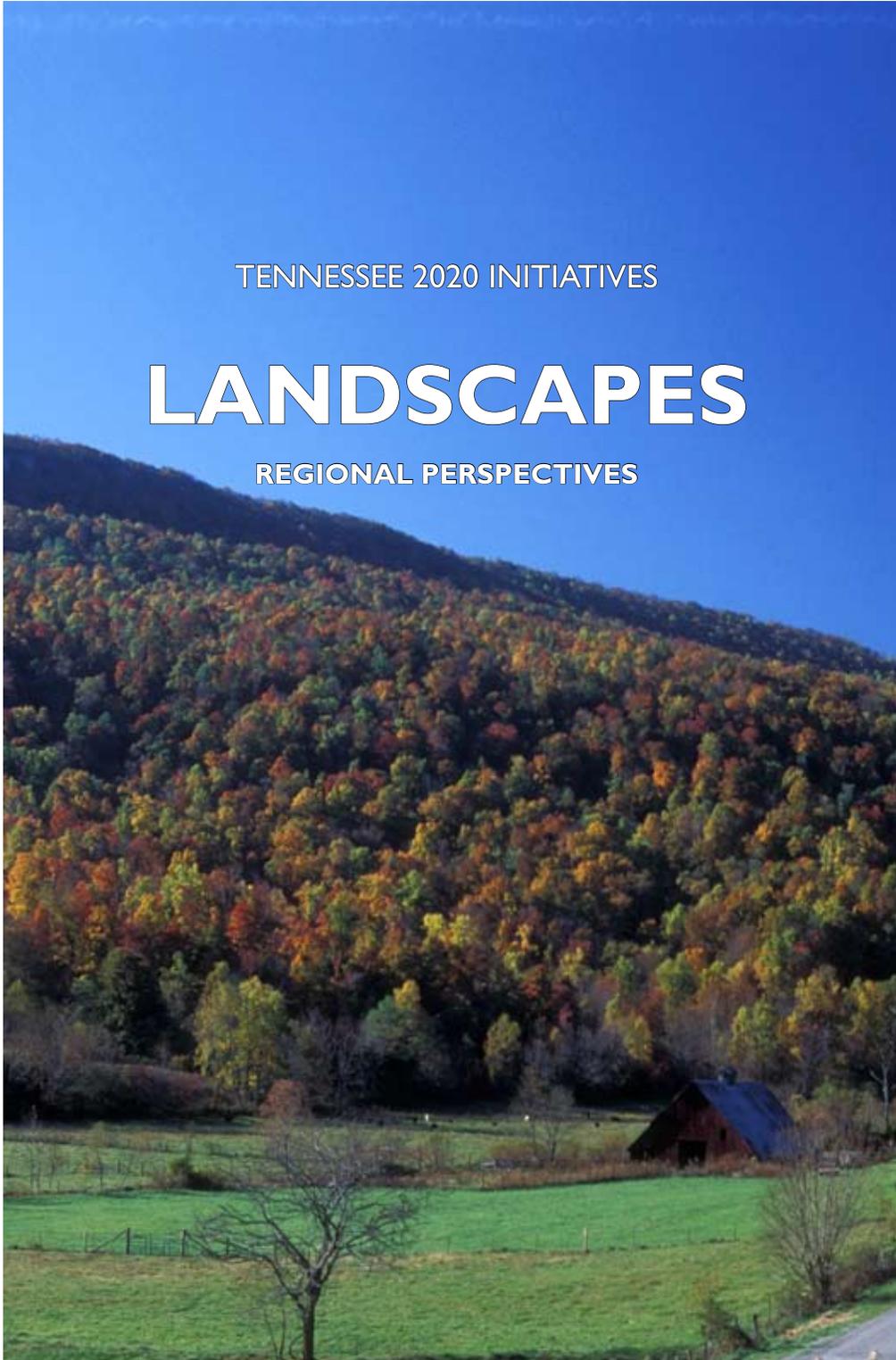
Recreational Waters. Improved access to creeks and streams at local greenways and bridge crossings will provide outdoor classrooms for hands-on study of local watersheds.



TENNESSEE 2020 INITIATIVES

LANDSCAPES

REGIONAL PERSPECTIVES





8. QUALITY GROWTH

THE NEED of rural regions for help in managing growth and preserving their quality of life.

Tennessee’s population is projected to increase overall by 10% between 2010 and 2020, the timeframe of this plan. The impacts of this growth can be expected to fall most heavily on the parks, waters, and landscapes of some of Tennessee’s most scenic rural counties. Tennesseans are sometimes characterized as inclined to dismiss loss of farmlands and forests as an unavoidable cost of growth, but the 2009 TRAB Survey found just the opposite:

Conservation Goals	% ranking this goal as “Extremely Important”
Protecting water quality in rivers and streams	89.9%
Protecting fish and wildlife habitat	78.7%
Preserving working farm land	72.4%
Preserving farms, wooded areas and open fields	67.8%
Preserving historical and cultural resources	66.3%
Preserving forest lands for recreational purposes	63.9%

A large majority of Tennesseans also favor specific measures to pursue these conservation goals:

- 78.4% support requirements for new developments to include open space for neighborhood access to nature and recreation.
- 75.7% say that 10% or more of new development acreage should be set aside for these purposes.

A Shift to Regional Strategies

In the last six years, there has been a major shift in Tennessee toward addressing impacts of land conversion through regional rather than county-specific strategies. These strategies recognize two fundamental realities:

- The network of roads and highways is the primary driver of sprawl.
- Every aspect of land use, especially conversion of farmland and forest to development, has an impact on water quality in the network of streams and rivers.

A regional approach is warranted for both road

planning and land use management because highways and streams run across county boundaries. The State has a major role in both of these networks: The Tennessee Department of Transportation (TDOT) has the job of deciding how public funds will be spent on new or improved roads, and TDEC has a responsibility to protect the waters of the state from significant impairment. These two departments, working with many partners, have implemented new initiatives to achieve a better balance between growth and resource conservation and to involve the public more directly in planning decisions that affect them.

Tennessee Department of Transportation

At TDOT, this new perspective has been evident in three areas:

1. **Context Sensitive Solutions.** Context Sensitive Solutions (CSS) has ushered in an entirely new approach to project planning. A Community Based Resource Team including community members, area

Six Tennessee Counties at Risk

The six Tennessee counties projected to grow in population by 25% or more in the next ten years could experience significant transformation of their landscapes and cultures if land conversion patterns continue as they have in the past. For Fayette County, which has had a history of resisting growth management, the prevailing pattern of land consumption could result in a 76% increase in the county's developed acreage by 2020. All six of these high-growth counties are rural, with traditions and landscapes that reflect a strong heritage of thriving agricultural economies. Rapid land conversion of farmland and forests to suburban developments and strip malls has the potential to severely impair quality of life in these counties.

County	Projected Pop. Growth 2010-2020	Metropolitan Area
Fayette	39%	Memphis
Williamson	39%	Nashville
Rutherford	38%	Nashville
Bedford	25%	Nashville
Wilson	25%	Nashville
Sequatchie	25%	Chattanooga

interest groups and local government representatives is appointed for each project. A collaborative and consensus-driven process is utilized where the Community Based Resource Team members and the design professionals all play integral roles in the outcome of the process. This results in stakeholder representatives working jointly to build consensus for alternative, aesthetic solutions that will be acceptable, affordable, maintainable and safe. As described by TDOT, CSS “balances safety and mobility and the preservation of scenic, aesthetic, historic, environmental and other community values.” There have been nine CSS projects since the inception of this new process.

2. Long-range Strategic Plan. Whereas past highway planning has generally been playing catch-up with local congestion increases, this new plan presents a strategic plan for the whole transportation network of the state, looking forward proactively toward the next 25 years. A major goal established in this plan is to “develop transportation infrastructure and services that minimize adverse impacts to people, communities, and cultural and historical resources...and natural resources...and that minimizes land consumption...”

3. Rural Transportation Planning Organizations (RPOs). The RPO process is intended to serve as the primary tool to increase local input and to pursue a more comprehensive approach to multi-modal planning in the state. The RPO organizations established by TDOT include: Center Hill, Dale Hollow, East Tennessee North, East Tennessee South, First Tennessee, Greater Nashville Regional, Memphis Area, Northwest Tennessee, South Central Tennessee East, South Central Tennessee West, Southeast Tennessee, and Southwest Tennessee.

TDOT’s new approach to highway planning represents a significant culture shift for the department. TDOT now sees itself as more than a road-building agency. It considers the impacts of new highways on sprawl as an integral part of the planning process. Just as important, it has given local residents a mechanism for demanding protection of their prized recreation assets

whenever new highways are being considered. In the process, TDOT has gone from being one of the primary enablers of sprawl to being a leader in encouraging higher-quality forms of growth.

Tennessee Department of Environment and Conservation

At TDEC a similar shift is underway toward a more comprehensive, regional approach to water quality regulation that involves all stakeholders. Traditionally water quality regulation has focused on discrete stream segments. The department’s Watershed Management Approach considers the interconnected network of streams in a watershed and the cumulative effects of all forms of pollution as they move downstream. As this approach evolves, it will use GIS mapping technology to provide an online reference with every pollution source and every permit or land use change in a given watershed. This information has been fragmented in the past among many jurisdictions. Having it all accessible in one place will give state and local planners a far more complete picture of every factor that affects the quality of a watershed.

One benefit of this new approach for recreation resource managers will be to make more evident the impacts of land development on public land and water resources. Continued implementation of TDEC’s Watershed Management Approach will play an important role in protecting Tennessee’s recreation resources; and for that reason, this plan takes up the watershed approach in greater detail in the **Recreational Waters** initiative.

While these changes at the state level are important steps toward addressing the impacts of land use on parklands and waters, Tennessee’s cities and counties still have the major role in local land use decisions. They issue permits for new development, develop subdivision plans, and produce county growth boundaries as required under the Tennessee Growth Management Act. Any meaningful protection of Tennessee’s public recreation resources must address land-use decision-

making within the cities and counties themselves. And since individual cities and counties, each with its own standards and regulations for land use, can end up competing with their neighbors, a regional approach is likely to be the most effective.

Cumberland Region Tomorrow

Fortunately a successful model for promoting quality growth at the regional level already exists in Tennessee. Cumberland Region Tomorrow (CRT) was formed in 2000 as a response to runaway sprawl in ten counties of the Nashville region. This private, non-profit, citizen-based, regional organization works with many public and private sector partners. Thanks to CRT's efforts, the region has embraced a set of Quality Growth Guiding Principles, one of which is aimed directly at protecting recreation assets: "Conserve our region's land, water and natural resources for our future

economic, health and cultural well-being."

CRT has incorporated these principles into an integrated system for facilitating Quality Growth at the local and regional level. The system is composed of three primary elements:

- Quality Growth Toolbox
- GIS GreenPrinting
- Training, Technical Assistance and Networking

Quality Growth Toolbox

The CRT Quality Growth Toolbox is the key element in their overall strategy. CRT researched best practices for growth management from all over the United States and compiled them into a comprehensive set of strategies for local governments to learn and apply. These strategies are presented under five topic areas:

- Reinvesting in towns, city centers and communities,



- Creating a variety of housing choices,
- Conserving the region's land, water, natural, and cultural resources,
- Transportation/land use planning for Quality Growth,
- Guiding infrastructure investments for sustainable growth.

In each of these interrelated areas, the toolbox stresses that choosing to promote quality growth is the region's best pathway to economic growth and vitality. It also stresses that these efforts will result in increased community and regional livability, of which recreational resources are an integral part. Since CRT is a private

Changing Perspectives on Growth Planning

Until recently, state law left growth planning largely in the hands of individual communities. In 1998, Tennessee's Growth Policy Act began to encourage local governments to cooperatively develop growth plans and set growth boundaries. Opportunities exist for planning and zoning systems to be strengthened to better guide growth and development and ensure efficient use of public resources. For decades in our region and state, growth in any form was considered desirable. To plan for growth - much less require developers and builders to conform to a plan - was thought to stymie growth and harm the community.

However, with the pace of growth experienced in the Cumberland Region in the past decade, communities of all sizes have come to recognize the increasing value of planning for the region's imminent growth. More and more, the region's communities have come to recognize that quality of life is impaired by unplanned or unchecked growth. Communities also recognize the significant expense of supporting growth through the cost of added infrastructure and community services.

entity, their success must depend on their ability to build local buy-in to the concepts of promoting Quality Growth rather than new land use regulation. This model appears to be especially well suited to Tennessee's traditions and culture. It has helped communities recognize Quality Growth as a practical pathway toward becoming stronger and avoiding the adverse consequences of unplanned growth.

Strategies for Conservation

The CRT Toolbox contains strategies for conservation of land, water, natural, and cultural resources. A basic premise of CRT's community planning is to consider the value of natural resources to the local economy, environment, and quality of life. Their approach to planning establishes a framework to protect water and natural resources, preserve important natural and historic landscapes, and support local farmers. Citizen involvement in this process ensures the effectiveness and success of the effort.

Practical measures detailed under the resource conservation theme of the toolbox include:

- **Natural Resources Inventory.** Identify the region's specific land, water, natural, and cultural resources and combine it in a geospatial database to build a comprehensive picture of the region's combined natural resource assets.
- **Conservation Priorities.** Analyze the Natural Resources Inventory to identify land, water, natural, and cultural resource areas that are most critical for conservation in the region. This allows conservation and planning efforts to be implemented more strategically.
- **Community and Regional Plans.** Include critical areas for conservation into regional, local and site plans.
- **Priority Funding Areas.** Local governments create priority funding areas for government infrastructure investment to guide development into designated areas and away from critical conservation areas. Because private development relies on public infra-

structure investments in utilities and transportation, priority funding areas for infrastructure can be a significant incentive for attracting new development into desirable locations and away from sensitive resources.

- **Link Corridors of Public and Private Open Space.** The toolbox stresses the importance of planning to maintain a “natural infrastructure” of connected undeveloped lands, riparian zones, natural resource corridors, greenways, and parks. This natural infrastructure connects wildlife habitats and supports biodiversity in all parks in the network - all of which contribute to a region’s quality of life and economic health.
- **Development Buffers.** Prescribing “no development” zones of a defined width and encouraging or requiring appropriate native landscaping provides multiple habitat and water quality benefits. Development buffers help mitigate compatibility problems between new development and resource lands such as parks, forests, and farmland. Such buffers contribute vital connections for the region’s natural infrastructure network, and can also serve as lands for greenways.

- **Native Vegetation for Water Quality.** Stream water quality is improved by increasing absorption with native trees and plants that filter sediment and pollutants. Aquatic and terrestrial wildlife habitat is also improved by large tree canopies that provide shelter and lower stream water temperatures. In addition, flood damage is reduced when trees and plants are available to slow the velocity of runoff.

Use of GIS: Regional GreenPrinting

The second major component of the CRT system is the use of Geographic Information System (GIS) technology in the Quality Growth planning process.

In the past, permitting processes at all government levels often suffered from a narrow focus on the individual permit application and the specific site involved. Agency personnel simply did not have access to information about the locations of nearby resources that might be affected. In 1985, TDEC pioneered an initiative to compile the geographic information needed for a more comprehensive perspective. The department’s *Tennessee Recreation Atlas* contained detailed maps of the state’s 95 counties showing the locations of all state, federal, and local parks and other important



resources. This may well have been the nation's first example of what has become a widely embraced strategy that has taken off with the advent of GIS technology. Known as "GreenPrinting," this strategy develops GIS databases of natural resources, infrastructure, and other elements in a region so that permitting agencies can be fully aware of potential unintended consequences of a particular decision. GIS information provides a better knowledge base for assessing the impacts and costs of land use and transportation decisions.

CRT has incorporated GreenPrinting as a strategic approach to integrating critical natural resource areas into community and regional growth plans. Through the support of TWRA and several key partner agencies, the CRT counties became the pilot region for Tennessee to make such information available. The objective of the CRT Regional GreenPrint project was to develop a GIS-based decision-making tool that could be used by local and state government planners to insure access to and knowledge of critical lands for conservation in the region.

Information currently available in the TWRA *Tennessee Wildlife Action Plan* serves as the base layer, with other critical GIS layers being added as they become available. As TDEC's evolving Watershed Management Approach for integrated permitting produces watershed-based GIS databases in the next few years, these will be important resources added to the regional GreenPrint.

Training and Networking

Planning tools alone cannot ensure that quality growth will occur. CRT has recognized that, especially in rural counties, the whole notion of growth management can represent a radical departure from long-established assumptions and practices and can feel threatening to the individuals making the critical decisions. For this reason, CRT's methodology places a strong emphasis on personal relationships and collaborative leadership. Their work strives to establish a leadership advisory group in each community

comprised of business and community leaders who join with their local government officials to commit to joint actions that take advantage of the positive benefits of Quality Growth in their communities and region. In addition, the organization provides training and technical assistance for local planners, local officials and business and community leaders to help them learn to use Quality Growth Toolbox planning tools effectively. This emphasis on personal relationships and collaborative leadership has been the single element that has contributed most to CRT and their pilot communities' successes.

Landscape-Level Conservation

It was the promise of fertile farmland that moved Tennessee's early settlers to endure hardships and dangers to carve out new lives on a distant frontier. Life in the rural landscape became the core of the state's heritage and identity, producing the great musical traditions for which the state is known across the world. Until just a few years ago, Nashville was known as "the fifteen minute city" because the residents prided themselves on being able to reach Middle Tennessee's lush, scenic farmlands with no more than a short drive from downtown.

Much of Tennessee's scenic beauty is still found in the great expanses of farm and forest lands that have survived. Preserving these heritage landscapes intact is a concern shared by many. The 2009 TRAB Survey found that 91% of Tennesseans feel it is important or extremely important for a county to preserve its farms, wooded areas and open fields. Asked about their priorities for various conservation goals, 76% ranked preserving working farmland as extremely important.

Landscape-level conservation is a concept that is receiving increasing attention nationally as it has become apparent that the more traditional focus on protecting individual parcels is not sufficient to maintain the integrity of ecosystems, wildlife habitats, and the water quality of streams. Accordingly, the 2009 *Great America Outdoors* report of the Outdoor Recreation

Review Group (ORRG) proposes as follows:

“Federal and other public agencies should elevate the priority for landscape-level conservation in their own initiatives and through partnerships across levels of government, with land trusts, other nonprofit groups, and private landowners to conserve America’s treasured landscapes.

“The Secretary of the Interior should work with state and local officials, land trusts, conservancies, and other groups to identify opportunities for landscape-level conservation in both rural and urban settings. An increment of the Land and Water Conservation Fund should be allocated to the Secretary for use at his discretion to encourage landscape-level conservation by stimulating innovative public-private partnerships and rewarding outstanding state and local commitments to protecting treasured landscapes.”

The CRT methodology embodies this priority. The organization’s networking process emphasizes developing public/private partnerships for landscape-level conservation. An especially important partner, the **Land Trust for Tennessee**, has been working closely with private landowners to safeguard privately owned and managed forests, wildlife habitat, wetlands, and other working landscapes through conservation easements and other measures. This organization has achieved permanent protection for a total of over 9,000 acres in the CRT region and over 42,000 acres statewide. Landscape-level conservation requires a concerted effort. As the ORRG report notes: “It requires the cooperation of many sectors and agencies, melds numerous sources of funding, and tailors strategies to the circumstances of communities and private landowners.

Conclusion

CRT has developed a successful, well integrated model for addressing the problems associated with growth and land use change in Middle Tennessee. This model can provide significant benefits for conserving recreation resources and should be exported to other regions of the state. TDOT, which provided the seed

Duck River Highlands Project

The Duck River Highlands Project is a broad land and historic preservation initiative facilitated by the Land Trust for Tennessee to identify and protect the fragile rural resources of northwest Maury, southwest Williamson, and northeast Hickman Counties bounded by the watersheds of Snow Creek, Lick Creek, and Leipers Creek.

In 2005, concerned landowners approached the Land Trust and raised funds to help formulate a plan for protecting some of the region’s rich assets on a community-wide scale. The first phase of the project involved a year-long inventory study sponsored by the National Park Service that documented the natural, cultural, historic, and agricultural resources in the region. The inventory staff interviewed residents, surveyed historically important sites and structures, and documented important natural and agricultural resources. Community meetings were held to present the work and explain different land conservation and historic preservation tools local residents could utilize to protect these resources. The inventory project generated widespread enthusiasm for the area, and inspired some residents to take advantage of these tools.

The Land Trust for Tennessee completed the first of several conservation easements in the Duck River Highlands area in fall of 2006, and local natural resource and historic preservation groups are working to safeguard other irreplaceable hallmarks of this community.

money for Cumberland Region Tomorrow's work to create and pilot the Quality Growth Toolbox anticipates that federal planning dollars can be used to fund this initiative. TDOT, TWRA and TDEC resources can support the creation of GreenPrint GIS systems with consolidated data resources for each region. Cumberland Region Tomorrow's leadership has indicated a commitment to assisting in other regional or statewide replication efforts.

2015 Action Plan

DOT, TDEC, and CRT should form a partnership to establish new regional organizations or work with existing ones to implement the CRT Quality Growth methodologies.

This initiative should include supporting coalitions of TDOT's Rural Planning Organizations, regional Development Districts, regional chapters of non-profit and professional organizations relating to Quality Growth and planning, and private partners.

The partners should assist these new Quality Growth entities in building region-specific GreenPrint geospatial databases of natural infrastructure, including parklands, greenways, streams and buffers, and critical conservation areas.

The partners should also assist these entities in developing region-specific Quality Growth Toolboxes.

The partners should help train the staff of these organizations in the use of the Quality Growth Toolbox and the GreenPrint database, and in Community/Collaborative Leadership training/technical assistance for county decision-makers.

Implementation of this initiative should begin with active pilot projects in strategic locations in each planning region to demonstrate successful application of the CRT resources and methods.

2020 Vision

Every Tennessee county will incorporate Quality Growth tools and principles in its land use planning and development permitting, so that each county will

conserve its recreation resources - parklands, greenways, streams and buffers, and critical conservation areas - to accommodate future population growth. New development will include greenways and buffers to preserve the integrity of streams. Open lands, farms, and forests will be recognized as critical amenities for the region. And all state and local parks will be protected by natural buffers from impacts of adjacent development.

Coordination Links

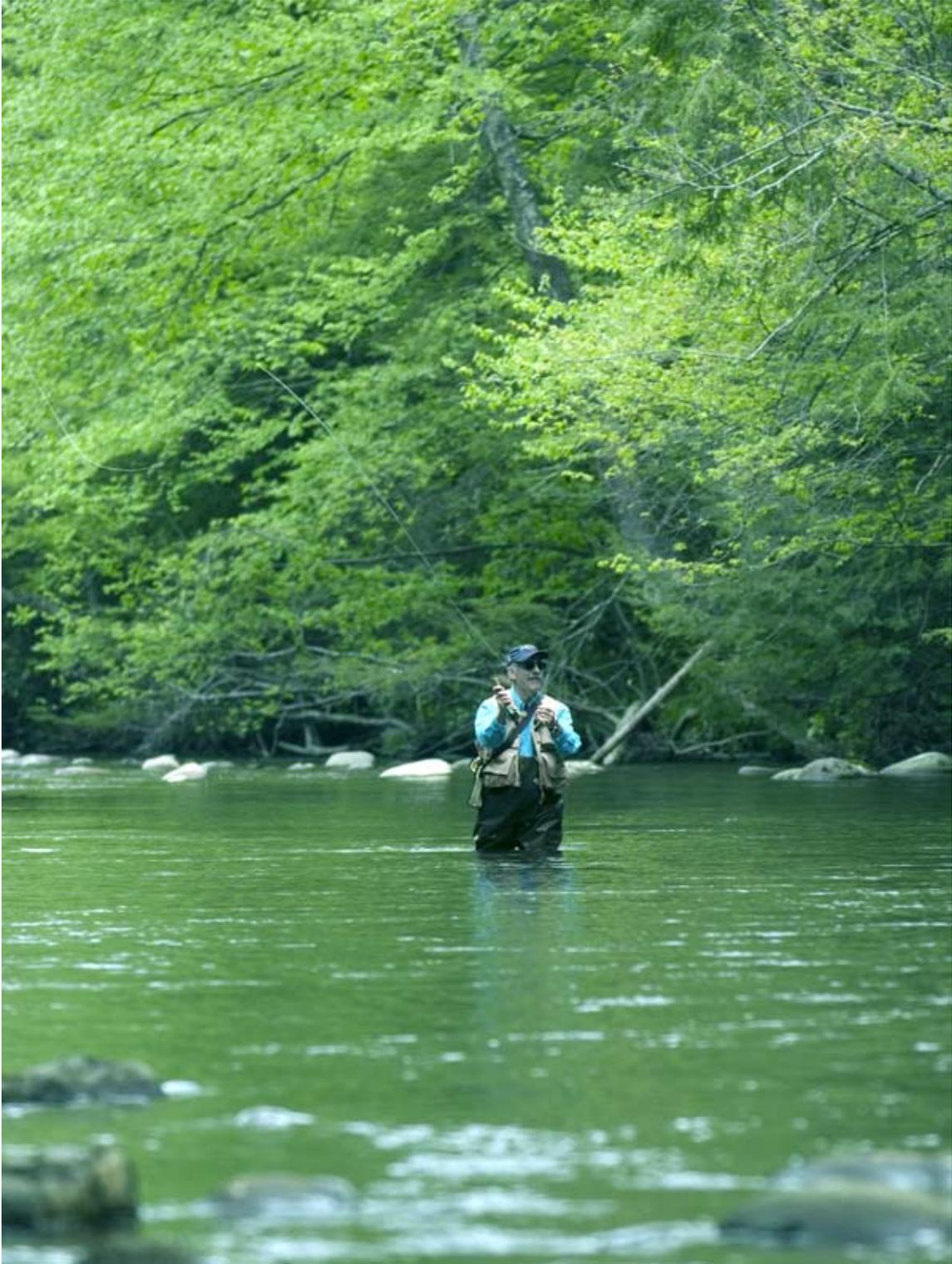
Advocacy and Funding. CRT's approach stresses that preserving the natural infrastructure and critical conservation areas ultimately benefits the residents in terms of better quality of life, a stronger local economy, and higher local real estate values.

State Parks Management. Having a GreenPrint database for use by local planners, and requiring buffers to protect these resources from adjacent development will help ensure that the resource protection needs of State Park managers will be considered and respected as part of the local land use planning process.

Local Parks and Recreation. The Quality Growth process encourages communities to value their current parks and potential future ones as critical community amenities and to consider the impacts on these amenities in all land use planning decisions.

Tennessee Recreation One-Stop. The GIS data acquired from state and federal agencies and local parks and recreation departments for the Recreation One-Stop website will provide recreation resource information for Quality Growth GreenPrint databases.

Rural Economies. Entities that promote Quality Growth will help build local buy-in to the principle that regional cooperation to conserve natural and historic resources is a good way to strengthen the local economy. This understanding will support for initiatives to develop heritage area and scenic byways.





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?

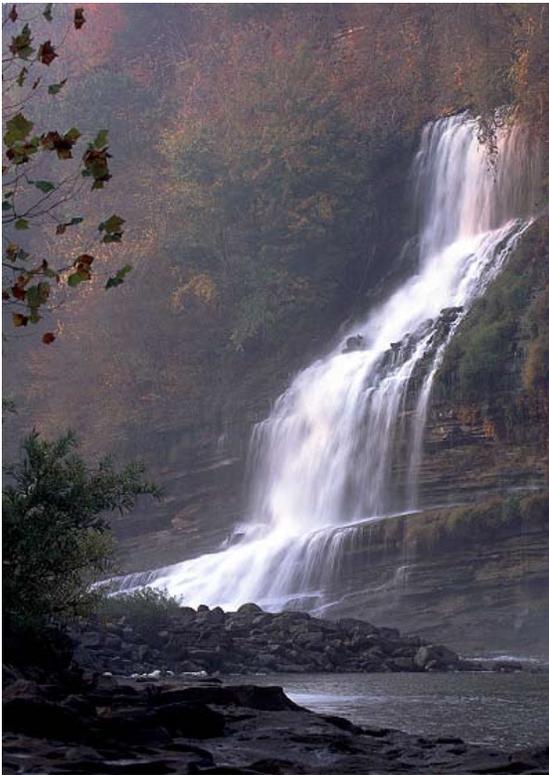
A watershed is the entire land area that drains into a lake, river, or other water body. Watersheds can be small, like the area that drains into a neighborhood creek, or large, like a region that drains into a large river. The Tennessee River watershed extends into North Carolina, Virginia, Georgia, 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. Tennes-

seans 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.





10. RURAL ECONOMIES

THE NEED of rural regions for help in harnessing their recreation assets for economic development.

Many of Tennessee’s rural counties are lagging behind the rest of the state economically. Most of the counties with the highest poverty rates or lowest median household incomes happen to lie within the regions that are the richest in natural and historic resources. These assets give them the potential for development and diversification of their local economies.

The last ten years have seen an increasing convergence, both nationally and in Tennessee, among the fields of conservation, tourism, and economic development. The conservation community, long focused narrowly on resource protection and environmental quality, is now embracing the concept that protected lands are also valuable economic assets, especially for the rural counties where these resources most often occur. The tourism sector is diversifying into nature-based and heritage-based tourism, a market niche that is growing rapidly. In the field of rural economic development, emphasis is shifting from building industrial parks and

new highways to “asset-based” development, which seeks to use a region’s natural and historic resources to attract visitors and new businesses. These evolutions are good for conservation because they give natural and historic resources greater value in the eyes of the business community, government officials, and local residents.

The nature and heritage visitor market has the advantage of being relatively resilient in the face of travel constraints such as economic downturns, epidemics, or terrorist concerns. Such constraints can severely depress long-distance travel while making closer-to-home trips by automobile more appealing.

This planning process has identified three strategies for rural economic development that show promise for their ability to help protect valuable resources while harnessing them as engines of economic growth. These are:

- State Heritage Areas,
- State Recreation Areas,
- State Scenic Byways.

State Heritage Areas

The heritage corridor concept, the most significant and far-reaching of these regional strategies, has already taken firm root in Tennessee. Five regions now have organized heritage area initiatives:

- **Tennessee Overhill**, 3 counties of southeast Tennessee
- **Blount County**
- **Cumberland Plateau**, 21 counties of the plateau region
- **Tennessee River Trails**, 9 counties bordering the Tennessee River/Kentucky Lake
- **Mississippi River**, 6 counties bordering the river

Four of these, Blount County, Tennessee Overhill, Cumberland Plateau, and Mississippi River, have completed feasibility studies to qualify them for eventual National Heritage Area designations.

These heritage areas are all grassroots efforts that have emerged from local commitments to protect the region's natural, historic, and cultural resources and to market them as economic development assets. This local focus has been the real strength of the movement, as it has encouraged a sense of enterprise and initiative on the part of the leadership.

Economic impact research involving several National Heritage Areas has found that every 25,000 visitors to such areas contributes \$2.5 million per year to the local economy.

TDEC has recognized that it can encourage and assist these initiatives by providing a formal designation accompanied by a set of uniform standards or guidelines. Formal designation as a State Heritage

Area can give the region a stronger position both in negotiating cooperative partnerships with government entities and in appealing to the visitor market. Standards can protect the "brand" of the Tennessee State Heritage Area designation by ensuring that all areas bearing it can satisfy visitor expectations. The new State Heritage Areas program is currently under development at TDEC, following the well-established model of the National Heritage Areas program. The department plans to introduce legislation to establish the program in 2010.

In the next ten years, it is anticipated that Tennessee's State Heritage Area movement will be seen increasingly as a proven strategy for regional cooperation, rural conservation and economic growth.

State Recreation Areas

The 2003 State Recreation Plan proposal to acquire high-priority conservation lands led to the creation of the Heritage Conservation Trust with dedicated funding of \$30 million from bond issues. Creative leveraging of these funds through various partnerships and agreements meant that much of the land acquired is owned jointly and managed by multiple entities. Such a situation does not make these lands candidates for becoming new State Parks, but that would not prevent their being enjoyed for dispersed, nature-based recreation.

At the time of these acquisitions, some concern was expressed in the affected counties that the lands were simply being "locked up", making them off-limits for future economic development. The state's response was that the depressed economies of those counties would benefit from the increased visitation these outstanding parcels would attract.

Realizing the economic development potential of newly acquired conservation lands calls for a new mechanism to manage these lands for multiple-use outdoor recreation opportunities and to make the public aware of these opportunities. One solution would be for the state to adopt a new formal State Recreation Area designation for multiple-ownership lands.

The prime candidate for such a designation would be the large area acquired within the last five years in the North Cumberland Plateau. The Royal Blue and Sundquist Wildlife Management Areas and two other parcels, the Emory and Brimstone tracts, comprise a total of 127,000 acres, making them the largest land acquisition in Tennessee since the purchase of the Great Smoky Mountains National Park. Since these areas are some of the highest land in the east-central part of the state, they comprise the headwaters of many rivers, including the Sequatchie River, the Collins River, the New River, the Big South Fork of the Cumberland River (federally designated as a National River and Recreation area and an Outstanding National Resource Water), and the Obed River (designated as a National Wild and Scenic River.)

These properties were selected as high-value conservation lands for acquisition because of their globally significant biodiversity, which makes them especially well-suited to provide the kinds of public recreation that can only occur in large, pristine forests. While hunting now occurs on these lands under TWRA management, they are not currently managed for non-

game recreation such as hiking, camping, and wildlife observation. A State Recreation Area designation and joint management partnership would open these lands up to other kinds of recreation. As components of the regional Cumberland Plateau Heritage Corridor, these lands have the potential to become valuable assets for the local economy as well.

In addition to newly acquired properties, there are many other state-owned lands whose recreation potential is constrained by various factors. The Department of Agriculture owns 159,737 acres of State Forests, but managing these forests for recreation falls outside the department's mission. The Tennessee Wildlife Resources Agency manages a total of 475,372 acres in the state for hunting and fishing, but the agency's priorities do not include non-game recreation.

Off-highway vehicle use offers one example of how State Recreation Areas might provide more recreation opportunities while benefiting the local economies. A 2002 study estimated over 500,000 OHV owners in Tennessee. Judging from responses to this plan's online survey, many are frustrated by a lack of places to ride. Certain locations that have catered to this demand,



such as the Hatfield-McCoy Trail in West Virginia, have found that the OHV niche is a relatively upscale demographic that can have a significant impact on the local economy. While concerns have been raised about water quality and other impacts from OHV riding, standards are now well established for engineering trails to avoid such impacts.

Other recreation activities that might take place on these lands could include hiking, camping, wildlife observation, horseback riding, and mountain biking, assuming trails were developed.

The concept of a State Recreation Area designation is patterned after the model of the Big South Fork National River and Recreation Area (BSF). The Park Service chose the National Recreation Area designation for this unit to allow a broader range of activities, including OHV use, than would be allowed in a National Park. At least 22 states also have State Recreation Areas, which provide outdoor recreation opportunities in locations that do not fit the definition of a state park.

As envisioned, the formal State Recreation Areas designation would be approved through a legislative act. Owing to the complexities of multiple management and ownership, each individual unit's framework, specific legal agreements and constraints would be negotiated and defined among the participating agencies at the administrative level. These collaborative agreements would reach across agency lines and might even extend to private and NGO landowners.

The option of allowing these areas to charge user fees needs is an important one that needs to be explored. If the owner of a large tract of forest could receive a revenue stream from allowing his property to be managed as a SRA, it could help keep the land economically viable as a working forest. In such a case, landowner liability could be an issue, one which might be addressed by a limited liability clause in the enabling legislation.

The public would benefit from having the SRAs provide a seamless approach to management where multiple parties are involved. While an SRA might

include compartments owned and managed by different agencies, it would be presented to the public as a single recreation area with different areas zoned for different types of uses. SRAs could then be marketed to state residents and out-of-state visitors for recreation use.

State Scenic Byways

Scenic byways have proven in many cases to be a very successful way to help rural economies realize the potential of their scenic, natural, historic, and cultural resources. They can encourage regional approaches to planning, provide incentives for managing growth, help communities better appreciate and preserve their valuable resources, attract visitors that contribute to local economic development, and qualify the region for public funding and private investment. Recognizing that byways and heritage areas share many of the same methods and goals, five of the most recent byway initiatives in Tennessee are implementation projects of the locally organized heritage areas described earlier in this chapter.

In the last four years, six corridors in Tennessee have applied for and received federal grants for byway corridor management plans, and two have been designated as National Scenic Byways, as noted below:

- **East Tennessee Crossing National Scenic Byway** (US 25E) and US 321 in East Tennessee,
- The **North Cumberland Plateau Byway** and the **Walton Road Byway** on the Cumberland Plateau,
- The **Tennessee River Trails Byway** in the counties bordering the Tennessee River/Kentucky Lake,
- The **Tennessee Great River Road National Scenic Byway** encompassing six counties that border the Mississippi River.

The Tennessee Department of Transportation could play a key role in supporting these and other locally organized byway initiatives, but unfortunately their State Scenic Highways/Tennessee Parkways program has been dormant for many years. The department is now planning to revitalize the State's byways program using a federal grant to develop a new State Scenic By-

ways Plan, with completion expected in 2011. Many of Tennessee's rural counties desperately need the kinds of benefits that an effective state byways program would provide. Accordingly, the department is encouraged to assign this plan a high priority. A critical principle that this plan must emphasize is that local grassroots control and initiative are essential for any byway to be sustainable and successful in the long run.

Conclusions

These three strategies show great promise for increasing recreation opportunities for Tennesseans. All are cost-effective as economic development strategies because they leverage existing natural, historic, and cultural resources to provide significant returns to the state. It is appropriate for this plan to encourage the State to pursue each of them.

2015 Action Plan

TDEC should complete development of program guidelines for the Tennessee State Heritage Areas program and introduce legislation to have the designation formally established.

TDEC, TWRA, the Department of Agriculture, and non-profit organizations should partner to develop a framework for a State Recreation Areas designation and seek legislation to establish the designation. The newly acquired North Cumberland Plateau lands of the Sundquist, Royal Blue, Emory River and Brimstone tracts should be designated as a State Recreation Area pilot project under this program.

TDOT should proceed immediately with development of a Tennessee State Scenic Byways Plan, with an emphasis on local control and initiative.

2020 Vision

Tennessee's rural regions will gain significant economic benefits from their rich heritage of natural, historic, and cultural, resources; will view them as valuable assets; and will take steps to preserve and protect them.

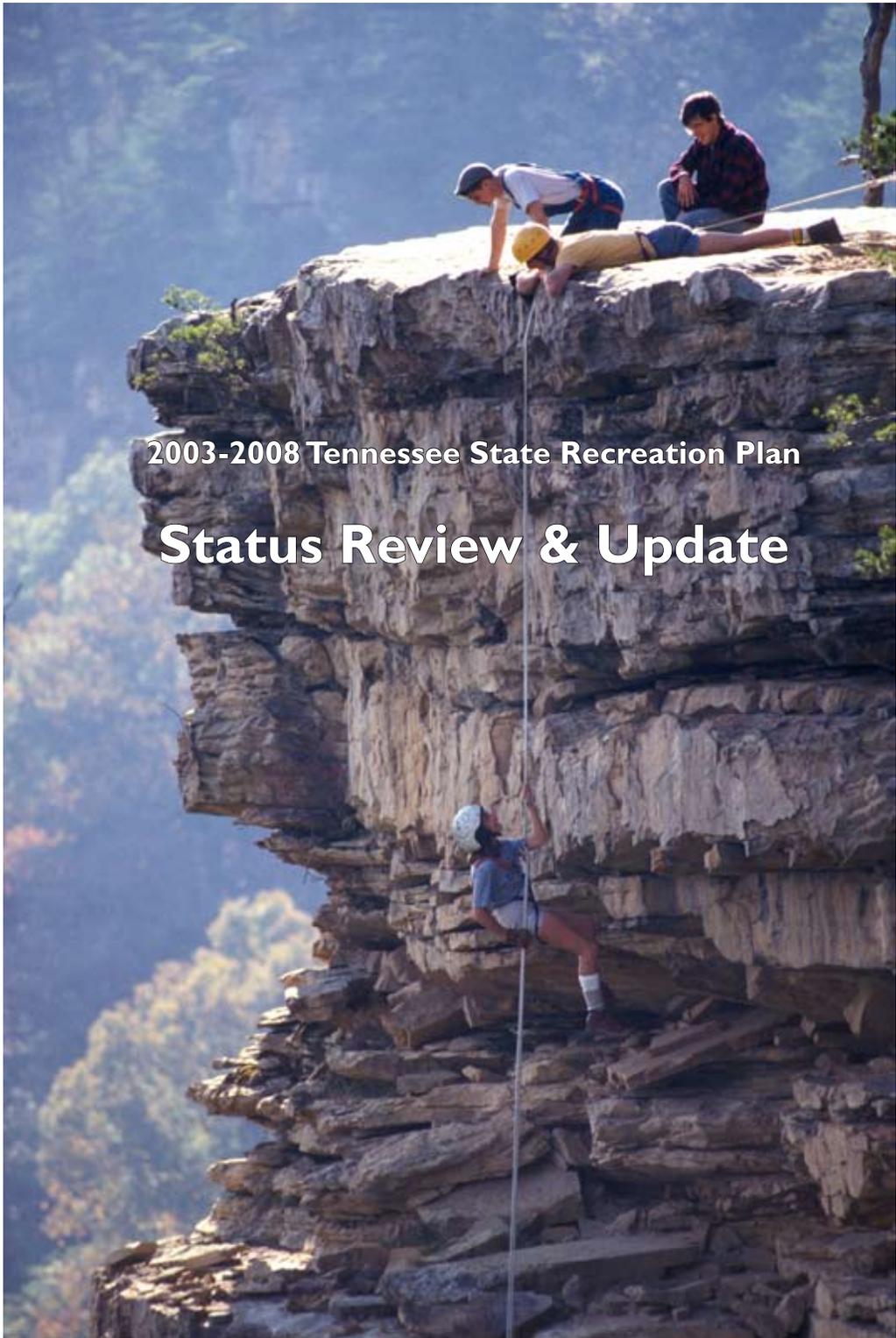
Coordination Links

Recreation One-Stop: This website can help heritage areas, State Recreation Areas, and scenic byways reach a wider visitor market, making them more effective as economic development strategies.

Quality Growth: The Quality Growth regional partnership model shares many of same the conservation and economic development perspectives.

Recreational Waters: Development of regional Blueways can turn neglected rivers into attractive destinations, adding to a region's portfolio of economically productive recreation assets.





2003-2008 Tennessee State Recreation Plan

Status Review & Update



In 2008 the TRAC committee conducted a thorough review of the implementation status of the 2003 Tennessee State Recreation Plan. The following section contains their findings of progress to date and proposals for carrying the plan's Action Program forward during the next five years. In several cases, these action items have been incorporated into one of the ten new initiatives presented in this plan.

I. Seamless Recreation System

2003 Proposal: Organize existing Federal, State and local resources into a seamless "Tennessee Recreation System."

GIS data sharing across agency lines, a key component of this proposal, has been implemented in several ways:

- Annual Governor's Land and Water Forums, beginning in 2004, have helped to improve coordination of information and sharing of GIS data among state agencies. Forum III in 2007 concentrated on GIS

sharing among state, federal, and local agencies.

- GIS coordination is now taking place among TDEC, the Department of Agriculture's Division of Forestry and the Tennessee Department of Transportation (TDOT). In addition, TDEC's RES and State Parks divisions now share a common GIS database.
- A large wall map showing the lands of all State and Federal recreation providers in Tennessee was completed by the Tennessee Wildlife Resources Agency (TWRA) in 2007.

Interagency cooperation and coordination has been strengthened in the following ways:

- TRAC meetings in 2008 and 2009 have served as interagency forums
- Tennessee's Greenways are a well-integrated statewide system that operates across many jurisdictional lines.
- TDEC-RES developed a revised scoring system for

local grants which places a priority on cooperation, planning and partnerships.

2010-2015 Update:

Implement this plan's **Advocacy and Funding** and **Local Parks and Recreation** initiatives, which support local parks departments in their roles as active partners in a seamless recreation system. Implement the Tennessee Recreation One-Stop website initiative, which involves GIS data sharing at all levels and a seamless recreation information delivery system for the public. Implement the proposal to establish a State Recreation Areas designation to facilitate interagency cooperation in managing state recreation lands with multiple ownership.

2. Multi-use Agreements

2003 Proposal: Facilitate formal multi-use agreements among all levels of government.

PARTAS is implementing this for cities and counties, providing a partnerships booklet outlining the importance of multi-use and school/park agreements and examples of various forms of agreements.

2010-2015 Update:

Continue implementation to assist four of this plan's initiatives: **Local Parks and Recreation**, **Children in Nature**, **Environmental Education**, and **Public Health**. PARTAS should provide more training and initiate more partnerships in this area, pointing out the important role of local school recreation facilities in providing fitness-activity opportunities, especially for underserved and high-risk populations that lack such opportunities close to home.

3. Website

2003 Proposal: Develop a comprehensive one-stop website for recreation information.

The Department of Tourist Development has developed an extensive website, Tennessee Vacations, that provides information about many recreation opportunities in the state. However, the whole spectrum of recreation opportunities provided by Tennessee's

multi-level recreation system is not a primary focus.

A working group of the TRAC met in 2009 to reconsider this proposal of the 2003 plan. The result of those discussions has been incorporated into a new website proposal using new technologies that have emerged since 2003.

2010-2015 Update:

Implement this plan's **Tennessee Recreation One-Stop** website initiative.

4. Printed Information

2003 Proposal: Provide more printed information about State and Federal recreation resources.

TDEC has completed new parks brochures for all parks, and TWRA has published a new State Recreation System wall map.

In considering the status of this proposal, the TRAC concluded that digital online information is increasingly becoming the preferred public information source, and that providing more printed information will not be a state recreation priority in the future.

2010-2015 Update:

Implement this plan's **Tennessee Recreation One-Stop** website initiative.

5. Corridors

2003 Proposal: Organize, brand and market Recreational Development Corridors.

This proposal has resulted in one of the great success stories of the 2003 plan. A movement to implement Heritage Corridors had emerged statewide.

The 21-county Cumberland Plateau region completed a National Heritage Corridor Feasibility Study, with joint funding from TDEC, TDOT, and TWRA.

The North Cumberland project is a model corridor project containing recreation, tourism, economic development and working forest components.

In the 6-county Mississippi River Corridor, a nonprofit grassroots organization has been established and received a \$250,000 direct appropriation from the General Assembly.

The Tennessee Overhill Heritage Area has completed a National Heritage Corridor Feasibility Study and has a self-sustaining, fully operational regional program.

The 9-county Tennessee River Trails corridor has organized and received funding for a National Scenic Byway plan.

TDEC is in the process of developing a framework for a State Heritage Areas program to assist and guide these grassroots efforts.

2010-2015 Update:

Implement this plan's **Rural Economies** initiative through TDEC's completing the State Heritage Areas framework and introducing legislation to formally establish that designation in 2010.

6. Growth

2003 Proposal: Mitigate the impact of growth on Tennessee's natural and cultural heritage.

The Governor's office did not appoint the proposed cabinet-level interagency council to develop growth

management policies. A working group of the TRAC committee was organized in 2009 to develop a new approach. That work has produced a new Quality Growth initiative for this plan.

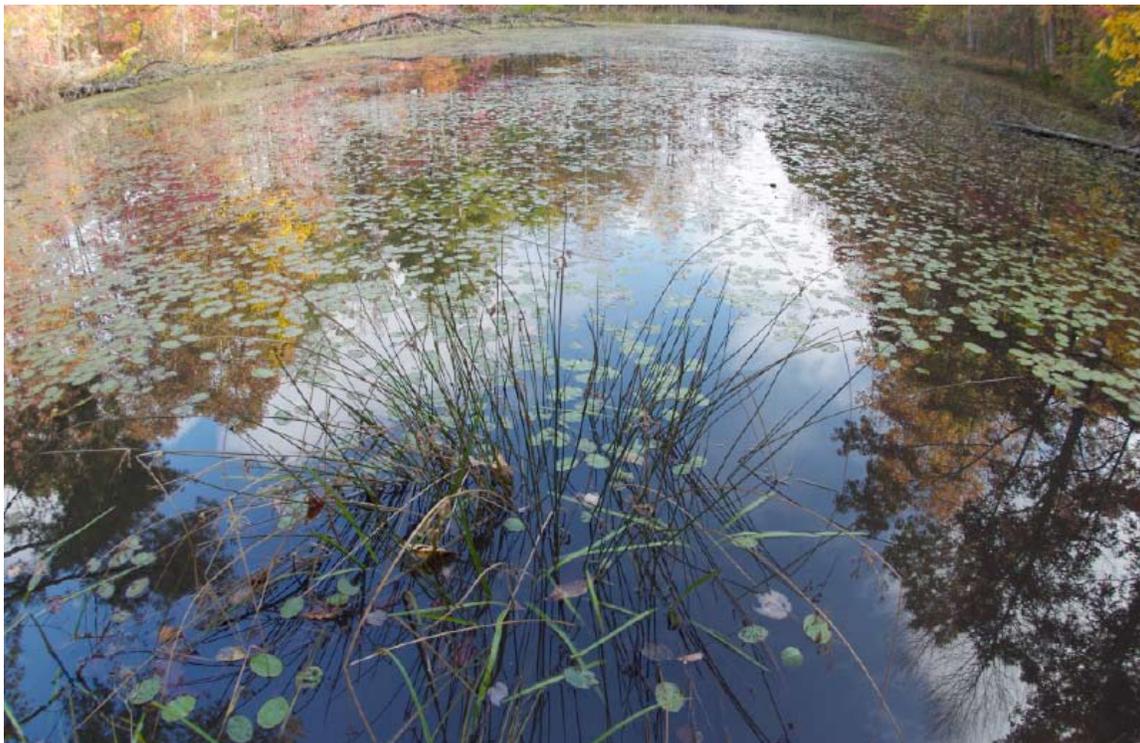
2010-2015 Update:

Implement this plan's **Quality Growth** initiative.

7. Acquisition

2003 Proposal: Develop a comprehensive statewide plan for acquisition of recreation lands.

Tennessee's new land acquisition program has been the most dramatic and far-reaching outcome of the 2003 plan. The Tennessee Heritage Conservation Trust Fund Act was passed in 2005 with a new dedicated funding mechanism. A Preliminary Assessment of Needs was completed in 2006 through an interagency cooperation by the Departments of Agriculture and Environment and Conservation and the Tennessee Wildlife Resources Agency. This fund seeks to protect significant natural areas in Tennessee by strategically partnering with land-owners, government agencies, non-profit organizations,



for-profit companies and others. To date, the fund has awarded 29 grants totaling a little over \$30 million to protect 42,411 acres. Leveraged with matching dollars from the recipients, the lands that have been acquired are valued at close to \$118 million.

The State Lands Acquisition Fund continues to be used for the acquisition of land for any area designated as an historic place as evidenced by its inclusion on the National Register of Historic Places, state historic areas or sites, State Parks, State Forests, State Natural Areas, boundary areas along State Scenic Rivers, the state trails system, and for the acquisition of easements to protect state lands and waters. Such funds may also be used for trail development in the foregoing areas.

2010-2015 Update:

TDEC should continue efforts to establish a sound land acquisition selection process that integrates top priorities from each cooperating agency and an efficient, fully-staffed land management/real property management section within RES.

8. Rivers

2003 Proposal: Restore the State Scenic Rivers Program.

TDEC's former Division of Natural Areas requested an improvement item to establish a State Scenic Rivers Administrator position as part of annual budget improvement process in 2006, but was not successful in getting it funded. Now, in 2009, the new Division of Resource Management has placed a renewed focus on the state Scenic Rivers Program by organizing a new section called Rivers and Trails and appointing a staff person to oversee this program. This Scenic Rivers Administrator will work closely with watershed associations to review and evaluate Tennessee's Scenic Rivers Act and pay close attention to all designated State Scenic Rivers by carefully reviewing and evaluating all relevant environmental permits and grants. TDEC is also working closely with TDOT on transportation projects that might affect a Scenic River.

2010-2015 Update:

TDEC should continue the emphasis placed on the Scenic Rivers Program, ensure permanency of the coordinator/administrator position at TDEC, and implement this plan's **Recreational Waters** initiative.

9. Greenways

2003 Proposal: Continue to implement the Tennessee Greenways and Trails Plan.

This proposal has been implemented to a significant degree.

- The Greenways Coordinator position was reinstated in 2005 via grant from TDOT.
- A new Greenways and Trails Plan was completed in 2007.
- TDEC, TWRA and TDOT are working cooperatively on the GIS database of existing paved greenway trails, with 306 trails identified so far. The next phase will cover natural surface trails.
- TDOT's new Multi-modal Resources Transportation Plan includes provisions for pedestrian and bicycle trails.
- Governor Bredesen and First Lady Andrea Conte are giving a priority to the Trail of Tears.
- A very successful Tennessee Greenways and Trails Council continues to guide and support the program, and was instrumental in selecting a marketing firm to develop the first-ever marketing campaign for greenways and trail in Tennessee: www.connectwithtn.com
- The Southern Appalachian Greenways Alliance (SAGA) has been established and has developed a regional SAGA Plan for Northeast Tennessee in partnership with the NPS-Rivers, Trails and Conservation Assistance program.
- PARTAS is helping local communities decide where best place to put trails, and beginning in 2008 TDEC began awarding local grants for trail planning.

2010-2015 Update:

Continue to implement the 2003 proposal as part

of this plan's **Quality Growth** initiative in the following ways:

- Coordinate with the Department of Economic and Community Development to identify and pursue opportunities to acquire land for Greenways through the FEMA/TEMA flood hazard mitigation program.
- Continue to place an emphasis through local grant priorities on connectivity to create regional Greenway and trail systems, linking federal, state, and local parklands and schools, and providing alternate transportation.
- Encourage communities to use sidewalks as urban trails, and develop urban trail standards.
- Use TDEC GIS data to assist local governments and others in identifying potential areas for adding Greenway connections.
- Implement proposals of the Governor's Off-highway Vehicle Study
- Consider assigning this plan's **Recreational Waters** initiative to the Greenways and Trails Coordinator or the Scenic Rivers program in State Parks.

10. Wetlands

2003 Proposal: Continue to fund and implement Tennessee's Wetlands Conservation Strategy.

Tennessee has largely accomplished the goal established in 1994 to increase the state's wetland base by 70,000 acres through the Wetland Acquisition Fund administered by the Tennessee Wildlife Resources Agency.

Wetland mitigation banks have been used to offset unavoidable wetland losses resulting from development projects requiring state and federal water quality permits, resulting in restoration of approximately 3,000 wetland acres.

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.

2010-2015 Update:

Implement the wetlands component of this plan's **Recreational Waters** initiative.

11. Renovation

2003 Proposal: Renovate and maintain state and local recreation facilities.

TDEC's Recreation Educational Services division has established a scoring priority for local grants that encourages "taking care of what you have" by emphasizing the following:

- Renovation and rehabilitation of existing local facilities that are at least 20 years old.
- Planning and benchmarking that details accountability for ongoing maintenance of funded facilities

RES has also established performance standards for grant recipients.

RES requires ADA compliance in all facilities renovations to ensure the ability to serve people of all abilities.

2010-2015 Update:

Continue to apply the maintenance priority scoring in awarding local grants. Continue the priority of accessibility and inclusion of users of all abilities in renovations and in new facility design.

12. Grants

2003 Proposal: Develop an improved system for the most effective use of TDEC recreation grants.

RES revised its local grant scoring to reflect new planning priorities placed on benchmarking of communities and identifying communities with significant recreation opportunity deficits.

2010-2015 Update:

Revise TDEC's grant scoring to incorporate priorities established in this plan.

13. Environmental Education

2003 Proposal: Establish a statewide environmental education program.

Project CENTS was re-established through a partnership with TDEC and the Department of Education in 2005. This partnership resulted in 20 parks implementing year-round classrooms, with Fall Creek Falls State Park conducting a residential environmental education program that serves students statewide.

PARTAS is helping to coordinate school/parks cooperative agreements.

The Outdoor Recreation and Conservation Education section of the Resource Management Division within State Parks has also developed a pilot East Tennessee Teachers Guide to help coordinate and promote program and service cooperation between parks and schools.

2010-2015 Update:

Continue these activities as implementation components of this plan's **Environmental Education** initiative.

14. Advocacy & Funding

2003 Proposal: Increase advocacy and funding for parks and conservation in Tennessee.

Advocacy by conservation organizations and leadership from the Governor resulted in the Tennessee Heritage Conservation Trust Fund Act of 2005, which provided over \$30 million for land acquisition. The General Assembly diverted moneys from the fund in 2008 for budget balancing.

The proposal to research impacts of recreation was not implemented, and the TRAC committee urged that this proposal be continued, with improvements.

2010-2015 Update:

Implement this plan's **Advocacy and Funding** initiative. The General Assembly should restore permanent funding to the Heritage Conservation Trust, the Local Parks and Recreation Fund (LPRF) and the State Lands Acquisition Fund (SLAF) and establish a dedicated funding source for parks and recreation.

15. Continuity

2003 Proposal: Consider dividing TDEC's two basic functions into two separate departments

After some consideration, this proposal was tabled. This plan moves in the opposite direction, linking the environmental regulation and recreation/conservation sides of TDEC for the first time by encouraging a transparent, coordinated regulatory framework with increased public involvement under the umbrella of Watershed Management.

2010-2015 Update:

Use TDEC's expansion of the Watershed Management Approach, as proposed in this plan's **Recreational Waters** initiative, to strengthen the link between the parks and environment sides of TDEC.



16. Volunteers

2003 Proposal: Make greater use of volunteers and Friends groups

The Tennessee State Parks now have 35 active and established Friends groups that provide service through fund raising, opposing development encroachment of park boundaries, contributing over 40,000 volunteer hours in various park projects and providing over \$500,000 of direct funding for the system as a whole. TDEC's staff now includes a Volunteer Services and Friends Coordinator who supports and encourages these groups.

At the local level, PARTAS held a Citizen Board Training Forum in 2006 with over 100 parks and recreation professionals and active advisory/citizen board members in attendance. The goal is to conduct this type of workshop/forum every other year.

2010-2015 Update:

Continue implementation of this proposal with an increased focus on volunteer services and support across all areas of TDEC.

17. Follow-up

2003 Proposal: Follow-up on the 2003-2008 Recreation Plan Action Program.

The Tennessee Recreation Advisory Committee met in 2004, 2006, and three times in 2007 to work on updating the 2003 plan. TDEC provides organizational support and liaison for the TRAC through an Executive Committee of five TDEC employees. The 2009 TRAC members who have worked on developing this plan have expressed interest in continuing to provide follow-up during implementation.

The membership of the TRAC represents a diversity of regions, levels of government, and races.

2010-2015 Update:

Continue implementation of this proposal through TDEC's annual Recreation Summits.

18. Health and Fitness

2003 Proposal: Provide organized health and fitness opportunities for target groups.

RES conducted a Health and Fitness Survey of all local parks and recreation departments and partnered with other agencies to provide workshops and conference sessions on health topics.

PARTAS supports local governments through technical assistance to increase recreation opportunities for underserved Tennesseans, such as inner city youth, rural residents, disabled residents, low income residents, and non-English speaking residents.

An Active Communities Assessments Survey project, begun in 2003 in partnership with the Department of Health, was not been completed due to personnel changes in DOH.

The director of TDEC's RES division serves as an active member of the Governor's Council on Physical Fitness and Health.

PARTAS and State Parks staff can cite many successful programs, events and educational offerings happening across the state where parks and recreation agencies have played a pivotal role in addressing the public health/physical activity connection.

PARTAS places a priority on inclusive programming opportunities for people of all abilities.

2010-2015 Update:

Continue these activities and priorities in implementing this plan's **Public Health** initiative.

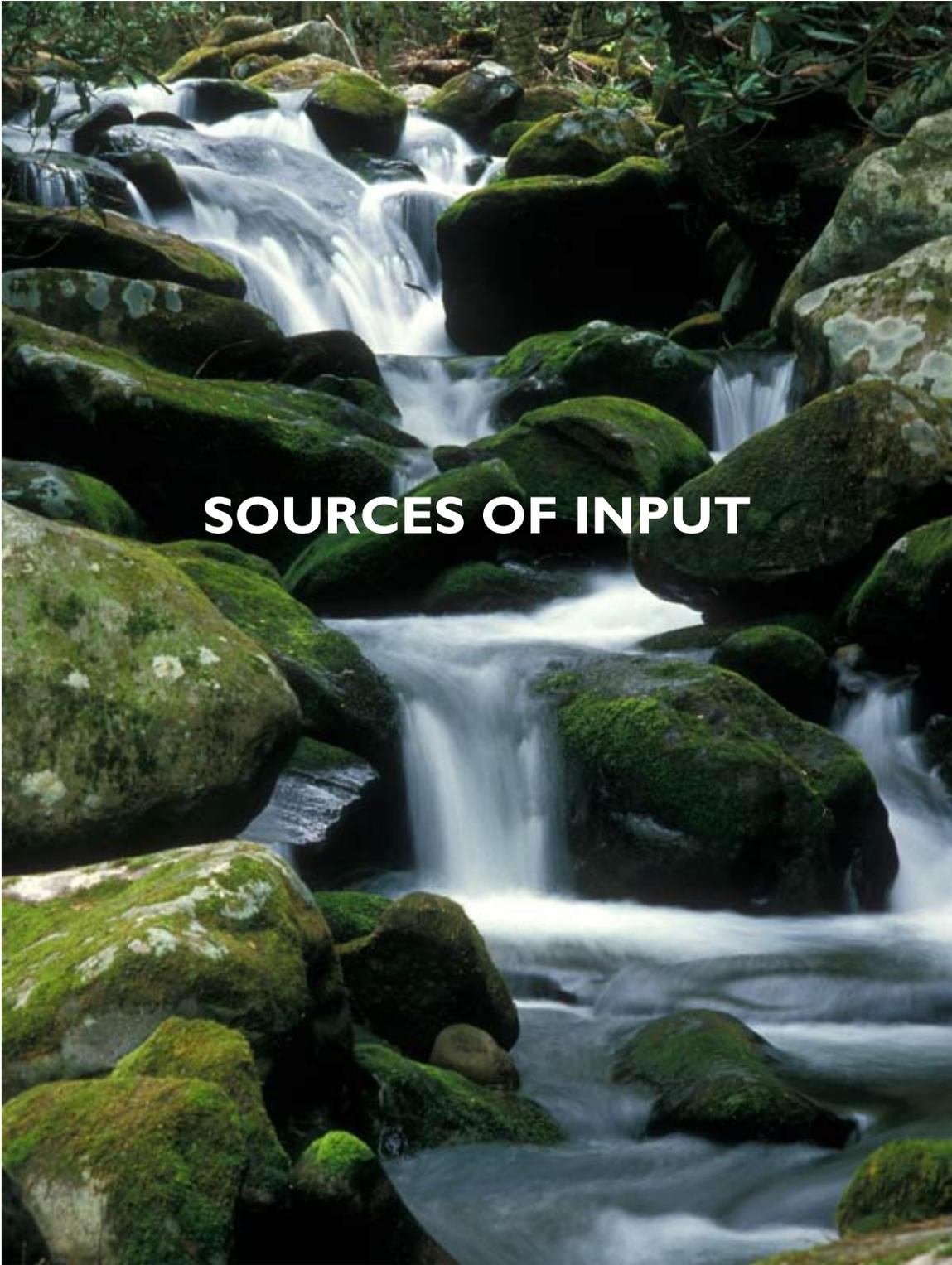
19. Local Programming

2003 Proposal: Support the ability of local governments to deliver quality recreation programming.

TDEC's PARTAS continues to provide technical assistance to local parks and recreation departments in recreation programming.

2010-2015 Update:

Continue this item in implementing this plan's **Local Parks and Recreation, Public Health, Children in Nature, and Environmental Education** initiatives.



SOURCES OF INPUT



Public Participation

Public participation is a core element in the process of developing state recreation plans. This is as it should be, since these plans establish goals and policies for agencies that manage publicly owned resources. Recreation planners and managers may, in fact, be naturally more attuned to the needs and wants of the individuals they serve than many other government bureaucracies, because citizens tend to express a sense of direct ownership of the recreation resources they enjoy. In fact, all segments of the public are, in a very real sense, stakeholders in the outcome of a state recreation plan, whether or not they actually choose to participate in the planning process, and whether or not they even participate in recreation activities at all.

The TRAC committee began its deliberations for this plan by identifying effective public participation as

a priority issue. State recreation plans have traditionally followed a fairly standardized set of public participation methodologies, consisting of facilitated public meetings and random sample surveys. The TRAC considered these methodologies and concluded that this plan should seek to establish new strategies to improve and increase the level of public input into recreation planning and management.

Using an economic analogy, the committee considered recreation providers as representing a “supply chain” and the public as representing a “customer market,” one which is highly segmented and diverse. To assist the TRAC in conceptualizing this market, the planning team was asked to provide develop a schematic representation of its various specific interests and domains. The result was the “Recreation Stakeholders Taxonomy” found on the Reference Disc. As this

graphic indicates, the universe of recreation stakeholders can be subdivided into three levels – providers, non-profit organizations, and individuals – and into five interest clusters based on related categories of resources and activities.

What this stakeholder taxonomy did for the planning process was to reveal opportunities to improve upon traditional public input methodologies. It pointed out the key role of non-profit organizations as potential facilitators for individual participation. It suggested that any attempt to incorporate the public's many varied interests and concerns into a single plan would require a holistic, systematic approach, not a laundry list of specific responses to squeaky wheels. Above all, it made clear the need for something far more dynamic than a snapshot of public attitudes taken once every five years.

The outcome of these discussions was to define two objectives for this planning process where public input was concerned. First, in soliciting public input for the Tennessee 2020 plan, the team would seek ways to improve upon the traditional methodologies of public meetings and random sample surveys. And second, the team would develop strategies for realizing the vision of far more dynamic, ongoing public participation in the future.

Public Meetings

The planning team held a total of seven public meetings during 2009 to receive public input for this plan. A first round of meetings was held in April, during the development stage of the plan, in the state's four largest metropolitan areas: Memphis, Nashville, Knoxville, and Chattanooga. The format of each of these meetings was an initial presentation of the scope and purpose of the SCORP planning process and a review of Tennessee's 2003 State Recreation Plan, followed by public input which was facilitated by a paper questionnaire. This instrument was designed to elicit open-ended responses about recreation needs and issues

of concern to the participants. A second round was held in late July in three metropolitan areas: Memphis, Nashville, and Knoxville. At these meetings, the provisions of the draft plan were presented for public review, and oral comments were received.

Public notice of these meetings was provided by several means:

- Advertisements in the state's metropolitan daily papers
- Press releases to the state's media list
- Email notices to the membership of the Tennessee Parks and Recreation Association (TRPA) and the GreenList of 120 organizations relating to conservation, recreation activities, and environmental regulation.

A total of 146 individuals attended these seven meetings, a level of public input that the planning team considered inadequate for a statewide plan of this scope. Low participation was, however, not surprising. The public meetings for the 2003 plan attracted an average of only 10 participants per meeting, and SCORP planners in other states have reported similar findings. Another Tennessee state agency that held a round of public meetings in early 2009 had reported disappointing turnouts as well.

The TRAC committee, having taken up the question of public participation as a priority in its first meeting, concluded that the public meeting is becoming increasingly obsolete as a means of generating public participation in recreation planning. Having the option to review and comment on planning drafts online may be a reason why the public has grown less likely to attend such meetings.

Following the TRAC's priority on new strategies to generate more robust public participation, the planning team concluded that it would be a worthwhile exercise to test the effectiveness of online public participation. Some other states have reported success with online surveys in their SCORPs. This approach proved very successful, as described below.

Public Online Survey

The team adapted the questionnaire developed for the first round of public meetings into a format for the online Survey Monkey service and posted it at TDEC's State Recreation Plan web page. Email notices were sent to the TRPA list and to the GreenList encouraging people to go to the site and take the survey. Responses received at the public meetings were entered into the online survey.

It should be stressed that this kind of survey does not provide a statistically valid sampling of the opinions of Tennesseans as a whole because the respondents are self-selected. It can be, however, a worthwhile form of public input because it reflects the concerns of particular interest groups in the population who consider themselves active stakeholders in the outcome of the recreation planning process.

During a three-month period when this survey was made available, a total of 847 individuals responded.

Survey Inputs

Tennessee Recreation Attitudes and Behavior Survey (TRAB)

The University of Tennessee Institute of Agriculture's Human Dimensions Lab custom designed and ran a survey for this plan during the summer of 2009. This was a random-sample telephone survey with the response data adjusted to represent the Tennessee adult population as a whole, allowing statistically valid findings. The survey had three separate modules:

- **Kids Module.** Questions about children's outdoor activities, family access to parks and other places for interaction with nature, and attitudes toward environmental education.
- **State Parks and Conservation Priorities Module.** Questions about activities and satisfaction levels of visitors to Tennessee State Parks and about attitudes toward a range of conservation-related issues and policies.
- **State Parks Economic Impact Module.** Questions

about the spending of visitors to Tennessee State Parks. The data from this module allowed an estimation of the total economic impact of all State Park visitors in 2009.

The data tables and analysis of the TRAB survey are included on the Reference Disc attached to this plan.

National Survey of Recreation and the Environment

Like the 2003 State Recreation Plan, this plan used the Tennessee data from the U.S. Forest Service's National Survey of Recreation and the Environment (NSRE) from the years 2003-2009. There were a total of 892 Tennessee respondents in this survey. One component of this survey asks respondents if they have participated in any of a list of 80 recreation activities within the past year. Comparison with the 2003 data



allowed the planning team to measure changes in participation levels for each of these activities. The NSRE survey data is found on the Reference Disc attached to this plan.

Recreation Providers Survey

There are currently 140 organized parks and recreation departments located in 74 of the state's 95 counties. The planning team developed an online survey of parks and recreation professionals that was designed to capture two kinds of information:

- Inventory of park facilities
- Needs, concerns, and issues

Invitations to participate in this survey were emailed to all organized city and county parks and recreation departments in the state, all State Park managers, as well

as any municipality of greater than 50,000 population that did not have an organized parks and recreation department. During the last month of the survey, a follow-up email was sent to organizations that had not responded. The survey received responses from 55 departments located in 41 of the 95 Tennessee counties. The reporting counties contain 74% of Tennessee's total population.

The same inventory questionnaire was used in this survey as in the providers survey for the 2003 State Recreation Plan, allowing the findings to be merged into a growing inventory of local recreation facilities. The results of this survey are included on the Reference Disc attached to this plan.

TRAC Inputs

In 2009 a new Tennessee Recreation Advisory Committee (TRAC) was appointed by the Governor to oversee and guide this planning process. This committee consisted of 17 members representing a cross-section of federal, state, local and private, and non-profit recreation-related professionals. Five TDEC members served as an Executive Committee to organize and support the work of this committee. Representation on the TRAC was as follows:

- City of Chattanooga Parks & Recreation
- City of Farragut Leisure Services
- City of Jackson Parks & Recreation Department
- City of Manchester Parks & Recreation Department
- City of Murfreesboro Parks & Recreation Department
- Cumberland Region Tomorrow
- Metro Nashville Parks & Recreation Department
- PlayCore, Inc.
- TDEC, Division of State Parks
- TDEC, Division of Water Pollution Control
- TDEC, Natural and Cultural Resources Division
- TDEC, Parks and Recreation Technical Assistance Service
- TDEC, Recreation Educational Services Division



Tennessee General Assembly
Tennessee Valley Authority
U.S. Army Corps of Engineers

The intent in selecting individuals to serve on the TRAC was to bring forward-looking, big-picture perspectives to this planning process. Each had demonstrated a thorough command of contemporary recreation issues and trends and considerable experience in implementing solutions. During three half-day sessions during the development stages of this plan, the TRAC committee continually challenged the planning team to confront big, complex issues with ambitious, visionary strategies. The TRAC met a fourth time at the end of the planning process to review and sign off on the final draft plan.

TRAC Working Groups

The TRAC identified four major issue areas which they believed needed to be explored in greater depth by special-focus working groups. The Executive Committee selected individuals who could provide expertise relating specifically to these issues. In addition to participating TRAC members, these working groups represented the following entities:

Public Participation and Advocacy

City of Athens
City of Jackson
Cumberland River Compact
Governor's Council on Physical Fitness & Health
Greater Nashville Regional Council
Metropolitan Technical Assistance Service, Nashville
Tennessee Department of Tourism

Benefits and Economic Impacts of Recreation

Goodlettsville Parks, Recreation & Tourism
Middle Tennessee State University
Morale, Welfare and Recreation - Ft Campbell, KY
Rutherford County Chamber/CVB
Tennessee Department of Health
University of Tennessee at Martin

Environmental Education

City of Germantown & TRPA
City of Jackson
East Tennessee State University
Playcore, Inc.
Tennessee Recreation and Parks Association

State Parks Management and Smart Growth

Land Trust for Tennessee
Southwest Tennessee Development District
TDEC, Archaeology
TDEC, Greenways & Trails
TDEC, Tims Ford State Park
Tennessee Dept. of Agriculture, Division of Forestry
Tennessee Historical Commission
Tennessee Valley Authority
Tennessee Wildlife Resources Agency

The deliberations of these working groups showed a remarkable ability to zero in on the realities underlying each issue. The interagency perspective encouraged by such diverse representation allowed them to discover hidden opportunities to leverage existing programs.

Conclusions

The methods used to elicit public and expert participation were successful in allowing this planning process to be grounded in a deeper and broader understanding of issues, attitudes, and concerns than has been possible in the past. Several important lessons learned included:

- The TRAB Survey demonstrated the great potential for well-designed random sample surveys to yield enlightening, scientifically valid answers to critical questions about recreation attitudes and behaviors and to reveal promising research questions for the future.
- The public meeting format, while still very effective at the local level, is probably becoming obsolete for a statewide planning process. Even the use of the far more direct form of notification through emails

did not attract a level of participation that could be considered significant.

- The online survey format succeeded in engaging a far larger number of participants and a far more diverse range of public comments than any previous state recreation planning process in Tennessee. Such surveys show significant promise for increasing the degree of public involvement in the future.
- The streamlined TRAC composition, coupled with special-focus working groups, proved highly effective in encouraging productive discussions and in discovering hidden opportunities for strategic innovation. This committee demonstrated agility in reaching far beyond the range of narrowly defined issues and concerns to find broad commonalities, resulting in this plan's holistic perspective and systematic approach.
- Email notification of public participation opportunities was effective in attracting large numbers

of people to the online survey. It should be noted that this method is also a far more cost-effective use of planning funds compared to traditional notification methods. The use of email for this planning process was limited to the organization lists that were available in 2009. The opportunity exists to greatly enhance public notification in the future by compiling more of these lists.

2015 Action Plan

This plan's Tennessee Recreation One-Stop initiative, will provide an opportunity to radically increase public involvement in recreation planning and advocacy. As envisioned, the website will accomplish this goal in two ways:

- **Email notification.** The process of developing this website as a comprehensive information clearinghouse will require building and maintaining a database of email addresses for the whole spectrum



of recreation-related organizations in Tennessee. This database can be made available for public notifications as needed.

- **Online surveys.** The website's objective of serving the entire range of the recreation user market will make it an ideal place to reach a broad cross-section of that market with online surveys. While self-selected surveys cannot be considered statistically valid, if the sample size is sufficiently large, the results take on greater weight. In addition, the website's user profiling function will enable it to target surveys about specific resources or activities to individual market segments.

TDEC should retain the size of the TRAC convened for this plan and its focus-area working group format in future state recreation planning processes. This committee should continue to representation of all races, regions, and levels of government and the private sector and should include a representative of the Tennessee Commission on Indian Affairs.

TDEC should conduct follow-up surveys to the 2009 TRAB Survey as needed to assist in implementa-

tion of this plan, specifically in the areas of public health and economic impacts of recreation.

TDEC, with the approval of the NPS, should consider discontinuation the public meeting format as a part of future state recreation plans. Instead, future recreation planning teams should supplement widely advertised online surveys with focus groups of specific population segments, such as urban minorities and Hispanics, to provide in-depth understanding of factors underlying high-priority issues.

2020 Vision

Tennessee's recreation supply chain will stay closely in touch with its diverse customer market. Online information, targeted surveys, focus groups, and email notifications will enable an ongoing, back-and-forth dialogue between state and local providers and the public they serve. Through insight gained from these active channels of communication, the state's professionals in recreation planning and resource management will be able to adapt swiftly and effectively as the recreation landscape continues to evolve in Tennessee.



REFERENCE LIBRARY

The 144 documents listed below are included as background reference for the needs and concerns addressed in this plan. These digital files can be accessed on the **Reference Disc** attached to the inside back cover.

TENN. 2020 DIGITAL FILES

TN 2020 Word format
TN 2020 PDF format (12 files)

SURVEYS FOLDER

NSRE-Report.doc
Online-Survey-Comments.doc
Online-Survey-Instrument.pdf
Online-Survey-Report.doc
Provider-Survey-Instrument.pdf
Provider-Survey-Inventory.xls
Provider-Survey-Rec-Benefits.doc
Provider-Survey-Report.doc
TN-Rec-Survey-Instrument.doc
TN-Rec-Survey-Report.doc
TN-SP-Econ-Impact-Report.doc

RESOURCE LIBRARY FOLDER

Recreation Trends Folder

Cordell-Birders-Profile.pdf
Cordell-Demand-Nature-Rec.pdf
Cordell-Nature-Rec-Trends-2008.pdf
Cordell-Rec-Projections-2050.pdf
Cordell-Rec-Trends-1960-2009.pdf
Cordell-Rec-Trends-2008.pdf
Cordell-Wilderness.pdf
LWCF-Overview-Hist.pdf
LWCF-Report.pdf
ORRG-Great-Outdoors-Am.pdf
Rec Trends 1980-now.pdf
Rec-Forum-Report-2007.pdf
Rec-User-Taxonomy.pdf
RFF-Climate-Change.pdf

RFF-Fed-Rec-Funding.pdf
RFF-LWCF.pdf
RFF-State-Parks.pdf
RFF-Time-Outdoors-65-09.pdf
Teixeira-Millennials-Profile.pdf

Advocacy and Funding Folder

BLM-Local-Econ-Impacts.pdf
CO-Rec-Econ-Impacts.pdf
Crompton-Greenway-Property-Values.pdf
Crompton-Local-Park-Funding.pdf
Crompton-Parks-Highest-Best-Use.pdf
Crompton-Parks-Property-Values.pdf
Crompton-TX-SP-Impacts.pdf
Louv-Health-Benefits-Land.pdf
National-Cons-Survey-2009.pdf
Natural-Resource-Value.pdf
NC_SP_Econ_Impacts.pdf
NC-Econ-Impacts-Birding.pdf
NPS-Impacts-Rivers-Greenways.pdf
NRPA-Citizen-Support-Parks.pdf
Ontario-Econ-Impacts-Trails.pdf
Park-Use-in-Down-Econ-2009.pdf
Rec-Amenity-Value.pdf
RFF-Value-Open-Space.pdf
Saskatchewan-Benefits-Parks.pdf
TPL-Econ-Impacts-Pub-Lands.pdf
TPL-Econ-Value-City Parks.pdf
TX-Local-Parks-Econ-Impacts.pdf
TX-SP-Econ-Impacts.pdf
VA-Econ-Impacts-Biking.pdf
VA-Econ-Impacts-Rec.pdf
WA-Econ-Impacts-Hiking.pdf

State Parks Management Folder

All-Taxa-Biol-Inventory.pdf
Americans-Giving-Up-Golf-NYT.pdf
TN-SP-Hist.pdf
TN-SP-Interp-Action-Plan.doc
TN-SP-Mgmt-Direction-Statement.doc
TN-SP-Mgmt-Sys-Checklist.doc
TN-SP-Strategic-Direction.pdf
USFS-Invasive-Plants.pdf

Local Parks and Recreation Folder

NRPA-Operating-Ratio-Exec-Summary.pdf
Open-Space_Preservation.pdf
RFF_Urban-Park-Survey.pdf
RFF-Local-Parks.pdf
School-Joint-Use-Agreements.doc
SC-Rural-Rec-Project.doc
TPL-CityParkFacts.pdf
VA-Outdoors-Plan-Local-Rec.pdf

Tennessee Recreation One-Stop

OneStop Checklist.doc
Rec-Resource-Activity-Chart.pdf
Rec-Stakeholder-Taxonomy.pdf

Public Health Folder

CDC-Behavioral-Risk-Survey-TN.pdf
CDC-Obesity-Trends-2008.ppt
F-as-in-Fat-2009.pdf
Healthy-Communities-Toolkit.pdf
Low-Income-AA-Rec-Prefs.pdf
NRPA-Health-Partner-Rec-Orgs.pdf
Obesity-Epidemic-Causes-Solutions.pdf
Pres-Council-Phys-Fitness-Health-Folder
RFF-Rec-&-Health.pdf
TDEC-Rec-Health-Fitness-Survey.ppt
TDOH-Obesity-Strategies-TN.pdf
TN-Comptroller-Obesity-Risk.pdf

Children In Nature Folder

50-Ways-Get-Kids-Outdrs.doc
Children's-Relationship-Nature.doc
Kids-Favorite-Outdoor-Activities.pdf
Kids-Outdoors-Demog-Factors.pdf
Nature-&-Child-Dev.pdf
Naturegrounds.pdf

NEEF-Enviro-Literacy.pdf
NWF-Children-and-Outdoors-State-Solutions .pdf
Play-&-Child-Dev.pdf
Playgrounds-Old-Model.pdf
P-Sloan-Enviro-Literacy.doc
Time-Kids-Spend-Outdoors.pdf
TV-Addiction.pdf
What-Kids-Do-Outdoors.pdf

Environmental Education Folder

EE-Benefits.pdf
Enviro-Literacy-in-America.pdf
Enviro-Literacy-Meaning.pdf
Meaningful-Watershed-Exp.pdf
NAAEE-Envio-Literacy-Plans.pdf
Pew-EE-Study.pdf
Place-Based-EE-Bib.pdf

Quality Growth Folder

Bike-Friendly-States.pdf
CRT-Toolkit.pdf
Growth-Readiness.pdf
Land-Use-Trans-Health.pdf
Land-Use-Trans-Health-Bib.pdf
MD-Smart-Growth.pdf
Sprawl-&-Obesity.pdf
TDOT-RPOs.doc
TDOT-Trans-Plan.pdf
TPL-Reports Folder

Recreational Waters Folder

NEMO-Fact-Sheets
TDEC-Watershed-Mgmt.pdf
TN-Water-Blueprint.pdf
TN-Watershed-Assocs.doc
TN-Watersheds-Poster.pdf
TVA-Scenic-Riverways-Prog.pdf
Who-Owns-Rivers.doc

Rural Economies Folder

Cordell-OHV-Rec.pdf
Econ-Impacts-Heritage-Areas.pdf
Farm-Based-Recreation.pdf
Native-Planting.pdf
TN-OHV_User_Survey.pdf
TN-St-Heritage-Corridors-map.pdf
TN-St-Heritage-Corridors-prop.pdf