

Looking Ahead to the Coming Decade: Some Key Environmental and Natural Resources Issues Facing Tennessee



A series of three papers on environmental issues facing Tennessee produced by the Vanderbilt Center for Environmental Management Studies (VCEMS) with the support of the Vanderbilt Institute for Environmental Risk and Resources Management and the Tennessee Conservation League. The views expressed are those of the authors and not necessarily those of any sponsoring organizations.

July 2002

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Early in 2002, the Vanderbilt Center for Environmental Management Studies (VCEMS) began a project to identify some of the key environmental and natural resource issues facing Tennessee in the coming decade. During February and March 2002, VCEMS conducted a series of targeted interviews and literature reviews. This process has culminated in three “white papers” that are attached to this document. Throughout this project, VCEMS has endeavored to act as an objective and neutral observer divorced from any advocacy positions.

Goal of the Project

The goal of this project was to identify and study some of the key environmental and natural resources issues that will need to be addressed in the coming decade. Through dissemination of our findings, we also hope to raise the awareness of the citizens of Tennessee and its future leaders of the environmental challenges that lay ahead. Our approach was to:

- Identify some of the key environmental and natural resource problems and challenges that the State will need to address.
- Gain some knowledge of current resources and programs within the State, and
- Identify some potential solutions that the State could consider in addressing the problems.

Given the limited time and resources available to us, it is important to understand the limitations of this project. Specifically, we were not able to:

- Identify all important environmental and natural resources issues,
- Fully assess current resources and programs within the State,
- Prioritize the issues,
- Resolve scientific controversies, or
- Recommend specific solutions.

Project Team

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Methodology

The project was conducted in two distinct phases. In the first phase, we broadly screened for key issues facing the State. This process involved an extensive web-based review of State government agencies, non-governmental organizations (NGOs), trade associations, and academic/think tank studies. It also involved a series of open-ended interviews with over a dozen leaders around the State, including knowledgeable representatives from government, environmental groups, and industry. We asked these leaders to identify what they considered to be the most critical environmental and natural resource issues facing Tennessee in the coming decade.

In the second phase of this project, we narrowed down this list of issues to three topics that we would research in more detail. In determining which issues to focus our attention on, we developed a list of selection criteria, shown in Table 1. We ultimately chose to analyze the following issues:

- 1) Conservation of public lands;
- 2) Nonpoint source water pollution; and
- 3) The contribution of motor vehicle miles traveled to ozone pollution

These are illustrative of the types of issues the State faces and highlight the complexity of the solutions that the State might ultimately adopt. Once we identified the three topics, we conducted more in-depth interviews with interested stakeholder groups around the State. Overall, we conducted more than 50 interviews in addition to a literature review.

Table 1 Criteria for Selection of Key Issues to be Studied
<ul style="list-style-type: none"> • Potential for significant impact on environmental quality • Potential for significant economic impact (e.g., tourism, industry) • Media diversity (air, water, land) • Geographic diversity (across the State) • Potential remedies available at the State versus federal level • Viewed as important by a diverse group of stakeholders

It is important to note that while the papers focus on three important issues they are not necessarily the most important environmental concerns facing Tennessee. To identify and prioritize issues in this manner would require a significant research effort beyond the scope of this project.



Findings

Table 2 below summarizes the findings of the first phase of the project. We found that numerous issues percolated to the top of our list of environmental concerns facing Tennessee in the coming decade. These are listed in random order and clearly illustrate the diversity of concerns that leaders in Tennessee have on environmental and conservation issues.

Table 2 Sample List of Potential Issues Identified as Worthy of Further Study and Attention
Surface Water Quality <ul style="list-style-type: none">• Pollution by nonpoint sources• Enforcement of point source permits• Protection of small streams• Water supply
Air Quality <ul style="list-style-type: none">• Emissions from mobile sources• Emissions from coal-fired power plants• Visibility/quality of air in Great Smoky Mountains National Park• Transportation issues• Peaking power plants
Land Use <ul style="list-style-type: none">• Conservation of public lands• State Parks• Sprawl• Wetlands• Brownfields• Forestry
Administrative/Policy Concerns <ul style="list-style-type: none">• Coordination of economic development and environmental planning• Inter-agency coordination and organizational issues• State government staffing issues (e.g. salaries, employee retention, funding levels)• Effective and efficient enforcement of current laws and regulations



The findings of the second phase of our project indicate that these issues are complex, controversial, and will likely require new and creative solutions. Because the solutions are often not as “simple” as requiring “more regulation,” dealing with these issues requires vision, research, and planning. They also require careful research into the costs and benefits of alternative solutions. The solutions are likely to require a very significant amount of cooperation and coordination among different agencies - including those agencies responsible environmental protection, land management, transportation, and economic development. They will also require new partnerships both with the private sector and other levels of government - including county and local authorities. In some cases, they might require new approaches altogether, such as the use of economic incentives or non-regulatory solutions. In a word, some of the best solutions will require “innovation.”¹

Table 3, below and continued on the following page, summarizes the key points of the three white papers.

Table 3 Overview of Three Environmental Issues Facing Tennessee in the Coming Decade		
Issue	Overview of Problem	Potential Solutions
Conservation of Public Lands	<ul style="list-style-type: none"> •Rapid Rate of Land Development and Population Growth Threaten Recreational, Public Health, Environmental (Biodiversity), and Economic Value of State’s Natural Lands •Lack of Comprehensive, Strategic Vision/Plan •Insufficient Funds Dedicated to Land Acquisition 	<ul style="list-style-type: none"> • Develop State Vision and Plan • Increase Inter-Agency Coordination • Develop and Increase Use of Creative Funding Mechanisms • Encourage Private Land Donation and Conservation Efforts

¹ After our interview and research process, and just before finalizing our White Papers, EPA announced a proposed “Water Quality Trading Policy” for water pollution that would encourage companies to go beyond regulatory standards. See <http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/e75127d778e620ac85256bba0061bae2?OpenDocument>. This is an example of an innovative approach that might be considered as a potential mechanism to encourage further reductions of non-point source water pollution.



Table 3, cont.
Overview of Three Environmental Issues Facing Tennessee in the Coming Decade

Issue	Overview of Problem	Potential Solutions
<p>Nonpoint Source (NPS) Water Pollution</p>	<ul style="list-style-type: none"> • Thousands of River/Stream Miles, Thousands of Lake Acres Only Partially Support Designated Uses • Fishing and Swimming Advisories Issues for Over 100 River/Stream Miles, Thousands of Lake Acres • Aquatic Life Threatened • Nonpoint Sources Contribute Largest Amounts of Pollutants to State Rivers, Streams, and Lakes • Nonpoint Sources Largely Unregulated 	<ul style="list-style-type: none"> • Increase Training, Education and Incentives to: <ul style="list-style-type: none"> a) Sources of Nonpoint Pollution; and b) Localities • Creative and Inclusive Implementation of Federal Clean Water Act's Total Daily Maximum Load (TDML) Program • Increased Participation in Federally-Funded Programs • Assessment of Current Programs and Authorities for Opportunities to Address NPS pollution
<p>Motor Vehicle Miles Traveled and Ozone Pollution</p>	<ul style="list-style-type: none"> • Tennessee's Largest Cities and the Smoky Mountains Have High Levels of Ozone Pollution • Ozone Pollution Associated With Negative Public Health and Environmental Effects • State May Have Short and Long Term Problems Complying with New Federal Ozone Standard – Resulting in Possible Loss of Highway Funds and Restrictions on Industrial Growth • Dramatic Increase in Number of Vehicle Miles Traveled (VMT) is One of Several Major Contributors to State's Ozone Problem • Population Growth & Urban Sprawl Key Factors Contributing to VMT Growth • New Cars Continue to Get Cleaner, Yet VMT continues to Increase Undercutting Air Quality Gains • Traffic & Congestion Also Increasing 	<ul style="list-style-type: none"> • Development of Long- Range Transportation Strategic Plan & Vision (Including Alternative Modes of Transportation) • Increased Integration of Transportation and Land Use Planning (Including Coordination of State Transportation and Land Use Plans) • Provision of Economic Incentives for Reducing Vehicle Miles Traveled, Such as Congestion Fees • State as a Role Model for Private Business and Local Government (e.g. Supporting Telecommuting, Car Pooling Options)



Closing Thoughts

This Nation and the State of Tennessee have made enormous progress over the years in reducing the amount of pollution that flows into our air, water, and land. Much of that progress has been accomplished by regulating definable sources of pollution such as industrial facilities and motor vehicles. While further progress is always possible in these traditional areas, as these traditional pollutants have ratcheted down, other sources and causes of environmental degradation have become relatively more important. We have focused on three of these types of environmental concerns - non-point source water pollution, acquisition and conservation of adequate public lands, and the effect of dramatic increases in the number of motor vehicle miles traveled on ozone pollution.

Identification of complex, long-term issues often leads to calls for “more study.” Addressing these issues will clearly require careful research and analysis. While additional research can shed light on the costs and benefits of potential solutions, however, some actions might need to begin immediately. For example, once large parcels of land become available on the market and are sold and divided for various development projects, the State loses the opportunity to convert these lands to public use or to dedicate them for conservation purposes.

At a time when the State of Tennessee is facing a budget crisis and issues of taxes versus spending are frequently in the headlines, concern for the environment and natural resources of Tennessee can easily get sidelined. This is all the more so given the complex, long-term, “non-crisis” nature of these issues. Yet, there is clear evidence that the public places a high priority on preserving a clean and healthy environment. Thus, one of the biggest challenges facing the State’s leaders is providing the leadership and vision necessary to focus the State’s attention on these important issues that might easily take a back seat to more high-profile concerns.

In reflecting upon what we have learned from this exercise, we note that one potential way to begin solving some of these problems is to learn from the private sector’s recent success with formal environmental management systems. By instituting a systematic and comprehensive approach to measuring and assessing the environmental footprint of their productive operations, many companies have found that they can both save money and reduce their impact on the environment. One of the biggest lessons that companies have learned from these exercises is that ‘what gets measured gets reduced.’ Oftentimes there are environmental benefits to be gained merely from the fact that things have been done a certain way for years without the benefit of foresight given today’s environmental realities. The State of Tennessee should consider adopting similar internal management systems to assess both the environmental health of the State and the governmental systems in place to protect the environment.

