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Re: Comments on Proposed Antidegradation Guidance Document for the Tennessee Department of Environmental Conservation

Dear Commissioner Martineau, Ms. Howard, and Ms. Vanderloop:

The Harpeth River Watershed Association, Obed Watershed Community Association, Public Employees for Environmental Responsibility, Richland Creek Watershed Alliance, Southern Environmental Law Center, Tennessee Chapter of The Sierra Club, Tennessee Clean Water Network, and the Tennessee Environmental Council (collectively, “Commenters”) submit the following comments on the Tennessee Department of Environment and Conservation’s “Antidegradation Guidance Document” dated July 19, 2016.

We appreciate the opportunity to weigh in on this document and believe it is important that Tennessee have such guidance. However, although Commenters believe the Guidance Document is necessary and beneficial in many respects, we believe that it and TDEC’s antidegradation policy could be improved. We therefore offer these comments in the spirit of working with TDEC to improve both antidegradation policy and the Guidance Document.

We will first summarize our understanding of the purpose and structure of the Antidegradation Policy in the context of the Clean Water Act and the Tennessee Water Quality Control Act, then address (1) the limited scope of the Guidance Document; (2) our opposition to the continued use of the *de minimis* exception; (3) the Guidance Document's reliance on "financial feasibility" to evaluate alternatives to degradation; (4) how meaningful public participation to evaluate the social and economic importance of projects relates to environmental justice; (5) the problem with using "development" as a benefit without linking it to smart growth principles; (6) the need to properly include and value natural resources when evaluating the benefits of a project; (7) consistent application of the antidegradation policy; and (8) the inclusion and consideration of all costs of a project.

I. Background: Degradation of Water Quality for Economic and Social Necessity Purposes Is a Limited Exception to Federal and State Directives to Restore or Maintain Water Quality

A. Clean Water Act

The federal Clean Water Act seeks to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."¹ To accomplish this goal, Section 301 of the Act prohibits discharges of any pollutant into waters of the United States except in compliance with certain authorizations, including a National Pollutant Discharge Elimination System (NPDES) permit under section 402, and, where relevant, a section 404 permit to fill waters of the United States.²

The Clean Water Act also contains an antidegradation provision that requires any effluent limitations or water quality standards for "high quality" waters to comport with the antidegradation policy as set forth by the EPA.³ EPA requires all states to develop and implement an antidegradation policy that is, at a minimum, consistent with the federal requirements set forth by EPA.⁴ If a state does not meet any of these requirements, then like other provisions of the Clean Water Act, it is up to the EPA to step in and set appropriate standards.⁵

In 2015, the EPA published a final rule that amended the antidegradation statement.⁶ TDEC has not amended its antidegradation statement since 2013 to comply with the new rule. EPA's antidegradation policy now provides:

¹ 33 U.S.C. § 1251(a).

² *Id.* §§ 1311, 1342.

³ 33 U.S.C. § 1313(d)(4)(B); 40 C.F.R. § 131.12.

⁴ 40 C.F.R. § 131.12.

⁵ 33 U.S.C. § 1313(a)(2).

⁶ *Water Quality Standards Regulatory Revisions*, 80 Fed. Reg. 51020-01.

(a) The State shall develop and adopt a statewide antidegradation policy. The antidegradation policy shall, at a minimum, be consistent with the following:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality **shall be maintained and protected unless** the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is **necessary to accommodate important economic or social development in the area in which the waters are located**. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(i) The State may identify waters for the protections described in paragraph (a)(2) of this section on a parameter-by-parameter basis or on a water body-by-water body basis. Where the State identifies waters for antidegradation protection on a water body-by-water body basis, the State shall provide an opportunity for public involvement in any decisions about whether the protections described in paragraph (a)(2) of this section will be afforded to a water body, and the factors considered when making those decisions. Further, the State shall not exclude a water body from the protections described in paragraph (a)(2) of this section solely because water quality does not exceed levels necessary to support all of the uses specified in section 101(a)(2) of the Act.

(ii) Before allowing any lowering of high water quality, pursuant to paragraph (a)(2) of this section, the State shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. **The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.**

(3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act.

(b) The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State's policy and with paragraph (a) of this section. The State shall provide an opportunity for public involvement during the development and any subsequent revisions of the implementation methods, and shall make the methods available to the public.

40 C.F.R. § 131.12 (emphasis added).

B. Tennessee Water Quality Control Act

All Tennessee citizens have a right to unpolluted waters.⁷ The State of Tennessee, in the exercise of its public trust over the waters of the state, has an obligation to take “all prudent steps to secure, protect, and preserve this right.”⁸ The Tennessee Water Quality Control Act exists to abate existing pollution of the waters of Tennessee, to reclaim polluted waters, to prevent the future pollution of the waters, and to plan for the future use of the waters so that the water resources of “Tennessee might be used and enjoyed to the fullest extent consistent with the maintenance of unpolluted waters.”⁹

Tennessee’s antidegradation regulations, which were promulgated pursuant to both the Tennessee Water Quality Control Act and the Clean Water Act, are contained in Tennessee Administrative Code, Rule 0400-40-03-.06 *et seq.* These regulations require that specific analyses be done in the permitting context if either a new discharge of domestic wastewater or other proposed activity will cause more than a *de minimis* level of degradation.¹⁰ Additional antidegradation rules are applicable to “waters with unavailable parameters” and “Exceptional Tennessee Waters.”¹¹

Tennessee defines “degradation” as “the alteration of the properties of waters by the addition of pollutants, withdrawal of water, or removal of habitat, except those alterations of a short duration,”¹² and Tennessee’s Antidegradation Statement asks the following questions when determining whether to allow degradation: (a) will the proposed activity cause measurable¹³ or *de*

⁷ Tenn. Code Ann. § 69-3-102(a).

⁸ *Id.*

⁹ Tenn. Code Ann. § 69-3-102(b) (emphasis added).

¹⁰Tenn. Comp. R. & Regs. 0400-40-03-.04(4) (defining *de minimis*); Tenn. Comp. R. & Regs. 0400-40-03-.06(1)(b)(2).

¹¹ Tenn. Comp. R. & Regs. 0400-40-03-.06(2) & (4).

¹² Tenn. Comp. R. & Regs. 0400-40-03-.04(3).

¹³ Tenn. Comp. R. & Regs. 0400-40-03-.04(11) (defining “measurable degradation”).

minimis degradation, (b) what the type of waterbody will be affected by the activity,¹⁴ (c) does an alternative to degradation exist, and (d) is there a need for the project?

For example, new or increased discharges or water withdrawals in high quality waters (*i.e.*, waters with available parameters and water identified as Exceptional Tennessee Waters) “that would cause degradation above the level of *de minimis* will only be authorized if the applicant has demonstrated to [Tennessee Department of Environment and Conservation] that reasonable alternatives to degradation are not feasible and the degradation is necessary to accommodate important economic or social development in the area”¹⁵

II. The Guidance Document Should Clarify Its Limited Role in Antidegradation Analysis

The title of the Guidance Document suggests that it is intended to guide TDEC permit reviewers’ entire antidegradation analysis. However, Tennessee’s antidegradation statement requires analysis not included in the Guidance Document (*e.g.*, alternatives analysis,¹⁶ level-of-degradation analysis,¹⁷ and water quality analysis¹⁸). More specifically, the Guidance Document (a) does not explain how a reviewer should evaluate all reasonable alternatives to degradation, including no-discharge alternatives, because it focuses only on the financial feasibility of certain alternatives; (b) does not discuss the differences between “measurable degradation” and “*de minimis* degradation,” or how these standards should be applied when the applicant is required to describe the level of degradation caused by each feasible alternative; (c) does not address how a reviewer should evaluate the applicant’s requisite demonstration that degradation will not violate the water quality criteria for uses in the receiving waters; and (d) does not offer guidance on how to evaluate the “necessity”¹⁹ of economic and social development, which is distinct from a determination of the “importance” of degradation.²⁰

¹⁴ Tenn. Comp. R. & Regs. 0400-40-03-.06.

¹⁵ Tenn. Comp. R. & Regs. 0400-40-03-.06.

¹⁶ Tenn. Comp. R. & Regs. 0400-40-03-.06(1)(b)(2)(i) (“If the proposed activity will cause degradation above a *de minimis* level or if it is a new discharge of domestic wastewater, a complete application will analyze all reasonable alternatives and describe the level of degradation caused by each of the feasible alternatives.”).

¹⁷ Tenn. Comp. R. & Regs. 0400-40-03-.06(1)(d).

¹⁸ Tenn. Comp. R. & Regs. 0400-40-03-.06(2), (3), (4)(c).

¹⁹ *E.g.* Tenn. Comp. R. & Regs. 0400-40-03-.06(1)(a) (“necessary to accommodate important economic or social development”).

²⁰ *See, e.g.*, Guidance Document at p. 11 (“Social and Economic Benefit Categories **and the Importance Determination** Once it is determined that more than no measurable or *de minimis* degradation of water quality is unavoidable if a project is to proceed, the review moves to the second stage, in which **the social and economic importance of the project** is evaluated.”) (*emphasis added*); *id.* at p. 55.

Therefore, Commenters believe that it is important for the Guidance Document to clarify the limited extent to which it is intended to play a role in a permit applicant's compliance with the Antidegradation Statement. Namely, the Guidance Document appears intended to help reviewers evaluate the social and economic benefit of proposed degradation, and it should so state.

III. The Guidance Document Should Not Rely on the *De Minimis* Exception to the Antidegradation Statement

The Guidance Document indicates that antidegradation review is predicated on an initial determination that the activity will result in measurable or more than *de minimis* degradation.²¹ As such, Commenters renew our objection to the use of these unsupported exceptions to the Clean Water Act's antidegradation policy. Our comments in the following sections of this letter are not intended to supplant our previously-expressed concerns about the Department's continued reliance on the *de minimis* exception to the antidegradation rule.²² For the past several years, Commenters have pointed out that application of the *de minimis* exception allows new or increased discharges to proceed straight to the permitting process with the *de facto* presumption that a permit will be issued.²³ However, there is nothing in the text or structure of the Clean Water Act or EPA's implementing regulations to support this approach. Likewise, Commenters now renew our requested that the Board eliminate all references to measurable degradation, which creates unjustified exceptions to the required antidegradation review.

IV. The Guidance Document Impermissibly Defines and Relies on "Financial Feasibility" to Determine Whether Alternatives to Degradation Exist

Commenters agree with the Guidance Document's statement that an applicant must demonstrate that there are no feasible alternatives to degradation of water quality before the social or economic justifications for degradation are analyzed.²⁴ However, the Guidance Document then appears to insert the concept of "financial feasibility" into the feasibility analysis, when no such requirement appears in the rules.

Antidegradation provisions are designed so that water quality will be lowered only in cases in which there are no other alternatives that could avoid this result. Tennessee's rule specifically provides that if a proposed activity will cause degradation above a *de minimis* level or if it is a new discharge of domestic wastewater, a permit applicant must:

²¹ See Guidance Document, p. iii.

²² Tenn. Comp. R. & Regs. 0400-40-03-.04(4) (defining "*de minimis*").

²³ See, e.g., Letter to EPA re: Tennessee's Antidegradation Statement/Water Quality Criteria (June 27, 2014), available at https://www.tcwn.org/wp-content/uploads/2015/09/Letter-to-R4_TDEC-Antideg.pdf.

²⁴ See Guidance Document, p. 5 ("Before TDEC is charged with evaluating the social and economic importance of a project, the applicant must provide documentation that there are no feasible alternatives that would enable to project to proceed without degrading water quality.").

- (i) **analyze all reasonable alternatives** and describe the level of degradation caused by **each of the feasible alternatives**;
- (ii) discuss the social and economic consequences of each alternative; and
- (iii) demonstrate that the degradation will not violate the water quality criteria for uses existing in the receiving waters and is necessary to accommodate important economic and social development in the area.²⁵

The Tennessee rules do not define “reasonable” or “feasible”—except, perhaps, with respect to Outstanding National Resource Waters²⁶—but the common meaning of these terms is broad. For example, Black’s Law Dictionary defines feasibility as “The possibility that something can be made, done, or achieved, or that it is reasonable; practicability.”²⁷

By contrast, the Guidance Document apparently limits the alternatives analysis required by the rule by defining feasibility as economic feasibility.²⁸ Without citation to the rule, the Guidance Document claims that TDEC must evaluate whether alternatives to degradation “would affect the entity’s ability to progress with the project, either due to increased costs or decreased revenues.”²⁹ Commenters do not understand how a project applicant’s financial health is relevant to a determination about whether to degrade a public resource. Following this logic out, the Guidance Document perversely incentivizes degradation by applicants in poor financial health.³⁰ Unfortunately, Tennessee is no stranger to having to pay for legacy pollution clean-ups for industries that were not economically viable. To the extent that the Guidance Document allows degradation when an applicant is not financially capable of avoiding or minimizing degradation, it should be revised to avoid this insinuation or outcome.

Commenters acknowledge that the Clean Water Act defines “practicable” in the context of the antidegradation policy as “technologically possible, able to be put into practice, and economically viable.”³¹ That is not the language of Tennessee’s antidegradation rule.³² However, even if we assume that the Tennessee rule is consistent with the federal rule, “economically viable” does not

²⁵ Tenn. Comp. R. & Regs. 0400-40-03-.06(b)(2) (emphasis added).

²⁶ “The technical and economical feasibility of waste treatment, recovery, or adjustment of the method of discharge to provide correction shall be considered in determining the time to be allowed for the development of practicable methods and for the specified correction, to the extent allowable under paragraph (5) of Rule 0400-40-03-.06 [Outstanding National Resource Waters].” Tenn. Comp. R. & Regs. 0400-40-03-.05(3).

²⁷ FEASIBILITY, Black's Law Dictionary (10th ed. 2014)

²⁸ See, e.g., Guidance Document, pp. 5-10 (“Assessing the Financial Feasibility of Alternative”).

²⁹ Guidance Document, p. 5.

³⁰ Guidance Document, p. 5 (“If the tests suggest the entity has the ability to pay for the alternative design or additional pollution control measure, it should be required to do so to avoid lowering water quality.”).

³¹ 40 C.F.R. § 131.3(n).

³² By contrast, the Commissioner may consider economic viability for purposes of solid waste variance requests. Tenn. Comp. R. & Regs. 0400-12-01-.01(4)(b)(2)(i).

mean that the antidegradation rule allows degradation when an alternative to degradation is available but would make the project less profitable.

For the rule to be consistent with the Guidance Document and include a “financial feasibility” requirement, the Board must promulgate a new rule. For now, the Guidance Document adds restrictions to the “feasibility” requirement of the existing rule such that the Guidance Document’s interpretation of the term is inconsistent with the EPA’s definition. Specifically, the Tennessee’s rule distinguishes between a feasibility showing and a showing that the degradation is necessary to accommodate economic development:

In waters with available parameters, new or increased discharges that would cause degradation above the level of *de minimis* for any available parameter for any criterion will only be authorized if the applicant has demonstrated to the Department that **reasonable alternatives to degradation are not feasible and the degradation is necessary to accommodate important economic or social development in the area** and the degradation will not violate the water quality criteria for uses existing in the receiving waters.

Rule 0400-40-03-.06(3)(a) (emphasis added). In other words, the rule discusses “feasibility” of alternatives to degradation, not whether the proposed project is financially feasible for an applicant. As explained by EPA in 2015,

The final rule at § 131.12(a)(2)(ii) provides that before allowing a lowering of high water quality, states and authorized tribes must find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. That analysis must evaluate a range of non-degrading and less degrading practicable alternatives. For the purposes of this requirement, the final rule at § 131.3(n) defines “practicable” to mean “technologically possible, able to be put into practice, and economically viable.” **When an analysis identifies one or more such practicable alternatives, states and authorized tribes may only find that a lowering is necessary if one such alternative is selected for implementation.** This rule requires that states’ and authorized tribes’ antidegradation policies must be consistent with these new requirements.

Water Quality Standards Regulatory Revisions, 80 Fed. Reg. 51020-01.

V. The Guidance Document Includes a Public Notice Requirement but an Express Public Participation Component Could Help Address Environmental Justice Implications of the Alternatives Analysis and Benefits Review

Congress clearly intended to guarantee the public a meaningful role in the implementation of the Clean Water Act. The Act unequivocally and broadly declares, for example, that “[p]ublic participation in the development, revision, and enforcement of any regulation, standard, effluent

limitation, plan, or program established by the Administrator or any State under this Act *shall be provided for, encouraged, and assisted by the Administrator and the States.*³³

Commenters appreciate that the Guidance Document instructs that the TDEC reviewer will make an initial determination of economic and social necessity for public comment.³⁴ But, too often, this notice goes unseen in newspapers and on websites. Commenters request that the Guidance document include an express public participation component so that meaningful public engagement can help determine the true cost and value of permitting decisions for specific communities.

Moreover, TDEC must comply with Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, or national origin in programs or activities receiving federal financial assistance.³⁵ Commenters are concerned that TDEC will run afoul of Title VI and corollary environmental justice principles because the Guidance Document focuses too heavily on the economic “benefits” of proposed projects without balancing them against—or fully taking into consideration—the social costs of projects.

For example, Section 3 of the Guidance Document (“Social and Economic Benefit Categories and the Important Determination”) provides that there are five general categories of “benefits,” including creating jobs and positively affecting local government finances.³⁶ It then states that, “One or more categories may also be weighted more heavily in some instances than others because of the baseline socioeconomic conditions of the affected areas.”³⁷ Commenters suggest that the Guidance Document clarify that environmental degradation will not be presumptively permitted in communities with high unemployment, low property values, or poor government finances. While we recognize that there is a catch-all benefit category for “other considerations,” we suggest that a specific category be created to address equity and that the Guidance Document should explicitly include environmental justice concerns as a factor for benefit/harm calculations.

When public notice provisions do not require active community engagement, they become mere check boxes on forms. Commenters do not suggest a single method of ensuring meaningful public participation (*i.e.*, perhaps a sliding scale of public notice standards is appropriate, ranging from physical signs near the proposed project to door-to-door outreach depending on project size, location, or scope). Without a meaningful public participation component, though, TDEC reviewers will not be able to truly evaluate whether environmental degradation is a benefit to communities, including economically disadvantaged communities.

³³ 33 U.S.C. § 1251(e) (emphasis added).

³⁴ Guidance Document, pp. v-vi, 25.

³⁵ 42 U.S.C. §2000d; <http://www.tennessee.gov/environment/topic/policy-title-vi-and-environmental-justice>. See also <https://www.tn.gov/tdot/article/title6-environmental-justice>.

³⁶ Guidance Document, p. 11.

³⁷ *Id.*

VI. Only Development that Fosters and is Consistent with Smart Growth Should Be Allowed to Count as a “Benefit”

Not all development is equally beneficial. However, the Guidance Document includes development as a “social and economic benefit” of degradation, explaining that “[c]ertain types of projects may have the potential to spur increased growth in the surrounding area”³⁸ and negatively impact quality of life. Induced sprawl, for example, is not a benefit to the community or the environment.³⁹ Indeed, how much infrastructure is needed to accommodate car travel has a significant bearing on pollution levels, regardless of the miles driven, which is why it is important manage *where* growth occurs.⁴⁰

Because not all development is economically or socially beneficial, strategic development and “smart growth” principles have long been included in regional development plans and project prioritization frameworks in Middle Tennessee. Just last year, “quality growth” and “preservation” criteria were used to measure the extent to which proposed road projects would integrate with smart land use planning and minimize the potential for sprawling growth.⁴¹ These considerations are absent from the Guidance Document. If “development” is to remain a benefit category for the social and economic importance determination, Commenters suggest that an applicant must demonstrate that the project is consistent with land use best practices and long-range regional development plans.

VII. The Guidance Document Does Not Sufficiently Weigh the Value of Natural Resources or the Benefits of Improved Water Quality

The Guidance Document does not appear to require adequate analysis of alternatives to the project contemplated, as required by Rule 0400-40-03-.06(b)3. In particular, the Rules do not appear to adequately value the natural world before the implementation of the proposed project. Failure to require such analysis means that the presumption will always be in favor of the proposed project.

Rule 0400-40-03-.06(b)3 requires consideration of alternatives that avoid or minimize habitat alterations, among other things. To adequately value the natural world, including habitat, before

³⁸ See, e.g., Guidance Document, p. 13.

³⁹ According to the EPA, “Development guided by smart growth principles can minimize air . . . pollution Development patterns and practices also indirectly affect environmental quality since they influence how easily people can get around.” <https://www.epa.gov/smartgrowth>; <https://www.epa.gov/smartgrowth/our-built-and-natural-environments>.

⁴⁰<https://www.epa.gov/sites/production/files/2014-03/documents/our-built-and-natural-environments.pdf> See Peter S. Taub, *Land Use Reform and the Clean Air Act After Dolan*, 6 Fordham Envtl. L.J. 731 (1995) (“A regional comprehensive land use plan would go a long way toward reducing ‘urban sprawl,’ one of the main factors contributing to the increased number of vehicle miles traveled.”).

⁴¹ http://www.nashvillempo.org/plans_programs/rtp/2040_rtp_document.aspx.

the implementation of the proposed project and attendant alterations, the economic value of ecosystem goods and services must be considered. In 2015, EPA explained:

Maintaining high water quality is critical to supporting economic and community growth and sustainability. Protecting high water quality also provides a margin of safety that will afford the water body increased resilience to potential future stressors, including climate change. Degradation of water quality can result in increased public health risks, higher treatment costs that must be borne by ratepayers and local governments, and diminished aquatic communities, ecological diversity, and ecosystem services. Conversely, maintaining high water quality can lower drinking water costs, provide revenue for tourism and recreation, support commercial and recreational fisheries, increase property values, create jobs and sustain local communities. [FN33] While preventing degradation and maintaining a reliable source of clean water involves costs, it can be more effective and efficient than *51030 investing in long-term restoration efforts or remedial actions.

Water Quality Standards Regulatory Revisions, 80 Fed. Reg. 51020-01⁴². Further, as the National Academy of Sciences (and partners) noted over ten (10) years ago:

Until the economic value of ecosystem goods and services is acknowledged in environmental decision-making, they will implicitly be assigned a value of zero in cost benefit analyses, and policy choices will be biased against conservation.⁴³

As the National Research Council further noted:

⁴² “Thus, when considering whether to exclude waters from Tier 2 protection, states and authorized tribes must consider the overall quality of the water rather than whether water quality is better than necessary for individual chemical, physical, and biological parameters to support all the uses specified in CWA section 101(a)(2). The rule provides for a decision-making process where states and authorized tribes consider water quality and reasons to protect water quality more broadly. This can lead to more robust evaluations of the water body, and potentially more waters receiving Tier 2 protection. To make a decision to exclude a water body from Tier 2 protection, states and authorized tribes must identify the factors considered which should include factors that are rooted in the goals of the CWA, including the chemical, physical, and biological characteristics of a water body. Where states and authorized tribes wish to consider CWA section 303(d) listed impairments, it would be important that they also consider all other relevant available data and conduct an overall assessment of a water's characteristics. It would also be important that states and authorized tribes consider the public value of the water. This includes the water's impact on public health and welfare, the existing aquatic and recreational uses, and the value of retaining ecosystem resilience against the effects of future stressors, including climate change. For additional information on this overall assessment, see the preamble to the proposed rule at 78 FR 54527 (September 4, 2013).” *Water Quality Standards Regulatory Revisions*, 80 FR 51020-01.

⁴³ The National Academy of Sciences, “Report in Brief,” “Valuing Ecosystem Services Toward Better Environmental Decision-Making,” (2004). Available at https://www.nap.edu/html/valuing_services/reportbrief.pdf. (“Valuing Ecosystem Services”). This emphasis on economic value is without prejudice to the view, shared by these commenters, that natural features have intrinsic and instrumental values that may not be capable of being quantitatively measured and thus disturbed only when justified.

Given the crucial role that ecosystems and their services play in supporting human, animal, plant, and microbial populations, there is now widespread agreement that ecosystems are “valuable” and that decision-makers ranging from individuals to governments should consider the “value” of these ecosystems and the services they provide to society....⁴⁴

If BCA [benefit-cost analysis] is to be used to evaluate environmental policy options, it is imperative that all costs and benefits be considered. In particular, for policy decisions that impact ecosystems, the benefits that the ecosystem generates through the various goods and services it provides must be included in calculating the benefits of preserving the ecosystem or the costs (forgone benefits) of allowing it to be degraded. As noted in Chapter 1, failure to assign a dollar value to these benefits (e.g., on the principle that they cannot be valued accurately or that the values are “incalculable”) effectively assigns them a zero value or a zero weight in the calculation of net benefits, implying that changes in those services will not be incorporated into the net benefit calculation⁴⁵

The Interim Economic Guidance for Water Quality Standards (“Interim EPA Guidance”)⁴⁶ on which TDEC has relied, and upon which the Guidance Document is patterned, was authored over 20 years ago (in 1995). At that point, the concept of ecosystem services and methods for calculating their value were in their infancy. There now exists a considerable body of literature on the subject.⁴⁷ Although these concepts can be challenging to apply to projects, they are no more so than the economic analysis contemplated in the Guidance Document. One of the leading experts in the law of ecosystem services resides and teaches in Tennessee.⁴⁸ TDEC should take full advantage of the expertise available in Tennessee to ensure that antidegradation (and ecosystem services) law and policy are as current as possible.

⁴⁴ National Research Council, VALUING ECOSYSTEM SERVICES: TOWARD BETTER ENVIRONMENTAL DECISION-MAKING (2004), Chapter 2, p. 35 (available at <https://www.nap.edu/read/11139/chapter/4#35> ;accessed March 27, 2017).

⁴⁵ *Id.* at p. 40 (citations omitted).

⁴⁶ Available at <https://www.epa.gov/sites/production/files/2016-03/documents/econworkbook-complete.pdf> (accessed March 27, 2017).

⁴⁷ *See, e.g.*, the literature collected at https://scholar.google.com/scholar?hl=en&as_sdt=1,43&q=%22valuing+ecosystem+services%22&scisbd=1 (accessed March 27, 2017).

⁴⁸ J.B. Ruhl, David Daniels Allen Distinguished Chair of Law; Director, Program on Law and Innovation; Co-director, Energy, Environment and Land Use Program, Vanderbilt University School of Law. *See* https://law.vanderbilt.edu/files/cvs/2017_Ruhl_CV.pdf (accessed March 27, 2017).

Over ten years ago, the National Research Council identified at least four (4) methods to value aquatic and related terrestrial ecosystem services.⁴⁹ At a minimum, TDEC should assess the utility of these tools and employ those tools that appear best suited to calculate the most appropriate value.

The Interim Economic Guidance appears outmoded in at least one other respect: It requires that “Beaver’s Ratio” be used to judge the solvency of project proponents. Since the promulgation of the Interim Economic Guidance more than twenty (20) years ago, other, more predictive analytical tools have come to be employed, including the “Altman Z-score,” which may be between 80 to 90% accurate in predicting bankruptcy risk.⁵⁰ Even more current and predictive tests are available and appear to be more accurate in predicting bankruptcy risk.⁵¹ Beaver’s Ratio and similar financial tests rely on accounting data supplied and accrual positions taken by the project proponent. Such data may not be as reliable as that obtained by comparison to third party and market conditions.⁵² The costs of environmental projects are frequently difficult to estimate and/or under-reported, due the deficiencies in the accounting standards by which they are calculated.⁵³

Further, the Guidance Document does not reference or consider whether the net present value (*e.g.*, inflating and discounting at appropriate rates) of any project costs, including of any required environmental or mitigation projects, must be calculated.

The Guidance Document also does not refer to any requirement to or technique for verifying the actual number of jobs created over time, and the consequences of failure to achieve those projections. Neither the Guidance Document nor applicable regulations provide for any “claw back” (or levy a fine or provide for supplemental value to be delivered by the project sponsor) for projects that do not realize promised economic and social benefits.

⁴⁹ Valuing Ecosystem Services, Chapter 4. One such method involved use of natural resources damage assessments, *Id.* at p.96, with which the authors of the Guidance Document are familiar. See R. Unsworth, T. Petersen, A MANUAL FOR CONDUCTING NATURAL RESOURCE DAMAGE ASSESSMENT: THE ROLE OF ECONOMICS (1994) (available at <https://www.fws.gov/policy/NRDAManualFull.pdf>; accessed March 27, 2017).

⁵⁰ Altman, “PREDICTING FINANCIAL DISTRESS OF COMPANIES: REVISITING THE Z-SCORE AND ZETA@ MODELS” (July 2000). Available at <http://pages.stern.nyu.edu/~ealtman/Zscores.pdf>.

⁵¹ Jackson, Richard; Wood, Anthony (2013). "The Performance of Insolvency Prediction and Credit Risk Models in the UK: A Comparative Study," 45 THE BRITISH ACCOUNTING REVIEW (3): 183–202. (available at <https://ore.exeter.ac.uk/repository/bitstream/handle/10871/9690/The%20performance%20of%20insolvency%20prediction%20and%20credit%20risk%20models%20in%20the%20UK%20a%20comparative%20study.pdf?sequence=2&isAllowed=y> (accessed March 27, 2017)) (“Comparative Study”; citations to page numbers are to the pdf version of the Comparative Study at the URL in this footnote.) (Note the discussion of the continued utility of the Beaver ratio at p. 28.)

⁵² Comparative Study, at p.28.

⁵³ See, *e.g.*, http://www.advancedenvironmentaldimensions.com/about_us.htm (collecting some of the available literature).

Over the years, articles have been published that discuss the economic benefits associated with water quality improvements. Economic benefits that have been discussed include cleaner water supplies for municipalities, industry, and agriculture, enhanced property values, and increased human health benefits that result in decreased expenditures on health care. A report published by Clean Water Fund illustrates these economic benefits with respect to improvement of water quality in the Florida Everglades.⁵⁴ For example, water quality improvements in the Everglades are expected to yield a 35% increase in property values for the 16 counties in the area and 273,000 new construction jobs.⁵⁵

In addition to yielding increased property values and creating new jobs, improving water quality yields increased revenues from recreation and tourism. With respect to increased revenues from recreation, research conducted in North Carolina revealed a significant relationship between watershed-level water quality and recreational trip-taking behavior. The authors of the research article estimated that statewide nutrient reduction could lead to economic benefits of \$100,840,000 to \$342,950,000.⁵⁶ The significance of these estimations suggests that a state environmental agency reviewing a proposed degradation to high quality water should weigh the economic benefits of the proposed development against the economic benefits of maintaining the high quality water. In doing so, the agency would be able to make a clearer determination whether the proposed degradation would result in greater economic benefits than would the maintenance of the high quality water result in greater economic benefits.

VIII. The Applicability and Use of Antidegradation Policy in Tennessee Must Be Consistent, Predictable, and Defensible

Commenters believe that, for the Guidance Document to be effective, it must be utilized. To be utilized, TDEC must apply and enforce its own antidegradation rules consistently. We believe that Tennessee's Antidegradation regulations are not consistently implemented, and thus antidegradation analysis is not done, as often as required by law.

Although TDEC is to be lauded for the content of these rules, it appears that TDEC is far too reticent to apply and enforce its own rules.⁵⁷ In the recent experience of the Harpeth River Watershed Association, TDEC, after initially properly demanding that a proposed permittee (the City of Franklin), do an antidegradation analysis, assisted the permittee to find a way to excuse the permittee from doing the required analysis. Although Tennessee law requires that antidegradation analysis be done whenever a "new or increased discharge" that is more than de minimis is proposed for an impaired waterway, TDEC improperly strained the plain meaning of its regulations to

⁵⁴ Clean Water Fund, *Economic Benefits of Restoring America's Everglades*, available at http://www.cleanwateraction.org/files/publications/fl/Economic_Benefits_of_Restoration.pdf.

⁵⁵ *Id.*

⁵⁶ Phaneuf, D.J., *A random utility model for total maximum daily loads: Estimating the benefits of watershed-based ambient water quality improvement*, *Water Resources Research*, 38 (11):1254-1264 (2001).

⁵⁷ See generally [http://environment-online.tn.gov:8080/pls/enf_reports/f?p=9034:34308::: .](http://environment-online.tn.gov:8080/pls/enf_reports/f?p=9034:34308:::)

excuse the non-performance of the required antidegradation analysis, even in a case where the proposed permit results in an increase of thirty-three percent (33%) in flow (from 12 MGD to 16 MGD) and proposes allow the permittee to more than double the pounds of phosphorus (from approximately 72.5 lbs/day to 174 lbs/day) it actually discharges into the receiving water, the Harpeth River.⁵⁸

Similarly, in connection with the development of a 40-acre shopping center in Cookeville, which as planned, contemplates the filling of a three-acre wetland, TDEC issued an Aquatic Resources Alteration Permit (ARAP) required by state law simultaneously with the announcement of its decision that antidegradation analysis need not be performed because, after the close of all public and agency notice and comment, the developer offered additional “in-system mitigation” which allowed TDEC to declare the impact of project to be “de minimis” and thus “bypass” all antidegradation requirements to show a lack of alternatives and economic and social necessity. This novel interpretation of Tennessee regulations is (1) contrary to federal law limiting “*de minimis*” to create exceptions to Clean Water Act and EPA regulations on antidegradation determinations and (2) means that any developer can effectively “buy” a bypass of antidegradation protections, process and administrative review by adding some additional “mitigation” which allows TDEC to declare the project net impacts “*de minimis*”.

IX. Concerns Regarding the Inclusion and Consideration of All Costs of a Project

Other than the “financial feasibility” provision discussed above in the context of alternatives analysis, we see no reference in the Guidance Document (or applicable regulations) that includes any requirement for or any evaluation of whether the proposing party has the experience and financial capability to carry out the project successfully to completion.

We also see no reference in the Guidance Document to the need, or mechanisms, to verify project costs. Without such verification, the financial analysis built upon them, loses considerable meaning. We see no reference to any requirements for any portion of project plans or costs to be verified or attested by a project proponent or one of its retained (and appropriately credentialed) professionals.⁵⁹

We note that there is no mention of the need for—or cost of—mitigation projects. Many projects for this Guidance Document will require some sort of mitigation, yet it is not discussed or

⁵⁸ See also Tenn. Code Ann. § 69-3-108(e) (providing that, “Applicants for permits that would authorize a new or *expanded* wastewater discharge into surface waters shall include in the application consideration of alternatives, including, but not limited to, land application and beneficial re-use of the wastewater”) (emphasis added).

⁵⁹ The Guidance Document is replete with references to how TDEC is required to verify the applicant’s submissions. See, e.g., Guidance Document, at p. i. Compare the requirements of the Sarbanes-Oxley Act of 2002, §§ 302, 906, (15 U.S.C. § 7241, 18 U.S.C. § 1350, respectively) and Exchange Act Rules 13a-14 (17 CFR § 240.13a-14) and 15d-14 (17 CFR § 240.15d-14), which require chief executive and financial officers of reporting companies to attest to the truth and accuracy of financial statements, above and beyond the requirements of generally accepted accounting principles.

referenced. Failure to require adequate costing of (and otherwise deal with difficulty in finding and implementing) suitable mitigation projects means that the financial analysis built upon them, will be considerably flawed. We believe that the current system of pricing “credits” in Tennessee seriously undervalues the true costs of mitigation by ignoring two critical factors.

First, we note that in recent years TDEC and TDOT have had difficulty in finding and implementing suitable sites for mitigation projects. This appears in part because the amounts offered to landowners whose properties “host” such project have not been offered high enough prices to induce them to grant the necessary permissions, sell their properties, grant easements over them, and the like.

Second, the Guidance Document makes no reference to the need to assure that mitigation projects perform as planned, achieve the results intended, or provide for or take into account any inspection and maintenance costs, or life-cycle costs. “Life-cycle” costs reflect the fact that project components sometimes fail over time or require adaptive management to meet their goals. Yet, the Guidance Document makes no reference to and apparently does not require the costs of management beyond the initial installation be included.

In addition, there is no reference to or provision for “remedy failure” (that is, that certain projects will not attain their environmental goals and objectives). The potential for such issues over the course of time could easily be accounted for using probabilistic estimating techniques such as those discussed in ASTM E 2137 – 06, “Standard Guide for Estimating Monetary Costs and Liabilities for Environmental Matters.”⁶⁰

In none of the above cases does the Guidance Document or applicable regulations provide for any “claw back” provision (or levy a fine or provide for supplemental value to be delivered by the project sponsor) for projects that do not meet standards for successful functional mitigation.

Finally, there is no reference to any mechanism for, or costing of, financial assurance of mitigation project costs.

X. Conclusion

Thank you again for the opportunity to comment on the Guidance Document. We appreciate the effort that went into the preparation of the Guidance Document. Although we believe that the Guidance Document is beneficial in a number of respects, it should be revised prior to finalization. The Guidance Document does not require the inclusion of all project costs – there is no reference to the need for or cost of mitigation projects, of any requirement to consider the experience and financial capability of the project proponents, nor of the life-cycle costs (including “remedy failure”) of any anticipated mitigation; does not require consideration of the value of the ecosystem

⁶⁰ <https://www.astm.org/Standards/E2137.htm>.

services that may be displaced by proposed projects; does not appear to utilize the most current methods for judging insolvency risk; and does not refer to any requirement to or technique for verifying the actual number of jobs created over time, or the consequences of failing to achieve those projections, or provide any mechanism for redress in the event that projects do not realize promised economic and social benefits. Finally, because the Guidance Document does not address the full substance of the rule, including water quality impacts and alternatives, Commenters believe that the Guidance Document should clearly indicate the limited role TDEC intends it to play in antidegradation analysis.

We look forward to your comments and are available to answer any questions you have about this letter.

Sincerely,⁶¹

HARPETH RIVER WATERSHED ASSOCIATION



James M. Redwine, Director, Water Quality Protection
and Sustainability

SOUTHERN ENVIRONMENTAL LAW CENTER

/s/ _____
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OBED WATERSHED COMMUNITY ASSOCIATION

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⁶¹ Please direct any comments or questions to James M. Redwine, Harpeth River Watershed Association, jimredwine@harpethriver.org, or Anne Passino, Southern Environmental Law Center, apassino@selctn.org, the principal authors of these comments.

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