

**Proposed Final**

**YEAR 2012  
303(d) LIST**

November, 2012



**TENNESSEE DEPARTMENT OF ENVIRONMENT  
AND CONSERVATION**

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# GUIDANCE FOR UNDERSTANDING AND INTERPRETING THE PROPOSED FINAL 2012 303(d) LIST

November, 2012

## ***What Is the 303(d) List and Why Is It Important?***

Section 303(d) of the federal Clean Water Act requires that states develop a compilation of the streams and lakes that are “water quality limited” or are expected to exceed water quality standards in the next two years and need additional pollution controls. Water quality limited streams are those that have one or more properties that violate water quality standards. They are considered impaired by pollution and not fully meeting designated uses.

Additionally, stream considered threatened by pollutants are also appropriate for 303(d) listing, if the trend is likely to lead to a criterion being violated.

The 303(d) List prioritizes impacted streams for specialized studies called Total Maximum Daily Load (TMDL). In one waterbody, Barkley Reservoir, a Total Maximum Daily Thermal Load study is needed.

The 2012 303(d) List will update and when finalized, will replace the previous one published in 2010.

Once a stream has been placed on the 303(d) List, it is considered a priority for water quality improvement efforts. These efforts include traditional regulatory approaches such as permit issuance and enforcement, but also include efforts to control pollution sources that have historically been exempted from regulations, such as certain agricultural and forestry activities.

If a stream is impaired, regardless of whether or not it appears on the 303(d) List, the Division cannot authorize additional loadings of the same pollutant(s). It may mean that dischargers will not be allowed to expand or locate on 303(d) listed streams until the sources of pollution have been controlled.

## **WHAT'S NEW FOR 2012**

### **Reassessment of Group 3 and Group 4 Watersheds.**

In developing the draft 2012 assessment, the Division used all readily available information. Consistent with the Division's watershed approach, the major difference between the 2010 and 2012 versions of the List is the reassessment of the Group 3 and 4 watersheds. It is in these areas of the state that the reviewer will note the most significant assessment changes.

### **Videoconferencing of the 303(d) Public Meeting.**

On August 6, public meetings were held simultaneously in regional offices across the state by use of the department's new teleconferencing equipment. Members of the public in each part of the state were able to participate remotely, saving travel time and expense for both the public and departmental staff.

### 303(d) ASSESSMENT CATEGORIES USED IN 2012

The assessment categories suggested by EPA have been incorporated into the development of the 2012 303(d) List. Each stream or lake in Tennessee has been placed into one of the following categories.

<b>Category 1</b>	Waterbody or waterbody segment meets all designated uses.
<b>Category 2</b>	Waterbody or waterbody segment meets some designated uses, but data are not available in order to determine whether all uses are being met.
<b>Category 3</b>	Insufficient data exists to determine whether any uses are being met.
<b>Category 4A</b>	One or more uses are not being met. However, TMDLs have been completed and approved for all listed pollutants.
<b>Category 4B</b>	One or more uses are not being met. However, a TMDL is not needed because compliance with water quality standards will be achieved in the short-term by a more traditional approach, such as permitting or enforcement.
<b>Category 4C</b>	One or more uses are not being met. However, the impairment is not being caused by a pollutant.
<b>Category 5</b>	One or more uses are not being met. A TMDL is needed for the listed pollutants.

#### Notes concerning the above categories:

1. As with the 2010 list, Tennessee has used Category 4C for segments impacted by flow alteration as that is not a pollutant and a TMDL would not be helpful. If commenters suggest additional causes as appropriate for Category 4c, these will be considered on a case-by-case basis. See the *Summary of Public Comments and Departmental Responses* for additional information.
2. Some streams, including the area directly impacted by the Kingston ash spill, were proposed as Category 4b. These are cases where for on specific streams, traditional approaches such as permitting or enforcement would lead to water quality standards being met in the short-term and a TMDL would not be helpful. If additional streams are suggested for Category 4b, we will consider them for the final version.
3. Category 4a was only used for those streams where all TMDLs have been completed. If additional TMDLs were needed in a segment, it was identified as Category 5, even if some TMDLs were approved.

### ***How Were the Waters of Tennessee Assessed for this Document?***

The assessment of Tennessee's waters was based on a water quality evaluation that took place during 2011 and 2012. Water quality data collected at hundreds of streams in Tennessee were compared to existing water quality criteria (Chapter 1200-4-3-.03). Data were compared to numeric water quality criteria, or in the case of substances with narrative criteria (criteria based on verbal "free from" statements), data were compared to ecoregion reference stream data from the appropriate sub-ecoregion.

Details of the monitoring design and assessment process are provided in TDEC's *Quality Assurance Project Plan (QAPP) for 106 Monitoring in the Division of Water Pollution Control*. This document is posted on the department's webpage.

Information concerning monitoring design and sampling procedures of the agencies that supplied additional data used in Tennessee's assessment process can be requested from the specific agencies.

### ***Which Tennessee Streams Are Not On the 303(d) List?***

Streams considered unpolluted (Categories 1 or 2), plus streams that the Division cannot assess due to a lack of water quality information (Category 3), are not found on the List.

Thus, any stream not on the 303(d) List can be assumed to be either unassessed or unpolluted.

### ***On What Basis Can Waterbodies Be Removed From the 303(d) If They Were Listed In a Previous Version?***

The 303(d) List is designed to be a flexible document that can be updated as new information becomes available. EPA must approve revisions to the document and has identified several acceptable reasons for removing or delisting a stream from the 303(d) List:

#### **The stream was listed in error originally.**

An example of this might be if a water quality standard was improperly applied, such as the wrong hardness was used to calculate metals criteria.

**The stream's status changes.** A waterbody or a portion of a waterbody might be ruled a wet weather conveyance rather than a stream. (Different criteria apply to wet weather conveyances.)

**Water quality standards change.** The 303(d) is a compilation of streams that violate state water quality standards. If standards change through the triennial review process, the list can be adjusted.

**The stream has improved.** If the quality of the stream improves and no longer violates criteria for the parameter(s) of concern, the stream can be removed from the List. Documentation of the improvement is necessary.

Appendix A contains a list of the streams approved for delisting due to water quality improvement. A rationale for each delisting is provided.

Appendix B contains any streams being approved for delisting on any basis other than water quality improvement.

**Did the Division Use All “Readily Available Data” In the Water Quality Assessment Process?**

The Division utilized its own water quality data, plus that collected by other agencies and entities in Tennessee. EPA’s STORET database was utilized as a primary source of water quality data.

Additionally, the Tennessee Valley Authority, the U.S. Army Corps of Engineers, and the U.S Geological Survey were contacted/surveyed directly as none of these agencies currently use STORET.

A public notice was sent out requesting any additional data the public or other entities might have. In addition to the data, we requested that submissions include detailed location information, plus QA/QC measures taken to ensure data quality. Data submittals specific to a stream segment will be considered a comment for official departmental response.

**Are There Any Data Sources That the Division Chose To Not Use in the Assessment Process?**

No. We used all the data that were submitted. However, it should be noted that not all data submitted were used to independently list streams as impacted. Where questions about sampling locations, techniques or analysis methodologies could not be easily resolved, submitted data were used to screen streams for future studies.

As stated previously, if during the review process for the proposed final 303(d), additional water quality data are brought to our attention, these data will be factored into our final decision concerning the status of specific streams.

See the *Summary of Public Comments and Departmental Responses* for additional information. This document has been developed to address the comments received regarding the draft version of the list.

**Agency Data Submitted or Obtained for Consideration in the 2012 303(d) Assessment Process**

(Note: this is a limited compilation and does not include data submitted by permitted dischargers as part of permit conditions or application requirements.)

<b>Agency</b>	<b>Physical Data</b>	<b>Biological Data</b>	<b>Chemical Data</b>	<b>Bacteriological Data</b>
US Environmental Protection Agency	X	X	X	X
US Army Corp of Engineers	X	X	X	
Tennessee Valley Authority	X	X	X	
US Geological Survey	X	X	X	
Tennessee Wildlife Resources Agency	X	X		
Metro Water Services MS4 Program				X

### **What Is the Watershed Cycle?**

In 1996, the Division of Water Pollution Control restructured monitoring and permitting activities on a rotating watershed basis. Each watershed will be examined on a five-year cycle as illustrated by the map on the next page.

A typical cycle will generally include:

**Year 1** Hold planning meetings with “stakeholders”. Stakeholders include citizens, environmental groups, other governmental agencies, municipalities, industries, and other interested parties. Develop a monitoring plan.

**Year 2** Collect water quality data.

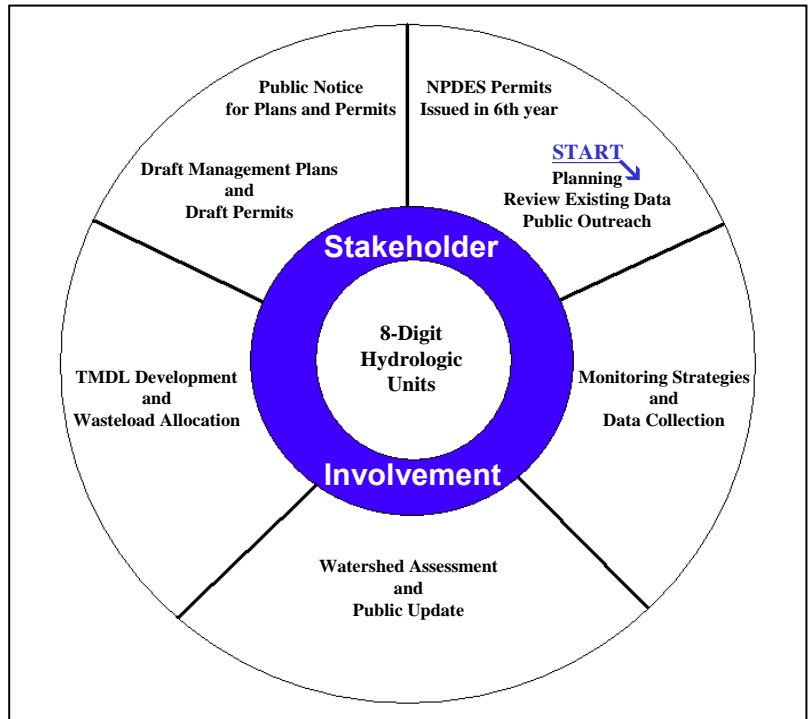
**Year 3** Collect water quality data.

**Year 4** Water quality assessment activities. Perform modeling and TMDL generation

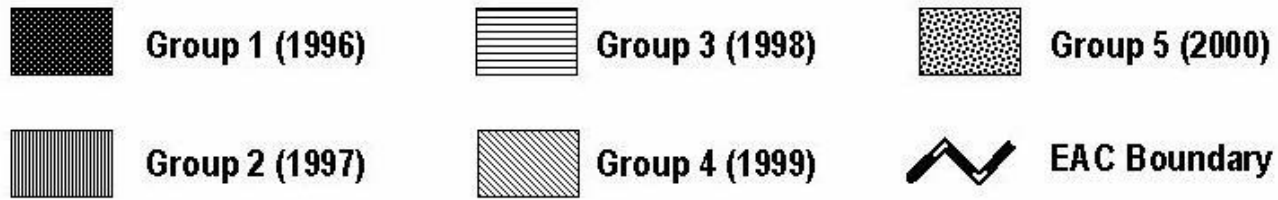
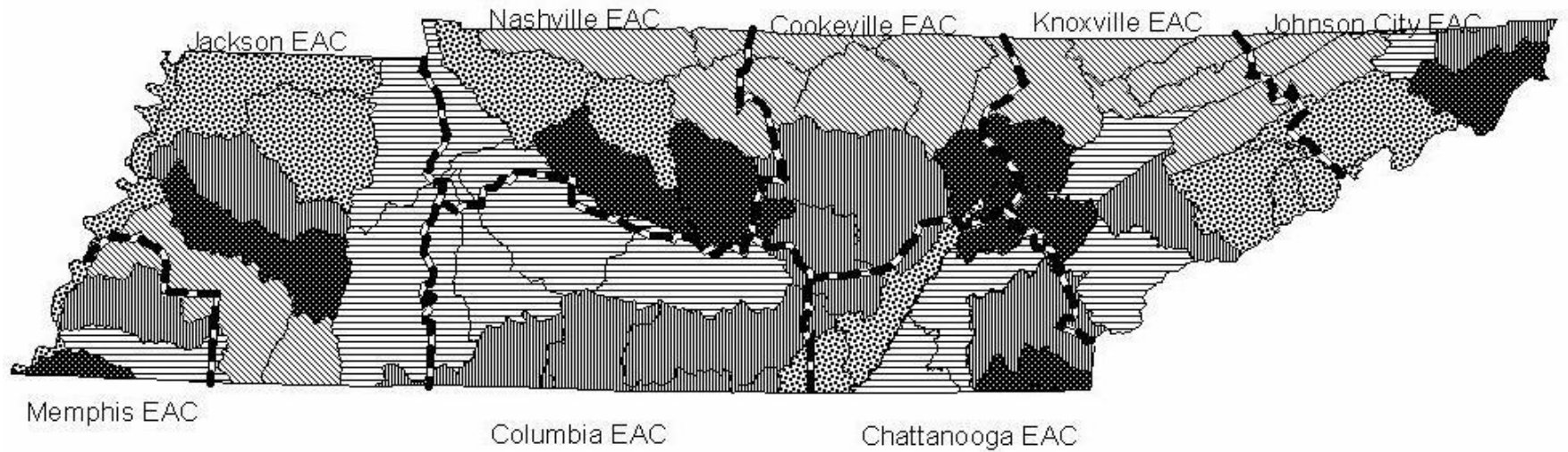
**Year 5** Publish a watershed plan, which includes the proposed actions to be taken to insure that water quality standards will be met. Issue draft NPDES permits and hold public hearings.

**Year 6** Issue final permits after comments have been addressed. Begin cycle again in sixth year.

Stream inventoried on the 303(d) List as violating one or more water quality criteria must be scheduled, on some priority basis, to have a TMDL developed to assist in the identification of control strategies.



# Tennessee Watershed Management Approach



### **What Is a TMDL?**

A Total Maximum Daily Load (TMDL) is a study that (1) quantifies the amount of a pollutant in a stream, (2) identifies the sources of the pollutant, (3) and recommends regulatory or other actions that may need to be taken in order for the stream to no longer be polluted. Following are actions that might be recommended:

- Re-allocate limits on the sources of pollutants documented as impacting streams. It might be necessary to lower the amount of pollutants being discharged under NPDES permits or to require the installation of other control measures, if necessary, to insure that standards will be met.
- For sources the Division does not have regulatory authority over, such as ordinary agricultural and forestry activities, provide information and technical assistance to other state and federal agencies that work directly with these groups to install appropriate BMPs.

Even for impacted streams on the 303(d) List, TMDL development is **not** considered appropriate for all bodies of water. Additionally, in cases involving pollution sources in other states, the recommendation may be that another state or EPA develops the TMDL.

### **How Are the TMDLs Prioritized?**

Tennessee's TMDL prioritization schedule has been based on a 1998 agreement between EPA and the Department. Under this schedule, the Department committed to the development of all TMDLs for 303(d) listed streams by the year 2011. For its part, EPA committed to provide better guidance and new tools for TMDL generation.

A few years later, the same schedule was formalized by being included as part of a Consent Decree between EPA and environmental groups. In 2009, the department fulfilled its requirements under the Consent Decree. The Division has decided to base its TMDL priority for each body of water on the 303(d) List based on the spirit of the agreement previously reached with EPA.

### **How Did Citizens Participate in this Process?**

The Division accepted public comments until August 17, 2012. These comments may be sent by letter, fax, or email. Additionally, the division will accept verbal comments at a public meeting the afternoon of August 6. The meeting will be in Nashville, but citizens can teleconference at field office locations. The list of these meetings appears on the next page.

We specifically request comments or data the public felt are relevant to a listing, or to a stream not currently listed. We requested that data submissions include some basic information such as detailed station locations and the QA/QC procedures used during the sample collection and analysis process.

Additionally, departmental staff were available to meet with groups or individuals to discuss specific listings.

Following the conclusion of the formal comment period, responses were prepared for each comment. These responses are available in a companion document also posted on the department's website.

The responses indicated whether or not a revision was made based on the specific comment received. If a comment did not result in a revision, we explained our rationale for not making a change.



## Key to 303(d) List

<b>WATERBODY ID</b>	<p>In 1988, the Division divided the state's waters into "waterbodies" and created a database of information about each. Each waterbody has an ID based on EPA's River Reach System. The first eight digits of the ID (after TN) are the USGS HUC Code number. The next three or four digits are the reach number assigned to the stream by EPA. The last four digits is the segment number assigned to each stream section for the Assessment Database (ADB). There is also a GIS coverage for listed streams.</p> <p><b>The 303(d) List is sorted in hydrologic order within each major watershed basin.</b> The NRCS watershed number for the segment is available through the ADB.</p>
<b>WATERBODY</b>	<p>The name of the main body of water within the waterbody is provided as <b>NAME</b>.</p>
<b>COUNTY</b>	<p>The county or counties where the waterbody is located.</p>
<b>MILES/ACRES IMPAIRED</b>	<p>If the stream is considered impaired (not meeting water quality standards), the number of impacted miles or acres (according to Reachfile 3) is shown in this column. Lake acres are noted as "ac".</p>
<b>CAUSE</b>	<p>The pollutant or pollutants exceeding water quality standards is identified.</p>
<b>SOURCE</b>	<p>The general source of each pollutant exceeding water quality standards within the waterbody is identified. (For both causes and sources, the Division uses categories provided by EPA in order to be consistent with language used by other states.)</p>

## TMDL Priorities

It should be noted that TMDL priorities are parameter specific and methodologies have not yet been developed for all substances or conditions. Thus a stream that has multiple causes of impairment may be high priority for one cause, but low priority for another.

<b>HIGH (H)</b>	Tools are available to produce the TMDL and the stream is in one of the watersheds being studied in the next two years. The TMDL will be produced in the next two years.
<b>MEDIUM (M)</b>	Tools are available to produce the TMDL, but the stream is not in a watershed being studied in the next two years. TMDL will be produced in the next five years.
<b>LOW (L)</b>	Tools are not currently available to produce the TMDL and the stream is not in the watershed being studied in the next two years. TMDL will be produced in the next twelve years.
<b>NOT APPLICABLE (NA)</b>	<p>4a - A TMDL has already been completed, submitted to EPA, and approved by EPA.</p> <p>4b - A TMDL is not needed because a different type of control strategy is in place which will bring about compliance with the criterion in a reasonable amount of time.</p> <p>4c – The impact to the stream is not being caused by a pollutant.</p>

Proposed Final Version 2012 303(d) LIST (North Fork Forked Deer River Watershed cont.)

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE / TMDL Priority	Pollutant Source	COMMENTS
TN08010204 009 - 0200	UNNAMED TRIB TO CYPRESS CREEK	Crockett	3.19	Physical Substrate Habitat Alterations L	Channelization	Stream is Category 5. (One or more uses impaired.)
TN08010204 009 - 1000	CYPRESS CREEK	Crockett	13.0	Phosphorus M Low Dissolved Oxygen L Physical Substrate Habitat Alterations L Loss of biological integrity due to siltation L Escherichia coli NA	Nonirrigated Crop Production Channelization Undetermined Pathogen Source	Category 5. EPA approved a pathogen TMDL that addresses one of the known pollutants.
TN08010204 010 - 0100	BARNETT BRANCH	Gibson	15.6	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L	Nonirrigated Crop Production Channelization	Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 0200	DUFFY'S BRANCH	Gibson Madison	6.4	Loss of biological integrity due to siltation L	Nonirrigated Crop Production	Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 0300	DRY BRANCH	Gibson Madison	9.7	Loss of biological integrity due to siltation L	Nonirrigated Crop Production	Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 0400	CROOKED CREEK	Madison	5.0	Physical Substrate Habitat Alterations L Loss of biological integrity due to siltation L	Nonirrigated Crop Production Channelization	This stream is Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 0500	POPLAR CREEK	Madison	9.7	Physical Substrate Habitat Alterations L Loss of biological integrity due to siltation L	Land Development Channelization	This stream is Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 0600	JOHNSON CREEK	Madison	11.0	Physical Substrate Habitat Alterations L Loss of biological integrity due to siltation L	Nonirrigated Crop Production Channelization Land Development	This stream is Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 0700	DYER CREEK	Madison	30.6	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L Escherichia coli NA	Discharges from MS4 area Land Development Channelization	This stream is Category 5. EPA approved a pathogen TMDL that addresses one of the known pollutants.
TN08010204 010 - 0800	MOIZE CREEK	Madison	12.8	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L Escherichia coli NA	Discharges from MS4 area Channelization	This stream is Category 5. EPA approved a pathogen TMDL that addresses one of the known pollutants.
TN08010204 010 - 0900	DE LOACH CREEK	Madison	13.4	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L	Discharges from MS4 area Nonirrigated Crop Production Channelization	This stream is Category 5. The stream is impaired for one or more uses.

Proposed Final Version 2012 303(d) LIST (North Fork Forked Deer River Watershed cont.)

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE / TMDL Priority	Pollutant Source	COMMENTS
TN08010204 010 - 1000	MIDDLE FORK FORKED DEER RIVER	Crockett Gibson	9.5	Escherichia coli NA	Collection System Failure	Category 4a. EPA approved a pathogen TMDL that addresses the known pollutant.
TN08010204 010 - 1100	MATTHEWS CREEK	Madison	16.1	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L	Land Development Nonirrigated Crop Production Channelization	This stream is Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 1200	BEECH CREEK	Madison Crockett	23.8	Physical Substrate Habitat Alterations L Escherichia coli H	Nonirrigated Crop Production Channelization Pasture Grazing	Category 5. TMDLs needed.
TN08010204 010 - 1300	WARREN DITCH	Crockett	9.0	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L	Nonirrigated Crop Production Channelization	This stream is Category 5. The stream is impaired for one or more uses.
TN08010204 010 - 2000	MIDDLE FORK FORKED DEER RIVER	Madison Crockett	8.5	Loss of biological integrity due to siltation L Escherichia coli NA	Discharges from MS4 Area Nonirrigated Crop Production Land Development	Category 5. EPA approved a pathogen TMDL that addresses one of the known pollutants.
TN08010204 013 - 1000	GILME'S CREEK	Madison	15.3	Physical Substrate Habitat Alterations L	Channelization	Stream is Category 5. (One or more uses impaired.)
TN08010204 014 - 0100	DRY CREEK	Madison Carroll	9.0	Physical Substrate Habitat Alterations L Escherichia coli NA	Pasture Grazing Channelization	Category 5. EPA approved a pathogen TMDL that addresses some of the known pollutants.
TN08010204 014 - 0500	CANE CREEK	Henderson	17.8	Loss of biological integrity due to siltation L	Land Development Silviculture	Stream is Category 5. (One or more uses impaired.)
TN08010204 014 - 0600	SPRING CREEK	Henderson	19.2	Physical Substrate Habitat Alterations L Loss of biological integrity due to siltation L	Pasture Grazing Channelization	Stream is Category 5. (One or more uses impaired.)
TN08010204 014 - 0700	TYLER BRANCH	Henderson	2.39	Loss of biological integrity due to siltation L	Pasture Grazing	Stream is Category 5. (One or more uses impaired.)
TN08010204 014 - 0800	SIMMONS BRANCH	Henderson	2.98	Alteration in stream-side or littoral vegetative cover L Loss of biological integrity due to siltation L	Pasture Grazing	Stream is Category 5. (One or more uses impaired.)

Proposed Final Version 2012 303(d) LIST (North Fork Forked Deer River Watershed cont.)

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE / TMDL Priority	Pollutant Source	COMMENTS
TN08010204 014 - 0900	COURTNEY BRANCH	Henderson	5.61	Alteration in stream-side or littoral vegetative cover Loss of biological integrity due to siltation L L	Pasture Grazing	Stream is Category 5. (One or more uses impaired.)
TN08010204 014 - 1300	EUBANKS BRANCH	Madison	4.39	Flow Alteration NA	Upstream Impoundment	Category 4c. Impact not due to pollutant.
TN08010204 015 - 1000	TURKEY CREEK	Madison Gibson	24.3	Loss of biological integrity due to siltation Physical Substrate Habitat Alterations L L	Channelization Nonirrigated Crop Production Land Development	Category 5. The stream is impaired for one or more uses.
TN08010204 016 - 1000	SUGAR CREEK	Gibson Crockett	26.5	Loss of biological integrity due to siltation Physical Substrate Habitat Alterations L L	Nonirrigated Crop Production Channelization Land Development	Category 5. The stream is impaired for one or more uses.
TN08010204 017 - 0100	DAVIS CREEK	Gibson	32.6	Nitrate+Nitrite Phosphorus Physical Substrate Habitat Alterations Escherichia coli M M L NA	Nonirrigated Crop Production Channelization Undetermined Pathogen Source	Category 5. Impaired, but EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010204 017 - 0110	REAGAN CREEK	Gibson	13.3	Low Dissolved Oxygen Physical Substrate Habitat Alterations L L	Nonirrigated Crop Production Channelization	Stream is Category 5. (One or more uses impaired.)
TN08010204 017 - 1000	BUCK CREEK	Gibson	39.8	Low Dissolved Oxygen Phosphorus Loss of biological integrity due to siltation Physical Substrate Habitat Alterations Escherichia coli L M L L NA	Nonirrigated Crop Production Channelization Undetermined Pathogen Source	This stream is Category 5. The stream is impaired for one or more uses, however EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010204 020 - 0100	BUZZARD ROOST CREEK	Gibson	5.28	Physical Substrate Habitat Alterations Loss of biological integrity due to siltation L L	Nonirrigated Crop Production Channelization	This stream is Category 5. The stream is impaired for one or more uses.
TN08010204 020 - 0200	ROGERS BRANCH	Gibson	4.59	Physical Substrate Habitat Alterations Loss of biological integrity due to siltation L L	Nonirrigated Crop Production Channelization	This stream is Category 5. The stream is impaired for one or more uses.

Proposed Final Version 2012 303(d) LIST (South Fork Forked Deer River Basin cont.)

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE / TMDL Priority	Pollutant Source	COMMENTS
TN08010205 005 –1000	NIXON CREEK	Haywood	20.4	Loss of biological integrity due to siltation L Phosphorus M Physical Substrate Habitat Alterations L Escherichia coli NA	Nonirrigated Crop Production Channelization Discharges from MS4 area	Category 5. Impaired, but EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 010 –0100	KAIL CREEK	Crockett Haywood	27.4	Physical Substrate Habitat Alterations L Escherichia coli NA	Channelization Undetermined Pathogen Source	Category 5. EPA approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 010 –0200	JACOBS CREEK	Haywood	25.9	Physical Substrate Habitat Alterations L	Nonirrigated Crop Production Channelization	Category 5. The stream is impaired for one or more uses.
TN08010205 010 - 1000	SOUTH FORK FORKED DEER RIVER	Haywood Crockett	13.2	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L Escherichia coli NA	Nonirrigated Crop Production Channelization Undetermined Pathogen Source	Category 5. Impaired, but EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 011 – 1000	MUD CREEK	Haywood	42.9	Physical Substrate Habitat Alterations L	Channelization	Stream is Category 5. (One or more uses impaired.)
TN08010205 011 - 0100	PEARSONS CREEK	Crockett	13.9	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L	Nonirrigated Crop Production Channelization	Category 5. TMDLs needed.
TN08010205 012 – 0400	SANDY CREEK	Madison	4.3	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L Escherichia coli NA	Discharges from MS4 area Channelization	Category 5. Impaired, but EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 012 – 0500	CENTRAL CREEK	Madison	2.0	Physical Substrate Habitat Alterations L Escherichia coli NA	Discharges from MS4 area Channelization	Category 5. EPA approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 012 – 0600	ANDERSON BRANCH	Madison	5.2	Alteration in stream-side or littoral vegetative cover L Escherichia coli NA	Collection System Failure Discharges from MS4 Area	Category 5. Impaired, but EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 012 – 0700	BOND CREEK	Madison	9.7	Alteration in stream-side or littoral vegetative cover L Escherichia coli NA	Discharges from MS4 area Streambank Modifications	Category 5. Impaired, but EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 012 - 0900	HICKS CREEK	Madison	28.5	Loss of biological integrity due to siltation L	Sand/Rock/Gravel Mining	Stream is Category 5. (One or more uses impaired.)

Proposed Final Version 2012 303(d) LIST (South Fork Forked Deer River Basin cont.)

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE / TMDL Priority	Pollutant Source	COMMENTS
TN08010205 012 - 1000	SOUTH FORK FORKED DEER RIVER	Crockett Madison	21.6	Phosphorus M Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L Escherichia coli NA	Discharges from MS4 area Nonirrigated Crop Production Dredge Mining Sand/Rock/Gravel Mining Land Development Channelization	Category 5. The stream is impaired for one or more uses, however EPA has approved a pathogen TMDL that addresses some of the known pollutants.
TN08010205 012 - 1100	JOHNSON CREEK	Madison	44.2	Loss of biological integrity due to siltation L Physical Substrate Habitat Alterations L	Nonirrigated Crop Production Channelization	This stream is Category 5. The stream is impaired for one or more uses.
TN08010205 012 - 1200	CUB CREEK	Madison	2.07	Alteration in stream-side or littoral vegetative cover L Physical Substrate Habitat Alterations L Escherichia coli NA	Animal Feeding Operations (NPS) Pasture Grazing Channelization	Category 4A. Impaired, but EPA has approved a pathogen TMDL that addresses the known pollutants.
TN08010205 012 - 1400	PANTHER CREEK	Madison Heywood	21.1	Escherichia coli NA	Package Plant Pasture Grazing	Category 4A. EPA approved a pathogen TMDL that addresses the known pollutant.
TN08010205 017 - 2000	MERIDIAN CREEK	Madison	0.73	Flow Alteration NA	Upstream Impoundment	Category 4c. Impacts not caused by a pollutant.
TN08010205 023 - 0110	DRY BRANCH	Chester	12.0	Alteration in stream-side or littoral vegetative cover L Loss of biological integrity due to siltation L	Pasture Grazing	Category 5. TMDLs needed.
TN08010205 028 - 0150	BROWN CREEK	Madison	12.6	Loss of biological integrity due to siltation L	Land Development	Category 5. TMDL needed.
TN08010205 028 - 0600	UNNAMED TRIB TO THE NORTH FORK OF THE SOUTH FORK FORKED DEER RIVER	Henderson	10.77	Alteration in stream-side or littoral vegetative cover L Physical Substrate Habitat Alterations L	Pasture Grazing Channelization	Category 5. TMDL needed.
TN08010205 031 - 0100	LICK CREEK	Crockett	6.6	Physical Substrate Habitat Alterations L	Channelization	Category 5. TMDL needed.
TN08010205 031 - 0200	BEAR CREEK	Crockett	6.4	Physical Substrate Habitat Alterations L	Channelization	Category 5. TMDL needed.

## Hatchie River Basin

This basin contains the following USGS Hydrologic Unit Codes: 08010207 (Upper Hatchie River) and 08010208 (Lower Hatchie River).

Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE / TMDL Priority	Pollutant Source	COMMENTS
TN08010207 003 - 0100	COLONEL CREEK	Hardeman	8.82	pH L	Undetermined Source	Stream is Category 5. (One or more uses impaired.)
TN08010207 031 - 1000	CYPRESS CREEK	McNairy	16.7	Loss of biological integrity due to siltation L	Nonirrigated Crop Production Channelization	Stream is Category 5. (One or more uses impaired.)
TN08010207 031 - 1300	CROOKED CREEK	McNairy	16.7	Alteration in stream-side or littoral vegetative cover L Physical Substrate Habitat Alterations L Loss of biological integrity due to siltation L	Pasture Grazing Channelization	Stream is Category 5. (One or more uses impaired.)
TN08010207 031 - 1640	UNNAMED TRIB TO MUDDY CREEK	McNairy	3.2	Alteration in stream-side or littoral vegetative cover L	Nonirrigated Crop Production	Former reference stream now degraded. Category 5. (One or more uses impaired.)
TN08010207 031 - 4000	CYPRESS CREEK	McNairy	9.2	Temperature Alterations L	Upstream Impoundment	Category 5. (One or more uses impaired.)
TN08010207 035 - 0600	ROSE CREEK	McNairy	10.9	Escherichia coli H	Animal Feeding Operations (NPS)	Category 5. (One or more uses impaired.)
TN08010207 044 - 1000	TUSCUMBIA RIVER	McNairy	8.9	Loss of biological integrity due to siltation L	Sources Outside of State	Channelization in Mississippi. Stream is Category 5. (One or more uses impaired.) EPA or Mississippi should do TMDL.
TN08010207 072 - 0200	TALLEY SPRING BRANCH	Hardeman	4.3	Alteration in stream-side or littoral vegetative cover L	Pasture Grazing	Stream is Category 5. (One or more uses impaired.)
TN08010208 001 -0200	COPPER SPRINGS CREEK	Lauderdale	13.9	Total Phosphorus M Escherichia coli H	Nonirrigated Crop Production Pasture Grazing	Stream is Category 5. (One or more uses impaired.)
TN08010208 001 -0300	ALSTON CREEK	Lauderdale	18.74	Low Dissolved Oxygen L Total Phosphorus M Escherichia coli H	Municipal Point Source	Stream is Category 5. (One or more uses impaired.)
TN08010208 001 -0400	UNNAMED TRIB TO HATCHIE RIVER	Lauderdale	21.41	Low Dissolved Oxygen L Total Phosphorus M Escherichia coli H	Nonirrigated Crop Production Source Unknown	Stream is Category 5. (One or more uses impaired.)
<b>TN08010208 001 -0600</b>	<b>DRY BRANCH</b>	<b>Hardeman Madison</b>	<b>4.6</b>	<b>Physical Substrate Habitat Alterations L</b>	<b>Channelization</b>	<b>Stream is Category 5. (One or more uses impaired.)</b>
TN08010208 001 -0800	WADE CREEK	Hardeman Chester	26.9	Loss of biological integrity due to siltation NA Physical Substrate Habitat Alterations NA	Nonirrigated Crop Production Channelization	Category 4a. EPA approved siltation/habitat TMDLs that addresses the known pollutant.
TN08010208 001 -1110	UNNAMED TRIB TO CUB CREEK	Hardeman	4.16	Flow Alterations L	Upstream Impoundment	Impounded Stream Study Site. Category 4c. (Impact not caused by a pollutant.)



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Waterbody ID	Impacted Waterbody	County	Miles/Acres Impaired	CAUSE / TMDL Priority	Pollutant Source	COMMENTS
TN08010208 028 - 0100	UNNAMED TRIB TO GRAYS CREEK	Hardeman	3.13	Flow Alterations NA	Upstream Impoundment	Randomly selected for Impounded Streams Study. Category 4C. (Impairment is not caused by a pollutant.)
TN08010208 029 - 0100	DRY CREEK	Hardeman Madison	22.1	Loss of biological integrity due to siltation NA Physical substrate habitat alterations NA	Nonirrigated Crop Production Channelization	Category 5. EPA approved a siltation/habitat TMDL that addresses some of the known pollutants.
TN08010208 030 - 0100	TURKEY BRANCH	Madison	5.6	Loss of biological integrity due to siltation NA	Nonirrigated Crop Production	Category 4a. EPA approved a siltation TMDL that addresses the known pollutants.
TN08010208 031 - 1000	SUGAR CREEK	Haywood	10.5	Loss of biological integrity due to siltation NA Escherichia coli H	Nonirrigated Crop Production Discharges from MS4 area Highway/Bridge Construction Collection System Failure	Brownsville area impacts. Category 4a. EPA approved a siltation TMDL that addresses the known pollutants.
TN08010208 032 - 1000	CYPRESS CREEK	Haywood	19.2	Loss of biological integrity due to siltation NA Low dissolved oxygen L	Nonirrigated Crop Production	Category 5. EPA approved a siltation TMDL that addresses some of the known pollutants.
TN08010208 033 - 0100	CAMP CREEK	Lauderdale Haywood	20.2	Low dissolved oxygen L Total Phosphorus M Physical Substrate Habitat Alterations M Alteration in stream-side or littoral vegetative cover NA Loss of biological integrity due to siltation NA Escherichia coli H	Nonirrigated Crop Production Pasture Grazing	Stream is Category 5. EPA approved a siltation/habitat TMDL that addresses some of the known pollutants.
TN08010208 033 - 1000	LAGOON CREEK	Lauderdale Haywood	19.3	Low dissolved oxygen L	Undetermined Source	Stream is Category 5. (One or more uses impaired.)
TN08010208 034 - 0100	OLD CHANNEL OF NELSON CREEK	Lauderdale	0.76	Escherichia coli NA	Undetermined Pathogen Source	Category 4a. EPA has approved pathogen TMDL that addresses the known pollutant.
TN08010208 034 - 0200	NELSON CREEK	Lauderdale	10.6	Physical Substrate Habitat Alterations M	Channelization	Stream is Category 5. One or more uses impaired.
TN08010208 034 - 0300	HYDE CREEK	Lauderdale	20.54	Escherichia coli NA Loss of biological integrity due to siltation NA Physical Substrate Habitat Alteration L	Collection System Failure Nonirrigated Crop Production Channelization Urbanized High Density Area	Category 5. EPA approved pathogen and siltation TMDLs that address some of the known pollutants.
TN08010208 034 - 1000	CANE CREEK	Lauderdale	14.1	Physical Substrate Habitat Alterations L Loss of biological integrity due to siltation L	Nonirrigated Crop Production Channelization	Stream is Category 5. EPA has approved a copper TMDL for this segment.