

APPENDIX VII

List of 303(d) Waters in the Broad River Basin

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What is the 303(d) list?

Section 303(d) of the Clean Water Act (CWA) requires states to develop a list of waters not meeting water quality standards or which have impaired uses. Waters may be excluded from the list if existing control strategies for point and nonpoint source pollution will achieve the standards or uses. Listed waters must be prioritized, and a management strategy or total maximum daily load (TMDL) must subsequently be developed for all listed waters. The 303(d) process is presented in Figure 1.

303(d) List Development

Generally, there are four steps to preparing North Carolina's 303(d) list. They are (1) gathering information about the quality of North Carolina's waters, (2) screening those waters to determine if any are impaired and should be listed, (3) determining if a total maximum daily load (TMDL) has been developed, and (4) prioritizing impaired waters for TMDL development. This document also indicates whether the Division of Water Quality (DWQ) intends to develop a TMDL as part of a Management Strategy (MS) to restore the waterbody to its intended use. The following subsections describe each of these steps in more detail.

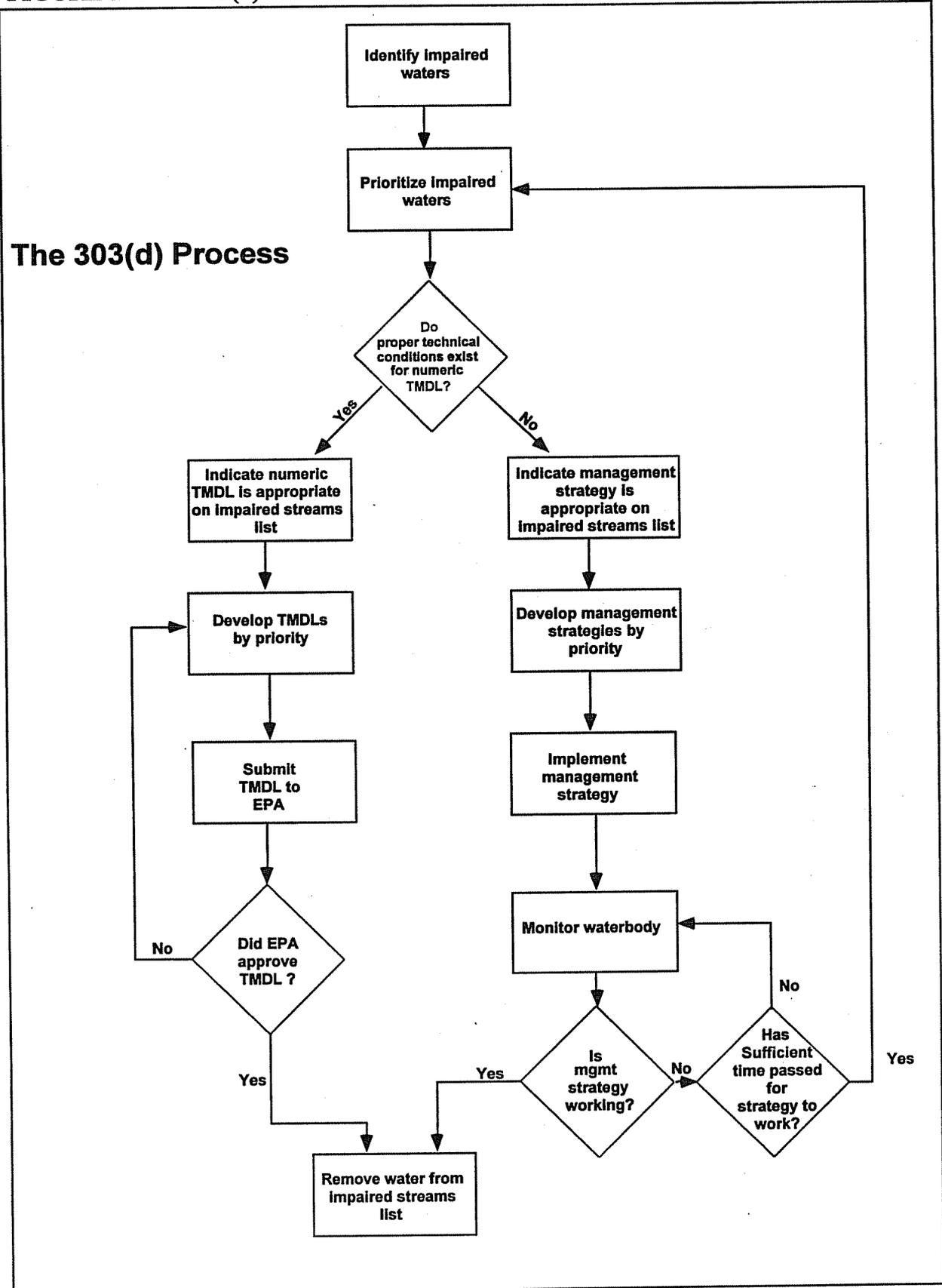
Sources of Information

For North Carolina, the primary sources of information are the basinwide management plans and accompanying assessment documents, which are prepared on a five-year cycle, and the 305(b) report, which is prepared biennially. Basinwide management plans include information concerning permitting, monitoring, modeling, and nonpoint source assessment by basin for each of the 17 major river basins within the state. Basinwide management allows the state to examine each river basin in detail and to determine the interaction between upstream and downstream point and nonpoint pollution sources. As such, more effective management strategies can be developed across the state.

The 305(b) report is used as a basis for developing the 303(d) list. Section 305(b) of the CWA requires states to report biennially to the U.S. Environmental Protection Agency (EPA) on the quality of waters in their state. In general, the report describes the quality of the state's surface waters, groundwaters, and wetlands, and existing programs to protect water quality. Information on use support, likely causes (e.g., sediment, nutrients, etc.) and sources (point sources, agriculture, etc.) of impairment are also presented.

Many types of information were used to make use support assessments and to determine causes and sources of use support impairment. Chemical, physical, and biological data collected by DWQ were the primary sources of information used to make use support assessments.

FIGURE 1. THE 303(d) PROCESS



North Carolina has an extensive ambient and biological monitoring network throughout the state. Benthic macroinvertebrate data, which indicate taxa richness and species diversity, are an important data source. North Carolina also collects fish tissue and fish community structure data, and phytoplankton bloom data that are used in the assessments. Shellfish closure data, fish kill data, reports, predictive modeling results, toxicity data, and self-monitoring data are considered when making final use support determinations.

Data from all readily available sources outside of DWQ are considered when evaluating use support. Many other agencies, universities, industries, point sources, and environmental groups collect data on North Carolina's surface waters. Published reports and data from ongoing studies that the DWQ has knowledge of are actively solicited during the assessment phase of the basin planning cycle. Data that are not collected and analyzed following procedures outlined by the Environmental Protection Agency (EPA) are used to quality assure other monitoring that may occur in the same water and identify areas to monitor in the future. The Division therefore uses all data.

Listing Criteria

Waters whose use support ratings were not supporting (NS), partially supporting (PS), and support threatened (ST) based on monitored information in the 305(b) report were considered as initial candidates for the 303(d) list. Although support threatened waters currently meet their intended uses, these waters were reviewed to determine if there were sufficient data to determine if they would become impaired in the next two years. The list was then compared to the 1996 303(d) list to determine if additional waters should be added that were included on that 303(d) list that are still considered as impaired based on evaluated information.

Fish consumption advisory information was then reviewed to determine if other waters should be added to the list. Fish consumption advisories are no longer considered when determining use support since the entire state was posted in June 1997 for the consumption of bowfin from mercury contamination. It should be noted that bowfin do not occur statewide; they are found primarily within the coastal plain. While fish consumption advisories do indicate impairment, DWQ did not want to mask other causes and sources of impairment by having the entire state or an entire basin listed as impaired due to advisories. However, DWQ believes that advisories on ~~specific waters are cause to include the water on the 303(d) list, therefore, advisories other than~~ statewide bowfin mercury contamination were considered when developing the state's 303(d) list.

Guidance from EPA on developing 1998 303(d) lists indicates that impaired waters without an identifiable problem parameter should not be included on the 303(d) list. However, DWQ feels that waters listed in the 305(b) report as impaired for biological reasons where problem parameters have not been identified, should remain on the 303(d) list. The Clean Water Act states that chemical, physical, and biological characteristics of waters shall be restored. The absence of a problem parameter does not mean that the waterbody should not receive attention. Instead, DWQ should at a minimum resample those areas or initiate studies to determine why the waterbody is impaired. Thus, biologically impaired waters without identifiable problem

parameters are on the 1998 303(d) list. Following is a summary of waters that were added to the Broad 303(d) list:

- Walnut Creek, Catheys Creek, and Beaverdam Creek were not included on the 1996 303(d) list. They have been added to the 1998 list based on updated use support information.

De-Listing Criteria

Waters included on the 1996 303(d) list were reviewed to determine if they may be removed from the list of impaired waters. If updated use support analyses indicated that the water was meeting its uses, the waterbody was dropped from the list. Other waters were dropped from the list if an approved TMDL is on file for the water and parameter listed.

Management strategies have been developed for a number of impaired waters. These waters remain on the list unless updated use support information indicated the water met its uses. In some cases, DWQ is confident that the management strategy will restore water quality, but it may take time to restore the water. For these waters, DWQ does not propose to do further modeling on the water, but the water will continue to be monitored to determine when it meets its uses. This approach is addressed further in the prioritization section of the document. A summary of waters that were removed from the 1996 303(d) list follows:

- The following waters are currently supporting their uses based on the latest techniques: Fall Creek, Green River, Little Hungry River, Pulliam Creek, Camp Creek, Cove Creek, Rixhaven Creek, Little Cove Creek, Hungry River, and North Pacolet River.
- The UT to Whiteoak Creek was not found in the 1997 use support information, but available data on Whiteoak Creek indicate the water meets its uses. The tributary was, therefore, dropped from the 303(d) list.
- Lick Branch was listed as two segments in previous 303(d) lists. These segments have been combined into one longer segment on the 1998 listing.
- Brushy Creek was formerly listed as one segment, but for this list was split into two segments. The most upstream segment has data that indicate improvement and was removed from the list. The downstream segment is still rated partially supporting and remains on the list. However, the downstream portion of Brushy Creek will be resampled since this rating is based on data more than 5 years old.

Assigning Priority

North Carolina is required to prioritize its 303(d) list in order to direct resources to those waters in greatest need of management. The Clean Water Act states that the degree of impairment (use support rating) and the uses to be made of the water (stream classification) are to be considered when developing the prioritization. In addition, DWQ reviews the degree of public interest and the probability of success when developing its prioritization schemes. Waters harboring endangered species are also given additional priority. A method to assign ratings to freshwaters

that have recent data indicating impairment has been devised based on these criteria. A summary of the prioritization scheme is included in Figure 2.

The prioritization process results in ratings of **high, medium, and low**. Generally, waters rated with the highest priority are classified for water supply, rated not supporting, and harbor an endangered species. Waters receiving a High priority are important natural resources for the state of North Carolina and generally serve significant human and ecological uses. High priority waters will likely be addressed first within their basin cycles.

EPA recently issued guidance that suggested states should develop TMDLs and management strategies on all of their impaired waters within the next eight to thirteen years. To meet this federal guidance, the DWQ is striving to address all waters on the 1998 303(d) list that have a priority of high, medium, or low within the next 10 years. Numeric TMDLs, if proper technical conditions exist, and management strategies will be developed for these waters. The DWQ is currently reviewing its resource needs in order to meet this aggressive schedule.

Other priorities have also been assigned to waters. A **Monitor** priority indicates that the waterbody is listed based on (1) data older than 5 years, (2) biological monitoring and no problem pollutant has been identified, or (3) biological monitoring that occurred in waters where we now have evidence that the biological criteria should not have been applied. These waters will be resampled before a restorative approach may be developed because more information is required about the cause of impairment. Further information on the monitoring approaches that have a Monitor priority is provided in the next section.

The final priority listed on the 303(d) list is N/A for not applicable. This priority was assigned to waters that DWQ believes will meet their uses based on the current management strategies. DWQ will not develop a new TMDL or management strategy for these waters unless data continue to indicate impairment and sufficient time has passed for the waterbody to respond to the management action. An example of this priority is a water impaired by a point source, and the pollutant causing the impairment has been completely removed from the point source.

Approaches to Restore Water Quality

~~EPA informed North Carolina at a TMDL workshop in January, that TMDLs must now be total, maximum, daily, and loads in order to be approved. Such a narrow definition of a TMDL severely limits states' abilities to develop numeric TMDLs. Given this narrow definition of a TMDL, North Carolina believes that TMDLs cannot be developed for waters impaired by sediment, turbidity, fecal coliform, and pH.~~

FIGURE 2. PRIORITY RANKING FOR FRESHWATERS

Each of the waters on the 303(d) list were ranked in order to prioritize DWQ's resources. The ranking is based on the classification, use support rating, presence of endangered species, degree of public interest, and the probability of success. This ranking can be represented by

$Rank = \Sigma$ (classification, use support rating, endangered species, public interest, probability of success)

Where the following numeric rankings were applied to the various categories:

Classification:

Water supply waters (WS-1, II, III, IV)	=	2
B	=	1
C	=	0
Supplemental classifications	=	+1
Tr (Trout fishing waters)		
NSW (Nutrient sensitive waters)		
HQW (High quality waters)		
ORW (Outstanding resource waters)		

Use Support Rating:

NS	=	1
PS	=	0

Endangered Species present:

Federally endangered	=	2
Other endangered or threatened	=	1
None present	=	0

Public interest expressed on particular water body:

Yes	=	1
No	=	0

Probability of success (subjective criteria depending upon problem parameters, type of sources of problem parameters, availability of technical tools to calculate numeric loads, NPS/319 priorities, etc.):

Yes	=	1
No	=	0

The sum of the individual category ranking is used to determine the priority for the impaired water body. If the overall rank is between 6 and 8, the water is prioritized as high. If the overall rank is between 3 and 5, the water body is prioritized medium, and overall ranks of below 3 are prioritized as low. Each category has equal weight in the determination of the overall ranking. For example, for Little Buffalo Creek in the Cape Fear River Basin, the overall ranking and priority of medium were determined as follows:

Category	Value	Comments	Rank
Classification	WS-IV	No supp classifications	2
Use support rating	NS	None	1
Public interest	No	None	0
Endangered species	Yes, federal	Cape Fear Shiner in subbasin 11	2
Prob of success	Sediment impaired, no standard, NPS sources	None	0
Total			5

DWQ believes that TMDLs are only one tool that can be used to prioritize and direct resources for the restoration of impaired waters. There are other tools that can be used. In the management strategy approach included on the 303(d) list, the state can work to identify the causes and sources of impairment and implement strategies to reduce those sources so that water quality can ultimately be restored. As part of the management strategy approach, North Carolina may be able to develop numeric targets such as percentage reductions or other metrics that do not meet EPA's current definition of an approvable TMDL. However, DWQ would like to have adequate data and a defensible modeling approach to minimize challenges of the numeric goals which can exhaust our limited resources. DWQ is reviewing its options to address these impaired waters, and staff are currently working together to develop a process to encourage local watershed management plans. This process could include a combination of voluntary and mandatory control strategies. We anticipate that we will receive stakeholder input on the process in mid to late 1998 after it is presented to and approved by the Department's administration. DWQ has confidence that this approach will be successful in restoring impaired waters. Management strategies developed with strong stakeholder input have been shown throughout the nation to be effective in restoring water quality.

For both the numeric TMDL approach and management strategies that include alternative numeric targets, DWQ needs to ensure that defensible targets are developed. In order to have technically defensible numeric targets, the proper technical conditions are needed. EPA's guidance published in the December 28, 1978 Federal Register defined proper technical conditions as having the analytical methods, modeling techniques, and database necessary to develop a technically defensible TMDL.

North Carolina and EPA are currently reviewing methods to develop numeric targets for fecal coliform and sediment. As better models and data become available, North Carolina will review its approach column to include more TMDLs if EPA revises its current definition of a TMDL. In the interim, DWQ will develop other numeric goals when data are available to support them.

The 303(d) list contains information on whether the Division plans to pursue a numeric TMDL as currently defined by EPA or whether it will pursue a management strategy (MS). Some waters must have more data collected on them to determine the causes and sources of pollution before a management strategy or TMDL can be devised. These include the waters that are ~~biologically impaired waters where no problem parameter has been identified or waters listed based on data older than five years.~~

It will be difficult to develop TMDLs or management strategies on waters where we have no problem pollutant identified even if the data were collected recently. DWQ proposes to collect more biological and chemical data to determine the causes and sources of the impairment for waters included on the list based on recent biological data. The approach for these waters is problem parameter identification or PPI. Monitor appears in the Priority column, corresponding to PPI in the approach column. DWQ will develop TMDLs or management strategies for these waters within two basin planning cycles from when data indicating causes and sources of impairment are available. We will collect this information on as many waters as resources allow during the next basin planning cycle. DWQ is beginning to collect this information in the Cape

Fear Basin this summer. We should have more information on our ability to identify the causes and sources of biological impairment these waters later this year.

Waters that are listed based on data older than 5 years may in fact be meeting their uses. Since many changes can occur within a watershed in a five-year period, conclusive information about a waterbed's use support cannot be made with older data. North Carolina will resample as many of these waters that have only historical data as staffing and time permit for subsequent updates of the basin plans and 303(d) list. Waters listed based on older information are indicated by a RES in the Approach column of the lists to denote that they will be resampled.

A TMDL or management strategy will not be developed for waters listed based on old data or an inappropriate use of biological criteria until we have updated sampling information that indicates the water is impaired. This process will ensure that DWQ has sufficient current information to determine if the impairment exists and to help identify the source of the impairment. This will enable DWQ to focus its limited resources on watersheds that are in greatest need of management.

If guidance is issued in the future which indicates that mandatory controls are to be placed on point or nonpoint sources on the basis that it is included on a state's 303(d) list, these controls should not be applied to waters listed based on older information or biological criteria that are not applicable to the water. Mandatory controls applied to these waters simply on the basis of being included on the 303(d) list could result in high costs to the regulated community with little or no environmental benefit.

Targeted Waters for TMDL Initiation by April 2000

North Carolina's focus for the next ten years is to develop strategies to restore impaired waters with a high, medium or low priority to their intended uses. Therefore, DWQ will spend significant resources deciding the best approaches and strategies for restoring waters. Some waters are impaired due to problem parameters that are not necessarily conducive to a TMDL. In these cases, DWQ believes that resources are better utilized by developing a management strategy instead of attempting to develop a technically defensible TMDL

Additional Guidance on Using the 303(d) List

The column headings in the 303(d) list refer to the following:

Class - The information in this column indicates the classification assigned to the particular waterbody. Stream classifications are based on the existing and anticipated best usage of the stream as determined through studies and information obtained at public hearings. The stream classifications are described in 15 A NCAC 2B .0300, and are summarized in Appendix I.

Wtrbdy - The number in this column refers to the DWQ subbasin in which the waterbody is located. The NRCS 14 digit hydrologic units nest within the DWQ subbasins. On the lakes tables, this column is entitled subbasin.

Problem Parameter - These are the causes of impairment as identified in the 305(b) report. Where no cause is listed, the rating was based on biological data, and available chemical data showed no impairment. These biological data may include benthic and fish habitat and community structure. When a problem parameter is identified, the parameter listed exceeded the state's water quality standards for that substance or was identified by scientific personnel during field studies (e.g., sediment). This parameter is a potential cause of the impairment, but there may be other, unidentified causes contributing to the impairment as well. Problem parameters included in the 303(d) list are outlined below:

- Chla - chlorophyll-a
- Cl - chlorine
- Cu - copper
- DO - dissolved oxygen
- Fecal - fecal coliform bacteria
- Hg - mercury
- NH3 - ammonia
- Nutr - nutrients
- Pb - lead
- pH - pH
- Sed - habitat impairment due to sediment
- Tox - toxicity
- Turb - turbidity
- Aq. Weeds - aquatic weeds

Rating - This column lists the overall use support rating. These values may be NS (not supporting), PS (partially supporting), and NE (not evaluated). A rating of not evaluated is typically assigned to waters that were sampled using biocriteria that may not apply or there is no data available on the water. These waters appeared on earlier lists, and they continue to be listed, but no TMDL or management strategy will be developed until we have updated information that the water continues to be impaired. For waters listed solely on the basis of fish consumption advisories, the rating may also be supporting (S) or supporting but threatened (ST). The 305(b) report describes these use support ratings further. On the lake tables, the overall use support rating is found in the column entitled "Overall use". Ratings for specific uses are found in the columns entitled "~~Fish Consump~~", "~~Aq. Life and Secondary Impact~~", "~~Swimming~~", and "~~Drinking Water~~". However, all lakes in the Broad River basin are rated as supporting their uses, so a lakes table is not included in this appendix.

Major Sources (P,NP) - This column indicates whether point (P) or nonpoint (NP) sources are the probable major sources of impairment.

Subcategory - This column breaks the probable point and nonpoint sources down further. A list describing what each number means is provided in Table 1.

TABLE 1. SOURCE SUBCATEGORIES

<i>Category</i>	<i>Subcategory</i>	<i>Description</i>
0		<u>Point Sources</u>
	01	Industrial
	02	Municipal
	03	Municipal pretreatment (indirect dischargers)
	04	Combined sewer overflows (end-of-pipe control)
	05	Storm sewers (end-of-pipe control)
	06	Schools
	08	Minor non-municipal
1		<u>Nonpoint sources</u>
10		<u>Agriculture</u>
	11	Non-irrigated crop production
	12	Irrigated crop production
	13	Specialty crop production (e.g., truck farming and orchard)
	14	Pasture land
	15	Range lots
	16	Feedlots – all types
	17	Aquaculture
	18	Animal holding/management areas
20		<u>Silviculture</u>
	21	Harvesting, reforestation, residue management
	22	Forest management
	23	Road construction/maintenance
30		<u>Construction</u>
	31	Highway/road/bridge
	32	Land development
40		<u>Urban Runoff</u>
	41	Storm sewers (source control)
	42	Combined sewers (source control)
	43	Surface runoff
	44	Finger canals
	45	Industrial
50		<u>Resource Extraction/Exploration/Development</u>
	51	Surface mining
	52	Subsurface mining
	53	Placer mining
	54	Dredge mining
	55	Petroleum activities

TABLE 1. SOURCE SUBCATEGORIES

<i>Category</i>	<i>Subcategory</i>	<i>Description</i>
	56	Mill tailings
	57	Mine tailings
	58	Abandoned mines
60		<u>Land Disposal (Runoff/Leachate from permitted areas)</u>
	61	Sludge
	62	Wastewater
	63	Landfills
	64	Industrial land treatment
	65	On-site wastewater systems (septic tanks, etc.)
	66	Hazardous waste
70		<u>Hydrologic/Habitat Modification</u>
	71	Channelization
	72	Dredging, sand dipping
	73	Dam construction
	74	Flow regulation
	75	Bridge construction
	76	Removal of riparian vegetation
	77	Streambank modification/destabilization
	78	Collapsed dam
80		<u>Other</u>
	81	Atmospheric deposition
	82	Waste storage/storage tank leaks
	83	Highway maintenance and runoff
	84	Spills
	85	In-place contaminants
	86	Natural
	87	Marinas, harbors
	88	Airport
	89	Military activities (off-road)
90		<u>Source Unknown</u>
	91	General erosion (road erosion)

Approach – This column indicates the approach DWQ will take to restore the waterbody. If more than one approach is listed, one is a TMDL. TMDLs are typically developed for DO, nutrients, ammonia, and metals. Management strategies are typically done for pH, sediment, turbidity, and fecal coliform. Further information on each approach is provided below.

TMDL – A numeric TMDL as currently defined by EPA will be developed (e.g. is total, maximum, daily, load).

MS – Management Strategy – These waters are on the list based on data collected within the five years prior to when the use support assessment was completed. A problem pollutant has been identified, but North Carolina cannot develop a numeric TMDL as EPA currently defines it. A management strategy may contain the following elements: further characterization of the causes and sources of impairment, numeric water quality goals other than TMDLs, and best management practices to restore the water.

RES – This waterbody was identified as being impaired based on water quality data that were greater than 5 years old at the time the use support assessment was performed. This waterbody will be resampled prior to TMDL or management strategy development to ensure the impairment continues to exist. This will enable the Division to focus its limited resources on watersheds that are in greatest need of management.

PPI – Problem Parameters Identification - Available chemical data do not show any parameters in violation of the standard, but biological impairment have been noted within the five years prior to use support assessment. DWQ will resample these waters for chemical and biological data to attempt to determine the potential problem pollutants. TMDLs or management strategies will be developed within 2 basin cycles of problem parameter identification.

Priority – Priorities of high, medium and low were assigned for waters identified as being impaired based on data that were not greater than 5 years of age at the time the use support assessment was done and for which a problem pollutant has been identified. All waters assigned a priority of high, medium, or low will be addressed within the next two basin cycles. The basis of these priorities is further explained in Appendix II. Priorities of monitor and N/A have also been assigned. Further explanation on each of these is provided below:

High – Waters rated High are important resources for the state of North Carolina in terms of human and ecological uses. Typically they are classified as water supplies, harbor federally endangered species, and are rated as not supporting. These waters will be addressed first within their basin cycles.

Medium – Waters rated Medium may be classified for water supply or primary recreational use, may have state endangered or other threatened species, and may be rated as partially or not supporting.

Low – Waters rated Low generally are classified for aquatic life support and secondary recreation (i.e., Class C waters), and harbor no endangered or threatened species.

Monitor – The waterbody is included on the 303(d) list based on: (1) data that are greater than 5 years of age when use support assessment done (denoted by RES in approach column) or (2) biological data collected within 5 years of use support assessment but no problem pollutant has been identified (available chemical data show full use support – denoted by PPI in approach column), and (3) freshwater biological criteria applied to swamp waters. In general, waters given this priority based on recent biological data will be sampled prior to waters listed based on older information and are therefore higher priority than waters listed based on older information or swamp waters. All waters with this priority will be resampled as resources allow. Waters with this priority will not have management strategy or TMDL developed for it before updated sampling or analyses of the biological criteria are done which indicates that the water continues to be impaired and a problem pollutant has been identified. Once updated sampling is done and problem pollutants have been identified, these waters will be addressed by either a management strategy or TMDL within two basin planning cycles (10 years). This approach will enable DWQ to focus its limited resources on watersheds that are in greatest need of management.

N/A – DWQ believes that its current management strategy will address the water quality impairment, but it may take a number of years before standards are met. In this case, DWQ plans to continue monitoring the water to determine if improvements are occurring, but no new management strategy or TMDL will be developed unless sufficient time has passed for improvement to occur, and data indicate the water is still impaired.

The lakes column entitled “Troph Status” refers to the trophic status of the lake, a relative description of the biological productivity of the lake. The lake may be hypereutrophic, eutrophic, mesotrophic, or oligotrophic. Oligotrophic lakes are nutrient poor and biologically unproductive, mesotrophic lakes have intermediate nutrient availability and biological productivity, eutrophic lakes are nutrient rich and highly productive, and hypereutrophic lakes are extremely eutrophic. As previously stated, all lakes in the Broad River Basin are supporting their uses, thus a lakes table does not appear in this appendix.

1998 303(d) LIST FOR THE BROAD RIVER BASIN

Name of Stream	Description	Class	Index #	Miles	Wtrbdy	Problem Parameter(s)	Overall Rating (P,NP)	Major Sources (P,NP) Subcategory	Approach	Priority
Walnut Creek	From source to Green River	C	9-29-44	8.3	30802	Sed	PS	NP 10	MS	Low
Cathays Creek	From dam at old Duke Power Co.'s Raw	C	9-41-13-(6)	3.8	30802	Sed	PS	NP,P 03,10	MS	Low
Hollands Creek	From Duke Power Co. Aux Raw	C	9-41-13-7-(3)	2.5	30802		NS	P 03	RES	Monitor
Buffalo Creek	Dam at Kings Min Res to US 74	C	9-53-(6)a	1.6	30801		PS	NP 10,30,60	RES	Monitor
Brushy Creek	From SR 1323 Cleveland Co to First Broad	C	9-50-29b	8.4	30804		PS	NP 11	RES	Monitor
Beaverdam Creek	From source to First Broad River	C	9-50-32	10.9	30804		PS	NP,P 10,30	PPI	Monitor
Lick Branch	From source to Buffalo Cr	C	9-53-11	3.2	30805	Sed	PS	NP,P 10,01	MS	Low

Definitions for approach:

TMDL - Proper technical conditions exist to develop a TMDL for this water body/pollutant. Usual approach for nutrients, DO, and all metals.

MS - A management strategy will be developed for this water body/pollutant. Usual approach for sediment, fecal, pH, and turbidity.

RES - Resample. Water body remains on the 303(d) list even though data are more than five years old. Waters will be resampled to obtain updated use support information.

PPI - Problem Parameter Identification. Biologically impaired waters will be resampled for biological and chemical data to attempt to determine potential problem parameters.

SWMP - Swamp Waters. Swamp waters previously evaluated using freshwater criteria will continue to be monitored and will be re-evaluated when swamp criteria are available.

