Appendix III

Use Support Methodology
and
Use Support Ratings

Multiple-Category Use Support Methods

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A. Introduction to Use Support

Surface waters are classified according to their best intended uses. Determining how well a waterbody supports its uses (*use support* status) is an important method of interpreting water quality data and assessing water quality.

Surface waters are rated *supporting and impaired*. These ratings refer to whether the classified uses of the water (such as water supply, aquatic life protection and recreation) are being met. For example, waters classified for fish consumption, aquatic life protection and secondary recreation (Class C for freshwater or SC for saltwater) are rated Supporting if data used to determine use support meet certain criteria. However, if these criteria were not met, then the waters would be rated as Impaired. Waters with inconclusive data are listed as Not Rated. Waters lacking data are listed as No Data. More specific methods are presented in Part C of this appendix.

In previous use support assessments, surface waters were rated fully supporting (FS), partially supporting (PS), not supporting (NS) and not rated (NR). FS was used to identify waters that were meeting their designated uses. Impaired waters were rated PS and NS, depending on their degree of degradation. NR was used to identify waters lacking data or having inconclusive data. The 2002 Integrated Water Quality Monitoring and Assessment Report Guidance issued by the EPA requested that states no longer subdivide the impaired category. In agreement with this guidance, North Carolina no longer subdivides the impaired category and rates waters as Supporting, Impaired, Not Rated or No Data.

Historically, the Supporting use support rating was also subdivided into fully supporting (FS) and fully supporting but threatened (ST). ST was used to identify waters that were fully supporting but had some notable water quality concerns and could represent constant, degrading or improving water quality conditions. North Carolina's past use of ST was very different from that of the US Environmental Protection Agency (EPA), which uses it to identify waters that demonstrate declining water quality (EPA Guidelines for Preparation of the Comprehensive State Water Quality Assessments [305(b) Reports] and Electronic Updates, 1997). Given the difference between the EPA and North Carolina definitions of ST and the resulting confusion that arose from this difference, North Carolina no longer subdivides the supporting category. However, these waters and the specific water quality concerns are identified in the Section B subbasin chapters so that data, management and the need to address the identified concerns are presented.

B. Interpretation of Data and Information

Data used in the use support assessments include biological data, chemical/physical data, lakes assessment data, fish consumption advisories from the NC Department of Health and Human Services, and swimming advisories and shellfish sanitation growing area classification from the NC Division of Environmental Health (as appropriate). Available land cover and land use information is also used, along with annual water supply reports from regional water treatment plant consultants.

Although there is a general procedure for analyzing the data and information for determining use support ratings, each waterbody is reviewed individually, and best professional judgment is applied during these determinations. Assessments are made on either a monitored (M) or evaluated (E) basis depending on the level of information available. Refer to Part E for more information on the basis of assessments.

When interpreting the use support ratings, it is important to understand its associated limitations and degree of uncertainty. The assessments are not intended to provide precise conclusions about pollutant budgets for specific watersheds. Rather, the intent of use support assessments is to gain an overall picture of water quality, to describe how well surface waters support the uses for which they were classified, and to document the potential contribution made by different pollution sources.

C. Assessment Methodology

Beginning in 2000 with the *Roanoke River Basinwide Water Quality Plan*, DWQ assesses ecosystem health and human health risk through the development of use support ratings for six categories: aquatic life and secondary recreation, fish consumption, shellfish harvesting, primary recreation, water supply and "other" uses. These categories are tied to the uses associated with the primary classifications applied to NC rivers and streams. A single water could have more than one use support rating corresponding to one or more of the six use support categories, as shown in the table below. For many waters, a use support category will not be applicable (N/A) to the use classification of that water (e.g., shellfish harvesting is only applied to Class SA waters). A full description of the classifications is available in the DWQ document titled: *Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina*.

	Use Support Categories					
Primary Classification	**Ecosystem Approach**	**Human Health Approach**				
	Aquatic Life/Secondary Recreation	**Fish Consumption**	**Primary Recreation**	**Water Supply**	**Shellfish Harvesting**	**Other**
C	X	X	N/A	N/A	N/A	X
SC	X	X	N/A	N/A	N/A	X
B	X	X	X	N/A	N/A	X
SB	X	X	X	N/A	N/A	X
SA	X	X	X	N/A	X	X
WS I – WS IV	X	X	N/A	X	N/A	X

Many types of information are used to determine use support ratings and to identify causes and sources of water quality impairment. A use support data file is maintained for each of the 17 river basins. All existing data pertaining to a stream segment for each applicable use support category are entered into its record and can include, but is not limited to, use support ratings, basis of assessment, biological data, ambient monitoring data, problem parameters and potential sources. The following describes the data and methodologies used to make use support

assessments for the surface water classifications (described in Section A, Chapter 3 of each basin plan) using the six use support categories. These methods will continue to be refined, as additional information becomes available.

Basis of Assessment

Supporting ratings are extrapolated up tributaries from monitored streams when no problematic dischargers or change in land use/cover are identified. Supporting ratings may also be applied to unmonitored tributaries where there is little land disturbance (e.g., national forests and wildlife refuges, wilderness areas or state natural areas). Problem parameters or sources (except general NPS) are not applied to unmonitored tributaries. Impaired ratings are not extrapolated to unmonitored tributaries. Refer to Part E for more information.

Problem Parameters

Where an ambient parameter is identified as a potential concern, the parameter is listed in the DWQ database and use support summary table. Where habitat degradation is identified by DWQ biologists based on site visits, it is listed and attempts are made to identify the type of habitat degradation (e.g., sedimentation, loss of woody habitat, loss of pools, loss of riffles, channelization, lack of riparian vegetation, streambed scour and bank erosion). Habitat evaluation methods are being developed to better identify specific types of habitat degradation.

Potential Sources

General nonpoint sources (NPS) and point sources (PS) of pollution are identified where there is sufficient information.

Aquatic Life and Secondary Recreation Use Support

The aquatic life and secondary recreation use support category is an ecosystem approach to assess whether aquatic life (benthic macroinvertebrates and fish) can live and reproduce in the waters of the state and whether waters support secondary recreation (i.e., wading, boating and minimal human body contact with water). This category is applied to all waters of the state. Biological data, ambient monitoring data and NPDES discharger data are all considered in assessing the aquatic life and secondary recreation use support category. The following is a description of each data type and methods used to assess how well a water is meeting the criteria for protection of aquatic life and secondary recreation.

Biological Data

There are two main types of biological data: benthic marcoinvertebrate and fish community. Where recent data for both benthic macroinvertebrates and fish communities are available, both are evaluated in assessing use support. It is important to note that where both ambient monitoring data and biological data are available, biological data are given greater weight.

In special situations, where there are currently insufficient biological data available, the basinwide planner will make a request of the DWQ Environmental Sciences Branch to determine whether a biological survey is appropriate. If a biological survey is appropriate, the use support

rating will be determined by the bioclassification resulting from the survey. If a biological survey is not appropriate, then the stream will be not rated.

Benthic Macroinvertebrate Bioclassifications

Criteria have been developed to assign bioclassifications ranging from Poor to Excellent to most benthic macroinvertebrate samples based on the number of taxa present in the pollution intolerant aquatic insect groups of *Ephemeroptera, Plecoptera* and *Trichoptera* (EPTs) and the Biotic Index (BI), which summarizes tolerance data for all taxa in each collection. The benthic macroinvertebrate bioclassifications are translated into use support ratings according to the following scheme:

Bioclassification	Use Support Rating
Excellent	Supporting
Good	Supporting
Good-Fair	Supporting
Fair	Impaired
Poor	Impaired

Due to the increased emphasis placed on Fair or Poor bioclassifications and the borderline nature of some bioclassification scores, sites should be resampled within 12-24 months after a Fair rating is obtained in 1999 and beyond, if this Fair rating will result in a lower use support rating or if data are from a site never sampled before. This resampling will be done to validate the Fair bioclassification. Such sites will not be given a use support rating until the second sample is obtained. The table below shows how a final use support rating is obtained for sites that are resampled.

New Benthic Macroinvertebrate Classifications (1999 and Beyond) and Data Causing a Decline in Use Support Ratings

Pre-1999 Bioclassification	1st sample Bioclassification	Draft Use Support Rating	2nd sample Bioclassification	Final Use Support Rating
N/A	Fair	Not Rated; resample	Good-Fair, Good or Excellent	Supporting
N/A	Fair	Not Rated; resample	Fair or Poor	Impaired
N/A	Poor	Impaired	N/A	Impaired
Good-Fair, Good or Excellent	Fair	Not Rated; resample	Good-Fair, Good or Excellent	Supporting
Good-Fair, Good or Excellent	Fair	Not Rated; resample	Fair or Poor	Impaired
Good-Fair, Good or Excellent	Poor	Impaired	N/A	Impaired

N/A – Not Applicable NR = Not Rated

The use of benthic macroinvertebrate data can be limited in some waters. The accumulation of swamp stream data over nearly a decade suggests that not all swamp streams support similar fauna. The development of swamp stream criteria is complex, and one set of criteria is not

appropriate for all swamp streams. Benthic macroinvertebrate data will not be used in waters characterized or classified by DWQ as swamp waters until the bioclassification criteria for these waters can be used with confidence. Benthic macroinvertebrate data are also not used to develop use support ratings for estuarine waters. Until bioclassification criteria for swamp and estuarine waters are developed, a designation of Not Rated will be used, and these waters will be listed as Not Rated for aquatic life and secondary recreation use support assessments.

Benthic macroinvertebrate data are used to provide bioclassifications for high elevation trout streams. The benthic macroinvertebrate data, while not a direct measure of the trout population, are a robust measure of stream integrity. Loss of canopy, increase in stream temperature, increased nutrients, toxicity and increased sedimentation will affect the benthic macroinvertebrate and fish communities. For these reasons, the benthic macroinvertebrate bioclassifications provide a valuable assessment of the integrity of trout waters.

A designation of Not Impaired may be used for flowing waters that are too small to be assigned a bioclassification (less than 4 meters in width), but meet the criteria for a Good-Fair or higher bioclassification using the standard qualitative and EPT criteria. This designation will translate into a use support rating of Supporting.

Fish Community Bioclassifications

The North Carolina Index of Biotic Integrity (NCIBI) is a method for assessing a stream's biological integrity by examining the structure and health of its fish community. The NCIBI incorporates information about species richness and composition, indicator species, trophic function, abundance and condition, and reproductive function. The NCIBI is translated into use support ratings according to the following scheme:

NCIBI	Use Support Rating
Excellent	Supporting
Good	Supporting
Good-Fair	Supporting
Fair	Impaired
Poor	Impaired

The NCIBI was recently revised by DWQ (NCDENR, 2001). Currently, the focus of using and applying the NCIBI is restricted to wadeable streams that can be sampled by a crew of four persons. Infrequently, larger wadeable streams can be sampled if there is a crew of six persons. The bioclassifications and criteria have also been recalibrated against regional reference site data (NCDENR, 2000a, 2000b and 2001a).

NCIBI criteria are applicable only to wadeable streams in the following river basins: Broad, Catawba, Savannah, Yadkin-Pee Dee, Cape Fear, Neuse, Roanoke, Tar-Pamlico, French Broad, Hiwassee, Little Tennessee, New and Watauga. Additionally, the NCIBI criteria are only applicable to streams in the piedmont portion of the Cape Fear, Neuse, Roanoke and Tar-Pamlico River basins. The definition of the "piedmont" for these four river basins is based upon a map of North Carolina watersheds (Fels, 1997). Specifically:

- In the Cape Fear River basin – all waters except for those draining the Sandhills in Moore, Lee and Harnett counties and the entire basin upstream of Lillington, NC.
- In the Neuse River basin -- the entire basin above Smithfield and Wilson, except for the south and southwest portions of Johnston County and eastern two-thirds of Wilson County.
- In the Roanoke River basin -- the entire basin in North Carolina upstream of Roanoke Rapids, NC and a small area between Roanoke Rapids and Halifax, NC.
- In the Tar-Pamlico River basin -- the entire basin above Rocky Mount, except for the lower southeastern one-half of Halifax County and the extreme eastern portion of Nash County.

NCIBI criteria have not been developed for:

- Streams in the Broad, Catawba, Yadkin-Pee Dee, Savannah, French Broad, Hiwassee, Little Tennessee, New and Watauga River basins which are characterized as wadeable first to third order streams with small watersheds, naturally low fish species diversity, cold water temperatures, and high gradient plunge-pool flows. Such streams are typically thought of as "Southern Appalachian Trout Streams".
- Wadeable streams in the Sandhills ecoregion of the Cape Fear, Lumber and Yadkin-Pee Dee River basins.
- Wadeable streams and swamps in the coastal plain region of the Cape Fear, Chowan, Lumber, Neuse, Pasquotank, Roanoke, Tar-Pamlico and White Oak River basins.
- All nonwadeable and large streams and rivers throughout the state.

Due to the increased emphasis placed on Fair or Poor bioclassifications and the borderline nature of some bioclassification scores, sites should be resampled within 12-24 months after a Fair rating is obtained in 1999 and beyond, if this Fair rating will result in a lower use support rating or if data are from a site never sampled before. This resampling will be done to validate the Fair bioclassification. Such sites will not be given a use support rating until the second sample is obtained. The table below shows how a final use support rating is obtained for sites that are resampled.

New Fish Community Classifications (1999 and Beyond) and Data Causing a Decline in Use Support Ratings				
Pre-1999 Bioclassification	**1st sample Bioclassification**	**Draft Use Support Rating**	**2nd sample Bioclassification**	**Final Use Support Rating**
N/A	Fair	Not Rated; resample	Good-Fair, Good or Excellent	Supporting
N/A	Fair	Not Rated; resample	Fair or Poor	Impaired
N/A	Poor	Impaired	N/A	Impaired
Good-Fair, Good or Excellent	Fair	Not Rated; resample	Good-Fair, Good or Excellent	Supporting
Good-Fair, Good or Excellent	Fair	Not Rated; resample	Fair or Poor	Impaired
Good-Fair, Good or Excellent	Poor	Impaired	N/A	Impaired

N/A – Not Applicable NR = Not Rated

Ambient Monitoring Data

Chemical/physical water quality data are collected through the DWQ Ambient Monitoring System. These data are downloaded from the Surface Water Information Management System for analysis. Total number of samples and percent of samples exceeding the NC water quality standards are evaluated for the development of use support ratings along with other data or alone when other data are not available. Where both ambient data and biological data are available, biological data are given greater weight.

When reviewing ambient data, a five-year window that ends on August 31 of the year of biological sampling is used. For example, if biological data are collected in a basin in 2000, then the five-year window for the ambient data would be September 1, 1995 to August 31, 2000. Selected ambient parameters are used to assess aquatic life/secondary recreation use support. These parameters include ammonia, dissolved oxygen, pH, chloride, arsenic, cadmium, chromium, nickel and lead. These parameters are measured against standards for a minimum of ten samples as follows:

Standards Violation	Rating
Criterion exceeded ≤10%	Supporting
Criterion exceeded 11-25%	Impaired

Data for copper, iron and zinc are not used according to the scheme outlined above. These metals have action level standards because they are generally not bioaccumulative and have variable toxicity to aquatic life depending on chemical form, solubility and stream characteristics. In order for an action level standard to be violated, there must be a toxicological test that documents an impact on a sensitive aquatic organism. The action level standard is used to screen waters for potential problems with copper, iron and zinc.

Metals data for copper and iron are screened at the 85^{th} percentile of five years of ambient data ending on August 31 of the year of biological sampling. Sites, other than estuarine and swamp waters, with an 85^{th} percentile of ≥20 µg/l of copper and/or ≥2000 µg/l of iron are identified and flagged for instream chronic toxicity testing by DWQ. Chronic toxicity testing in estuarine and swamp waters is not ecologically meaningful. Criteria are still being developed for zinc. If a stream does not have biological data that would deem a Supporting rating, then the stream can be rated Impaired for aquatic life if instream chronic toxicity is found. Criteria for evaluating instream chronic toxicity are three chronic pass/fail tests over three months using *Ceriodaphnia*. Two fails result in an Impaired rating.

It is important to note that some waters may exhibit characteristics outside the numerical standards due to natural conditions (e.g., many swamp waters are characterized by low pH and dissolved oxygen). These natural conditions do not constitute a violation of water quality standards.

NPDES Discharger Data

Aquatic Toxicity Data

For facilities that perform Whole Effluent Toxicity (WET) tests according to state NPDES discharge permit requirements, a review of the results of a five-year window that ends on August 31 of the year of biological sampling is used. For example, if biological data are collected in a basin in 2000, then the five-year window for the aquatic toxicity data would be September 1, 1995 to August 31, 2000. If a stream with a WET test facility has not been sampled for instream chronic toxicity, biological community data or has no ambient data, and that facility has failed three or more WET tests in the most recent two years, the stream is not rated. If failures continue, DWQ will work with the facility to correct the failures and assess stream impacts before the next basin sampling cycle begins with either a biological survey or instream chronic toxicity testing, if possible.

Discharge Effluent Data

NPDES effluent data are reviewed by analyzing monthly averages of water quality parameters over a two-year period of data ending on August 31 of the year of biological sampling in a basin. Prior to May 31, 2000, facilities were screened for criterion 40 percent in excess of state water quality standards for conventional pollutant limitations or 20 percent in excess of state water quality standards for toxic pollutants for two or more months during two consecutive quarters, or chronic violations of either conventional or toxic pollutant limitations for four or more months during two consecutive quarters.

After May 31, 2000, facilities are screened for criterion 20 percent in excess of state water quality standards for both conventional and toxic pollutants for two or more months during two consecutive quarters, or chronic violations of either conventional or toxic pollutant limitations for four or more months during two consecutive quarters. Streams with discharges that are in excess of permit limits will not be rated if no biological or ambient monitoring data are available. Therefore, streams will not be rated impaired based on effluent data alone. Appropriate DWQ staff will be given a list of these facilities for follow-up.

Fish Consumption Use Support

The fish consumption use support category is a human health approach to assess whether humans can safely consume fish from a water. This use support category is applied to all waters of the state. The use support rating is assigned using fish consumption advisories issued by the NC Department of Health and Human Services. If a limited fish consumption advisory or a no consumption advisory is posted at the time of use support assessment, the water is rated Impaired.

The current statewide limited fish consumption advisory for bowfin due to elevated levels of mercury in fish tissue is an exception. It is recognized that bowfin only live and reproduce in waters of the piedmont and coastal plain. Therefore, the use support ratings will be based on the combination of the current statewide fish consumption advisory for bowfin and the documented presence of bowfin in each river basin as found in *Freshwater Fisheries of North Carolina* (Menhinick, 1991). In river basins where there are documented populations of bowfin (Roanoke,

Chowan, Pasquotank, White Oak, Lumber, Neuse, Tar-Pamlico, Cape Fear, Yadkin and Catawba), all waters will be rated Impaired for the fish consumption category. In river basins where there are no documented populations of bowfin (Little Tennesee, Hiwassee, Savannah, Watauga, New, French Broad and Broad), the waters will be rated Supporting for the fish consumption category unless there is a site-specific advisory.

In order to separate this statewide advisory from other fish consumption advisories and to identify actual bowfin populations with high levels of mercury, only waters with fish tissue monitoring data are presented on the use support maps and in the use support summary tables of the basin plans. A review of the present methods for assessing the fish consumption use support category is being conducted, and methods may be modified in the future.

Primary Recreation Use Support

In addition to the use support categories applicable to Class C and SC waters, the primary recreation use support category will be assessed for all Class B, Class SA and Class SB waters where data are available. This use support category is a human health approach to assess whether waters support primary recreation activities such as swimming, water-skiing, skin diving and similar uses involving human body contact in an organized or frequent basis. The use support rating is based on swimming advisories issued by local health departments and by the NC Division of Environmental Health (DEH) beach monitoring program.

Freshwaters

Each January, the geometric mean for ambient stations in Class B waters for the previous sampling year is obtained, and a screen is conducted for waters with geometric means greater than 200 colonies per 100 ml. If the geometric mean is greater than 200 colonies per 100 ml during the previous year, fecal coliform bacteria are noted as a problem parameter, and a request is made of the DWQ regional office to sample this water five times within 30 days in June during non-runoff events, if possible. If this data, as required to assess the NC standard, indicate a geometric mean greater than 200 colonies per 100 ml, then the data are sent to DEH for consideration of posting swimming advisories. The DWQ regional office should continue to sample the stream five times within 30 days during the months of July and August and send the data to DEH.

When reviewing fecal coliform data and swimming advisories, a five-year window that ends on August 31 of the year of biological sampling is used. For example, if biological data are collected in a basin in 2000, then the five-year window for the fecal coliform data and swimming advisories would be September 1, 1995 to August 31, 2000. Monitored Class B waters are rated Supporting if the geometric mean over the five-year window is less than or equal to 200 colonies per 100 ml. If a water was posted with an advisory for at least two months or posted as "Do Not Swim" for more than two months within the five-year window, it is rated as Impaired unless DEH staff believes that the cause of elevated fecal bacteria is not persistent. Class B waters without fecal coliform data or swimming advisories are not rated.

DWQ attempts to determine if there are any inland swimming areas monitored by county or local health departments. County or local health departments are asked to list those waters with

swimming advisories posted for at least two months in the previous five years (ending on August 31 of the year of biological sampling).

Estuarine waters

Each January, the geometric mean for ambient stations in Class SB and SA waters for the previous sampling year is obtained, and a screen is conducted for waters with geometric means greater than 200 colonies per 100 ml. If the geometric mean is greater than 200 colonies per 100 ml during the previous year, fecal coliform bacteria are noted as a problem parameter, and a request is made of the DWQ regional office to sample this water five times within 30 days in June during non-runoff events, if possible. If this data, as required to assess the NC standard, indicate a geometric mean greater than 200 colonies per 100 ml, then the data are sent to DEH for consideration of posting swimming advisories. The DWQ regional office should continue to sample the stream five times within 30 days during the months of July and August and send the data to DEH.

DEH fecal coliform data are used to assess estuarine (SA and SB) waters. Each January, DEH submits a letter to DWQ stating which coastal waters were posted with an advisory reporting an increased risk from swimming during the prior year. When reviewing DEH fecal coliform data and swimming advisories, a five-year window that ends on August 31 of the year of biological sampling is used. For example, if biological data are collected in a basin in 2000, then the five-year window for the DEH fecal coliform data and swimming advisories would be September 1, 1995 to August 31, 2000. If a water was posted with an advisory for at least two months or posted as "Do Not Swim" for more than two months within the five-year window, it is rated as Impaired unless DEH staff believes that the cause of elevated fecal bacteria is not persistent. If DEH has no data on a water, that water will not be rated.

Shellfish Harvesting Use Support

The shellfish harvesting use support category is a human health approach to assess whether shellfish can be commercially harvested and is therefore applied only to Class SA waters. The following data sources are used to determine use support ratings for shellfish waters and to determine causes and sources of impairment for these waters.

Division of Environmental Health (DEH) Shellfish Sanitation Surveys

DEH is required to classify all shellfish growing areas as to their suitability for shellfish harvesting. Estuarine waters are delineated according to DEH shellfish management areas (e.g., Outer Banks, Area H-5) which include Class SA, SB and SC waters. DEH samples growing areas regularly and reevaluates the areas by conducting shellfish sanitation surveys every three years to determine if their classification is still applicable. DEH classifications may be changed after the most recent sanitary survey. Classifications are based on DEH fecal coliform bacteria sampling, locations of pollution sources, and the availability of the shellfish resource. Growing waters are classified as follows:

DEH Classification	DEH Criteria
Approved (APP)	**Fecal Coliform Standard for Systematic Random Sampling:** The median fecal coliform Most Probable Number (MPN) or the geometric mean MPN of the water shall not exceed 14 per 100 milliliters (ml), and the estimated 90th percentile shall not exceed an MPN of 43 MPN per 100 ml for a 5-tube decimal dilution test. **Fecal Coliform Standard for Adverse Pollution Conditions Sampling:** The median fecal coliform or geometric mean MPN of the water shall not exceed 14 per 100 ml, and not more than 10 percent of the samples shall exceed 43 MPN per 100 ml for a 5-tube decimal dilution test.
Conditionally Approved-Open (CAO)	Sanitary Survey indicates an area can meet approved area criteria for a reasonable period of time, and the pollutant event is known and predictable and can be managed by a plan.
Conditionally Approved-Closed (CAC)	Sanitary Survey indicates an area can meet approved area criteria for a reasonable period of time, and the pollutant event is known and predictable and can be managed by a plan.
Restricted (RES)	Sanitary Survey indicates limited degree of pollution, and the area is not contaminated to the extent that consumption of shellfish could be hazardous after controlled depuration or relaying.
Prohibited (PRO)	No Sanitary Survey; point source discharges; marinas; data do not meet criteria for Approved, Conditionally Approved or Restricted Classification.

Assigning Use Support Ratings to Shellfish Harvesting Waters (Class SA)

It is important to note that DEH classifies all actual and potential growing areas (which includes all saltwater and brackish water areas) for their suitability for shellfish harvesting. Thus, the DWQ Class SA waters must be separated out and rated for shellfish harvesting use support. The acreage of Supporting and Impaired waters are calculated using GIS showing DWQ and DEH classifications as attribute information. However, the DEH "Closed" polygon coverage includes CAC, RES and PRO classifications, and it is not currently possible to separate out the PRO from the RES areas. Therefore, these areas are a combined polygon coverage, and DWQ rates these waters as Impaired.

DWQ use support ratings may be assigned to separate segments within DEH management areas. In assessing use support, the DEH classifications and management strategies are only applicable to those areas that DWQ Class SA (shellfish harvesting waters). This will result in a difference of acreage between DEH areas classified as CAC, PRO, RES and DWQ waters rated as Impaired. For example, if DEH classifies a 20-acre area CAC, but only 10 acres are Class SA, only those 10 acres of Class SA waters are rated as Impaired.

Sources of fecal coliform bacteria are more difficult to separate out for Class SA areas. DEH describes the potential sources in the sanitary surveys, but they do not describe specific areas affected by these sources. Therefore, in the past, DEH identified the same sources for all Class SA sections of an entire management area (e.g., urban runoff and septic systems). Until a better way to pinpoint sources is developed, this procedure will continue to be used. A point source discharge is only listed as a potential source when NPDES permit limits are exceeded.

DWQ and DEH are developing the database and expertise necessary to assess shellfish harvesting use support using a frequency of closures-based approach. This database will allow DWQ to better assess the extent and duration of closures in Class SA waters. These tools will not be available for use support determinations in Class SA waters for the 2001 White Oak, 2002 Neuse and 2003 Lumber River basin use support assessments. DWQ believes it is important to identify frequency of closures in these waters, so an interim methodology will be used based on existing databases and GIS shapefiles. There will likely be changes in reported acreages in future assessments using the permanent methods and tools that result from this project. DWQ and DEH hope to have these tools fully developed for using the frequency of closure-based methods for the 2005 Cape Fear River use support assessment and basin plan.

Interim Frequency of Closure-Based Assessment Methodology

The interim method will be used for the 2001 White Oak, 2002 Neuse and 2003 Lumber River basin use support assessments. Shellfish harvesting use support ratings for Class SA waters using the interim methodology are summarized below.

Interim Frequency of Closure-Based Use Support Ratings

Percent of Time Closed within Basin Data Window	DEH Growing Area Classification	DWQ Use Support Rating
N/A	Approved*	Supporting
Closed ≤10% of data window	Portion of CAO closed ≤10% of data window	Supporting
Closed >10% of the data window	Portion of CAO closed >10% of data window	Impaired
N/A	CAC and P/R**	Impaired

* Approved waters are closed only during extreme meteorological events (hurricanes).

** CAC and P/R waters are rarely opened to shellfish harvesting.

For CAO areas, DWQ will work with DEH to determine the number of days and acreages that CAO Class SA waters were closed to shellfish harvesting during a five-year window of data that ends on August 31 of the year of biological sampling. For example, if biological data are collected in a basin in 2000, then the five-year window for data review would be September 1, 1995 to August 31, 2000. For each growing area with CAO Class SA waters, DEH and DWQ staff will define subareas within the CAO area that were opened and closed at the same time. The number of days these CAO areas were closed will be determined using DEH proclamation summary sheets and the original proclamations.

The number of days that APP areas in the growing area were closed due to preemptive closures because of named storms are not counted. For example, all waters in growing area E-9 were preemptively closed for Hurricane Fran on September 5, 1996. APP waters were reopened September 20, 1996. Nelson Bay (CAO) was reopened September 30, 1996. This area was considered closed for 10 days after the APP waters were reopened.

Proposed Permanent Frequency of Closure-Based Assessment Methodology

Over the next few years DWQ, DEH, Division of Coastal Management (DCM) and Division of Marine Fisheries (DMF) will be engaged in developing a fully functionally database with related georeferenced (GIS) shellfish harvesting areas. The new database and GIS tools will be valuable for the above agencies to continue to work together to better serve the public. DWQ proposes to use information generated by these new tools to do frequency of closure-based shellfish harvesting use support assessments in Class SA waters, starting with the 2005 Cape Fear River basin use support assessment.

Using the new database with georeferenced areas and monitoring sites, DEH will be able to report the number of days each area was closed excluding closures related to named storms. The percent of the five-year data window that individual Class SA waters are closed will be used to make use support determinations for areas that are classified by DEH as CAO. PRO, RES and CAC areas will be rated Impaired and CAO areas will be rated Supporting or Impaired based on the methodology outlined above in the interim methods. Growing areas that have been reclassified by DEH during the data window from a lower classification to APP will be rated FS. Areas that are reclassified from APP to CAO during the data window will be rated as described above in the interim methods, taking into account the total days closed during the data window, including when the area was classified as APP.

Water Supply Use Support

This use support category is used to assess all Class WS waters and is a human health approach to assess whether a water can be used for water supply purposes. Many drinking water supplies in NC are drawn from human-made reservoirs that often have multiple uses.

Water supply use support is assessed using information from the seven regional water treatment plant (WTP) consultants. Each January, the WTP consultants submit a spreadsheet listing closures and water intake switch-overs for all water treatment plants in their region. This spreadsheet describes the length and time of the event, contact information for the WTP, and the reason for the closure or switch.

The WTP consultants' spreadsheets are reviewed to determine if any closures/switches were due to water quality concerns. Those closures/switches due to water quantity problems and reservoir turnovers are not considered for use support. The frequency and duration of closures/switches due to water quality concerns are considered when assessing use support. In general, North Carolina's surface water supplies are currently rated supporting. Specific criteria for rating waters impaired are yet to be determined.

Other Uses: All Waters in the State

This category of use will be assessed infrequently but could be applied to any water in the state. Examples of uses that could fall into this category are aesthetics and industrial and agricultural water supply. This category allows for the assessment of any use that is not considered for aquatic life and secondary recreation, primary recreation, fish consumption, shellfish harvesting or water supply.

D. Use of Outside Data

DWQ actively solicits outside data and information in the year before biological sampling in a particular basin. The solicitation allows approximately 60 days for data to be submitted. Data from sources outside DWQ are screened for data quality and quantity. If data are of sufficient quality and quantity, they may be incorporated into use support assessments. A minimum of ten samples for more than a one-year period is needed to be considered for use support assessments.

The way the solicited data are used depends on the degree of quality assurance and quality control of the collection and analysis of the data as detailed in the 2000 303(d) report and shown in the table below. Level 1 data can be use with the same confidence as DWQ data to determine use support ratings. Level 2 or Level 3 data may be used to help identify causes of pollution and problem parameters. They may also be used to limit the extrapolation of use support ratings up or down a stream segment from a DWQ monitoring location. Where outside data indicate a potential problem, DWQ evaluates the existing DWQ biological and ambient monitoring site locations for adjustment as appropriate.

Criteria Levels for Use of Outside Data in Use Support Assessments

Criteria	Level 1	Level 2	Level 3
Monitoring frequency of at least 10 samples for more than a one-year period	Yes	Yes/No	No
Monitoring locations appropriately sited and mapped	Yes	Yes	No
State certified laboratory used for analysis according to 15A NCAC 2B .0103	Yes	Yes/No	No
Quality assurance plan available describing sample collection and handling	Yes, rigorous scrutiny	Yes/No	No

E. Monitored vs. Evaluated

Assessments are made on either a monitored (M) or evaluated (E) basis depending on the level of information available. Because a monitored rating is based on the most recent five-year window and site-specific data, it is treated with more confidence than an evaluated rating.

Supporting ratings are extrapolated up tributaries to monitored streams where there are no dischargers with permit violations or changes in land use/cover. Problem parameters or sources (except general NPS) are not applied to unmonitored tributaries. Impaired ratings are not applied to unmonitored tributaries. Refer to the following summary for the basis of assigning use support ratings.

Summary of Basis for Assigning Use Support Ratings to Surface Waters			
Use Support Status	**Overall Basis**	**Specific Basis**	**Description**
Supporting/ Impaired	Monitored	Monitored (M)	Monitored stream segments[a] with data[b] ≤5[c] years old where a bioclassification has been assigned to the sampling site and/or ambient and/or fish tissue data exist and/or DEH shellfish growing area data and/or information on posted swimming closures are available; may be applied to any use support category being assessed.
Not Rated		Monitored (M)	Monitored stream segments[a] with data[b] ≤5[c] years old where a bioclassification has not been assigned to the sampling site; can only be applied to the Aquatic Life/Secondary Recreation use support category.
Supporting		Monitored/Evaluated (ME)	Stream segment[a] is not monitored, but is assigned a use support rating based on another segment of same stream for which data[b] ≤5[c] years old are available where a bioclassification has been assigned to the sampling site and/or ambient data are available and the segment is given a Supporting rating; can only be applied to the Aquatic Life/Secondary Recreation use support category.
Supporting	Evaluated	Evaluated (E)	Applied to unmonitored streams that are direct or indirect tributaries to monitored stream segments rated Supporting in the Aquatic Life/Secondary Recreation use support category that share similar land use to the monitored stream segment; waters in the Water Supply use support category where no significant problems have been noted in the Regional Surface Water Supply Reports; waters in the Fish Consumption use support category in river basins that do not contain documented populations of bowfin.
Impaired		Evaluated (E)	Only applied to waters in the Fish Consumption use support category in river basins that contain documented populations of bowfin.
Not Rated		Evaluated (E)	Unmonitored streams that receive effluent from a NPDES discharger that has been found to be in "significant noncompliance" or has failed three or more WET tests during the two-year review period; only applied to the Aquatic Life/Secondary Recreation use support category.
No Data (ND)			Insufficient or no data available to determine use support; includes unmonitored streams that are direct or indirect tributaries to stream segments rated Impaired.

a) A stream segment is a stream, or a portion thereof, listed in the Classifications and Water Quality Standards for a river basin. Each segment is assigned a unique identification number (index number).
b) Major data sources include benthic macroinvertebrate and fish community bioclassifications and chemical/physical monitoring data.
c) From the year that basin monitoring was done.

F. Nutrient Enrichment Issues

One of the main causes of impacts to lakes is nutrient enrichment, or eutrophication. Several water quality variables help to describe the level of eutrophication. These include pH, chlorophyll *a*, dissolved oxygen, phosphorus, nitrogen, turbidity, total dissolved gases and other quantitative indicators, some of which have specific water quality standards. It is generally agreed that excessive amounts of nitrogen and phosphorus are the principal culprits in eutrophication related use impairment. These variables are important concerns; however, climate, hydrology and biological response factors (chlorophyll, phytoplankton, fish kills, etc.) are also essential to evaluate because they may control the frequency of episodes related to potential use impairment. In addition, many of North Carolina's lakes are human-made reservoirs that do not mimic natural systems.

Violations of water quality standards in lakes or estuaries are not equated with use impairment unless uses are not met. DWQ does not determine eutrophication related use impairment with the quantitative assessment of an individual water quality variable (i.e., chlorophyll *a*). Likewise, DWQ does not depend on a fixed index composed of several water quality variables, which does not have the flexibility to adapt to numerous hydrological situations, to determine use impairment. Instead, the weight of evidence approach is used to determine use support in lakes. This approach can be flexibly applied depending on the amount and quality of available information. The approach uses the following sources of information:

- multiple quantitative water quality variables (e.g., dissolved oxygen, chlorophyll *a*)
- third party reports
- analysis of water quality or aesthetic complaints, and taste and odor observations
- algal bloom reports
- macrophyte observations
- fish kill reports
- frequency of noxious algal activity
- reports/observations of the NC Wildlife Resources Commission, lake associations and water treatment plant operators

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_____. BAU. 2001b. *Fish Community Metric Re-Calibration and Biocriteria Development for the Western and Northern Mountains (French Broad, Hiwassee, Little Tennessee, New and Watauga River Basins)*. January 05, 2001. *Ibid*.

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
NEUSE RIVER	From source (confluence of Eno River Arm of Falls Lake and Flat River Arm of Falls Lake) to I-85 bridge	WS-IV NSW CA	030401	2,703.6	0.0	0.0	S	M			
Eno River	From source to a point 0.4 mile upstream of Dry Run	WS-II NSW	030401	0.0	2.2	0.0	S	M	NP		
East Fork Eno River (Lake Orange)	From source to Eno River	WS-II NSW	030401	143.6	0.0	0.0	S	M	NP		
Sevenmile Creek	From source to a point 0.4 mile upstream of I-85	WS-II NSW	030401	0.0	5.8	0.0	S	M			
Sevenmile Creek	From a point 0.4 mile upstream of I-85 to Lake Ben Johnston, Eno River	WS-II NSW CA	030401	0.0	1.6	0.0	S	M			
Eno River	From Orange County SR 1561 to U. S. Highway 501	WS-IV&B NSW	030401	0.0	16.2	0.0	S	M			
Eno River	From U. S. Highway 501 to a point 0.5 mile upstream of City of Durham emergency pumping facility raw water intake (Lat: 36 04’ 40" Long: 78 53’ 00")	WS-IV NSW	030401	0.0	1.6	0.0	S	M			
Eno River	From a point 0.5 mile upstream of Durham emergency pumping facility raw water intake to Durham emergency pumping facility raw water intake	WS-IV NSW CA	030401	0.0	0.4	0.0	S	M			
Eno River (including the Eno River Arm of Falls Lake)	From City of Durham emergency pumping facility raw water intake to a point 0.5 mile upstream of Little River	WS-IV NSW	030401	0.0	4.3	0.0	S	M			
Eno River (including the Eno River Arm of Falls Lake)	From a point 0.5 mile upstream of Little River to Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.6	0.0	S	M			
Little River	From source to a point 0.1 mile upstream of Durham County SR 1461	WS-II NSW	030401	0.0	2.3	0.0	S	M			
South Fork Little River	From source to Little River	WS-II NSW	030401	0.0	18.5	0.0	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
North Fork Little River	From source to Little River	WS-II NSW	030401	0.0	20.6	0.0	S	M			
Little River (Little River Reservoir)	From a point 0.1 mile upstream of Durham County SR 1461 to dam at Little River Reservoir	WS-II NSW CA	030401	32.4	0.0	0.0	S	M			
Little River	From a point 0.9 mile upstream of mouth to Eno River Arm of Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.9	0.0	S	M			
Flat River	From source to a point 2.0 miles downstream of Durham County SR 1614	WS-III NSW	030401	0.0	9.1	0.0	S	M			
North Flat River	From source to Flat River	WS-III NSW	030401	0.0	16.4	0.0	S	M			
South Flat River	From source to Flat River	WS-III NSW	030401	0.0	17.6	0.0	S	M			
Deep Creek	From source to Flat River	WS-III NSW	030401	0.0	16.3	0.0	S	M			
Flat River (Lake Michie)	From a point 2.0 miles downstream of Durham County SR 1614 to dam at Lake Michie	WS-III NSW CA	030401	471.7	0.0	0.0	S	M			
Flat River	From dam at Lake Michie to a point 0.2 miles upstream of Durham County SR 1004	WS-IV NSW	030401	0.0	1.1	0.0	I	M			Upstream Impoundment
Knap of Reeds Creek (including Butner Lake below normal water elevation 356 ft. MSL)	From a point 0.3 mile upstream of mouth of Camp Creek to dam at Lake Butner	WS-II NSW CA	030401	323.8	0.0	0.0	S	M			
Knap of Reeds Creek	From dam at Butner Lake to a point 1.9 miles downstream of Granville County SR 1120	WS-IV NSW	030401	0.0	4.6	0.0	I	M		Habitat degradation	
Knap of Reeds Creek	From a point 1.9 miles downstream of Granville County SR 1120 to Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.6	0.0	I	M			
Ellerbe Creek	From source to I-85 Bridge	C NSW	030401	0.0	3.1	0.0	I	M	NP	Habitat degradation	

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Ellerbe Creek	From I-85 Bridge to a point 0.2 mile upstream of Durham County SR 1636	WS-IV NSW	030401	0.0	7.3	0.0	I	M	NP, P	Habitat degradation	
Ellerbe Creek	From a point 0.2 mile upstream of Durham County SR 1636 to Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.6	0.0	I	M	NP, P	Habitat degradation	
NEUSE RIVER (Falls Lake below normal pool elevation)	From I-85 bridge to dam at Falls Lake	WS-IV&B NSW CA	030401	9,530.3	0.0	0.0	S	M			
Little Lick Creek	From source to a point 0.4 mile upstream of Durham County SR 1811	WS-IV NSW	030401	0.0	7.2	0.0	I	M	NP	Habitat degradation	
Little Lick Creek (including portion of Little Lick Creek Arm of Falls Lake)	From a point 0.4 mile upstream of Durham SR 1811 to Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.6	0.0	I	M	NP	Habitat degradation	
Ledge Creek (Lake Rogers)	From a point 1.0 mile downstream of I-85 to dam at Creedmoor Water Supply Reservoir	WS-II NSW CA	030401	140.7	0.0	0.0	S	M			
Ledge Creek (including portion of Ledge Creek Arm of Falls Lake)	From Granville County SR 1724 to Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.6	0.0	S	M			
Lick Creek	From source to Wake County SR 1809	WS-IV NSW	030401	0.0	6.5	0.0	I	M	NP	Habitat degradation	
Lick Creek	From Wake County SR 1809 to Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.7	0.0	I	M	NP	Habitat degradation	
Smith Creek	From source to a point 0.5 mile downstream of Granville County SR 1711	C NSW	030401	0.0	1.5	0.0	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Smith Creek	From a point 0.5 mile downstream of Granville County SR 1711 to a point 0.4 mile upstream of mouth	WS-IV NSW	030401	0.0	5.7	0.0	S	M			
Smith Creek	From a point 0.4 mile upstream of mouth to Beaverdam Reservoir, Beaverdam Creek	WS-IV NSW CA	030401	0.0	0.5	0.0	S	M			
New Light Creek	From source to Wake County SR 1911	WS-IV NSW	030401	0.0	1.8	0.0	S	M			
Upper Barton Creek	From source to a point 0.5 mile upstream of Wake County SR 1844	WS-IV NSW	030401	0.0	4.9	0.0	S	M	NP		
Upper Barton Creek	From a point 0.5 mile upstream of Wake County SR 1844 to Falls Lake, Neuse River	WS-IV NSW CA	030401	0.0	0.6	0.0	S	M			
Horse Creek	From a point 0.3 mile upstream of Franklin County SR 1139 to a point 0.1 mile downstream of Wake County SR 1923	WS-IV NSW	030401	0.0	6.0	0.0	NR	M			
NEUSE RIVER	From dam at Falls Lake to mouth of Beddingfield Creek	C NSW	030402	0.0	25.9	0.0	S	M			
Richland Creek	From source to Neuse River	C NSW	030402	0.0	8.6	0.0	S	M			
Smith Creek	From dam at Wake Forest Reservoir to Neuse River	C NSW	030402	0.0	5.8	0.0	S	M			
Toms Creek (Mill Creek)	From source to Browns Laker	C NSW	030402	0.0	1.6	0.0	NR	M			
Toms Creek (Mill Creek)	From Browns Lake to Neuse River	C NSW	030402	0.0	1.5	0.0	I	M	NP, P	Chlorine	Package Plants (Small Flows)
Perry Creek (Greshams Lake)	From source to dam at Greshams Lake	B NSW	030402	0.0	2.4	0.0	I	M	NP	Habitat degradation	
Perry Creek	From dam at Greshams Lake to Neuse River	C NSW	030402	0.0	2.5	0.0	I	M	NP	Habitat degradation	
Crabtree Creek	From source to backwaters of Crabtree Lake	C NSW	030402	0.0	5.1	0.0	I	M	NP	Habitat degradation	

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Crabtree Creek (Crabtree Lake)	From backwaters of Crabtree Lake to mouth of Richlands Creek	B NSW	030402	0.0	12.2	0.0	S	M			
Black Creek	From source to Crabtree Lake, Crabtree Cr.	C NSW	030402	0.0	3.6	0.0	I	M	NP	Habitat degradation	
Reedys Creek (Reedy Creek Lake)	From source to Crabtree Creek	B NSW	030402	28.8	0.0	0.0	NR	M			
Crabtree Creek	From mouth of Hairsnipe Creek to 2.75 miles upstream of Neuse River	C NSW	030402	0.0	10.9	0.0	I	M	NP	Habitat degradation	
Crabtree Creek	From 2.75 miles upstream of Neuse River to Neuse River	C NSW	030402	0.0	2.8	0.0	S	M			
Crabtree Creek	From mouth of Richlands Creek to Hairsnipe Creek	C NSW	030402	0.0	2.0	0.0	S	M			
Richlands Creek	From source to Crabtree Creek	C NSW	030402	0.0	4.7	0.0	I	M	NP	Habitat degradation	Construction
Hare Snipe Creek (Lake Lynn)	From source to dam at Lake Lynn	B NSW	030402	0.0	2.0	0.0	I	M	NP	Habitat degradation	
Hare Snipe Creek	From dam at Lake Lynn to Crabtree Creek	C NSW	030402	0.0	2.5	0.0	I	M	NP	Habitat degradation	
Mine Creek	From source to Crabtree Creek	C NSW	030402	0.0	4.7	0.0	I	M	NP	Habitat degradation	
Pigeon House Branch	From source to Crabtree Creek	C NSW	030402	0.0	2.9	0.0	I	M		Habitat degradation	
Marsh Creek	From source to Crabtree Creek	C NSW	030402	0.0	6.2	0.0	I	M	NP	Habitat degradation	
Walnut Creek	From UT 0.6 miles west of I-440 to Neuse River	C NSW	030402	0.0	3.7	0.0	S	M			
Rocky Branch	From source to Walnut Creek	C NSW	030402	0.0	4.1	0.0	NR	M			
Poplar Creek	From source to Neuse River	C NSW	030402	0.0	5.5	0.0	S	M			
NEUSE RIVER	From mouth of Beddingfield Creek to a point 0.2 mile downstream of Johnston County SR 1700	WS-V NSW	030402	0.0	4.3	0.0	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Marks Creek (Lake Myra)	From soruce to Neuse River	C NSW	030402	0.0	10.3	0.0	S	M			
NEUSE RIVER	From a point 0.2 mile downstream of Johnston County SR 1700 to a point 1.4 mile downstream of Johnston County SR 1908	WS-IV NSW	030402	0.0	9.7	0.0	S	M			
NEUSE RIVER	From a point 1.4 mile downstream of Johnston County SR 1908 to Johnston County proposed water supply intake (located 1.9 mile downstream of Johnston County SR 1908)	WS-IV NSW CA	030402	0.0	0.5	0.0	S	M			
NEUSE RIVER	From Johnston County proposed water supply intake to a point 0.1 mile downstream of mouth of Poplar Creek	WS-IV NSW	030402	0.0	5.8	0.0	S	M			
NEUSE RIVER	From a point 0.1 mile downstream of mouth of Poplar Creek to City of Smithfield water supply intake	WS-IV NSW CA	030402	0.0	0.5	0.0	S	M			
NEUSE RIVER	From City of Smithfield water supply intake to a point 1.7 miles upstream of Bawdy Creek	WS-V NSW	030402	0.0	26.2	0.0	S	M			
Swift Creek	From Lake Wheeler Dam to a point 0.6 mile upstream of Wake County SR 1006	WS-III NSW	030402	0.0	2.4	0.0	I	M		Low DO	Source Unknown
Swift Creek	From confluence with Williams Creek to backwaters of Lake Wheeler	WS-III NSW	030402	0.0	5.5	0.0	I	M	NP	Habitat degradation	
Swift Creek (Lake Wheeler)	From backwaters of Lake Wheeler to the Lake Wheeler Dam	WS-III NSW	030402	564.5	0.0	0.0	S	M			
Swift Creek	From source to confluence with Williams Creek	WS-III NSW	030402	0.0	2.6	0.0	NR	M			
Williams Creek	From source to Swift Creek	WS-III NSW	030402	0.0	2.6	0.0	NR	M			
Swift Creek (Lake Benson)	From a point 0.6 mile upstream of Wake County SR 1006 to dam at Lake Benson	WS-III NSW CA	030402	472.0	0.0	0.0	S	M			
Swift Creek	From dam at Lake Benson to Neuse River	C NSW	030402	0.0	32.7	0.0	S	M			
Little Creek	From source to Swift Creek	C NSW	030402	0.0	11.4	0.0	I	M		Habitat degradation	

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
NEUSE RIVER	From a point 1.7 miles upstream of Bawdy Creek to subbasin 030402-030412 boundary	WS-IV NSW	030402	0.0	7.0	0.0	S	M			
Middle Creek	From source to 0.8 miles south of US 1	C NSW	030403	0.0	1.4	0.0	I	M	NP	Low DO	Urban Runoff/Storm Sewers
Middle Creek	From 0.8 miles south of US 1 to backwaters of Sunset Lake	C NSW	030403	0.0	4.6	0.0	S	M			
Middle Creek	From dam at Sunset Lake to Swift Creek	C NSW	030403	0.0	44.4	0.0	S	M			
Black Creek	From dam at Holts Lake to Neuse River	C NSW	030404	0.0	2.0	0.0	I	M		Low DO	Source Unknown
Hannah Creek	From source to NC 96	C NSW	030404	0.0	10.3	0.0	I	M		Low DO	Major Municipal Point Source
Hannah Creek	From NC 96 to Mill Creek	C NSW	030404	0.0	13.4	0.0	S	M			
Mill Creek	From Mill Branch to Neuse River	WS-IV NSW	030404	0.0	2.9	0.0	S	M			
NEUSE RIVER	From subbasin 030405-030412 boundary to mouth of Contentnea Creek	C NSW	030405	0.0	63.2	0.0	S	M			
Stoney Creek	From source to Neuse River	C NSW	030405	0.0	10.7	0.0	I	M	NP	Habitat degradation	
Walnut Creek (Lake Wackena, Spring Lake)	From source to Neuse River	C NSW	030405	0.0	6.9	0.0	I	M	NP, P	Low DO	Minor Municipal Point Source
Bear Creek	From source to Neuse River	C Sw NSW	030405	0.0	17.9	0.0	S	M			
Mosely Creek	From source to Falling Creek	C Sw NSW	030405	0.0	5.2	0.0	NR	M			
Mosley Creek	From source to Neuse River	C Sw NSW	030405	0.0	12.7	0.0	NR	M			
Little River (Moores Pond, Mitchell Mill Pond)	From source to a point 0.2 mile upstream of Wake County SR 2368	WS-II NSW	030406	0.0	16.1	0.0	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Little River	From a point 0.2 mile upstream of Wake County SR 2368 to bridge at N.C. Hwy. 97 (Town of Zebulon water supply intake)	WS-II NSW CA	030406	0.0	0.6	0.0	S	M			
Little River (Tarpleys Pond)	From Little Buffalo Creek to Spring Branch	WS-V NSW	030406	0.0	11.5	0.0	I	M		Low DO	Minor Municipal Point Source
Little River (Tarpleys Pond)	From bridge at N.C. Hwy. 97 to Little Buffalo Creek	WS-V NSW	030406	0.0	33.5	0.0	S	M			
Buffalo Creek (Wendell Lake)	From UT on west side of creek 0.8 miles south of Wendell Lake to Little River	C NSW	030406	0.0	15.0	0.0	S	M			
Little River	From Spring Branch to 4.2 miles upstream of NC 581	WS-IV NSW	030406	0.0	8.5	0.0	I	M		Low DO	Minor Municipal Point Source
Little River	From 4.2 miles upstream of NC 581 to a point 0.6 mile downstream of Smith Mill Run	WS-IV NSW	030406	0.0	11.9	0.0	S	M			
Little River	From a point 0.6 mile downstream of Smith Mill Run to City of Goldsboro water supply intake	WS-IV NSW CA	030406	0.0	1.1	0.0	S	M			
Little River	From City of Goldsboro water supply intake to U.S. Hwy. 70	C NSW	030406	0.0	1.2	0.0	S	M			
Little River	From U. S. Highway 70 to a point 1.0 mile downstream from U. S. Highway 70	B NSW	030406	0.0	1.0	0.0	S	M			
Little River	From a point 1.0 mile downstream from U.S. 70 to Neuse River	C NSW	030406	0.0	2.6	0.0	S	M			
Contentnea Cr (Buckhorn Reservoir)	From source to a point 0.6 mile upstream of Marsh Swamp	WS-V NSW	030407	0.0	6.2	0.0	S	M			
Moccasin Creek (Bunn Lake)	From source to Contentnea Creek	C NSW	030407	0.0	22.8	0.0	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Little Creek (West Side)	From source to Moccasin Creek	C NSW	030407	0.0	4.1	0.0	I	M	NP, P	Low DO	Urban Runoff/Storm Sewers
Bull Branch	From source to Moccasin Creek	C NSW	030407	0.0	4.0	0.0	NR	M			
Turkey Creek	From SR 1101 to Buckhorn Reservoir, Contentnea Creek	C NSW	030407	0.0	3.4	0.0	S	M			
Turkey Creek	From source to SR 1101	C NSW	030407	0.0	21.4	0.0	NR	M		Low DO	Source Unknown
Beaverdam Creek	From source to Turkey Creek	C NSW	030407	0.0	5.6	0.0	S	M			
Contentnea Creek	From a point 0.6 mile upstream of Marsh Swamp to a point 0.6 mile downstream of Shepard Branch	WS-IV NSW	030407	0.0	7.7	0.0	S	M			
Contentnea Creek (Wiggins Mill Reservoir)	From a point 0.6 mile downstream of Shepard Branch to dam at Wilson Water Supply Intake (Wiggins Mill Reservoir)	WS-IV NSW CA	030407	510.5	0.0	0.0	S	M			
Bloomery Swamp	From a point 0.3 mile upstream of mouth to Contentnea Creek	WS-IV NSW CA	030407	0.0	0.2	0.0	NR	M			
Contentnea Creek	From dam at Wilson Water Supply (Wiggins Mill Pond) to Neuse River	C Sw NSW	030407	0.0	79.8	0.0	S	M			
Hominy Swamp	From source to Contentnea Creek	C Sw NSW	030407	0.0	9.9	0.0	I	M			
Great Swamp	From source to Black Swamp	C Sw NSW	030407	0.0	12.7	0.0	NR	M			
Toisnot Swamp	From UT 0.9 miles south of US 301 to Contentnea Creek	C Sw NSW	030407	0.0	12.0	0.0	S	M			
Nahunta Swamp	From source to Contentnea Creek	C Sw NSW	030407	0.0	27.1	0.0	I	M	NP	Habitat degradation	Agriculture
The Slough	From source to Nahunta Swamp	C Sw NSW	030407	0.0	8.6	0.0	S	M			
Little Contentnea Creek	From source to Contentnea Creek	C Sw NSW	030407	0.0	34.9	0.0	I	M			
NEUSE RIVER	From mouth of Contentnea Creek to Streets Ferry	C Sw NSW	030408	0.0	22.3	0.0	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Core Creek	From Grape Creek to Neuse River	C Sw NSW	030408	0.0	15.4	0.0	I	M	NP	Habitat degradation	
Core Creek	From source to Grape Creek	C Sw NSW	030408	0.0	6.4	0.0	NR	M	NP		
Flat Swamp	From source to Core Creek	C Sw NSW	030408	0.0	5.2	0.0	NR	M			
NEUSE RIVER	From Streets Ferry to subbasin 030408-030410 boundary	SC Sw NSW	030408	0.0	0.0	426.5	I	M	NP, P	Chlorophyll a	
Swift Creek	From Clayroot Swamp to mouth of Bear Branch	C Sw NSW	030409	0.0	14.4	0.0	I	M	NP	Habitat degradation	Agriculture
Clayroot Swamp	From source to Swift Creek	C Sw NSW	030409	0.0	12.9	0.0	I	M	NP	Habitat degradation	Agriculture
Creeping Swamp	From source to Clayroot Swamp	C Sw NSW	030409	0.0	8.1	0.0	NR	M			
Palmetto Swamp	From source to Swift Creek	C Sw NSW	030409	0.0	8.6	0.0	NR	M			
Swift Creek	From mouth of Bear Branch to Neuse River	SC Sw NSW	030409	0.0	8.0	0.0	I	M	NP	Habitat degradation	Agriculture
NEUSE RIVER	From subbasin 030408-030410 boundary to a line across Neuse River from Johnson Point to McCotter Point	SC Sw NSW	030410	0.0	0.0	5,838.0	I	M	NP, P	Chlorophyll a	
Trent River	From boundary between subbasins 030410 and 030411 to mouth of Brice Creek	SB Sw NSW	030410	0.0	0.0	509.7	I	M	NP, P	Chlorophyll a	
Trent River	From mouth of Brice Creek to Neuse River	SB Sw NSW	030410	0.0	0.0	500.1	I	M	NP, P	Chlorophyll a	
NEUSE RIVER	From a line across Neuse River from Johnson Point to McCotter Point to a line across Neuse River from Wilkinson Point to Cherry Point	SB Sw NSW	030410	0.0	0.0	24,492.9	I	M	NP, P	Chlorophyll a	
Upper Broad Creek	From source to N. C. Hwy. 55 Bridge	C Sw NSW	030410	0.0	7.3	0.0	NR	M			
Goose Creek	From source to Scotts Store road (Pamlico County SR 1105)	C Sw NSW	030410	0.0	1.2	0.0	NR	m			
Southwest Prong Slocum Creek	From source to Slocum Creek	C Sw NSW	030410	0.0	4.2	0.0	NR	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
NEUSE RIVER	DEH prohibited area at mouth of Clubfoot Creek	SA NSW	030410	0.0	0.0	96.2	S	M			
NEUSE RIVER	From a line across Neuse River from Wilkinson Point to Cherry Point to its mouth in Pamlico Sound (mouth of Neuse River described as a line running from Maw point to Point of Marsh)excluding DEH prohibited areas at mouths of Clubfoot Creek, Greens Creek and Peirce Creek and DEH Conditionally approved-open area at mouth of the South River	SA NSW	030410	0.0	0.0	67,274.4	S	M			
NEUSE RIVER	DEH prohibited area at mouth of Green Creek	SA NSW	030410	0.0	0.0	61.7	S	M			
NEUSE RIVER	DEH Conditionally approved-open area at mouth of the South River	SA NSW	030410	0.0	0.0	210.0	S	M			
NEUSE RIVER	DEH prohibited area at mouth of Peirce Creek	SA NSW	030410	0.0	0.0	7.7	S	M			
Smith Creek	From a point 0.l miles downstream of Morris Creek to Greens Creek	SC NSW	030410	0.0	0.0	69.1	NR	M			
Trent River	From source to mouth of Deep Gully	C Sw NSW	030411	0.0	77.4	0.0	NR	M			
Tuckahoe Creek	From source to Trent River	C Sw NSW	030411	0.0	6.5	0.0	NR	M			
Beaver Creek	From source to Trent River	C Sw NSW	030411	0.0	12.3	0.0	NR	M			
Musselshell Creek	From souce to Trent River	C Sw NSW	030411	0.0	5.8	0.0	NR	M			
Crooked Run	From source to Trent River	C Sw NSW	030411	0.0	8.0	0.0	NR	M			
Beaverdam Creek	From source to Trent River	C Sw NSW	030411	0.0	6.0	0.0	NR	M			
Mill Run	From source to Trent River	C Sw NSW	030411	0.0	3.9	0.0	NR	M			
Trent River	From mouth of Deep Gully to boundary between subbasin 030410 and 030411	SB Sw NSW	030411	0.0	0.0	252.7	NR	M			
NEUSE RIVER	From subbasin 030402-030412 boundary to a point 0.8 mile upstream of Little River	WS-IV NSW	030412	0.0	18.5	0.0	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
NEUSE RIVER	From a point 0.8 mile upstream of Little River to City of Goldsboro water supply intake (located 0.4 mile upstream of Little River)	WS-IV NSW CA	030412	0.0	0.5	0.0	S	M			
NEUSE RIVER	From City of Goldsboro water supply intake to subbasin 030405-030412 boundary	C NSW	030412	0.0	5.8	0.0	S	M			
PAMLICO SOUND	Northern portion Pamlico within Neuse River Basin subbasin 030413	SA NSW	030413	0.0	0.0	64,244.0	S	M			
PAMLICO SOUND	DEH prohibited area at Cedar Island Ferry Harbor in southern portion Pamlico within Neuse River Basin subbasin 030414	SA NSW	030414	0.0	0.0	12.5	S	M			
PAMLICO SOUND	Southern portion Pamlico within Neuse River Basin subbasin 030414 with the exception of DEH prohibited area at mouth of Cedar Island Ferry Harbor	SA NSW	030414	0.0	0.0	84,692.5	S	M			
West Bay	From source to Pamlico Sound	SA NSW	030414	0.0	0.0	16,359.3	S	M			
Long Bay	From source to West Bay	SA NSW	030414	0.0	0.0	3,227.8	S	M			
Flag Creek	From source to Long Bay	SA NSW	030414	0.0	0.0	4.7	S	M			
Golden Creek	From source to Long Bay	SA NSW	030414	0.0	0.0	9.7	S	M			
Benneys Creek	From source to Long Bay	SA NSW	030414	0.0	0.0	2.6	S	M			
Henrys Creek	From source to Long Bay	SA NSW	030414	0.0	0.0	2.7	S	M			
Fur Creek	From source to Long Bay	SA NSW	030414	0.0	0.0	7.3	S	M			
Stump Bay	From source to Long Bay	SA NSW	030414	0.0	0.0	101.8	S	M			
Old Canal	From source to Stump Bay	SA NSW	030414	0.0	0.0	10.5	S	M			
Piney Island Bay	From source to Long Bay	SA NSW	030414	0.0	0.0	57.7	S	M			
Owens Bay	From source to Long Bay	SA NSW	030414	0.0	0.0	74.5	S	M			
Jacks Bay	From source to Long Bay	SA NSW	030414	0.0	0.0	61.0	S	M			
West Thorofare Bay	From source to West Bay	SA NSW	030414	0.0	0.0	1,018.2	S	M			
Bull Creek	From source to West Thorofare Bay	SA NSW	030414	0.0	0.0	13.2	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Cadduggen Creek	From source to West Thorofare Bay	SA NSW	030414	0.0	0.0	2.5	S	M			
Goose Bay	From source to West Thorofare Bay	SA NSW	030414	0.0	0.0	46.2	S	M			
Merkle Bay	From source to West Bay	SA NSW	030414	0.0	0.0	336.1	S	M			
Deep Bend	From source to West Bay	SA NSW	030414	0.0	0.0	241.2	S	M			
Nameless Bay	From source to West Bay	SA NSW	030414	0.0	0.0	75.5	S	M			
Green Point Cove	From source to West Bay	SA NSW	030414	0.0	0.0	100.3	S	M			
Dowdy Bay	From source to West Bay	SA NSW	030414	0.0	0.0	157.6	S	M			
Point of Island Bay	From source to West Bay	SA NSW	030414	0.0	0.0	115.5	S	M			
Newstump Bay	From source to West Bay	SA NSW	030414	0.0	0.0	176.6	S	M			
North Bay	From source to West Bay	SA NSW	030414	0.0	0.0	958.4	S	M			
Neuse-Southeast Pamlico Sound ORW Area	All waters within a line beginning at the southwest tip of Ocracoke Island, and extending northwest along the Tar-Pamlico River Basin and Neuse River Basin boundary line to Lat. 35 06’50", Long 76 06’30", thence in a southwest direction to Ship Point	SA ORW NSW	030414	0.0	0.0	38,582.8	S	M			
Core Sound	From Northeastern limit of White Oak River Basin (a line from Hall Point to Drum Inlet) to Pamlico Sound	SA ORW NSW	030414	0.0	0.0	18,201.7	S	M			
Thorofare Bay	From source to Core Sound	SA ORW NSW	030414	0.0	0.0	1,674.5	S	M			
Thorofare	From West Thorofare Bay to Thorofare Bay	SA NSW	030414	0.0	0.0	34.9	S	M			
Merkle Hammock Creek	From source to Thorofare Bay	SA NSW ORW	030414	0.0	0.0	186.0	S	M			
Barry Bay	From source to Thorofare Bay	SA ORW NSW	030414	0.0	0.0	606.6	S	M			
Rumley Bay	From source to Core Sound	SA ORW NSW	030414	0.0	0.0	167.7	S	M			
John Day Ditch	From source to Rumley Bay	SA NSW	030414	0.0	0.0	2.4	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Lewis Creek	From source to Core Sound	SA ORW NSW	030414	0.0	0.0	72.3	S	M			
Southwest Prong Lewis Creek	From source to Lewis Creek	SA ORW NSW	030414	0.0	0.0	11.8	S	M			
Big Gut	From source to Lewis Creek	SA NSW	030414	0.0	0.0	1.9	S	M			
Cedar Island Bay	Entire Bay, including all inlets, coves, and bays, not otherwise named in the schedule of classifications	SA ORW NSW	030414	0.0	0.0	2,857.0	S	M			
Great Pond	From source to Cedar Island Bay	SA ORW NSW	030414	0.0	0.0	3.0	S	M			
Back Bay	Entire Bay, including all inlets, coves, and bays, not otherwise named in the schedule of classifications	SA ORW NSW	030414	0.0	0.0	850.6	S	M			
Great Pond	From Pamlico Sound to Back Bay	SA ORW NSW	030414	0.0	0.0	42.5	S	M			
Noras Cove	Entire Cove	SA ORW NSW	030414	0.0	0.0	29.6	S	M			
End of Island Slough	From Pamlico Sound to Back Bay	SA ORW NSW	030414	0.0	0.0	2.8	S	M			
Snake Gut	From Pamlico Sound to Back Bay	SA ORW NSW	030414	0.0	0.0	4.8	S	M			
Fullers Ditch	From Pamlico Sound to Back Bay	SA ORW NSW	030414	0.0	0.0	6.9	S	M			
The Passage	From Pamlico Sound to Back Bay	SA ORW NSW	030414	0.0	0.0	70.6	S	M			
Deep Slough	From Pamlico Sound to The Passage	SA ORW NSW	030414	0.0	0.0	3.8	S	M			
Drum Pond	From source to Back Bay	SA ORW NSW	030414	0.0	0.0	0.3	S	M			
Goose Bay	Entire Bay	SA ORW NSW	030414	0.0	0.0	33.4	S	M			
Oyster Creek	From Core Sound to Goose Bay	SA ORW NSW	030414	0.0	0.0	45.8	S	M			

Name	Description	Class	Subbasin	Fresh water Acres	Stream Miles	Estuarine Acres	Rating	Basis	Source	Problem Parameter	Potential Source
Great Ditch	From Core Sound to Goose Bay	SA ORW NSW	030414	0.0	0.0	47.6	S	M			
Hog Island Narrows	From Cedar Island Bay to Back Bay	SA ORW NSW	030414	0.0	0.0	11.5	S	M			
NOTES											
"Rating" = Use Support Rating											
"Basis"=Rating basis											
"Habitat degradation" is identified where there is a notable reduction in habitat diversity or change in habitat quality. This term includes sedimentation, bank erosion, channelization,											
lack of riparian vegetation, loss of pools or riffles, loss of woody habitat, and stream bed scour.											
ABBREVIATION KEY											
P = Point Source Pollution (Major source)			nut = high nutrient levels								
NP = Non-point Source Pollution			turb = turbidity								
M = Monitored			fecal = fecal coliform bacteria								
S = Supporting			sed = sediment								
I = Impaired			ab = above								
NR = Not Rated			nr = near								
			be = below								

Name	Description	Class	Subbasin	Fresh-water Acres	Estuarine Acres	Stream Miles	Rating	Basis	Potential Source
Eno River	From Orange County SR 1561 to U. S. Highway 501	WS-IV&B NSW	030401	0.0	0.0	16.2	S	M	
NEUSE RIVER (Falls Lake below normal pool elevation)	From I-85 bridge to dam at Falls Lake	WS-IV&B NSW CA	030401	9,530.3	0.0	0.0	S	M	
Crabtree Creek (Crabtree Lake)	From backwaters of Crabtree Lake to mouth of Richlands Creek	B NSW	030402	0.0	0.0	12.2	S	M	
Reedys Creek (Reedy Creek Lake)	From source to Crabtree Creek	B NSW	030402	28.8	0.0	0.0	S	M	
Sycamore Creek (Big Lake)	From source to Crabtree Creek	B NSW	030402	61.8	0.0	0.0	S	M	
Mill Branch (Cliffs of Neuse Lake)	From source to Still Branch	B NSW	030405	8.0	0.0	0.0	S	M	
Trent River	From boundary between subbasins 030410 and 030411 to mouth of Brice Creek	SB Sw NSW	030410	0.0	509.7	0.0	S	M	
Trent River	From mouth of Deep Gully to boundary between subbasin 030410 and 030411	SB Sw NSW	030411	0.0	252.7	0.0	S	M	
NEUSE RIVER	From a line across Neuse River from Johnson Point to McCotter Point to a line across Neuse River from Wilkinson Point to Cherry Point	SB Sw NSW	030410	0.0	24,492.9	0.0	S	M	
Northwest Creek	From source to Neuse River	SB Sw NSW	030410	0.0	165.4	0.0	S	M	
Upper Broad Creek	From Pamlico County SR 1103 (Lees Landing) to Neuse River	SB Sw NSW	030410	0.0	795.9	0.0	S	M	
Goose Creek	From a point 0.5 miles downstream of Cypress Creek to Neuse River	SB Sw NSW	030410	0.0	512.6	0.0	S	M	
NEUSE RIVER	DEH prohibited area at mouth of Clubfoot Creek	SA NSW	030410	0.0	96.2	0.0	S	M	
NEUSE RIVER	DEH prohibited area at mouth of Green Creek	SA NSW	030410	0.0	61.7	0.0	S	M	
NEUSE RIVER	DEH Conditionally approved-open area at mouth of the South River	SA NSW	030410	0.0	210.0	0.0	S	M	
NEUSE RIVER	From a line across Neuse River from Wilkinson Point to Cherry Point to its mouth in Pamlico Sound (mouth of Neuse River described as a line running from Maw point to Point of Marsh)excluding DEH prohibited areas at mouths of Clubfoot Creek, Greens Creek and Peirce Creek and DEH Conditionally approved-open area at mouth of the South River	SA NSW	030410	0.0	67,274.4	0.0	S	M	

Name	Description	Class	Subbasin	Fresh-water Acres	Estuarine Acres	Stream Miles	Rating	Basis	Potential Source
NEUSE RIVER	DEH prohibited area at mouth of Peirce Creek	SA NSW	030410	0.0	7.7	0.0	S	M	
Clubfoot Creek	From source to Neuse River	SA NSW	030410	0.0	562.6	0.0	S	M	
Dawson Creek	From mouth of Tarkiln Creek to Neuse River	SA NSW	030410	0.0	122.1	0.0	S	M	
Adams Creek	From a line crossing Adams Creek at a point 406 meters south of mouth of Kellum Creek to a point 637 meters north of mouth Beck Creek exluding DEH prohibited area at mouth of Dumpling Creek to Neuse River	SA NSW	030410	0.0	1,424.6	0.0	S	M	
Adams Creek	DEH conditionally approved-closed area from source to a line crossing Adams Creek at a point 406 meters south of mouth of Kellum Creek to a point 637 meters north of mouth of Beck Creek	SA NSW	030410	0.0	317.0	0.0	S	M	
Adams Creek	DEH prohibited area at mouth of Dumpling Creek	SA NSW	030410	0.0	3.2	0.0	S	M	
Adams Creek Canal (Intracoastal Waterway)	From the White Oak River Basin Boundary (Craven-Cataret County Line) to Adams Creek	SA NSW	030410	0.0	138.9	0.0	S	M	
Back Creek (Black Creek)	From source to Adams Creek	SA NSW	030410	0.0	261.7	0.0	S	M	
Whittaker Creek	From source to Neuse River	SA NSW	030410	0.0	96.1	0.0	S	M	
Pierce Creek	From source to Neuse River	SA NSW	030410	0.0	50.7	0.0	S	M	
Orchard Creek	From a line crossing Orchard Creek at a point 91 meters south of mouth of Bright Creek to a point 99 meters north of mouth of Pasture Creek to Neuse River	SA NSW	030410	0.0	20.4	0.0	S	M	
PAMLICO SOUND	Northern portion Pamlico within Neuse River Basin subbasin 030413	SA NSW	030413	0.0	64,244.0	0.0	S	M	
PAMLICO SOUND	Southern portion Pamlico within Neuse River Basin subbasin 030414 with the exception of DEH prohibited area at mouth of Cedar Island Ferry Harbor	SA NSW	030414	0.0	84,692.5	0.0	S	M	
West Bay	From source to Pamlico Sound	SA NSW	030414	0.0	16,359.3	0.0	S	M	
West Thorofare Bay	From source to West Bay	SA NSW	030414	0.0	1,018.2	0.0	S	M	
Neuse-Southeast Pamlico Sound ORW Area	All waters within a line beginning at the southwest tip of Ocracoke Island, and extending northwest along the Tar-Pamlico River Basin and Neuse River Basin boundary line to Lat. 35 06’50", Long 76 06’30", thence in a southwest direction to Ship Point	SA ORW NSW	030414	0.0	38,582.8	0.0	S	M	
Core Sound	From Northeastern limit of White Oak River Basin (a line from Hall Point to Drum Inlet) to Pamlico Sound	SA ORW NSW	030414	0.0	18,201.7	0.0	S	M	

Name	Description	Class	Subbasin	Fresh-water Acres	Estuarine Acres	Stream Miles	Rating	Basis	Potential Source
Thorofare Bay	From source to Core Sound	SA ORW NSW	030414	0.0	1,674.5	0.0	S	M	
Thorofare	From West Thorofare Bay to Thorofare Bay	SA NSW	030414	0.0	34.9	0.0	S	M	
Merkle Hammock Creek	From source to Thorofare Bay	SA NSW ORW	030414	0.0	186.0	0.0	S	M	
Bay River	From a line across Bay River from Flea Point to The Hammock, (excluding that portion of the Bay River landward of a line running from Poorhouse Point to Darby Point which is classified SC Sw NSW also excluding the DEH prohibited area extending 366 meters east of this line), to Pamlico Sound	SA NSW	030413	0.0	8,999.0	0.0	S	M	

NOTES

"Rating" = Use Support Rating

"Basis"=Rating basis

ABBREVIATION KEY

P = Point Source Pollution (Major source)

NP = Non-point Source Pollution

M = Monitored

S = Supporting

I = Impaired

NR = Not Rated

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
NEUSE RIVER	DEH prohibited area at mouth of Clubfoot Creek	SA NSW	030410	96.2	I	M	PRO	100
NEUSE RIVER	DEH prohibited area at mouth of Green Creek	SA NSW	030410	61.7	I	M	PRO	100
NEUSE RIVER	DEH prohibited area at mouth of Peirce Creek	SA NSW	030410	7.7	I	M	PRO	100
NEUSE RIVER	DEH Conditionally approved-open area at mouth of the South River	SA NSW	030410	210.0	S	M	CAO	4.2
NEUSE RIVER	From a line across Neuse River from Wilkinson Point to Cherry Point to its mouth in Pamlico Sound (mouth of Neuse River described as a line running from Maw point to Point of Marsh)excluding DEH prohibited areas at mouths of Clubfoot Creek, Greens Creek and Peirce Creek and DEH Conditionally approved-open area at mouth of the South River	SA NSW	030410	67,274.4	S	M	APP	
Cherry Branch	From source to Neuse River	SA NSW	030410	0.0	S	M	APP	
King Creek	From source to Neuse River	SA NSW	030410	0.0	S	M	APP	
Gatlin Creek	From source to Neuse River	SA NSW	030410	0.0	S	M	APP	
Sassafras Branch	From source to Neuse River	SA NSW	030410	0.0	S	M	APP	
Clubfoot Creek	From source to Neuse River	SA NSW	030410	562.6	I	M	PRO	100
Harlowe Canal	From White Oak River Basin Boundary (Craven-Carteret County Line) to Clubfoot Creek	SA NSW	030410	0.0	I	M	PRO	100
Mortons Mill Pond	From source to Clubfoot Creek	SA NSW	030410	30.6	I	M	PRO	100
West Prong Mortons Mill Pond	From source to Mortons Mill Pond	SA NSW	030410	0.0	I	M	PRO	100
East Prong Mortons Mill Pond	From source to Mortons Mill Pond	SA NSW	030410	0.0	I	M	PRO	100
Gulden Creek	From source to Clubfoot Creek	SA NSW	030410	34.9	I	M	PRO	100
Mitchell Creek	From source to Clubfoot Creek	SA NSW	030410	117.5	I	M	PRO	100
Big Branch	From source to Mitchell Creek	SA NSW	030410	1.6	I	M	PRO	100
Snake Branch	From source to Mitchell Creek	SA NSW	030410	0.0	I	M	PRO	100
Long Creek	From source to Neuse River	SA NSW	030410	67.7	S	M	APP	
Dawson Creek	From mouth of Tarkiln Creek to Neuse River	SA NSW	030410	122.1	I	M	PRO	100
Great Neck Creek	From source to Neuse River	SA NSW	030410	0.0	S	M	APP	
Courts Creek (Coaches Creek)	From source to Neuse River	SA NSW	030410	43.1	S	M	APP	
Adams Creek	From a line crossing Adams Creek at a point 406 meters south of mouth of Kellum Creek to a point 637 meters north of mouth Beck Creek exluding DEH prohibited area at mouth of Dumpling Creek to Neuse River	SA NSW	030410	1,424.6	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
Adams Creek	DEH prohibited area at mouth of Dumpling Creek	SA NSW	030410	3.2	I	M	PRO	100
Adams Creek	DEH conditionally approved-closed area from source to a line crossing Adams Creek at a point 406 meters south of mouth of Kellum Creek to a point 637 meters north of mouth of Beck Creek	SA NSW	030410	317.0	I	M	CAC	
Adams Creek Canal (Intracoastal Waterway)	From the White Oak River Basin Boundary (Craven-Cataret County Line) to Adams Creek	SA NSW	030410	138.9	I	M	PRO	100
Jerry Bay	From source to Adams Creek	SA NSW	030410	52.2	I	M	CAC	
Isaac Creek	From source to Adams Creek	SA NSW	030410	39.1	I	M	PRO	100
Back Creek (Black Creek)	From source to Adams Creek	SA NSW	030410	261.7	I	M	PRO	100
Kearney Creek	From source to Adams Creek	SA NSW	030410	4.0	I	M	CAC	
Kellum Creek	From source to Adams Creek	SA NSW	030410	10.5	S	M	APP	
Cedar Creek	From source to Adams Creek	SA NSW	030410	108.9	S	M	APP	
Cullie Creek	From source to Cedar Creek	SA NSW	030410	4.4	S	M	APP	
Jonaquin Creek	From source to Cedar Creek	SA NSW	030410	35.9	S	M	APP	
Dumpling Creek	From source to Adams Creek	SA NSW	030410	25.4	I	M	PRO	100
Sandy Huss Creek	From source to Adams Creek	SA NSW	030410	15.5	S	M	APP	
Delamar Creek	From source to Adams Creek	SA NSW	030410	11.6	S	M	APP	
Godfrey Creek	From source to Adams Creek	SA NSW	030410	34.7	S	M	APP	
Whittaker Creek	From source to Neuse River	SA NSW	030410	96.1	I	M	PRO	100
Garbacon Creek	From source to Neuse River	SA NSW	030410	25.8	S	M	APP	
Berrys Creek	From source to Neuse River	SA NSW	030410	0.0	S	M	APP	
Pierce Creek	From source to Neuse River	SA NSW	030410	50.7	I	M	PRO	100
Orchard Creek	From source to a line crossing Orchard Creek at a point 91 meters south of mouth of Bright Creek to a point 99 meters north of mouth of Pasture Creek	SA NSW	030410	37.1	I	M	PRO	100
Orchard Creek	From a line crossing Orchard Creek at a point 91 meters south of mouth of Bright Creek to a point 99 meters north of mouth of Pasture Creek to Neuse River	SA NSW	030410	20.4	S	M	APP	
Bright Creek	From source to Orchard Creek	SA NSW	030410	10.9	I	M	PRO	100
Pasture Creek	From source to Orchard Creek	SA NSW	030410	20.3	S	M	APP	
Old House Creek	From source to Orchard Creek	SA NSW	030410	6.0	S	M	APP	
South River	From source to a line crossing the South River at a point 97 meters north of mouth of Southwest Creek to a point 418 meters north of mouth of Doe Creek	SA NSW	030410	385.0	I	M	PRO	100

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
South River	From a line crossing the South River at a point 97 meters north of mouth of Southwest Creek to a point 418 meters north of mouth of Doe Creek t Neuse River	SA NSW	030410	2,094.9	S	M	CAO	4.2
West Fork South River	From source to South River	SA NSW	030410	35.5	I	M	PRO	100
East Fork South River	From source to South River	SA NSW	030410	14.3	I	M	PRO	100
Rich Island Gut	From source to East Fork South River	SA NSW	030410	0.0	I	M	PRO	100
Miry Gut	From source to South River	SA NSW	030410	0.1	I	M	PRO	100
Elisha Creek	From source to South River	SA NSW	030410	2.2	I	M	PRO	100
Neal Creek	From source to South River	SA NSW	030410	2.9	I	M	PRO	100
Duck Creek	From source to South River	SA NSW	030410	2.6	I	M	PRO	100
Buck Creek	From source to South River	SA NSW	030410	6.4	I	M	PRO	100
Doe Creek	From source to South River	SA NSW	030410	4.9	I	M	PRO	100
Southwest Creek	From source to South River	SA NSW	030410	151.3	I	M	PRO	100
Eastman Creek	From source to South River	SA NSW	030410	95.6	I	M	PRO	100
Little Creek	From source to South River	SA NSW	030410	6.2	S	M	CAO	4.2
Royal Creek	From source to South River	SA NSW	030410	10.1	S	M	CAO	4.2
Coffee Creek	From source to South River	SA NSW	030410	6.1	S	M	CAO	4.2
Dixon Creek	From source to South River	SA NSW	030410	2.3	S	M	CAO	4.2
Old House Creek	From source to South River	SA NSW	030410	3.2	S	M	CAO	4.2
Mulberry Creek	From source to South River	SA NSW	030410	6.4	S	M	CAO	4.2
Big Creek	From DEH prohibited area line to South River	SA NSW	030410	58.4	S	M	CAO	4.2
Big Creek	From source to DEH prohibited area line	SA NSW	030410	59.6	I	M	PRO	100
Hardy Creek	From source to South River	SA NSW	030410	24.2	I	M	PRO	100
Horton Bay	From source to South River	SA NSW	030410	101.3	S	M	CAO	4.2
Herring Pond	Entire pond and connecting stream to South River	SA NSW	030410	11.1	S	M	APP	
Brown Creek	From source to Neuse River	SA NSW	030410	98.5	S	M	APP	
Turnagain Bay	From source to Neuse River	SA NSW	030410	1,556.8	S	M	APP	
Sanborns Gut	From source to Trunagain Bay	SA NSW	030410	3.7	S	M	APP	
Big Gut	From source to Turnagain Bay	SA NSW	030410	70.0	S	M	APP	
Deep Gut	From source to Turnagain Bay	SA NSW	030410	51.0	S	M	APP	
Broad Creek	From source to Turnagain Bay	SA NSW	030410	49.2	S	M	APP	
Pitman Creek	From source to Broad Creek	SA NSW	030410	2.0	S	M	APP	
Parsons Creek	From source to Broad Creek	SA NSW	030410	26.7	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
Abraham Bay	From source to Turnagain Bay	SA NSW	030410	96.9	S	M	APP	
Tump Gut	From source to Turnagain Bay	SA NSW	030410	20.9	S	M	APP	
Mulberry Point Creek	From source to Turnagain Bay	SA NSW	030410	15.7	S	M	APP	
Cedar Bay	From source to Neuse River	SA NSW	030410	267.4	S	M	APP	
Little Creek	From source to Neuse River	SA NSW	030410	13.5	S	M	APP	
Gum Tricket Creek	From source to Neuse River	SA NSW	030410	10.5	S	M	APP	
Broad Creek	From source to a line across Broad Creek from a point 331 meters east of mouth of Browns Creek to a point 145 meters east of mouth of Tar Creek	SA NSW	030410	202.3	I	M	PRO	100
Broad Creek	From a line across Broad Creek from a point 331 meters east of mouth of Browns Creek to a point 145 meters east of mouth of Tar Creek to the Neuse River	SA NSW	030410	527.7	S	M	APP	
Ship Creek	From source to Broad Creek	SA NSW	030410	5.4	I	M	PRO	100
Gideon Creek	From source to Broad Creek	SA NSW	030410	26.0	I	M	PRO	100
Brown Creek	From source to Broad Creek	SA NSW	030410	122.4	I	M	PRO	100
Spice Creek	From source to Brown Creek	SA NSW	030410	4.7	I	M	PRO	100
Coffee Creek	From source to Brown Creek	SA NSW	030410	7.1	I	M	PRO	100
Tar Creek	From source to Broad Creek	SA NSW	030410	44.3	I	M	PRO	100
Pasture Creek	From source to Broad Creek	SA NSW	030410	2.1	S	M	APP	
Parris Creek	From source to Broad Creek	SA NSW	030410	19.4	S	M	APP	
Burton Creek	From source to Broad Creek	SA NSW	030410	46.3	S	M	APP	
Pittman Creek	From source to Broad Creek	SA NSW	030410	65.8	S	M	APP	
Mill Creek	From source to Broad Creek	SA NSW	030410	12.3	S	M	APP	
Cedar Creek	From source to Broad Creek	SA NSW	030410	11.7	S	M	APP	
Green Creek	From source to Broad Creek	SA NSW	030410	79.1	S	M	APP	
Piney Point Creek	From source to Neuse River	SA NSW	030410	13.0	S	M	APP	
Rattan Bay	From source to Neuse River	SA NSW	030410	369.8	S	M	APP	
South Bay	From source to Rattan Bay	SA NSW	030410	527.1	S	M	APP	
East Bay	From source to Rattan Bay	SA NSW	030410	174.2	S	M	APP	
North Bay	From source to Rattan Bay	SA NSW	030410	126.9	S	M	APP	
Swan Creek	From source to Neuse River	SA NSW	030410	207.0	S	M	APP	
Wading Creek	From source to Neuse River	SA NSW	030410	9.0	S	M	APP	
Maw Bay	From source to Neuse River	SA NSW	030410	18.9	S	M	APP	
Maw Point Creek	From source to Neuse River	SA NSW	030410	7.5	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
PAMLICO SOUND	Northern portion Pamlico within Neuse River Basin subbasin 030413	SA NSW	030413	64,244.0	S	M	APP	
Bay River	DEH closed extending 366 meters east of SC SA line	SA NSW	030413	100.0	I	M	PRO	100
Bay River	From a line across Bay River from Flea Point to The Hammock, (excluding that portion of the Bay River landward of a line running from Poorhouse Point to Darby Point which is classified SC Sw NSW also excluding the DEH prohibited area extending 366 meters east of this line), to Pamlico Sound	SA NSW	030413	8,999.0	S	M	APP	
Harper Creek	From source to Bay River	SA NSW	030413	32.5	I	M	PRO	100
Tempe Gut	From source to Bay River	SA NSW	030413	0.9	S	M	APP	
Moore Creek	From source to Bay River	SA NSW	030413	28.3	S	M	APP	
Chappel Creek	From source to Moore Creek	SA NSW	030413	1.5	S	M	APP	
Newton Creek	From source to Bay River	SA NSW	030413	3.8	S	M	APP	
Little Pasture Creek	From source to Bay River	SA NSW	030413	6.0	S	M	APP	
Rice Creek	From source to Bay River	SA NSW	030413	12.8	S	M	APP	
Mesic Creek	From source to Bay River	SA NSW	030413	4.3	S	M	APP	
Ball Creek	From source to Bay River	SA NSW	030413	112.4	S	M	APP	
Simpson Creek	From source to Ball Creek	SA NSW	030413	8.6	S	M	APP	
Pasture Creek	From source to Ball Creek	SA NSW	030413	9.3	S	M	APP	
Cabin Creek	From source to Ball Creek	SA NSW	030413	30.5	S	M	APP	
Harris Creek	From source to Bay River	SA NSW	030413	2.8	S	M	APP	
Gascon Creek	From source to Bay River	SA NSW	030413	3.2	S	M	APP	
Barnes Creek	From source to Bay River	SA NSW	030413	1.5	S	M	APP	
Potter Creek	From source to Bay River	SA NSW	030413	13.7	S	M	APP	
Oyster Creek	From source to Bay River	SA NSW	030413	19.6	S	M	APP	
Bonner Bay	From source to Bay River	SA NSW	030413	865.3	S	M	APP	
Spring Creek	From source to Bonner Bay	SA NSW	030413	279.0	S	M	APP	
Richardson Creek	From source to Spring Creek	SA NSW	030413	8.9	S	M	APP	
Maul Run	From source to Spring Creek	SA NSW	030413	1.2	S	M	APP	
Horton Creek	From source to Spring Creek	SA NSW	030413	4.6	S	M	APP	
Bryan Creek	From source to Spring Creek	SA NSW	030413	13.2	S	M	APP	
Ives Creek	From source to Bryan Creek	SA NSW	030413	8.5	S	M	APP	
Long Creek	From source to Bonner Bay	SA NSW	030413	356.8	S	M	APP	
Deep Oak Gut	From source to Long Creek	SA NSW	030413	2.2	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
Cow Gallus Creek	From source to Long Creek	SA NSW	030413	11.4	S	M	APP	
Dipping Vat Creek	From source to Long Creek	SA NSW	030413	26.9	S	M	APP	
Riggs Creek	From source to Bonner Bay	SA NSW	030413	115.2	S	M	APP	
Savannah Creek	From source to Riggs Creek	SA NSW	030413	11.0	S	M	APP	
Morris Creek	From source to Riggs Creek	SA NSW	030413	5.4	S	M	APP	
Raff Creek	From source to Riggs Creek	SA NSW	030413	10.9	S	M	APP	
Sheephead Creek	From source to Bonner Bay	SA NSW	030413	18.7	S	M	APP	
Little Bear Creek	From source to Bay River	SA NSW	030413	55.3	S	M	APP	
Blossum Pond Creek	From source to Little Bear Creek	SA NSW	030413	15.1	S	M	APP	
Bear Creek	From DEH prohibited area line 42 meters south of confluence with Bennet Creek to Bay River	SA NSW	030413	199.9	S	M	APP	
Bear Creek	From source to DEH prohibited area line 42 meters south of confluence with Bennett Creek	SA NSW	030413	199.9	I	M	PRO	100
Bennett Creek	From source to Bear Creek	SA NSW	030413	15.7	I	M	PRO	100
Win Creek	From source to Bear Creek	SA NSW	030413	1.2	S	M	APP	
Plum Creek	From source to Bear Creek	SA NSW	030413	8.1	S	M	APP	
Riggs Creek	From source to Bear Creek	SA NSW	030413	23.2	S	M	APP	
Cox Creek	From source to Bear Creek	SA NSW	030413	3.4	S	M	APP	
Garden Creek	From source to Bear Creek	SA NSW	030413	6.4	S	M	APP	
Harper Creek	From source to Bear Creek	SA NSW	030413	4.1	S	M	APP	
Catchall Creek	From source to Bear Creek	SA NSW	030413	4.6	S	M	APP	
Chadwick Creek	From source to Bay River	SA NSW	030413	54.4	S	M	APP	
No Jacket	From source to Bay River	SA NSW	030413	13.3	S	M	APP	
Gale Creek	From source to DEH prohibited area line on west side of ICWW	SA NSW	030413	29.4	I	M	PRO	100
Gale Creek	From DEH prohibited area line on west side of ICWW to Bay River including east side of ICWW	SA NSW	030413	189.6	S	M	APP	
Intracoastal Waterway	From Jones Bay to Gale Creek	SA NSW	030413	83.9	S	M	APP	
Jumpover Creek	From source to Intracoastal Waterway	SA NSW	030413	7.7	S	M	APP	
Raccoon Creek	From source to Gale Creek	SA NSW	030413	8.1	S	M	APP	
Whealton Creek	From source to Gale Creek	SA NSW	030413	7.6	S	M	APP	
Tar Creek	From source to Gale Creek	SA NSW	030413	3.8	S	M	APP	
Ditch Creek	From source to Gale Creek	SA NSW	030413	19.0	S	M	APP	
Ditch Creek Canal	From Ditch Creek (Jones Bay) to Ditch Creek (Gale Creek)	SA NSW	030413	0.0	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
Sheeppen Creek	From source to Bay River	SA NSW	030413	9.7	S	M	APP	
Hogpen Creek	From source to Bay River	SA NSW	030413	3.9	S	M	APP	
Yaupon Creek	From source to Bay River	SA NSW	030413	18.6	S	M	APP	
Dump Creek	From source to Bay River	SA NSW	030413	84.2	S	M	APP	
Rockhole Bay	From source to Bay River	SA NSW	030413	230.1	S	M	APP	
Fisherman Bay	From source to Bay River	SA NSW	030413	64.5	S	M	APP	
Sound Bay	From source to Pamlico Sound	SA NSW	030413	53.6	S	M	APP	
Jones Bay	From source to Pamlico Sound	SA NSW	030413	2,876.2	S	M	APP	
Intracoastal Waterway	From N. C. Hwy 304 Bridge to Jones Bay	SA NSW	030413	7.0	S	M	APP	
Henry Creek	From source to Jones Bay	SA NSW	030413	1.5	S	M	APP	
Bills Creek	From source to Jones Bay	SA NSW	030413	8.1	I	M	PRO	100
Doll Creek	From source to Jones Bay	SA NSW	030413	11.2	S	M	APP	
Lambert Creek	From source to Jones Bay	SA NSW	030413	7.4	S	M	APP	
Ditch Creek	From source to Jones Bay	SA NSW	030413	171.2	S	M	APP	
Sheepneck Creek	From source to Ditch Creek	SA NSW	030413	15.6	S	M	APP	
Dowdy Creek	From source to Ditch Creek	SA NSW	030413	7.5	S	M	APP	
Drum Creek	From source to Jones Bay	SA NSW	030413	59.0	S	M	APP	
Little Eve Creek	From source to Jones Bay	SA NSW	030413	24.9	S	M	APP	
Little Drum Creek	From source to Jones Bay	SA NSW	030413	20.6	S	M	APP	
Coot Creek	From source to Jones Bay	SA NSW	030413	0.3	S	M	APP	
Fishing Bay	From source to Pamlico Sound	SA NSW	030413	63.0	S	M	APP	
Middle Bay	From source to Pamlico Sound	SA NSW	030413	535.5	S	M	APP	
Capp Creek	From source to Middle Bay	SA NSW	030413	11.0	S	M	APP	
Leary Canal	From Porpoise Creek to Capp Creek	SA NSW	030413	0.0	S	M	APP	
Preston Bay	From source to Middle Bay	SA NSW	030413	9.0	S	M	APP	
Flower Bay	From source to Middle Bay	SA NSW	030413	21.6	S	M	APP	
Roundabout Bay	From source to Middle Bay	SA NSW	030413	33.6	S	M	APP	
Little Oyster Creek	From source to Middle Bay	SA NSW	030413	62.4	S	M	APP	
Big Oyster Creek	From source to Pamlico Sound	SA NSW	030413	55.5	S	M	APP	
Big Porpoise Bay	From source to Pamlico Sound	SA NSW	030413	661.7	S	M	APP	
Porpoise Creek	From source to Big Porpoise Bay	SA NSW	030413	24.2	S	M	APP	
Little Porpoise Bay	From source to Pamlico Sound	SA NSW	030413	176.1	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
PAMLICO SOUND	Southern portion Pamlico within Neuse River Basin subbasin 030414 with the exception of DEH prohibited area at mouth of Cedar Island Ferry Harbor	SA NSW	030414	84,692.5	S	M	APP	
PAMLICO SOUND	DEH prohibited area at Cedar Island Ferry Harbor in southern portion Pamlico within Neuse River Basin subbasin 030414	SA NSW	030414	12.5	I	M	PRO	100
West Bay	From source to Pamlico Sound	SA NSW	030414	16,359.3	S	M	APP	
Long Bay	From source to West Bay	SA NSW	030414	3,227.8	S	M	APP	
Flag Creek	From source to Long Bay	SA NSW	030414	4.7	S	M	APP	
Golden Creek	From source to Long Bay	SA NSW	030414	9.7	I	M	PRO	100
Benneys Creek	From source to Long Bay	SA NSW	030414	2.6	S	M	APP	
Henrys Creek	From source to Long Bay	SA NSW	030414	2.7	S	M	APP	
Fur Creek	From source to Long Bay	SA NSW	030414	7.3	S	M	APP	
Stump Bay	From source to Long Bay	SA NSW	030414	101.8	S	M	APP	
Old Canal	From source to Stump Bay	SA NSW	030414	10.5	S	M	APP	
Piney Island Bay	From source to Long Bay	SA NSW	030414	57.7	S	M	APP	
Owens Bay	From source to Long Bay	SA NSW	030414	74.5	S	M	APP	
Jacks Bay	From source to Long Bay	SA NSW	030414	61.0	S	M	APP	
West Thorofare Bay	From source to West Bay	SA NSW	030414	1,018.2	S	M	APP	
Bull Creek	From source to West Thorofare Bay	SA NSW	030414	13.2	S	M	APP	
Cadduggen Creek	From source to West Thorofare Bay	SA NSW	030414	2.5	S	M	APP	
Goose Bay	From source to West Thorofare Bay	SA NSW	030414	46.2	S	M	APP	
Merkle Bay	From source to West Bay	SA NSW	030414	336.1	S	M	APP	
Deep Bend	From source to West Bay	SA NSW	030414	241.2	S	M	APP	
Nameless Bay	From source to West Bay	SA NSW	030414	75.5	S	M	APP	
Green Point Cove	From source to West Bay	SA NSW	030414	100.3	S	M	APP	
Dowdy Bay	From source to West Bay	SA NSW	030414	157.6	S	M	APP	
Point of Island Bay	From source to West Bay	SA NSW	030414	115.5	S	M	APP	
Newstump Bay	From source to West Bay	SA NSW	030414	176.6	S	M	APP	
North Bay	From source to West Bay	SA NSW	030414	958.4	S	M	APP	
Neuse-Southeast Pamlico Sound ORW Area	All waters within a line beginning at the southwest tip of Ocracoke Island, and extending northwest along the Tar-Pamlico River Basin and Neuse River Basin boundary line to Lat. 35 06’50", Long 76 06’30", thence in a southwest direction to Ship Point	SA ORW NSW	030414	38,582.8	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
Core Sound	From Northeastern limit of White Oak River Basin (a line from Hall Point to Drum Inlet) to Pamlico Sound	SA ORW NSW	030414	18,201.7	S	M	APP	
Thorofare Bay	From source to Core Sound	SA ORW NSW	030414	1,674.5	S	M	APP	
Thorofare	From West Thorofare Bay to Thorofare Bay	SA NSW	030414	34.9	I	M	PRO	100
Merkle Hammock Creek	From source to Thorofare Bay	SA NSW ORW	030414	186.0	S	M	APP	
Barry Bay	From source to Thorofare Bay	SA ORW NSW	030414	606.6	S	M	APP	
Rumley Bay	From source to Core Sound	SA ORW NSW	030414	167.7	S	M	APP	
John Day Ditch	From source to Rumley Bay	SA NSW	030414	2.4	S	M	APP	
Lewis Creek	From source to Core Sound	SA ORW NSW	030414	72.3	S	M	APP	
Southwest Prong Lewis Creek	From source to Lewis Creek	SA ORW NSW	030414	11.8	S	M	APP	
Big Gut	From source to Lewis Creek	SA NSW	030414	1.9	S	M	APP	
Cedar Island Bay	Entire Bay, including all inlets, coves, and bays, not otherwise named in the schedule of classifications	SA ORW NSW	030414	2,857.0	S	M	APP	
Great Pond	From source to Cedar Island Bay	SA ORW NSW	030414	3.0	s	M	PRO	100
Back Bay	Entire Bay, including all inlets, coves, and bays, not otherwise named in the schedule of classifications	SA ORW NSW	030414	850.6	S	M	APP	
Great Pond	From Pamlico Sound to Back Bay	SA ORW NSW	030414	42.5	S	M	APP	
Noras Cove	Entire Cove	SA ORW NSW	030414	29.6	S	M	APP	
End of Island Slough	From Pamlico Sound to Back Bay	SA ORW NSW	030414	2.8	S	M	APP	
Snake Gut	From Pamlico Sound to Back Bay	SA ORW NSW	030414	4.8	S	M	APP	
Fullers Ditch	From Pamlico Sound to Back Bay	SA ORW NSW	030414	6.9	S	M	APP	

Name	Description	Class	Subbasin	Estuarine Acres	Rating	Basis	DEH Class	Percent Closed
The Passage	From Pamlico Sound to Back Bay	SA ORW NSW	030414	70.6	S	M	APP	
Deep Slough	From Pamlico Sound to The Passage	SA ORW NSW	030414	3.8	S	M	APP	
Drum Pond	From source to Back Bay	SA ORW NSW	030414	0.3	S	M	APP	
Goose Bay	Entire Bay	SA ORW NSW	030414	33.4	S	M	APP	
Oyster Creek	From Core Sound to Goose Bay	SA ORW NSW	030414	45.8	S	M	APP	
Great Ditch	From Core Sound to Goose Bay	SA ORW NSW	030414	47.6	S	M	APP	
Hog Island Narrows	From Cedar Island Bay to Back Bay	SA ORW NSW	030414	11.5	S	M	APP	
NOTES								
"Rating" = Use Support Rating	Problem Parameter for all impaired Class SA waters is fecal coliform bacteria							
"Basis"=Rating basis								
ABBREVIATION KEY								
M = Monitored	APP = Approved							
S = Supporting	CAO = Conditionally Approved-Open							
I = Impaired	CAC = Conditionally Approved-Closed							
NR = Not Rated	PRO = Prohibited							