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State of Delaware 2020 Combined Watershed Assessment Report (305(b)) and Determination for the Clean Water Act Section 303(d) List of Waters Needing TMDLs

(The Integrated Report)

Delaware Department of Natural Resources and Environmental Control

Division of Watershed Stewardship

Watershed Assessment and Management Section

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EXECUTIVE SUMMARY

The State of Delaware 2020 Combined Watershed Assessment Report (305(b)) and Determination for the Clean Water Act Section 303(d) List of Waters Needing TMDLs (the Integrated Report) provides a statewide assessment of surface water and ground water resources, highlights Delaware's initiatives in water resources management and pollution control and provides a list of waters that need Total Maximum Daily Load regulations (TMDLs) to meet water quality standards. The document fulfills the reporting requirements set forth under Sections 305(b) and 303(d) of the Federal Clean water Act of 1977, as amended in 1981 and 1987. The document is organized largely in accordance with the federal Environmental Protection Agency's (EPA) 2006 guidance document. In order to streamline the 2020 Integrated Report, many Departmental programs and other resources not specifically required in the report are briefly described and URLs for further information are supplied.

This Integrated Report summarizes statewide water quality assessments, provides an overview of major initiatives and concerns on a statewide basis, and lists waters needing TMDLs. Tables are provided which show the result of water quality analysis and designated use support findings for data from the period of January 2014 through December 2018 and the resulting Section 303(d) List of Waters Needing TMDLs from those assessments.

For the 2020 Integrated Report database as shown in Appendix Four, thirty seven revisions to earlier lists are highlighted in "Change this cycle" column in the List. Under the Clean Water Act, "listing" a waterbody is an indication that the water body is not fully meeting its designated use, thus "impaired", and needs further controls to support the designated use. Once listed, a TMDL regulation or alternative must be developed that will return the waterbody to supporting the designated use. Delisting a waterbody for a pollutant indicates that the previously listed waterbody now supports a designated use and thus "attains the use". Segment/pollutant combinations allow the Department to track progress for individual pollutants in specified waterbodies. For example, one segment (which can be an entire waterbody or a section of larger waterbody) may be impacted by four fish tissue advisory pollutants, nutrients and bacteria. That segment would thus have six segment/pollutant combinations.

Six segments were relisted for either dissolved oxygen, bacteria or nutrients that were previously delisted. None of the segments require a new TMDL as they are all covered by previous TMDLs.

There were twenty eight delistings in this cycle. Twenty of them were for nutrient, dissolved oxygen or bacteria impairments. Eight delistings were for copper because data showed no exceedances of water quality criteria in those segments.

Finally, for three segments the TMDL priority status has been changed from Medium to High priority as they near the 2022 TMDL target date for either changing to Category 5(MNR) based on updated WATAR trends assessments, or actual TMDL development should the trend assessments show the need for a TMDL

For the 2020 assessments, the Department incorporated the Fish Tissue Advisories that were issued by the Delaware Departments of Health and the Department of Natural Resources and

Environmental Control on February 20th, 2018. As the 2018 Advisories were incorporated into the 2018 IR, there were no changes to the listings for toxics in fish tissue this cycle.

The Department has been using a strategy called the Watershed Approach to Toxics Assessment and Restoration (WATAR) to address toxic pollutant issues in the State. In March of 2018 the Department completed a report entitled "An Evaluation of Clean Water Act Section 303(d) Listings of Delaware Waters Affected by Fish Consumption Advisories". The evaluation considered information gathered from the WATAR and Fish Tissue Advisories programs to do detailed trends analyses of pollutants in fish tissue using data from the 1990s forward. The report recommended seventeen segments be placed into a new category of impairment known as Monitored Natural Recovery. That category is shown in this report as Category 5(MNR). In those waters, while the pollutant levels have not dipped below screening levels, they are expected to do so as shown in trend analyses of the available data. As suggested in the category name, the Department will continue to monitor fish in those waters and expects the contaminant level to decrease enough for future evaluations to recommend delisting those contaminants. The report recommended completing TMDLs in those waters where the above trend analyses showed that concentrations of those contaminants are not expected to reach acceptable levels in the near term without TMDL regulations. The Department expects to complete an updated trend evaluation of those segments with new data and either change them to Category 5(MNR) or complete TMDLs for those segments.

The Department has been working with US EPA to move Delaware's 303(d) listing information into EPA's Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS) database which will allow EPA and stakeholders to track the conditions of the Nation's surface waters. As part of that effort, the Department has converted the list of impaired waters into a format more compatible with the ATTAINS database and geographical information systems (GIS). The new format is significantly longer than the older format, but much easier to use in those environments. The Department has worked closely with EPA staff to transition to the ATTAINS reporting system. See the appendices for the new 303(d) listing format.

Groundwater-Quality Highlights

PLACEHOLDER

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PART A. INTRODUCTION

The State of Delaware 2020 Combined Watershed Assessment Report (305(b)) and Determination for the Clean Water Act Section 303(d) List of Waters Needing TMDLs (the Integrated Report) provides a statewide assessment of surface water and ground water resources, highlights Delaware's initiatives in water resources management and pollution control and provides a list of waters that need Total Maximum Daily Load regulations (TMDLs) to meet water quality standards. The document fulfills the reporting requirements set forth under Sections 305(b) and 303(d) of the Federal Clean water Act of 1977, as amended in 1981 and 1987. The document is organized largely in accordance with the federal Environmental Protection Agency's (EPA) 2006 guidance document and subsequent updates.

This Integrated Report summarizes statewide water quality assessments, provides an overview of major initiatives and concerns on a statewide basis, and lists waters needing TMDLs. Tables are provided in the appendices which show the result of water quality analysis and designated use support findings for data from the period of January 2014 through December 2018 and the resulting TMDL List from those assessments.

In order to streamline the 2020 Integrated Report, many Departmental programs and other resources not specifically required in the report are briefly described and URLs for further information are supplied.

PART B. BACKGROUND

B1. Total Waters

State Population[1]	973,764
State Surface Area	1981 square miles
Number of Basins	5
Number of Watersheds	45
Perennial River Miles (NHD Code 46006)[2]	2,363
Intermittent Stream Miles (NHD Code 46003)[2]	1,093
Ditches and Canals Miles (NHD Code 33600) [2]	1,014
Number of Border Miles	87
Perennial Lake/Pond Acres [2]	11491
Square Miles of Estuarine Waters [3]	841
Number of Ocean Coastal Miles	25
Acres of Nontidal Wetlands	166,597
Acres of Tidal Wetlands	129,754

1. http://www.census.gov/quickfacts/table/PST045215/10
2. Values based on National Hydrography Dataset (NHD) Data for Delaware Waters
3. Surface area for Delaware River Zone 5 and Delaware Bay provided by the Delaware River Basin Commission (DRBC), 1994 -1995 305(b) Report. For purposes of this report, Delaware reports on the Inland Bays and DRBC reports on the Delaware River and Bay.

B2. Water Pollution Control Program

The Delaware Department of Natural Resources and Environmental Control (DNREC) has several programs related to water pollution control in its Watershed Assessment and Management Section. The Water Quality Standards program works with stakeholders and co-regulators to set the Designated Uses and Criteria for the State's waters to protect them as required under the Clean Water Act (CWA), EPA regulations and Delaware Code. The most recent Triennial Review of Water Quality Standards was done in 2014. DNREC anticipates another Triennial Review will start in 2020. DNREC does Integrated Reporting to meet its CWA Section 305(b) and 303(d) requirements, as shown in this report. Integrated reports are due on April 1st of even numbered years. The Total Maximum Daily Load (TMDL) program is also part of the Watershed Assessment and Management Section. Waterbodies that don't meet their designated uses due to pollutants, and thus part of the State's 303(d) list of impaired waters, are required to have TMDLs to meet their criteria. The TMDL program has completed TMDLs for most of the watersheds in the State for excessive nutrients and bacteria. TMDLs and alternatives for other pollutants are being addressed by the Watershed Approach to Assessment and Restoration (WATAR) Program.

The Drainage and Stormwater Section provides management and implementation of regulatory and non-regulatory programs to improve drainage, stormwater, water quality and dam safety.

The Surface Water Discharges Section regulates point and non-point sources of pollution to surface waters of the state. This section works with individuals, municipalities and industry to ensure that wastewater is properly treated, storm water is properly managed, and biosolids and residual wastes are beneficially reused. Delaware's National Pollutant Discharge Elimination System (NPDES) permits are part of this Section's programs.

The Nonpoint Source Program addresses nonpoint source pollution through educational programs, publications, and partnerships with other Delaware organizations. The Delaware NPS Program also administers a competitive grant made possible through Section 319 of the Clean Water Act, providing funding for projects designed to reduce NPS pollution.

The Ground Water Discharges Section (GWDS) is responsible for overseeing all aspects of the siting, design and installation of onsite wastewater treatment and disposal systems (aka septic systems). The section also issues waste transporter permits and licenses to percolation testers, designers, soil scientists, system contractors, liquid waste haulers and system inspectors.

The Ground-Water Protection Branch of the Water Supply Section is responsible for the ground-water protection program, source water assessment and protection program, and wellhead protection program. Hydrologists and environmental scientists of this branch provide technical expertise needed to protect the ground-water resources of Delaware. Responsibilities include regulatory review, resource assessment, database quality control, and public education.

The following table has web addresses for the programs mentioned above.

Program	Web Address
Water Quality Standards	http://www.dnrec.delaware.gov/swc/wa/Pages/Watershed%20Assessment%20Surface%20Water%20Quality%20Management.aspx
305(b) Reports and 303(d) lists	http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessment305band303dReports.aspx
Total Maximum Daily Loads	http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessmentTMDLs.aspx
Watershed Approach to Assessment and Restoration (WATAR)	http://www.dnrec.delaware.gov/dwhs/SIRB/Pages/WATAR.aspx
Drainage and Stormwater Section	http://www.dnrec.delaware.gov/swc/Drainage/Pages/Drainage.aspx
Nonpoint Source Program	http://www.dnrec.delaware.gov/swc/district/Pages/NPS-Program.aspx
Ground Water Discharges (septics)	https://dnrec.alpha.delaware.gov/water/groundwater/
Surface Water Discharges	https://dnrec.alpha.delaware.gov/water/surface-water/
Ground Water Protection Branch	https://dnrec.alpha.delaware.gov/water/supply/ground-water-protection/
Municipal Separate Storm Sewer Systems (MS4s) Permits	https://dnrec.alpha.delaware.gov/water/surface-water/npdes/municipal-storm-sewers/

DNREC works closely with its partners in other Delaware agencies, other States and Federal agencies to address water issues that cross jurisdictional boundaries. For example, the Department works with the Delaware Department of Health and Social Services' Division of Public Health to collect and analyze for toxins in fish and then coordinate fish consumption advisories State wide. The Department works with the Nutrient Management Commission to work with non-point sources of nutrients to manage and/or reduce nutrient inputs to Delaware's waters. DNREC is also working closely with the Delaware Department of Transportation to develop and implement MS4 permits in New Castle County.

The Department is an active member of the Delaware River Basin Commission that works in the Delaware River and Delaware Bay to regulate both flow and water quality. Delaware is also working closely with partners and stakeholders from six states in the Chesapeake Bay watershed to implement the Chesapeake Bay Watershed Implementation Plan that will help restore the Chesapeake Bay's water quality.

B3. Cost/Benefit Assessment

Under the Clean Water Act and the implementing regulations, States are required to submit estimates of the environmental, economic and social costs and benefits needed to achieve the objectives of the Clean Water Act. In cooperation with the Department, The University of Delaware Water Resources Center prepared a white paper entitled "Economic Benefits of Improved Water Quality in Delaware." In the paper, the Center estimated the economic benefits of improved water quality to be $17.2 million dollars annually. The UD Water Resources Center has also concluded that Delaware watersheds and waterways support (1) over $6 billion in annual economic activity from water quality, flood control, water supply, fishing and wildlife viewing, recreation, agriculture, ports, forests, and parks, (2) ecosystem goods and services of $6.7 billion per year (2010 dollars) with a net present value (NPV) of $216.6 billion, (3) over 70,000 direct and indirect jobs with over $2 billion in wages, see http://www.wrc.udel.edu/research/watershed-economics/economic-benefits-and-jobs-provided-by-delaware-watersheds/. To date, cost estimates have not been compiled. Future iterations of the Integrated Report will expand the analysis of costs and benefits reported.

B4. Special State Concerns and Recommendations

The Department has been working on managing water quality issues for many years with stakeholders and other State and Federal agencies to address water quality issues statewide and in interstate waters. See Section B2 of this report for current activities in our water pollution control programs. The Department has been working with stakeholders on TMDLs that are being implemented with varying degrees of success. Toxics TMDLs for zinc have been implemented successfully in the Christina basin, bringing zinc levels into compliance with applicable water quality standards. Statewide trends analysis for nutrients shows that approximately half of the reporting stations considered are experiencing lower nutrient loads for nitrogen with fewer than ten percent of stations showing increasing trends. Continued TMDL implementation is still needed to continue those gains and achieve nutrient targets in Waters of the State.

The Department has been addressing remaining waterbodies needing TMDLs or alternatives for toxic pollutants in its WATAR program also described and linked to in Section B2 above. Tracking down pollution sources and using appropriate and cost effective approaches to remediate those sources is one keystone of the WATAR program. One such intervention at Mirror Lake in Dover was remarkably effective in reducing bioavailability of PCBs. The Department worked across Divisions, with other State and Federal agencies, and with academia to do the work at Mirror Lake. As a result, major reductions in PCBs in fish tissue in the fish in the lake were seen in less than a year. The Department believes working to expand the successes and lessons learned from the WATAR program will be important in reducing impacts from pollution statewide.

Climate change is an important issue long term in the State. The Department worked with a wide range of scientists and policy makers to create the Delaware Climate Change Impact Assessment that is online at : https://dnrec.alpha.delaware.gov/climate-coastal-energy/climate-change/ . One of the conclusions in the executive summary is that: “Delaware faces potential impacts from changes in temperature, precipitation, and sea level rise. State officials, local governments, residents, and businesses must prepare for changing climate conditions that will affect communities and economic sectors throughout Delaware.”

Water quality monitoring including fish tissue and other biological monitoring has been a keystone to understanding water quality issues statewide. The Department has invested heavily in monitoring data for many years. Scientists, citizens and policy makers rely on the continued availability of high quality data to track progress and make regulatory and policy decisions that affect a wide range of programs and interests. For example, the Department anticipates using site specific data from the WATAR program to set criteria in the water quality standards for toxic pollutants state wide in upcoming triennial reviews of water quality standards required under the Clean Water Act.

PART C. SURFACE WATER MONITORING AND ASSESSMENT

C1. Monitoring Program

The purpose of the Delaware's Surface Water Quality Monitoring Program is to collect data on the chemical, physical and biological characteristics of Delaware's surface waters. The information that is collected under this program is used to:

- Describe general surface water quality conditions in the State;
- Identify long term trends in surface water quality;
- Determine the suitability of Delaware surface waters for water supply, recreation, fish and aquatic life, and other uses;
- Monitor achievement of Surface Water Quality Standards;
- Identify and prioritize high quality and degraded surface waters;
- Calculate annual nutrient loads and track progress toward achieving Total Maximum Daily Loads (TMDLs) targets; and
- Evaluate the overall success of Delaware's water quality management efforts.
- Inform decisions by other stakeholders and programs

Delaware maintains a General Assessment Monitoring Network (GAMN) of ~ 139 stations. Twenty three of the stations are monitored monthly and the remaining stations are monitored either six or twelve times per year. Each station is monitored for conventional parameters such as nutrients, bacteria, dissolved oxygen, pH, alkalinity, and hardness. Some stations are monitored for dissolved metals. The data from this monitoring is entered into EPA's STORET database and used for this report and other uses by interested parties.
More information about Delaware's Water Quality monitoring is available online at:
http://www.dnrec.delaware.gov/swc/wa/Pages/WaterQualityMonitoring.aspx
In addition to uploading data to STORET, the Department also works in co-operation with the University of Delaware to share available water quality data in a more user friendly format in the Delaware Water Quality Portal at this URL: http://demac.udel.edu/waterquality/.

C2. Assessment Methodology

General Provisions

Data Considered**:**

Readily available data and information for the period of January 1, 2014 through December 31, 2018 was considered for the assessment of most designated uses. Given that adequate water quality data may not be available in all cases, determinations of use attainment were made with an abundance of caution.

Data Quality and Quantity

Data from the Department of Natural Resources and Environmental Control's (DNREC's) Environmental Laboratory Section (ELS) was considered for use if it is collected and analyzed in accordance with the DNREC ELS Quality Assurance Project Plan. For data from sources other than the DNREC ELS, the Department considered the quality controls used in collection and analysis to determine if it was appropriate for use in this assessment. The Department routinely currently collects water quality samples at more than 130 stations throughout the State. That data makes up the bulk of the data available for use in 305(b) assessments. The Department considers data from the most recent five-year period, thus, at each station, there are usually data from 20 sampling dates or more. Some stations are in place for a more limited time period and have smaller data sets. Other readily available data and reports were requested in advance of each assessment from parties outside of the Department and used when they were made available. In addition to electronic mail requests from specific organizations, a notice was be published in the Delaware State News and the News Journal.

For the 2020 assessment, the Department considered data and information received before March 2020 from the following sources:

- Reports of ambient water quality data including State ambient water quality monitoring programs, citizen volunteer monitoring programs, complaint investigations, and other readily available data sources (e.g., EPA's Storage and Retrieval System (STORET), the United States Geological Survey, and research reports), and data and information provided by the public;
- Reports prepared to satisfy Clean Water Act (CWA) Sections 305(b), 303(d) and 314 and any updates;
- Fish and shellfish advisories
- Restrictions on water sports or recreational contact

Coordination with Delaware River Basin Commission (DRBC) and Chesapeake Bay Program Assessments

The DRBC prepares 305(b) assessment reports every two years for the Delaware River and Delaware Bay. Delaware will incorporated the most recent use attainment determinations made by DRBC for the shared waters of the Delaware River and Delaware Bay into its 2018 303(d) list. Delaware expects to work cooperatively with the DRBC, member states and stakeholders to develop and implement TMDLs in waters of the Delaware River and Bay that the DRBC determines to be impaired.

The Chesapeake Bay Program (CBP) is doing assessments for waters in the Chesapeake Bay and nearby waters that drain into the bay in co-operation with Maryland, Virginia, Washington D.C. and Delaware. Delaware incorporated the most recent use attainment determinations for waters of the state that use criteria developed by the CBP for waters that drain to the Chesapeake Bay.

Use of Environmental Protection Agency Integrated Assessment Guidance

US EPA has guidance online for preparation of Integrated Reports at the following URL: https://www.epa.gov/tmdl/integrated-reporting-guidance

The core recommendation of the guidance is to categorize all waters of the state according to the following five categories:

Category 1: All designated uses are met;

Category 2: Some of the designated uses are met but there is insufficient data to determine if remaining designated uses are met;

Category 3: Insufficient data to determine whether any designated uses are met. Either no data is available or some data is available, but it is insufficient to make a determination

Category 4: Water is impaired or threatened but a TMDL is not needed;

- 4A: All TMDLs for this segment have been completed and EPA approved. Class 4A waters have all necessary TMDLs approved, but one or more impairments exist, despite the approved TMDLs.
- 4B: Other required control measures are expected to result in the attainment of WQSs in a reasonable period of time
- 4C: The impairment or threat is not caused by a pollutant

Category 5: Water is impaired or threatened and a TMDL is needed for at least one pollutant or stressor

The Department has created a sub-category of Category 5 waters based on recommendations in a March 2018 report prepared by the Department titled “An Evaluation of Clean Water Act Section 303(d) listings of Delaware Waters Affected by Fish Consumption Advisories”. That evaluation recommends that for some waters where trends indicate a downward slope in fish tissue contaminant concentrations that should be below fish tissue target levels within five to ten years without implementing a TMDL a subcategory of impaired waters be created. That subcategory is 5(MNR) in which MNR stands for “Monitored Natural Recovery”. As implied by the name, the Department plans to continue monitoring fish tissue in those waterbodies in accordance with the Fish Tissue Advisory program protocols until such time as the contaminants in the fish are no longer above levels of concern and beyond. When the data supports removing the fish tissue advisories, the Department will consider that information for delisting decisions with stakeholder input. For more information about the Fish Tissue Advisory process see section C6 of this report. The Department also plans to pursue remediation efforts in affected watersheds in accordance with the WATAR program and process as discussed in other sections of this report and online at http://www.dnrec.delaware.gov/dwhs/SIRB/Pages/WATAR.aspx. If trends

analyses at later dates show that trends in 5(MNR) waters are not in fact trending downward, or reaching their target levels, the Department will reclassify those waters as Category 5 and TMDLs for those pollutants will be developed.

The Department has worked with US EPA to move Delaware's 303(d) listing information into EPA's Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS) database which allows EPA and stakeholders to track the conditions of the Nation's surface waters. As part of that effort, the Department has converted the list of impaired waters into a format more compatible with the ATTAINS database and geographical information systems (GIS). The new format is significantly longer than the older format, but much easier to use in those environments. Future Integrated Reports are expected to be compiled largely within the ATTAINS system and reports for stakeholders will be prepared as needed for the public comment period.

The Department assessed data for a number of parameters in each segment that sufficient data was readily available for, and then assigned them the codes listed above for each parameter and segment combination. This gives the Department more information about specific parameters of concern and allows more detailed tracking of those concerns over time. Each of Delaware's monitored waterbody segments were assigned to the appropriate category for each designated use and then 'rolled up' into a final categorization for the segment.

Dissolved Oxygen (DO) Aquatic Life Use Support (ALUS)

The following types of DO data were available for analysis:

- Field measurements taken by personnel using handheld DO probes; and
- Continuous monitoring data collected using multiparameter monitoring systems that are typically deployed for several days, weeks, or months. In order to get a more accurate picture of dissolved oxygen dynamics and other water quality parameters, the Department continues to increase its use of continuous monitoring systems.

To determine ALUS with regard to Dissolved Oxygen (DO), the following methodology was used to compare measured DO concentrations to two different standards, the minimum at all times and daily average concentrations. Average DO concentrations were considered to be met if the 10^{th} percentile of available data is above the applicable criteria of 5.0 mg/l for marine waters and 5.5 mg/l for fresh waters. The statewide minimum DO concentration for surface waters is 4.0 mg/l at any time. Stations were judged to be in compliance with this criterion if the minimum is not violated by more than 1% of continuous monitoring data and no more than two field samples are below the minimum. Dissolved oxygen criteria in the Murderkill River are different from the Statewide averages for the period of May 16 to September 30^{th} and the data from that period was considered in the same way as the rest of the State against the lower criteria.

Assessments of Average DO Criteria Attainment:

If sampling events occurred on at least ten different days during the assessment period for each station, attainment of the DO average criteria were assessed using the method that follows. Stations where monitoring has been discontinued that have data from fewer than 10 days were not be considered for further evaluation.

For purposes of DO compliance with the daily average criteria in a segment, continuous monitoring data, if available, was averaged on a daily basis for each station. If no continuous data is available, then the field measurements (as available) were considered to be representative of the daily average for that day. Any type of sample (continuous or field measurement) was considered to be representative for that station at the time of collection. Once the daily average for each station (station daily average, SDA) has been determined, the SDAs for each station will be pooled and the upper confidence limit (UCL) of the nonparametric 10^{th} percentile confidence interval was determined using methods described in Section 3.7 of Helsel and Hirsch . That UCL was compared to the applicable standard. If the UCL was above the applicable average criteria for all stations in a segment, the segment will be considered to be fully supporting (Category 1) for the DO average portion of ALUS. If the UCL from any station in a segment was below the applicable average, the segment was considered not fully supportive of the aquatic life use (Category 5)

Formally stated, the following hypotheses will be tested:

H_0: at the 90% Confidence level, $X_{10} \geq$ Standard

H_1: at the 90% Confidence level, $X_{10} <$ Standard

Where X_{10}= Non parametric estimate of the 10th percentile of available data.

Assessments of Minimum DO Criteria Attainment:

Attainment of the minimum DO criteria was assessed based on all available data (note that ten samples in 5 years are not needed for the comparison to the minimum). For stations for which no continuous DO monitoring data are available, two or more SDAs in five years below the applicable minimum was sufficient evidence to show that the aquatic life use was not supported (Category 5).

Nutrient Enrichment Assessment

From a state-wide perspective, nutrient overenrichment is one of the leading causes of water quality impairment in Delaware. While nutrients are essential to the health of aquatic ecosystems, excessive nutrient loadings to surface waters can lead to an undesirable proliferation of aquatic weeds and algae, which in turn can result in oxygen depletion and associated impacts to fish and macroinvertebrate populations. Excessive aquatic plant growth can also preclude or seriously curtail water dependent activities such as fishing and boating when plant densities become so great that uses are not physically possible.

For tidal portions of the Indian River, Rehoboth Bay and Little Assawoman Bay watersheds, the water quality criterion for dissolved inorganic nitrogen is a seasonal average of 0.14 mg/l as N, and for dissolved inorganic phosphorus a seasonal average of 0.01 mg/l. For those stations where sampling events occurred on at least ten different days during the assessment period, the available data for the months of March to October from each station was averaged and confidence intervals on the averages were determined. The lower confidence limit on the averages was compared to the above values to assess attainment of desired nutrient levels in these waters. Segments with one or more stations whose lower confidence limit on their seasonal average were above the criteria were considered to be not fully supporting the aquatic life use (Category 5).

For the remaining waters of the State, the Department has been developing and implementing nutrient and dissolved oxygen TMDLs using target values for total nitrogen of 2-3 mg/l and total phosphorus levels of 0.1 to 0.2 mg/l. These target values were developed in order to implement the narrative provisions in the Surface Water Quality Standards. For those stations with sampling events on at least ten different days during the five-year assessment period the data were averaged and lower confidence limits on the averages were calculated and compared to the maximum values above. Stations whose lower confidence limit on the 5 year average total nitrogen or total phosphorus levels were above those levels were considered to be not fully supporting the aquatic life use (Category 5). Segments with one or more stations whose lower confidence limit on their average nutrient concentrations were above the target values were considered to be not fully supporting the aquatic life use (Category 5).

The following conditions would have also resulted in segments being listed in Category 5. None of them were used in this listing cycle.

1. There were documented cases of nuisance algal blooms or excessive macrophyte growth. These cases violate Section 4.1.1.3 of Delaware's Standards which require waters of the State to be free from substances that may result in a dominance of nuisance species;
2. Detailed, site-specific monitoring studies indicated a strong linkage between nutrient levels and indicators of eutrophication such as high chlorophyll-a concentrations, extreme daily variation in dissolved oxygen levels, and high sediment oxygen demand; or
3. For ERES waters, a long-term trend analysis indicates a statistically significant increase in nutrient levels over time. Such increases are inconsistent with the short-term goal of "holding the line" on water quality in ERES waters. Such increases are also inconsistent with the long-term goal of restoring those waters, to the extent feasible, to their natural state.

Assessments of Total Suspended Solids in the Tidal Inland Bays Watershed

For tidal portions of the Indian River, Rehoboth Bay and Little Assawoman Bay watersheds, the water quality criterion for total suspended solids (TSS) is a seasonal average of 20mg/l from March 1 to October 31. For those stations where sampling events occurred on at least ten different days during the assessment period, the available data for the months of March to October from each station were averaged and confidence intervals on the averages were determined. The lower confidence limit on the averages was compared to the above values to assess attainment of desired TSS levels in these waters. Segments with one or more stations whose lower confidence limit on their seasonal average were above the criteria were considered to be not fully supporting the aquatic life use (Category 5).

Primary Contact Recreation Use Assessments

Generally, total enterococcus bacteria water quality samples are collected several times each year at each monitoring station. In addition, for all guarded beaches and many unguarded beaches, samples are collected much more frequently from mid-May through mid-September as part of beach monitoring activities pursuant to the Beaches Environmental Assessment and Coastal Health (BEACH) Act. Assessment of the above two situations for primary contact recreation use support was as follows.

For segments with no beach monitoring, if sampling events occurred on at least ten different days during the assessment period, the geometric mean of the available enterococcus (colonies/100 ml)data for each station was compared to the geometric mean values shown in the table below. For segments with no beach monitoring, one or more station geometric means above the values in the table were considered to not be in support of the Primary Contact Recreation designated use (Category 5).

Water Type	Geometric Mean (Enterococcus colonies/100 ml) Criteria for Primary Contact Use
Fresh	100
Marine	35

Temperature Assessments

Delaware surface water quality criteria indicate that, in freshwaters, no human induced increase of the daily maximum temperature above 86ºF (30.0 ºC) shall be allowed and in marine waters the maximum human induced temperature is 87 ºF (30.6 ºC). Stations for which two or more sampling events were above the criteria and whose segments receive thermal discharges would have been deemed not in support of the aquatic life use. There were no such segments receiving thermal discharges.

Assessment of Harvestable Shellfish Waters Use Support

Delaware is a member of the Interstate Shellfish Sanitation Conference (ISSC), the administrative body of the National Shellfish Sanitation Program (NSSP). Delaware's Shellfish Sanitation Regulations are administered as per ISSC / NSSP standards and practices. Section 3.2.1.3 of said Regulations specifies data collection / closure criteria for Delaware shellfish waters, which include parameters constituting administrative closure of shellfish waters. Parameters that would trigger administrative closures in compliance with ISSC/NSSP standards may include theoretical pollution loading, sanitary shoreline survey information, and numerical total coliform data. All Delaware shellfish waters designated as other-than-Approved, which may include Prohibited, Seasonally Approved, Conditionally Approved, or restricted, are so designated on the basis of administrative decisions. Specifically, these criteria include: 1) theoretical pollution loading, which is determined to be the potential for intermittent pollution discharges, making detection of said theoretical releases non-detectable via conventional sampling methodology; 2) sanitary shoreline survey findings which indicate potential for theoretical pollution loading, also non-detectable via conventional sampling methodology; and 3) may include dilution of theoretical virus discharges from point sources; however, not corresponding to increases in total coliform levels. In order to comply with ISSC / NSSP requirements, Delaware samples all shellfish waters not administratively closed for other reasons for total coliform bacteria. Delaware's Shellfish Program is assessed under the auspices of the U.S. Food and Drug Administration, as per ISSC/NSSP standards and practices, and submits bacteriological water quality data to the U.S. Food and Drug Administration to demonstrate compliance.

To assess the harvestable shellfish designated use, the Department considered the data and reports to FDA for waters that are not administratively closed. Waters that were administratively closed for shellfish harvesting as a result of total coliform exceedances during the assessment period would have been assessed as category-5. No waters were administratively closed in the assessment period.

Listing Criteria for Waters with Fish Consumption Advisories

For purposes of developing Delaware's Integrated 305(b) Report and 303(d) List, the issuance of a "no consumption" or "limited consumption" fish advisory will be interpreted as a violation of Section 4.5.9.2.3 and Section 4.1.1.3 of Delaware's Surface Water Quality Standards. Those two narrative provisions provide, respectively, that:

1) waters of the State shall be maintained to prevent adverse toxic effects on human health resulting from ingestion of chemically contaminated aquatic organisms; and
2) waters of the State shall be free from pollutants that may endanger public health.

Any segment for which fish consumption advisories were place as of the publishing of the Integrated Report would have been placed in Category 5 for each of the chemicals of concern included in each advisory. In the event that fish consumption advisories were lifted, or any chemical of concern has been removed from an advisory, any requirements to develop a TMDL for that chemical in that segment will be removed if the fish tissue data was originally the sole cause for placement of the segment on the 303(d) list. In waters impaired by toxic pollutants, with both fish consumption advisories and water column data, both fish tissue and water column data were assessed independently against the applicable criteria.

For the 2020 assessments, the Department incorporated the Fish Tissue Advisories that were issued by the Delaware Departments of Health and the Department of Natural Resources and Environmental Control on February 20th, 2018. As those advisories were incorporated into the 2018 listing decisions, there were no changes in this cycle to listing decisions previously made.

Ammonia assessments

In fresh waters, ammonia's toxicity is known to be controlled by both the temperature and pH of the water. Delaware's ammonia criteria are based on the presence or absence of early life stages of fish and specify that the criterion should not be exceeded more than one time in a three-year period. The applicable criterion is calculated for each sampling event.

For stations whose average salinity during the assessment period is below 5 ppt, total ammonia as nitrogen, temperature and pH data was used to compare the total ammonia data to the criterion calculated according to the following formulas:

When fish early life stages are present:

$$\text{Criterion} = \frac{0.0577}{1 + 10^{7.688-pH}} + \frac{2.487}{1 + 10^{pH-7.688}} * \text{MIN}\left(2.85, 1.45 * 10^{0.028*(25-T)}\right)$$

When fish early life stages are absent:

$$\text{Criterion} = \frac{0.0577}{1 + 10^{7.688-pH}} + \frac{2.487}{1 + 10^{pH-7.688}} * \left[1.45\ 10^{0.028*(25-\text{MAX}(T,7))}\right]$$

If two or more sampling events from the same station resulted in exceedances of the calculated criteria within three years, the station was deemed not supported for aquatic life use support based on ammonia toxicity.

Assessments of Aquatic Life Use Support Using Site-Specific Data That Results from Environmental Assessments and Other Programs

The Department may use the following methodology in any IR cycle, but did not do so for the 2020 IR. "*In the normal course of business, the Department requests, receives and evaluates water quality data for various environmental programs. Similar data may also come from other parties (e.g., State, Federal, or local agencies). The Department will use those site-specific studies to compare water quality data to the applicable water quality standard(s) and make assessment and listing decisions for the affected segments. If the data show no water quality criteria are exceeded and no uses are impaired, no further listing action will be taken. If the data are ambiguous or inconclusive, the segment will be listed in Category 3. If water quality criteria are exceeded or uses are impaired as a result of a contaminated site, and the owners of the site are making substantial progress (as determined by the Department) toward correcting the pollution problem, the segment will be listed in Category 4 if an enforceable regulatory mechanism has been identified and implemented. If it appears that there is a water quality*

problem related to a contaminated site, and that substantial progress is not likely in the near future, the segment will be listed in Category 5. "

Assessments of Biology and Habitat

The Department has been working with the EPA to address prior listings for Biology and Habitat. As new stressor analyses and other data and information become available, appropriate measures will be taken to address these listings. Where no specific pollutant can be determined, the Department will delist those segments (move to category 4b or 4c as needed) and address water quality issues through restoration and other efforts as funding is available. If specific pollutants can be determined, TMDLs or other actions will be taken to address those pollutants.

Setting Priorities for Water Quality Limited Segments Still Needing TMDLs

The Department has set priorities for upcoming TMDLs in waters that remain in Category 5 or 5(MNR) according to the following protocol. Waters where TMDL development is not expected for five or more years were assigned to the "Low" priority group. For 2020 that includes waters listed for Habitat or Biology TMDL development. It also includes waters in Category 5(MNR) where waters are expected to be attaining for toxics in fish tissues within five to ten years as discussed above. As discussed above, the Department will change the priority of 5(MNR) waters if, for some reason, data shows that attainment of the use is not expected in a short period of time. The Department is working with EPA Region 3 to develop stressor analysis tools to try to resolve longstanding listings for Habit or Biology. Finally, there are some Delaware waters that are part of the DRBC waters and for which the DRBC and EPA will be taking the lead for TMDL development. Those are also listed as Low priority.

For waters the Department expected to develop TMDLs in more than 2 years, but less than 5 or more, the Department would have shown them as "Medium" priority. In those waters, plans are underway to collect data and other information to develop appropriate TMDLs. At this time, there are no waters in the Medium category.

If the Department expects to develop TMDLs in the next two years or less, those waters have been shown as "High" priority. The Department moved three waters from Medium to High priority in this cycle.

Rationale Used to Designate a Lower Category for Segments Previously Designated for TMDL Development

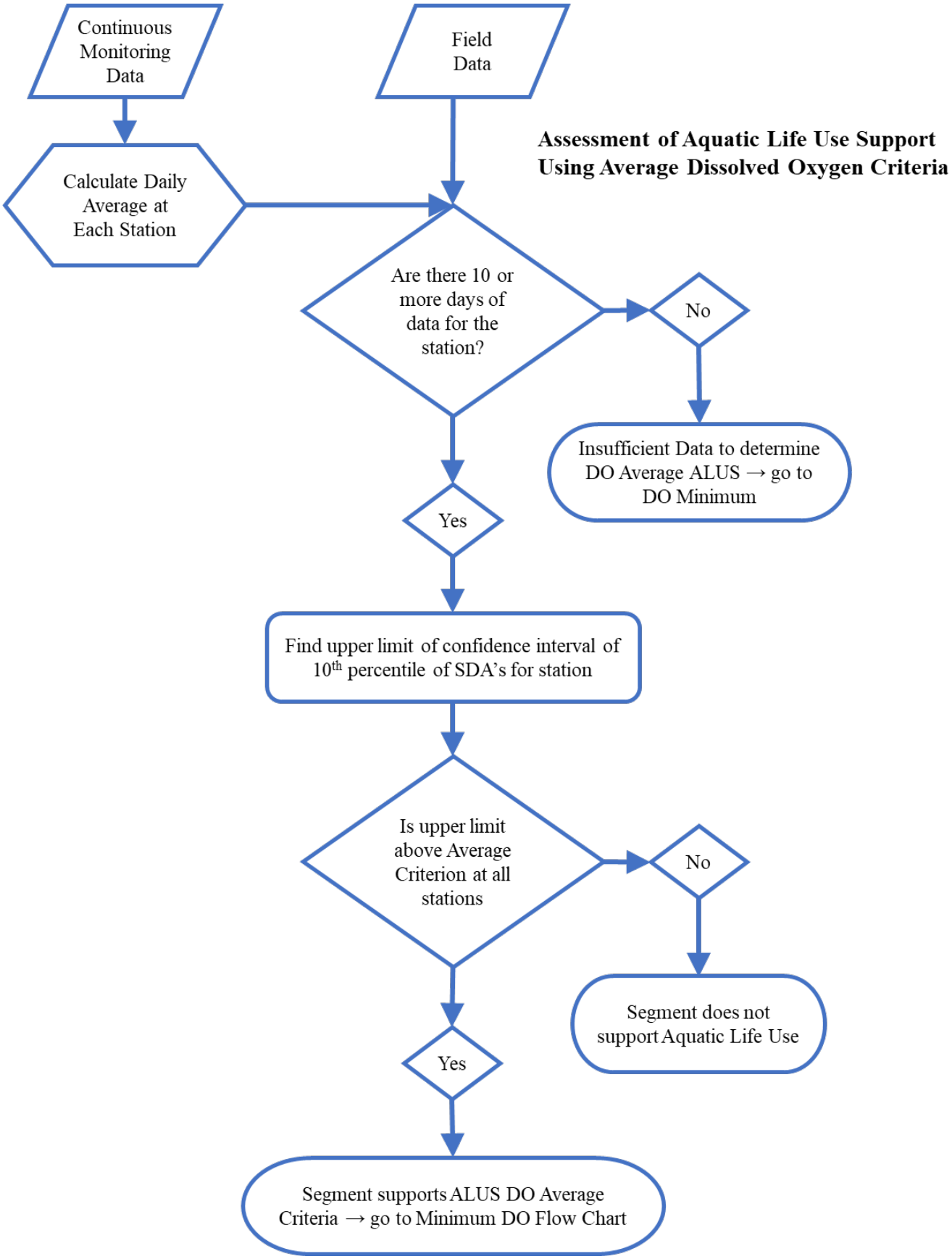
The Department may move segments from prior 303(d) Lists (equivalent to Category 5) to another category based on any of the following factors, and will document the reasons for doing so on a case-by-case basis. Once a TMDL has been promulgated and approved by the EPA, it is in place until it has been rescinded by the Department following applicable Departmental procedures.

- The assessment and interpretation of more recent or more accurate data demonstrate that the applicable WQS(s) is being met. (Move to category 1)
- The results of more sophisticated water quality modeling demonstrate that the applicable WQS(s) is being met. (Move to category 1)
- Demonstration that flaws in the original analysis of data and information led to the water being incorrectly listed. (Move to category 1)

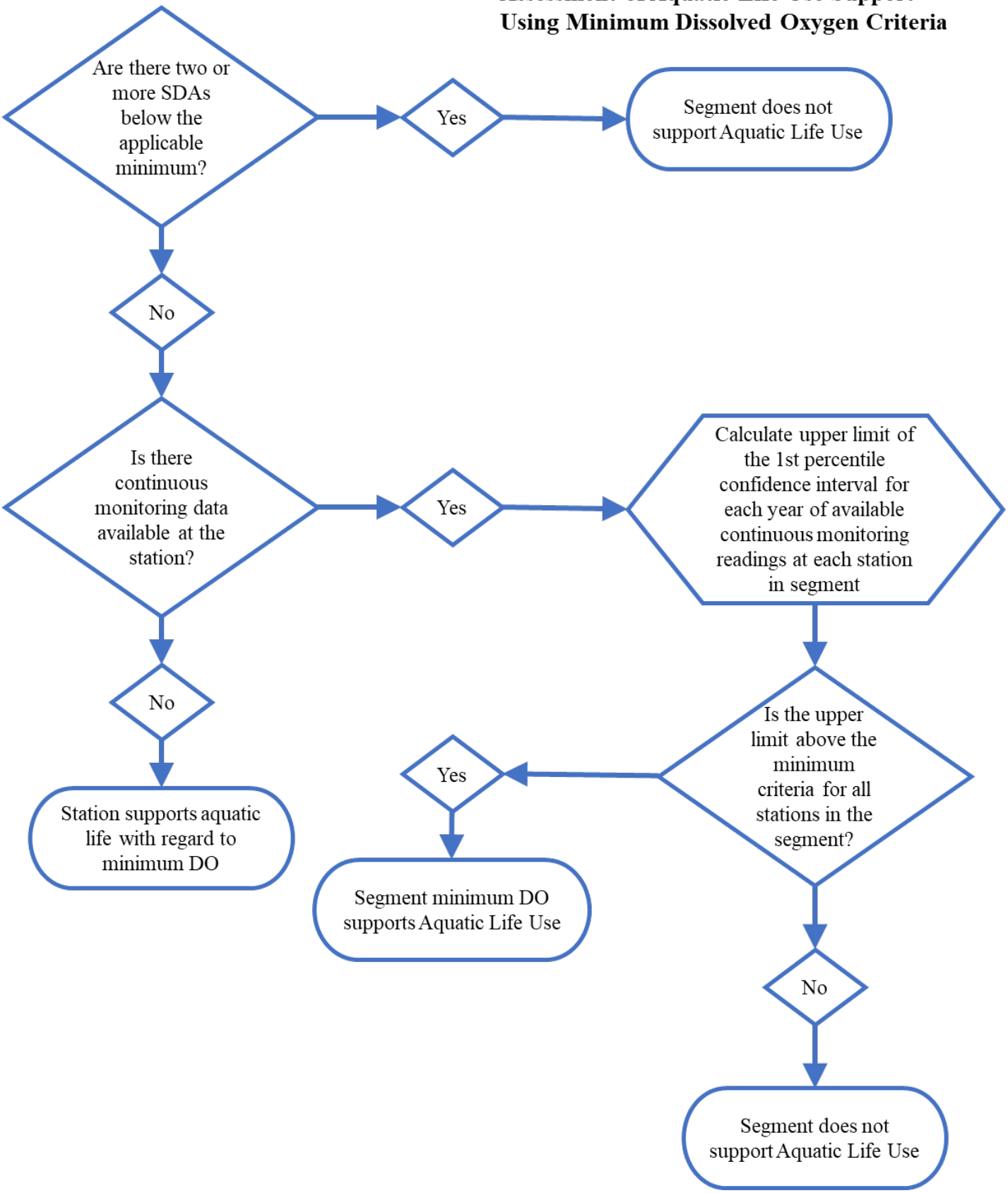
- The development of a new listing methodology, consistent with State WQSs and federal listing requirements, and a reassessment of the data that led to the prior listing, concluding that WQSs are now attained. (Move to appropriate category)
- A demonstration pursuant to 40 CFR 130.7(b)(1)(ii) that there are effluent limitations required by State or local authorities that are more stringent than technology-based effluent limitations required by the CWA and that these more stringent effluent limitations will result in the attainment of WQSs for the pollutant causing the impairment. (Move to category 4A or 4B until data and analysis support move to Category 1)
- A demonstration pursuant to 40 CFR 130.7(b)(1)(iii) that there are other pollution control requirements required by State, local, or federal authority that will result in attainment of WQSs for a specific pollutant(s) within a reasonable time. (Move to category 4A or 4B until data and analysis support move to Category 1)
- Documentation that the State included on a previous Section 303(d) List an impaired water that was not required to be listed by EPA regulations; e.g., waters where there is no pollutant associated with the impairment. (Move to category 1 or 4C as appropriate)
- Approval or establishment by EPA of a TMDL since the last Section 303(d) List. (Move to category 4A or 4B until data and analysis support move to Category 1)

Other factors may also be used to change categories on a case by case basis, subject to EPA approval and appropriate stakeholder involvement.

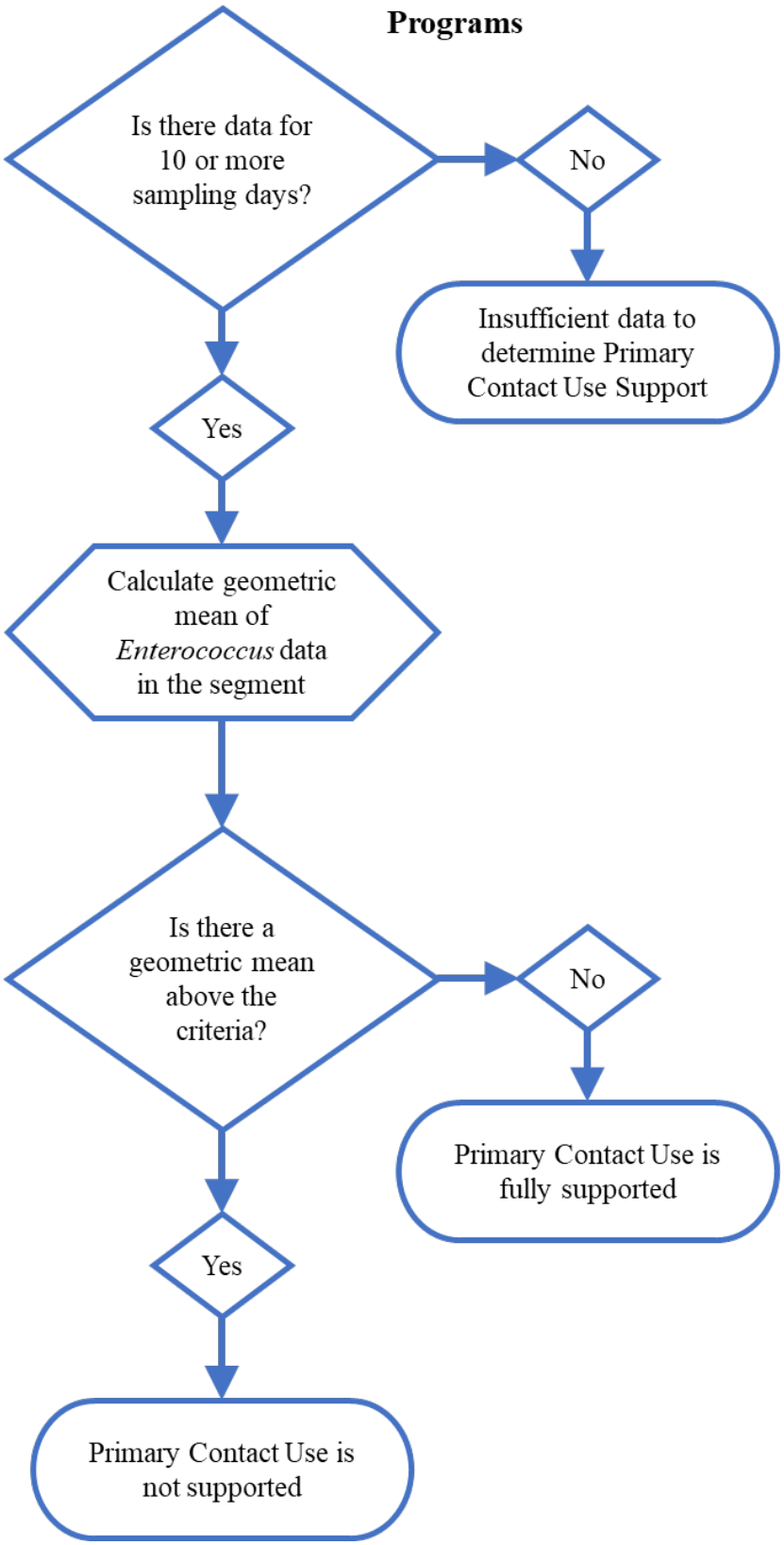
Flow Charts for Designated Use Attainment


Continuous Monitoring Data
Field Data
Assessment of Aquatic Life Use Support Using Average Dissolved Oxygen Criteria
Calculate Daily Average at Each Station
Are there 10 or more days of data for the station?
No
Insufficient Data to determine DO Average ALUS → go to DO Minimum
Yes
Find upper limit of confidence interval of 10th percentile of SDA's for station
Is upper limit above Average Criterion at all stations
No
Segment does not support Aquatic Life Use
Yes
Segment supports ALUS DO Average Criteria → go to Minimum DO Flow Chart

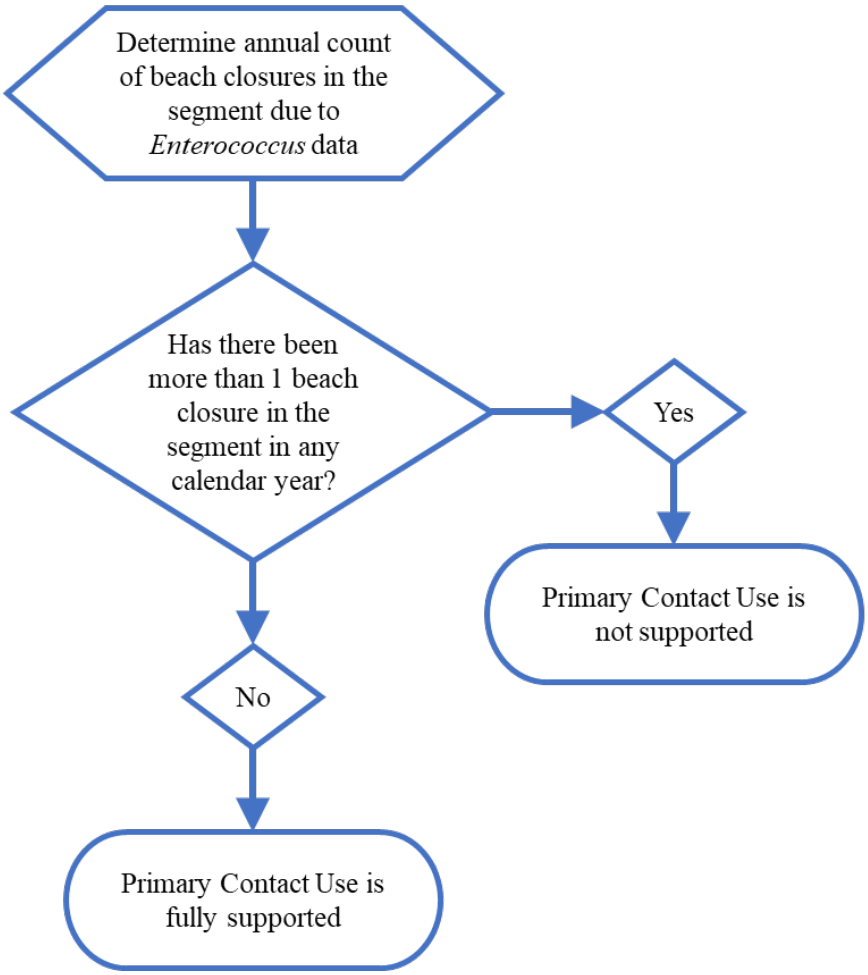
Assessment of Aquatic Life Use Support Using Minimum Dissolved Oxygen Criteria



Assessment of Primary Contact Use Support in Segments that do not have Beach Monitoring Programs



Assessment of Primary Contact Use Support in Segments with Beach Monitoring Programs



C3. Assessment Results

Appendix One: Station Roll ups shows the results of the data analyzed for each station evaluated for this report. Appendix Two: Segment Roll Ups shows the Assessments for each segment for this listing cycle. Appendix Three: Changes to the 2018 Integrated Report Database shows changes in this cycle compared to the last cycle. Appendix Four: Integrated Report Database shows the entire database as of 2020. Appendix Five: The Final Determination for the State of Delaware 2020 Clean Water Act Section 303(d) List of Waters Needing TMDLs shows only the waters in Category 5 or 5(MNR) as required by the CWA. Appendix Six: Volunteer Water Quality Monitoring Data shows results from volunteer monitoring results by Delaware Stream Watch in the Christina Basin, the Stream Stewards in the Brandywine Basin, and the University of Delaware Citizen Monitoring Program in the Delaware Inland Bays. Appendix Seven is the Public Participation Section. Appendix Eight is the Groundwater Quality Assessment Based on Public Well Data.

The 2020 303(d) List shows three revisions from earlier Lists. Those revisions are highlighted in "Change this cycle" column in the List. Those changes from for the segments TMDL priorities to move from Medium to High priority.

For the 2020 Integrated Report database as shown in Appendix Three, thirty seven revisions to earlier lists are highlighted in "Change this cycle" column in the List. Under the Clean Water Act, "listing" a waterbody is an indication that the water body is not fully meeting its designated use, thus "impaired", and needs further controls to support the designated use. Once listed, a TMDL regulation or alternative must be developed that will return the waterbody to supporting the designated use. Delisting a waterbody for a pollutant indicates that the previously listed waterbody now supports a designated use and thus "attains the use". Segment/pollutant combinations allow the Department to track progress for individual pollutants in specified waterbodies. For example, one segment (which can be an entire waterbody or a section of larger waterbody) may be impacted by four fish tissue advisory pollutants, nutrients and bacteria. That segment would thus have six segment/pollutant combinations.

Six segments were relisted for either dissolved oxygen, bacteria or nutrients that were previously delisted. None of the segments require a new TMDL as they are all covered by previous TMDLs.

There were a total of twenty eight delistings in this cycle. Twenty of them were for nutrient, dissolved oxygen or bacteria impairments. Eight delistings were for copper because data showed no exceedances of water quality criteria in those segments.

Finally, three segments TMDL priority status were changed from Medium to High priority as they approach the 2022 TMDL target date for either changing to Category 5(MNR) based on updated WATAR trends assessments or actual TMDL development should the trend assessments show the need for a TMDL.

For the 2020 assessments, the Department incorporated the Fish Tissue Advisories that were issued by the Delaware Departments of Health and the Department of Natural Resources and

Environmental Control on February 20th, 2018. As the 2018 Advisories were incorporated into the 2018 IR, there were no changes to the listings for toxics in fish tissue this cycle.

The Department has been using a strategy called the Watershed Approach to Toxics Assessment and Restoration (WATAR) to address toxic pollutant issues in the State. In March of 2018 the Department completed a report entitled "An Evaluation of Clean Water Act Section 303(d) Listings of Delaware Waters Affected by Fish Consumption Advisories". The evaluation considered information gathered from the WATAR and Fish Tissue Advisories programs to do detailed trends analyses of pollutants in fish tissue using data from the 1990s forward. The report recommended seventeen segments be placed into a new category of impairment known as Monitored Natural Recovery. That category is shown in this report as Category 5(MNR). In those waters, while the pollutant levels have not dipped below screening levels, they are expected to do so as shown in trend analyses of the available data. As suggested in the category name, the Department will continue to monitor fish in those waters and expects the contaminant level to decrease enough for future evaluations to recommend delisting those contaminants. The report recommended completing TMDLs in those waters where the above trend analyses showed that concentrations of those contaminants are not expected to reach acceptable levels in the near term without TMDL regulations. These five segments remain in Category 5. The Department expects to complete an updated trend evaluation of those segments with new data and either change them to Category 5(MNR) or complete TMDLs for those segments by 2022.

C4. Wetlands Program

The Goals, Objectives and Products of the Delaware Department of Natural Resources and Environmental Control's Wetland Monitoring and Assessment Program

Program Goals

The goal of DNREC's Wetland Monitoring and Assessment Program (WMAP) is to assess the condition, or health, of wetlands and the functions and ecosystem benefits that wetlands provide. This information is used to inform the citizens of Delaware and to improve existing education, restoration, protection, and land use planning efforts. The 2015 Delaware Wetland Management Plan will guide future efforts of the WMAP in the areas of protocol development, wetland monitoring and assessment activities, research, and application of information.

We work closely with other states through the Environmental Protection Agency's Mid-Atlantic Wetlands Program to establish and conduct research methods and share information.

Objectives:

- Develop scientifically valid wetland assessment methods.

- Assess the current condition of wetlands by watershed and identify major stressors that are impacting wetlands.
- Perform research to improve our understanding of wetland functions, the impact of stressors, and the ecosystem services provided by wetlands to humans and the environment.
- Evaluate the performance of wetland restoration and other compensatory wetland mitigation in replacing wetland acreage and function.
- Educate other state agencies, conservation partners, and the general public to improve efforts to protect and restore wetlands.
- Integrate monitoring and assessment data into watershed restoration plans and other conservation strategies.
- Developing a habitat stream assessment to work in parallel to our existing wetland assessments for impaired segments.
- Meet requirements of the Clean Water Act.

Productivity

- Development of Delaware's nationally-recognized Monitoring and Assessment Protocols
- Developed a collaborative Delaware Wetland Management Plan
- Completed non-tidal wetland condition reports for the Nanticoke, Inland Bays, Murderkill, St. Jones, Broadkill, Mispillion, Christina, Leipsic, Smyrna, and the Appoquinimink watersheds
- Completed Tidal wetland condition reports for the Inland Bays, Murderkill, St. Jones, Broadkill, Mispillion, Christina, Leipsic, Smyrna, and the Appoquinimink watersheds.
- Collaborative development of a Restoration Plan for the Nanticoke Watershed
- Hosted the biannual Delaware Wetlands Conference for professionals and scientists throughout the Mid-Atlantic region.

Links to more information about Delaware's wetlands including Wetland Health Reports, the 2015 Delaware Wetland Management Plan, a review of Delaware's Wetland program and many other resources are online at:
http://www.dnrec.delaware.gov/Admin/DelawareWetlands/Pages/Portal.aspx.

C5. Trends Analysis for Surface Waters

Following are the summaries for two different analyses of trends in surface water quality in the State using advanced statistical methods and models are shown in Appendix Nine.

The summary for Trend Analysis for Nitrogen and Phosphorus at Eleven Freshwater Stream Sites follows:

> *Long-term nitrogen and phosphorus data collected from eleven C1 monitoring sites throughout the State have been analyzed for trend using the Weighted Regressions on Time, Discharge, and Season (WRTDS) method. For total nitrogen concentrations, trends have been detected from 9 out of the 11 sites; an upward trend has been detected from 3 sites in Nanticoke River, Marshyhope Creek and Deep Creek Branch, and a downward trend from 6 sites in Beaverdam Ditch, Millsboro Pond, Blackbird Creek, Brandywine Creek, White Clay Creek and the Christina River. For total phosphorus concentrations, trends have been detected from 8 out of the 11 sites; an upward trend has been detected from 3 sites in Beaverdam Ditch, Silver Lake of St. Jones River, Deep Creek Branch, and a downward trend from 5 sites in Nanticoke River, Red Clay Creek, White Clay Creek, Brandywine River and Christina River.*

The summary for Generalized Additive Model to Analyze Long Term Total Nitrogen and Phosphorus Concentrations follows:

> *The Generalized Additive Model (GAM) was used to analyze long term (1998 – 2019) TN and TP trends in the fourteen tidal stations of Inland Bays. TN concentrations were decreasing in most of the stations except in station 306181 at Swan Creek. Decreasing trends of TN and TP in tidal stations of the Inland Bays can be attributed to full implementation of the requirements of the Inland Bays TMDLs for point sources and its partial implementation for the non-point sources. Even though TN concentration were decreasing, four of the stations' concentration were higher than the target value of 1 mg/L in Inland Bays, whereas some of the stations' recent years concentrations were higher than target value. The trend of TP concentration followed the flow pattern. TP concentrations in most of the stations were higher during peak flow, thus were cyclic in nature following flow events throughout the twenty years. Similar to TN concentrations, TP concentrations in recent years in some of the stations were higher than the target value of 0.1 mg/L. Linear regression modeling techniques are more frequently used to identify long term trends in the water quality data, which sometime miss the temporal cycling trend or temporal changes in the data. GAM analysis of tidal stations data with the inclusion of smooth functions allow the model shapes from linear to nonlinear, including patterns that changes direction over time, thus helped to identify changes of concentration over time in the Inland Bays.*

C6. Public Health Issues

The Department addresses public health issues through various programs related to drinking water supplies, beach use and fish/shellfish advisories.

Delaware Source Water Protection Program

The Source Water Assessment and Protection Program (SWAPP) was created by Congress as part of the Safe Drinking Water Act Amendments of 1996. The goal of the SWAPP is to better protect public drinking water resources by providing local and state governments, and the public more information about those resources. The susceptibility of each source of public drinking water to various types of contamination will be determined and published. Congress has provided funding though the U.S. EPA to the states to support their efforts in conducting these assessments.

The Delaware Department of Natural Resources and Environmental Control (DNREC) has the lead role in the development and implementation of the Delaware SWAPP. The Delaware Division of Public Health and the Water Resources Agency, Institute for Public Administration at the University of Delaware, closely supports its work. A SWAPP Citizen and Technical Advisory Committee (CTAC) was formed at the start of this program in 1998 and continuing to assist in developing and implementing Delaware's SWAPP and ensures public involvement.

Program	Web Address
Delaware Source Water Protection Program (DNREC)	http://delawaresourcewater.org/
Delaware Department of Health and Human Services Office of Drinking Water	http://dhss.delaware.gov/dhss/dph/hsp/odw.html
University of Delaware Water Resources Agency, Institute for Public Administration	http://www.wrc.udel.edu/

Delaware's Recreational Beach Monitoring Program

DNREC's Recreational Water Program protects the health of swimmers in a number of ways:

- Shoreline surveys are conducted adjacent to guarded recreational beaches to identify all actual and potential sources of pollution.
- Water samples are collected at least weekly at all guarded beaches during the swimming season (mid May through September).
- Water samples are analyzed to determine the levels of Enterococci bacteria in recreational waters. Enterococcus is one of several indicator organisms that signal the presence of potentially harmful bacteria and viruses.

- Signs have been posted at popular public access points around Rehoboth Bay, Indian River Bay, and Little Assawoman Bay to warn potential swimmers of the risks associated with swimming in poor quality waters.
- The Department recommends swimming only at guarded beaches where water samples are collected.
- There is a permanent caution regarding swimming in the Inland Bays. The Inland Bays suffer from nutrient and bacterial pollution that come from failing septic systems, fertilizers, and other sources. Water is slow to flush out of these bay, Indian River Bay, Rehoboth Bay and Little Assawoman Bay, so pollutants linger.

Up to date information about swimming advisories is available online at http://apps.dnrec.state.de.us/recwater/ or by phone on the 24-hour "Beach Hotline" at 1-800-922-WAVE (9283).

Fish Consumption Advisories

Fishing is an important activity in Delaware's inland and coastal waters. Among the benefits provided by fishing are quality recreational opportunities, direct and indirect input to the local economy, food for recreational anglers and food for the commercial marketplace. Fish are a good source of readily digestible protein, they are low in fat and sodium, and the unique type of fats found in fish are believed to provide cardiovascular benefits. Despite the general benefits of fishing and fish consumption, there has been a growing concern regarding the presence of chemical toxins in the flesh of finfish and shellfish taken from Delaware waters and the associated health risk to anglers and their families who consume their catch. The existence of chemicals in the edible portion of some fish has resulted in the public advisories (see Section C2 above). These advisories are as a result of joint action taken by the Department of Natural Resources and Environmental Control and the Department of Health and Social Service's (DHSS) Division of Public Health. Information about the latest advisories that are in effect is online at: https://dnrec.alpha.delaware.gov/fish-wildlife/fishing/consumption-advisories/

PART D. GROUND WATER MONITORING AND ASSESSMENT

PLACE HOLDER

PART E. PUBLIC PARTICIPATION

The Department kept the public informed of the process and progress of this Integrated Report using its website, an email list of interested parties and public notices placed in local newspapers.

PLACEHOLDER TEXT TO ALLOW FOR COMMENTS ON DRAFT

Appendix One: Station Roll Ups

Station	Segment	Watershed	Description	Fresh or Marine	DO count	DO LCL	DO# < 4.0	DO Status	ENT count	ENT geomean
109091	DE 010-001-01	Appoquinimink River	Delaware River (Appoquinimink at Mouth)	F	58	5.8	1	1	58	62.1
109121	DE 010-001-01	Appoquinimink River	Rt. 9 Bridge (East)	F	42	6.3	0	1	43	70.5
USGS 01483177	DE 010-001-01	Appoquinimink River	Appoquinimink River Near Odessa	F	1696	5.2	0	5		
109041	DE 010-001-02	Appoquinimink River	Rt. 13 Bridge below Odessa	F	43	5.9	0	1	43	159.0
109171	DE 010-001-02	Appoquinimink River	MOT Gut (Appo Gut) - West Bank	F	43	5.9	0	1	43	128.3
109071	DE 010-001-03	Appoquinimink River	Drawyer Creek, Rt 13	F	43	6.1	0	1	43	209.2
110011	DE 010-002-02	Appoquinimink River	Road 463 East of RR Tracks	F	70	7.1	1	1	70	58.7
109131	DE 010-L01	Appoquinimink River	Noxontown Pond Overflow, Rd 38	F	43	8.1	0	1	43	14.3
109191	DE 010-L03	Appoquinimink River	Shallcross Lake Overflow, Dischrg Drawer Cr, Rd. 428	F	43	7.8	0	1	43	16.5
114011	DE 020-001	Army Creek	Rt. 9 Below Llangollen Wells	F	39	5.9	2	1	39	62.2
114021	DE 020-002	Army Creek	Army Creek @ S. DuPont Hgwy. (Rt. 13)	F	30	6.2	0	1	30	118.5
114041	DE 020-003	Army Creek	Trib Army Crk. @ Rt. 13 near Airport Ind. Park	F	28	5.0	2	5	28	48.7
114051	DE 020-003	Army Creek	Army Creek @ Rt. 13 near Rt. 40	F	23	7.8	0	1	23	50.4
110031	DE 030-001	Lower Blackbird	Rd 455, Blackbird Landing	F	42	5.6	0	1	42	231.7
110041	DE 030-001	Lower Blackbird	Rt. 9 Taylors Bridge	F	42	4.9	1	5	42	144.3
104011	DE 040-001	Brandywine Creek	Footbridge in Brandywine State Park	F	41	8.4	0	1	41	103.9
104021	DE 040-002	Brandywine Creek	Rd. 279 Bridge (USGS guage 014)	F	73	8.2	0	1	73	70.5
104051	DE 040-002	Brandywine Creek	Smith Bridge	F	42	8.0	0	1	42	54.5
USGS 01481500	DE 040-002	Brandywine Creek	Brandwine Creek at Wilmington	F	1811	8.3	0	1		
307031	DE 050-001	Broad Creek	Broad Creek at Main Street in Bethel (Rd 493)	F	42	8.1	0	1	42	55.8
307371	DE 050-006-03	Broad Creek	Raccoon Prong @ Pepperbox Rd. (Rd. 66)	F	35	4.4	4	5	34	54.2
307011	DE 050-L04	Broad Creek	Records Pond at Rt. 13	F	42	8.5	0	1	42	27.0
303041	DE 060-001	Broadkill River	Rt. 1 Bridge (Mainstem)	F	42	5.5	1	1	42	278.8
303061	DE 060-001	Broadkill River	0.10 Miles From Mouth	M	60	5.1	1	1	59	30.2
USGS 01484272	DE 060-001	Broadkill River	Broadkill River Near Milton	F	718	3.7	94	5		
303181	DE 060-002	Broadkill River	Beaverdam Creek above Rd. 259, Hunters Mill Pond	F	42	7.1	0	1	42	230.9
303031	DE 060-003	Broadkill River	Rt. 5 Bridge	F	73	8.0	0	1	70	22.2
303311	DE 060-004	Broadkill River	Round Pole Branch at Rd. 88	F	42	7.0	0	1	42	120.0

Station	Segment	Watershed	Description	Fresh or Marine	DO count	DO LCL	DO# < 4.0	DO Status	ENT count	ENT geomean
303011	DE 060-005	Broadkill River	Ingram Branch, Savanah Ditch at Rd. 246	F	42	5.7	0	1	42	139.5
303021	DE 060-005	Broadkill River	Ingram Branch at Rd. 248	F	42	6.8	0	1	42	397.2
303341	DE 060-006	Broadkill River	Pemberton Branch at Rt. 30 above Wagamons Pond	F	42	7.2	0	1	42	243.9
303051	DE 060-007-01	Broadkill River	Red Mill Pond at Rt. 1	F	42	9.4	0	1	42	20.7
303331	DE 060-L03	Broadkill River	Waples Pond at Rt. 1	F	42	8.3	0	1	42	10.5
311041	DE 070-001	Buntings Branch	Buntings Branch at Rt. 54	F	41	7.2	0	1	41	117.4
301021	DE 080-001	Cedar Creek	Rd. 212, Swiggetts Pond	F	42	8.4	0	1	41	5.5
301031	DE 080-001	Cedar Creek	Rt. 1 Bridge	F	42	7.2	0	1	42	93.2
301091	DE 080-001	Cedar Creek	Rt. 36 Bridge	M	42	5.3	1	1	42	42.7
108021	DE 090-001	Chesapeake & Delaware Canal	St. Georges Bridge	F	41	7.1	0	1	41	16.4
108111	DE 090-L01	Chesapeake & Delaware Canal	Lums Pond Boat Ramp	F	37	8.4	0	1	37	17.0
112021	DE 100-002	Chesapeake Drainage System	Sewell Branch at Rd. 95	F	41	4.9	2	5	41	59.0
207081	DE 110-001	Choptank	Tappahanna Ditch at Rd. 222	F	42	6.6	0	1	42	65.7
207091	DE 110-002	Choptank	Culbreth Marsh at Rd. 210	F	42	6.3	0	1	42	68.1
207021	DE 110-003	Choptank	Cow Marsh Creek at Rd. 208	F	42	6.2	0	1	41	64.8
207111	DE 110-003	Choptank	White Marsh Branch at Rd. 268	F	42	6.7	0	1	42	124.6
106291	DE 120-001	Christina River	Conrail Bridge (USGS tide gage 01481602) Up river from Port	F	60	6.2	0	1	60	132.6
106021	DE 120-002	Christina River	Rt. 141 Drawbridge, Newport (USGS tide gage 01480065)	F	40	6.5	0	1	40	162.9
USGS 01480065	DE 120-002	Christina River	Christina River at Newport	F	1815	6.1	9	5		
106031	DE 120-003	Christina River	Smalley's Dam Spillway	F	42	6.7	0	1	42	77.1
106141	DE 120-004-01	Christina River	Rt. 72, Below Newark (USGS guage 01478000)	F	71	7.2	0	1	71	79.7
106191	DE 120-006	Christina River	Rt. 273, Above Newark	F	42	8.5	0	1	42	139.4
106281	DE 120-007-01	Christina River	Little Mill Creek at atlantic Avenue (USGS Gage 01480095)	F	41	8.3	0	1	42	100.9
111011	DE 130-001	Dragon Run Creek	Rt. 9 Bridge	F	41	4.4	5	5	41	40.5
111031	DE 130-002	Dragon Run Creek	Rt. 13 Bridge (flow at Rd. 407), Dragon Creek	F	41	3.8	8	5	41	87.9
312011	DE 140-001	Indian River	White Creek at the mouth of Assawoman Canal	M	42	5.9	2	1	40	13.8
308361	DE 140-002	Indian River	Blackwater Creek at Rd. 54	F	41	5.3	4	5	40	112.1
308091	DE 140-003	Indian River	Pepper Creek at Rt. 26	F	41	7.7	1	1	41	201.9
306181	DE 140-004	Indian River	Buoy 49, Indian River	M	38	6.6	0	1	38	22.2
306341	DE 140-004	Indian River	Island Creek, upper third	M	38	6.5	0	1	38	8.1

Station	Segment	Watershed	Description	Fresh or Marine	DO count	DO LCL	DO# < 4.0	DO Status	ENT count	ENT geomean
308341	DE 140-005	Indian River	Swan Creek at Rd. 297	F	41	8.1	0	1	41	231.7
308281	DE 140-006	Indian River	Cow Bridge Branch Rd. 48	F	39	6.3	0	1	38	18.0
306121	DE 140-E01	Indian River	Buoy 20, Indian River Bay	M	53	6.3	0	1	53	7.9
306321	DE 140-E01	Indian River	Indian River Inlet	M	59	6.7	0	1	56	3.6
306331	DE 140-E02	Indian River	Island Creek mouth	M	38	6.1	0	1	38	9.0
308071	DE 140-L01	Indian River	Millsboro Dam Overflow	F	72	7.6	1	1	72	18.9
USGS 01484525	DE 140-L01	Indian River	Millsboro Pond Outlet at Millsboro	F	1817	7.2	12	5		
309041	DE 150-001	Iron Branch	Whartons Branch at Rt. 334 Bridge	F	41	7.2	0	1	41	95.8
202031	DE 160-001	Leipsic River	DE Rt. 9 Bridge	M	42	3.7	10	5	42	126.3
202191	DE 160-002	Leipsic River	Upstream of Masseys Millpond at Rt. 15	F	42	7.5	0	1	42	93.8
202021	DE 160-L01	Leipsic River	Rt. 13 Bridge, Garrisons Lake	F	41	6.9	0	1	41	23.8
305011	DE 170-001	Lewes and Rehoboth Canal	Canal Rt. 1	M	42	5.0	4	5	41	38.3
305041	DE 170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal at Rd. 18 Bridge	M	42	4.9	3	5	41	15.6
310031	DE 180-003	Little Assawoman Bay	Dirrickson Creek, Rd. 381	M	42	6.6	1	1	40	118.9
310011	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay Ditch at Rd. 58 Bridge	M	42	5.9	2	1	40	3.1
310071	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay, Mid-Bay	M	42	5.9	0	1	40	6.7
204031	DE 190-001-01	Little River	Rt. 9 Bridge	M	42	4.4	2	5	42	405.6
204041	DE 190-001-02	Little River	Rt. 8 Bridge	F	42	3.5	10	5	42	44.0
302031	DE 200-001	Marshyhope Creek	Rd. 308 Bridge	F	81	7.0	0	1	80	32.3
208021	DE 210-001	Mispillion River	Rt. 1 Bridge	F	42	7.6	0	1	42	67.6
208061	DE 210-001	Mispillion River	1.09 miles from mouth at lighthouse	M	54	6.0	2	1	54	36.5
208211	DE 210-L02	Mispillion River	Rt. 36 Silver Lake	F	42	8.2	0	1	42	17.8
208231	DE 210-L05	Mispillion River	Beaverdam Branch, Rd. 384	F	42	7.8	1	1	42	162.9
208181	DE 210-L06	Mispillion River	Abbotts Pond at Rd. 620	F	42	6.6	0	1	42	34.9
206091	DE 220-001	Murderkill River	US Rt. 113 at Frederica By-Pass	F	42	4.5	5	5	41	176.5
206101	DE 220-001	Murderkill River	Bowers Beach Wharf	M	42	5.8	2	1	41	39.9
206141	DE 220-001	Murderkill River	3.25 miles from the mouth	M	37	3.9	8	5	36	154.6
206231	DE 220-001	Murderkill River	Confluence of Kent County STP trib.	F	37	3.9	8	5	36	305.8
USGS 01484080	DE 220-001		Murderkill River At Bowers Beach	F	1772	3.3	385	5		
USGS 01484085	DE 220-001		Murderkill River At Frederica	M	232	6.6	0	1		
206561	DE 220-002	Murderkill River	Double Run at Rd. 371	F	41	6.3	0	1	40	256.8
206041	DE 220-004	Murderkill River	Browns Branch at Rt. 14 Bridge	F	42	7.5	0	1	41	173.5
206011	DE 220-005	Murderkill River	US Rt. 13 Bridge below Felton	F	73	7.5	0	1	72	191.4
206451	DE 220-L03	Murderkill River	Coursey Pond at Rd. 388 Bridge	F	41	8.8	0	1	40	20.9

Station	Segment	Watershed	Description	Fresh or Marine	DO count	DO LCL	DO# < 4.0	DO Status	ENT count	ENT geomean
206361	DE 220-L05	Murderkill River	McCauley Pond near spillway	F	42	9.3	0	1	41	14.7
101021	DE 230-001-02	Naamans Creek	Naamans Road	F	42	8.1	0	1	42	118.0
101031	DE 230-001-02	Naamans Creek	South Branch at Darley Rd.	F	42	7.6	0	1	41	128.8
101061	DE 230-001-02	Naamans Creek	South Branch at Marsh Rd.	F	42	8.1	0	1	42	72.3
304151	DE 240-001	Nanticoke River	Buoy 66 (Conf DuPont Gut)	F	39	8.2	1	1	39	124.4
304471	DE 240-001	Nanticoke River	Rt. 13 Bridge	F	42	7.7	0	1	42	57.8
304191	DE 240-002	Nanticoke River	Rd. 545 Mainstem Nanticoke	F	81	6.8	0	1	80	53.6
304681	DE 240-002	Nanticoke River	Nanticoke River at Beach HWY (Ellendale Greenwood HWY) on east edge of Greenwood	F	42	6.6	0	1	42	39.2
304371	DE 240-003	Nanticoke River	Clear Brook @ Cannon Rd. (Rt. 18)	F	42	5.6	2	1	42	390.0
304381	DE 240-003	Nanticoke River	Bucks Branch at Rd. 546	F	41	7.7	0	1	41	263.4
USGS 01487150	DE 240-003	Nanticoke River	Bucks Branch Near Atlanta	F	411	7.3	0	1		
304741	DE 240-004	Nanticoke River	Deep Creek @ Old Furnace Rd. (Rd. 46)	F	42	7.6	0	1	42	26.1
316011	DE 240-005	Nanticoke River	Gravelly Branch at Rd. 525 Bridge	F	42	7.6	0	1	42	66.3
316031	DE 240-005	Nanticoke River	Gravelly Branch at Deer Forest Road (Rd 565) on west edge of Redden State Forest Jester Tract	F	42	6.2	0	1	42	19.4
304311	DE 240-L02	Nanticoke River	Concord Pond overflow	F	42	7.8	0	1	42	11.9
304321	DE 240-L04	Nanticoke River	Williams Pond, below the pond at Rd. 535	F	42	7.2	0	1	41	23.4
313011	DE 250-001	Pocomoke River	Rd. 419 Bridge	F	41	7.2	0	1	42	83.5
103011	DE 260-001	Red Clay Creek	Stanton, Rt. 4 at Stanton Bridge (USGS gage 01480015)	F	41	8.4	0	1	41	111.4
103031	DE 260-001	Red Clay Creek	Wooddale, Rt. 48 (USGS gage 01480000)	F	73	8.1	0	1	73	58.3
103041	DE 260-001	Red Clay Creek	Ashland, Rd. 258a	F	42	8.3	0	1	42	71.9
103061	DE 260-002	Red Clay Creek	Burrough's Run at Creek Rd. (Rt. 82)	F	42	8.7	0	1	42	90.6
107031	DE 270-001-01	Red Lion Creek	Rt. 9 Bridge	F	40	5.7	3	5	40	99.5
107011	DE 270-001-02	Red Lion Creek	Rt. 7	F	41	7.7	0	1	41	149.7
308051	DE 280-001-01	Rehoboth Bay	Guinea Creek at Rt. 298 Bridge	M	41	6.6	2	1	41	344.2
308371	DE 280-002	Rehoboth Bay	Bundick's Branch at Rt. 23	F	41	5.9	0	1	40	128.6
306091	DE 280-E01	Rehoboth Bay	Buoy 7, Rehoboth Bay	M	38	6.3	0	1	38	3.8
306111	DE 280-E01	Rehoboth Bay	Massey's Ditch at Bouy 17	M	42	6.3	0	1	42	3.4
USGS 01484680	DE 280-E01	Rehoboth Bay	Massey Ditch at Massey's Landing	M	1808	6.6	0	1		

Station	Segment	Watershed	Description	Fresh or Marine	DO count	DO LCL	DO# < 4.0	DO Status	ENT count	ENT geomean
308031	DE 280-L01	Rehoboth Bay	Burton Pond, Rd. 24	F	41	6.7	0	1	40	7.7
205011	DE 290-001-01	Saint Jones River	St. Jones at Bowers Beach, mouth to Del.Bay.	M	57	6.7	0	1	57	54.9
205041	DE 290-001-01	Saint Jones River	3.5 miles from mouth at Barkers Landing	M	42	3.5	7	5	42	178.5
205091	DE 290-001-02	Saint Jones River	Rt. 10 Bridge near DAFB	F	42	4.6	4	5	42	178.2
205151	DE 290-003	Saint Jones River	Rd. 69 State College, Fork Branch	F	42	4.5	3	5	42	75.0
205181	DE 290-L01	Saint Jones River	Rt. 13 Alt. Moores Lake	F	42	8.1	0	1	42	32.9
205191	DE 290-L02	Saint Jones River	Silver Lake Spillway, Dover City Park	F	70	7.4	0	1	69	42.6
205211	DE 290-L03	Saint Jones River	Derby Pond at Rt. 13A	F	42	8.6	0	1	42	20.0
102041	DE 300-001-01	Shellpot Creek	Cherry Island at Rd. 501 Bridge	F	41	3.8	8	5	41	112.8
102051	DE 300-001-02	Shellpot Creek	Rt. 13 Bus (Market Street) Bridge	F	73	8.4	0	1	73	133.1
102081	DE 300-001-02	Shellpot Creek	Carr Road Bridge	F	42	8.5	0	1	42	92.5
201011	DE 310-001	Smyrna River	Lake Como at US Route 13 Bridge	F	42	6.0	0	1	42	24.7
201041	DE 310-001	Smyrna River	Rt. 9 Fleming's Landing	M	42	5.1	3	5	42	178.4
201021	DE 310-002	Smyrna River	Rd. 137 Bridge, Mill Creek	F	42	7.8	1	1	41	39.5
201051	DE 310-003	Smyrna River	Rd. 485 Bridge at Smyrna Landing	F	42	5.4	1	5	42	227.0
201161	DE 310-003	Smyrna River	Rd. 38 Bridge, Providence Creek	F	42	7.7	0	1	42	40.3
105031	DE 320-001	White Clay Creek	Chambers Rock Rd. (Road 329) near Thompson	F	42	8.8	0	1	42	99.4
105151	DE 320-001	White Clay Creek	DE Park Race Track (USGS gage 01479000), 35ft downstream	F	73	7.9	0	1	73	68.7
105171	DE 320-001	White Clay Creek	McKee Lane in Newark	F	39	7.9	0	1	39	84.1
307171	DE050-L03	Broad Creek	Horseys Pond 50 Yards Above Spillway 50% RB	F	42	8.3	0	1	41	30.2
307081	DE050-L07	Broad Creek	Trap Pond on Hitch Pond Branch @ Co. Rd. 449 or Trap Pond Rd	F	39	8.8	0	1	39	19.1

Station	Segment	Watershed	Description	Fresh or Marine	ENT Status	Total N Count	Total N LCL	Total N Support	Total P Count
109091	DE 010-001-01	Appoquinimink River	Delaware River (Appoquinimink at Mouth)	F	1	57	1.73	1	57
109121	DE 010-001-01	Appoquinimink River	Rt. 9 Bridge (East)	F	1	43	1.72	1	43
USGS 01483177	DE 010-001-01	Appoquinimink River	Appoquinimink River Near Odessa	F					
109041	DE 010-001-02	Appoquinimink River	Rt. 13 Bridge below Odessa	F	5	43	1.65	1	43
109171	DE 010-001-02	Appoquinimink River	MOT Gut (Appo Gut) - West Bank	F	5	43	1.62	1	42
109071	DE 010-001-03	Appoquinimink River	Drawyer Creek, Rt 13	F	5	41	1.63	1	41
110011	DE 010-002-02	Appoquinimink River	Road 463 East of RR Tracks	F	1	68	1.27	1	70
109131	DE 010-L01	Appoquinimink River	Noxontown Pond Overflow, Rd 38	F	1	43	1.66	1	43
109191	DE 010-L03	Appoquinimink River	Shallcross Lake Overflow, Dischrg Drawer Cr, Rd. 428	F	1	43	1.90	1	43
114011	DE 020-001	Army Creek	Rt. 9 Below Llangollen Wells	F	1	39	1.17	1	39
114021	DE 020-002	Army Creek	Army Creek @ S. DuPont Hgwy. (Rt. 13)	F	5	29	1.37	1	30
114041	DE 020-003	Army Creek	Trib Army Crk. @ Rt. 13 near Airport Ind. Park	F	1	28	0.87	1	28
114051	DE 020-003	Army Creek	Army Creek @ Rt. 13 near Rt. 40	F	1	23	1.20	1	23
110031	DE 030-001	Lower Blackbird	Rd 455, Blackbird Landing	F	5	42	1.53	1	42
110041	DE 030-001	Lower Blackbird	Rt. 9 Taylors Bridge	F	5	42	1.38	1	42
104011	DE 040-001	Brandywine Creek	Footbridge in Brandywine State Park	F	5	41	2.84	1	41
104021	DE 040-002	Brandywine Creek	Rd. 279 Bridge (USGS guage 014)	F	1	73	2.79	1	73
104051	DE 040-002	Brandywine Creek	Smith Bridge	F	1	42	2.87	1	42
USGS 01481500	DE 040-002	Brandywine Creek	Brandwine Creek at Wilmington	F					
307031	DE 050-001	Broad Creek	Broad Creek at Main Street in Bethel (Rd 493)	F	1	40	4.99	5	39
307371	DE 050-006-03	Broad Creek	Raccoon Prong @ Pepperbox Rd. (Rd. 66)	F	1	30	1.29	1	33
307011	DE 050-L04	Broad Creek	Records Pond at Rt. 13	F	1	40	4.46	5	39
303041	DE 060-001	Broadkill River	Rt. 1 Bridge (Mainstem)	F	5	38	2.87	1	41
303061	DE 060-001	Broadkill River	0.10 Miles From Mouth	M	1	59	1.09	1	57
USGS 01484272	DE 060-001	Broadkill River	Broadkill River Near Milton	F					
303181	DE 060-002	Broadkill River	Beaverdam Creek above Rd. 259, Hunters Mill Pond	F	5	41	6.51	5	41
303031	DE 060-003	Broadkill River	Rt. 5 Bridge	F	1	71	3.06	5	70
303311	DE 060-004	Broadkill River	Round Pole Branch at Rd. 88	F	5	41	4.43	5	40

Station	Segment	Watershed	Description	Fresh or Marine	ENT Status	Total N Count	Total N LCL	Total N Support	Total P Count
303011	DE 060-005	Broadkill River	Ingram Branch, Savanah Ditch at Rd. 246	F	5	40	10.29	5	41
303021	DE 060-005	Broadkill River	Ingram Branch at Rd. 248	F	5	41	7.52	5	41
303341	DE 060-006	Broadkill River	Pemberton Branch at Rt. 30 above Wagamons Pond	F	5	41	5.16	5	41
303051	DE 060-007-01	Broadkill River	Red Mill Pond at Rt. 1	F	1	38	2.19	1	41
303331	DE 060-L03	Broadkill River	Waples Pond at Rt. 1	F	1	41	3.49	5	41
311041	DE 070-001	Buntings Branch	Buntings Branch at Rt. 54	F	5	40	3.48	5	38
301021	DE 080-001	Cedar Creek	Rd. 212, Swiggetts Pond	F	1	42	3.23	5	42
301031	DE 080-001	Cedar Creek	Rt. 1 Bridge	F	1	41	2.99	1	42
301091	DE 080-001	Cedar Creek	Rt. 36 Bridge	M	5	42	1.29	1	42
108021	DE 090-001	Chesapeake & Delaware Canal	St. Georges Bridge	F	1	40	1.86	1	41
108111	DE 090-L01	Chesapeake & Delaware Canal	Lums Pond Boat Ramp	F	1	37	1.21	1	37
112021	DE 100-002	Chesapeake Drainage System	Sewell Branch at Rd. 95	F	1	38	1.74	1	39
207081	DE 110-001	Choptank	Tappahanna Ditch at Rd. 222	F	1	40	1.18	1	41
207091	DE 110-002	Choptank	Culbreth Marsh at Rd. 210	F	1	41	2.48	1	41
207021	DE 110-003	Choptank	Cow Marsh Creek at Rd. 208	F	1	41	1.53	1	41
207111	DE 110-003	Choptank	White Marsh Branch at Rd. 268	F	5	41	5.11	5	41
106291	DE 120-001	Christina River	Conrail Bridge (USGS tide gage 01481602) Up river from Port	F	5	60	2.26	1	60
106021	DE 120-002	Christina River	Rt. 141 Drawbridge, Newport (USGS tide gage 01480065)	F	5	32	1.86	1	37
USGS 01480065	DE 120-002	Christina River	Christina River at Newport	F					
106031	DE 120-003	Christina River	Smalley's Dam Spillway	F	1	42	1.30	1	42
106141	DE 120-004-01	Christina River	Rt. 72, Below Newark (USGS guage 01478000)	F	1	71	1.55	1	71
106191	DE 120-006	Christina River	Rt. 273, Above Newark	F	5	42	2.32	1	42
106281	DE 120-007-01	Christina River	Little Mill Creek at atlantic Avenue (USGS Gage 01480095)	F	5	36	1.08	1	40
111011	DE 130-001	Dragon Run Creek	Rt. 9 Bridge	F	1	41	0.88	1	41
111031	DE 130-002	Dragon Run Creek	Rt. 13 Bridge (flow at Rd. 407), Dragon Creek	F	1	41	1.28	1	41
312011	DE 140-001	Indian River	White Creek at the mouth of Assawoman Canal	M	1	41	0.60	1	38
308361	DE 140-002	Indian River	Blackwater Creek at Rd. 54	F	5	34	4.20	5	37
308091	DE 140-003	Indian River	Pepper Creek at Rt. 26	F	5	41	2.20	1	41
306181	DE 140-004	Indian River	Buoy 49, Indian River	M	1	33	1.82	1	36
306341	DE 140-004	Indian River	Island Creek, upper third	M	1	38	1.64	1	37

Station	Segment	Watershed	Description	Fresh or Marine	ENT Status	Total N Count	Total N LCL	Total N Support	Total P Count
308341	DE 140-005	Indian River	Swan Creek at Rd. 297	F	5	35	2.43	1	40
308281	DE 140-006	Indian River	Cow Bridge Branch Rd. 48	F	1	37	1.67	1	38
306121	DE 140-E01	Indian River	Buoy 20, Indian River Bay	M	1	53	0.58	1	50
306321	DE 140-E01	Indian River	Indian River Inlet	M	1	53	0.37	1	53
306331	DE 140-E02	Indian River	Island Creek mouth	M	1	36	1.25	1	37
308071	DE 140-L01	Indian River	Millsboro Dam Overflow	F	1	72	3.00	5	70
USGS 01484525	DE 140-L01	Indian River	Millsboro Pond Outlet at Millsboro	F					
309041	DE 150-001	Iron Branch	Whartons Branch at Rt. 334 Bridge	F	1	36	2.55	1	40
202031	DE 160-001	Leipsic River	DE Rt. 9 Bridge	M	5	42	1.35	1	42
202191	DE 160-002	Leipsic River	Upstream of Masseys Millpond at Rt. 15	F	1	42	3.10	5	42
202021	DE 160-L01	Leipsic River	Rt. 13 Bridge, Garrisons Lake	F	1	41	1.66	1	41
305011	DE 170-001	Lewes and Rehoboth Canal	Canal Rt. 1	M	5	39	0.78	1	41
305041	DE 170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal at Rd. 18 Bridge	M	1	41	0.67	1	41
310031	DE 180-003	Little Assawoman Bay	Dirrickson Creek, Rd. 381	M	5	40	2.20	1	40
310011	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay Ditch at Rd. 58 Bridge	M	1	40	0.66	1	38
310071	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay, Mid-Bay	M	1	39	0.79	1	39
204031	DE 190-001-01	Little River	Rt. 9 Bridge	M	5	38	2.04	1	41
204041	DE 190-001-02	Little River	Rt. 8 Bridge	F	1	41	1.49	1	41
302031	DE 200-001	Marshyhope Creek	Rd. 308 Bridge	F	1	77	3.46	5	78
208021	DE 210-001	Mispillion River	Rt. 1 Bridge	F	1	42	3.57	5	42
208061	DE 210-001	Mispillion River	1.09 miles from mouth at lighthouse	M	5	51	1.14	1	52
208211	DE 210-L02	Mispillion River	Rt. 36 Silver Lake	F	1	42	3.21	5	42
208231	DE 210-L05	Mispillion River	Beaverdam Branch, Rd. 384	F	5	42	4.57	5	42
208181	DE 210-L06	Mispillion River	Abbotts Pond at Rd. 620	F	1	39	3.56	5	42
206091	DE 220-001	Murderkill River	US Rt. 113 at Frederica By-Pass	F	5	39	2.70	1	41
206101	DE 220-001	Murderkill River	Bowers Beach Wharf	M	5	42	1.25	1	42
206141	DE 220-001	Murderkill River	3.25 miles from the mouth	M	5	37	1.74	1	37
206231	DE 220-001	Murderkill River	Confluence of Kent County STP trib.	F	5	36	2.57	1	36
USGS 01484080	DE 220-001		Murderkill River At Bowers Beach	F					
USGS 01484085	DE 220-001		Murderkill River At Frederica	M					
206561	DE 220-002	Murderkill River	Double Run at Rd. 371	F	5	41	2.83	1	41
206041	DE 220-004	Murderkill River	Browns Branch at Rt. 14 Bridge	F	5	41	2.81	1	42
206011	DE 220-005	Murderkill River	US Rt. 13 Bridge below Felton	F	5	69	3.01	5	71
206451	DE 220-L03	Murderkill River	Coursey Pond at Rd. 388 Bridge	F	1	40	3.12	5	41

Station	Segment	Watershed	Description	Fresh or Marine	ENT Status	Total N Count	Total N LCL	Total N Support	Total P Count
206361	DE 220-L05	Murderkill River	McCauley Pond near spillway	F	1	42	3.77	5	42
101021	DE 230-001-02	Naamans Creek	Naamans Road	F	5	39	1.51	1	38
101031	DE 230-001-02	Naamans Creek	South Branch at Darley Rd.	F	5	40	1.02	1	42
101061	DE 230-001-02	Naamans Creek	South Branch at Marsh Rd.	F	1	42	1.64	1	42
304151	DE 240-001	Nanticoke River	Buoy 66 (Conf DuPont Gut)	F	5	37	3.38	5	36
304471	DE 240-001	Nanticoke River	Rt. 13 Bridge	F	1	41	3.12	5	40
304191	DE 240-002	Nanticoke River	Rd. 545 Mainstem Nanticoke	F	1	80	5.18	5	79
304681	DE 240-002	Nanticoke River	Nanticoke River at Beach HWY (Ellendale Greenwood HWY) on east edge of Greenwood	F	1	41	3.81	5	40
304371	DE 240-003	Nanticoke River	Clear Brook @ Cannon Rd. (Rt. 18)	F	5	32	3.40	5	40
304381	DE 240-003	Nanticoke River	Bucks Branch at Rd. 546	F	5	40	10.02	5	38
USGS 01487150	DE 240-003	Nanticoke River	Bucks Branch Near Atlanta	F					
304741	DE 240-004	Nanticoke River	Deep Creek @ Old Furnace Rd. (Rd. 46)	F	1	41	1.93	1	40
316011	DE 240-005	Nanticoke River	Gravelly Branch at Rd. 525 Bridge	F	1	41	2.22	1	40
316031	DE 240-005	Nanticoke River	Gravelly Branch at Deer Forest Road (Rd 565) on west edge of Redden State Forest Jester Tract	F	1	41	1.86	1	40
304311	DE 240-L02	Nanticoke River	Concord Pond overflow	F	1	41	2.30	1	40
304321	DE 240-L04	Nanticoke River	Williams Pond, below the pond at Rd. 535	F	1	40	3.29	5	39
313011	DE 250-001	Pocomoke River	Rd. 419 Bridge	F	1	39	2.44	1	41
103011	DE 260-001	Red Clay Creek	Stanton, Rt. 4 at Stanton Bridge (USGS gage 01480015)	F	5	39	2.87	1	40
103031	DE 260-001	Red Clay Creek	Wooddale, Rt. 48 (USGS gage 01480000)	F	1	73	3.25	5	73
103041	DE 260-001	Red Clay Creek	Ashland, Rd. 258a	F	1	42	3.77	5	42
103061	DE 260-002	Red Clay Creek	Burrough's Run at Creek Rd. (Rt. 82)	F	1	42	1.88	1	42
107031	DE 270-001-01	Red Lion Creek	Rt. 9 Bridge	F	1	40	1.60	1	40
107011	DE 270-001-02	Red Lion Creek	Rt. 7	F	5	41	0.83	1	41
308051	DE 280-001-01	Rehoboth Bay	Guinea Creek at Rt. 298 Bridge	M	5	41	1.71	1	41
308371	DE 280-002	Rehoboth Bay	Bundick's Branch at Rt. 23	F	5	40	1.82	1	38
306091	DE 280-E01	Rehoboth Bay	Buoy 7, Rehoboth Bay	M	1	34	0.46	1	31
306111	DE 280-E01	Rehoboth Bay	Massey's Ditch at Bouy 17	M	1	38	0.39	1	36
USGS 01484680	DE 280-E01	Rehoboth Bay	Massey Ditch at Massey's Landing	M					

Station	Segment	Watershed	Description	Fresh or Marine	ENT Status	Total N Count	Total N LCL	Total N Support	Total P Count
308031	DE 280-L01	Rehoboth Bay	Burton Pond, Rd. 24	F	1	40	1.16	1	38
205011	DE 290-001-01	Saint Jones River	St. Jones at Bowers Beach, mouth to Del.Bay.	M	5	54	1.36	1	55
205041	DE 290-001-01	Saint Jones River	3.5 miles from mouth at Barkers Landing	M	5	42	1.56	1	42
205091	DE 290-001-02	Saint Jones River	Rt. 10 Bridge near DAFB	F	5	41	1.73	1	41
205151	DE 290-003	Saint Jones River	Rd. 69 State College, Fork Branch	F	1	42	1.13	1	41
205181	DE 290-L01	Saint Jones River	Rt. 13 Alt. Moores Lake	F	1	41	3.56	5	41
205191	DE 290-L02	Saint Jones River	Silver Lake Spillway, Dover City Park	F	1	69	1.29	1	68
205211	DE 290-L03	Saint Jones River	Derby Pond at Rt. 13A	F	1	42	2.57	1	41
102041	DE 300-001-01	Shellpot Creek	Cherry Island at Rd. 501 Bridge	F	5	41	1.64	1	41
102051	DE 300-001-02	Shellpot Creek	Rt. 13 Bus (Market Street) Bridge	F	5	72	1.11	1	73
102081	DE 300-001-02	Shellpot Creek	Carr Road Bridge	F	1	42	1.06	1	42
201011	DE 310-001	Smyrna River	Lake Como at US Route 13 Bridge	F	1	42	1.35	1	42
201041	DE 310-001	Smyrna River	Rt. 9 Fleming's Landing	M	5	42	1.51	1	42
201021	DE 310-002	Smyrna River	Rd. 137 Bridge, Mill Creek	F	1	39	1.70	1	42
201051	DE 310-003	Smyrna River	Rd. 485 Bridge at Smyrna Landing	F	5	42	1.90	1	42
201161	DE 310-003	Smyrna River	Rd. 38 Bridge, Providence Creek	F	1	42	3.15	5	42
105031	DE 320-001	White Clay Creek	Chambers Rock Rd. (Road 329) near Thompson	F	1	42	3.80	5	42
105151	DE 320-001	White Clay Creek	DE Park Race Track (USGS gage 01479000), 35ft downstream	F	1	72	3.08	5	73
105171	DE 320-001	White Clay Creek	McKee Lane in Newark	F	1	39	3.60	5	39
307171	DE050-L03	Broad Creek	Horseys Pond 50 Yards Above Spillway 50% RB	F	1	40	3.19	5	39
307081	DE050-L07	Broad Creek	Trap Pond on Hitch Pond Branch @ Co. Rd. 449 or Trap Pond Rd	F	1	37	1.80	1	37

Station	Segment	Watershed	Description	Fresh or Marine	Total P LCL	Total P Support	DIN count	DIN LCL	DIN Status	DIP count
109091	DE 010-001-01	Appoquinimink River	Delaware River (Appoquinimink at Mouth)	F	0.176	1	--	--	--	--
109121	DE 010-001-01	Appoquinimink River	Rt. 9 Bridge (East)	F	0.147	1	--	--	--	--
USGS 01483177	DE 010-001-01	Appoquinimink River	Appoquinimink River Near Odessa	F						
109041	DE 010-001-02	Appoquinimink River	Rt. 13 Bridge below Odessa	F	0.161	1	--	--	--	--
109171	DE 010-001-02	Appoquinimink River	MOT Gut (Appo Gut) - West Bank	F	0.162	1	--	--	--	--
109071	DE 010-001-03	Appoquinimink River	Drawyer Creek, Rt 13	F	0.161	1	--	--	--	--
110011	DE 010-002-02	Appoquinimink River	Road 463 East of RR Tracks	F	0.072	1	--	--	--	--
109131	DE 010-L01	Appoquinimink River	Noxontown Pond Overflow, Rd 38	F	0.064	1	--	--	--	--
109191	DE 010-L03	Appoquinimink River	Shallcross Lake Overflow, Dischrg Drawer Cr, Rd. 428	F	0.058	1	--	--	--	--
114011	DE 020-001	Army Creek	Rt. 9 Below Llangollen Wells	F	0.157	1	--	--	--	--
114021	DE 020-002	Army Creek	Army Creek @ S. DuPont Hgwy. (Rt. 13)	F	0.052	1	--	--	--	--
114041	DE 020-003	Army Creek	Trib Army Crk. @ Rt. 13 near Airport Ind. Park	F	0.058	1	--	--	--	--
114051	DE 020-003	Army Creek	Army Creek @ Rt. 13 near Rt. 40	F	0.024	1	--	--	--	--
110031	DE 030-001	Lower Blackbird	Rd 455, Blackbird Landing	F	0.195	1	--	--	--	--
110041	DE 030-001	Lower Blackbird	Rt. 9 Taylors Bridge	F	0.166	1	--	--	--	--
104011	DE 040-001	Brandywine Creek	Footbridge in Brandywine State Park	F	0.072	1	--	--	--	--
104021	DE 040-002	Brandywine Creek	Rd. 279 Bridge (USGS guage 014)	F	0.083	1	--	--	--	--
104051	DE 040-002	Brandywine Creek	Smith Bridge	F	0.068	1	--	--	--	--
USGS 01481500	DE 040-002	Brandywine Creek	Brandwine Creek at Wilmington	F						
307031	DE 050-001	Broad Creek	Broad Creek at Main Street in Bethel (Rd 493)	F	0.077	1	--	--	--	--
307371	DE 050-006-03	Broad Creek	Raccoon Prong @ Pepperbox Rd. (Rd. 66)	F	0.060	1	--	--	--	--
307011	DE 050-L04	Broad Creek	Records Pond at Rt. 13	F	0.055	1	--	--	--	--
303041	DE 060-001	Broadkill River	Rt. 1 Bridge (Mainstem)	F	0.118	1	--	--	--	--
303061	DE 060-001	Broadkill River	0.10 Miles From Mouth	M	0.083	1	--	--	--	--
USGS 01484272	DE 060-001	Broadkill River	Broadkill River Near Milton	F						
303181	DE 060-002	Broadkill River	Beaverdam Creek above Rd. 259, Hunters Mill Pond	F	0.036	1	--	--	--	--
303031	DE 060-003	Broadkill River	Rt. 5 Bridge	F	0.040	1	--	--	--	--
303311	DE 060-004	Broadkill River	Round Pole Branch at Rd. 88	F	0.051	1	--	--	--	--

Station	Segment	Watershed	Description	Fresh or Marine	Total P LCL	Total P Support	DIN count	DIN LCL	DIN Status	DIP count
303011	DE 060-005	Broadkill River	Ingram Branch, Savanah Ditch at Rd. 246	F	0.245	5	--	--	--	--
303021	DE 060-005	Broadkill River	Ingram Branch at Rd. 248	F	0.199	1	--	--	--	--
303341	DE 060-006	Broadkill River	Pemberton Branch at Rt. 30 above Wagamons Pond	F	0.022	1	--	--	--	--
303051	DE 060-007-01	Broadkill River	Red Mill Pond at Rt. 1	F	0.072	1	--	--	--	--
303331	DE 060-L03	Broadkill River	Waples Pond at Rt. 1	F	0.022	1	--	--	--	--
311041	DE 070-001	Buntings Branch	Buntings Branch at Rt. 54	F	0.064	1	42	2.35	5	38
301021	DE 080-001	Cedar Creek	Rd. 212, Swiggetts Pond	F	0.018	1	--	--	--	--
301031	DE 080-001	Cedar Creek	Rt. 1 Bridge	F	0.081	1	--	--	--	--
301091	DE 080-001	Cedar Creek	Rt. 36 Bridge	M	0.136	1	--	--	--	--
108021	DE 090-001	Chesapeake & Delaware Canal	St. Georges Bridge	F	0.138	1	--	--	--	--
108111	DE 090-L01	Chesapeake & Delaware Canal	Lums Pond Boat Ramp	F	0.051	1	--	--	--	--
112021	DE 100-002	Chesapeake Drainage System	Sewell Branch at Rd. 95	F	0.193	1	--	--	--	--
207081	DE 110-001	Choptank	Tappahanna Ditch at Rd. 222	F	0.092	1	--	--	--	--
207091	DE 110-002	Choptank	Culbreth Marsh at Rd. 210	F	0.087	1	--	--	--	--
207021	DE 110-003	Choptank	Cow Marsh Creek at Rd. 208	F	0.070	1	--	--	--	--
207111	DE 110-003	Choptank	White Marsh Branch at Rd. 268	F	0.072	1	--	--	--	--
106291	DE 120-001	Christina River	Conrail Bridge (USGS tide gage 01481602) Up river from Port	F	0.096	1	--	--	--	--
106021	DE 120-002	Christina River	Rt. 141 Drawbridge, Newport (USGS tide gage 01480065)	F	0.082	1	--	--	--	--
USGS 01480065	DE 120-002	Christina River	Christina River at Newport	F						
106031	DE 120-003	Christina River	Smalley's Dam Spillway	F	0.062	1	--	--	--	--
106141	DE 120-004-01	Christina River	Rt. 72, Below Newark (USGS guage 01478000)	F	0.055	1	--	--	--	--
106191	DE 120-006	Christina River	Rt. 273, Above Newark	F	0.027	1	--	--	--	--
106281	DE 120-007-01	Christina River	Little Mill Creek at atlantic Avenue (USGS Gage 01480095)	F	0.029	1	--	--	--	--
111011	DE 130-001	Dragon Run Creek	Rt. 9 Bridge	F	0.104	1	--	--	--	--
111031	DE 130-002	Dragon Run Creek	Rt. 13 Bridge (flow at Rd. 407), Dragon Creek	F	0.054	1	--	--	--	--
312011	DE 140-001	Indian River	White Creek at the mouth of Assawoman Canal	M	0.043	1	41	0.05	1	29
308361	DE 140-002	Indian River	Blackwater Creek at Rd. 54	F	0.054	1	41	3.13	5	38
308091	DE 140-003	Indian River	Pepper Creek at Rt. 26	F	0.087	1	42	1.27	5	41
306181	DE 140-004	Indian River	Buoy 49, Indian River	M	0.093	1	38	0.75	5	35
306341	DE 140-004	Indian River	Island Creek, upper third	M	0.080	1	38	0.57	5	31

Station	Segment	Watershed	Description	Fresh or Marine	Total P LCL	Total P Support	DIN count	DIN LCL	DIN Status	DIP count
308341	DE 140-005	Indian River	Swan Creek at Rd. 297	F	0.013	1	42	2.19	5	41
308281	DE 140-006	Indian River	Cow Bridge Branch Rd. 48	F	0.038	1	37	1.22	5	38
306121	DE 140-E01	Indian River	Buoy 20, Indian River Bay	M	0.059	1	53	0.05	1	39
306321	DE 140-E01	Indian River	Indian River Inlet	M	0.044	1	59	0.03	1	42
306331	DE 140-E02	Indian River	Island Creek mouth	M	0.074	1	38	0.36	5	30
308071	DE 140-L01	Indian River	Millsboro Dam Overflow	F	0.040	1	73	2.34	5	71
USGS 01484525	DE 140-L01	Indian River	Millsboro Pond Outlet at Millsboro	F						
309041	DE 150-001	Iron Branch	Whartons Branch at Rt. 334 Bridge	F	0.059	1	42	1.50	5	40
202031	DE 160-001	Leipsic River	DE Rt. 9 Bridge	M	0.212	5	--	--	--	--
202191	DE 160-002	Leipsic River	Upstream of Masseys Millpond at Rt. 15	F	0.122	1	--	--	--	--
202021	DE 160-L01	Leipsic River	Rt. 13 Bridge, Garrisons Lake	F	0.167	1	--	--	--	--
305011	DE 170-001	Lewes and Rehoboth Canal	Canal Rt. 1	M	0.071	1	42	0.10	1	36
305041	DE 170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal at Rd. 18 Bridge	M	0.071	1	42	0.11	1	35
310031	DE 180-003	Little Assawoman Bay	Dirrickson Creek, Rd. 381	M	0.175	1	42	0.68	5	40
310011	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay Ditch at Rd. 58 Bridge	M	0.041	1	42	0.03	1	29
310071	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay, Mid-Bay	M	0.042	1	42	0.03	1	29
204031	DE 190-001-01	Little River	Rt. 9 Bridge	M	0.241	5	--	--	--	--
204041	DE 190-001-02	Little River	Rt. 8 Bridge	F	0.107	1	--	--	--	--
302031	DE 200-001	Marshyhope Creek	Rd. 308 Bridge	F	0.104	1	--	--	--	--
208021	DE 210-001	Mispillion River	Rt. 1 Bridge	F	0.059	1	--	--	--	--
208061	DE 210-001	Mispillion River	1.09 miles from mouth at lighthouse	M	0.142	1	--	--	--	--
208211	DE 210-L02	Mispillion River	Rt. 36 Silver Lake	F	0.035	1	--	--	--	--
208231	DE 210-L05	Mispillion River	Beaverdam Branch, Rd. 384	F	0.043	1	--	--	--	--
208181	DE 210-L06	Mispillion River	Abbotts Pond at Rd. 620	F	0.033	1	--	--	--	--
206091	DE 220-001	Murderkill River	US Rt. 113 at Frederica By-Pass	F	0.153	1	--	--	--	--
206101	DE 220-001	Murderkill River	Bowers Beach Wharf	M	0.131	1	--	--	--	--
206141	DE 220-001	Murderkill River	3.25 miles from the mouth	M	0.147	1	--	--	--	--
206231	DE 220-001	Murderkill River	Confluence of Kent County STP trib.	F	0.198	1	--	--	--	--
USGS 01484080	DE 220-001		Murderkill River At Bowers Beach	F						
USGS 01484085	DE 220-001		Murderkill River At Frederica	M						
206561	DE 220-002	Murderkill River	Double Run at Rd. 371	F	0.087	1	--	--	--	--
206041	DE 220-004	Murderkill River	Browns Branch at Rt. 14 Bridge	F	0.045	1	--	--	--	--
206011	DE 220-005	Murderkill River	US Rt. 13 Bridge below Felton	F	-0.041	1	--	--	--	--
206451	DE 220-L03	Murderkill River	Coursey Pond at Rd. 388 Bridge	F	0.079	1	--	--	--	--

Station	Segment	Watershed	Description	Fresh or Marine	Total P LCL	Total P Support	DIN count	DIN LCL	DIN Status	DIP count
206361	DE 220-L05	Murderkill River	McCauley Pond near spillway	F	0.061	1	--	--	--	--
101021	DE 230-001-02	Naamans Creek	Naamans Road	F	0.030	1	--	--	--	--
101031	DE 230-001-02	Naamans Creek	South Branch at Darley Rd.	F	0.039	1	--	--	--	--
101061	DE 230-001-02	Naamans Creek	South Branch at Marsh Rd.	F	0.045	1	--	--	--	--
304151	DE 240-001	Nanticoke River	Buoy 66 (Conf DuPont Gut)	F	0.091	1	--	--	--	--
304471	DE 240-001	Nanticoke River	Rt. 13 Bridge	F	0.049	1	--	--	--	--
304191	DE 240-002	Nanticoke River	Rd. 545 Mainstem Nanticoke	F	0.045	1	--	--	--	--
304681	DE 240-002	Nanticoke River	Nanticoke River at Beach HWY (Ellendale Greenwood HWY) on east edge of Greenwood	F	0.051	1	--	--	--	--
304371	DE 240-003	Nanticoke River	Clear Brook @ Cannon Rd. (Rt. 18)	F	0.126	1	--	--	--	--
304381	DE 240-003	Nanticoke River	Bucks Branch at Rd. 546	F	0.047	1	--	--	--	--
USGS 01487150	DE 240-003	Nanticoke River	Bucks Branch Near Atlanta	F						
304741	DE 240-004	Nanticoke River	Deep Creek @ Old Furnace Rd. (Rd. 46)	F	0.027	1	--	--	--	--
316011	DE 240-005	Nanticoke River	Gravelly Branch at Rd. 525 Bridge	F	0.019	1	--	--	--	--
316031	DE 240-005	Nanticoke River	Gravelly Branch at Deer Forest Road (Rd 565) on west edge of Redden State Forest Jester Tract	F	0.032	1	--	--	--	--
304311	DE 240-L02	Nanticoke River	Concord Pond overflow	F	0.031	1	--	--	--	--
304321	DE 240-L04	Nanticoke River	Williams Pond, below the pond at Rd. 535	F	0.067	1	--	--	--	--
313011	DE 250-001	Pocomoke River	Rd. 419 Bridge	F	0.091	1	--	--	--	--
103011	DE 260-001	Red Clay Creek	Stanton, Rt. 4 at Stanton Bridge (USGS gage 01480015)	F	0.052	1	--	--	--	--
103031	DE 260-001	Red Clay Creek	Wooddale, Rt. 48 (USGS gage 01480000)	F	0.079	1	--	--	--	--
103041	DE 260-001	Red Clay Creek	Ashland, Rd. 258a	F	0.063	1	--	--	--	--
103061	DE 260-002	Red Clay Creek	Burrough's Run at Creek Rd. (Rt. 82)	F	0.023	1	--	--	--	--
107031	DE 270-001-01	Red Lion Creek	Rt. 9 Bridge	F	0.115	1	--	--	--	--
107011	DE 270-001-02	Red Lion Creek	Rt. 7	F	0.031	1	--	--	--	--
308051	DE 280-001-01	Rehoboth Bay	Guinea Creek at Rt. 298 Bridge	M	0.066	1	42	0.76	5	38
308371	DE 280-002	Rehoboth Bay	Bundick's Branch at Rt. 23	F	0.045	1	41	1.40	5	37
306091	DE 280-E01	Rehoboth Bay	Buoy 7, Rehoboth Bay	M	0.043	1	38	0.02	1	27
306111	DE 280-E01	Rehoboth Bay	Massey's Ditch at Bouy 17	M	0.045	1	42	0.02	1	31
USGS 01484680	DE 280-E01	Rehoboth Bay	Massey Ditch at Massey's Landing	M						

Station	Segment	Watershed	Description	Fresh or Marine	Total P LCL	Total P Support	DIN count	DIN LCL	DIN Status	DIP count
308031	DE 280-L01	Rehoboth Bay	Burton Pond, Rd. 24	F	0.016	1	40	0.68	5	38
205011	DE 290-001-01	Saint Jones River	St. Jones at Bowers Beach, mouth to Del.Bay.	M	0.187	1	--	--	--	--
205041	DE 290-001-01	Saint Jones River	3.5 miles from mouth at Barkers Landing	M	0.173	1	--	--	--	--
205091	DE 290-001-02	Saint Jones River	Rt. 10 Bridge near DAFB	F	0.150	1	--	--	--	--
205151	DE 290-003	Saint Jones River	Rd. 69 State College, Fork Branch	F	0.148	1	--	--	--	--
205181	DE 290-L01	Saint Jones River	Rt. 13 Alt. Moores Lake	F	0.064	1	--	--	--	--
205191	DE 290-L02	Saint Jones River	Silver Lake Spillway, Dover City Park	F	0.126	1	--	--	--	--
205211	DE 290-L03	Saint Jones River	Derby Pond at Rt. 13A	F	0.060	1	--	--	--	--
102041	DE 300-001-01	Shellpot Creek	Cherry Island at Rd. 501 Bridge	F	0.095	1	--	--	--	--
102051	DE 300-001-02	Shellpot Creek	Rt. 13 Bus (Market Street) Bridge	F	0.043	1	--	--	--	--
102081	DE 300-001-02	Shellpot Creek	Carr Road Bridge	F	0.033	1	--	--	--	--
201011	DE 310-001	Smyrna River	Lake Como at US Route 13 Bridge	F	0.111	1	--	--	--	--
201041	DE 310-001	Smyrna River	Rt. 9 Fleming's Landing	M	0.189	1	--	--	--	--
201021	DE 310-002	Smyrna River	Rd. 137 Bridge, Mill Creek	F	0.118	1	--	--	--	--
201051	DE 310-003	Smyrna River	Rd. 485 Bridge at Smyrna Landing	F	0.193	1	--	--	--	--
201161	DE 310-003	Smyrna River	Rd. 38 Bridge, Providence Creek	F	0.042	1	--	--	--	--
105031	DE 320-001	White Clay Creek	Chambers Rock Rd. (Road 329) near Thompson	F	0.050	1	--	--	--	--
105151	DE 320-001	White Clay Creek	DE Park Race Track (USGS gage 01479000), 35ft downstream	F	0.070	1	--	--	--	--
105171	DE 320-001	White Clay Creek	McKee Lane in Newark	F	0.051	1	--	--	--	--
307171	DE050-L03	Broad Creek	Horseys Pond 50 Yards Above Spillway 50% RB	F	0.065	1	--	--	--	--
307081	DE050-L07	Broad Creek	Trap Pond on Hitch Pond Branch @ Co. Rd. 449 or Trap Pond Rd	F	0.093	1	--	--	--	--

Station	Segment	Watershed	Description	Fresh or Marine	DIP LCL	DIP Status	ZN samples	ZN > Criteria	ZN Support
109091	DE 010-001-01	Appoquinimink River	Delaware River (Appoquinimink at Mouth)	F	--	--	24	--	1
109121	DE 010-001-01	Appoquinimink River	Rt. 9 Bridge (East)	F	--	--	18	--	1
USGS 01483177	DE 010-001-01	Appoquinimink River	Appoquinimink River Near Odessa	F					
109041	DE 010-001-02	Appoquinimink River	Rt. 13 Bridge below Odessa	F	--	--	20	--	1
109171	DE 010-001-02	Appoquinimink River	MOT Gut (Appo Gut) - West Bank	F	--	--	22	--	1
109071	DE 010-001-03	Appoquinimink River	Drawyer Creek, Rt 13	F	--	--	22	--	1
110011	DE 010-002-02	Appoquinimink River	Road 463 East of RR Tracks	F	--	--	--	--	
109131	DE 010-L01	Appoquinimink River	Noxontown Pond Overflow, Rd 38	F	--	--	28	--	1
109191	DE 010-L03	Appoquinimink River	Shallcross Lake Overflow, Dischrg Drawer Cr, Rd. 428	F	--	--	36	--	1
114011	DE 020-001	Army Creek	Rt. 9 Below Llangollen Wells	F	--	--	--	--	
114021	DE 020-002	Army Creek	Army Creek @ S. DuPont Hgwy. (Rt. 13)	F	--	--	--	--	
114041	DE 020-003	Army Creek	Trib Army Crk. @ Rt. 13 near Airport Ind. Park	F	--	--	--	--	
114051	DE 020-003	Army Creek	Army Creek @ Rt. 13 near Rt. 40	F	--	--	--	--	
110031	DE 030-001	Lower Blackbird	Rd 455, Blackbird Landing	F	--	--	--	--	
110041	DE 030-001	Lower Blackbird	Rt. 9 Taylors Bridge	F	--	--	--	--	
104011	DE 040-001	Brandywine Creek	Footbridge in Brandywine State Park	F	--	--	33	--	1
104021	DE 040-002	Brandywine Creek	Rd. 279 Bridge (USGS guage 014)	F	--	--	61	--	1
104051	DE 040-002	Brandywine Creek	Smith Bridge	F	--	--	33	--	1
USGS 01481500	DE 040-002	Brandywine Creek	Brandwine Creek at Wilmington	F					
307031	DE 050-001	Broad Creek	Broad Creek at Main Street in Bethel (Rd 493)	F	--	--	34	--	1
307371	DE 050-006-03	Broad Creek	Raccoon Prong @ Pepperbox Rd. (Rd. 66)	F	--	--	28	--	1
307011	DE 050-L04	Broad Creek	Records Pond at Rt. 13	F	--	--	34	--	1
303041	DE 060-001	Broadkill River	Rt. 1 Bridge (Mainstem)	F	--	--	--	--	
303061	DE 060-001	Broadkill River	0.10 Miles From Mouth	M	--	--	--	--	--
USGS 01484272	DE 060-001	Broadkill River	Broadkill River Near Milton	F					
303181	DE 060-002	Broadkill River	Beaverdam Creek above Rd. 259, Hunters Mill Pond	F	--	--	--	--	
303031	DE 060-003	Broadkill River	Rt. 5 Bridge	F	--	--	--	--	
303311	DE 060-004	Broadkill River	Round Pole Branch at Rd. 88	F	--	--	--	--	

Station	Segment	Watershed	Description	Fresh or Marine	DIP LCL	DIP Status	ZN samples	ZN > Criteria	ZN Support
303011	DE 060-005	Broadkill River	Ingram Branch, Savanah Ditch at Rd. 246	F	--	--	--	--	
303021	DE 060-005	Broadkill River	Ingram Branch at Rd. 248	F	--	--	--	--	
303341	DE 060-006	Broadkill River	Pemberton Branch at Rt. 30 above Wagamons Pond	F	--	--	--	--	
303051	DE 060-007-01	Broadkill River	Red Mill Pond at Rt. 1	F	--	--	--	--	
303331	DE 060-L03	Broadkill River	Waples Pond at Rt. 1	F	--	--	--	--	
311041	DE 070-001	Buntings Branch	Buntings Branch at Rt. 54	F	0.022	5	39	--	1
301021	DE 080-001	Cedar Creek	Rd. 212, Swiggetts Pond	F	--	--	--	--	
301031	DE 080-001	Cedar Creek	Rt. 1 Bridge	F	--	--	--	--	
301091	DE 080-001	Cedar Creek	Rt. 36 Bridge	M	--	--	--	--	--
108021	DE 090-001	Chesapeake & Delaware Canal	St. Georges Bridge	F	--	--	--	--	
108111	DE 090-L01	Chesapeake & Delaware Canal	Lums Pond Boat Ramp	F	--	--	--	--	
112021	DE 100-002	Chesapeake Drainage System	Sewell Branch at Rd. 95	F	--	--	--	--	
207081	DE 110-001	Choptank	Tappahanna Ditch at Rd. 222	F	--	--	--	--	
207091	DE 110-002	Choptank	Culbreth Marsh at Rd. 210	F	--	--	--	--	
207021	DE 110-003	Choptank	Cow Marsh Creek at Rd. 208	F	--	--	--	--	
207111	DE 110-003	Choptank	White Marsh Branch at Rd. 268	F	--	--	--	--	
106291	DE 120-001	Christina River	Conrail Bridge (USGS tide gage 01481602) Up river from Port	F	--	--	51	--	1
106021	DE 120-002	Christina River	Rt. 141 Drawbridge, Newport (USGS tide gage 01480065)	F	--	--	36	--	1
USGS 01480065	DE 120-002	Christina River	Christina River at Newport	F					
106031	DE 120-003	Christina River	Smalley's Dam Spillway	F	--	--	38	--	1
106141	DE 120-004-01	Christina River	Rt. 72, Below Newark (USGS guage 01478000)	F	--	--	63	--	1
106191	DE 120-006	Christina River	Rt. 273, Above Newark	F	--	--	34	--	1
106281	DE 120-007-01	Christina River	Little Mill Creek at atlantic Avenue (USGS Gage 01480095)	F	--	--	40	--	1
111011	DE 130-001	Dragon Run Creek	Rt. 9 Bridge	F	--	--	--	--	
111031	DE 130-002	Dragon Run Creek	Rt. 13 Bridge (flow at Rd. 407), Dragon Creek	F	--	--	--	--	
312011	DE 140-001	Indian River	White Creek at the mouth of Assawoman Canal	M	0.019	5	3	--	--
308361	DE 140-002	Indian River	Blackwater Creek at Rd. 54	F	0.019	5	37	--	1
308091	DE 140-003	Indian River	Pepper Creek at Rt. 26	F	0.032	5	39	--	1
306181	DE 140-004	Indian River	Buoy 49, Indian River	M	0.016	5	10	--	--
306341	DE 140-004	Indian River	Island Creek, upper third	M	0.019	5	10	--	--

Station	Segment	Watershed	Description	Fresh or Marine	DIP LCL	DIP Status	ZN samples	ZN > Criteria	ZN Support
308341	DE 140-005	Indian River	Swan Creek at Rd. 297	F	0.009	1	33	--	1
308281	DE 140-006	Indian River	Cow Bridge Branch Rd. 48	F	0.017	5	34	1	1
306121	DE 140-E01	Indian River	Buoy 20, Indian River Bay	M	0.023	5	5	--	--
306321	DE 140-E01	Indian River	Indian River Inlet	M	0.025	5	8	--	--
306331	DE 140-E02	Indian River	Island Creek mouth	M	0.020	5	6	--	--
308071	DE 140-L01	Indian River	Millsboro Dam Overflow	F	0.016	5	61	--	1
USGS 01484525	DE 140-L01	Indian River	Millsboro Pond Outlet at Millsboro	F					
309041	DE 150-001	Iron Branch	Whartons Branch at Rt. 334 Bridge	F	0.019	5	39	--	1
202031	DE 160-001	Leipsic River	DE Rt. 9 Bridge	M	--	--	--	--	--
202191	DE 160-002	Leipsic River	Upstream of Masseys Millpond at Rt. 15	F	--	--	--	--	
202021	DE 160-L01	Leipsic River	Rt. 13 Bridge, Garrisons Lake	F	--	--	--	--	
305011	DE 170-001	Lewes and Rehoboth Canal	Canal Rt. 1	M	0.039	5	2	--	--
305041	DE 170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal at Rd. 18 Bridge	M	0.033	5	2	--	--
310031	DE 180-003	Little Assawoman Bay	Dirrickson Creek, Rd. 381	M	0.043	5	18	--	--
310011	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay Ditch at Rd. 58 Bridge	M	0.018	5	1	--	--
310071	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay, Mid-Bay	M	0.016	5	3	--	--
204031	DE 190-001-01	Little River	Rt. 9 Bridge	M	--	--	--	--	--
204041	DE 190-001-02	Little River	Rt. 8 Bridge	F	--	--	--	--	
302031	DE 200-001	Marshyhope Creek	Rd. 308 Bridge	F	--	--	73	--	1
208021	DE 210-001	Mispillion River	Rt. 1 Bridge	F	--	--	--	--	
208061	DE 210-001	Mispillion River	1.09 miles from mouth at lighthouse	M	--	--	--	--	--
208211	DE 210-L02	Mispillion River	Rt. 36 Silver Lake	F	--	--	--	--	
208231	DE 210-L05	Mispillion River	Beaverdam Branch, Rd. 384	F	--	--	--	--	
208181	DE 210-L06	Mispillion River	Abbotts Pond at Rd. 620	F	--	--	--	--	
206091	DE 220-001	Murderkill River	US Rt. 113 at Frederica By-Pass	F	--	--	32	--	1
206101	DE 220-001	Murderkill River	Bowers Beach Wharf	M	--	--	19	--	--
206141	DE 220-001	Murderkill River	3.25 miles from the mouth	M	--	--	23	--	--
206231	DE 220-001	Murderkill River	Confluence of Kent County STP trib.	F	--	--	28	--	1
USGS 01484080	DE 220-001		Murderkill River At Bowers Beach	F					
USGS 01484085	DE 220-001		Murderkill River At Frederica	M					
206561	DE 220-002	Murderkill River	Double Run at Rd. 371	F	--	--	38	--	1
206041	DE 220-004	Murderkill River	Browns Branch at Rt. 14 Bridge	F	--	--	39	--	1
206011	DE 220-005	Murderkill River	US Rt. 13 Bridge below Felton	F	--	--	65	--	1
206451	DE 220-L03	Murderkill River	Coursey Pond at Rd. 388 Bridge	F	--	--	36	--	1

Station	Segment	Watershed	Description	Fresh or Marine	DIP LCL	DIP Status	ZN samples	ZN > Criteria	ZN Support
206361	DE 220-L05	Murderkill River	McCauley Pond near spillway	F	--	--	38	--	1
101021	DE 230-001-02	Naamans Creek	Naamans Road	F	--	--	--	--	
101031	DE 230-001-02	Naamans Creek	South Branch at Darley Rd.	F	--	--	--	--	
101061	DE 230-001-02	Naamans Creek	South Branch at Marsh Rd.	F	--	--	--	--	
304151	DE 240-001	Nanticoke River	Buoy 66 (Conf DuPont Gut)	F	--	--	34	--	1
304471	DE 240-001	Nanticoke River	Rt. 13 Bridge	F	--	--	35	--	1
304191	DE 240-002	Nanticoke River	Rd. 545 Mainstem Nanticoke	F	--	--	74	--	1
304681	DE 240-002	Nanticoke River	Nanticoke River at Beach HWY (Ellendale Greenwood HWY) on east edge of Greenwood	F	--	--	38	--	1
304371	DE 240-003	Nanticoke River	Clear Brook @ Cannon Rd. (Rt. 18)	F	--	--	35	--	1
304381	DE 240-003	Nanticoke River	Bucks Branch at Rd. 546	F	--	--	34	--	1
USGS 01487150	DE 240-003	Nanticoke River	Bucks Branch Near Atlanta	F					
304741	DE 240-004	Nanticoke River	Deep Creek @ Old Furnace Rd. (Rd. 46)	F	--	--	39	3	5
316011	DE 240-005	Nanticoke River	Gravelly Branch at Rd. 525 Bridge	F	--	--	36	--	1
316031	DE 240-005	Nanticoke River	Gravelly Branch at Deer Forest Road (Rd 565) on west edge of Redden State Forest Jester Tract	F	--	--	36	9	5
304311	DE 240-L02	Nanticoke River	Concord Pond overflow	F	--	--	37	--	1
304321	DE 240-L04	Nanticoke River	Williams Pond, below the pond at Rd. 535	F	--	--	35	--	1
313011	DE 250-001	Pocomoke River	Rd. 419 Bridge	F	--	--	--	--	
103011	DE 260-001	Red Clay Creek	Stanton, Rt. 4 at Stanton Bridge (USGS gage 01480015)	F	--	--	36	--	1
103031	DE 260-001	Red Clay Creek	Wooddale, Rt. 48 (USGS gage 01480000)	F	--	--	68	--	1
103041	DE 260-001	Red Clay Creek	Ashland, Rd. 258a	F	--	--	39	--	1
103061	DE 260-002	Red Clay Creek	Burrough's Run at Creek Rd. (Rt. 82)	F	--	--	33	--	1
107031	DE 270-001-01	Red Lion Creek	Rt. 9 Bridge	F	--	--	--	--	
107011	DE 270-001-02	Red Lion Creek	Rt. 7	F	--	--	--	--	
308051	DE 280-001-01	Rehoboth Bay	Guinea Creek at Rt. 298 Bridge	M	0.018	5	12	--	--
308371	DE 280-002	Rehoboth Bay	Bundick's Branch at Rt. 23	F	0.033	5	35	--	1
306091	DE 280-E01	Rehoboth Bay	Buoy 7, Rehoboth Bay	M	0.022	5	7	--	--
306111	DE 280-E01	Rehoboth Bay	Massey's Ditch at Bouy 17	M	0.025	5	5	--	--
USGS 01484680	DE 280-E01	Rehoboth Bay	Massey Ditch at Massey's Landing	M					

Station	Segment	Watershed	Description	Fresh or Marine	DIP LCL	DIP Status	ZN samples	ZN > Criteria	ZN Support
308031	DE 280-L01	Rehoboth Bay	Burton Pond, Rd. 24	F	0.011	5	36	--	1
205011	DE 290-001-01	Saint Jones River	St. Jones at Bowers Beach, mouth to Del.Bay.	M	--	--	--	--	--
205041	DE 290-001-01	Saint Jones River	3.5 miles from mouth at Barkers Landing	M	--	--	--	--	--
205091	DE 290-001-02	Saint Jones River	Rt. 10 Bridge near DAFB	F	--	--	--	--	
205151	DE 290-003	Saint Jones River	Rd. 69 State College, Fork Branch	F	--	--	--	--	
205181	DE 290-L01	Saint Jones River	Rt. 13 Alt. Moores Lake	F	--	--	--	--	
205191	DE 290-L02	Saint Jones River	Silver Lake Spillway, Dover City Park	F	--	--	--	--	
205211	DE 290-L03	Saint Jones River	Derby Pond at Rt. 13A	F	--	--	--	--	
102041	DE 300-001-01	Shellpot Creek	Cherry Island at Rd. 501 Bridge	F	--	--	--	--	
102051	DE 300-001-02	Shellpot Creek	Rt. 13 Bus (Market Street) Bridge	F	--	--	--	--	
102081	DE 300-001-02	Shellpot Creek	Carr Road Bridge	F	--	--	--	--	
201011	DE 310-001	Smyrna River	Lake Como at US Route 13 Bridge	F	--	--	--	--	
201041	DE 310-001	Smyrna River	Rt. 9 Fleming's Landing	M	--	--	--	--	--
201021	DE 310-002	Smyrna River	Rd. 137 Bridge, Mill Creek	F	--	--	--	--	
201051	DE 310-003	Smyrna River	Rd. 485 Bridge at Smyrna Landing	F	--	--	--	--	
201161	DE 310-003	Smyrna River	Rd. 38 Bridge, Providence Creek	F	--	--	--	--	
105031	DE 320-001	White Clay Creek	Chambers Rock Rd. (Road 329) near Thompson	F	--	--	33	--	1
105151	DE 320-001	White Clay Creek	DE Park Race Track (USGS gage 01479000), 35ft downstream	F	--	--	64	--	1
105171	DE 320-001	White Clay Creek	McKee Lane in Newark	F	--	--	33	--	1
307171	DE050-L03	Broad Creek	Horseys Pond 50 Yards Above Spillway 50% RB	F	--	--	33	--	1
307081	DE050-L07	Broad Creek	Trap Pond on Hitch Pond Branch @ Co. Rd. 449 or Trap Pond Rd	F	--	--	31	--	1

Station	Segment	Watershed	Description	Fresh or Marine	Ammonia Count	Ammonia Exceedances	Ammonia Status	Marine CU Count
109091	DE 010-001-01	Appoquinimink River	Delaware River (Appoquinimink at Mouth)	F	30	--	1	16
109121	DE 010-001-01	Appoquinimink River	Rt. 9 Bridge (East)	F	29	--	1	6
USGS 01483177	DE 010-001-01	Appoquinimink River	Appoquinimink River Near Odessa	F				
109041	DE 010-001-02	Appoquinimink River	Rt. 13 Bridge below Odessa	F	39	--	1	1
109171	DE 010-001-02	Appoquinimink River	MOT Gut (Appo Gut) - West Bank	F	38	--	1	2
109071	DE 010-001-03	Appoquinimink River	Drawyer Creek, Rt 13	F	42	--	1	--
110011	DE 010-002-02	Appoquinimink River	Road 463 East of RR Tracks	F	66	--	1	--
109131	DE 010-L01	Appoquinimink River	Noxontown Pond Overflow, Rd 38	F	42	--	1	--
109191	DE 010-L03	Appoquinimink River	Shallcross Lake Overflow, Dischrg Drawer Cr, Rd. 428	F	43	--	1	--
114011	DE 020-001	Army Creek	Rt. 9 Below Llangollen Wells	F	39	--	1	--
114021	DE 020-002	Army Creek	Army Creek @ S. DuPont Hgwy. (Rt. 13)	F	30	--	1	--
114041	DE 020-003	Army Creek	Trib Army Crk. @ Rt. 13 near Airport Ind. Park	F	28	--	1	--
114051	DE 020-003	Army Creek	Army Creek @ Rt. 13 near Rt. 40	F	23	--	1	--
110031	DE 030-001	Lower Blackbird	Rd 455, Blackbird Landing	F	37	--	1	--
110041	DE 030-001	Lower Blackbird	Rt. 9 Taylors Bridge	F	29	--	1	--
104011	DE 040-001	Brandywine Creek	Footbridge in Brandywine State Park	F	40	--	1	--
104021	DE 040-002	Brandywine Creek	Rd. 279 Bridge (USGS guage 014)	F	73	--	1	--
104051	DE 040-002	Brandywine Creek	Smith Bridge	F	40	--	1	--
USGS 01481500	DE 040-002	Brandywine Creek	Brandwine Creek at Wilmington	F				
307031	DE 050-001	Broad Creek	Broad Creek at Main Street in Bethel (Rd 493)	F	41	--	1	--
307371	DE 050-006-03	Broad Creek	Raccoon Prong @ Pepperbox Rd. (Rd. 66)	F	31	--	1	--
307011	DE 050-L04	Broad Creek	Records Pond at Rt. 13	F	39	--	1	--
303041	DE 060-001	Broadkill River	Rt. 1 Bridge (Mainstem)	F	35	--	1	--
303061	DE 060-001	Broadkill River	0.10 Miles From Mouth	M		--	--	--
USGS 01484272	DE 060-001	Broadkill River	Broadkill River Near Milton	F				
303181	DE 060-002	Broadkill River	Beaverdam Creek above Rd. 259, Hunters Mill Pond	F	41	1	1	--
303031	DE 060-003	Broadkill River	Rt. 5 Bridge	F	72	--	1	--
303311	DE 060-004	Broadkill River	Round Pole Branch at Rd. 88	F	41	--	1	--

Station	Segment	Watershed	Description	Fresh or Marine	Ammonia Count	Ammonia Exceedances	Ammonia Status	Marine CU Count
303011	DE 060-005	Broadkill River	Ingram Branch, Savanah Ditch at Rd. 246	F	41	3	5	--
303021	DE 060-005	Broadkill River	Ingram Branch at Rd. 248	F	41	2	5	--
303341	DE 060-006	Broadkill River	Pemberton Branch at Rt. 30 above Wagamons Pond	F	39	--	1	--
303051	DE 060-007-01	Broadkill River	Red Mill Pond at Rt. 1	F	40	--	1	--
303331	DE 060-L03	Broadkill River	Waples Pond at Rt. 1	F	40	--	1	--
311041	DE 070-001	Buntings Branch	Buntings Branch at Rt. 54	F	41	--	1	--
301021	DE 080-001	Cedar Creek	Rd. 212, Swiggetts Pond	F	40	--	1	--
301031	DE 080-001	Cedar Creek	Rt. 1 Bridge	F	40	--	1	--
301091	DE 080-001	Cedar Creek	Rt. 36 Bridge	M		--	--	--
108021	DE 090-001	Chesapeake & Delaware Canal	St. Georges Bridge	F	27	--	1	--
108111	DE 090-L01	Chesapeake & Delaware Canal	Lums Pond Boat Ramp	F	36	--	1	--
112021	DE 100-002	Chesapeake Drainage System	Sewell Branch at Rd. 95	F	38	--	1	--
207081	DE 110-001	Choptank	Tappahanna Ditch at Rd. 222	F	39	--	1	--
207091	DE 110-002	Choptank	Culbreth Marsh at Rd. 210	F	40	--	1	--
207021	DE 110-003	Choptank	Cow Marsh Creek at Rd. 208	F	40	--	1	--
207111	DE 110-003	Choptank	White Marsh Branch at Rd. 268	F	39	--	1	--
106291	DE 120-001	Christina River	Conrail Bridge (USGS tide gage 01481602) Up river from Port	F	60	--	1	--
106021	DE 120-002	Christina River	Rt. 141 Drawbridge, Newport (USGS tide gage 01480065)	F	40	--	1	--
USGS 01480065	DE 120-002	Christina River	Christina River at Newport	F				
106031	DE 120-003	Christina River	Smalley's Dam Spillway	F	42	--	1	--
106141	DE 120-004-01	Christina River	Rt. 72, Below Newark (USGS guage 01478000)	F	71	--	1	--
106191	DE 120-006	Christina River	Rt. 273, Above Newark	F	33	--	1	--
106281	DE 120-007-01	Christina River	Little Mill Creek at atlantic Avenue (USGS Gage 01480095)	F	38	--	1	--
111011	DE 130-001	Dragon Run Creek	Rt. 9 Bridge	F	40	--	1	--
111031	DE 130-002	Dragon Run Creek	Rt. 13 Bridge (flow at Rd. 407), Dragon Creek	F	40	--	1	--
312011	DE 140-001	Indian River	White Creek at the mouth of Assawoman Canal	M		--	--	3
308361	DE 140-002	Indian River	Blackwater Creek at Rd. 54	F	40	--	1	--
308091	DE 140-003	Indian River	Pepper Creek at Rt. 26	F	41	--	1	--
306181	DE 140-004	Indian River	Buoy 49, Indian River	M		--	--	7
306341	DE 140-004	Indian River	Island Creek, upper third	M		--	--	7

Station	Segment	Watershed	Description	Fresh or Marine	Ammonia Count	Ammonia Exceedances	Ammonia Status	Marine CU Count
308341	DE 140-005	Indian River	Swan Creek at Rd. 297	F	40	--	1	--
308281	DE 140-006	Indian River	Cow Bridge Branch Rd. 48	F	39	--	1	--
306121	DE 140-E01	Indian River	Buoy 20, Indian River Bay	M		--	--	5
306321	DE 140-E01	Indian River	Indian River Inlet	M		--	--	1
306331	DE 140-E02	Indian River	Island Creek mouth	M		--	--	4
308071	DE 140-L01	Indian River	Millsboro Dam Overflow	F	69	--	1	--
USGS 01484525	DE 140-L01	Indian River	Millsboro Pond Outlet at Millsboro	F				
309041	DE 150-001	Iron Branch	Whartons Branch at Rt. 334 Bridge	F	36	--	1	--
202031	DE 160-001	Leipsic River	DE Rt. 9 Bridge	M		--	--	--
202191	DE 160-002	Leipsic River	Upstream of Masseys Millpond at Rt. 15	F	40	--	1	--
202021	DE 160-L01	Leipsic River	Rt. 13 Bridge, Garrisons Lake	F	40	--	1	--
305011	DE 170-001	Lewes and Rehoboth Canal	Canal Rt. 1	M		--	--	1
305041	DE 170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal at Rd. 18 Bridge	M		--	--	3
310031	DE 180-003	Little Assawoman Bay	Dirrickson Creek, Rd. 381	M		--	--	1
310011	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay Ditch at Rd. 58 Bridge	M		--	--	1
310071	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay, Mid-Bay	M		--	--	4
204031	DE 190-001-01	Little River	Rt. 9 Bridge	M		--	--	--
204041	DE 190-001-02	Little River	Rt. 8 Bridge	F	42	--	1	--
302031	DE 200-001	Marshyhope Creek	Rd. 308 Bridge	F	75	--	1	--
208021	DE 210-001	Mispillion River	Rt. 1 Bridge	F	41	--	1	--
208061	DE 210-001	Mispillion River	1.09 miles from mouth at lighthouse	M		--	--	--
208211	DE 210-L02	Mispillion River	Rt. 36 Silver Lake	F	41	--	1	--
208231	DE 210-L05	Mispillion River	Beaverdam Branch, Rd. 384	F	40	--	1	--
208181	DE 210-L06	Mispillion River	Abbotts Pond at Rd. 620	F	41	--	1	--
206091	DE 220-001	Murderkill River	US Rt. 113 at Frederica By-Pass	F	37	--	1	2
206101	DE 220-001	Murderkill River	Bowers Beach Wharf	M		--	--	17
206141	DE 220-001	Murderkill River	3.25 miles from the mouth	M		--	--	7
206231	DE 220-001	Murderkill River	Confluence of Kent County STP trib.	F	30	1	1	1
USGS 01484080	DE 220-001		Murderkill River At Bowers Beach	F				
USGS 01484085	DE 220-001		Murderkill River At Frederica	M				
206561	DE 220-002	Murderkill River	Double Run at Rd. 371	F	40	--	1	--
206041	DE 220-004	Murderkill River	Browns Branch at Rt. 14 Bridge	F	42	--	1	--
206011	DE 220-005	Murderkill River	US Rt. 13 Bridge below Felton	F	72	--	1	--
206451	DE 220-L03	Murderkill River	Coursey Pond at Rd. 388 Bridge	F	40	--	1	--

Station	Segment	Watershed	Description	Fresh or Marine	Ammonia Count	Ammonia Exceedances	Ammonia Status	Marine CU Count
206361	DE 220-L05	Murderkill River	McCauley Pond near spillway	F	41	--	1	--
101021	DE 230-001-02	Naamans Creek	Naamans Road	F	37	--	1	--
101031	DE 230-001-02	Naamans Creek	South Branch at Darley Rd.	F	40	--	1	--
101061	DE 230-001-02	Naamans Creek	South Branch at Marsh Rd.	F	33	--	1	--
304151	DE 240-001	Nanticoke River	Buoy 66 (Conf DuPont Gut)	F	37	--	1	--
304471	DE 240-001	Nanticoke River	Rt. 13 Bridge	F	38	--	1	--
304191	DE 240-002	Nanticoke River	Rd. 545 Mainstem Nanticoke	F	79	--	1	--
304681	DE 240-002	Nanticoke River	Nanticoke River at Beach HWY (Ellendale Greenwood HWY) on east edge of Greenwood	F	40	--	1	--
304371	DE 240-003	Nanticoke River	Clear Brook @ Cannon Rd. (Rt. 18)	F	40	--	1	--
304381	DE 240-003	Nanticoke River	Bucks Branch at Rd. 546	F	40	--	1	--
USGS 01487150	DE 240-003	Nanticoke River	Bucks Branch Near Atlanta	F				
304741	DE 240-004	Nanticoke River	Deep Creek @ Old Furnace Rd. (Rd. 46)	F	41	--	1	--
316011	DE 240-005	Nanticoke River	Gravelly Branch at Rd. 525 Bridge	F	40	--	1	--
316031	DE 240-005	Nanticoke River	Gravelly Branch at Deer Forest Road (Rd 565) on west edge of Redden State Forest Jester Tract	F	41	--	1	--
304311	DE 240-L02	Nanticoke River	Concord Pond overflow	F	40	--	1	--
304321	DE 240-L04	Nanticoke River	Williams Pond, below the pond at Rd. 535	F	39	--	1	--
313011	DE 250-001	Pocomoke River	Rd. 419 Bridge	F	40	--	1	--
103011	DE 260-001	Red Clay Creek	Stanton, Rt. 4 at Stanton Bridge (USGS gage 01480015)	F	40	--	1	--
103031	DE 260-001	Red Clay Creek	Wooddale, Rt. 48 (USGS gage 01480000)	F	70	--	1	--
103041	DE 260-001	Red Clay Creek	Ashland, Rd. 258a	F	40	--	1	--
103061	DE 260-002	Red Clay Creek	Burrough's Run at Creek Rd. (Rt. 82)	F	37	--	1	--
107031	DE 270-001-01	Red Lion Creek	Rt. 9 Bridge	F	39	--	1	--
107011	DE 270-001-02	Red Lion Creek	Rt. 7	F	41	--	1	--
308051	DE 280-001-01	Rehoboth Bay	Guinea Creek at Rt. 298 Bridge	M		--	--	11
308371	DE 280-002	Rehoboth Bay	Bundick's Branch at Rt. 23	F	40	--	1	--
306091	DE 280-E01	Rehoboth Bay	Buoy 7, Rehoboth Bay	M		--	--	8
306111	DE 280-E01	Rehoboth Bay	Massey's Ditch at Bouy 17	M		--	--	5
USGS 01484680	DE 280-E01	Rehoboth Bay	Massey Ditch at Massey's Landing	M				

Station	Segment	Watershed	Description	Fresh or Marine	Ammonia Count	Ammonia Exceedances	Ammonia Status	Marine CU Count
308031	DE 280-L01	Rehoboth Bay	Burton Pond, Rd. 24	F	38	--	1	--
205011	DE 290-001-01	Saint Jones River	St. Jones at Bowers Beach, mouth to Del.Bay.	M		--	--	--
205041	DE 290-001-01	Saint Jones River	3.5 miles from mouth at Barkers Landing	M		--	--	--
205091	DE 290-001-02	Saint Jones River	Rt. 10 Bridge near DAFB	F	31	--	1	--
205151	DE 290-003	Saint Jones River	Rd. 69 State College, Fork Branch	F	41	--	1	--
205181	DE 290-L01	Saint Jones River	Rt. 13 Alt. Moores Lake	F	40	--	1	--
205191	DE 290-L02	Saint Jones River	Silver Lake Spillway, Dover City Park	F	67	--	1	--
205211	DE 290-L03	Saint Jones River	Derby Pond at Rt. 13A	F	37	--	1	--
102041	DE 300-001-01	Shellpot Creek	Cherry Island at Rd. 501 Bridge	F	41	--	1	--
102051	DE 300-001-02	Shellpot Creek	Rt. 13 Bus (Market Street) Bridge	F	70	--	1	--
102081	DE 300-001-02	Shellpot Creek	Carr Road Bridge	F	28	--	1	--
201011	DE 310-001	Smyrna River	Lake Como at US Route 13 Bridge	F	42	--	1	--
201041	DE 310-001	Smyrna River	Rt. 9 Fleming's Landing	M		--	--	--
201021	DE 310-002	Smyrna River	Rd. 137 Bridge, Mill Creek	F	40	--	1	--
201051	DE 310-003	Smyrna River	Rd. 485 Bridge at Smyrna Landing	F	41	--	1	--
201161	DE 310-003	Smyrna River	Rd. 38 Bridge, Providence Creek	F	40	--	1	--
105031	DE 320-001	White Clay Creek	Chambers Rock Rd. (Road 329) near Thompson	F	38	--	1	--
105151	DE 320-001	White Clay Creek	DE Park Race Track (USGS gage 01479000), 35ft downstream	F	71	--	1	--
105171	DE 320-001	White Clay Creek	McKee Lane in Newark	F	38	--	1	--
307171	DE050-L03	Broad Creek	Horseys Pond 50 Yards Above Spillway 50% RB	F	40	--	1	--
307081	DE050-L07	Broad Creek	Trap Pond on Hitch Pond Branch @ Co. Rd. 449 or Trap Pond Rd	F	34	--	1	--

Station	Segment	Watershed	Description	Fresh or Marine	Marine Cu >3.1	Marine CU Status	TSS Count	TSS LCL	TSS Status
109091	DE 010-001-01	Appoquinimink River	Delaware River (Appoquinimink at Mouth)	F	4	5			
109121	DE 010-001-01	Appoquinimink River	Rt. 9 Bridge (East)	F	1	1			
USGS 01483177	DE 010-001-01	Appoquinimink River	Appoquinimink River Near Odessa	F					
109041	DE 010-001-02	Appoquinimink River	Rt. 13 Bridge below Odessa	F	--	1			
109171	DE 010-001-02	Appoquinimink River	MOT Gut (Appo Gut) - West Bank	F	--	1			
109071	DE 010-001-03	Appoquinimink River	Drawyer Creek, Rt 13	F	--	--			
110011	DE 010-002-02	Appoquinimink River	Road 463 East of RR Tracks	F	--	--			
109131	DE 010-L01	Appoquinimink River	Noxontown Pond Overflow, Rd 38	F	--	--			
109191	DE 010-L03	Appoquinimink River	Shallcross Lake Overflow, Dischrg Drawer Cr, Rd. 428	F	--	--			
114011	DE 020-001	Army Creek	Rt. 9 Below Llangollen Wells	F	--	--			
114021	DE 020-002	Army Creek	Army Creek @ S. DuPont Hgwy. (Rt. 13)	F	--	--			
114041	DE 020-003	Army Creek	Trib Army Crk. @ Rt. 13 near Airport Ind. Park	F	--	--			
114051	DE 020-003	Army Creek	Army Creek @ Rt. 13 near Rt. 40	F	--	--			
110031	DE 030-001	Lower Blackbird	Rd 455, Blackbird Landing	F	--	--			
110041	DE 030-001	Lower Blackbird	Rt. 9 Taylors Bridge	F	--	--			
104011	DE 040-001	Brandywine Creek	Footbridge in Brandywine State Park	F	--	--			
104021	DE 040-002	Brandywine Creek	Rd. 279 Bridge (USGS guage 014)	F	--	--			
104051	DE 040-002	Brandywine Creek	Smith Bridge	F	--	--			
USGS 01481500	DE 040-002	Brandywine Creek	Brandwine Creek at Wilmington	F					
307031	DE 050-001	Broad Creek	Broad Creek at Main Street in Bethel (Rd 493)	F	--	--			
307371	DE 050-006-03	Broad Creek	Raccoon Prong @ Pepperbox Rd. (Rd. 66)	F	--	--			
307011	DE 050-L04	Broad Creek	Records Pond at Rt. 13	F	--	--			
303041	DE 060-001	Broadkill River	Rt. 1 Bridge (Mainstem)	F	--	--			
303061	DE 060-001	Broadkill River	0.10 Miles From Mouth	M	--	--			
USGS 01484272	DE 060-001	Broadkill River	Broadkill River Near Milton	F					
303181	DE 060-002	Broadkill River	Beaverdam Creek above Rd. 259, Hunters Mill Pond	F	--	--			
303031	DE 060-003	Broadkill River	Rt. 5 Bridge	F	--	--			
303311	DE 060-004	Broadkill River	Round Pole Branch at Rd. 88	F	--	--			

Station	Segment	Watershed	Description	Fresh or Marine	Marine Cu >3.1	Marine CU Status	TSS Count	TSS LCL	TSS Status
303011	DE 060-005	Broadkill River	Ingram Branch, Savanah Ditch at Rd. 246	F	--	--			
303021	DE 060-005	Broadkill River	Ingram Branch at Rd. 248	F	--	--			
303341	DE 060-006	Broadkill River	Pemberton Branch at Rt. 30 above Wagamons Pond	F	--	--			
303051	DE 060-007-01	Broadkill River	Red Mill Pond at Rt. 1	F	--	--			
303331	DE 060-L03	Broadkill River	Waples Pond at Rt. 1	F	--	--			
311041	DE 070-001	Buntings Branch	Buntings Branch at Rt. 54	F	--	--			
301021	DE 080-001	Cedar Creek	Rd. 212, Swiggetts Pond	F	--	--			
301031	DE 080-001	Cedar Creek	Rt. 1 Bridge	F	--	--			
301091	DE 080-001	Cedar Creek	Rt. 36 Bridge	M	--	--			
108021	DE 090-001	Chesapeake & Delaware Canal	St. Georges Bridge	F	--	--			
108111	DE 090-L01	Chesapeake & Delaware Canal	Lums Pond Boat Ramp	F	--	--			
112021	DE 100-002	Chesapeake Drainage System	Sewell Branch at Rd. 95	F	--	--			
207081	DE 110-001	Choptank	Tappahanna Ditch at Rd. 222	F	--	--			
207091	DE 110-002	Choptank	Culbreth Marsh at Rd. 210	F	--	--			
207021	DE 110-003	Choptank	Cow Marsh Creek at Rd. 208	F	--	--			
207111	DE 110-003	Choptank	White Marsh Branch at Rd. 268	F	--	--			
106291	DE 120-001	Christina River	Conrail Bridge (USGS tide gage 01481602) Up river from Port	F	--	--			
106021	DE 120-002	Christina River	Rt. 141 Drawbridge, Newport (USGS tide gage 01480065)	F	--	--			
USGS 01480065	DE 120-002	Christina River	Christina River at Newport	F					
106031	DE 120-003	Christina River	Smalley's Dam Spillway	F	--	--			
106141	DE 120-004-01	Christina River	Rt. 72, Below Newark (USGS guage 01478000)	F	--	--			
106191	DE 120-006	Christina River	Rt. 273, Above Newark	F	--	--			
106281	DE 120-007-01	Christina River	Little Mill Creek at atlantic Avenue (USGS Gage 01480095)	F	--	--			
111011	DE 130-001	Dragon Run Creek	Rt. 9 Bridge	F	--	--			
111031	DE 130-002	Dragon Run Creek	Rt. 13 Bridge (flow at Rd. 407), Dragon Creek	F	--	--			
312011	DE 140-001	Indian River	White Creek at the mouth of Assawoman Canal	M	--	1			
308361	DE 140-002	Indian River	Blackwater Creek at Rd. 54	F	--	--	27	6.3	1
308091	DE 140-003	Indian River	Pepper Creek at Rt. 26	F	--	--	28	6.1	1
306181	DE 140-004	Indian River	Buoy 49, Indian River	M	1	1	28	32.7	5
306341	DE 140-004	Indian River	Island Creek, upper third	M	--	1	28	19.1	1

Station	Segment	Watershed	Description	Fresh or Marine	Marine Cu >3.1	Marine CU Status	TSS Count	TSS LCL	TSS Status
308341	DE 140-005	Indian River	Swan Creek at Rd. 297	F	--	--	28	2.2	1
308281	DE 140-006	Indian River	Cow Bridge Branch Rd. 48	F	--	--	27	3.1	1
306121	DE 140-E01	Indian River	Buoy 20, Indian River Bay	M	1	1	39	24.6	5
306321	DE 140-E01	Indian River	Indian River Inlet	M	1	1	38	19.2	1
306331	DE 140-E02	Indian River	Island Creek mouth	M	1	1	28	23.3	5
308071	DE 140-L01	Indian River	Millsboro Dam Overflow	F	--	--	49	4.6	1
USGS 01484525	DE 140-L01	Indian River	Millsboro Pond Outlet at Millsboro	F					
309041	DE 150-001	Iron Branch	Whartons Branch at Rt. 334 Bridge	F	--	--			
202031	DE 160-001	Leipsic River	DE Rt. 9 Bridge	M	--	--			
202191	DE 160-002	Leipsic River	Upstream of Masseys Millpond at Rt. 15	F	--	--			
202021	DE 160-L01	Leipsic River	Rt. 13 Bridge, Garrisons Lake	F	--	--			
305011	DE 170-001	Lewes and Rehoboth Canal	Canal Rt. 1	M	--	1			
305041	DE 170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal at Rd. 18 Bridge	M	--	1			
310031	DE 180-003	Little Assawoman Bay	Dirrickson Creek, Rd. 381	M	--	1	28	17.9	1
310011	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay Ditch at Rd. 58 Bridge	M	--	1	28	12.4	1
310071	DE 180-E01	Little Assawoman Bay	Little Assawoman Bay, Mid-Bay	M	--	1	28	9.4	1
204031	DE 190-001-01	Little River	Rt. 9 Bridge	M	--	--			
204041	DE 190-001-02	Little River	Rt. 8 Bridge	F	--	--			
302031	DE 200-001	Marshyhope Creek	Rd. 308 Bridge	F	--	--			
208021	DE 210-001	Mispillion River	Rt. 1 Bridge	F	--	--			
208061	DE 210-001	Mispillion River	1.09 miles from mouth at lighthouse	M	--	--			
208211	DE 210-L02	Mispillion River	Rt. 36 Silver Lake	F	--	--			
208231	DE 210-L05	Mispillion River	Beaverdam Branch, Rd. 384	F	--	--			
208181	DE 210-L06	Mispillion River	Abbotts Pond at Rd. 620	F	--	--			
206091	DE 220-001	Murderkill River	US Rt. 113 at Frederica By-Pass	F	1	1			
206101	DE 220-001	Murderkill River	Bowers Beach Wharf	M	2	5			
206141	DE 220-001	Murderkill River	3.25 miles from the mouth	M	1	1			
206231	DE 220-001	Murderkill River	Confluence of Kent County STP trib.	F	--	1			
USGS 01484080	DE 220-001		Murderkill River At Bowers Beach	F					
USGS 01484085	DE 220-001		Murderkill River At Frederica	M					
206561	DE 220-002	Murderkill River	Double Run at Rd. 371	F	--	--			
206041	DE 220-004	Murderkill River	Browns Branch at Rt. 14 Bridge	F	--	--			
206011	DE 220-005	Murderkill River	US Rt. 13 Bridge below Felton	F	--	--			
206451	DE 220-L03	Murderkill River	Coursey Pond at Rd. 388 Bridge	F	--	--			

Station	Segment	Watershed	Description	Fresh or Marine	Marine Cu >3.1	Marine CU Status	TSS Count	TSS LCL	TSS Status
206361	DE 220-L05	Murderkill River	McCauley Pond near spillway	F	--	--			
101021	DE 230-001-02	Naamans Creek	Naamans Road	F	--	--			
101031	DE 230-001-02	Naamans Creek	South Branch at Darley Rd.	F	--	--			
101061	DE 230-001-02	Naamans Creek	South Branch at Marsh Rd.	F	--	--			
304151	DE 240-001	Nanticoke River	Buoy 66 (Conf DuPont Gut)	F	--	--			
304471	DE 240-001	Nanticoke River	Rt. 13 Bridge	F	--	--			
304191	DE 240-002	Nanticoke River	Rd. 545 Mainstem Nanticoke	F	--	--			
304681	DE 240-002	Nanticoke River	Nanticoke River at Beach HWY (Ellendale Greenwood HWY) on east edge of Greenwood	F	--	--			
304371	DE 240-003	Nanticoke River	Clear Brook @ Cannon Rd. (Rt. 18)	F	--	--			
304381	DE 240-003	Nanticoke River	Bucks Branch at Rd. 546	F	--	--			
USGS 01487150	DE 240-003	Nanticoke River	Bucks Branch Near Atlanta	F					
304741	DE 240-004	Nanticoke River	Deep Creek @ Old Furnace Rd. (Rd. 46)	F	--	--			
316011	DE 240-005	Nanticoke River	Gravelly Branch at Rd. 525 Bridge	F	--	--			
316031	DE 240-005	Nanticoke River	Gravelly Branch at Deer Forest Road (Rd 565) on west edge of Redden State Forest Jester Tract	F	--	--			
304311	DE 240-L02	Nanticoke River	Concord Pond overflow	F	--	--			
304321	DE 240-L04	Nanticoke River	Williams Pond, below the pond at Rd. 535	F	--	--			
313011	DE 250-001	Pocomoke River	Rd. 419 Bridge	F	--	--			
103011	DE 260-001	Red Clay Creek	Stanton, Rt. 4 at Stanton Bridge (USGS gage 01480015)	F	--	--			
103031	DE 260-001	Red Clay Creek	Wooddale, Rt. 48 (USGS gage 01480000)	F	--	--			
103041	DE 260-001	Red Clay Creek	Ashland, Rd. 258a	F	--	--			
103061	DE 260-002	Red Clay Creek	Burrough's Run at Creek Rd. (Rt. 82)	F	--	--			
107031	DE 270-001-01	Red Lion Creek	Rt. 9 Bridge	F	--	--			
107011	DE 270-001-02	Red Lion Creek	Rt. 7	F	--	--			
308051	DE 280-001-01	Rehoboth Bay	Guinea Creek at Rt. 298 Bridge	M	4	5	28	9.0	1
308371	DE 280-002	Rehoboth Bay	Bundick's Branch at Rt. 23	F	--	--	27	5.1	1
306091	DE 280-E01	Rehoboth Bay	Buoy 7, Rehoboth Bay	M	1	1	28	15.1	1
306111	DE 280-E01	Rehoboth Bay	Massey's Ditch at Bouy 17	M	1	1	28	17.4	1
USGS 01484680	DE 280-E01	Rehoboth Bay	Massey Ditch at Massey's Landing	M					

Station	Segment	Watershed	Description	Fresh or Marine	Marine Cu >3.1	Marine CU Status	TSS Count	TSS LCL	TSS Status
308031	DE 280-L01	Rehoboth Bay	Burton Pond, Rd. 24	F	--	--	28	1.4	1
205011	DE 290-001-01	Saint Jones River	St. Jones at Bowers Beach, mouth to Del.Bay.	M	--	--			
205041	DE 290-001-01	Saint Jones River	3.5 miles from mouth at Barkers Landing	M	--	--			
205091	DE 290-001-02	Saint Jones River	Rt. 10 Bridge near DAFB	F	--	--			
205151	DE 290-003	Saint Jones River	Rd. 69 State College, Fork Branch	F	--	--			
205181	DE 290-L01	Saint Jones River	Rt. 13 Alt. Moores Lake	F	--	--			
205191	DE 290-L02	Saint Jones River	Silver Lake Spillway, Dover City Park	F	--	--			
205211	DE 290-L03	Saint Jones River	Derby Pond at Rt. 13A	F	--	--			
102041	DE 300-001-01	Shellpot Creek	Cherry Island at Rd. 501 Bridge	F	--	--			
102051	DE 300-001-02	Shellpot Creek	Rt. 13 Bus (Market Street) Bridge	F	--	--			
102081	DE 300-001-02	Shellpot Creek	Carr Road Bridge	F	--	--			
201011	DE 310-001	Smyrna River	Lake Como at US Route 13 Bridge	F	--	--			
201041	DE 310-001	Smyrna River	Rt. 9 Fleming's Landing	M	--	--			
201021	DE 310-002	Smyrna River	Rd. 137 Bridge, Mill Creek	F	--	--			
201051	DE 310-003	Smyrna River	Rd. 485 Bridge at Smyrna Landing	F	--	--			
201161	DE 310-003	Smyrna River	Rd. 38 Bridge, Providence Creek	F	--	--			
105031	DE 320-001	White Clay Creek	Chambers Rock Rd. (Road 329) near Thompson	F	--	--			
105151	DE 320-001	White Clay Creek	DE Park Race Track (USGS gage 01479000), 35ft downstream	F	--	--			
105171	DE 320-001	White Clay Creek	McKee Lane in Newark	F	--	--			
307171	DE050-L03	Broad Creek	Horseys Pond 50 Yards Above Spillway 50% RB	F	--	--			
307081	DE050-L07	Broad Creek	Trap Pond on Hitch Pond Branch @ Co. Rd. 449 or Trap Pond Rd	F	--	--			

Appendix Two: Segment Roll Ups

Segment	Watershed	Description	DO	Ent	Total N	Total P	DIN	DIP	Ammonia	TSS	Marine Cu	Zn
DE 010-001-01	Appoquinimink River	Lower Appoquinimink River	5	1	1	1	--	--	1	--	5	1
DE 010-001-02	Appoquinimink River	Upper Appoquinimink River	1	5	1	1	--	--	1	--	1	1
DE 010-001-03	Appoquinimink River	Drawyer Creek	1	5	1	1	--	--	1	--	--	1
DE 010-002-02	Appoquinimink River	Deep Creek to confluence with Silver Lake	1	1	1	1	--	--	1	--	--	--
DE 010-L01	Appoquinimink River	Noxontown Pond	1	1	1	1	--	--	1	--	--	1
DE 010-L03	Appoquinimink River	Shallcross Lake	1	1	1	1	--	--	1	--	--	1
DE 020-001	Army Creek	Lower Army Creek	1	1	1	1	--	--	1	--	--	--
DE 020-002	Army Creek	Upper Army Creek	1	5	1	1	--	--	1	--	--	--
DE 020-003	Army Creek	Tributary to Army Creek	5	1	1	1	--	--	1	--	--	--
DE 030-001	Lower Blackbird	Lower Blackbird	5	5	1	1	--	--	1	--	--	--
DE 040-001	Brandywine Creek	Lower Brandywine	1	5	1	1	--	--	1	--	--	1
DE 040-002	Brandywine Creek	Upper Brandywine	1	1	1	1	--	--	1	--	--	1
DE 050-001	Broad Creek	Lower Broad Creek	1	1	5	1	--	--	1	--	--	1
DE 050-006-03	Broad Creek	Raccoon Prong	5	1	1	1	--	--	1	--	--	1
DE 050-L03	Broad Creek	Horseys Pond	1	1	5	1	--	--	1	--	--	1
DE 050-L04	Broad Creek	Records Pond	1	1	5	1	--	--	1	--	--	1
DE 050-L07	Broad Creek	Trap Pond	1	1	1	1	--	--	1	--	--	1
DE 060-001	Broadkill River	Lower Broadkill	5	5	1	1	--	--	1	--	--	--
DE 060-002	Broadkill River	Beaverdam Creek	1	5	5	1	--	--	1	--	--	--
DE 060-003	Broadkill River	Upper Broadkill River	1	1	5	1	--	--	1	--	--	--
DE 060-004	Broadkill River	Round Pole Branch	1	5	5	1	--	--	1	--	--	--
DE 060-005	Broadkill River	Ingrams Branch	1	5	5	5	--	--	5	--	--	--
DE 060-006	Broadkill River	Pemberton Branch	1	5	5	1	--	--	1	--	--	--
DE 060-007-01	Broadkill River	Lower Red Mill Branch	1	1	1	1	--	--	1	--	--	--
DE 060-L03	Broadkill River	Waples Pond and Reynolds Pond	1	1	5	1	--	--	1	--	--	--
DE 070-001	Buntings Branch	Buntings Branch	1	5	5	1	5	5	1	--	--	1
DE 080-001	Cedar Creek	Lower Cedar Creek	1	5	5	1	--	--	1	--	--	--
DE 090-001	Chesapeake & Delaware Canal	C&D Canal	1	1	1	1	--	--	1	--	--	--
DE 090-L01	Chesapeake & Delaware Canal	Lums Pond	1	1	1	1	--	--	1	--	--	--
DE 100-002	Chesapeake Drainage System	Sewell Branch, including tributaries	5	1	1	1	--	--	1	--	--	--
DE 110-001	Choptank	Tappahanna Ditch	1	1	1	1	--	--	1	--	--	--
DE 110-002	Choptank	Culbreth Marsh Ditch	1	1	1	1	--	--	1	--	--	--
DE 110-003	Choptank	Cow Marsh Creek	1	5	5	1	--	--	1	--	--	--
DE 120-001	Christina River	Lower Christina River	1	5	1	1	--	--	1	--	--	1
DE 120-002	Christina River	Mid Christina River	5	5	1	1	--	--	1	--	--	1
DE 120-003	Christina River	Upper Christina River	1	1	1	1	--	--	1	--	--	1
DE 120-004-01	Christina River	Lower Christina Creek	1	1	1	1	--	--	1	--	--	1
DE 120-006	Christina River	Upper Christina Creek	1	5	1	1	--	--	1	--	--	1
DE 120-007-01	Christina River	Little Mill Creek and Willow Run	1	5	1	1	--	--	1	--	--	1
DE 130-001	Dragon Run Creek	Lower Dragon Run Creek	5	1	1	1	--	--	1	--	--	--
DE 130-002	Dragon Run Creek	Upper Dragon Run Creek	5	1	1	1	--	--	1	--	--	--
DE 140-001	Indian River	White Creek	1	1	1	1	1	5	--	--	1	--
DE 140-002	Indian River	Blackwater Creek	5	5	5	1	5	5	1	1	--	1
DE 140-003	Indian River	Pepper Creek, including tributaries	1	5	1	1	5	5	1	1	--	1
DE 140-004	Indian River	Indian River	1	1	1	1	5	5	--	5	1	--
DE 140-005	Indian River	Swan Creek	1	5	1	1	5	1	1	1	--	1
DE 140-006	Indian River	Stockley Branch	1	1	1	1	5	5	1	1	--	1
DE 140-E01	Indian River	Lower Indian River Bay	1	1	1	1	1	5	--	5	1	--
DE 140-E02	Indian River	Upper Indian River Bay	1	1	1	1	5	5	--	5	1	--
DE 140-L01	Indian River	Millsboro Pond	5	1	5	1	5	5	1	1	--	1
DE 150-001	Iron Branch	Iron Branch	1	1	1	1	5	5	1	--	--	1
DE 160-001	Leipsic River	Lower Leipsic River	5	5	1	5	--	--	--	--	--	--

Segment	Watershed	Description	DO	Ent	Total N	Total P	DIN	DIP	Ammonia	TSS	Marine Cu	Zn
DE 160-002	Leipsic River	Upper Leipsic River	1	1	5	1	--	--	1	--	--	--
DE 160-L01	Leipsic River	Garrisons Lake	1	1	1	1	--	--	1	--	--	--
DE 170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal	5	5	1	1	1	5	--	--	1	--
DE 180-003	Little Assawoman Bay	Dirickson Creek	1	5	1	1	5	5	--	1	1	--
DE 180-E01	Little Assawoman Bay	Little Assawoman Bay	1	1	1	1	1	5	--	1	1	--
DE 190-001-01	Little River	Lower Little River	5	5	1	5	--	--	--	--	--	--
DE 190-001-02	Little River	Upper Little River	5	1	1	1	--	--	1	--	--	--
DE 200-001	Marshyhope Creek	Marshyhope Creek	1	1	5	1	--	--	1	--	--	1
DE 210-001	Mispillion River	Lower Mispillion	1	5	5	1	--	--	1	--	--	--
DE 210-L02	Mispillion River	Silver Lake	1	1	5	1	--	--	1	--	--	--
DE 210-L05	Mispillion River	Blairs Pond	1	5	5	1	--	--	1	--	--	--
DE 210-L06	Mispillion River	Abbotts Mill Pond	1	1	5	1	--	--	1	--	--	--
DE 220-001	Murderkill River	Lower Murderkill	5	5	1	1	--	--	1	--	5	1
DE 220-002	Murderkill River	Spring Creek	1	5	1	1	--	--	1	--	--	1
DE 220-004	Murderkill River	Browns Branch	1	5	1	1	--	--	1	--	--	1
DE 220-005	Murderkill River	Upper Murderkill River	1	5	5	1	--	--	1	--	--	1
DE 220-L03	Murderkill River	Coursey Pond	1	1	5	1	--	--	1	--	--	1
DE 220-L05	Murderkill River	McCauley Pond	1	1	5	1	--	--	1	--	--	1
DE 230-001-02	Naamans Creek	North Branch and South Branch	1	5	1	1	--	--	1	--	--	--
DE 240-001	Nanticoke River	Lower Nanticoke River	1	5	5	1	--	--	1	--	--	1
DE 240-002	Nanticoke River	Upper Nanticoke River	1	1	5	1	--	--	1	--	--	1
DE 240-003	Nanticoke River	Clear Brook Branch	1	5	5	1	--	--	1	--	--	1
DE 240-004	Nanticoke River	Deep Creek Branch	1	1	1	1	--	--	1	--	--	5
DE 240-005	Nanticoke River	Gravelly Branch	1	1	1	1	--	--	1	--	--	5
DE 240-L02	Nanticoke River	Concord Pond	1	1	1	1	--	--	1	--	--	1
DE 240-L04	Nanticoke River	Williams Pond	1	1	5	1	--	--	1	--	--	1
DE 250-001	Pocomoke River	Pocomoke River	1	1	1	1	--	--	1	--	--	--
DE 260-001	Red Clay Creek	Mainstem	1	5	5	1	--	--	1	--	--	1
DE 260-002	Red Clay Creek	Burroughs Run	1	1	1	1	--	--	1	--	--	1
DE 270-001-01	Red Lion Creek	Lower Red Lion	5	1	1	1	--	--	1	--	--	--
DE 270-001-02	Red Lion Creek	Upper Red Lion	1	5	1	1	--	--	1	--	--	--
DE 280-001-01	Rehoboth Bay	Chapel Branch	1	5	1	1	5	5	--	1	5	--
DE 280-002	Rehoboth Bay	Love Creek, including tributaries	1	5	1	1	5	5	1	1	--	--
DE 280-E01	Rehoboth Bay	Rehoboth Bay	1	1	1	1	1	5	--	1	1	--
DE 280-L01	Rehoboth Bay	Burton Pond	1	1	1	1	5	5	1	1	--	--
DE 290-001-01	Saint Jones River	Lower Saint Jones	5	5	1	1	--	--	--	--	--	--
DE 290-001-02	Saint Jones River	Upper Saint Jones	5	5	1	1	--	--	1	--	--	--
DE 290-003	Saint Jones River	Fork Branch	5	1	1	1	--	--	1	--	--	--
DE 290-L01	Saint Jones River	Moores Lake	1	1	5	1	--	--	1	--	--	--
DE 290-L02	Saint Jones River	Silver Lake	1	1	1	1	--	--	1	--	--	--
DE 290-L03	Saint Jones River	Derby Pond	1	1	1	1	--	--	1	--	--	--
DE 300-001-01	Shellpot Creek	Lower Shellpot Creek	5	5	1	1	--	--	1	--	--	--
DE 300-001-02	Shellpot Creek	Upper Shellpot Creek	1	5	1	1	--	--	1	--	--	--
DE 310-001	Smyrna River	Lower Smyrna River	5	5	1	1	--	--	1	--	--	--
DE 310-002	Smyrna River	Mill Creek	1	1	1	1	--	--	1	--	--	--
DE 310-003	Smyrna River	Tributary of Smyrna River	5	5	5	1	--	--	1	--	--	--
DE 320-001	White Clay Creek	Mainstem	1	1	5	1	--	--	1	--	--	1
			Assessment Key									
			DO = Dissolved Oxygen									
			Ent = Enterroccus									
			Total N = Total Nitrogen									

Segment	Watershed	Description	DO	Ent	Total N	Total P	DIN	DIP	Ammonia	TSS	Marine Cu	Zn
			Total P = Total Phosphorus									
			DIN = Dissolved Inorganic Nitrogen									
			DIP = Dissolved Inorganic Phosphorus									
			TSS = Total Suspended Solids									
			Marine Cu = Marine Copper									
			Zn = Zinc									

Appendix Three: Changes to the 2018 Integrated Report Database

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	DO	PS, NPS	1996		Done	1998	4a	2004	Y	DO, Listed 1996, Delisted 2018, Relisted 2020	Relist
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2006	Y	Bacteria, listed 2002, delisted 2006, Relisted 2018,Delisted 2020	Delist
DE010-002-02-01	Appoquinimink River	Deep Creek to confluence with Silver Lake	From the headwaters of Deep Creek to confluence with Silver Lake, excluding Silver Lake	2.4 miles	Bacteria	NPS	2002	2006	Done	2006	1	2008	Y	Delisted 2020	Delist
DE020-003	Army Creek	Tributary to Army Creek	Unnamed Tributary to Army Creek, monitored by STORET station 114051	0.78 miles	Bacteria	NPS	2006	2006	Done	2006	1	2008	Y	Bacteria, Delisted 2020	Delist
DE030-001	Blackbird Creek	Lower Blackbird	Tidal segment from Route 13 to mouth of the Delaware River	13.8 miles	Nutrients	NPS	1996	2006	Done	2006	1	2014	Y	Nutrients, Listed 1996, Delisted 2014, relisted 2016, Delisted 2020	Delist
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	Bacteria	PS, NPS, SF, UNK	2002	2004	Done	2005	4a	2006	Y	Listed 2002, Delisted 2016, Relisted 2020	Relist
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	Bacteria	PS, NPS, SF, UNK	1996	2004	Done	2005	1		Y	Bacteria, listed in 1996, delisted 2006 , relisted 2008, delisted 2020	Delist
DE060-005-01	Broadkill River	Ingrams Branch	From the headwaters to Waggamons Pond, including Diamond Pond	7.6 miles	DO	NPS	1996	2006	Done	2006	1	2008	Y	DO, Listed 1996, Delisted 2012, Relisted 2014, Delisted 2020	Delist
DE060-L03	Broadkill River	Waples Pond and Reynolds Pond	Ponds located on Sowbridge Branch of Primehook Creek	88.8 acres	Nutrients	NPS	1998	2006	Done	2006	4a	2008	Y	Nutrients Listed 1998, Delisted 2016, Relisted 2020	Relist
DE080-001	Cedar Creek	Lower Cedar Creek	Tidal segment from Cedar Creek Mill Pond to mouth at Delaware Bay	8.8 miles	DO	NPS	1996	2006	Done	2006	1	2008	Y	DO, listed 1996, Delisted 2020	Delist
DE080-001	Cedar Creek	Lower Cedar Creek	Tidal segment from Cedar Creek Mill Pond to mouth at Delaware Bay	8.8 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2014	Y	Nutrients, Listed 1996, Delisted 2014, relisted 2016, Delisted 2018, Relisted 2020	Relist
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles	Bacteria	NPS,	1996	2004	Done	2005	1	2006	Y	Bacteriia, Listed 1996, Delisted 2020	Delist
DE130-002-01	Dragon Run Creek	Upper Dragon Run Creek	From headwaters to water supply pond	4.1 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008	Y	Bacteria, Listed 1996, Delisted 2010, Relisted 2012, Delisted 2020	Delist
DE140-001	Indian River	White Creek	Saline tidal waters extending from the north end of Assawoman Canal to the Indian River Bay	4.9 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-004	Indian River	Indian River	Saline tidal portion of river from Millsboro Pond to Power Plant intake	4.6 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-E01	Indian River	Lower Indian River Bay	From inlet to Pepper Creek	13.0 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-E02	Indian River	Upper Indian River Bay	Upper portion of estuary from power plant cooling water intake to Pepper Creek, including Island Creek	0.95 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-L01	Indian River	Millsboro Pond	Pond north of Millsboro	126.0 acres	Nutrients	PS, NPS	1996	2003	Done	2004	4a	2014	Y	Nutrients, Listed 1996, Delisted 2014, Relisted 2020	Relist
DE140-L01	Indian River	Millsboro Pond	Pond north of Millsboro	126.0 acres	DO		1996		Done	2004	4a	2006	Y	DO, listed in 1996, delisted 2002 , relisted 2004 , delisted 2006, Relisted 2020	Relist
DE150-001-01	Iron Branch	Iron Branch	From the headwaters of Iron Branch and Whartons Branch to the confluence with Indian River	13.1 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008	Y	Bacteria, Listed 1996,Delisted 2020	Delist
DE170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal	Tidal waters from the confluence of Delaware Bay to the confluence with Rehoboth Bay	8.9 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE180-003-01	Little Assawoman Bay	Dirickson Creek	From the headwaters of Dirickson Creek to the confluence with Little Assawoman bay	13.3 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE180-E01	Little Assawoman Bay	Little Assawoman Bay	Estuary from the confluence with Assawoman Canal to the confluence with Assawoman Bay	3.0 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE210-001	Mispillion River	Lower Mispillion	From dam at Silver Lake to mouth at Delaware Bay	13.2 miles	DO	NPS	1996	2006	Done	2006	1	2008	Y	DO, Listed 1996, Delisted 2020	Delist
DE220-001	Murderkill River	Lower Murderkill	From the confluence with Spring Creek to the mouth at Delaware Bay	7.6 miles	Nutrients	PS, NPS	1996	2006	Done	2001	1	2014	Y	Nutrients, Listed 1996, Delisted 2014, Relisted 2018, Delisted 2020	Delist
DE240-003	Nanticoke River	Clear Brook Branch	From the headwaters of Clear Brook, Friedel Prong, and Bucks Branch to the confluence with Williams Pond	12.9 miles	DO	NPS	1996		Done	2000	1	2006	Y	DO, listed in 1996, delisted 2006, relisted 2016, Delisted 2020	Delist
DE250-001-01	Pocomoke River	Pocomoke River	Pocomoke River, from headwaters to the MD-DE State line	11.8 miles	Bacteria	NPS	1996	2005	Done	2006	1	2008	Y	Bacteria, Listed 1996, Delisted 2020	Delist
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	D and F TEQs*	PS, NPS, SF	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE260-002-01	Red Clay Creek	Burroughs Run	From PA-DE line to the confluence with Red Clay Creek	2.6 miles	Bacteria	NPS	1996	2004	Done	2005	1	2014	Y	Bacteria, listed 1996, Delisted 2014, relisted 2016, Delisted 2020	Delist
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	Bacteria	NPS	2002	2006	Done	2006	1	2008	Y	Bacteria, Listed 2002, Delisted 2020	Delist
DE280-E01	Rehoboth Bay	Rehoboth Bay	Near coastal waters extending north from the confluence with Indian River Bay at Burton Island	12.0 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008	Y	Nutrients, Listed 1996, Delisted 2020	Delist
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	D and F TEQs*	NPS	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE290-L02	Saint Jones River	Silver Lake	Silver Lake at Dover	157.8 acres	D and F TEQs*	NPS	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE310-001	Smyrna River	Lower Smyrna River	From the head of tide to the Delaware River	10.2 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008	Y	Nutrients, Listed 1996, Delisted 2020	Delist
DE310-003-01	Smyrna River	Tributary of Smyrna River	Tributaries from the headwaters to the confluence with Delaware Bay	4.2 miles	Nutrients	NPS	1998	2006	Done	2006	1	2008	Y	Nutrients, Listed 1998, Delisted 2020	Delist
DE320-001-01	White Clay Creek	Mainstem	White Clay Creek from the PA-DE line to the confluence with the Christina River	15.6 miles	Bacteria	PS, NPS	1996	2004	Done	2005	1	2006	Y	Bacteria, Listed 1996, Delisted 2020	Delist

KEY for Pollutant(s) or Stressor(s):
DO = Dissolved Oxygen
D and F TEQs* = Dioxins and Furans Toxics Equivalents
KEY for Probable Source(s):
NPS = Nonpoint Source(s)
PS = Point Source(s)

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
			SF = Superfund Site(s)												
			UNK = Unknown												
			KEY for CALM Code												
			1= Fully Supporting for this parameter												
			3= Information is insufficent to make a determination												
			4a= TMDL has been completed and approved by EPA												
			4b= Management Actions are expected to solve impairment												
			5= TMDL Needed												
			5(MNR)= Monitored Natural Recovery												

Appendix Four: Integrated Report Database

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	DO	PS, NPS	1996		Done	1998	4a	2004	Y	DO, Listed 1996, Delisted 2018, Relisted 2020	Relist
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	Nutrients	PS, NPS	1996		Done	1998	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2006	Y	Bacteria, listed 2002, delisted 2006, Relisted 2018,Delisted 2020	Delist
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	Dieldrin	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	Copper	UNK	2014	2027	Low		5				
DE010-001-02	Appoquinimink River	Upper Appoquinimink River	Freshwater Tidal Reach	6.1 miles	Nutrients	PS, NPS	1996		Done	1998	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE010-001-02	Appoquinimink River	Upper Appoquinimink River	Freshwater Tidal Reach	6.1 miles	DO	PS, NPS	1996		Done	1998	1	2004		DO, Listed 1996, Delisted 2018	
DE010-001-02	Appoquinimink River	Upper Appoquinimink River	Freshwater Tidal Reach	6.1 miles	Bacteria	PS, NPS	2002	2006	Done	2006	4a	2008			
DE010-001-02	Appoquinimink River	Upper Appoquinimink River	Freshwater Tidal Reach	6.1 miles	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE010-001-02	Appoquinimink River	Upper Appoquinimink River	Freshwater Tidal Reach	6.1 miles	D and F TEQs*	NPS	2002	2022	NA		1	2018		Delisted 2018 per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE010-001-03-01	Appoquinimink River	Drawyer Creek	From the headwaters of Drawyer Creek to the confluence with the Appoquinimink River, including Shallcross Lake	8.2 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008		Bacteria, listed 1996, delisted 2008, Relisted 2010	
DE010-001-03-01	Appoquinimink River	Drawyer Creek	From the headwaters of Drawyer Creek to the confluence with the Appoquinimink River, including Shallcross Lake	8.2 miles	Nutrients	NPS	1996		Done	2003	1	2014		Nutrients, Listed 1996, Delisted 2014	
DE010-001-03-01	Appoquinimink River	Drawyer Creek	From the headwaters of Drawyer Creek to the confluence with the Appoquinimink River, including Shallcross Lake	8.2 miles	DO	NPS	1996		Done	2003	1	2008		DO, listed 1996, delisted 2008, Relisted 2014, Delisted 2018	
DE010-001-03-02	Appoquinimink River	Drawyer Creek	Tributary of Drawyer Creek--from the confluence of the headwaters to the confluence with the mainstem	2.30 miles	Biology	NPS	1998	2011	Low		5				
DE010-001-03-02	Appoquinimink River	Drawyer Creek	Tributary of Drawyer Creek--from the confluence of the headwaters to the confluence with the mainstem	2.30 miles	Habitat	NPS	1998	2011	Low		5				
DE010-001-03-03	Appoquinimink River	Drawyer Creek	Western tributary of the headwaters of Drawyer Creek to its confluence	2.20 miles	Habitat	NPS	1998	2011	Low		5				
DE010-001-03-04	Appoquinimink River	Drawyer Creek	Tidal Portion	5.45 miles	D and F TEQs*	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE010-001-03-04	Appoquinimink River	Drawyer Creek	Tidal Portion	5.45 miles	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE010-001-03-04	Appoquinimink River	Drawyer Creek	Tidal Portion	5.45 miles	DDT	NPS	2002		NA		1	2016		Delisted 2016 as DDT is no longer a contaminant of concern in fish consumption advisories for these waters	
DE010-001-03-04	Appoquinimink River	Drawyer Creek	Tidal Portion	5.45 miles	Dieldrin	UNK	2018	2031	Low		5				
DE010-002-01-01	Appoquinimink River	Wiggins Mill Pond to confluence with Silver Lake	From the headwaters of Wiggins Mill Pond to the confluence with Noxontown Pond	3.4 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE010-002-01-01	Appoquinimink River	Wiggins Mill Pond to confluence with Silver Lake	From the headwaters of Wiggins Mill Pond to the confluence with Noxontown Pond	3.4 miles	DO	NPS	1996		Done	2003	4a	2004			
DE010-002-01-01	Appoquinimink River	Wiggins Mill Pond to confluence with Silver Lake	From the headwaters of Wiggins Mill Pond to the confluence with Noxontown Pond	3.4 miles	Nutrients	NPS	2002		Done	2003	4a	2004			
DE010-002-01-02	Appoquinimink River	Wiggins Mill Pond to confluence with Silver Lake	From the confluence of the headwaters of Wiggins Mill Pond to the confluence with Noxontown Pond	1.62 miles	Biology	NPS	1998	2011	Low		5				
DE010-002-02-01	Appoquinimink River	Deep Creek to confluence with Silver Lake	From the headwaters of Deep Creek to confluence with Silver Lake, excluding Silver Lake	2.4 miles	Bacteria	NPS	2002	2006	Done	2006	1	2008	Y	Delisted 2020	Delist
DE010-002-02-01	Appoquinimink River	Deep Creek to confluence with Silver Lake	From the headwaters of Deep Creek to confluence with Silver Lake, excluding Silver Lake	2.4 miles	Nutrients	NPS	2002		Done	2003	1	2004		Nutrients, Listed 2002, Delisted 2018	
DE010-002-02-01	Appoquinimink River	Deep Creek to confluence with Silver Lake	From the headwaters of Deep Creek to confluence with Silver Lake, excluding Silver Lake	2.4 miles	DO		1996		Done	2003	1	2014		DO, listed in 1996, delisted 2002 , relisted 2012, delisted 2014, relisted 2016. Delisted 2018	
DE010-002-02-02	Appoquinimink River	Deep Creek to confluence with Silver Lake	First western tributary after the headwaters of Silver Lake	1.98 miles	Biology	NPS	1998	2011	Low		5				
DE010-002-02-03	Appoquinimink River	Deep Creek to confluence with Silver Lake	Deep Creek.-- from the confluence of the headwaters to Appoquinimink River	1.84 miles	Biology	NPS	1998	2011	Low		5				
DE010-L01	Appoquinimink River	Noxontown Pond	Pond southwest of Odessa	158.6 acres	Bacteria	NPS	1998		Done	2006	1	2006		Bacteria, listed 1998, delisted 2006	
DE010-L01	Appoquinimink River	Noxontown Pond	Pond southwest of Odessa	158.6 acres	Nutrients	NPS	1998		Done	2003	1	2004		Nutrients, Listed 1998, Delisted 2012	
DE010-L02	Appoquinimink River	Silver Lake	Lake adjacent to Middletown, below Deep Creek	38.7 acres	Bacteria	NPS	1996		NA		1	2006		Bacteria, listed in 1996, delisted 2006	
DE010-L02	Appoquinimink River	Silver Lake	Lake adjacent to Middletown, below Deep Creek	38.7 acres	Nutrients	NPS	1996	2001		2003	4a	2018			
DE010-L02	Appoquinimink River	Silver Lake	Lake adjacent to Middletown, below Deep Creek	38.7 acres	PCB	NPS	2002	2006	Done	2006	1	2012		Delisted 2016 as PCB is no longer a contaminant of concern in fish consumption advisories for these waters	
DE010-L02	Appoquinimink River	Silver Lake	Lake adjacent to Middletown, below Deep Creek	38.7 acres	Dieldrin	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE010-L02	Appoquinimink River	Silver Lake	Lake adjacent to Middletown, below Deep Creek	38.7 acres	DDT	NPS	2002	2017	NA		1			Delisted 2016 as DDT is no longer a contaminant of concern in fish consumption advisories for these waters	
DE010-L02	Appoquinimink River	Silver Lake	Lake adjacent to Middletown, below Deep Creek	38.7 acres	D and F TEQs*	NPS	2002	2017	NA		1			Delisted 2016 as these are no longer a contaminant of concern in fish consumption advisories for these waters	
DE010-L03	Appoquinimink River	Shallcross Lake	Lake above Drawyer Creek	43.1 acres	Nutrients	NPS	1996	2001	Done	2003	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE010-L03	Appoquinimink River	Shallcross Lake	Lake above Drawyer Creek	43.1 acres	Bacteria	NPS	1996		NA		1	2004		Bacteria, listed in 1996, delisted 2004	
DE010-L03	Appoquinimink River	Shallcross Lake	Lake above Drawyer Creek	43.1 acres	Copper	UNK	2016	2029	Low		5				
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	Nutrients		1996	2006	Done	2006	1	2008		Nutrients, Listed 2006, Delisted 2012	
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	DO		1996	2006	Done	2006	1	2008		DO, listed 1996, Delisted 2016	
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	Bacteria		2002	2006	Done	2006	1	2008		Bacteria, Listed 2002, Delisted 2010	
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	PCBs	UNK	2006	2015	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	D and F TEQs*	UNK	2006	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	Dieldrin	UNK	2006		NA		1	2016		Delisted 2016 as dieldrin is no longer a contaminant of concern in fish consumption advisories for these waters	
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	Toxaphene	UNK	2006		NA		1	2016		Delisted 2016 as toxaphene is no longer a contaminant of concern in fish consumption advisories for these waters	
DE020-001-02	Army Creek	Lower Army Creek	First tributary on Army Creek after the headwaters	0.73 miles	Habitat	NPS	1998	2011	Low		5				
DE020-001-03	Army Creek	Lower Army Creek	Segment from Route 13 to the mouth of the Delaware River	2.00 miles	Biology	NPS	1998	2011	Low		5				
DE020-001-03	Army Creek	Lower Army Creek	Segment from Route 13 to the mouth of the Delaware River	2.00 miles	Habitat	NPS	1998	2011	Low		5				
DE020-002	Army Creek	Upper Army Creek	Nontidal segment from headwaters to Route 13	1.1 miles	Nutrients	NPS	1998	2006	Done	2006	1	2008		Nutrients, Listed 1998, Delisted 2012	
DE020-002	Army Creek	Upper Army Creek	Nontidal segment from headwaters to Route 13	1.1 miles	DO	NPS	1998	2006	Done	2006	1	2008		DO, Listed 2006, Delisted 2012	
DE020-002	Army Creek	Upper Army Creek	Nontidal segment from headwaters to Route 13	1.1 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2008			
DE020-002	Army Creek	Upper Army Creek	Nontidal segment from headwaters to Route 13	1.1 miles	PCBs	UNK	2006	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE020-002	Army Creek	Upper Army Creek	Nontidal segment from headwaters to Route 13	1.1 miles	D and F TEQs*	UNK	2006	2022	NA		1	2018		Delisted 2018 per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE020-002	Army Creek	Upper Army Creek	Nontidal segment from headwaters to Route 13	1.1 miles	Dieldrin	UNK	2006	2017	NA		1	2016		Delisted 2016 as dieldrin is no longer a contaminant of concern in fish consumption advisories for these waters	
DE020-002	Army Creek	Upper Army Creek	Nontidal segment from headwaters to Route 13	1.1 miles	Toxaphene	UNK	2006	2017	NA		1	2016		Delisted 2016 as toxaphene is no longer a contaminant of concern in fish consumption advisories for these waters	
DE020-003	Army Creek	Tributary to Army Creek	Unnamed Tributary to Army Creek, monitored by STORET station 114051	0.78 miles	Bacteria	NPS	2006	2006	Done	2006	1	2008	Y	Bacteria, Delisted 2020	Delist
DE020-003	Army Creek	Tributary to Army Creek	Unnamed Tributary to Army Creek, monitored by STORET station 114051	0.78 miles	Nutrients	NPS	2006	2006	Done	2006	1	2008		Nutrients, Listed 2006, Delisted 2018	
DE020-003	Army Creek	Tributary to Army Creek	Unnamed Tributary to Army Creek, monitored by STORET station 114051	0.78 miles	DO	NPS	2006	2006	Done	2006	4a	2008		DO, listed 2006, delisted 2008, Relisted 2018	
DE030-001	Blackbird Creek	Lower Blackbird	Tidal segment from Route 13 to mouth of the Delaware River	13.8 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE030-001	Blackbird Creek	Lower Blackbird	Tidal segment from Route 13 to mouth of the Delaware River	13.8 miles	Nutrients	NPS	1996	2006	Done	2006	1	2014	Y	Nutrients, Listed 1996, Delisted 2014, relisted 2016, Delisted 2020	Delist
DE030-001	Blackbird Creek	Lower Blackbird	Tidal segment from Route 13 to mouth of the Delaware River	13.8 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2008			
DE030-002-01	Blackbird Creek	Upper Blackbird	Nontidal segment from headwaters to Route 13	13.6 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, Listed 1996, Delisted 2010	
DE030-002-01	Blackbird Creek	Upper Blackbird	Nontidal segment from headwaters to Route 13	13.6 miles	DO	NPS	1996	2006	Done	2006	4a	2008		DO, listed 1996, delisted 2008, Relisted 2010	
DE030-002-01	Blackbird Creek	Upper Blackbird	Nontidal segment from headwaters to Route 13	13.6 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE030-002-02	Blackbird Creek	Upper Blackbird	First eastern tributary after the headwaters to the confluence with Blackbird Creek	2.19 miles	Biology	NPS	1998	2011	Low		5				
DE030-002-03	Blackbird Creek	Upper Blackbird	Upper Blackbird Creek--from the confluence of the headwaters to the confluence with Barlow Branch	2.11 miles	Biology	NPS	1998	2011	Low		5				
DE030-002-04	Blackbird Creek	Upper Blackbird	From the confluence of the headwaters to the confluence with Barlow Branch	2.27 miles	Biology	NPS	1998	2011	Low		5				
DE030-003	Blackbird Creek	Tributaries on the mainstem	Sandom Branch to the confluence with Blackbird Creek (upper half)	1.16 miles	DO	NPS	2004	2006	Done	2006	4a	2008			
DE030-003	Blackbird Creek	Tributaries on the mainstem	Sandom Branch to the confluence with Blackbird Creek (upper half)	1.16 miles	Nutrients	NPS	2006	2006	Done	2006	4a	2008			
DE030-003	Blackbird Creek	Tributaries on the mainstem	Sandom Branch to the confluence with Blackbird Creek (upper half)	1.16 miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE030-003	Blackbird Creek	Tributaries on the mainstem	Sandom Branch to the confluence with Blackbird Creek (upper half)	1.16 miles	Biology	NPS	1998	2011	Low		5				
DE030-003	Blackbird Creek	Tributaries on the mainstem	Sandom Branch to the confluence with Blackbird Creek (upper half)	1.16 miles	Habitat	NPS	1998	2011	Low		5				
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	Nutrients	PS, NPS, SF, UNK	1996		Done	2000	4a	2004			
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	PCBs	PS, NPS, SF, UNK	1996	2003	Done	2003	4a			EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	D and F TEQs*	PS, NPS, SF, UNK	2016	2029	Low		5				
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	Dieldrin	PS, NPS, SF, UNK	2016	2029	Low		5				
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	Bacteria	PS, NPS, SF, UNK	2002	2004	Done	2005	4a	2006	Y	Listed 2002, Delisted 2016, Relisted 2020	Relist
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	Habitat	NPS	1998	2009	Low		5				
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	Bacteria	PS, NPS, SF, UNK	1996	2004	Done	2005	1		Y	Bacteria, listed in 1996, delisted 2006 , relisted 2008, delisted 2020	Delist
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	Nutrients	PS, NPS, SF, UNK	1996		Done	2000	1	2014		Nutrients, Listed 1996, Delisted 2014	
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	PCBs	PS, NPS, SF, UNK	1996	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	D and F TEQs*	PS, NPS, SF, UNK	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	Dieldrin	PS, NPS, SF, UNK	2016	2029	Low		5				
DE040-002-02	Brandywine Creek	Upper Brandywine	From State line to the confluence with the Christina River	8.0 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-01	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of Beaver Creek, from headwaters to the confluence with mainstem Beaver Creek	0.96 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-01	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of Beaver Creek, from headwaters to the confluence with mainstem Beaver Creek	0.96 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-02	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary originating in Pennsylvania on the western side of Brandywine Creek	0.26 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-02	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary originating in Pennsylvania on the western side of Brandywine Creek	0.26 miles	Habitat	NPS	1998	2009	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE040-003-03	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary of Brandywine Creek, off Route 100 (near PA-DE border)	0.92 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-04	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary of Brandywine Creek just below Beaver Creek	0.85 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-05	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of the headwaters of Rocky Run(upper half)	1.16 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-06	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of the headwaters of Rocky Run(lower half)	1.16 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-06	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of the headwaters of Rocky Run(lower half)	1.16 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-07	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	From the confluence of the headwaters of Wilson Run to the next larger stream order (lower half)	0.64 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-08	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	From the confluence of the headwaters of Wilson Run to the next larger stream order (upper half)	0.64 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-08	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	From the confluence of the headwaters of Wilson Run to the next larger stream order (upper half)	0.64 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-09	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Wilson Run, from start of the third order stream to the confluence with Brandywine Creek	0.88 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-10	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary of Wilson Run on Montchanin Road from the headwaters to the first confluence	0.45 miles	Habitat	NPS	1998	2009	Low		5				
DE050-001-01	Broad Creek	Lower Broad Creek	Lower Broad Creek, including Collins and Culvert Ditch, Holly Ditch, and Rossakatum and Cooper Branches	24.8 miles	Bacteria	PS, NPS	1996	2005	Done	2006	1	2008		Bacteria Listed 1996, Delisted 2016	
DE050-001-01	Broad Creek	Lower Broad Creek	Lower Broad Creek, including Collins and Culvert Ditch, Holly Ditch, and Rossakatum and Cooper Branches	24.8 miles	Nutrients	PS, NPS	1996		Done	1998	4a	2004			
DE050-001-01	Broad Creek	Lower Broad Creek	Lower Broad Creek, including Collins and Culvert Ditch, Holly Ditch, and Rossakatum and Cooper Branches	24.8 miles	DO	PS, NPS	2002		Done	1998	1	2004		DO, listed 2002, Delisted 2010	
DE050-001-02	Broad Creek	Lower Broad Creek	Cooper Branch--from the start of the third order stream on Rossakatum Branch to the confluence of Broad Creek	2.73 miles	Habitat	NPS	1998	2010	Low		5				
DE050-002-01	Broad Creek	Tussocky Branch	Tributary west of Laurel, excluding Portsville and Tussock Ponds	7.9 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-002-01	Broad Creek	Tussocky Branch	Tributary west of Laurel, excluding Portsville and Tussock Ponds	7.9 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-002-02	Broad Creek	Tussocky Branch	Tussocky Branch--from the confluence of Mill Creek to the confluence with Broad Creek	3.42 miles	Habitat	NPS	1998	2010	Low		5				
DE050-003	Broad Creek	Little Creek	Tributary south of Laurel, excluding Horsey's Pond	2.4 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-004-01	Broad Creek	Chipman Pond Branch	Tributary northeast of Laurel, excluding Chipman Pond	6.7 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-004-01	Broad Creek	Chipman Pond Branch	Tributary northeast of Laurel, excluding Chipman Pond	6.7 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-004-02	Broad Creek	Chipman Pond Branch	Jobs Ditch--from the headwaters to the confluence with Dukes and Jobs Branch	0.98 miles	Habitat	NPS	1998	2010	Low		5				
DE050-004-03	Broad Creek	Chipman Pond Branch	Mirey Branch--from the start of the third order stream to the confluence with Elliott Pond Branch	1.28 miles	Habitat	NPS	1998	2010	Low		5				
DE050-004-04	Broad Creek	Chipman Pond Branch	Dukes Ditch--from the headwaters to the confluence with Dukes and Jobs Branch	2.45 miles	Habitat	NPS	1998	2010	Low		5				
DE050-005-01	Broad Creek	James Branch	James Branch, including Pepper Pond Branch, Hitch Pond Branch, and Grays Branch	11.1 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-005-01	Broad Creek	James Branch	James Branch, including Pepper Pond Branch, Hitch Pond Branch, and Grays Branch	11.1 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-005-01	Broad Creek	James Branch	James Branch, including Pepper Pond Branch, Hitch Pond Branch, and Grays Branch	11.1 miles	DO	NPS	2002		Done	2000	4a	2004			
DE050-005-02-01	Broad Creek	Trussum Pond Branch	From the headwaters to the confluence with James Branch, excluding Trussum Pond	3.5 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-005-02-02	Broad Creek	Trussum Pond Branch	Wards Branch--from the confluence of the headwaters to the confluence with James Branch	3.18 miles	DO	NPS	1998		Done	2000	4a	2004			
DE050-006-01	Broad Creek	Trap Pond Branch	From the headwaters of Trap Pond including Saunders and Thompson Branches	2.9 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-006-01	Broad Creek	Trap Pond Branch	From the headwaters of Trap Pond including Saunders and Thompson Branches	2.9 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-006-03	Broad Creek	Raccoon Prong	Headwaters of Raccoon Pond and Trap pond	9.11 miles	Bacteria	NPS	2002	2005	Done	2006	1	2008		Bacteria, listed 2002, delisted 2006, relisted 2008, Delisted 2018	
DE050-006-03	Broad Creek	Raccoon Prong	Headwaters of Raccoon Pond and Trap pond	9.11 miles	Nutrients	NPS	2002		Done	2000	1	2004		Nutrients, Listed 2002, Delisted 2012	
DE050-006-03	Broad Creek	Raccoon Prong	Headwaters of Raccoon Pond and Trap pond	9.11 miles	DO	NPS	2002		Done	2000	4a	2004			
DE050-L01	Broad Creek	Portsville Pond	Pond west of Laurel on Tussocky Branch	14.5 acres	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-L01	Broad Creek	Portsville Pond	Pond west of Laurel on Tussocky Branch	14.5 acres	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-L02	Broad Creek	Tussock Pond	Pond southwest of Laurel	8.6 acres	Bacteria	NPS	2002	2005	Done	2006	4a	2008			
DE050-L02	Broad Creek	Tussock Pond	Pond southwest of Laurel	8.6 acres	Nutrients	NPS	2002		Done	2000	4a	2004			
DE050-L03	Broad Creek	Horseys Pond	Pond south of Laurel on Little Creek tributary	46.3 acres	Bacteria	NPS	1996		Done	2006	1	2004		Bacteria , listed in 1996, delisted 2004	
DE050-L03	Broad Creek	Horseys Pond	Pond south of Laurel on Little Creek tributary	46.3 acres	Nutrients	NPS	1996		Done	2000	4a	2014		Nutrients, Listed 1996, Delisted 2014, Relisted 2018	
DE050-L04	Broad Creek	Records Pond	Pond adjacent to Laurel	91.9 acres	Bacteria	PS, NPS	1996	2005	Done	2006	1	2008		Bacteria, Listed in 1996, delisted 2008	
DE050-L04	Broad Creek	Records Pond	Pond adjacent to Laurel	91.9 acres	Nutrients	PS, NPS	1996		Done	2000	4a	2004			
DE050-L04	Broad Creek	Records Pond	Pond adjacent to Laurel	91.9 acres	DO		1996 / 2006		Done	2000	1	2008		DO, listed in 1996, delisted 2002, relisted 2006, delisted 2008	
DE050-L05	Broad Creek	Chipman Pond	Pond located north of Laurel on Chipman Branch	47.0 acres	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-L05	Broad Creek	Chipman Pond	Pond located north of Laurel on Chipman Branch	47.0 acres	Bacteria	NPS	2002	2005	Done	2006	4a	2008			

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DE050-L06	Broad Creek	Trussum Pond	Pond southeast of Laurel on James Branch	58.7 acres	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-L06	Broad Creek	Trussum Pond	Pond southeast of Laurel on James Branch	58.7 acres	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-L06	Broad Creek	Trussum Pond	Pond southeast of Laurel on James Branch	58.7 acres	DO	NPS	2002		Done	2000	4a	2004			
DE050-L07	Broad Creek	Trap Pond	Pond east of Laurel on Hitch Pond Branch	88.0 acres	Nutrients	NPS	1996		Done	2000	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE050-L07	Broad Creek	Trap Pond	Pond east of Laurel on Hitch Pond Branch	88.0 acres	DO	NPS	2002		Done	2000	1	2014		DO, Listed 2002, Delisted 2014	
DE050-L07	Broad Creek	Trap Pond	Pond east of Laurel on Hitch Pond Branch	88.0 acres	Bacteria	NPS	1996		Done	2006	1	2002		Bacteria, listed in 1996, delisted 2002	
DE050-L07	Broad Creek	Trap Pond	Pond east of Laurel on Hitch Pond Branch	88.0 acres	Ammonia	NPS	2012		Done	2000	1	2018		Ammonia, Listed 2012, Delisted 2018	
DE050-L08	Broad Creek	Raccoon Pond	Pond east of Laurel on Hitch Pond Branch	13.5 acres	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE050-L08	Broad Creek	Raccoon Pond	Pond east of Laurel on Hitch Pond Branch	13.5 acres	Nutrients	NPS	1996		Done	2000	4a	2004			
DE050-L08	Broad Creek	Raccoon Pond	Pond east of Laurel on Hitch Pond Branch	13.5 acres	DO	NPS	2002		Done	2000	4a	2004			
DE060-001	Broadkill River	Lower Broadkill	From the confluence with Beaver Dam Creek to mouth at Delaware Bay, excluding Red Mill Pond	8.1 miles	Nutrients	NPS	1996	2006	Done	2006	1	2014		Nutrients, Listed 1996, Delisted 2014	
DE060-001	Broadkill River	Lower Broadkill	From the confluence with Beaver Dam Creek to mouth at Delaware Bay, excluding Red Mill Pond	8.1 miles	DO	NPS	1996	2006	Done	2006	4a	2008		DO, listed 1996	
DE060-001	Broadkill River	Lower Broadkill	From the confluence with Beaver Dam Creek to mouth at Delaware Bay, excluding Red Mill Pond	8.1 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2008			
DE060-002	Broadkill River	Beaverdam Creek	From the headwaters to the confluence with Broadkill River	8.3 miles	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2008			
DE060-002	Broadkill River	Beaverdam Creek	From the headwaters to the confluence with Broadkill River	8.3 miles	Nutrients	PS, NPS	1996	2006	Done	2006	4a	2008			
DE060-002	Broadkill River	Beaverdam Creek	From the headwaters to the confluence with Broadkill River	8.3 miles	DO	PS, NPS	2002	2006	Done	2006	1	2008		DO, listed 2002, delisted 2008, Relisted 2012, Delisted 2016	
DE060-003	Broadkill River	Upper Broadkill River	Broadkill River from below Waggamons Pond to the confluence with Beaver Dam Creek	5.0 miles	Bacteria	PS, NPS	1998, 2006	2006	Done	2006	1	2004		Bacteria, listed in 1998, delisted 2004 , relisted 2006, delisted 2012	
DE060-003	Broadkill River	Upper Broadkill River	Broadkill River from below Waggamons Pond to the confluence with Beaver Dam Creek	5.0 miles	Nutrients	PS, NPS	1998	2006	Done	2006	4a	2008		Nutrients, listed 1998, delisted 2016, Relisted 2018	
DE060-003	Broadkill River	Upper Broadkill River	Broadkill River from below Waggamons Pond to the confluence with Beaver Dam Creek	5.0 miles	DO	PS, NPS	2006	2006	Done	2006	1	2008		DO, Listed 2006, Delisted 2012	
DE060-004	Broadkill River	Round Pole Branch	Tributary from the headwaters to confluence with Upper Broadkill River	5.2 miles	Bacteria	NPS	1996		Done	2006	4a	2008		Bacteria, listed 1996, delisted 2006, relisted 2008	
DE060-004	Broadkill River	Round Pole Branch	Tributary from the headwaters to confluence with Upper Broadkill River	5.2 miles	DO	NPS	1996	2006	Done	2006	1	2008		DO, Listed 1996, Delisted 2012	
DE060-004	Broadkill River	Round Pole Branch	Tributary from the headwaters to confluence with Upper Broadkill River	5.2 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE060-005-01	Broadkill River	Ingrams Branch	From the headwaters to Waggamons Pond, including Diamond Pond	7.6 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE060-005-01	Broadkill River	Ingrams Branch	From the headwaters to Waggamons Pond, including Diamond Pond	7.6 miles	DO	NPS	1996	2006	Done	2006	1	2008	Y	DO, Listed 1996, Delisted 2012, Relisted 2014, Delisted 2020	Delist
DE060-005-01	Broadkill River	Ingrams Branch	From the headwaters to Waggamons Pond, including Diamond Pond	7.6 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE060-005-01	Broadkill River	Ingrams Branch	From the headwaters to Waggamons Pond, including Diamond Pond	7.6 miles	Ammonia	UNK	2018		Done		4a				
DE060-005-02	Broadkill River	Ingrams Branch	Ingrams Branch-- western tributary of the headwaters	1.70 miles	DO	NPS	1998	2006	Done	2006	4a	2008			
DE060-005-02	Broadkill River	Ingrams Branch	Ingrams Branch-- western tributary of the headwaters	1.70 miles	Habitat	NPS	1998	2012	Done	2006	4a	2008			
DE060-006	Broadkill River	Pemberton Branch	From the headwaters to Waggamons Pond	5.0 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE060-006	Broadkill River	Pemberton Branch	From the headwaters to Waggamons Pond	5.0 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE060-007-01	Broadkill River	Lower Red Mill Branch	From Red Mill Pond to the confluence with Lower Broadkill River	5.3 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE060-007-01	Broadkill River	Lower Red Mill Branch	From Red Mill Pond to the confluence with Lower Broadkill River	5.3 miles	DO		1996		Done	2006	1	2002		DO, listed in 1996, delisted 2002	
DE060-007-01	Broadkill River	Lower Red Mill Branch	From Red Mill Pond to the confluence with Lower Broadkill River	5.3 miles	Bacteria	NPS	2002		Done	2006	1	2004		Bacteria, listed in 2002, delisted 2004	
DE060-007-02-01	Broadkill River	Martin Branch	From the headwaters to Red Mill Pond	1.5 miles	DO	NPS	1996		Done	2006	1	2006		DO, listed in 1996, delisted 2006	
DE060-007-02-01	Broadkill River	Martin Branch	From the headwaters to Red Mill Pond	1.5 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE060-007-02-01	Broadkill River	Martin Branch	From the headwaters to Red Mill Pond	1.5 miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE060-007-02-02	Broadkill River	Martin Branch	Tributary above Red Mill Pond--from start of the second order stream to the confluence with Red Mill Pond	0.06 miles	Habitat	NPS	1998	2011	Low		5				
DE060-007-03	Broadkill River	Heronwood Branch	From the headwaters to Red Mill Pond	1.0 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE060-007-03	Broadkill River	Heronwood Branch	From the headwaters to Red Mill Pond	1.0 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE060-008	Broadkill River	Primehook Creek	Entire Creek	12.6 miles	Mercury	NPS	2010	2022	NA		1			Mercury, listed 2010, Delisted 2018 as it is no longer a contaminant of concern in fish tissue	
DE060-008	Broadkill River	Primehook Creek	Entire Creek	12.6 miles	DO	NPS	2012	2025	Low		5				
DE060-L01	Broadkill River	Red Mill Pond	Pond located on Martin Branch	150.0 acres	Bacteria	NPS	1996		Done	2006	1	2006		Bacteria , listed in 1996, delisted 2006	
DE060-L01	Broadkill River	Red Mill Pond	Pond located on Martin Branch	150.0 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE060-L01	Broadkill River	Red Mill Pond	Pond located on Martin Branch	150.0 acres	DO	NPS	1996	2006	Done	2006	1	2008		DO, listed 1996, delisted 2008	
DE060-L02	Broadkill River	Waggamons Pond	Pond adjacent to Milton	35.0 acres	Nutrients	PS, NPS	1996	2006	Done	2006	4a	2008			
DE060-L03	Broadkill River	Waples Pond and Reynolds Pond	Ponds located on Sowbridge Branch of Primehook Creek	88.8 acres	Bacteria	NPS	1998		Done	2006	1	2006		Bacteria , listed in 1998, delisted 2006, Relisted 2012, delisted 2016	
DE060-L03	Broadkill River	Waples Pond and Reynolds Pond	Ponds located on Sowbridge Branch of Primehook Creek	88.8 acres	Nutrients	NPS	1998	2006	Done	2006	4a	2008	Y	Nutrients Listed 1998, Delisted 2016, Relisted 2020	Relist
DE060-L03	Broadkill River	Waples Pond and Reynolds Pond	Ponds located on Sowbridge Branch of Primehook Creek	88.8 acres	DO	NPS	1998		Done	2006	1	2014		DO, listed 1998, delisted 2006, Relisted 2012, Delisted 2014	
DE060-L03	Broadkill River	Waples Pond and Reynolds Pond	Ponds located on Sowbridge Branch of Primehook Creek	88.8 acres	Mercury	NPS	2010	2022	NA		1	2018		Mercury listing in Waples Pond Only. Listed 2010, Delisted 2018 as Mercury is no longer a contaminant of concern in fish tissue	
DE070-001	Buntings Branch	Buntings Branch	From the headwaters to the MD-DE State line	4.6 miles	Nutrients	PS, NPS	1996	2003	NA	2004	4b	2008		Delaware DNREC, EPA and MD Dept. of Environment are working cooperatively to implement the MD TMDL for the downstream portion in Delaware's portion of this shared waterbody for these parameters. DO, listed 1996, delisted 2008, relisted 2012, Delisted 2014	
DE070-001	Buntings Branch	Buntings Branch	From the headwaters to the MD-DE State line	4.6 miles	DO	PS, NPS	1996	2003	Done	2004	1	2014			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE070-001	Buntings Branch	Buntings Branch	From the headwaters to the MD-DE State line	4.6 miles	Bacteria	PS, NPS	2002	2006	Done	2006	4a	2008			
DE070-001	Buntings Branch	Buntings Branch	From the headwaters to the MD-DE State line	4.6 miles	Copper	UNK	2014	2027	Low		5				
DE080-001	Cedar Creek	Lower Cedar Creek	Tidal segment from Cedar Creek Mill Pond to mouth at Delaware Bay	8.8 miles	DO	NPS	1996	2006	Done	2006	1	2008	Y	DO, listed 1996, Delisted 2020	Delist
DE080-001	Cedar Creek	Lower Cedar Creek	Tidal segment from Cedar Creek Mill Pond to mouth at Delaware Bay	8.8 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE080-001	Cedar Creek	Lower Cedar Creek	Tidal segment from Cedar Creek Mill Pond to mouth at Delaware Bay	8.8 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2014	Y	Nutrients, Listed 1996, Delisted 2014, relisted 2016, Delisted 2018, Relisted 2020	Relist
DE080-002	Cedar Creek	Upper Cedar Creek	From the headwaters to Cedar Creek Mill Pond, including Church Branch and Cedar Mill Pond, Cubbage Pond, Clendaniel Pond and Hudson Pond	13.0 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE080-002	Cedar Creek	Upper Cedar Creek	From the headwaters to Cedar Creek Mill Pond, including Church Branch and Cedar Mill Pond, Cubbage Pond, Clendaniel Pond and Hudson Pond	13.0 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE080-002	Cedar Creek	Upper Cedar Creek	From the headwaters to Cedar Creek Mill Pond, including Church Branch and Cedar Mill Pond, Cubbage Pond, Clendaniel Pond and Hudson Pond	13.0 miles	DO	NPS	2004	2006	Done	2006	4a	2008			
DE080-003	Cedar Creek	Slaughter Creek	From the headwaters to The Confluence with Cedar Creek	7.91 Miles	DO	NPS	2004	2006	Done	2006	4a	2008			
DE080-003	Cedar Creek	Slaughter Creek	From the headwaters to The Confluence with Cedar Creek	7.91 Miles	Nutrients	NPS	2006	2006	Done	2006	4a	2008			
DE080-003	Cedar Creek	Slaughter Creek	From the headwaters to The Confluence with Cedar Creek	7.91 Miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE080-003	Cedar Creek	Slaughter Creek	From the headwaters to The Confluence with Cedar Creek	7.91 Miles	PCBs	NPS	2010	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE080-003	Cedar Creek	Slaughter Creek	From the headwaters to The Confluence with Cedar Creek	7.91 Miles	D and F TEQs*	NPS	2010	2023	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	Nutrients	NPS	2002		NA		1			Nutrients, Listed 2002, Delisted 2012	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	Dieldrin	NPS	2006	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	Chlordane	NPS	2006	2017	NA		1	2014		Not a contaminant of concern in fish consumption advisories for these waters	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	DDT	NPS	2012	2017	NA		1	2014		Not a contaminant of concern in fish consumption advisories for these waters	
DE090-002-01	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Scott Run-- from the headwaters to the confluence with Chesapeake & Delaware Canal	4.81 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-01	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Scott Run-- from the headwaters to the confluence with Chesapeake & Delaware Canal	4.81 miles	Habitat	NPS	1998	2011	Low		5				
DE090-002-01	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Scott Run-- from the headwaters to the confluence with Chesapeake & Delaware Canal	4.81 miles	DO	NPS	1998	2006	Done	2012	4a				
DE090-002-02	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Crystal Run--from the headwaters to the confluence with Chesapeake & Delaware Canal	1.52 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-03	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Joy Run--from the headwaters to the confluence with Chesapeake & Delaware Canal	1.99 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-04	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Eastern tributary on Lums Pond--from the headwaters to the confluence with Lums Pond	1.04 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-04	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Eastern tributary on Lums Pond--from the headwaters to the confluence with Lums Pond	1.04 miles	Habitat	NPS	1998	2011	Low		5				
DE090-002-05	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Unamed tributary referred to as "Southeast Creek", outflowing from Lums Pond to the C&D Canal	0.84 miles	DO	NPS	2012		Done	2012	4a				
DE090-L01	Chesapeake & Delaware Canal	Lums Pond	Pond south of Newark	189.3 acres	Bacteria	NPS	1996		NA		1	2004		Bacteria, listed in 1996, delisted 2004	
DE090-L01	Chesapeake & Delaware Canal	Lums Pond	Pond south of Newark	189.3 acres	Nutrients	NPS	2002		Done	2012	1			Nutrients, Listed 2002, Delisted 2012	
DE100-001-01	Chesapeake Drainage System	Cypress Branch, including tributaries	Mainstem	6.6 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE100-001-01	Chesapeake Drainage System	Cypress Branch, including tributaries	Mainstem	6.6 miles	Nutrients	NPS	2002	2005	Done	2005	4a	2006			
DE100-001-01	Chesapeake Drainage System	Cypress Branch, including tributaries	Mainstem	6.6 miles	DO	NPS	1996	2005	Done	2005	4a	2006			
DE100-001-02	Chesapeake Drainage System	Cypress Branch, including tributaries	Cypress Branch--from the confluence of Black Stallion Ditch to the MD-DE line	1.60 miles	Biology	NPS	1998	2010	Low		5				
DE100-001-02	Chesapeake Drainage System	Cypress Branch, including tributaries	Cypress Branch--from the confluence of Black Stallion Ditch to the MD-DE line	1.60 miles	DO	NPS	1998	2005	Done	2005	4a	2006			
DE100-001-03	Chesapeake Drainage System	Cypress Branch, including tributaries	Tributary of Cypress Branch--from the confluence of the headwaters to the confluence with the mainstem	0.35 miles	Biology	NPS	1998	2010	Low		5				
DE100-002-01	Chesapeake Drainage System	Sewell Branch, including tributaries	Mainstem	7.2 miles	Bacteria	NPS	1996	2005	Done	2006	1	2008		Delisted 2016	
DE100-002-01	Chesapeake Drainage System	Sewell Branch, including tributaries	Mainstem	7.2 miles	DO	NPS	1996	2005	Done	2005	4a	2006			
DE100-002-01	Chesapeake Drainage System	Sewell Branch, including tributaries	Mainstem	7.2 miles	Nutrients	NPS	1996	2005	Done	2005	1	2014		Nutrients, Listed 1996, Delisted 2014	
DE100-002-02	Chesapeake Drainage System	Sewell Branch, including tributaries	From the confluence of the headwaters to the confluence with Sewell Branch	8.20 miles	Biology	NPS	1998	2010	Low		5				
DE100-002-02	Chesapeake Drainage System	Sewell Branch, including tributaries	From the confluence of the headwaters to the confluence with Sewell Branch	8.20 miles	Habitat	NPS	1998	2010	Low		5				
DE100-002-02	Chesapeake Drainage System	Sewell Branch, including tributaries	From the confluence of the headwaters to the confluence with Sewell Branch	8.20 miles	DO	NPS	1998	2005	Done	2005	4a	2006			
DE100-003-01	Chesapeake Drainage System	Gravelly Run, including tributaries	Mainstem	7.7 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE100-003-01	Chesapeake Drainage System	Gravelly Run, including tributaries	Mainstem	7.7 miles	DO	NPS	1996	2005	Done	2005	1	2008		DO, Listed 1996, delisted 2008	
DE100-003-01	Chesapeake Drainage System	Gravelly Run, including tributaries	Mainstem	7.7 miles	Nutrients	NPS	1996	2005	Done	2005	4a	2006			
DE100-003-02	Chesapeake Drainage System	Gravelly Run, including tributaries	Gravelly Run--from the confluence of Jamison Branch to the MD-DE line	1.08 miles	Habitat	NPS	1998	2010	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE100-003-03	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--from the headwaters to the confluence with the mainstem	0.22 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-04	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--first western tributary upstream of Gravelly Run	1.21 miles	Biology	NPS	1998	2010	Low		5				
DE100-003-04	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--first western tributary upstream of Gravelly Run	1.21 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-05	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--second eastern tributary from the headwaters of Gravelly Run to the mainstem	1.25 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-06	Chesapeake Drainage System	Gravelly Run, including tributaries	Gravelly Run--from the start of the third order stream to the confluence with Jamison Branch	2.28 miles	Biology	NPS	1998	2010	Low		5				
DE100-003-06	Chesapeake Drainage System	Gravelly Run, including tributaries	Gravelly Run--from the start of the third order stream to the confluence with Jamison Branch	2.28 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-07	Chesapeake Drainage System	Gravelly Run, including tributaries	From the confluence of Gravelly Run and Jamison Branch to the MD-DE line	1.14 miles	Biology	NPS	1998	2010	Low		5				
DE100-003-07	Chesapeake Drainage System	Gravelly Run, including tributaries	From the confluence of Gravelly Run and Jamison Branch to the MD-DE line	1.14 miles	Habitat	NPS	1998	2010	Low		5				
DE100-004-01	Chesapeake Drainage System	Tributaries of Elk River	First eastern tributary after the headwaters of Great Bohemia Creek	1.55 miles	Habitat	NPS	1998	2010	Low		5				
DE100-004-02	Chesapeake Drainage System	Tributaries of Elk River	Eastern tributary of the headwaters of Back Creek to its confluence	1.26 miles	Biology	NPS	1998	2010	Low		5				
DE100-005-01	Chesapeake Drainage System	Tributaries of Sassafras River	Western tributary of the headwaters of Sassafras River to its confluence	1.92 miles	Biology	NPS	1998	2010	Low		5				
DE100-005-02	Chesapeake Drainage System	Tributaries of Sassafras River	From the confluence of the headwaters of Sassafras River to the next larger stream order	0.95 miles	Biology	NPS	1998	2010	Low		5				
DE100-005-02	Chesapeake Drainage System	Tributaries of Sassafras River	From the confluence of the headwaters of Sassafras River to the next larger stream order	0.95 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-01	Choptank	Tappahanna Ditch	Mainstem	7.5 miles	Bacteria	NPS	1996	2005	Done	2006	1	2008		Bacteria, Listed 1996, Delisted 2010, Relisted 2014, Delisted 2018	
DE110-001-01	Choptank	Tappahanna Ditch	Mainstem	7.5 miles	DO	NPS	1996	2005	Done	2005	1	2008		DO, listed 1996, delisted 2008	
DE110-001-01	Choptank	Tappahanna Ditch	Mainstem	7.5 miles	Nutrients	NPS	1996	2005	Done	2005	1	2006		Nutrients, Listed 1996, Delisted 2012	
DE110-001-02	Choptank	Tappahanna Ditch	From start of the fourth order stream to the confluence with Tidy Island Creek	6.58 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-02	Choptank	Tappahanna Ditch	From start of the fourth order stream to the confluence with Tidy Island Creek	6.58 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-03	Choptank	Tappahanna Ditch	Start of third order stream on Tappahanna Ditch to the confluence of the next larger stream order	1.12 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-03	Choptank	Tappahanna Ditch	Start of third order stream on Tappahanna Ditch to the confluence of the next larger stream order	1.12 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-04	Choptank	Tappahanna Ditch	First western tributary after the headwaters of Tappahanna Ditch to its confluence	0.40 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-05	Choptank	Tappahanna Ditch	Tidy Island Creek--from the confluence with Tappahanna Ditch to the MD-DE line	0.21 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-06	Choptank	Tappahanna Ditch	Choptank River--from the start of the third order stream to the confluence with Choptank River	2.31 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-06	Choptank	Tappahanna Ditch	Choptank River--from the start of the third order stream to the confluence with Choptank River	2.31 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-07	Choptank	Tappahanna Ditch	Seventh eastern tributary upstream of Tappahanna Ditch	1.30 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-07	Choptank	Tappahanna Ditch	Seventh eastern tributary upstream of Tappahanna Ditch	1.30 miles	DO	NPS	1998	2005	Done	2005	4a	2008			
DE110-001-08	Choptank	Tappahanna Ditch	Tributary of Tappahanna Ditch--western tributary of the headwaters to its confluence	0.38 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-08	Choptank	Tappahanna Ditch	Tributary of Tappahanna Ditch--western tributary of the headwaters to its confluence	0.38 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-09	Choptank	Tappahanna Ditch	Second western tributary after the headwaters of Tappahanna Ditch to its confluence	0.88 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-09	Choptank	Tappahanna Ditch	Second western tributary after the headwaters of Tappahanna Ditch to its confluence	0.88 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-01	Choptank	Culbreth Marsh Ditch	Mainstem	10.0 miles	Bacteria	NPS	1996	2005	Done	2005	1	2008		Bacteria, Listed 1996, Delisted 2010, Relisted 2014, Delisted 2018	
DE110-002-01	Choptank	Culbreth Marsh Ditch	Mainstem	10.0 miles	DO	NPS	1996	2005	Done	2005	1	2008		DO, listed 1996, delisted 2008	
DE110-002-01	Choptank	Culbreth Marsh Ditch	Mainstem	10.0 miles	Nutrients	NPS	1996	2005	Done	2005	1	2006		Nutrients, Listed 1996, Delisted 2012	
DE110-002-02	Choptank	Culbreth Marsh Ditch	Luther Marvel Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	1.07 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-02	Choptank	Culbreth Marsh Ditch	Luther Marvel Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	1.07 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-03	Choptank	Culbreth Marsh Ditch	From the confluence of Powell Ditch to the confluence with Ross Prong	1.31 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-04	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (lower half)	1.79 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-05	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (upper half)	1.79 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-05	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (upper half)	1.79 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-05	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (upper half)	1.79 miles	DO	NPS	1998	2010	Done	2005	4a				
DE110-002-05	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (upper half)	1.79 miles	Temperature	NPS	1998	2010			1	2018		Temperature, listed in 1998, Delisted 2018 as there are no point source discharges	
DE110-002-06	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from the confluence of Ross Prong to the confluence with the next larger stream order	3.62 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-06	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from the confluence of Ross Prong to the confluence with the next larger stream order	3.62 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-07	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from the confluence of Mud Millpond to the confluence of Cow Marsh Creek	1.86 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-08	Choptank	Culbreth Marsh Ditch	Third western tributary upstream of Culbreth Marsh Ditch	1.99 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-08	Choptank	Culbreth Marsh Ditch	Third western tributary upstream of Culbreth Marsh Ditch	1.99 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-09	Choptank	Culbreth Marsh Ditch	Ross Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	2.61 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-09	Choptank	Culbreth Marsh Ditch	Ross Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	2.61 miles	Habitat	NPS	1998	2010	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE110-003-01	Choptank	Cow Marsh Creek	Mainstem	15.1 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE110-003-01	Choptank	Cow Marsh Creek	Mainstem	15.1 miles	DO	NPS	1996	2005	Done	2005	1	2008		DO, listed 1996, delisted 2008	
DE110-003-01	Choptank	Cow Marsh Creek	Mainstem	15.1 miles	Nutrients	NPS	1996	2005	Done	2005	4a	2006			
DE110-003-02	Choptank	Cow Marsh Creek	First upstream tributary on Meredith Branch	0.46 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-03	Choptank	Cow Marsh Creek	From the confluence of the headwaters of Sangston Prong to the confluence Gravelly Branch	1.98 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-03	Choptank	Cow Marsh Creek	From the confluence of the headwaters of Sangston Prong to the confluence Gravelly Branch	1.98 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-04	Choptank	Cow Marsh Creek	Tributary of Gary Mill Pond Branch--from the confluence of the headwaters to the confluence with Gary Mill Pond Branch	1.00 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-04	Choptank	Cow Marsh Creek	Tributary of Gary Mill Pond Branch--from the confluence of the headwaters to the confluence with Gary Mill Pond Branch	1.00 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-05	Choptank	Cow Marsh Creek	First eastern tributary after the headwaters of Wildcat Branch	1.21 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-05	Choptank	Cow Marsh Creek	First eastern tributary after the headwaters of Wildcat Branch	1.21 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-06	Choptank	Cow Marsh Creek	Willow Grove Prong--from the start of the third order stream to the confluence with Cow Marsh Creek	1.24 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-06	Choptank	Cow Marsh Creek	Willow Grove Prong--from the start of the third order stream to the confluence with Cow Marsh Creek	1.24 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-07	Choptank	Cow Marsh Creek	Tributary of Cow Marsh Creek--first eastern tributary upstream of Cow Marsh Creek	1.32 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-08	Choptank	Cow Marsh Creek	Cow Marsh Ditch--from start of third order stream to the confluence with Cow Marsh Creek	1.44 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-09	Choptank	Cow Marsh Creek	Cow Marsh Ditch--from the confluence of the headwaters to the confluence with the next larger stream order	1.49 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-10	Choptank	Cow Marsh Creek	Bullock Prong--mainstem to the confluence with Price Prong	3.12 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-11	Choptank	Cow Marsh Creek	Third tributary upstream of Cow Marsh Ditch--from the headwaters to the confluence with Cow Marsh Ditch	1.86 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-12	Choptank	Cow Marsh Creek	Iron Mine Prong--from the confluence of Black Swamp to the next larger stream order	2.02 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-13	Choptank	Cow Marsh Creek	Meredith Branch--from the start of the third stream order to the confluence with the next larger stream order	2.08 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-13	Choptank	Cow Marsh Creek	Meredith Branch--from the start of the third stream order to the confluence with the next larger stream order	2.08 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-14	Choptank	Cow Marsh Creek	White Marsh Branch--from the start of the third order stream to the confluence with Gravelly Branch and Sangston Prong	2.92 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-15	Choptank	Cow Marsh Creek	Cow Marsh Creek--from the confluence of Iron Mine Prong to the confluence with Choptank River	4.97 miles	Habitat	NPS	1998	2010	Low		5				
DE110-L01	Choptank	Mud Mill Pond	Pond south of Marydel	60.0 acres	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE110-L01	Choptank	Mud Mill Pond	Pond south of Marydel	60.0 acres	DO	NPS	1996	2005	Done	2005	4a	2006			
DE110-L01	Choptank	Mud Mill Pond	Pond south of Marydel	60.0 acres	Nutrients	NPS	1996	2005	Done	2005	4a	2006			
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	Nutrients	NPS, SF	1996		Done	2001	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	DO	NPS, SF	1996		NA		1	2002		DO, listed in 1996, delisted 2002	
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	PCBs	NPS, SF	1996	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	Bacteria	PS,NPS	2002	2004	Done	2005	4a	2006			
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	Dieldrin	PS, NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	D and F TEQs*	UNK	2016	2029	Low		5				
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	DDT and Metabolites	UNK	2016	2029	Low		5				
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	Chlordane	UNK	2016	2029	Low		5				
DE120-002	Christina River	Mid Christina River	Between White Clay Creek and Brandywine River	7.5 miles	Nutrients	NPS	1996		Done	2001	1	2004		Nutrients, Listed 1996, Delisted 2012, relisted 2016, Delisted 2018	
DE120-002	Christina River	Mid Christina River	Between White Clay Creek and Brandywine River	7.5 miles	PCBs	SF	1996	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE120-002	Christina River	Mid Christina River	Between White Clay Creek and Brandywine River	7.5 miles	Bacteria	PS, NPS	2002	2004	Done	2005	4a	2006			
DE120-002	Christina River	Mid Christina River	Between White Clay Creek and Brandywine River	7.5 miles	Dieldrin	NPS	2002	2017	Low		5			Delisted 2016 in error, Restored category 5 Listing 2018	
DE120-002	Christina River	Mid Christina River	Between White Clay Creek and Brandywine River	7.5 miles	DO	NPS	2008		Done	2001	4a			DO Listed 2008, Delisted 2010, Relisted 2016	
DE120-003-01	Christina River	Upper Christina River	Mainstem Upper Christina River	6.3 miles	Nutrients	NPS, PS	1996		Done	2001	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE120-003-01	Christina River	Upper Christina River	Mainstem Upper Christina River	6.3 miles	PCBs	NPS, PS	1996	2003	Done	2003	1	2016		Prior to 2016, EPA TMDL for PCBS in Delaware River Zone 5 and tributaries. Delisted 2016 because PCBs are no longer a contaminant of concern in fish consumption advisories for these waters.	
DE120-003-01	Christina River	Upper Christina River	Mainstem Upper Christina River	6.3 miles	Bacteria	NPS, PS	1996	2004	Done	2005	1	2006		Bacteria, Listed 1996, Delisted 2010, Relisted 2014, Delisted 2018	
DE120-003-01	Christina River	Upper Christina River	Mainstem Upper Christina River	6.3 miles	DO	NPS, PS	2004		Done	2001	1	2006		DO, listed in 2004, delisted 2006	
DE120-003-01	Christina River	Upper Christina River	Mainstem Upper Christina River	6.3 miles	Chlordane	NPS, PS	2006	2017	NA		1	2016		Delisted 2016 because Chlordane is no longer a contaminant of concern in fish consumption advisories for these waters.	
DE120-003-01	Christina River	Upper Christina River	Mainstem Upper Christina River	6.3 miles	Dieldrin	UNK	2018		Low		5				
DE120-003-02	Christina River	Upper Christina River	Segments from Smalley's Pond overflow to the confluence with White Clay Creek	5.77 miles	Biology	NPS	1998	2009	Low		5				
DE120-003-02	Christina River	Upper Christina River	Segments from Smalley's Pond overflow to the confluence with White Clay Creek	5.77 miles	Habitat	NPS	1998	2009	Low		5				
DE120-003-02-01	Christina River	Lower Christina Creek	Tributary from Smalleys Pond overflow to White Clay Creek	1.0 mile	Biology	NPS	1998	2009	Low		5				
DE120-003-02-01	Christina River	Lower Christina Creek	Tributary from Smalleys Pond overflow to White Clay Creek	1.0 mile	Habitat	NPS	1998	2009	Low		5				
DE120-003-02-01	Christina River	Lower Christina Creek	Tributary from Smalleys Pond overflow to White Clay Creek	1.0 mile	Nutrients	NPS	2002		Done	2001	4a	2004			
DE120-003-02-01	Christina River	Lower Christina Creek	Tributary from Smalleys Pond overflow to White Clay Creek	1.0 mile	DO	NPS	2002		Done	2001	4a	2004			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE120-003-02-01	Christina River	Lower Christina Creek	**Tributary from Smalleys Pond overflow to White Clay Creek**			NPS	2002	2004	Done	2005	4a	2006			
DE120-003-03	Christina River	Upper Christina River	Tributary downstream of Smalleys Pond on the Christina River	0.65 miles		NPS	1998	2009	Low		5				
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles	Bacteria	NPS,	1996	2004	Done	2005	1	2006	Y	Bacteriia, Listed 1996, Delisted 2020	Delist
DE120-004-01	Christina River	Lower Christina Creek	**Mainstem Lower Christina Creek**			NPS	1996		Done	2001	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles		NPS, SF	1996	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles		NPS	2002		Done	2001	1	2006		DO, listed in 2002, delisted 2006	
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles		NPS	2006	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles		UNK	2016	2029	Low		5				
DE120-004-02	Christina River	Lower Christina Creek	**From the confluence of West Branch Christina River to the confluence with the mainstem**			NPS	1998	2009	Low		5				
DE120-004-02	Christina River	Lower Christina Creek	From the confluence of West Branch Christina River to the confluence with the mainstem			NPS	1998	2009	Low		5				
DE120-004-02-01	Christina River	Belltown Run	From the headwaters above Becks Pond to the confluence with the Christina River			NPS	1996	2004	Done	2005	4a	2006			
DE120-004-02-01	Christina River	Belltown Run	From the headwaters above Becks Pond to the confluence with the Christina River			NPS	2002	2004	Done	2005	4a	2006			
DE120-004-02-01	Christina River	Belltown Run	From the headwaters above Becks Pond to the confluence with the Christina River			NPS	2002	2004	Done	2005	4a	2006			
DE120-004-02-02	Christina River	Belltown Run	Eastern tributary of the headwaters of Belltown Run to the confluence with the Christina River			NPS	1998	2009	Low		5				
DE120-004-02-02	Christina River	Belltown Run	Eastern tributary of the headwaters of Belltown Run to the confluence with the Christina River			NPS	1998	2009	Low		5				
DE120-004-02-03	Christina River	Belltown Run	Western tributary of the headwaters of Belltown Run to its confluence	0.88 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-03-01	Christina River	Muddy Run	From the headwaters above Sunset Pond to the confluence with Belltown Run below Becks Pond	8.0 miles	Bacteria	NPS	1996	2004	Done	2005	4a				
DE120-004-03-02	Christina River	Muddy Run	From the headwaters of Iron Hill Run to the next larger stream order	2.3 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-03-03	Christina River	Muddy Run	Eastern tributary of the headwaters of Iron Hill Run to the next larger stream order	0.71 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-03-04	Christina River	Muddy Run	Eastern tributary above Sunset Pond to the confluence of the next larger stream order	2.3 miles	Biology	NPS	1998	2009	Low		5				
DE120-004-03-05	Christina River	Muddy Run	Eastern tributary of the headwaters of Muddy Run to its confluence	0.63 miles	Habitat	NPS	1998	2009	Low		5				
DE120-005-01	Christina River	West Branch	West Branch including Persimmon Run and Stine Haskell Branch	5.3 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE120-005-01	Christina River	West Branch	West Branch including Persimmon Run and Stine Haskell Branch	5.3 miles	Nutrients	NPS	1996		Done	2001	4a	2004			
DE120-006-01	Christina River	Upper Christina Creek	Mainstem Upper Christina Creek	8.3 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE120-006-01	Christina River	Upper Christina Creek	Mainstem Upper Christina Creek	8.3 miles	Nutrients		1996		Done	2001	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE120-006-02	Christina River	Upper Christina Creek	From the confluence of the headwaters of Upper Christina River to the confluence of West Branch	2.6 miles	Biology		1998	2009	Low		5				
DE120-006-02	Christina River	Upper Christina Creek	From the confluence of the headwaters of Upper Christina River to the confluence of West Branch	2.6 miles	Habitat		1998	2009	Low		5				
DE120-006-03	Christina River	Upper Christina Creek	First western tributary after the headwaters of the Upper Christina River to mainstem Upper Christina River (upper half)	0.67 miles	Habitat		1998	2009	Low		5				
DE120-006-04	Christina River	Upper Christina Creek	First western tributary after the headwaters of the Upper Christina River to mainstem Upper Christina River (lower half)	0.67 miles	Habitat		1998	2009	Low		5				
DE120-006-04	Christina River	Upper Christina Creek	First western tributary after the headwaters of the Upper Christina River to mainstem Upper Christina River (lower half)	0.67 miles	Biology		1998	2009	Low		5				
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Nutrients	NPS	1996		Done	2001	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	DO		1996		Done	2001	1	2002		DO, listed in 1996, delisted 2002	
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	PCBs	NPS	1996	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Dieldrin	UNK	2016	2029	Low		5				
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Chlordane	UNK	2016	2029	Low		5				
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Heptachlor Epoxide	UNK	2016	2029	Low		5				
DE120-007-01-02	Christina River	Little Mill Creek and Willow Run	First western tributary after the headwaters of Little Mill Creek to the confluence with mainstem Little Mill Creek	1.4 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-01-03	Christina River	Little Mill Creek and Willow Run	From the headwaters of Willow Run to the confluence with the Christina River	0.54 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-01-04	Christina River	Little Mill Creek and Willow Run	From the confluence of the headwaters of Little Mill Creek to the confluence of Chestnut Run	4.4 miles	Biology	NPS	1998	2009	Low		5				
DE120-007-01-04	Christina River	Little Mill Creek and Willow Run	From the confluence of the headwaters of Little Mill Creek to the confluence of Chestnut Run	4.4 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-01-05	Christina River	Little Mill Creek and Willow Run	Little Mill Creek--from the confluence of Chestnut Run to the confluence with the Christina River	3.4 miles	Biology	NPS	1998	2009	Low		5				
DE120-007-01-05	Christina River	Little Mill Creek and Willow Run	Little Mill Creek--from the confluence of Chestnut Run to the confluence with the Christina River	3.4 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-02-01	Christina River	Chestnut Run	From the headwaters of Chestnut Run to the confluence with the Christina River	2.8 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE120-007-02-02	Christina River	Chestnut Run	Eastern tributary of the headwaters of Chestnut Run to the confluence of the next larger stream order	1.1 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-02-03	Christina River	Chestnut Run	Left tributary of the headwaters of Chestnut Run to the confluence of the next larger stream order	0.43 miles	Biology	NPS	1998	2009	Low		5				
DE120-007-02-03	Christina River	Chestnut Run	Left tributary of the headwaters of Chestnut Run to the confluence of the next larger stream order	0.43 miles	Habitat	NPS	1998	2009	Low		5				
DE120-L01	Christina River	Smalleys Pond	Smalleys Pond east of Newark	30.0 acres	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE120-L01	Christina River	Smalleys Pond	Smalleys Pond east of Newark	30.0 acres	Nutrients	NPS	1996	2004	Done	2004	4a	2006			
DE120-L01	Christina River	Smalleys Pond	Smalleys Pond east of Newark	30.0 acres	PCBs	NPS	1996	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE120-L01	Christina River	Smalleys Pond	Smalleys Pond east of Newark	30.0 acres	DO	NPS	2004	2004	Done		4a	2006			
DE120-L02	Christina River	Becks Pond	Becks Pond southeast of Newark	25.6 acres	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE120-L02	Christina River	Becks Pond	Becks Pond southeast of Newark	25.6 acres	Nutrients	NPS	1996		Done	2004	1	2002		Nutrients, listed in 1996, delisted 2002	
DE120-L02	Christina River	Becks Pond	Becks Pond southeast of Newark	25.6 acres	PCBs	NPS	2002	2003	NA		1			Listed in 2002, Delisted 2010 due to removal of advisory. EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE120-L02	Christina River	Becks Pond	Becks Pond southeast of Newark	25.6 acres	Mercury	NPS	2002	2009	NA		1				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE120-L03	Christina River	Sunset Pond	Sunset Pond south of Newark	40.0 acres	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE120-L03	Christina River	Sunset Pond	Sunset Pond south of Newark	40.0 acres	Nutrients	NPS	2002	2004	Done	2004	4a				
DE120-L03	Christina River	Sunset Pond	Sunset Pond south of Newark	40.0 acres	DO	NPS	1996	2004	Done	2004	4a	2006			
DE130-001	Dragon Run Creek	Lower Dragon Run Creek	From dam at the water supply pond to the mouth of Delaware River	3.2 miles	Nutrients	NPS	1998	2006	Done	2006	1	2008		Nutrients, Listed 1998, Delisted 2012	
DE130-001	Dragon Run Creek	Lower Dragon Run Creek	From dam at the water supply pond to the mouth of Delaware River	3.2 miles	DO	NPS	1998	2006	Done	2006	4a	2008			
DE130-001	Dragon Run Creek	Lower Dragon Run Creek	From dam at the water supply pond to the mouth of Delaware River	3.2 miles	Bacteria	NPS	2002		Done	2006	1	2008		Bacteria, listed 2002, delisted 2006, relisted 2008, Delisted 2010	
DE130-002-01	Dragon Run Creek	Upper Dragon Run Creek	From headwaters to water supply pond	4.1 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008	Y	Bacteria, Listed 1996, Delisted 2010, Relisted 2012, Delisted 2020	Delist
DE130-002-01	Dragon Run Creek	Upper Dragon Run Creek	From headwaters to water supply pond	4.1 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE130-002-01	Dragon Run Creek	Upper Dragon Run Creek	From headwaters to water supply pond	4.1 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE130-002-02	Dragon Run Creek	Upper Dragon Run Creek	From the confluence of the headwaters to the water supply dam	3.42 miles	Biology	NPS	1998	2011	Low		5				
DE140-001	Indian River	White Creek	Saline tidal waters extending from the north end of Assawoman Canal to the Indian River Bay	4.9 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, listed 1996, delisted 2008	
DE140-001	Indian River	White Creek	Saline tidal waters extending from the north end of Assawoman Canal to the Indian River Bay	4.9 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE140-001	Indian River	White Creek	Saline tidal waters extending from the north end of Assawoman Canal to the Indian River Bay	4.9 miles	DO	NPS	1996	2003	Done	2004	1	2008		DO, listed 1996, delisted 2008, Relisted 2010, Delisted 2018	
DE140-001	Indian River	White Creek	Saline tidal waters extending from the north end of Assawoman Canal to the Indian River Bay	4.9 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-002	Indian River	Blackwater Creek	Saline tidal waters from the headwaters to the confluence with Indian River Bay	7.2 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE140-002	Indian River	Blackwater Creek	Saline tidal waters from the headwaters to the confluence with Indian River Bay	7.2 miles	DO	NPS	2002	2003	Done	2004	4a	2006			
DE140-002	Indian River	Blackwater Creek	Saline tidal waters from the headwaters to the confluence with Indian River Bay	7.2 miles	Nutrients	NPS	2002	2003	Done	2004	4a	2006			
DE140-003	Indian River	Pepper Creek, including tributaries	Pepper Creek including Vines Creek, McCrays Branch, and Deep Hole Branch	24.8 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE140-003	Indian River	Pepper Creek, including tributaries	Pepper Creek including Vines Creek, McCrays Branch, and Deep Hole Branch	24.8 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE140-003	Indian River	Pepper Creek, including tributaries	Pepper Creek including Vines Creek, McCrays Branch, and Deep Hole Branch	24.8 miles	DO	NPS	1996	2003	Done	2004	1	2006		DO, Listed 1996, Delisted 2010	
DE140-004	Indian River	Indian River	Saline tidal portion of river from Millsboro Pond to Power Plant intake	4.6 miles	Bacteria	PS, NPS	1996	2006	Done	2006	1	2014		Bacteria, Listed 1996, Delisted 2014, relisted 2016, Delisted 2018	
DE140-004	Indian River	Indian River	Saline tidal portion of river from Millsboro Pond to Power Plant intake	4.6 miles	Nutrients	PS, NPS	1996		Done	1998	4a	2004			
DE140-004	Indian River	Indian River	Saline tidal portion of river from Millsboro Pond to Power Plant intake	4.6 miles	Temperature	PS, NPS	1996	1998	Done	2004	4a	2004		EPA TMDL December 2004	
DE140-004	Indian River	Indian River	Saline tidal portion of river from Millsboro Pond to Power Plant intake	4.6 miles	Susp Solids	PS, NPS	1996		Done	1998	4a	2004		Inland Bays Nutrient TMDLs addressed Suspended Solids	
DE140-004	Indian River	Indian River	Saline tidal portion of river from Millsboro Pond to Power Plant intake	4.6 miles	DO	PS, NPS	2002		Done	1998	1	2004		DO, listed 2002, Delisted 2012	
DE140-004	Indian River	Indian River	Saline tidal portion of river from Millsboro Pond to Power Plant intake	4.6 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-005	Indian River	Swan Creek	Freshwater tidal river from the headwaters of Swan Creek to the confluence with Indian River	8.6 miles	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2008			
DE140-005	Indian River	Swan Creek	Freshwater tidal river from the headwaters of Swan Creek to the confluence with Indian River	8.6 miles	Nutrients	PS, NPS	1996	2003	Done	2004	4a	2006			
DE140-005	Indian River	Swan Creek	Freshwater tidal river from the headwaters of Swan Creek to the confluence with Indian River	8.6 miles	Temperature				NA		1			Temperature, listed in 1996, delisted in 2002 as sole point source discharger was removed	
DE140-006	Indian River	Stockley Branch	From the confluence of Alms House Ditch with Stockley Branch to the confluence with Millsboro Pond	8.23 miles	Bacteria	PS, NPS	1996	2006	Done	2006	1	2008		Bacteria, listed 1996, delisted 2008	
DE140-006	Indian River	Stockley Branch	From the confluence of Alms House Ditch with Stockley Branch to the confluence with Millsboro Pond	8.23 miles	Nutrients	PS, NPS	1996	2003	Done	2004	4a	2006		Nutrients, listed 1996, delisted 2016, Relisted 2018	
DE140-006	Indian River	Stockley Branch	From the confluence of Alms House Ditch with Stockley Branch to the confluence with Millsboro Pond	8.23 miles	DO	PS, NPS	2002		Done	2004	1	2004		DO, listed in 2002, delisted 2004	
DE140-007	Indian River	Eli Walls Tax Ditch	From the headwaters of McGee Ditch, Eli Walls Tax Ditch, and Gills Branch to the confluence with Morris Millpond	13.6 miles	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2008			
DE140-007	Indian River	Eli Walls Tax Ditch	From the headwaters of McGee Ditch, Eli Walls Tax Ditch, and Gills Branch to the confluence with Morris Millpond	13.6 miles	Nutrients	PS, NPS	1996	2003	Done	2004	4a	2006			
DE140-008	Indian River	Deep Branch, including tributary	Deep Branch, including Peterkins Branch, White Oak Swamp Ditch, Sockorockets Ditch, Welsh Branch, and Simpler Branch	16.9 miles	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2008			
DE140-008	Indian River	Deep Branch, including tributary	Deep Branch, including Peterkins Branch, White Oak Swamp Ditch, Sockorockets Ditch, Welsh Branch, and Simpler Branch	16.9 miles	Nutrients	PS, NPS	1996	2003	Done	2004	4a	2006			
DE140-008	Indian River	Deep Branch, including tributary	Deep Branch, including Peterkins Branch, White Oak Swamp Ditch, Sockorockets Ditch, Welsh Branch, and Simpler Branch	16.9 miles	DO	PS, NPS	1996	2003	Done	2004	4a	2006			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE140-009-01	Indian River	Mirey Branch, including tributaries	Mirey Branch, including Sheep Pen Ditch, and Narrow Drain	23.5 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE140-009-01	Indian River	Mirey Branch, including tributaries	Mirey Branch, including Sheep Pen Ditch, and Narrow Drain	23.5 miles	Nutrients	NPS	2004	2003	Done	2004	4a	2006			
DE140-009-02	Indian River	Mirey Branch, including tributaries	Mirey Branch-- from the confluence of the headwaters to the confluence with Sheep Pen Ditch	5.40 miles	Habitat	NPS	1998	2013	Low		5				
DE140-010	Indian River	Betts Pond Branch	From the headwaters of the tributaries of Ingrams Pond and Betts Pond to the confluence with Millsboro Pond, excluding Betts and Millsboro Pond	17.5 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE140-010	Indian River	Betts Pond Branch	From the headwaters of the tributaries of Ingrams Pond and Betts Pond to the confluence with Millsboro Pond, excluding Betts and Millsboro Pond	17.5 miles	DO	NPS	2002	2003	Done	2004	4a	2006			
DE140-010	Indian River	Betts Pond Branch	From the headwaters of the tributaries of Ingrams Pond and Betts Pond to the confluence with Millsboro Pond, excluding Betts and Millsboro Pond	17.5 miles	Nutrients	NPS	2002	2003	Done	2004	4a	2006			
DE140-E01	Indian River	Lower Indian River Bay	From inlet to Pepper Creek	13.0 sq. mi.	Bacteria	PS, NPS	1996	2006	Done	2006	1	2008		Bacteria, listed 1996, Delisted 2010	
DE140-E01	Indian River	Lower Indian River Bay	From inlet to Pepper Creek	13.0 sq. mi.	Nutrients	PS, NPS	1996		Done	1998	4a	2004			
DE140-E01	Indian River	Lower Indian River Bay	From inlet to Pepper Creek	13.0 sq. mi.	DO	PS, NPS	1996		Done	1998	1	2008		DO, listed 1996, delisted 2008	
DE140-E01	Indian River	Lower Indian River Bay	From inlet to Pepper Creek	13.0 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-E01	Indian River	Lower Indian River Bay	From inlet to Pepper Creek	13.0 sq. mi.	Susp Solids	NPS	2018		Done	1998	4a				
DE140-E02	Indian River	Upper Indian River Bay	Upper portion of estuary from power plant cooling water intake to Pepper Creek, including Island Creek	0.95 sq. mi.	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, listed 1996, Delisted 2010	
DE140-E02	Indian River	Upper Indian River Bay	Upper portion of estuary from power plant cooling water intake to Pepper Creek, including Island Creek	0.95 sq. mi.	Nutrients	NPS	1996		Done	1998	4a	2004			
DE140-E02	Indian River	Upper Indian River Bay	Upper portion of estuary from power plant cooling water intake to Pepper Creek, including Island Creek	0.95 sq. mi.	Temperature	NPS	1996	1998	Done	2004	4a	2004		EPA TMDL December 2004	
DE140-E02	Indian River	Upper Indian River Bay	Upper portion of estuary from power plant cooling water intake to Pepper Creek, including Island Creek	0.95 sq. mi.	DO	NPS	2002		Done	1998	1	2014		DO listed 2002, Delisted 2010, Relisted 2012, Delisted 2013	
DE140-E02	Indian River	Upper Indian River Bay	Upper portion of estuary from power plant cooling water intake to Pepper Creek, including Island Creek	0.95 sq. mi.	Susp Solids	NPS	2014		Done	1998	4a				
DE140-E02	Indian River	Upper Indian River Bay	Upper portion of estuary from power plant cooling water intake to Pepper Creek, including Island Creek	0.95 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE140-L01	Indian River	Millsboro Pond	Pond north of Millsboro	126.0 acres	Bacteria	PS, NPS	1996		Done	2006	1	2006		Bacteria, listed 1996, delisted 2006	
DE140-L01	Indian River	Millsboro Pond	Pond north of Millsboro	126.0 acres	Nutrients	PS, NPS	1996	2003	Done	2004	4a	2014	Y	Nutrients, Listed 1996, Delisted 2014, Relisted 2020	Relist
DE140-L01	Indian River	Millsboro Pond	Pond north of Millsboro	126.0 acres	DO		1996		Done	2004	4a	2006	Y	DO, listed in 1996, delisted 2002 , relisted 2004 , delisted 2006, Relisted 2020	Relist
DE140-L02	Indian River	Betts Pond	Pond northwest of Millsboro	80.0 acres	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE140-L02	Indian River	Betts Pond	Pond northwest of Millsboro	80.0 acres	Bacteria	NPS	1996		Done	2006	1	2004		Bacteria, listed in 1996, delisted 2004	
DE140-L03	Indian River	Ingrams Pond	Pond west of Millsboro	48.0 acres	Bacteria	NPS	1996	2003	Done	2006	4a	2008			
DE140-L03	Indian River	Ingrams Pond	Pond west of Millsboro	48.0 acres	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE140-L04	Indian River	Morris Mill Pond	Pond between Millsboro and Georgetown	44.0 acres	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2008			
DE150-001-01	Iron Branch	Iron Branch	From the headwaters of Iron Branch and Whartons Branch to the confluence with Indian River	13.1 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008	Y	Bacteria, Listed 1996,Delisted 2020	Delist
DE150-001-01	Iron Branch	Iron Branch	From the headwaters of Iron Branch and Whartons Branch to the confluence with Indian River	13.1 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE150-001-01	Iron Branch	Iron Branch	From the headwaters of Iron Branch and Whartons Branch to the confluence with Indian River	13.1 miles	DO	NPS	1996	2003	Done	2004	1	2008		DO, listed 1996, delisted 2008	
DE150-001-01	Iron Branch	Iron Branch	From the headwaters of Iron Branch and Whartons Branch to the confluence with Indian River	13.1 miles	Copper	UNK	2016	2029	Low		5				
DE150-001-02	Iron Branch	Iron Branch	Whartons Ditch--from the start of the third order stream to the confluence with Whartons Branch	3.55 miles	Habitat	NPS	1998	2013	Low		5				
DE150-001-02	Iron Branch	Iron Branch	Whartons Ditch--from the start of the third order stream to the confluence with Whartons Branch	3.55 miles	DO	NPS	1998	2013	Done	2004	4a	2006			
DE150-001-02	Iron Branch	Iron Branch	Whartons Ditch--from the start of the third order stream to the confluence with Whartons Branch	3.55 miles	Temperature	NPS	1998	2013			1	2018		Temperature, listed in 1998, Delisted 2018 as there are no point source discharges	
DE160-001	Leipsic River	Lower Leipsic River	From dam at Garrisons Lake to mouth at Delaware River	13.6 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE160-001	Leipsic River	Lower Leipsic River	From dam at Garrisons Lake to mouth at Delaware River	13.6 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE160-001	Leipsic River	Lower Leipsic River	From dam at Garrisons Lake to mouth at Delaware River	13.6 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE160-002-01	Leipsic River	Upper Leipsic River	From headwaters to Garrisons Lake, excluding Masseys Mill Pond	5.8 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, Listed 1996, Delisted 2018	
DE160-002-01	Leipsic River	Upper Leipsic River	From headwaters to Garrisons Lake, excluding Masseys Mill Pond	5.8 miles	DO	NPS	1996	2006	Done	2006	1	2008		DO listed 1996, Delisted 2010	
DE160-002-01	Leipsic River	Upper Leipsic River	From headwaters to Garrisons Lake, excluding Masseys Mill Pond	5.8 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE160-002-02	Leipsic River	Upper Leipsic River	From the start of the third order stream on Pinks Branch to the confluence with Garrison Lake	2.70 miles	Biology	NPS	1998	2011	Low		5				
DE160-002-02	Leipsic River	Upper Leipsic River	From the start of the third order stream on Pinks Branch to the confluence with Garrison Lake	2.70 miles	DO	NPS	1998	2006	Done	2006	4a	2008			
DE160-002-03	Leipsic River	Upper Leipsic River	Tributary of Leipsic River--from the confluence of the headwaters to the confluence with Leipsic River	0.93 miles	Biology	NPS	1998	2011	Low		5				
DE160-003-01	Leipsic River	Tributary from the dam at Garrisons Lake to mouth at Delaware Bay	From the confluence of the headwaters of Alston Branch to the confluence Leipsic River	2.16 miles	Biology	NPS	1998	2011	Low		5				
DE160-003-02	Leipsic River	Tributary from the dam at Garrisons Lake to mouth at Delaware Bay	Tributary of Leipsic River--eastern tributary of the headwaters to its confluence	0.91 miles	Habitat	NPS	1998	2011	Low		5				
DE160-003-03	Leipsic River	Dyke Branch	Dyke Branch from headwaters to confluence with Leipsic River	4.39 miles	DO	NPS	2004	2006	Done	2006	4a	2008			
DE160-003-03	Leipsic River	Dyke Branch	Dyke Branch from headwaters to confluence with Leipsic River	4.39 miles	Nutrients	NPS	2006	2006	Done	2006	4a	2008			
DE160-003-03	Leipsic River	Dyke Branch	Dyke Branch from headwaters to confluence with Leipsic River	4.39 miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE160-004	Leipsic River	Muddy Branch	Muddy Branch from headwaters to the confluence with Leipsic River	5.59 miles	DO	NPS	2004	2006	Done	2006	4a	2008			
DE160-004	Leipsic River	Muddy Branch	Muddy Branch from headwaters to the confluence with Leipsic River	5.59 miles	Nutrients	NPS	2006	2006	Done	2006	4a	2008			
DE160-004	Leipsic River	Muddy Branch	Muddy Branch from headwaters to the confluence with Leipsic River	5.59 miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE160-L01	Leipsic River	Garrisons Lake	Lake south of Smyrna	85.9 acres	Bacteria	NPS	1996		Done	2006	1	2006		Bacteria, Listed 1996, delisted 2006	
DE160-L01	Leipsic River	Garrisons Lake	Lake south of Smyrna	85.9 acres	Nutrients	NPS	1996	2006	Done	2006	1	2014		Nutrients, Listed 1996, Delisted 2014	
DE160-L01	Leipsic River	Garrisons Lake	Lake south of Smyrna	85.9 acres	DO	NPS	2002	2006	Done	2006	1	2008		DO, Listed 2002, Delisted 2010	
DE160-L02	Leipsic River	Masseys Mill Pond	Pond south of Clayton	30.0 acres	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, Listed 1996, Delisted 2012	
DE160-L02	Leipsic River	Masseys Mill Pond	Pond south of Clayton	30.0 acres	DO	NPS	1996	2006	Done	2006	1	2008		DO, Listed 1996, Delisted 2012	
DE160-L02	Leipsic River	Masseys Mill Pond	Pond south of Clayton	30.0 acres	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed in 1996, Delisted 2012	
DE170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal	Tidal waters from the confluence of Delaware Bay to the confluence with Rehoboth Bay	8.9 miles	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2014		Bacteria, Listed 1996, Delisted 2014, relisted 2016	
DE170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal	Tidal waters from the confluence of Delaware Bay to the confluence with Rehoboth Bay	8.9 miles	Nutrients	PS, NPS	1996	2003	Done	2004	4a	2006			
DE170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal	Tidal waters from the confluence of Delaware Bay to the confluence with Rehoboth Bay	8.9 miles	DO		1996 , 2004	2003	Done	2004	4a	2006		DO, listed in 1996, delisted 2002 and relisted 2004.	
DE170-001	Lewes and Rehoboth Canal	Lewes and Rehoboth Canal	Tidal waters from the confluence of Delaware Bay to the confluence with Rehoboth Bay	8.9 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE180-001	Little Assawoman Bay	Little Assawoman Canal	Saline tidal waters from the confluence with White Creek to the confluence with little Assawoman Bay	3.1 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE180-001	Little Assawoman Bay	Little Assawoman Canal	Saline tidal waters from the confluence with White Creek to the confluence with little Assawoman Bay	3.1 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE180-001	Little Assawoman Bay	Little Assawoman Canal	Saline tidal waters from the confluence with White Creek to the confluence with little Assawoman Bay	3.1 miles	DO	NPS	1996	2003	Done	2004	4a	2006			
DE180-002-01	Little Assawoman Bay	Miller Creek	From the headwaters of Miller Creek to the confluence with Little Assawoman bay	6.5 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE180-002-01	Little Assawoman Bay	Miller Creek	From the headwaters of Miller Creek to the confluence with Little Assawoman bay	6.5 miles	DO	NPS	1996	2003	Done	2004	1	2006		DO, listed 1996, Delisted 2016	
DE180-002-01	Little Assawoman Bay	Miller Creek	From the headwaters of Miller Creek to the confluence with Little Assawoman bay	6.5 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE180-002-02	Little Assawoman Bay	Miller Creek	Beaver Dam Ditch--from the confluence of Blackwater Creek to the confluence with the next larger stream order	2.31 miles	Habitat	NPS	1998	2013	Low		5				
DE180-003-01	Little Assawoman Bay	Dirickson Creek	From the headwaters of Dirickson Creek to the confluence with Little Assawoman bay	13.3 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE180-003-01	Little Assawoman Bay	Dirickson Creek	From the headwaters of Dirickson Creek to the confluence with Little Assawoman bay	13.3 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE180-003-01	Little Assawoman Bay	Dirickson Creek	From the headwaters of Dirickson Creek to the confluence with Little Assawoman bay	13.3 miles	DO	NPS	2002	2003	Done	2004	1	2006		DO listed 2002, Delisted 2010	
DE180-003-01	Little Assawoman Bay	Dirickson Creek	From the headwaters of Dirickson Creek to the confluence with Little Assawoman bay	13.3 miles	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE180-003-02	Little Assawoman Bay	Dirickson Creek	Bearhole Ditch--from the confluence. of the headwaters to the confluence with Batson Branch	2.39 miles	Habitat	NPS	1998	2013	Low		5				
DE180-003-03	Little Assawoman Bay	Dirickson Creek	Agricultural Ditch--from the confluence of the headwaters to the confluence with Dirickson Creek	2.97 miles	Habitat	NPS	1998	2013	Low		5				
DE180-E01	Little Assawoman Bay	Little Assawoman Bay	Estuary from the confluence with Assawoman Canal to the confluence with Assawoman Bay	3.0 sq. mi.	Bacteria	NPS	1996	2006	Done	2006	1	2006		Bacteria, Listed 1996, delisted 2006	
DE180-E01	Little Assawoman Bay	Little Assawoman Bay	Estuary from the confluence with Assawoman Canal to the confluence with Assawoman Bay	3.0 sq. mi.	DO	NPS	1996	2003	Done	2004	1	2014		DO, listed 1996, delisted 2008, Relisted 2010, Delisted 2014	
DE180-E01	Little Assawoman Bay	Little Assawoman Bay	Estuary from the confluence with Assawoman Canal to the confluence with Assawoman Bay	3.0 sq. mi.	Nutrients	NPS	1996	2003	Done	2004	4a	2006			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE180-E01	Little Assawoman Bay	Little Assawoman Bay	Estuary from the confluence with Assawoman Canal to the confluence with Assawoman Bay	3.0 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE190-001-01	Little River	Lower Little River	From the confluence of Upper Little River and Pipe Elm Branch with the Lower Little River to the mouth at Delaware Bay	2.9 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE190-001-01	Little River	Lower Little River	From the confluence of Upper Little River and Pipe Elm Branch with the Lower Little River to the mouth at Delaware Bay	2.9 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE190-001-01	Little River	Lower Little River	From the confluence of Upper Little River and Pipe Elm Branch with the Lower Little River to the mouth at Delaware Bay	2.9 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2008			
DE190-001-02-01	Little River	Upper Little River	From the headwaters to the confluence with Lower Little River	5.5 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, Listed 1996, Delisted 2010	
DE190-001-02-01	Little River	Upper Little River	From the headwaters to the confluence with Lower Little River	5.5 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE190-001-02-01	Little River	Upper Little River	From the headwaters to the confluence with Lower Little River	5.5 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE190-001-02-02	Little River	Upper Little River	Morgan Branch--from the confluence of the headwaters to the confluence with the next larger stream order	0.60 miles	Habitat	NPS	1998	2011	Low		5				
DE190-001-02-03	Little River	Upper Little River	Start of the third order stream near the headwaters of Little River to the confluence with Morgan Branch	4.14 miles	Biology	NPS	1998	2011	Low		5				
DE190-001-02-03	Little River	Upper Little River	Start of the third order stream near the headwaters of Little River to the confluence with Morgan Branch	4.14 miles	Habitat	NPS	1998	2011	Low		5				
DE190-001-03	Little River	Pipe Elm Branch	From the headwaters to the confluence with Little River	2.1 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008		Bacteria, Listed 1996, Delisted 2010, Relisted 2012	
DE190-001-03	Little River	Pipe Elm Branch	From the headwaters to the confluence with Little River	2.1 miles	DO	NPS	1996	2006	Done	2006	1	2008		DO, Listed 1996, Delisted 2010	
DE190-001-03	Little River	Pipe Elm Branch	From the headwaters to the confluence with Little River	2.1 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE200-001-01	Marshyhope Creek	Marshyhope Creek	From the headwaters to the State Line	19.7 miles	Bacteria	NPS	1996	2005	Done	2006	1	2008		Bacteria, listed 1996, delisted 2008	
DE200-001-01	Marshyhope Creek	Marshyhope Creek	From the headwaters to the State Line	19.7 miles	DO	NPS	1996	2005	Done	2005	1	2008		DO, listed 1996, delisted 2008	
DE200-001-01	Marshyhope Creek	Marshyhope Creek	From the headwaters to the State Line	19.7 miles	Nutrients	NPS	1996	2005	Done	2005	4a	2014		Nutrients, Listed 1996, Delisted 2014, relisted 2018	
DE200-001-02	Marshyhope Creek	Marshyhope Creek	Tributary to Black Arm Prong--third tributary upstream of Black Arm Prong	0.56 miles	Habitat	NPS	1998	2010	Low		5				
DE200-001-03	Marshyhope Creek	Marshyhope Creek	Marshyhope Creek--from the confluence of Prospect Branch to the confluence with the MD-DE line	8.78 miles	Habitat	NPS	1998	2010	Low		5				
DE200-001-04	Marshyhope Creek	Marshyhope Creek	From the confluence of Black Prong and Marshyhope Ditch to the confluence of Prospect Branch	4.50 miles	Biology	NPS	1998	2010	Low		5				
DE200-001-04	Marshyhope Creek	Marshyhope Creek	From the confluence of Black Prong and Marshyhope Ditch to the confluence of Prospect Branch	4.50 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-01	Marshyhope Creek	Tributaries from the headwaters to the State line	Marshyhope Ditch	6.26 Miles	DO	NPS	2002	2005	Done	2005	4a	2006			
DE200-002-01	Marshyhope Creek	Tributaries from the headwaters to the State line	Marshyhope Ditch	6.26 Miles	Nutrients	NPS	2002	2005	Done	2005	4a	2006			
DE200-002-01	Marshyhope Creek	Tributaries from the headwaters to the State line	Marshyhope Ditch	6.26 Miles	Bacteria	NPS	2002	2005	Done	2006	4a	2008			
DE200-002-02	Marshyhope Creek	Tributaries from the headwaters to the State line	First tributary upstream of Prong No. 2--from the eastern headwater to its confluence	0.55 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-03	Marshyhope Creek	Tributaries from the headwaters to the State line	Point Branch--from the headwaters to the confluence with the first tributary downstream	0.80 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-04	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Tomahawk Branch--third eastern tributary downstream of the headwaters	1.54 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-05	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Tomahawk Branch--first eastern tributary upstream	0.69 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-06	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	0.82 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-06	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	0.82 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-07	Marshyhope Creek	Tributaries from the headwaters to the State line	Salisbury Creek--from the start of the third order stream to the confluence with Cattail Branch (upper half)	0.60 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-07	Marshyhope Creek	Tributaries from the headwaters to the State line	Salisbury Creek--from the start of the third order stream to the confluence with Cattail Branch (upper half)	0.60 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-08	Marshyhope Creek	Tributaries from the headwaters to the State line	Salisbury Creek--from the start of the third order stream to the confluence with Cattail Branch (lower half)	0.60 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-09	Marshyhope Creek	Tributaries from the headwaters to the State line	Prospect Branch--western tributary of the headwaters to its confluence	1.25 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-10	Marshyhope Creek	Tributaries from the headwaters to the State line	Prong No. 2--from the start of the third order stream to the confluence with Bright-Haines Glade Branch	1.50 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-10	Marshyhope Creek	Tributaries from the headwaters to the State line	Prong No. 2--from the start of the third order stream to the confluence with Bright-Haines Glade Branch	1.50 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-11	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence with Marshyhope Creek	3.51 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-11	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence with Marshyhope Creek	3.51 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-12	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	1.21 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-12	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	1.21 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-13	Marshyhope Creek	Tributaries from the headwaters to the State line	Short and Hall Ditch--from the confluence of the headwaters of with Marshyhope Creek	1.45 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-14	Marshyhope Creek	Tributaries from the headwaters to the State line	Brights Branch--from the start of the third order stream to the MD-DE line	1.78 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-15	Marshyhope Creek	Tributaries from the headwaters to the State line	Bright-Haines Glade Branch--from the start of the fourth order stream and Prospect Branch to the confluence with Marshyhope Creek	1.30 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-15	Marshyhope Creek	Tributaries from the headwaters to the State line	Bright-Haines Glade Branch--from the start of the fourth order stream and Prospect Branch to the confluence with Marshyhope Creek	1.30 miles	DO	NPS	1998	2010	Done	2005	4a	2008			
DE200-002-15	Marshyhope Creek	Tributaries from the headwaters to the State line	Bright-Haines Glade Branch--from the start of the fourth order stream and Prospect Branch to the confluence with Marshyhope Creek	1.30 miles	Temperature	NPS	1998	2010			1	2018		Temperature, listed in 1998, Delisted 2018 as there are no point source discharges	
DE200-002-16	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (upper half)	2.17 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-16	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (upper half)	2.17 miles	Habitat	NPS	1998	2010	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE200-002-17	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (lower half)	2.17 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-17	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (lower half)	2.17 miles	DO	NPS	1998	2010	Done	2005	4a	2008			
DE200-002-17	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (lower half)	2.17 miles	Temperature	NPS	1998	2010			1	2018		Temperature, listed in 1998, Delisted 2018 as there are no point source discharges	
DE200-002-18	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Black Arm Prong--second tributary after the headwaters	0.52 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-19	Marshyhope Creek	Tributaries from the headwaters to the State line	Eastern tributary of the headwaters of Cattail Branch to its confluence	0.87 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-20	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence Marshyhope Creek	2.34 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-20	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence Marshyhope Creek	2.34 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-21	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Cattail Branch--fourth western tributary downstream of the headwaters of Cattail Branch	1.08 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-21	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Cattail Branch--fourth western tributary downstream of the headwaters of Cattail Branch	1.08 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-22	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Prong No. 2--from the start of the third order stream to the confluence with Bright-Haines Glade Branch	1.50 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-23	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Cattail Branch--third western tributary upstream of Salisbury Creek	1.06 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-24	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Tomahawk Branch--first western tributary after the headwaters	0.95 miles	Habitat	NPS	1998	2010	Low		5				
DE210-001	Mispillion River	Lower Mispillion	From dam at Silver Lake to mouth at Delaware Bay	13.2 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE210-001	Mispillion River	Lower Mispillion	From dam at Silver Lake to mouth at Delaware Bay	13.2 miles	DO	NPS	1996	2006	Done	2006	1	2008	Y	DO, Listed 1996, Delisted 2020	Delist
DE210-001	Mispillion River	Lower Mispillion	From dam at Silver Lake to mouth at Delaware Bay	13.2 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE210-002-01	Mispillion River	Upper Mispillion	From the headwaters to Silver Lake in Milford, excluding Silver, Haven, and Griffith Lakes; Blairs, Abbotts, and Tub Mill Ponds	11.2 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE210-002-01	Mispillion River	Upper Mispillion	From the headwaters to Silver Lake in Milford, excluding Silver, Haven, and Griffith Lakes; Blairs, Abbotts, and Tub Mill Ponds	11.2 miles	DO	NPS	1996		Done	2006	1	2006		DO, listed 1996, delisted 2006	
DE210-002-01	Mispillion River	Upper Mispillion	From the headwaters to Silver Lake in Milford, excluding Silver, Haven, and Griffith Lakes; Blairs, Abbotts, and Tub Mill Ponds	11.2 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE210-002-02	Mispillion River	Upper Mispillion	Tantrough Branch--from the headwaters to the confluence with Blairs Pond	3.24 miles	Biology	NPS	1998	2011	Low		5				
DE210-002-03	Mispillion River	Upper Mispillion	Beaverdam Branch--western tributary of the headwaters to its confluence	2.69 miles	Biology	NPS	1998	2011	Low		5				
DE210-003	Mispillion River	Johnson Branch including its tributaries	Johnson Branch--from the confluence of the headwaters to the confluence with Haven Lake	4.02 miles	Habitat	NPS	1998	2011	Low		5				
DE210-003	Mispillion River	Johnson Branch including its tributaries	Johnson Branch--from the confluence of the headwaters to the confluence with Haven Lake	4.02 miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE210-003	Mispillion River	Johnson Branch including its tributaries	Johnson Branch--from the confluence of the headwaters to the confluence with Haven Lake	4.02 miles	Nutrients	NPS	2006	2006	Done	2006	4a	2008			
DE210-004	Mispillion River	Tributary from the headwaters to Silver Lake	Lednum Branch---eastern tributary of the headwaters to its confluence	1.31 miles	Habitat	NPS	1998	2011	Low		5				
DE210-004	Mispillion River	Tributary from the headwaters to Silver Lake	Lednum Branch---eastern tributary of the headwaters to its confluence	1.31 miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE210-004	Mispillion River	Tributary from the headwaters to Silver Lake	Lednum Branch---eastern tributary of the headwaters to its confluence	1.31 miles	Nutrients	NPS	2006	2006	Done	2006	4a	2008			
DE210-005	Mispillion River	Mispillion Tributaries From Dam At Silver Lake To The Mouth	King's Causeway Branch	2.45 miles	DO	NPS	2004	2006	Done	2006	4a	2008			
DE210-005	Mispillion River	Mispillion Tributaries From Dam At Silver Lake To The Mouth	King's Causeway Branch	2.45 miles	Bacteria	NPS	2006	2006	Done	2006	4a	2008			
DE210-005	Mispillion River	Mispillion Tributaries From Dam At Silver Lake To The Mouth	King's Causeway Branch	2.45 miles	Nutrients	NPS	2006	2006	Done	2006	4a	2008			
DE210-L01	Mispillion River	Tub Mill Pond	Pond north of Milford	4.8 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE210-L01	Mispillion River	Tub Mill Pond	Pond north of Milford	4.8 acres	DO	NPS	2006	2006	Done	2006	1	2008		DO, listed 2006, delisted 2008	
DE210-L02	Mispillion River	Silver Lake	Silver Lake at Milford	28.5 acres	Bacteria	NPS	1996		NA		1	2006		Bacteria, listed 1996, delisted 2006	
DE210-L02	Mispillion River	Silver Lake	Silver Lake at Milford	28.5 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE210-L03	Mispillion River	Haven Lake	Lake west of Milford; upstream of Silver Lake	82.5 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE210-L03	Mispillion River	Haven Lake	Lake west of Milford; upstream of Silver Lake	82.5 acres	DO	NPS	1996		Done	2006	1	2006		DO, listed 1996, delisted 2006	
DE210-L03	Mispillion River	Haven Lake	Lake west of Milford; upstream of Silver Lake	82.5 acres	Bacteria	NPS	2002		Done	2006	1	2004		Bacteria, listed in 2002, delisted 2004	
DE210-L04	Mispillion River	Griffith Lake	Lake west of Milford; upstream of Haven Lake	32.2 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE210-L05	Mispillion River	Blairs Pond	Pond southwest of Milford	28.5 acres	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE210-L05	Mispillion River	Blairs Pond	Pond southwest of Milford	28.5 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE210-L05	Mispillion River	Blairs Pond	Pond southwest of Milford	28.5 acres	DO		1996		Done	2006	1	2002		DO, listed in 1996, delisted 2002	
DE210-L06	Mispillion River	Abbotts Mill Pond	Pond southwest of Milford	25.6 acres	Bacteria	NPS	1998		Done	2006	1	2006		Bacteria, listed 1998, delisted 2006	
DE210-L06	Mispillion River	Abbotts Mill Pond	Pond southwest of Milford	25.6 acres	Nutrients	NPS	1998	2006	Done	2006	4a	2008			
DE210-L06	Mispillion River	Abbotts Mill Pond	Pond southwest of Milford	25.6 acres	DO	NPS	2002	2006	Done	2006	1	2008		DO, Listed 2002, Delisted 2012	
DE220-001	Murderkill River	Lower Murderkill	From the confluence with Spring Creek to the mouth at Delaware Bay	7.6 miles	Nutrients	PS, NPS	1996	2006	Done	2001	1	2014	Y	Nutrients, Listed 1996, Delisted 2014, Relisted 2018, Delisted 2020	Delist
DE220-001	Murderkill River	Lower Murderkill	From the confluence with Spring Creek to the mouth at Delaware Bay	7.6 miles	DO	PS, NPS	1996	2006	Done	2001	4a	2004			
DE220-001	Murderkill River	Lower Murderkill	From the confluence with Spring Creek to the mouth at Delaware Bay	7.6 miles	Bacteria	PS, NPS	2002	2006	Done	2006	4a	2008			
DE220-001	Murderkill River	Lower Murderkill	From the confluence with Spring Creek to the mouth at Delaware Bay	7.6 miles	Copper	UNK	2014	2027	Low		5				
DE220-002-01	Murderkill River	Spring Creek	From the headwaters to the confluence with Murderkill River , excluding Andrews Lake and McGinnis Pond	15.8 miles	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2008			
DE220-002-01	Murderkill River	Spring Creek	From the headwaters to the confluence with Murderkill River , excluding Andrews Lake and McGinnis Pond	15.8 miles	DO	PS, NPS	1996		Done	2001	1	2014		DO, Listed 1996, Delisted 2014	
DE220-002-01	Murderkill River	Spring Creek	From the headwaters to the confluence with Murderkill River , excluding Andrews Lake and McGinnis Pond	15.8 miles	Nutrients	PS, NPS	1996		Done	2001	1	2014		Nutrients, Listed 1996, Delisted 2014	
DE220-002-02	Murderkill River	Spring Creek	Tributary of Hudson River--from the headwaters to the confluence with the next larger stream order	0.49 miles	Biology	NPS	1998	2011	Low		5				
DE220-002-02	Murderkill River	Spring Creek	Tributary of Hudson River--from the headwaters to the confluence with the next larger stream order	0.49 miles	Habitat	NPS	1998	2011	Low		5				
DE220-002-03	Murderkill River	Spring Creek	Pratt Branch--eastern tributary of the headwaters to its confluence	1.27 miles	Biology	NPS	1998	2011	Low		5				
DE220-003-01	Murderkill River	Mid Murderkill River	From McCauley and Coursey Pond to the confluence with Spring Creek	9.2 miles	Bacteria	PS, NPS	1996	2006	Done	2006	4a	2008			
DE220-003-01	Murderkill River	Mid Murderkill River	From McCauley and Coursey Pond to the confluence with Spring Creek	9.2 miles	Nutrients	PS, NPS	1996		Done	2001	4a	2004			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE220-003-02	Murderkill River	Mid Murderkill River	Ash Gut-- from the headwaters to the confluence with the next larger stream order	1.04 miles	Biology	NPS	1998	2011	Low		5				
DE220-003-02	Murderkill River	Mid Murderkill River	Ash Gut-- from the headwaters to the confluence with the next larger stream order	1.04 miles	Habitat	NPS	1998	2011	Low		5				
DE220-004-01	Murderkill River	Browns Branch	From the headwaters adjacent to Harrington to the confluence with McCauley Pond	8.8 miles	Bacteria	NPS	1998	2006	Done	2006	4a	2008			
DE220-004-01	Murderkill River	Browns Branch	From the headwaters adjacent to Harrington to the confluence with McCauley Pond	8.8 miles	DO	NPS	1998		Done	2001	1	2008		DO, listed 1998, delisted 2008	
DE220-004-01	Murderkill River	Browns Branch	From the headwaters adjacent to Harrington to the confluence with McCauley Pond	8.8 miles	Nutrients	NPS	1998		Done	2001	1	2004		Nutrients, listed 1998, Delisted 2016	
DE220-004-01	Murderkill River	Browns Branch	From the headwaters adjacent to Harrington to the confluence with McCauley Pond	8.8 miles	Ammonia	PS, NPS	2004		Done	2001	1	2004		Ammonia, listed 2004, Delisted 2018	
DE220-004-02	Murderkill River	Browns Branch	Tributary of Browns Branch-- from the confuence of the headwaters wtot he confluence with Browns Branch	1.77 miles	Biology	NPS	1998	2011	Low		5				
DE220-004-02	Murderkill River	Browns Branch	Tributary of Browns Branch-- from the confuence of the headwaters wtot he confluence with Browns Branch	1.77 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-01	Murderkill River	Upper Murderkill River	From the headwaters to the confluence with Coursey pond, excluding Killens and Coursey Ponds	7.4 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE220-005-01	Murderkill River	Upper Murderkill River	From the headwaters to the confluence with Coursey pond, excluding Killens and Coursey Ponds	7.4 miles	DO	NPS	2004		Done	2001	1	2006		DO, listed in 2004, delisted 2006	
DE220-005-01	Murderkill River	Upper Murderkill River	From the headwaters to the confluence with Coursey pond, excluding Killens and Coursey Ponds	7.4 miles	Nutrients	NPS	1996		Done	2001	4a	2004			
DE220-005-02	Murderkill River	Upper Murderkill River	Spring Branch--tributary on Coursey Pond	2.52 miles	Biology	NPS	1998	2011	Low		5				
DE220-005-03	Murderkill River	Upper Murderkill River	Fan Branch--from the headwaters to the confluence with Murderkill River	2.31 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-03	Murderkill River	Upper Murderkill River	Fan Branch--from the headwaters to the confluence with Murderkill River	2.31 miles	DO	NPS	1998	2011	Low		5				
DE220-005-03	Murderkill River	Upper Murderkill River	Fan Branch--from the headwaters to the confluence with Murderkill River	2.31 miles	Temperature	NPS	1998	2011			1	2018		Temperature, listed in 1998, Delisted 2018 as there are no point source discharges	
DE220-005-04	Murderkill River	Upper Murderkill River	Tributary of Black Swamp Creek--from the headwaters to its confluence	0.28 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-05	Murderkill River	Upper Murderkill River	Beaver Dam Branch--from the confluence of the headwaters to the confluence with Murderkill River and Black Swamp Creek	2.96 miles	Biology	NPS	1998	2011	Low		5				
DE220-005-06	Murderkill River	Upper Murderkill River	Black Swamp Creek--from the headwaters of Black Swamp to the confluence with the next larger stream order	0.75 miles	Biology	NPS	1998	2011	Low		5				
DE220-005-06	Murderkill River	Upper Murderkill River	Black Swamp Creek--from the headwaters of Black Swamp to the confluence with the next larger stream order	0.75 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-06	Murderkill River	Upper Murderkill River	Black Swamp Creek--from the headwaters of Black Swamp to the confluence with the next larger stream order	0.75 miles	DO	NPS	1998	2011	Low		5				
DE220-L01	Murderkill River	McGinnis Pond	Pond east of Viola	31.3 acres	Bacteria	NPS	1998		Done	2006	1	2006		Bacteria, listed in 1998, delisted 2006	
DE220-L01	Murderkill River	McGinnis Pond	Pond east of Viola	31.3 acres	Nutrients	NPS	1998		Done	2001	4a	2004			
DE220-L01	Murderkill River	McGinnis Pond	Pond east of Viola	31.3 acres	DO	NPS	2002		Done	2001	1	2008		DO, listed 2002, delisted 2008	
DE220-L02	Murderkill River	Andrews Lake	Pond West of Frederica	17.5acres	Bacteria	NPS	2002	2006	NA		1	2006		Bacteria, listed in 2002, delisted 2006	
DE220-L02	Murderkill River	Andrews Lake	Pond West of Frederica	17.5acres	Nutrients	NPS	2002		Done	2001	4a	2004			
DE220-L03	Murderkill River	Coursey Pond	Pond southwest of Frederica	58.1 acres	Nutrients	NPS	1996		Done	2001	4a	2004			
DE220-L03	Murderkill River	Coursey Pond	Pond southwest of Frederica	58.1 acres	Bacteria	NPS	2002		NA		1	2004		Bacteria, listed in 2002, delisted 2004	
DE220-L04	Murderkill River	Killens Pond	Pond southwest of Felton	75.1 acres	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE220-L04	Murderkill River	Killens Pond	Pond southwest of Felton	75.1 acres	Nutrients	NPS	1996		Done	2001	4a	2004			
DE220-L05	Murderkill River	McCauley Pond	Pond northeast of Harrington	49.0 acres	Bacteria	NPS	1996		NA		1	2004		Bacteria, listed in 1996, delisted 2004	
DE220-L05	Murderkill River	McCauley Pond	Pond northeast of Harrington	49.0 acres	Nutrients	NPS	1996		Done	2001	4a	2004			
DE230-001-01	Naamans Creek	Lower Naamans Creek	From the mouth at the Delaware River, upstream to the first railroad bridge crossing	0.30 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE230-001-01	Naamans Creek	Lower Naamans Creek	From the mouth at the Delaware River, upstream to the first railroad bridge crossing	0.30 miles	Nutrients	NPS	2002	2004	Done	2005	1	2006		Nutrients, Listed 2002, Delisted 2012	
DE230-001-02-01	Naamans Creek	North Branch and South Branch	Upper Naamans Creek, including all tributaries on the North Branch and South Branch	7.8 miles	Nutrients	NPS	1996	2004	Done	2005	1	2006		Nutrients, Listed 1996, Delisted 2012	
DE230-001-02-01	Naamans Creek	North Branch and South Branch	Upper Naamans Creek, including all tributaries on the North Branch and South Branch	7.8 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE230-001-02-02	Naamans Creek	North Branch and South Branch	First tributary after the headwaters of South Naamans Creek to the mainstem	1.15 miles	Biology	NPS	1998	2009	Low		5				
DE230-001-02-02	Naamans Creek	North Branch and South Branch	First tributary after the headwaters of South Naamans Creek to the mainstem	1.15 miles	Habitat	NPS	1998	2009	Low		5				
DE230-001-02-03	Naamans Creek	North Branch and South Branch	From the confluence of Naamans Creek and West Branch Naamans Creek to the confluence of Naamans Creek and North Branch Naamans Creek	0.56 miles	Biology	NPS	1998	2009	Low		5				
DE230-001-02-03	Naamans Creek	North Branch and South Branch	From the confluence of Naamans Creek and West Branch Naamans Creek to the confluence of Naamans Creek and North Branch Naamans Creek	0.56 miles	Habitat	NPS	1998	2009	Low		5				
DE240-001	Nanticoke River	Lower Nanticoke River	From the head of tide in Middleford to the MD-DE State line	15.1 miles	Bacteria	PS, NPS	1996		Done	2006	4a	2004		Bacteria, listed in 1996, delisted 2004, relisted 2014	
DE240-001	Nanticoke River	Lower Nanticoke River	From the head of tide in Middleford to the MD-DE State line	15.1 miles	Nutrients	PS, NPS	1996		Done	1998	4a	2014		Nutrients, Listed 1996, Delisted 2014, relisted 2016	
DE240-001	Nanticoke River	Lower Nanticoke River	From the head of tide in Middleford to the MD-DE State line	15.1 miles	DO	PS, NPS	1996		Done	1998	1	2004		DO, Listed 1996, Delisted 2010	
DE240-002-01	Nanticoke River	Upper Nanticoke River	From the headwaters of the Nanticoke River to the head of tide at Middleford	18.6 miles	Bacteria	PS, NPS	1996		Done	2006	1	2004		Bacteria, listed in 1996, delisted 2004, relisted 2012, delisted 2016	
DE240-002-01	Nanticoke River	Upper Nanticoke River	From the headwaters of the Nanticoke River to the head of tide at Middleford	18.6 miles	Nutrients	PS, NPS	1996		Done	1998	4a	2004			
DE240-002-01	Nanticoke River	Upper Nanticoke River	From the headwaters of the Nanticoke River to the head of tide at Middleford	18.6 miles	DO		1996		Done	1998	1	2002		DO, listed in 1996, delisted 2002, relisted 2016, Delisted 2018	
DE240-002-02	Nanticoke River	Upper Nanticoke River	Tributary of White Marsh Branch--first western tributary downstream of the headwaters of White Marsh Branch	0.49 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-03	Nanticoke River	Upper Nanticoke River	Kent-Sussex Line Branch--from the start of the third order stream to the confluence with Nanticoke River (lower half)	1.33 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-04	Nanticoke River	Upper Nanticoke River	Kent-Sussex Line Branch--from the start of the third order stream to the confluence with Nanticoke River (upper half)	1.33 miles	Biology	NPS	1998	2010	Low		5				
DE240-002-04	Nanticoke River	Upper Nanticoke River	Kent-Sussex Line Branch--from the start of the third order stream to the confluence with Nanticoke River (upper half)	1.33 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-05	Nanticoke River	Upper Nanticoke River	Nanticoke Branch--from the confluence of Polk Branch to the confluence with Gum Branch	2.48 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-06	Nanticoke River	Upper Nanticoke River	Grubby Neck Branch--from the confluence of Polk Branch to the confluence with Gum Branch	1.24 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-07	Nanticoke River	Upper Nanticoke River	Nanticoke Branch--from the confluence of Kent-Sussex Line Branch to the confluence with Cart Branch	5.23 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-08	Nanticoke River	Upper Nanticoke River	Nanticoke River--from the start of the third order stream to the confluence with Kent-Sussex Line Branch.	3.13 miles	Biology	NPS	1998	2010	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE240-002-08	Nanticoke River	Upper Nanticoke River	Nanticoke River--from the start of the third order stream to the confluence with Kent-Sussex Line Branch.	3.13 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-09	Nanticoke River	Upper Nanticoke River	Tributary to Marsh Branch--first eastern tributary after the headwaters to its confluence	0.83 miles	Habitat	NPS	1998	2010	Low		5				
DE240-003	Nanticoke River	Clear Brook Branch	From the headwaters of Clear Brook, Friedel Prong, and Bucks Branch to the confluence with Williams Pond	12.9 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2006		Bacteria, listed in 1996, delisted 2006, relisted 2010	
DE240-003	Nanticoke River	Clear Brook Branch	From the headwaters of Clear Brook, Friedel Prong, and Bucks Branch to the confluence with Williams Pond	12.9 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE240-003	Nanticoke River	Clear Brook Branch	From the headwaters of Clear Brook, Friedel Prong, and Bucks Branch to the confluence with Williams Pond	12.9 miles	DO	NPS	1996		Done	2000	1	2006	Y	DO, listed in 1996, delisted 2006, relisted 2016, Delisted 2020	Delist
DE240-004-01	Nanticoke River	Deep Creek Branch	From the headwaters above Concord Pond to the confluence with the Nanticoke River, excluding Concord Pond	5.5 miles	Bacteria	NPS	1996	2005	Done	2006	1	2008		Bacteria Listed 1996, Delisted 2016	
DE240-004-01	Nanticoke River	Deep Creek Branch	From the headwaters above Concord Pond to the confluence with the Nanticoke River, excluding Concord Pond	5.5 miles	Nutrients	NPS	1996		Done	2000	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE240-004-01	Nanticoke River	Deep Creek Branch	From the headwaters above Concord Pond to the confluence with the Nanticoke River, excluding Concord Pond	5.5 miles	DO	NPS	2012		Done	2000	1			DO, Listed 2012, Delisted 2018	
DE240-004-02	Nanticoke River	Deep Creek Branch	McColleys Branch--from the confluence of New Ditch to the confluence with Deep Creek	3.24 miles	Habitat	NPS	1998	2010	Low		5				
DE240-004-03	Nanticoke River	Deep Creek Branch	Deep Creek--from the start of the third order stream to the confluence with Deep Creek and McColleys Branch	2.51 miles	Habitat	NPS	1998	2010	Low		5				
DE240-004-04	Nanticoke River	Deep Creek Branch	Tyndall Branch--from the start of the third order stream on Stoney Creek to the confluence of Tyndall Branch and Deep Creek	5.00 miles	Habitat	NPS	1998	2010	Low		5				
DE240-005-01	Nanticoke River	Gravelly Branch	From the headwaters of Gravelly Branch above Collins Pond to the confluence with the Nanticoke River, excluding Collins Pond	6.5 miles	Bacteria	NPS	1996	2005	Done	2006	1	2008		Bacteria, listed 1996, delisted 2008	
DE240-005-01	Nanticoke River	Gravelly Branch	From the headwaters of Gravelly Branch above Collins Pond to the confluence with the Nanticoke River, excluding Collins Pond	6.5 miles	Nutrients	NPS	1996		Done	2000	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE240-005-01	Nanticoke River	Gravelly Branch	From the headwaters of Gravelly Branch above Collins Pond to the confluence with the Nanticoke River, excluding Collins Pond	6.5 miles	Zinc	UNK	2014	2027	Low		5				
DE240-005-02	Nanticoke River	Gravelly Branch	Gravelly Branch--from the start of the third order stream to the confluence with the next larger stream order	2.12 miles	Habitat	NPS	1998	2010	Low		5				
DE240-005-03	Nanticoke River	Gravelly Branch	Prong No. 1--from the start of fourth order stream to the confluence with Gravelly Branch on Nanticoke River	0.73 miles	Habitat	NPS	1998	2010	Low		5				
DE240-005-04	Nanticoke River	Gravelly Branch	Maple Branch-- from the start of the third order stream to the confluence with Prong No. 1	1.0 mile	Habitat	NPS	1998	2010	Low		5				
DE240-006-01	Nanticoke River	Bridgeville Branch	From the headwaters of Bridgeville Branch to the confluence with Nanticoke River	7.2 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE240-006-01	Nanticoke River	Bridgeville Branch	From the headwaters of Bridgeville Branch to the confluence with Nanticoke River	7.2 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE240-006-01	Nanticoke River	Bridgeville Branch	From the headwaters of Bridgeville Branch to the confluence with Nanticoke River	7.2 miles	DO	NPS	1996		Done	2000	4a	2004			
DE240-006-02	Nanticoke River	Bridgeville Branch	Bridgeville Branch---from the start of the third order stream to the confluence with Nanticoke River	3.92 miles	Habitat	NPS	1998	2010	Low		5				
DE240-007-01	Nanticoke River	Gum Branch	From the headwaters located northeast of Woodland Ferry to the confluence with Nanticoke River	6.0 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE240-007-01	Nanticoke River	Gum Branch	From the headwaters located northeast of Woodland Ferry to the confluence with Nanticoke River	6.0 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE240-007-02	Nanticoke River	Gum Branch	Gum Branch.--from the start of the third order stream to the confluence with Nanticoke River	2.37 miles	Habitat	NPS	1998	2010	Low		5				
DE240-008	Nanticoke River	Lewes Creek	Lewes Creek, including Butler Mill Branch and Chapel Branch	10.3 miles	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE240-008	Nanticoke River	Lewes Creek	Lewes Creek, including Butler Mill Branch and Chapel Branch	10.3 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE240-008	Nanticoke River	Lewes Creek	Lewes Creek, including Butler Mill Branch and Chapel Branch	10.3 miles	DO	NPS	2002		Done	2000	4a	2004			
DE240-009	Nanticoke River	DuPont Gut	DuPont Gut has been determined by USEPA not to be Waters of the U.S. , therefore the prior listing was withdrawn in 2002. This information is provided for continuity with prior 303(d) lists.	1.0 mile	Temperature	PS	1996		NA			2002		Temperature, listed in 1996, delisted 2002 based on new information and US EPA findings.	
DE240-010-01	Nanticoke River	Gum Branch on Upper Nanticoke River	Gum Branch--from the confluence of Stallion Head Branch to the confluence with West Branch Gum Branch	3.51 miles	Habitat	NPS	1998	2010	Low		5				
DE240-010-02	Nanticoke River	Gum Branch on Upper Nanticoke River	Toms Dam Branch--from the start of the third order stream to the confluence with Gum Branch	5.23 miles	Habitat	NPS	1998	2010	Low		5				
DE240-L01	Nanticoke River	Craigs Pond	Pond southwest of Seaford and below Butler Mill Branch	11.9 acres	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE240-L01	Nanticoke River	Craigs Pond	Pond southwest of Seaford and below Butler Mill Branch	11.9 acres	Nutrients	NPS	1996		Done	2000	4a	2004			
DE240-L01	Nanticoke River	Craigs Pond	Pond southwest of Seaford and below Butler Mill Branch	11.9 acres	DO	NPS	2002		Done	2000	4a	2004			
DE240-L02	Nanticoke River	Concord Pond	Pond east of Seaford on Deep Creek Branch	87.4 acres	Nutrients	NPS	1996		Done	2000	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE240-L04	Nanticoke River	Williams Pond	Pond located in Seaford and below Middleford	100.0 acres	Nutrients	NPS	1996		Done	2000	4a	2004		Nutrients, Listed 1996 delisted 2016, Relisted 2018	
DE240-L04	Nanticoke River	Williams Pond	Pond located in Seaford and below Middleford	100.0 acres	Bacteria	NPS	2002	2005	Done	2006	1	2006		Bacteria, Listed in 2002, delisted 2006	
DE240-L05	Nanticoke River	Hearns Pond	Pond located north of Seaford on Clear Brook Branch	67.0 acres	Bacteria	NPS	1996	2005	Done	2006	4a	2008			
DE240-L05	Nanticoke River	Hearns Pond	Pond located north of Seaford on Clear Brook Branch	67.0 acres	Nutrients	NPS	1996		Done	2000	4a	2004			
DE250-001-01	Pocomoke River	Pocomoke River	Pocomoke River, from headwaters to the MD-DE State line	11.8 miles	Bacteria	NPS	1996	2005	Done	2006	1	2008	Y	Bacteria, Listed 1996, Delisted 2020	Delist
DE250-001-01	Pocomoke River	Pocomoke River	Pocomoke River, from headwaters to the MD-DE State line	11.8 miles	DO	NPS	1996	2005	Done	2005	1	2008		DO, listed 1996, delisted 2008	
DE250-001-01	Pocomoke River	Pocomoke River	Pocomoke River, from headwaters to the MD-DE State line	11.8 miles	Nutrients	NPS	1996	2005	Done	2005	1	2006		Nutrients, Listed 1996, Delisted 2012	
DE250-001-02	Pocomoke River	Pocomoke River	Pocomoke River--from the confluence of Bald Cypress Branch and Gum Branch to the MD-DE line	0.99 miles	Habitat	NPS	1998	2010	Low		5				
DE250-001-03	Pocomoke River	Pocomoke River	Pocomoke River--from start of the third order stream to the confluence with Bald Cypress Branch and Gum Branch	4.55 miles	Habitat	NPS	1998	2010	Low		5				
DE250-002	Pocomoke River	Tributaries from the headwaters to MD-DE State line	Bald Cypress Branch--from the confluence of the headwaters to the confluence with the next larger stream order	3.5 miles	Habitat	NPS	1998	2010	Low		5				
DE250-002	Pocomoke River	Tributaries from the headwaters to MD-DE State line	Bald Cypress Branch--from the confluence of the headwaters to the confluence with the next larger stream order	3.5 miles	Bacteria	NPS	2004	2005	Done	2005	4a	2006			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE250-002	Pocomoke River	Tributaries from the headwaters to MD-DE State line	Bald Cypress Branch--from the confluence of the headwaters to the confluence with the next larger stream order	3.5 miles	Nutrients	NPS	2004	2005	Done	2005	4a	2006			
DE250-002	Pocomoke River	Tributaries from the headwaters to MD-DE State line	Bald Cypress Branch--from the confluence of the headwaters to the confluence with the next larger stream order	3.5 miles	DO	NPS	2006		Done	2005	4a	2006			
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	Bacteria	PS, NPS, SF	1996	2004	Done	2005	4a	2006			
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	Nutrients	PS, NPS, SF	1996		Done	2000	4a	2004			
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	Zinc	PS, NPS, SF	1996		Done	1999	1	2014		Listed in 1996 for zinc impairment, 2004 TMDL. Delisted 2014	
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	PCBs	PS, NPS, SF	1996	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	D and F TEQs*	PS, NPS, SF	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	Chlorinated Pesticides	PS, NPS, SF	2002	2017	NA		1	2016		TMDL Target date changed from 2009 to 2017 in the 2012 Cycle, per the WATAR plan. Delisted 2016 as these are not contaminants of concern in fish tissue advisories.	
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	DDT	Upstream Sources out of State	2014		NA		3			DDT levels at the State Line exceed human health and aquatic life criteria and decline downstream in a response fully explained by simple dilution, indicating sources are in Pennsylvania. The Department has done extensive sampling in the basin in 2015 as part of the WATAR process. The Department has initiated the process of working with Pennsylvania and US EPA to address this issue.	
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	Dieldrin	UNK	2016	2029	Low		5				
DE260-001-02	Red Clay Creek	Mainstem	From the confluence of West Branch Red Clay Creek to the confluence with White Clay Creek (lower half)	6.4 miles	Habitat	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE260-001-03	Red Clay Creek	Mainstem	From the confluence of West Branch Red Clay Creek to the confluence with White Clay Creek (upper half)	6.4 miles	Biology	NPS	1998	2009	Low		5				
DE260-001-03	Red Clay Creek	Mainstem	From the confluence of West Branch Red Clay Creek to the confluence with White Clay Creek (upper half)	6.4 miles	Habitat	NPS	1998	2009	NA		1	2014		Delisted 2014 per Tetra Tech Report for EPA and Delaware DNREC	
DE260-002-01	Red Clay Creek	Burroughs Run	From PA-DE line to the confluence with Red Clay Creek	2.6 miles	Bacteria	NPS	1996	2004	Done	2005	1	2014	Y	Bacteria, listed 1996, Delisted 2014, relisted 2016, Delisted 2020	Delist
DE260-002-01	Red Clay Creek	Burroughs Run	From PA-DE line to the confluence with Red Clay Creek	2.6 miles	Nutrients	NPS	1996		Done	2000	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE260-002-02	Red Clay Creek	Burroughs Run	From the confluence of the headwaters of Burroughs Run to the confluence with Red clay Creek	4.21 miles	Biology	NPS	1998	2009	Low		5				
DE260-003-01	Red Clay Creek	All other tributaries located in the watershed but NOT on the mainstem	Second tributary below Burroughs Run to the confluence with Red Clay Creek	1.4 miles	Habitat	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE260-003-02	Red Clay Creek	All other tributaries located in the watershed but NOT on the mainstem	Western tributary of the headwaters of Hyde Run to the confluence with the next larger stream order	1.2	Habitat	NPS	1998	2009	Low		5				
DE260-003-02	Red Clay Creek	All other tributaries located in the watershed but NOT on the mainstem	Western tributary of the headwaters of Hyde Run to the confluence with the next larger stream order	1.2	Biology	NPS	1998	2009	Low		5				
DE260-L01	Red Clay Creek	Reservoir	Hoopes Reservoir	200.0 acres	Bacteria	PS, NPS	1996		NA		3	2004		This segment was listed in 1996, apparently based on earlier reports but no data were used for the listing. No data has been collected in the interim. The Department will study the segment to determine if a listing is appropriate.	
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	Chlorinated Benzenes		1996		NA		1	2002		Chlorinated Benzene, listed in 1996, delisted 2002 based on improved conditions.	
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	Bacteria	NPS	2002	2006	Done	2006	1	2008	Y	Bacteria, Listed 2002, Delisted 2020	Delist
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	Chronic Toxicity	NPS, PS	2012	2025	Low		5			Listed Based on 2011 journal article. Likely cause is a federal superfund site. The Department is working with EPA on the cleanup and possible TMDL.	
DE270-001-01-02	Red Lion Creek	Lower Red Lion	First tributary downstream of Doll Run from the headwaters to the confluence with Red Lion Creek	0.91 miles	Biology	NPS	1998	2011	Low		5				
DE270-001-02-01	Red Lion Creek	Upper Red Lion	From the headwaters to the location where Route 13 intersects Red Lion Creek	1.9 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE270-001-02-01	Red Lion Creek	Upper Red Lion	From the headwaters to the location where Route 13 intersects Red Lion Creek	1.9 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE270-001-02-01	Red Lion Creek	Upper Red Lion	From the headwaters to the location where Route 13 intersects Red Lion Creek	1.9 miles	PCBs	NPS	2014		Done	2006	4a	2014		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE270-001-02-01	Red Lion Creek	Upper Red Lion	From the headwaters to the location where Route 13 intersects Red Lion Creek	1.9 miles	Dieldrin	NPS	2014	2025	Low		5				
DE270-001-02-02	Red Lion Creek	Upper Red Lion	First tributary after the headwaters of Red Lion Creek	0.28 miles	Biology	NPS	1998	2011	Low		5				
DE280-001-01-01	Rehoboth Bay	Chapel Branch	From the headwaters of Chapel Branch to the confluence of Herring Creek, including Hopkins Prong, Unity Branch, Phillips Branch, and Guinea Creek	27.0 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE280-001-01-01	Rehoboth Bay	Chapel Branch	From the headwaters of Chapel Branch to the confluence of Herring Creek, including Hopkins Prong, Unity Branch, Phillips Branch, and Guinea Creek	27.0 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE280-001-01-01	Rehoboth Bay	Chapel Branch	From the headwaters of Chapel Branch to the confluence of Herring Creek, including Hopkins Prong, Unity Branch, Phillips Branch, and Guinea Creek	27.0 miles	DO	NPS	1996		Done	2004	1	2004		DO, listed in 1996, delisted 2004, Relisted 2012, Delisted 2018	

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE280-001-01-01	Rehoboth Bay	Chapel Branch	From the headwaters of Chapel Branch to the confluence of Herring Creek, including Hopkins Prong, Unity Branch, Phillips Branch. and Guinea Creek	27.0 miles	Copper	UNK	2016	2029	Low		5				
DE280-001-01-02	Rehoboth Bay	Chapel Branch	Chapel Branch--from the start of the second order stream to the confluence with Herring Creek	3.75 miles	Habitat	NPS	1998	2013	Low		5				
DE280-002	Rehoboth Bay	Love Creek, including tributaries	Love Creek, Bundicks Branch and Goslee Creek to the confluence with Rehoboth Bay	4.2 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE280-002	Rehoboth Bay	Love Creek, including tributaries	Love Creek, Bundicks Branch and Goslee Creek to the confluence with Rehoboth Bay	4.2 miles	Nutrients	NPS	1996	2003	Done	2004	4a	2006			
DE280-002	Rehoboth Bay	Love Creek, including tributaries	Love Creek, Bundicks Branch and Goslee Creek to the confluence with Rehoboth Bay	4.2 miles	DO		1996		Done	2004	1	2002		DO, listed in 1996, delisted 2002	
DE280-E01	Rehoboth Bay	Rehoboth Bay	Near coastal waters extending north from the confluence with Indian River Bay at Burton Island	12.0 sq. mi.	DO	PS, NPS	1996		Done	1998	1	2006		DO, listed 1996, delisted 2006, relisted 2016, Delisted 2018	
DE280-E01	Rehoboth Bay	Rehoboth Bay	Near coastal waters extending north from the confluence with Indian River Bay at Burton Island	12.0 sq. mi.	Nutrients	PS, NPS	1996		Done	1998	4a	2004			
DE280-E01	Rehoboth Bay	Rehoboth Bay	Near coastal waters extending north from the confluence with Indian River Bay at Burton Island	12.0 sq. mi.	Copper	UNK	2014	2027	Low		1	2020	Y	Delisted 2020	Delist
DE280-L01	Rehoboth Bay	Burton Pond	Pond northeast of Millsboro	33.0 acres	DO	NPS	2016		Done	2004	4a			DO listed 2016	
DE280-L01	Rehoboth Bay	Burton Pond	Pond northeast of Millsboro	33.0 acres	Nutrients	NPS	1998	2003	Done	2004	1	2006		Nutrients, Listed 1998, Delisted 2018	
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008	Y	Nutrients, Listed 1996, Delisted 2020	Delist
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2008			
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	Dieldrin	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	Mercury	NPS	2002	2017	NA		1	2014		Not a contaminant of concern in fish consumption advisories for these waters	
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	Arsenic	NPS	2002		NA		1	2006		Not a contaminant of concern in fish consumption advisories for these waters	
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	Nutrients	NPS	1996	2006	Done	2006	1	2014		Nutrients, Listed 1996, Delisted 2014, relisted 2016, Delisted 2018	
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	Dieldrin	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	D and F TEQs*	NPS	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	Mercury	NPS	2002	2017	NA		1	2014		Not a contaminant of concern in fish consumption advisories for these waters	
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	Arsenic	NPS	2002		NA		1	2006		Not a contaminant of concern in fish consumption advisories for these waters	
DE290-001-02-02	Saint Jones River	Upper Saint Jones	Tributary of Silver Lake in Dover	0.32 miles	Habitat	NPS	1998	2011	Low		5				
DE290-001-02-03	Saint Jones River	Upper Saint Jones	Puncheon Branch--from the confluence of the headwaters to the confluence with the Saint Jones River	1.84 miles	Biology	NPS	1998	2011	Low		5				
DE290-001-02-03	Saint Jones River	Upper Saint Jones	Puncheon Branch--from the confluence of the headwaters to the confluence with the Saint Jones River	1.84 miles	Habitat	NPS	1998	2011	Low		5				
DE290-002-01	Saint Jones River	Isaac Branch	From the headwaters to the confluence with Saint Jones River, excluding Moores Lake	9.1 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE290-002-01	Saint Jones River	Isaac Branch	From the headwaters to the confluence with Saint Jones River, excluding Moores Lake	9.1 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE290-002-01	Saint Jones River	Isaac Branch	From the headwaters to the confluence with Saint Jones River, excluding Moores Lake	9.1 miles	DO		1996		Done	2006	1	2002		DO, listed in 1996, delisted 2002	
DE290-002-02	Saint Jones River	Isaac Branch	From the confluence of Allabands Mill Stream to the confluence with Saint Jones River	3.62 miles	Biology	NPS	1998	2011	Low		5				
DE290-002-03	Saint Jones River	Isaac Branch	From the confluence of the headwaters of Almhouse Branch to the confluence of Isaac Branch	2.50 miles	Biology	NPS	1998	2011	Low		5				
DE290-002-04	Saint Jones River	Isaac Branch	Second tributary upstream of Wyoming Lake on Isaac Branch	1.28 miles	Habitat	NPS	1998	2011	Low		5				
DE290-002-05	Saint Jones River	Isaac Branch	Wyoming Mill Pond	28.5 Acres	PCB	NPS	2002	2006	Done	2006	1	2014		Not a contaminant of concern in fish consumption advisories for these waters	
DE290-002-05	Saint Jones River	Isaac Branch	Wyoming Mill Pond	28.5 Acres	D and F TEQs*	NPS	2002	2017	NA		1	2014		Not a contaminant of concern in fish consumption advisories for these waters	
DE290-002-05	Saint Jones River	Isaac Branch	Wyoming Mill Pond	28.5 Acres	DDT	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE290-003-01	Saint Jones River	Fork Branch	From the headwaters to Silver Lake in Dover	7.7 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, Listed 1996, Delisted 2010, Relisted 2014, Delisted 2016	
DE290-003-01	Saint Jones River	Fork Branch	From the headwaters to Silver Lake in Dover	7.7 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE290-003-01	Saint Jones River	Fork Branch	From the headwaters to Silver Lake in Dover	7.7 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE290-003-01	Saint Jones River	Fork Branch	From the headwaters to Silver Lake in Dover	7.7 miles	Mercury	NPS	2014	2025	Low		5				
DE290-003-02	Saint Jones River	Fork Branch	Cahoon Branch--from the confluence of the headwaters to the confluence with the next larger stream order	2.33 miles	Habitat	NPS	1998	2011	Low		5				
DE290-003-03	Saint Jones River	Fork Branch	Maidstone Branch- from the confluence of the third order stream to the confluence with Cahoon Branch	3.09 miles	Biology	NPS	1998	2011	Low		5				
DE290-003-04	Saint Jones River	Fork Branch	Tributary to Maidstone Branch---from the confluence of the headwaters to the confluence with Maidstone Branch	0.13 miles	Habitat	NPS	1998	2011	Low		5				
DE290-003-05	Saint Jones River	Fork Branch	Fork Branch--from the start of the third order stream to the confluence with Silver Lake in Dover	6.24 miles	Habitat	NPS	1998	2011	Low		5				
DE290-003-05	Saint Jones River	Fork Branch	Fork Branch--from the start of the third order stream to the confluence with Silver Lake in Dover	6.24 miles	DO	NPS	1998	2011	Done	2006	4a	2008			
DE290-003-06	Saint Jones River	Fork Branch	From the start of the third order stream on Cahoon Branch to the confluence with Maidstone Branch	1.28 miles	Biology	NPS	1998	2011	Low		5				
DE290-004-01	Saint Jones River	Tidbury Branch	From below Derby Pond to the confluence with the Saint Jones River	3.8 miles	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE290-004-01	Saint Jones River	Tidbury Branch	From below Derby Pond to the confluence with the Saint Jones River	3.8 miles	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE290-004-01	Saint Jones River	Tidbury Branch	From below Derby Pond to the confluence with the Saint Jones River	3.8 miles	DO		2002	2006	Done	2006	4a	2008			
DE290-004-02	Saint Jones River	Tidbury Branch	From the confluence of the headwaters of Tidbury Creek to the confluence with Derby Pond	1.08 miles	Biology	NPS	1998	2011	Low		5				
DE290-004-02	Saint Jones River	Tidbury Branch	From the confluence of the headwaters of Tidbury Creek to the confluence with Derby Pond	1.08 miles	Habitat	NPS	1998	2011	Low		5				
DE290-004-03	Saint Jones River	Tidbury Branch	Tributary of Tidbury Creek--from the headwaters to the confluence with Tidbury Creek	0.75 miles	Habitat	NPS	1998	2011	Low		5				
DE290-004-04	Saint Jones River	Tidbury Branch	Red House Branch--from the confluence of the headwaters to the confluence with Derby Pond	0.71 miles	Biology	NPS	1998	2011	Low		5				
DE290-004-05	Saint Jones River	Tidbury Branch	Tidbury Creek--from the confluence with Derby Pond to the confluence with Lower Saint Jones River	4.53 miles	Biology	NPS	1998	2011	Low		5				
DE290-L01	Saint Jones River	Moores Lake	Lake east of Camden	27.1 acres	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, listed 2006, delisted 2008	
DE290-L01	Saint Jones River	Moores Lake	Lake east of Camden	27.1 acres	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE290-L01	Saint Jones River	Moores Lake	Lake east of Camden	27.1 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE290-L01	Saint Jones River	Moores Lake	Lake east of Camden	27.1 acres	DO	NPS	1996	2006	Done	2006	1	2002		DO, listed in 1996, delisted 2002	
DE290-L01	Saint Jones River	Moores Lake	Lake east of Camden	27.1 acres	DDT	NPS	2002	2017	NA		1	2014		Not a contaminant of concern in fish consumption advisories for these waters	
DE290-L02	Saint Jones River	Silver Lake	Silver Lake at Dover	157.8 acres	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, Listed 2006, Delisted 2012	
DE290-L02	Saint Jones River	Silver Lake	Silver Lake at Dover	157.8 acres	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE290-L02	Saint Jones River	Silver Lake	Silver Lake at Dover	157.8 acres	PCBs	NPS	2002	2006	Done	2006	4a	2012		EPA TMDL for PCBS in Delaware River Zone 6 and tributaries	
DE290-L02	Saint Jones River	Silver Lake	Silver Lake at Dover	157.8 acres	D and F TEQs*	NPS	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE290-L02	Saint Jones River	Silver Lake	Silver Lake at Dover	157.8 acres	Mercury	NPS	2002	2022	NA		1	2018		Delisted 2018 per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-L03	Saint Jones River	Derby Pond	Pond south of Wyoming	23.1 acres	Bacteria	NPS	1996		Done	2006	1	2004		Bacteria, listed in 1996, delisted 2004	
DE290-L03	Saint Jones River	Derby Pond	Pond south of Wyoming	23.1 acres	Nutrients	NPS	1996	2006	Done	2006	1	2014		Nutrients, Listed 1996, Delisted 2014	
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	From the head of tide below the east set of railroad tracks to the mouth of the Delaware River	1.0 mile	Nutrients	NPS Del. River, UNK	1996	2004	Done	2005	1	2006		Nutrients, Listed 1996, Delisted 2012	
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	From the head of tide below the east set of railroad tracks to the mouth of the Delaware River	1.0 mile	DO	NPS Del. River, UNK	1996	2004	Done	2005	4a	2006		DO, Listed 1996, Delisted 2016, Relisted 2018	
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	From the head of tide below the east set of railroad tracks to the mouth of the Delaware River	1.0 mile	Bacteria	NPS Del. River, UNK	2002	2004	Done	2005	4a	2006			
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	From the head of tide below the east set of railroad tracks to the mouth of the Delaware River	1.0 mile	PCBs	NPS Del. River, UNK	2002	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	From the head of tide below the east set of railroad tracks to the mouth of the Delaware River	1.0 mile	Chlordane	NPS Del. River, UNK	2002	2022	NA		1	2018		Delisted 2018 per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	From the head of tide below the east set of railroad tracks to the mouth of the Delaware River	1.0 mile	Dieldrin	NPS Del. River, UNK	2016	2029	Low		5				
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Nutrients	NPS	1996	2004	Done	2005	1	2006		Nutrients, Listed 1998, Delisted 2012	
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Dieldrin	NPS	2012	2025	Low		5				
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	PCBs	UNK	2016	2029	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Chlordane	UNK	2016	2029	Low		5				
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Heptachlor Epoxide	UNK	2016	2029	Low		5				
DE300-001-02-02	Shellpot Creek	Upper Shellpot Creek	Western tributary of the headwaters to the confluence of the next larger stream order	1.4 miles	Biology	NPS	1998	2009	Low		5				
DE300-001-02-02	Shellpot Creek	Upper Shellpot Creek	Western tributary of the headwaters to the confluence of the next larger stream order	1.4 miles	Habitat	NPS	1998	2009	Low		5				
DE300-001-02-03	Shellpot Creek	Upper Shellpot Creek	From the headwaters of Matson Run to the confluence with mainstem Shellpot Creek	1.3 miles	Biology	NPS	1998	2009	Low		5				
DE300-001-02-03	Shellpot Creek	Upper Shellpot Creek	From the headwaters of Matson Run to the confluence with mainstem Shellpot Creek	1.3 miles	Habitat	NPS	1998	2009	Low		5				
DE300-001-03-01	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	Western tributary of the headwaters of Stoney Creek to the confluence with mainstem Stoney Creek	0.63 miles	Habitat	NPS	1998	2009	Low		5				
DE300-001-03-02	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	From the confluence of the headwaters of Stoney Creek to the mouth of the Delaware River	1.2 miles	Biology	NPS	1998	2009	Low		5				
DE300-001-03-02	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	From the confluence of the headwaters of Stoney Creek to the mouth of the Delaware River	1.2 miles	Habitat	NPS	1998	2009	Low		5				
DE300-001-03-02	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	From the confluence of the headwaters of Stoney Creek to the mouth of the Delaware River	1.2 miles	Nutrients	NPS	2008	2005	Done	2005	1			Nutrients, Listed 2008, Delisted 2012	
DE300-001-03-02	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	From the confluence of the headwaters of Stoney Creek to the mouth of the Delaware River	1.2 miles	Bacteria	NPS	2010	2001	Done		4a				
DE310-001	Smyrna River	Lower Smyrna River	From the head of tide to the Delaware River	10.2 miles	DO	NPS	1996	2006	Done	2006	4a	2008			
DE310-001	Smyrna River	Lower Smyrna River	From the head of tide to the Delaware River	10.2 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008	Y	Nutrients, Listed 1996, Delisted 2020	Delist
DE310-001	Smyrna River	Lower Smyrna River	From the head of tide to the Delaware River	10.2 miles	Bacteria	NPS	2002	2006	Done	2006	4a	2008			

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE310-002-01	Smyrna River	Mill Creek	From the headwaters to Lake Como	5.2 miles	Bacteria	NPS	1996	2006	Done	2006	1	2008		Bacteria, Listed 1996, Delisted 2010	
DE310-002-01	Smyrna River	Mill Creek	From the headwaters to Lake Como	5.2 miles	Nutrients	NPS	1996	2006	Done	2006	1	2008		Nutrients, Listed 1996, Delisted 2012	
DE310-002-01	Smyrna River	Mill Creek	From the headwaters to Lake Como	5.2 miles	DO	NPS	2002	2006	Done	2006	1	2008		DO, listed 2002, delisted 2008	
DE310-002-02	Smyrna River	Mill Creek	Providence Creek--from the confluence of the headwaters of Mill Creek to the confluence with Lake Como	2.18 miles	Biology	NPS	1998	2011	Low		5				
DE310-002-02	Smyrna River	Mill Creek	Providence Creek--from the confluence of the headwaters of Mill Creek to the confluence with Lake Como	2.18 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-01	Smyrna River	Tributary of Smyrna River	Tributaries from the headwaters to the confluence with Delaware Bay	4.2 miles	Bacteria	NPS	1998	2006	Done	2006	4a	2008			
DE310-003-01	Smyrna River	Tributary of Smyrna River	Tributaries from the headwaters to the confluence with Delaware Bay	4.2 miles	DO	NPS	2004	2006	Done	2006	4a	2014		Nutrients, Listed 2004, Delisted 2014, Relisted 2018	
DE310-003-01	Smyrna River	Tributary of Smyrna River	Tributaries from the headwaters to the confluence with Delaware Bay	4.2 miles	Nutrients	NPS	1998	2006	Done	2006	1	2008	Y	Nutrients, Listed 1998, Delisted 2020	Delist
DE310-003-02	Smyrna River	Tributary of Smyrna River	From the confluence of the headwaters of Paw Paw Branch to the confluence with Providence Creek	2.68 miles	Biology	NPS	1998	2011	Low		5				
DE310-003-02	Smyrna River	Tributary of Smyrna River	From the confluence of the headwaters of Paw Paw Branch to the confluence with Providence Creek	2.68 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-03	Smyrna River	Tributary of Smyrna River	First eastern tributary after the headwaters of Paw Paw Branch to the confluence with Smyrna River	0.86 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-04	Smyrna River	Tributary of Smyrna River	Eastern tributary of the headwaters of Sawmill Branch to its confluence	0.67 miles	Biology	NPS	1998	2011	Low		5				
DE310-003-04	Smyrna River	Tributary of Smyrna River	Eastern tributary of the headwaters of Sawmill Branch to its confluence	0.67 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-05	Smyrna River	Tributary of Smyrna River	Sawmill Branch--from the confluence of the headwaters to the next larger stream order	3.81 miles	Biology	NPS	1998	2011	Low		5				
DE310-L01	Smyrna River	Lake Como and Duck Creek Pond	Lake Como in Smyrna	82.0 acres	Bacteria	NPS	1996	2006	Done	2006	4a	2008			
DE310-L01	Smyrna River	Lake Como and Duck Creek Pond	Lake Como in Smyrna	82.0 acres	Nutrients	NPS	1996	2006	Done	2006	4a	2008			
DE310-L01	Smyrna River	Lake Como and Duck Creek Pond	Lake Como in Smyrna	82.0 acres	DO	NPS	2006	2006	Done	2006	4a	2008			
DE320-001-01	White Clay Creek	Mainstem	White Clay Creek from the PA-DE line to the confluence with the Christina River	15.6 miles	Bacteria	PS, NPS	1996	2004	Done	2005	1	2006	Y	Bacteria, Listed 1996, Delisted 2020	Delist
DE320-001-01	White Clay Creek	Mainstem	White Clay Creek from the PA-DE line to the confluence with the Christina River	15.6 miles	Nutrients	PS, NPS	1996		Done	2000	4a	2004			
DE320-001-01	White Clay Creek	Mainstem	White Clay Creek from the PA-DE line to the confluence with the Christina River	15.6 miles	Zn (below Paper Mill Road)	PS, NPS	1996		Done	1999	1	2004		Zinc, listed in 1999 delisted 2004 based on improved water quality	
DE320-001-01	White Clay Creek	Mainstem	White Clay Creek from the PA-DE line to the confluence with the Christina River	15.6 miles	PCBs	PS, NPS	1996, 2006	2003	Done	2003	4a	2012		EPA TMDL for PCBS in Delaware River Zone 5 and tributaries	
DE320-001-01	White Clay Creek	Mainstem	White Clay Creek from the PA-DE line to the confluence with the Christina River	15.6 miles	Dieldrin	UNK	2016	2029	Low		5				
DE320-001-02	White Clay Creek	Mainstem	From the confluence of East Branch White Clay Creek and West Branch White Clay Creek to the confluence with the Christina River	16.2 miles	Biology	NPS	1998	2009	NA		1	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-001-02	White Clay Creek	Mainstem	From the confluence of East Branch White Clay Creek and West Branch White Clay Creek to the confluence with the Christina River	16.2 miles	Habitat	NPS	1998	2009	NA		1	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-001-03	White Clay Creek	Mainstem	Tidal White Clay from the River mouth to Rt4	1.5 Miles	DDT and Metabolites	UNK	2016	2029	Low		5				
DE320-001-03	White Clay Creek	Mainstem	Tidal White Clay from the River mouth to Rt4	1.5 Miles	Chlordane	UNK	2016	2029	Low		5				
DE320-002-01	White Clay Creek	Mill Creek	From the headwaters to the confluence with White Clay Creek	8.3 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE320-002-01	White Clay Creek	Mill Creek	From the headwaters to the confluence with White Clay Creek	8.3 miles	Nutrients	NPS	1996		Done	2000	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE320-002-02	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with the next larger stream order	0.27 miles	Biology	NPS	1998	2009	Low		5				
DE320-002-02	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with the next larger stream order	0.27 miles	Habitat	NPS	1998	2009	Low		5				
DE320-002-03	White Clay Creek	Mill Creek	Second western tributary-- From the headwaters of mainstem Mill Creek	0.04 miles	Habitat	NPS	1998	2009	Low		5				
DE320-002-04	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with White Clay Creek (upper half)	1.64 miles	Habitat	NPS	1998	2009	NA		1	2014		Delisting per Tetra Tech Report for EPA and Delaware DNREC	
DE320-002-04	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with White Clay Creek (upper half)	1.64 miles	Biology	NPS	2014		Low		5				
DE320-002-05	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with White Clay Creek (lower half)	1.64 miles	Biology	NPS	1998	2009	Low		5				
DE320-002-05	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with White Clay Creek (lower half)	1.64 miles	Habitat	NPS	1998	2009	NA		1				
DE320-003-01	White Clay Creek	Pike Creek	From the headwaters to the confluence with White Clay Creek	5.4 miles	Nutrients	NPS	1996		Done	2000	4a	2004			
DE320-003-01	White Clay Creek	Pike Creek	From the headwaters to the confluence with White Clay Creek	5.4 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE320-003-02	White Clay Creek	Pike Creek	Third eastern tributary after the headwaters of Pike Creek (upper half)	0.21 miles	Biology	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-003-03	White Clay Creek	Pike Creek	Third eastern tributary after the headwaters of Pike Creek (lower half)	0.21 miles	Biology	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-003-03	White Clay Creek	Pike Creek	Third eastern tributary after the headwaters of Pike Creek (lower half)	0.21 miles	Habitat	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-003-04	White Clay Creek	Pike Creek	Second eastern tributary after the headwaters of Pike Creek	0.96 miles	Biology	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-003-04	White Clay Creek	Pike Creek	Second eastern tributary after the headwaters of Pike Creek	0.96 miles	Habitat	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-003-05	White Clay Creek	Pike Creek	From the confluence of the headwaters of Pike Creek to the confluence with White Clay Creek	4.7 miles	Biology	NPS	1998	2009	Low		5				
DE320-003-05	White Clay Creek	Pike Creek	From the confluence of the headwaters of Pike Creek to the confluence with White Clay Creek	4.7 miles	Habitat	NPS	1998	2009	Low		5				
DE320-004-01	White Clay Creek	Middle Run	From the headwaters to the confluence with White Clay Creek	4.5 miles	Bacteria	NPS	1996	2004	Done	2005	4a	2006			
DE320-004-01	White Clay Creek	Middle Run	From the headwaters to the confluence with White Clay Creek	4.5 miles	Nutrients	NPS	1996		Done	2000	1	2004		Nutrients, Listed 1996, Delisted 2012	
DE320-004-02	White Clay Creek	Middle Run	Eastern tributary of the headwaters of Middle Run to the confluence of the next larger stream order (upper half)	0.89 miles	Biology	NPS	1998	2009	NA		3	2014			
DE320-004-03	White Clay Creek	Middle Run	Eastern tributary of the headwaters of Middle Run to the confluence of the next larger stream order (lower half)	0.89 miles	Biology	NPS	1998	2009	NA		3	2014			
DE320-004-03	White Clay Creek	Middle Run	Eastern tributary of the headwaters of Middle Run to the confluence of the next larger stream order (lower half)	0.89 miles	Habitat	NPS	1998	2009	NA		3	2014			
DE320-004-04	White Clay Creek	Middle Run	Western tributary of the headwaters of Middle Run to the confluence with the mainstem	1.3 miles	Habitat	NPS	1998	2009	NA		3	2014			
DE320-005-01	White Clay Creek	All tributaries from the headwaters to the confluence with the Christina River	First tributary after State line to the confluence of White Clay Creek, along Thompson Station Road	1.1 miles	Habitat	NPS	1998	2009	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE320-005-02	White Clay Creek	All tributaries from the headwaters to the confluence with the Christina River	Tributary off The Hunt at Louviers	0.38 miles	Biology	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-005-03	White Clay Creek	All tributaries from the headwaters to the confluence with the Christina River	Tributary off White Clay Creek that parallels Paper Mill Road--Jennys Run	0.38 miles	Biology	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE320-005-04	White Clay Creek	All tributaries from the headwaters to the confluence with the Christina River	First tributary after Pike Creek--from the headwaters to the confluence with White Clay Creek	1.1 miles	Habitat	NPS	1998	2009	NA		3	2014		Per Tetra Tech Report for EPA and Delaware DNREC	
DE350-E01	Assawoman Bay	Assawoman Bay	Portion of the estuary up to the MD-DE State line	0.59 sq. mi.	Bacteria	NPS	1998	2006	Done	2006	4a	2008			
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	Bacteria	PS, NPS	1996	2005	NA		1			Bacteria , listed in 1996, delisted 2004 based on 2004 DRBC 305(b) assessment	
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	PCBs	PS, NPS, SF	1996	2005	Done	2003	4a	2006			
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	Arsenic	PS, NPS, SF	2002		NA		1	2006		Not a contaminant of concern in fish consumption advisories for these waters	
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	D and F TEQs*	PS, NPS, SF	2002	2022	Low		5				
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	Mercury	PS, NPS, SF	2002	2016	NA		1	2014		Mercury, Listed 2002, Delisted 2014, not a contaminant of concern in fish consumption advisories for these waters.	
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	Dieldrin	PS, NPS, SF	2002	2022	Low		5			2016 Changed from "Chlorinated Pesticides" to Dieldrin to be more specific.	
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	Chronic Toxicity (DRBC Zones 5a and 5b, 25 sq miles)	PS, NPS, SF	2002		NA		1			Bioassays performed in 2005, 2007, and 2008 indicate no chronic toxicity in Zone 5 mainstem samples. Chronic toxicity, listed in 2002, Delisted in 2012 based on 2011 journal article.	
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	Iron		2004		NA		3			Surface water levels of iron in the segment sometimes exceed the applicable criterion. The Department believes further study of surface water iron levels and a determination of whether a use impairment is resulting from those levels is an appropriate response to the available information.	
DEDRBCZone5c	Delaware River	DRBC Zone 5c	Lower portion of DRBC Zone 5	31 sq. mi.	DO	PS, NPS	2006	2019	Low		5			Delaware will work with the DRBC, EPA, other States and Stakeholders to develop and implement a TMDL in these waters.	
DEDRBCZone6	Delaware Bay	DRBC Zone 6	From Liston Point to the confluence with the Atlantic Ocean	782.0 sq. mi.	Bacteria	PS, NPS	1996		NA		1			Bacteria , listed in 1996, delisted 2004 based on 2004 DRBC 305(b) assessment	
DEDRBCZone6	Delaware Bay	DRBC Zone 6	From Liston Point to the confluence with the Atlantic Ocean	782.0 sq. mi.	PCBs	PS, NPS, SF	1996	2005	Done	2006	4a	2008			
DEDRBCZone6	Delaware Bay	DRBC Zone 6	From Liston Point to the confluence with the Atlantic Ocean	782.0 sq. mi.	Mercury		2002	2016	Low		5(mnr)	2018		TMDL Target date of 2012 changed to 2016 in the 2012 Cycle. Changed to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DEDRBCZone6	Delaware Bay	DRBC Zone 6	From Liston Point to the confluence with the Atlantic Ocean	782.0 sq. mi.	D and F TEQs*		2002		NA		1	2006		Not a contaminant of concern in fish consumption advisories for these waters	
			KEY for Pollutant(s) or Stressor(s):												
			DO = Dissolved Oxygen												
			D and F TEQs* = Dioxins and Furans Toxics Equivalents												
			KEY for Probable Source(s):												
			NPS = Nonpoint Source(s)												
			PS = Point Source(s)												
			SF = Superfund Site(s)												
			UNK = Unknown												
			KEY for CALM Code												
			1= Fully Supporting for this parameter												
			3= Information is insufficent to make a determination												
			4a= TMDL has been completed and approved by EPA												
			4b= Management Actions are expected to solve impairment												
			5= TMDL Needed												
			5(MNR)= Monitored Natural Recovery												

Appendix Five: The DRAFT Final Determination for the State of Delaware 2018 Clean Water Act Section 303(d) List of Waters Needing TMDLs

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	Copper	UNK	2014	2027	Low		5				
DE010-001-03-02	Appoquinimink River	Drawyer Creek	Tributary of Drawyer Creek--from the confluence of the headwaters to the confluence with the mainstem	2.30 miles	Biology	NPS	1998	2011	Low		5				
DE010-001-03-02	Appoquinimink River	Drawyer Creek	Tributary of Drawyer Creek--from the confluence of the headwaters to the confluence with the mainstem	2.30 miles	Habitat	NPS	1998	2011	Low		5				
DE010-001-03-03	Appoquinimink River	Drawyer Creek	Western tributary of the headwaters of Drawyer Creek to its confluence	2.20 miles	Habitat	NPS	1998	2011	Low		5				
DE010-001-03-04	Appoquinimink River	Drawyer Creek	Tidal Portion	5.45 miles	Dieldrin	UNK	2018	2031	Low		5				
DE010-002-01-02	Appoquinimink River	Wiggins Mill Pond to confluence with Silver Lake	From the confluence of the headwaters of Wiggins Mill Pond to the confluence with Noxontown Pond	1.62 miles	Biology	NPS	1998	2011	Low		5				
DE010-002-02-02	Appoquinimink River	Deep Creek to confluence with Silver Lake	First western tributary after the headwaters of Silver Lake	1.98 miles	Biology	NPS	1998	2011	Low		5				
DE010-002-02-03	Appoquinimink River	Deep Creek to confluence with Silver Lake	Deep Creek.-- from the confluence of the headwaters to Appoquinimink River	1.84 miles	Biology	NPS	1998	2011	Low		5				
DE010-L03	Appoquinimink River	Shallcross Lake	Lake above Drawyer Creek	43.1 acres	Copper	UNK	2016	2029	Low		5				
DE020-001-02	Army Creek	Lower Army Creek	First tributary on Army Creek after the headwaters	0.73 miles	Habitat	NPS	1998	2011	Low		5				
DE020-001-03	Army Creek	Lower Army Creek	Segment from Route 13 to the mouth of the Delaware River	2.00 miles	Biology	NPS	1998	2011	Low		5				
DE020-001-03	Army Creek	Lower Army Creek	Segment from Route 13 to the mouth of the Delaware River	2.00 miles	Habitat	NPS	1998	2011	Low		5				
DE030-002-02	Blackbird Creek	Upper Blackbird	First eastern tributary after the headwaters to the confluence with Blackbird Creek	2.19 miles	Biology	NPS	1998	2011	Low		5				
DE030-002-03	Blackbird Creek	Upper Blackbird	Upper Blackbird Creek--from the confluence of the headwaters to the confluence with Barlow Branch	2.11 miles	Biology	NPS	1998	2011	Low		5				
DE030-002-04	Blackbird Creek	Upper Blackbird	From the confluence of the headwaters to the confluence with Barlow Branch	2.27 miles	Biology	NPS	1998	2011	Low		5				
DE030-003	Blackbird Creek	Tributaries on the mainstem	Sandom Branch to the confluence with Blackbird Creek (upper half)	1.16 miles	Biology	NPS	1998	2011	Low		5				
DE030-003	Blackbird Creek	Tributaries on the mainstem	Sandom Branch to the confluence with Blackbird Creek (upper half)	1.16 miles	Habitat	NPS	1998	2011	Low		5				
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	D and F TEQs*	PS, NPS, SF, UNK	2016	2029	Low		5				
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	Dieldrin	PS, NPS, SF, UNK	2016	2029	Low		5				
DE040-001	Brandywine Creek	Lower Brandywine	Mainstem Lower Brandywine	3.8 miles	Habitat	NPS	1998	2009	Low		5				
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	Dieldrin	PS, NPS, SF, UNK	2016	2029	Low		5				
DE040-002-02	Brandywine Creek	Upper Brandywine	From State line to the confluence with the Christina River	8.0 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-01	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of Beaver Creek, from headwaters to the confluence with mainstem Beaver Creek	0.96 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-01	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of Beaver Creek, from headwaters to the confluence with mainstem Beaver Creek	0.96 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-02	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary originating in Pennsylvania on the western side of Brandywine Creek	0.26 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-02	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary originating in Pennsylvania on the western side of Brandywine Creek	0.26 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-03	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary of Brandywine Creek, off Route 100 (near PA-DE border)	0.92 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-04	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary of Brandywine Creek just below Beaver Creek	0.85 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-05	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of the headwaters of Rocky Run(upper half)	1.16 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-06	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of the headwaters of Rocky Run(lower half)	1.16 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-06	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Eastern tributary of the headwaters of Rocky Run(lower half)	1.16 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-07	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	From the confluence of the headwaters of Wilson Run to the next larger stream order (lower half)	0.64 miles	Habitat	NPS	1998	2009	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE040-003-08	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	From the confluence of the headwaters of Wilson Run to the next larger stream order (upper half)	0.64 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-08	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	From the confluence of the headwaters of Wilson Run to the next larger stream order (upper half)	0.64 miles	Habitat	NPS	1998	2009	Low		5				
DE040-003-09	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Wilson Run, from start of the third order stream to the confluence with Brandywine Creek	0.88 miles	Biology	NPS	1998	2009	Low		5				
DE040-003-10	Brandywine Creek	All tributaries on Brandywine Creek from the headwaters at PA-DE line to the confluence with the Christina River	Tributary of Wilson Run on Montchanin Road from the headwaters to the first confluence	0.45 miles	Habitat	NPS	1998	2009	Low		5				
DE050-001-02	Broad Creek	Lower Broad Creek	Cooper Branch--from the start of the third order stream on Rossakatum Branch to the confluence of Broad Creek	2.73 miles	Habitat	NPS	1998	2010	Low		5				
DE050-002-02	Broad Creek	Tussocky Branch	Tussocky Branch--from the confluence of Mill Creek to the confluence with Broad Creek	3.42 miles	Habitat	NPS	1998	2010	Low		5				
DE050-004-02	Broad Creek	Chipman Pond Branch	Jobs Ditch--from the headwaters to the confluence with Dukes and Jobs Branch	0.98 miles	Habitat	NPS	1998	2010	Low		5				
DE050-004-03	Broad Creek	Chipman Pond Branch	Mirey Branch--from the start of the third order stream to the confluence with Elliott Pond Branch	1.28 miles	Habitat	NPS	1998	2010	Low		5				
DE050-004-04	Broad Creek	Chipman Pond Branch	Dukes Ditch--from the headwaters to the confluence with Dukes and Jobs Branch	2.45 miles	Habitat	NPS	1998	2010	Low		5				
DE060-007-02-02	Broadkill River	Martin Branch	Tributary above Red Mill Pond--from start of the second order stream to the confluence with Red Mill Pond	0.06 miles	Habitat	NPS	1998	2011	Low		5				
DE060-008	Broadkill River	Primehook Creek	Entire Creek	12.6 miles	DO	NPS	2012	2025	Low		5				
DE070-001	Buntings Branch	Buntings Branch	From the headwaters to the MD-DE State line	4.6 miles	Copper	UNK	2014	2027	Low		5				
DE090-002-01	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Scott Run-- from the headwaters to the confluence with Chesapeake & Delaware Canal	4.81 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-01	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Scott Run-- from the headwaters to the confluence with Chesapeake & Delaware Canal	4.81 miles	Habitat	NPS	1998	2011	Low		5				
DE090-002-02	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Crystal Run--from the headwaters to the confluence with Chesapeake & Delaware Canal	1.52 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-03	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Joy Run--from the headwaters to the confluence with Chesapeake & Delaware Canal	1.99 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-04	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Eastern tributary on Lums Pond--from the headwaters to the confluence with Lums Pond	1.04 miles	Biology	NPS	1998	2011	Low		5				
DE090-002-04	Chesapeake & Delaware Canal	Tributaries of Chesapeake & Delaware Canal	Eastern tributary on Lums Pond--from the headwaters to the confluence with Lums Pond	1.04 miles	Habitat	NPS	1998	2011	Low		5				
DE100-001-02	Chesapeake Drainage System	Cypress Branch, including tributaries	Cypress Branch--from the confluence of Black Stallion Ditch to the MD-DE line	1.60 miles	Biology	NPS	1998	2010	Low		5				
DE100-001-03	Chesapeake Drainage System	Cypress Branch, including tributaries	Tributary of Cypress Branch--from the confluence of the headwaters to the confluence with the mainstem	0.35 miles	Biology	NPS	1998	2010	Low		5				
DE100-002-02	Chesapeake Drainage System	Sewell Branch, including tributaries	From the confluence of the headwaters to the confluence with Sewell Branch	8.20 miles	Biology	NPS	1998	2010	Low		5				
DE100-002-02	Chesapeake Drainage System	Sewell Branch, including tributaries	From the confluence of the headwaters to the confluence with Sewell Branch	8.20 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-02	Chesapeake Drainage System	Gravelly Run, including tributaries	Gravelly Run--from the confluence of Jamison Branch to the MD-DE line	1.08 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-03	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--from the headwaters to the confluence with the mainstem	0.22 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-04	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--first western tributary upstream of Gravelly Run	1.21 miles	Biology	NPS	1998	2010	Low		5				
DE100-003-04	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--first western tributary upstream of Gravelly Run	1.21 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-05	Chesapeake Drainage System	Gravelly Run, including tributaries	Tributary of Gravelly Run--second eastern tributary from the headwaters of Gravelly Run to the mainstem	1.25 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-06	Chesapeake Drainage System	Gravelly Run, including tributaries	Gravelly Run--from the start of the third order stream to the confluence with Jamison Branch	2.28 miles	Biology	NPS	1998	2010	Low		5				
DE100-003-06	Chesapeake Drainage System	Gravelly Run, including tributaries	Gravelly Run--from the start of the third order stream to the confluence with Jamison Branch	2.28 miles	Habitat	NPS	1998	2010	Low		5				
DE100-003-07	Chesapeake Drainage System	Gravelly Run, including tributaries	From the confluence of Gravelly Run and Jamison Branch to the MD-DE line	1.14 miles	Biology	NPS	1998	2010	Low		5				
DE100-003-07	Chesapeake Drainage System	Gravelly Run, including tributaries	From the confluence of Gravelly Run and Jamison Branch to the MD-DE line	1.14 miles	Habitat	NPS	1998	2010	Low		5				
DE100-004-01	Chesapeake Drainage System	Tributaries of Elk River	First eastern tributary after the headwaters of Great Bohemia Creek	1.55 miles	Habitat	NPS	1998	2010	Low		5				
DE100-004-02	Chesapeake Drainage System	Tributaries of Elk River	Eastern tributary of the headwaters of Back Creek to its confluence	1.26 miles	Biology	NPS	1998	2010	Low		5				
DE100-005-01	Chesapeake Drainage System	Tributaries of Sassafras River	Western tributary of the headwaters of Sassafras River to its confluence	1.92 miles	Biology	NPS	1998	2010	Low		5				
DE100-005-02	Chesapeake Drainage System	Tributaries of Sassafras River	From the confluence of the headwaters of Sassafras River to the next larger stream order	0.95 miles	Biology	NPS	1998	2010	Low		5				
DE100-005-02	Chesapeake Drainage System	Tributaries of Sassafras River	From the confluence of the headwaters of Sassafras River to the next larger stream order	0.95 miles	Habitat	NPS	1998	2010	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE110-001-02	Choptank	Tappahanna Ditch	From start of the fourth order stream to the confluence with Tidy Island Creek	6.58 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-02	Choptank	Tappahanna Ditch	From start of the fourth order stream to the confluence with Tidy Island Creek	6.58 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-03	Choptank	Tappahanna Ditch	Start of third order stream on Tappahanna Ditch to the confluence of the next larger stream order	1.12 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-03	Choptank	Tappahanna Ditch	Start of third order stream on Tappahanna Ditch to the confluence of the next larger stream order	1.12 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-04	Choptank	Tappahanna Ditch	First western tributary after the headwaters of Tappahanna Ditch to its confluence	0.40 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-05	Choptank	Tappahanna Ditch	Tidy Island Creek--from the confluence with Tappahanna Ditch to the MD-DE line	0.21 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-06	Choptank	Tappahanna Ditch	Choptank River--from the start of the third order stream to the confluence with Choptank River	2.31 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-06	Choptank	Tappahanna Ditch	Choptank River--from the start of the third order stream to the confluence with Choptank River	2.31 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-07	Choptank	Tappahanna Ditch	Seventh eastern tributary upstream of Tappahanna Ditch	1.30 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-08	Choptank	Tappahanna Ditch	Tributary of Tappahanna Ditch--western tributary of the headwaters to its confluence	0.38 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-08	Choptank	Tappahanna Ditch	Tributary of Tappahanna Ditch--western tributary of the headwaters to its confluence	0.38 miles	Habitat	NPS	1998	2010	Low		5				
DE110-001-09	Choptank	Tappahanna Ditch	Second western tributary after the headwaters of Tappahanna Ditch to its confluence	0.88 miles	Biology	NPS	1998	2010	Low		5				
DE110-001-09	Choptank	Tappahanna Ditch	Second western tributary after the headwaters of Tappahanna Ditch to its confluence	0.88 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-02	Choptank	Culbreth Marsh Ditch	Luther Marvel Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	1.07 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-02	Choptank	Culbreth Marsh Ditch	Luther Marvel Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	1.07 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-03	Choptank	Culbreth Marsh Ditch	From the confluence of Powell Ditch to the confluence with Ross Prong	1.31 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-04	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (lower half)	1.79 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-05	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (upper half)	1.79 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-05	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from start of the fourth order stream to the confluence with Mud Millpond (upper half)	1.79 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-06	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from the confluence of Ross Prong to the confluence with the next larger stream order	3.62 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-06	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from the confluence of Ross Prong to the confluence with the next larger stream order	3.62 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-07	Choptank	Culbreth Marsh Ditch	Culbreth Marsh Ditch--from the confluence of Mud Millpond to the confluence of Cow Marsh Creek	1.86 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-08	Choptank	Culbreth Marsh Ditch	Third western tributary upstream of Culbreth Marsh Ditch	1.99 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-08	Choptank	Culbreth Marsh Ditch	Third western tributary upstream of Culbreth Marsh Ditch	1.99 miles	Habitat	NPS	1998	2010	Low		5				
DE110-002-09	Choptank	Culbreth Marsh Ditch	Ross Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	2.61 miles	Biology	NPS	1998	2010	Low		5				
DE110-002-09	Choptank	Culbreth Marsh Ditch	Ross Prong--from the confluence of the headwaters to the confluence with Culbreth Marsh Ditch	2.61 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-02	Choptank	Cow Marsh Creek	First upstream tributary on Meredith Branch	0.46 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-03	Choptank	Cow Marsh Creek	From the confluence of the headwaters of Sangston Prong to the confluence Gravelly Branch	1.98 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-03	Choptank	Cow Marsh Creek	From the confluence of the headwaters of Sangston Prong to the confluence Gravelly Branch	1.98 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-04	Choptank	Cow Marsh Creek	Tributary of Gary Mill Pond Branch--from the confluence of the headwaters to the confluence with Gary Mill Pond Branch	1.00 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-04	Choptank	Cow Marsh Creek	Tributary of Gary Mill Pond Branch--from the confluence of the headwaters to the confluence with Gary Mill Pond Branch	1.00 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-05	Choptank	Cow Marsh Creek	First eastern tributary after the headwaters of Wildcat Branch	1.21 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-05	Choptank	Cow Marsh Creek	First eastern tributary after the headwaters of Wildcat Branch	1.21 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-06	Choptank	Cow Marsh Creek	Willow Grove Prong--from the start of the third order stream to the confluence with Cow Marsh Creek	1.24 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-06	Choptank	Cow Marsh Creek	Willow Grove Prong--from the start of the third order stream to the confluence with Cow Marsh Creek	1.24 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-07	Choptank	Cow Marsh Creek	Tributary of Cow Marsh Creek--first eastern tributary upstream of Cow Marsh Creek	1.32 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-08	Choptank	Cow Marsh Creek	Cow Marsh Ditch--from start of third order stream to the confluence with Cow Marsh Creek	1.44 miles	Habitat	NPS	1998	2010	Low		5				

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DE110-003-09	Choptank	Cow Marsh Creek	Cow Marsh Ditch--from the confluence of the headwaters to the confluence with the next larger stream order	1.49 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-10	Choptank	Cow Marsh Creek	Bullock Prong--mainstem to the confluence with Price Prong	3.12 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-11	Choptank	Cow Marsh Creek	Third tributary upstream of Cow Marsh Ditch--from the headwaters to the confluence with Cow Marsh Ditch	1.86 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-12	Choptank	Cow Marsh Creek	Iron Mine Prong--from the confluence of Black Swamp to the next larger stream order	2.02 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-13	Choptank	Cow Marsh Creek	Meredith Branch--from the start of the third stream order to the confluence with the next larger stream order	2.08 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-13	Choptank	Cow Marsh Creek	Meredith Branch--from the start of the third stream order to the confluence with the next larger stream order	2.08 miles	Habitat	NPS	1998	2010	Low		5				
DE110-003-14	Choptank	Cow Marsh Creek	White Marsh Branch--from the start of the third order stream to the confluence with Gravelly Branch and Sangston Prong	2.92 miles	Biology	NPS	1998	2010	Low		5				
DE110-003-15	Choptank	Cow Marsh Creek	Cow Marsh Creek--from the confluence of Iron Mine Prong to the confluence with Choptank River	4.97 miles	Habitat	NPS	1998	2010	Low		5				
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	D and F TEQs*	UNK	2016	2029	Low		5				
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	DDT and Metabolites	UNK	2016	2029	Low		5				
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	Chlordane	UNK	2016	2029	Low		5				
DE120-002	Christina River	Mid Christina River	Between White Clay Creek and Brandywine River	7.5 miles	Dieldrin	NPS	2002	2017	Low		5			Delisted 2016 in error, Restored category 5 Listing 2018	
DE120-003-01	Christina River	Upper Christina River	Mainstem Upper Christina River	6.3 miles	Dieldrin	UNK	2018		Low		5				
DE120-003-02	Christina River	Upper Christina River	Segments from Smalley's Pond overflow to the confluence with White Clay Creek	5.77 miles	Biology	NPS	1998	2009	Low		5				
DE120-003-02	Christina River	Upper Christina River	Segments from Smalley's Pond overflow to the confluence with White Clay Creek	5.77 miles	Habitat	NPS	1998	2009	Low		5				
DE120-003-02-01	Christina River	Lower Christina Creek	Tributary from Smalleys Pond overflow to White Clay Creek	1.0 mile	Biology	NPS	1998	2009	Low		5				
DE120-003-02-01	Christina River	Lower Christina Creek	Tributary from Smalleys Pond overflow to White Clay Creek	1.0 mile	Habitat	NPS	1998	2009	Low		5				
DE120-003-03	Christina River	Upper Christina River	Tributary downstream of Smalleys Pond on the Christina River	0.65 miles	Biology	NPS	1998	2009	Low		5				
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles	Copper	UNK	2016	2029	Low		5				
DE120-004-02	Christina River	Lower Christina Creek	From the confluence of West Branch Christina River to the confluence with the mainstem	6.0 miles	Biology	NPS	1998	2009	Low		5				
DE120-004-02	Christina River	Lower Christina Creek	From the confluence of West Branch Christina River to the confluence with the mainstem	6.0 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-02-02	Christina River	Belltown Run	Eastern tributary of the headwaters of Belltown Run to the confluence with the Christina River	4.2 miles	Biology	NPS	1998	2009	Low		5				
DE120-004-02-02	Christina River	Belltown Run	Eastern tributary of the headwaters of Belltown Run to the confluence with the Christina River	4.2 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-02-03	Christina River	Belltown Run	Western tributary of the headwaters of Belltown Run to its confluence	0.88 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-03-02	Christina River	Muddy Run	From the headwaters of Iron Hill Run to the next larger stream order	2.3 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-03-03	Christina River	Muddy Run	Eastern tributary of the headwaters of Iron Hill Run to the next larger stream order	0.71 miles	Habitat	NPS	1998	2009	Low		5				
DE120-004-03-04	Christina River	Muddy Run	Eastern tributary above Sunset Pond to the confluence of the next larger stream order	2.3 miles	Biology	NPS	1998	2009	Low		5				
DE120-004-03-05	Christina River	Muddy Run	Eastern tributary of the headwaters of Muddy Run to its confluence	0.63 miles	Habitat	NPS	1998	2009	Low		5				
DE120-006-02	Christina River	Upper Christina Creek	From the confluence of the headwaters of Upper Christina River to the confluence of West Branch	2.6 miles	Biology		1998	2009	Low		5				
DE120-006-02	Christina River	Upper Christina Creek	From the confluence of the headwaters of Upper Christina River to the confluence of West Branch	2.6 miles	Habitat		1998	2009	Low		5				
DE120-006-03	Christina River	Upper Christina Creek	First western tributary after the headwaters of the Upper Christina River to mainstem Upper Christina River (upper half)	0.67 miles	Habitat		1998	2009	Low		5				
DE120-006-04	Christina River	Upper Christina Creek	First western tributary after the headwaters of the Upper Christina River to mainstem Upper Christina River (lower half)	0.67 miles	Habitat		1998	2009	Low		5				
DE120-006-04	Christina River	Upper Christina Creek	First western tributary after the headwaters of the Upper Christina River to mainstem Upper Christina River (lower half)	0.67 miles	Biology		1998	2009	Low		5				
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Dieldrin	UNK	2016	2029	Low		5				
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Chlordane	UNK	2016	2029	Low		5				
DE120-007-01-01	Christina River	Little Mill Creek and Willow Run	From the confluence of Willow Run and Chestnut Run to the confluence with the Christina River	5.1 miles	Heptachlor Epoxide	UNK	2016	2029	Low		5				
DE120-007-01-02	Christina River	Little Mill Creek and Willow Run	First western tributary after the headwaters of Little Mill Creek to the confluence with mainstem Little Mill Creek	1.4 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-01-03	Christina River	Little Mill Creek and Willow Run	From the headwaters of Willow Run to the confluence with the Christina River	0.54 miles	Habitat	NPS	1998	2009	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE120-007-01-04	Christina River	Little Mill Creek and Willow Run	From the confluence of the headwaters of Little Mill Creek to the confluence of Chestnut Run	4.4 miles	Biology	NPS	1998	2009	Low		5				
DE120-007-01-04	Christina River	Little Mill Creek and Willow Run	From the confluence of the headwaters of Little Mill Creek to the confluence of Chestnut Run	4.4 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-01-05	Christina River	Little Mill Creek and Willow Run	Little Mill Creek--from the confluence of Chestnut Run to the confluence with the Christina River	3.4 miles	Biology	NPS	1998	2009	Low		5				
DE120-007-01-05	Christina River	Little Mill Creek and Willow Run	Little Mill Creek--from the confluence of Chestnut Run to the confluence with the Christina River	3.4 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-02-02	Christina River	Chestnut Run	Eastern tributary of the headwaters of Chestnut Run to the confluence of the next larger stream order	1.1 miles	Habitat	NPS	1998	2009	Low		5				
DE120-007-02-03	Christina River	Chestnut Run	Left tributary of the headwaters of Chestnut Run to the confluence of the next larger stream order	0.43 miles	Biology	NPS	1998	2009	Low		5				
DE120-007-02-03	Christina River	Chestnut Run	Left tributary of the headwaters of Chestnut Run to the confluence of the next larger stream order	0.43 miles	Habitat	NPS	1998	2009	Low		5				
DE130-002-02	Dragon Run Creek	Upper Dragon Run Creek	From the confluence of the headwaters to the water supply dam	3.42 miles	Biology	NPS	1998	2011	Low		5				
DE140-009-02	Indian River	Mirey Branch, including tributaries	Mirey Branch-- from the confluence of the headwaters to the confluence with Sheep Pen Ditch	5.40 miles	Habitat	NPS	1998	2013	Low		5				
DE150-001-01	Iron Branch	Iron Branch	From the headwaters of Iron Branch and Whartons Branch to the confluence with Indian River	13.1 miles	Copper	UNK	2016	2029	Low		5				
DE150-001-02	Iron Branch	Iron Branch	Whartons Ditch--from the start of the third order stream to the confluence with Whartons Branch	3.55 miles	Habitat	NPS	1998	2013	Low		5				
DE160-002-02	Leipsic River	Upper Leipsic River	From the start of the third order stream on Pinks Branch to the confluence with Garrison Lake	2.70 miles	Biology	NPS	1998	2011	Low		5				
DE160-002-03	Leipsic River	Upper Leipsic River	Tributary of Leipsic River--from the confluence of the headwaters to the confluence with Leipsic River	0.93 miles	Biology	NPS	1998	2011	Low		5				
DE160-003-01	Leipsic River	Tributary from the dam at Garrisons Lake to mouth at Delaware Bay	From the confluence of the headwaters of Alston Branch to the confluence Leipsic River	2.16 miles	Biology	NPS	1998	2011	Low		5				
DE160-003-02	Leipsic River	Tributary from the dam at Garrisons Lake to mouth at Delaware Bay	Tributary of Leipsic River--eastern tributary of the headwaters to its confluence	0.91 miles	Habitat	NPS	1998	2011	Low		5				
DE180-002-02	Little Assawoman Bay	Miller Creek	Beaver Dam Ditch--from the confluence of Blackwater Creek to the confluence with the next larger stream order	2.31 miles	Habitat	NPS	1998	2013	Low		5				
DE180-003-02	Little Assawoman Bay	Dirickson Creek	Bearhole Ditch--from the confluence. of the headwaters to the confluence with Batson Branch	2.39 miles	Habitat	NPS	1998	2013	Low		5				
DE180-003-03	Little Assawoman Bay	Dirickson Creek	Agricultural Ditch--from the confluence of the headwaters to the confluence with Dirickson Creek	2.97 miles	Habitat	NPS	1998	2013	Low		5				
DE190-001-02-02	Little River	Upper Little River	Morgan Branch--from the confluence of the headwaters to the confluence with the next larger stream order	0.60 miles	Habitat	NPS	1998	2011	Low		5				
DE190-001-02-03	Little River	Upper Little River	Start of the third order stream near the headwaters of Little River to the confluence with Morgan Branch	4.14 miles	Biology	NPS	1998	2011	Low		5				
DE190-001-02-03	Little River	Upper Little River	Start of the third order stream near the headwaters of Little River to the confluence with Morgan Branch	4.14 miles	Habitat	NPS	1998	2011	Low		5				
DE200-001-02	Marshyhope Creek	Marshyhope Creek	Tributary to Black Arm Prong--third tributary upstream of Black Arm Prong	0.56 miles	Habitat	NPS	1998	2010	Low		5				
DE200-001-03	Marshyhope Creek	Marshyhope Creek	Marshyhope Creek--from the confluence of Prospect Branch to the confluence with the MD-DE line	8.78 miles	Habitat	NPS	1998	2010	Low		5				
DE200-001-04	Marshyhope Creek	Marshyhope Creek	From the confluence of Black Prong and Marshyhope Ditch to the confluence of Prospect Branch	4.50 miles	Biology	NPS	1998	2010	Low		5				
DE200-001-04	Marshyhope Creek	Marshyhope Creek	From the confluence of Black Prong and Marshyhope Ditch to the confluence of Prospect Branch	4.50 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-02	Marshyhope Creek	Tributaries from the headwaters to the State line	First tributary upstream of Prong No. 2--from the eastern headwater to its confluence	0.55 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-03	Marshyhope Creek	Tributaries from the headwaters to the State line	Point Branch--from the headwaters to the confluence with the first tributary downstream	0.80 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-04	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Tomahawk Branch--third eastern tributary downstream of the headwaters	1.54 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-05	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Tomahawk Branch--first eastern tributary upstream	0.69 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-06	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	0.82 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-06	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	0.82 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-07	Marshyhope Creek	Tributaries from the headwaters to the State line	Salisbury Creek--from the start of the third order stream to the confluence with Cattail Branch (upper half)	0.60 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-07	Marshyhope Creek	Tributaries from the headwaters to the State line	Salisbury Creek--from the start of the third order stream to the confluence with Cattail Branch (upper half)	0.60 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-08	Marshyhope Creek	Tributaries from the headwaters to the State line	Salisbury Creek--from the start of the third order stream to the confluence with Cattail Branch (lower half)	0.60 miles	Habitat	NPS	1998	2010	Low		5				

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DE200-002-09	Marshyhope Creek	Tributaries from the headwaters to the State line	Prospect Branch--western tributary of the headwaters to its confluence	1.25 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-10	Marshyhope Creek	Tributaries from the headwaters to the State line	Prong No. 2--from the start of the third order stream to the confluence with Bright-Haines Glade Branch	1.50 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-10	Marshyhope Creek	Tributaries from the headwaters to the State line	Prong No. 2--from the start of the third order stream to the confluence with Bright-Haines Glade Branch	1.50 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-11	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence with Marshyhope Creek	3.51 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-11	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence with Marshyhope Creek	3.51 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-12	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	1.21 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-12	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Salisbury Creek--from the MD-DE line to the confluence with Salisbury Creek	1.21 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-13	Marshyhope Creek	Tributaries from the headwaters to the State line	Short and Hall Ditch--from the confluence of the headwaters of with Marshyhope Creek	1.45 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-14	Marshyhope Creek	Tributaries from the headwaters to the State line	Brights Branch--from the start of the third order stream to the MD-DE line	1.78 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-15	Marshyhope Creek	Tributaries from the headwaters to the State line	Bright-Haines Glade Branch--from the start of the fourth order stream and Prospect Branch to the confluence with Marshyhope Creek	1.30 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-16	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (upper half)	2.17 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-16	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (upper half)	2.17 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-17	Marshyhope Creek	Tributaries from the headwaters to the State line	Cattail Branch--from the start of the fourth order stream to the confluence with Salisbury Creek (lower half)	2.17 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-18	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Black Arm Prong--second tributary after the headwaters	0.52 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-19	Marshyhope Creek	Tributaries from the headwaters to the State line	Eastern tributary of the headwaters of Cattail Branch to its confluence	0.87 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-20	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence Marshyhope Creek	2.34 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-20	Marshyhope Creek	Tributaries from the headwaters to the State line	From the confluence of the headwaters of Green Branch to the confluence Marshyhope Creek	2.34 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-21	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Cattail Branch--fourth western tributary downstream of the headwaters of Cattail Branch	1.08 miles	Biology	NPS	1998	2010	Low		5				
DE200-002-21	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Cattail Branch--fourth western tributary downstream of the headwaters of Cattail Branch	1.08 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-22	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary of Prong No. 2--from the start of the third order stream to the confluence with Bright-Haines Glade Branch	1.50 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-23	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Cattail Branch--third western tributary upstream of Salisbury Creek	1.06 miles	Habitat	NPS	1998	2010	Low		5				
DE200-002-24	Marshyhope Creek	Tributaries from the headwaters to the State line	Tributary to Tomahawk Branch--first western tributary after the headwaters	0.95 miles	Habitat	NPS	1998	2010	Low		5				
DE210-002-02	Mispillion River	Upper Mispillion	Tantrough Branch--from the headwaters to the confluence with Blairs Pond	3.24 miles	Biology	NPS	1998	2011	Low		5				
DE210-002-03	Mispillion River	Upper Mispillion	Beaverdam Branch--western tributary of the headwaters to its confluence	2.69 miles	Biology	NPS	1998	2011	Low		5				
DE210-003	Mispillion River	Johnson Branch including its tributaries	Johnson Branch--from the confluence of the headwaters to the confluence with Haven Lake	4.02 miles	Habitat	NPS	1998	2011	Low		5				
DE210-004	Mispillion River	Tributary from the headwaters to Silver Lake	Lednum Branch---eastern tributary of the headwaters to its confluence	1.31 miles	Habitat	NPS	1998	2011	Low		5				
DE220-001	Murderkill River	Lower Murderkill	From the confluence with Spring Creek to the mouth at Delaware Bay	7.6 miles	Copper	UNK	2014	2027	Low		5				
DE220-002-02	Murderkill River	Spring Creek	Tributary of Hudson River--from the headwaters to the confluence with the next larger stream order	0.49 miles	Biology	NPS	1998	2011	Low		5				
DE220-002-02	Murderkill River	Spring Creek	Tributary of Hudson River--from the headwaters to the confluence with the next larger stream order	0.49 miles	Habitat	NPS	1998	2011	Low		5				
DE220-002-03	Murderkill River	Spring Creek	Pratt Branch--eastern tributary of the headwaters to its confluence	1.27 miles	Biology	NPS	1998	2011	Low		5				
DE220-003-02	Murderkill River	Mid Murderkill River	Ash Gut-- from the headwaters to the confluence with the next larger stream order	1.04 miles	Biology	NPS	1998	2011	Low		5				
DE220-003-02	Murderkill River	Mid Murderkill River	Ash Gut-- from the headwaters to the confluence with the next larger stream order	1.04 miles	Habitat	NPS	1998	2011	Low		5				
DE220-004-02	Murderkill River	Browns Branch	Tributary of Browns Branch-- from the confuence of the headwaters wtot he confluence with Browns Branch	1.77 miles	Biology	NPS	1998	2011	Low		5				
DE220-004-02	Murderkill River	Browns Branch	Tributary of Browns Branch-- from the confuence of the headwaters wtot he confluence with Browns Branch	1.77 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-02	Murderkill River	Upper Murderkill River	Spring Branch--tributary on Coursey Pond	2.52 miles	Biology	NPS	1998	2011	Low		5				
DE220-005-03	Murderkill River	Upper Murderkill River	Fan Branch--from the headwaters to the confluence with Murderkill River	2.31 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-03	Murderkill River	Upper Murderkill River	Fan Branch--from the headwaters to the confluence with Murderkill River	2.31 miles	DO	NPS	1998	2011	Low		5				

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DE220-005-04	Murderkill River	Upper Murderkill River	Tributary of Black Swamp Creek--from the headwaters to its confluence	0.28 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-05	Murderkill River	Upper Murderkill River	Beaver Dam Branch--from the confluence of the headwaters to the confluence with Murderkill River and Black Swamp Creek	2.96 miles	Biology	NPS	1998	2011	Low		5				
DE220-005-06	Murderkill River	Upper Murderkill River	Black Swamp Creek--from the headwaters of Black Swamp to the confluence with the next larger stream order	0.75 miles	Biology	NPS	1998	2011	Low		5				
DE220-005-06	Murderkill River	Upper Murderkill River	Black Swamp Creek--from the headwaters of Black Swamp to the confluence with the next larger stream order	0.75 miles	Habitat	NPS	1998	2011	Low		5				
DE220-005-06	Murderkill River	Upper Murderkill River	Black Swamp Creek--from the headwaters of Black Swamp to the confluence with the next larger stream order	0.75 miles	DO	NPS	1998	2011	Low		5				
DE230-001-02-02	Naamans Creek	North Branch and South Branch	First tributary after the headwaters of South Naamans Creek to the mainstem	1.15 miles	Biology	NPS	1998	2009	Low		5				
DE230-001-02-02	Naamans Creek	North Branch and South Branch	First tributary after the headwaters of South Naamans Creek to the mainstem	1.15 miles	Habitat	NPS	1998	2009	Low		5				
DE230-001-02-03	Naamans Creek	North Branch and South Branch	From the confluence of Naamans Creek and West Branch Naamans Creek to the confluence of Naamans Creek and North Branch Naamans Creek	0.56 miles	Biology	NPS	1998	2009	Low		5				
DE230-001-02-03	Naamans Creek	North Branch and South Branch	From the confluence of Naamans Creek and West Branch Naamans Creek to the confluence of Naamans Creek and North Branch Naamans Creek	0.56 miles	Habitat	NPS	1998	2009	Low		5				
DE240-002-02	Nanticoke River	Upper Nanticoke River	Tributary of White Marsh Branch--first western tributary downstream of the headwaters of White Marsh Branch	0.49 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-03	Nanticoke River	Upper Nanticoke River	Kent-Sussex Line Branch--from the start of the third order stream to the confluence with Nanticoke River (lower half)	1.33 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-04	Nanticoke River	Upper Nanticoke River	Kent-Sussex Line Branch--from the start of the third order stream to the confluence with Nanticoke River (upper half)	1.33 miles	Biology	NPS	1998	2010	Low		5				
DE240-002-04	Nanticoke River	Upper Nanticoke River	Kent-Sussex Line Branch--from the start of the third order stream to the confluence with Nanticoke River (upper half)	1.33 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-05	Nanticoke River	Upper Nanticoke River	Nanticoke Branch--from the confluence of Polk Branch to the confluence with Gum Branch	2.48 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-06	Nanticoke River	Upper Nanticoke River	Grubby Neck Branch--from the confluence of Polk Branch to the confluence with Gum Branch	1.24 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-07	Nanticoke River	Upper Nanticoke River	Nanticoke Branch--from the confluence of Kent-Sussex Line Branch to the confluence with Cart Branch	5.23 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-08	Nanticoke River	Upper Nanticoke River	Nanticoke River--from the start of the third order stream to the confluence with Kent-Sussex Line Branch.	3.13 miles	Biology	NPS	1998	2010	Low		5				
DE240-002-08	Nanticoke River	Upper Nanticoke River	Nanticoke River--from the start of the third order stream to the confluence with Kent-Sussex Line Branch.	3.13 miles	Habitat	NPS	1998	2010	Low		5				
DE240-002-09	Nanticoke River	Upper Nanticoke River	Tributary to Marsh Branch--first eastern tributary after the headwaters to its confluence	0.83 miles	Habitat	NPS	1998	2010	Low		5				
DE240-004-02	Nanticoke River	Deep Creek Branch	McColleys Branch--from the confluence of New Ditch to the confluence with Deep Creek	3.24 miles	Habitat	NPS	1998	2010	Low		5				
DE240-004-03	Nanticoke River	Deep Creek Branch	Deep Creek--from the start of the third order stream to the confluence with Deep Creek and McColleys Branch	2.51 miles	Habitat	NPS	1998	2010	Low		5				
DE240-004-04	Nanticoke River	Deep Creek Branch	Tyndall Branch--from the start of the third order stream on Stoney Creek to the confluence of Tyndall Branch and Deep Creek	5.00 miles	Habitat	NPS	1998	2010	Low		5				
DE240-005-01	Nanticoke River	Gravelly Branch	From the headwaters of Gravelly Branch above Collins Pond to the confluence with the Nanticoke River, excluding Collins Pond	6.5 miles	Zinc	UNK	2014	2027	Low		5				
DE240-005-02	Nanticoke River	Gravelly Branch	Gravelly Branch--from the start of the third order stream to the confluence with the next larger stream order	2.12 miles	Habitat	NPS	1998	2010	Low		5				
DE240-005-03	Nanticoke River	Gravelly Branch	Prong No. 1--from the start of fourth order stream to the confluence with Gravelly Branch on Nanticoke River	0.73 miles	Habitat	NPS	1998	2010	Low		5				
DE240-005-04	Nanticoke River	Gravelly Branch	Maple Branch-- from the start of the third order stream to the confluence with Prong No. 1	1.0 mile	Habitat	NPS	1998	2010	Low		5				
DE240-006-02	Nanticoke River	Bridgeville Branch	Bridgeville Branch---from the start of the third order stream to the confluence with Nanticoke River	3.92 miles	Habitat	NPS	1998	2010	Low		5				
DE240-007-02	Nanticoke River	Gum Branch	Gum Branch.--from the start of the third order stream to the confluence with Nanticoke River	2.37 miles	Habitat	NPS	1998	2010	Low		5				
DE240-010-01	Nanticoke River	Gum Branch on Upper Nanticoke River	Gum Branch--from the confluence of Stallion Head Branch to the confluence with West Branch Gum Branch	3.51 miles	Habitat	NPS	1998	2010	Low		5				
DE240-010-02	Nanticoke River	Gum Branch on Upper Nanticoke River	Toms Dam Branch--from the start of the third order stream to the confluence with Gum Branch	5.23 miles	Habitat	NPS	1998	2010	Low		5				
DE250-001-02	Pocomoke River	Pocomoke River	Pocomoke River--from the confluence of Bald Cypress Branch and Gum Branch to the MD-DE line	0.99 miles	Habitat	NPS	1998	2010	Low		5				

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE250-001-03	Pocomoke River	Pocomoke River	Pocomoke River--from start of the third order stream to the confluence with Bald Cypress Branch and Gum Branch	4.55 miles	Habitat	NPS	1998	2010	Low		5				
DE250-002	Pocomoke River	Tributaries from the headwaters to MD-DE State line	Bald Cypress Branch--from the confluence of the headwaters to the confluence with the next larger stream order	3.5 miles	Habitat	NPS	1998	2010	Low		5				
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	D and F TEQs*	PS, NPS, SF	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE260-001-01	Red Clay Creek	Mainstem	From PA-DE line to the confluence with White Clay Creek	12.8 miles	Dieldrin	UNK	2016	2029	Low		5				
DE260-001-03	Red Clay Creek	Mainstem	From the confluence of West Branch Red Clay Creek to the confluence with White Clay Creek (upper half)	6.4 miles	Biology	NPS	1998	2009	Low		5				
DE260-002-02	Red Clay Creek	Burroughs Run	From the confluence of the headwaters of Burroughs Run to the confluence with Red clay Creek	4.21 miles	Biology	NPS	1998	2009	Low		5				
DE260-003-02	Red Clay Creek	All other tributaries located in the watershed but NOT on the mainstem	Western tributary of the headwaters of Hyde Run to the confluence with the next larger stream order	1.2	Habitat	NPS	1998	2009	Low		5				
DE260-003-02	Red Clay Creek	All other tributaries located in the watershed but NOT on the mainstem	Western tributary of the headwaters of Hyde Run to the confluence with the next larger stream order	1.2	Biology	NPS	1998	2009	Low		5				
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	Chronic Toxicity	NPS, PS	2012	2025	Low		5			Listed Based on 2011 journal article. Likely cause is a federal superfund site. The Department is working with EPA on the cleanup and possible TMDL.	
DE270-001-01-02	Red Lion Creek	Lower Red Lion	First tributary downstream of Doll Run from the headwaters to the confluence with Red Lion Creek	0.91 miles	Biology	NPS	1998	2011	Low		5				
DE270-001-02-01	Red Lion Creek	Upper Red Lion	From the headwaters to the location where Route 13 intersects Red Lion Creek	1.9 miles	Dieldrin	NPS	2014	2025	Low		5				
DE270-001-02-02	Red Lion Creek	Upper Red Lion	First tributary after the headwaters of Red Lion Creek	0.28 miles	Biology	NPS	1998	2011	Low		5				
DE280-001-01-01	Rehoboth Bay	Chapel Branch	From the headwaters of Chapel Branch to the confluence of Herring Creek, including Hopkins Prong, Unity Branch, Phillips Branch, and Guinea Creek	27.0 miles	Copper	UNK	2016	2029	Low		5				
DE280-001-01-02	Rehoboth Bay	Chapel Branch	Chapel Branch--from the start of the second order stream to the confluence with Herring Creek	3.75 miles	Habitat	NPS	1998	2013	Low		5				
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	D and F TEQs*	NPS	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed
DE290-001-02-02	Saint Jones River	Upper Saint Jones	Tributary of Silver Lake in Dover	0.32 miles	Habitat	NPS	1998	2011	Low		5				
DE290-001-02-03	Saint Jones River	Upper Saint Jones	Puncheon Branch--from the confluence of the headwaters to the confluence with the Saint Jones River	1.84 miles	Biology	NPS	1998	2011	Low		5				
DE290-001-02-03	Saint Jones River	Upper Saint Jones	Puncheon Branch--from the confluence of the headwaters to the confluence with the Saint Jones River	1.84 miles	Habitat	NPS	1998	2011	Low		5				
DE290-002-02	Saint Jones River	Isaac Branch	From the confluence of Allabands Mill Stream to the confluence with Saint Jones River	3.62 miles	Biology	NPS	1998	2011	Low		5				
DE290-002-03	Saint Jones River	Isaac Branch	From the confluence of the headwaters of Almhouse Branch to the confluence of Isaac Branch	2.50 miles	Biology	NPS	1998	2011	Low		5				
DE290-002-04	Saint Jones River	Isaac Branch	Second tributary upstream of Wyoming Lake on Isaac Branch	1.28 miles	Habitat	NPS	1998	2011	Low		5				
DE290-003-01	Saint Jones River	Fork Branch	From the headwaters to Silver Lake in Dover	7.7 miles	Mercury	NPS	2014	2025	Low		5				
DE290-003-02	Saint Jones River	Fork Branch	Cahoon Branch--from the confluence of the headwaters to the confluence with the next larger stream order	2.33 miles	Habitat	NPS	1998	2011	Low		5				
DE290-003-03	Saint Jones River	Fork Branch	Maidstone Branch- from the confluence of the third order stream to the confluence with Cahoon Branch	3.09 miles	Biology	NPS	1998	2011	Low		5				
DE290-003-04	Saint Jones River	Fork Branch	Tributary to Maidstone Branch---from the confluence of the headwaters to the confluence with Maidstone Branch	0.13 miles	Habitat	NPS	1998	2011	Low		5				
DE290-003-05	Saint Jones River	Fork Branch	Fork Branch--from the start of the third order stream to the confluence with Silver Lake in Dover	6.24 miles	Habitat	NPS	1998	2011	Low		5				
DE290-003-06	Saint Jones River	Fork Branch	From the start of the third order stream on Cahoon Branch to the confluence with Maidstone Branch	1.28 miles	Biology	NPS	1998	2011	Low		5				
DE290-004-02	Saint Jones River	Tidbury Branch	From the confluence of the headwaters of Tidbury Creek to the confluence with Derby Pond	1.08 miles	Biology	NPS	1998	2011	Low		5				
DE290-004-02	Saint Jones River	Tidbury Branch	From the confluence of the headwaters of Tidbury Creek to the confluence with Derby Pond	1.08 miles	Habitat	NPS	1998	2011	Low		5				
DE290-004-03	Saint Jones River	Tidbury Branch	Tributary of Tidbury Creek--from the headwaters to the confluence with Tidbury Creek	0.75 miles	Habitat	NPS	1998	2011	Low		5				
DE290-004-04	Saint Jones River	Tidbury Branch	Red House Branch--from the confluence of the headwaters to the confluence with Derby Pond	0.71 miles	Biology	NPS	1998	2011	Low		5				
DE290-004-05	Saint Jones River	Tidbury Branch	Tidbury Creek--from the confluence with Derby Pond to the confluence with Lower Saint Jones River	4.53 miles	Biology	NPS	1998	2011	Low		5				
DE290-L02	Saint Jones River	Silver Lake	Silver Lake at Dover	157.8 acres	D and F TEQs*	NPS	2002	2022	High		5		Y	TMDL Priority changed from Medium to High 2020	Changed

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	From the head of tide below the east set of railroad tracks to the mouth of the Delaware River	1.0 mile	Dieldrin	NPS Del. River, UNK	2016	2029	Low		5				
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Dieldrin	NPS	2012	2025	Low		5				
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Chlordane	UNK	2016	2029	Low		5				
DE300-001-02-01	Shellpot Creek	Upper Shellpot Creek	From the headwaters to the head of tide below the east set of railroad tracks	7.7 miles	Heptachlor Epoxide	UNK	2016	2029	Low		5				
DE300-001-02-02	Shellpot Creek	Upper Shellpot Creek	Western tributary of the headwaters to the confluence of the next larger stream order	1.4 miles	Biology	NPS	1998	2009	Low		5				
DE300-001-02-02	Shellpot Creek	Upper Shellpot Creek	Western tributary of the headwaters to the confluence of the next larger stream order	1.4 miles	Habitat	NPS	1998	2009	Low		5				
DE300-001-02-03	Shellpot Creek	Upper Shellpot Creek	From the headwaters of Matson Run to the confluence with mainstem Shellpot Creek	1.3 miles	Biology	NPS	1998	2009	Low		5				
DE300-001-02-03	Shellpot Creek	Upper Shellpot Creek	From the headwaters of Matson Run to the confluence with mainstem Shellpot Creek	1.3 miles	Habitat	NPS	1998	2009	Low		5				
DE300-001-03-01	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	Western tributary of the headwaters of Stoney Creek to the confluence with mainstem Stoney Creek	0.63 miles	Habitat	NPS	1998	2009	Low		5				
DE300-001-03-02	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	From the confluence of the headwaters of Stoney Creek to the mouth of the Delaware River	1.2 miles	Biology	NPS	1998	2009	Low		5				
DE300-001-03-02	Shellpot Creek	All other tributaries located in the watershed but NOT on the mainstem	From the confluence of the headwaters of Stoney Creek to the mouth of the Delaware River	1.2 miles	Habitat	NPS	1998	2009	Low		5				
DE310-002-02	Smyrna River	Mill Creek	Providence Creek--from the confluence of the headwaters of Mill Creek to the confluence with Lake Como	2.18 miles	Biology	NPS	1998	2011	Low		5				
DE310-002-02	Smyrna River	Mill Creek	Providence Creek--from the confluence of the headwaters of Mill Creek to the confluence with Lake Como	2.18 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-02	Smyrna River	Tributary of Smyrna River	From the confluence of the headwaters of Paw Paw Branch to the confluence with Providence Creek	2.68 miles	Biology	NPS	1998	2011	Low		5				
DE310-003-02	Smyrna River	Tributary of Smyrna River	From the confluence of the headwaters of Paw Paw Branch to the confluence with Providence Creek	2.68 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-03	Smyrna River	Tributary of Smyrna River	First eastern tributary after the headwaters of Paw Paw Branch to the confluence with Smyrna River	0.86 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-04	Smyrna River	Tributary of Smyrna River	Eastern tributary of the headwaters of Sawmill Branch to its confluence	0.67 miles	Biology	NPS	1998	2011	Low		5				
DE310-003-04	Smyrna River	Tributary of Smyrna River	Eastern tributary of the headwaters of Sawmill Branch to its confluence	0.67 miles	Habitat	NPS	1998	2011	Low		5				
DE310-003-05	Smyrna River	Tributary of Smyrna River	Sawmill Branch--from the confluence of the headwaters to the next larger stream order	3.81 miles	Biology	NPS	1998	2011	Low		5				
DE320-001-01	White Clay Creek	Mainstem	White Clay Creek from the PA-DE line to the confluence with the Christina River	15.6 miles	Dieldrin	UNK	2016	2029	Low		5				
DE320-001-03	White Clay Creek	Mainstem	Tidal White Clay from the River mouth to Rt4	1.5 Miles	DDT and Metabolites	UNK	2016	2029	Low		5				
DE320-001-03	White Clay Creek	Mainstem	Tidal White Clay from the River mouth to Rt4	1.5 Miles	Chlordane	UNK	2016	2029	Low		5				
DE320-002-02	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with the next larger stream order	0.27 miles	Biology	NPS	1998	2009	Low		5				
DE320-002-02	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with the next larger stream order	0.27 miles	Habitat	NPS	1998	2009	Low		5				
DE320-002-03	White Clay Creek	Mill Creek	Second western tributary-- From the headwaters of mainstem Mill Creek	0.04 miles	Habitat	NPS	1998	2009	Low		5				
DE320-002-04	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with White Clay Creek (upper half)	1.64 miles	Biology	NPS	2014		Low		5				
DE320-002-05	White Clay Creek	Mill Creek	From the confluence of the headwaters of Mill Creek to the confluence with White Clay Creek (lower half)	1.64 miles	Biology	NPS	1998	2009	Low		5				
DE320-003-05	White Clay Creek	Pike Creek	From the confluence of the headwaters of Pike Creek to the confluence with White Clay Creek	4.7 miles	Biology	NPS	1998	2009	Low		5				
DE320-003-05	White Clay Creek	Pike Creek	From the confluence of the headwaters of Pike Creek to the confluence with White Clay Creek	4.7 miles	Habitat	NPS	1998	2009	Low		5				
DE320-005-01	White Clay Creek	All tributaries from the headwaters to the confluence with the Christina River	First tributary after State line to the confluence of White Clay Creek, along Thompson Station Road	1.1 miles	Habitat	NPS	1998	2009	Low		5				
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	D and F TEQs*	PS, NPS, SF	2002	2022	Low		5				
DEDRBCZone5	Delaware River	DRBC Zone 5	From the Pennsylvania- Delaware line to Liston Point, Delaware.	59.0 sq. mi.	Dieldrin	PS, NPS, SF	2002	2022	Low		5			2016 Changed from "Chlorinated Pesticides" to Dieldrin to be more specific.	
DEDRBCZone5c	Delaware River	DRBC Zone 5c	Lower portion of DRBC Zone 5	31 sq. mi.	DO	PS, NPS	2006	2019	Low		5			Delaware will work with the DRBC, EPA, other States and Stakeholders to develop and implement a TMDL in these waters.	
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	

Assessment Unit	Watershed Name	Segment	Description	Size	Pollutant or Stressor	Probable Sources	Year Listed	TARGET DATE FOR TMDL	TMDL PRIORITY	TMDL DATE	CALM Code	Year Changed from Cat 5	Change this cycle	Notes	Delist, Relist, New, Changed
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Saline Tidal Reach, excluding Hangman's Run	7.1 miles	Dieldrin	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE010-001-03-04	Appoquinimink River	Drawyer Creek	Tidal Portion	5.45 miles	D and F TEQs*	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE010-L02	Appoquinimink River	Silver Lake	Lake adjacent to Middletown, below Deep Creek	38.7 acres	Dieldrin	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE020-001-01	Army Creek	Lower Army Creek	Segment from Route 13 to mouth at Delaware River tidal freshwater segment	3.0 miles	D and F TEQs*	UNK	2006	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE040-002-01	Brandywine Creek	Upper Brandywine	From State Line to Wilmington	9.3 miles	D and F TEQs*	PS, NPS, SF, UNK	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE080-003	Cedar Creek	Slaughter Creek	From the headwaters to The Confluence with Cedar Creek	7.91 Miles	D and F TEQs*	NPS	2010	2023	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE090-001	Chesapeake & Delaware Canal	C&D Canal	C&D Canal from the MD Line to Delaware River	15.0M	Dieldrin	NPS	2006	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE120-001	Christina River	Lower Christina River	Mainstem Lower Christina River	1.5 miles	Dieldrin	PS, NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE120-004-01	Christina River	Lower Christina Creek	Mainstem Lower Christina Creek	8.4 miles	Dieldrin	NPS	2006	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE270-001-01-01	Red Lion Creek	Lower Red Lion	From U.S. Route 13 to the mouth at Delaware River	1.5 miles	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	Dieldrin	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-001-01	Saint Jones River	Lower Saint Jones	From Old Lebanon Bridge to the mouth of Delaware Bay	8.3 miles	D and F TEQs*	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-001-02-01	Saint Jones River	Upper Saint Jones	From the dam at Silver Lake to Old Lebanon Bridge at Road 357	6.7 miles	Dieldrin	UNK	2016	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DE290-002-05	Saint Jones River	Isaac Branch	Wyoming Mill Pond	28.5 Acres	DDT	NPS	2002	2022	Low		5(mnr)	2018		Changed 2018 to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
DEDRBCZone6	Delaware Bay	DRBC Zone 6	From Liston Point to the confluence with the Atlantic Ocean	782.0 sq. mi.	Mercury		2002	2016	Low		5(mnr)	2018		TMDL Target date of 2012 changed to 2016 in the 2012 Cycle. Changed to Monitored Natural Recovery per March 1, 2018 Evaluation of Fish Consumption Advisories	
			KEY for Pollutant(s) or Stressor(s):												
			DO = Dissolved Oxygen												
			D and F TEQs* = Dioxins and Furans Toxics Equivalents												
			KEY for Probable Source(s):												
			NPS = Nonpoint Source(s)												
			PS = Point Source(s)												
			SF = Superfund Site(s)												
			UNK = Unknown												
			KEY for CALM Code												
			1= Fully Supporting for this parameter												
			3= Information is insufficent to make a determination												
			4a= TMDL has been completed and approved by EPA												
			4b= Management Actions are expected to solve impairment												
			5= TMDL Needed												
			5(MNR)= Monitored Natural Recovery												

Appendix Six: Volunteer Water Quality Monitoring Data

UD Citizen Monitoring Program Submitted Data

UD Citizen Monitoring Program
Dissolved Oxygen (D.O.) Statistics
1/1/2014 - 12/31/2018, Sites with 4 or more measurements
Aquatic Life Use is not supported if 2 or more D.O. samples are less than 4.0 mg/L in the 5 year period

Test Site Code	Test Site Description	# of D.O. Samples	Average D.O. (mg/L)	# of D.O. Samples less than 4 (mg/L)
Delaware Bay - Marine				
DB01	End of Cape Shores pier	110	7.3	0
Broadkill River Watershed - Fresh				
BR06	Ingram Ditch at the intersection of Rds 212 and 231.	10	7.5	0
BR10	Ingram Branch at Rt 319	13	6.8	0
BR48	Diamond Pond at Spillway	136	9.6	2
BR54	Red Mill Pond outlet at Rt 1	30	11.4	0
BR55	Beaverdam Creek at Road 88	31	7.6	0
Broadkill River Watershed - Marine				
BR01	Broadkill river @ PEL dock.	143	6.7	7
BR03	Prime Hook Creek at Boat Ramp at Refuge Headquarters	64	6.6	16
BR13	2707 S. Bayshore Drive	61	5.8	11
BR19	Canary Creek at New Road	41	3.2	30
BR20	Broadkill River at Milton tidal pond	147	7.0	1
BR21	Old Mill Creek downstream from Red Mill Pond	131	4.0	76
BR40	Canary Creek at Pilottown Rd	123	5.8	25
Rehoboth Beach Watershed - Fresh				
RL01	Silver Lake, Lake Drive Bridge	13	6.9	0
RL04	Silver Lake, outlet to ocean	12	6.9	0
RL10	Lake Gerar bridge	13	5.6	3
RL11	Lake Gerar, outlet to ocean	12	5.5	3
Rehoboth Bay Watershed - Fresh				
RB10	Guinea Creek above golf course	63	6.5	1
RB81	Bundicks Branch at Beaverdam Rd	5	7.3	0
RB82	Goslee Creek at Jimtown Rd	6	6.5	0
RB83	Love Creek at Robinsonville Rd	5	7.7	0
Rehoboth Bay Watershed - Marine				
RB05	Mouth of Guinea Creek (Pot Nets Creekside)	12	7.9	0
RB06	Guinea Creek (Winding Creek Village)	120	5.9	25
RB06A	Guinea Creek @ Rd 298 Bridge	62	5.9	14
RB07	West Bay Park	12	6.4	0
RB08A	Lewes Canal Front Park - Kayak Launch	17	4.5	7
RB34	Love Creek at Rt 24 Bridge	69	6.7	5
RB34B	Love Creek at Rt 24 bridge by boat	4	6.8	1
RB64	Torquay Canal, west side of Land's End near UD Site #1	109	4.6	51
RB80	Upper Love Creek at Webb Landing	63	5.7	19
RB80B	Upper Love Creek at Webb Landing by boat	4	7.5	0
RB84B	Upper reach of Hetty Fisher Glade	4	4.8	0
RB85B	Mouth of Stillman Glade	4	6.2	1
RB86B	Mouth of Hetty Fisher Glade	4	6.5	1
RB87B	Upper Love Creek, Upstream of Webb Landing	4	6.0	1
RB88B	Upper Love Creek, just below marsh area	4	7.0	0
RB90	Burton Prong	67	5.6	10
RLC1W	Shellfish site, mouth of Love Creek	6	5.2	1
Indian River Bay Watershed - Marine				
IR02a	Rosedale crabbing pier	27	7.5	2
IR03	Oak Orchard	29	4.5	11
IR04	Warwick Cove	20	6.9	1
IR05	Millsboro Dam	4	5.8	0
IR11	Pot Nets Seaside Pier	69	7.3	0
IR12	Broken marshes, 1/4 mile SE of Quillens Point - 300 Bayfront Drive	103	6.0	10
IR20	Bay Colony	11	6.0	3
IR24	Iron Branch - County road 331 at bridge	146	6.7	22
IR26	Possum Point	87	7.1	5
IR27	Whartons Bluff-pier	4	5.9	1
IR29	Holly Terrace Acres Canal, White Creek	45	5.3	17

UD Citizen Monitoring Program
Dissolved Oxygen (D.O.) Statistics
1/1/2014 - 12/31/2018, Sites with 4 or more measurements
Aquatic Life Use is not supported if 2 or more D.O. samples are less than 4.0 mg/L in the 5 year period

Test Site Code	Test Site Description	# of D.O. Samples	Average D.O. (mg/L)	# of D.O. Samples less than 4 (mg/L)
Indian River Bay Watershed - Marine (cont'd)				
IR32	Holly Terrace Acres Canal Dead End, White Creek	93	3.7	63
IR36	James Farm, base of Pasture Point Knee deep 150 yds from shore	63	6.9	7
IR38	Vines Lane	127	5.3	31
IR39	North side of Inlet at Wheelchair fishing platform under new bridge.	51	7.1	0
IR50	Assawoman Canal at N end, Ocean View Marina	146	5.4	45
IR51	Pepper Creek, Creekside	90	6.1	16
IR62	Loop Canal, Pa Ave terminus, Bethany Beach	11	3.7	8
IR73	Western edge of Salt Pond	52	4.4	21
Little Assawoman Bay Watershed - Fresh				
LA29	Upper Dirickson Creek @ Rt20	121	6.0	20
LA38	The Hamlet at Dirickson Pond	132	8.3	0
Little Assawoman Bay Watershed - Marine				
JC08B	SB, Jefferson Creek Basin between Assawoman canal extensions, access by boat only	6	4.9	0
LA02B	North of Fenwick Island	6	4.7	0
LA03	Mulberry Landing	136	6.3	21
LA03B	Mulberry Landing by boat at mid channel	6	5.2	0
LA06	Swan Cove-pier	9	6.6	2
LA09	Dirickson Creek at Road 381 bridge.	154	5.1	59
LA10	Assawoman Canal S end, Kent Ave Bridge	13	4.8	7
LA15B	Near red channel marker #12	6	5.6	0
LA19B	Mid Dirickson Creek off Swann Keys	6	4.3	1
LA42B	Narrows, South of state beach at point	6	5.3	0
LA46	Fenwick Island Tide Gauge	83	6.2	11
LA48	W. Georgetown St. Canal - Fenwick	97	6.0	17
SB01	Anchorage Canal @ Rt 1	150	4.2	86
SB02	Anchorage Canal near elbow	149	6.2	26
SB04	Petherton canal/rt1	149	4.5	74
SB05	Petherton canal, between lots 156 and 162	150	6.4	19
SB06	Brandywine Canal	151	5.0	59
SB07	Layton Canal, South Bethany	150	6.7	9
SB09	Carlisle canal	150	4.3	80
SB10E	Russell Canal east dead end	152	4.4	73
SB10W	Russell Canal west dead end	150	5.3	44
SB12	Jefferson Canal West side @ tidal gage	149	6.4	18
SB13	South end of York Canal	120	6.8	12
Assawoman Bay Watershed - Marine				
AB01	Bayside Point Pier	32	5.6	3

UD Citizen Monitoring Program

Statistics for Total Suspended Solids (TSS), Chlorophyll (Chla), Dissolved Inorganic Nitrogen (DIN) and Phosphorus (DIP), and Total Enterococcus (TE)

1/1/2014 - 12/31/2018

Test Site Code	Test Site Description	# of TSS Samples	Avg TSS (mg/L) *Std=20*	# of Chla Samples	Avg Chla (µg/L) *Std=15*	# of DIP Samples	Avg DIP (mg/L) *Std=0.01*	# of DIN Samples	Avg DIN (mg/L) *Std=0.14*	# of TE Samples	Geomean TE Marine (MPN/100ml) *Std=35*	Geomean TE Fresh (MPN/100ml) *Std=100*
Delaware Bay-marine												
DB01	End of Cape Shores pier	2	63.9	2	12.4	0		0		73	7	
Broadkill River Watershed - fresh												
BR06	Ingram Ditch at the intersection of Rds 212 and 231	10	5.0	10	1.3	10	0.028	10	7.325	10		456
BR10	Ingram Branch at Rt 319	13	4.2	13	1.4	13	0.294	13	8.393	13		468
BR44	Wagamon's Pond on Northern Shoreline, Milton	12	13.7	12	18.1	0		0		51		246
BR48	Diamond Pond at Spillway	12	4.5	13	18.2	13	0.009	13	1.327	71		19
BR54	Red Mill Pond outlet at Rt 1	0		0		0		0		29		24
BR55	Beaverdam Creek at Road 88	0		0		0		0		31		184
Broadkill River Watershed - marine												
BR01	Broadkill river @ PEL dock	72	46.8	72	10.1	72	0.019	72	0.156	72	10	
BR03	Prime Hook Creek at Boat Ramp at Refuge Headquarters	13	38.4	13	65.1	0		0		35	114	
BR19	Canary Creek at New Road	0		0		0		0		18	1063	
BR20	Broadkill River at Milton tidal pond	71	5.1	71	11.3	71	0.012	71	2.772	71	67	
BR21	Old Mill Creek downstream from Red Mill Pond	13	22.0	13	22.2	13	0.009	13	0.581	65	311	
BR40	Canary Creek at Pilottown Rd	14	42.5	14	10.2	14	0.009	14	0.110	65	18	
Rehoboth Beach Watershed - fresh												
RL01	Silver Lake, Lake Drive Bridge	0		0		0		0		26		76
RL04	Silver Lake, outlet to ocean	0		0		0		0		26		107
RL10	Lake Gerar bridge	0		0		0		0		26		64
RL11	Lake Gerar, outlet to ocean	0		0		0		0		26		93
Rehoboth Bay Watershed - fresh												
RB10	Guinea Creek above golf course	0		0		0		0		70		346
RB81	Bundicks Branch at Beaverdam Rd	0		0		0		0		6		646
RB82	Goslee Creek at Jimtown Rd	0		0		0		0		6		675
RB83	Love Creek at Robinsonville Rd	0		0		0		0		6		33
Rehoboth Bay Watershed - marine												
RB05	Mouth of Guinea Creek (Pot Nets Creekside)	13	61.2	13	14.0	0		0		13	19	
RB06	Guinea Creek (Winding Creek Village)	71	16.3	70	14.7	71	0.006	71	0.532	71	446	
RB06A	Guinea Creek @ Rd 298 Bridge	0		0		0		0		69	957	
RB07	West Bay Park	12	82.3	12	10.6	12	0.010	12	0.044	12	8	
RB08A	Lewes Canal Front Park - Kayak Launch	0		0		0		0		16	42	
RB16M	Rusty Rudder Pier Middle	0		0		0		0		17	44	
RB34	Love Creek at Rt 24 Bridge	71	24.5	71	37.2	71	0.009	71	0.571	71	106	
RB34B	Love Creek at Rt 24 bridge by boat	0		0		0		0		5	200	
RB80	Upper Love Creek at Webb Landing	0		0		0		0		21	284	
RB80B	Upper Love Creek at Webb Landing by boat	0		0		0		0		6	262	
RB84B	Upper reach of Hetty Fisher Glade	0		0		0		0		5	1067	
RB85B	Mouth of Stillman Glade	0		0		0		0		5	192	
RB86B	Mouth of Hetty Fisher Glade	0		0		0		0		5	251	

UD Citizen Monitoring Program

Statistics for Total Suspended Solids (TSS), Chlorophyll (Chla), Dissolved Inorganic Nitrogen (DIN) and Phosphorus (DIP), and Total Enterococcus (TE)

1/1/2014 - 12/31/2018

Test Site Code	Test Site Description	# of TSS Samples	Avg TSS (mg/L) *Std=20*	# of Chla Samples	Avg Chla (µg/L) *Std=15*	# of DIP Samples	Avg DIP (mg/L) *Std=0.01*	# of DIN Samples	Avg DIN (mg/L) *Std=0.14*	# of TE Samples	Geomean TE Marine (MPN/100ml) *Std=35*	Geomean TE Fresh (MPN/100ml) *Std=100*
Rehoboth Bay Watershed - marine (cont'd)												
RB87B	Upper Love Creek, Upstream of Webb Landing	0		0		0		0		5	106	
RB88B	Upper Love Creek, just below marsh area	0		0		0		0		5	97	
RB90	Burton Prong	0		0		0		0		63	358	
RWPMV	Tower Road Bayside	0		0		0		0		17	217	
RWPMX	Savage Ditch Kayak Ramp	0		0		0		0		17	161	
RWPMXV	Massey's Landing Boat Ramp	0		0		0		0		16	10	
Indian River Bay Watershed - marine												
IR02a	Rosedale crabbing pier	25	29.3	25	44.4	25	0.016	25	0.397	25	29	
IR03	Oak Orchard	0		0		0		0		26	53	
IR04	Warwick Cove	21	35.6	21	24.3	21	0.009	21	0.529	21	14	
IR11	Pot Nets Seaside Pier	70	29.0	69	7.3	70	0.008	70	0.066	70	9	
IR20	Bay Colony	11	39.2	11	14.1	11	0.015	11	0.549	11	14	
IR24	Iron Branch - County road 331 at bridge	13	30.3	13	33.4	0		0		69	449	
IR32	Holly Terrace Acres Canal Dead End, White Creek	14	39.4	14	25.9	0		0		27	45	
IR36	James Farm, base of Pasture Point Knee deep 150 yds from shore	14	60.7	14	8.9	0		0		67	28	
IR38	Vines Lane	72	34.7	72	36.2	72	0.025	72	0.604	72	64	
IR51	Pepper Creek, Creekside	1	54.7	1	37.6	0		0		41	124	
RWPMVII	Holt's Landing Boat Ramp	0		0		0		0		17	25	
RWPMXII	North IRI Boat Ramp	0		0		0		0		17	14	
RWPMXVI	Rosedale Beach Boat Ramp	0		0		0		0		16	36	
RWPMXXV	Quillens's Point VFW Boat Ramp	0		0		0		0		17	45	
Little Assawoman Bay Watershed - fresh												
LA29	Upper Dirickson Creek @ Rt20	0		0		0		0		54		468
LA38	The Hamlet at Dirickson Pond	0		0		0		0		70		10
Little Assawoman Bay Watershed - marine												
LA03	Mulberry Landing	70	32.1	69	12.9	70	0.007	70	0.142	70	20	
LA09	Dirickson Creek at Road 381 bridge.	72	27.8	71	57.6	72	0.074	72	0.770	73	277	
LA10	Assawoman Canal S end, Kent Ave Bridge	13	46.1	13	4.4	0		0		13	373	
LA46	Fenwick Island Tide Gauge	69	22.7	69	7.6	69	0.007	69	0.099	70	17	
LA48	W. Georgetown St. Canal - Fenwick	0		0		0		0		71	17	
RWPMXIV	Fenwick, Coastal Kayak Boat Rental	0		0		0		0		16	41	
SB01	Anchorage Canal @ Rt 1	72	33.5	72	83.9	72	0.027	72	0.173	72	189	
SB04	Petherton canal/rt1	0		0		0		0		72	103	
SB06	Brandywine Canal	0		0		0		0		72	79	
SB07	Layton Canal, South Bethany	72	19.6	72	10.3	72	0.006	72	0.091	72	24	
Assawoman Bay Watershed - marine												
AB01	Bayside Point Pier	0		0		0		0		6	6	

White Clay Creek Wild and Scenic River Stream Watch Monitoring Program

White Clay Wild and Scenic River Stream Watch Monitoring Program

The mission of the Stream Watch Monitoring Program is to *improve knowledge of stream conditions* based on water quality trends measured over time at both fixed and temporary sites and to *increase citizen and municipal engagement in water resource protection*. (whiteclay.org)

White Clay Wild and Scenic River Stream Watch Monitoring Program - Site List

SiteID	State	Location	Sensor Station for Continuous Monitoring
SL031	PA	Stroud Water Research Center	Owned by Stroud
SL177	PA	Broad Run above Somerset	Owned by New Garden Township/Save Our Water
WCCDE28	DE	Hickory Hill at Erikson Ave	SL132
WCCDE29	DE	Northpointe Main on Mill Creek	
WCCDE30	DE	Northpointe Trib to Mill Creek	
WCCDE31	DE	Middle Run Main Stem	
WCCDE32	DE	Middle Run Trib to Main Stem	SL157 (upstream of summer bacteria grab site)
WCCDE37	DE	Fairfield Run	
WCCDE38	DE	Bogey's Run/Blue Hen Creek	
WCCDE39	DE	Jenney's Run	
WCCDE40	DE	Main @ Kirkwood & A Street	
WCCDE42	DE	Lower Pike Creek	
WCCPA01	PA	Strickersville Main near USGS gage	
WCCPA03	PA	Sharpless Bridge West Branch	
WCCPA05	PA	Good Hope East Branch	
WCCPA06	PA	Watson's Mill	SL109
WCCPA06_A	PA	Broad Run	
WCCPA06_B	PA	Somerset out	
WCCPA06_C	PA	Somerset in	
WCCPA07	PA	Egypt Run	SL110
WCCPA07_B	PA	Pelham	
WCCPA08	PA	Clay Creek east branch	
WCCPA09	PA	Guernsey Middle Branch	
WCCPA11	PA	Flint Hill West branch	
WCCPA12	PA	Wickerton middle branch	
WCCPA13	PA	Avondale WWTP East	
WCCPA15	PA	Avondale Playground East	
WCCPA16	PA	ELG west fork upper east	
WCCPA18	PA	Laurel Woods East	
WCCPA19	PA	Loyd Road Upper East SUEZ Stroud site	
WCCPA20	PA	WLG SUEZ Stroud site	
WCCPA23	PA	WCC Stroud Lab	
WCCPA24	PA	Mercer Mill on Middle Branch	
WCCPA43	PA	Welcome and Rosehill	SL272

Stream Monitoring Sites in the White Clay Creek Watershed

Map produced by the University of Delaware Water Resources Center, Dec. 2019.

White Clay Wild and Scenic River Stream Watch Monitoring Program

Statistics for Total Suspended Solids (TSS), Nitrates (NO3N), Orthophosphate (OP), Chlorides (CL), and Enterococcus (ENT) at Base Flow (baseflow defined as <0.25” rain in 48 hour period), stormflow, and combined. Date Range 7/6/2018-12/17/2019

Exceedance of standards (in red text) indicates impairment. Note where water quality standards don’t exist we used DNREC water quality goals. In the case of Chlorides (CL) we used the average concentration where aquatic biota respond negatively (250mg/ml is the potable water standard)

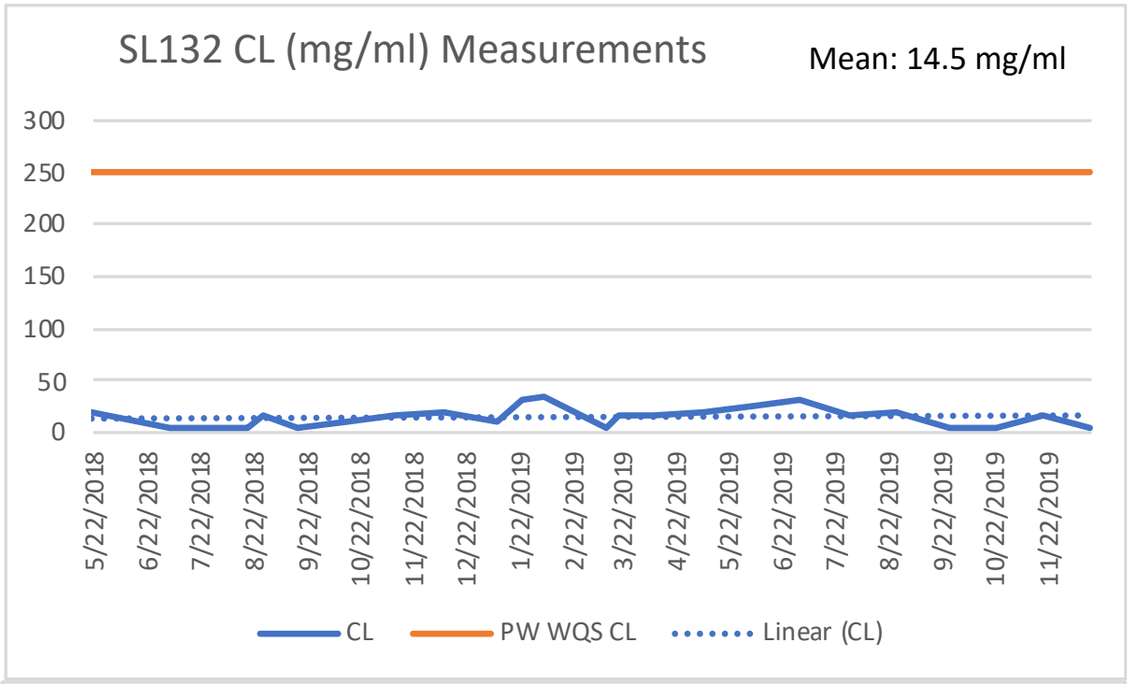
Sensor Station Site ID	Site Description	Date Range	PREC48	# of samples	Average CL (mg/L)	Average NO3N (mg/L)	Average OP (mg/L)	Average TSS (mg/L)
SL109	Watson's Mill (Broad Run Creek, PA)	7/6/2018-12/17/19	Storm Flow	6	14.58	**4.31**	0.12	8.92
SL109	Watson's Mill (Broad Run Creek, PA)	7/6/2018-12/17/19	Base Flow	18	19.31	**5.23**	0.10	6.16
SL109	Watson's Mill (Broad Run Creek, PA)	7/6/2018-12/17/19	Total Combined Samples	24	18.13	**5.00**	0.11	6.85
SL110	Egypt Run (PA)	7/6/2018-12/17/19	Storm Flow	6	10.00	**7.96**	**0.24**	8.45
SL110	Egypt Run (PA)	7/6/2018-12/17/19	Base Flow	18	23.61	**9.62**	0.12	6.60
SL110	Egypt Run (PA)	7/6/2018-12/17/19	Total Combined Samples	24	20.21	**9.20**	0.15	7.06
SL132	Hickory Hill (Mill Creek, DE)	7/6/2018-12/17/19	Storm Flow	6	10.00	**3.88**	0.15	20.32
SL132	Hickory Hill (Mill Creek, DE)	7/6/2018-12/17/19	Base Flow	18	16.03	**4.42**	0.12	7.74
SL132	Hickory Hill (Mill Creek, DE)	7/6/2018-12/17/19	Total Combined Samples	24	14.52	**4.28**	0.13	10.89
SL157	Middle Run Trib to Main Stem (DE)	7/6/2018-12/17/19	Storm Flow	6	10.50	**3.23**	0.08	10.02
SL157	Middle Run Trib to Main Stem (DE)	7/6/2018-12/17/19	Base Flow	19	16.05	**3.20**	0.11	6.52
SL157	Middle Run Trib to Main Stem (DE)	7/6/2018-12/17/19	Total Combined Samples	25	14.72	**3.21**	0.10	7.36
SL272	Rosehill and Welcome Ave (Upper East Branch, PA)	8/28/19 - 12/17/19	Storm Flow	2	**50.00**	**5.63**	0.16	8.60
SL272	Rosehill and Welcome Ave (Upper East Branch, PA)	8/28/19 - 12/17/19	Base Flow	3	**58.33**	**6.44**	0.13	5.00
SL272	Rosehill and Welcome Ave (Upper East Branch, PA)	8/28/19 - 12/17/19	Total Combined Samples	5	**55.00**	**6.12**	0.14	6.44

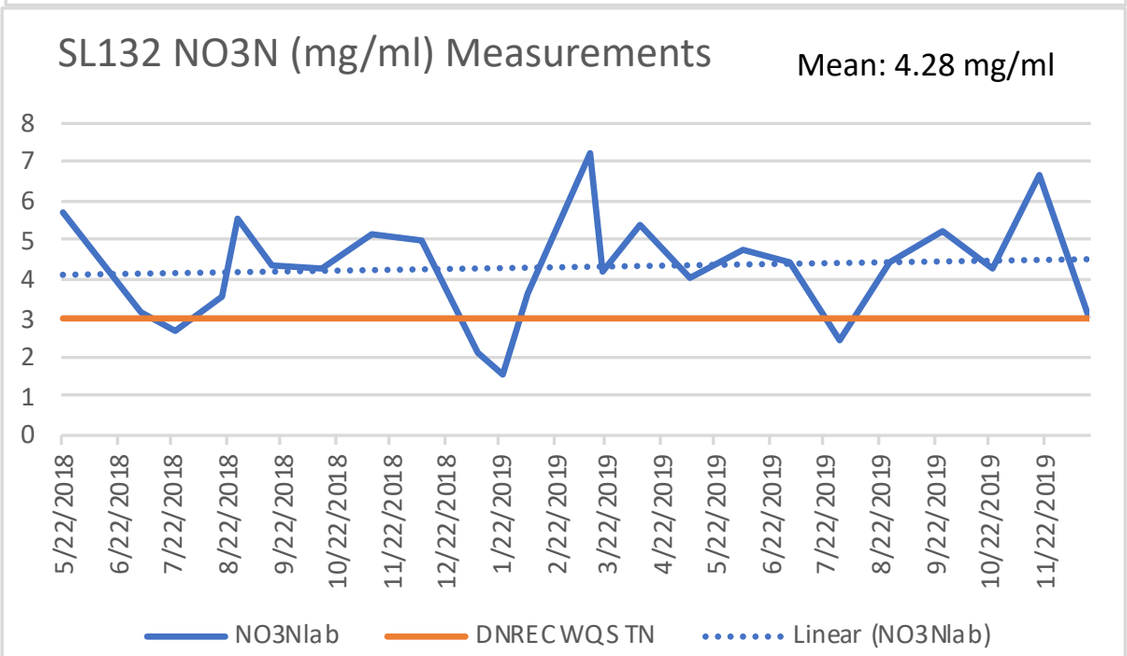
White Clay Wild and Scenic River Stream Watch Monitoring Program

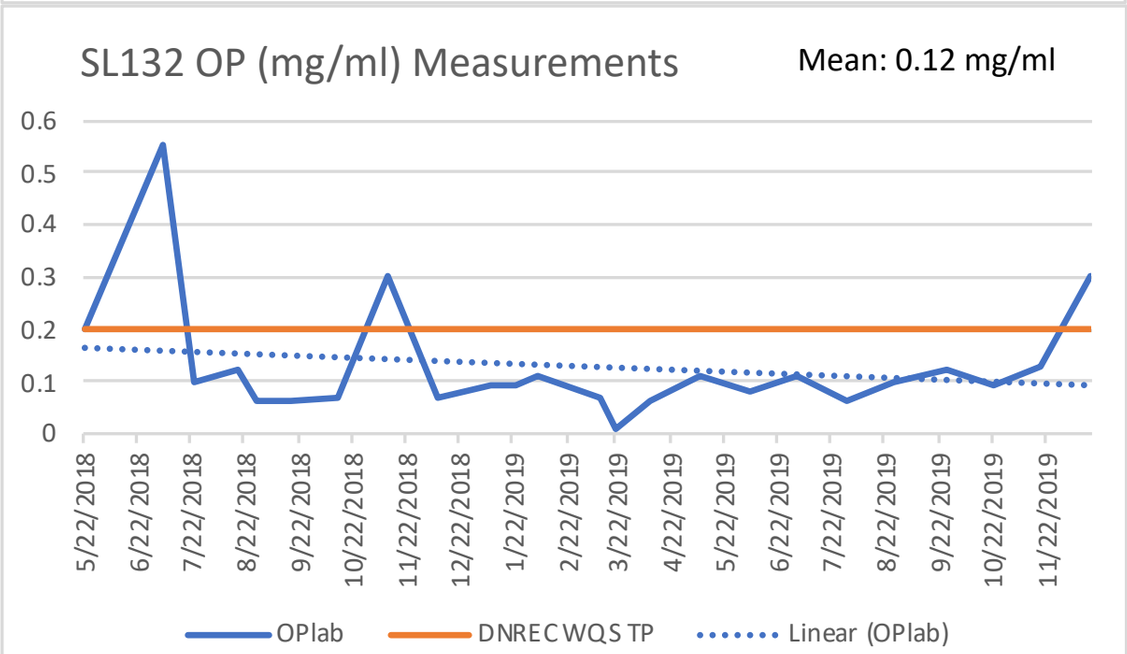
Graphic presentation of all data points for Chlorides (CL), Nitrates (NO3N), Orthophosphate (OP), Total Suspended Solids (TSS).

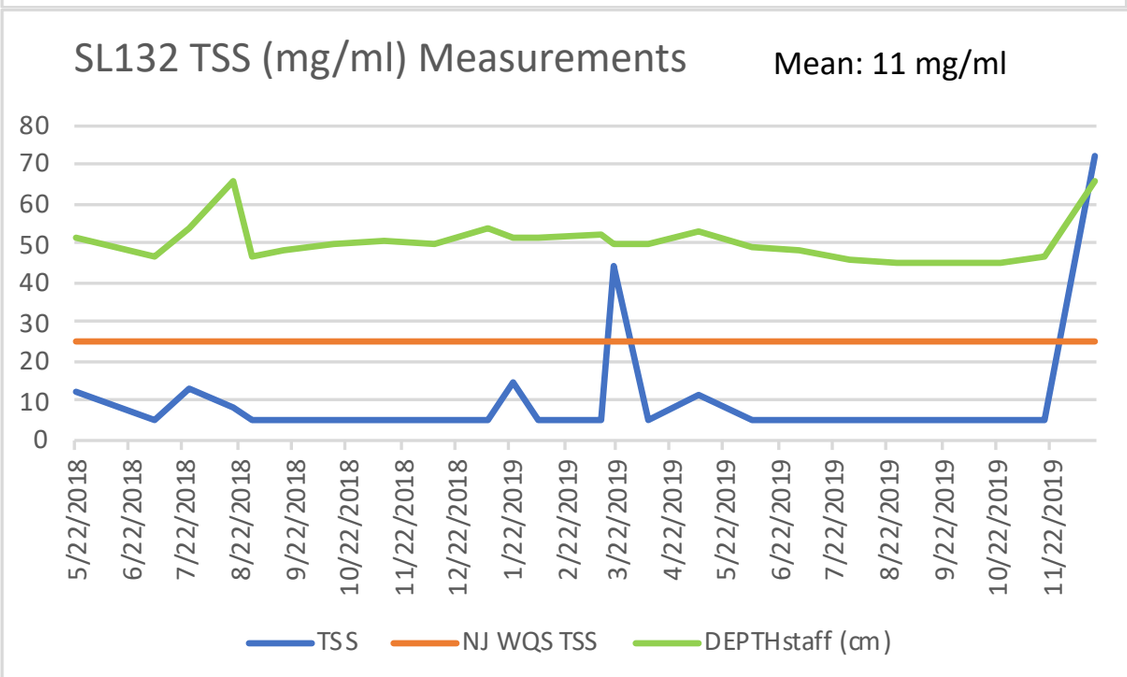
Date Range 7/6/2018-12/17/2019. Exceedance of standards (red line) indicates impairment.

Hickory Hill on Mill Creek (SL132)

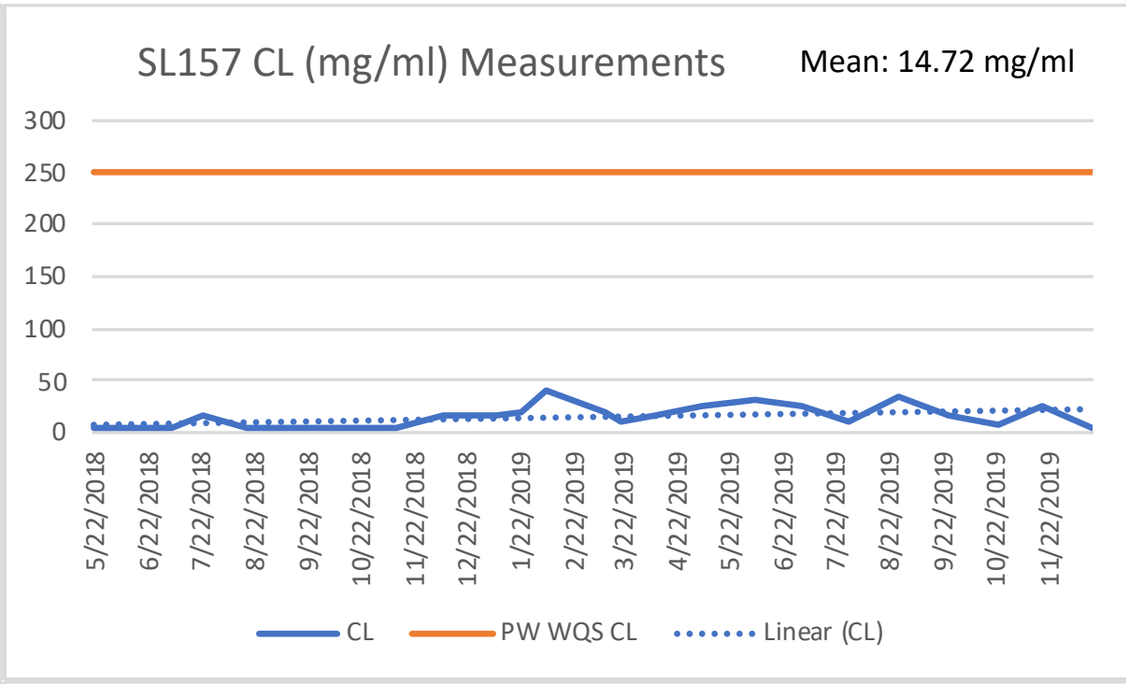


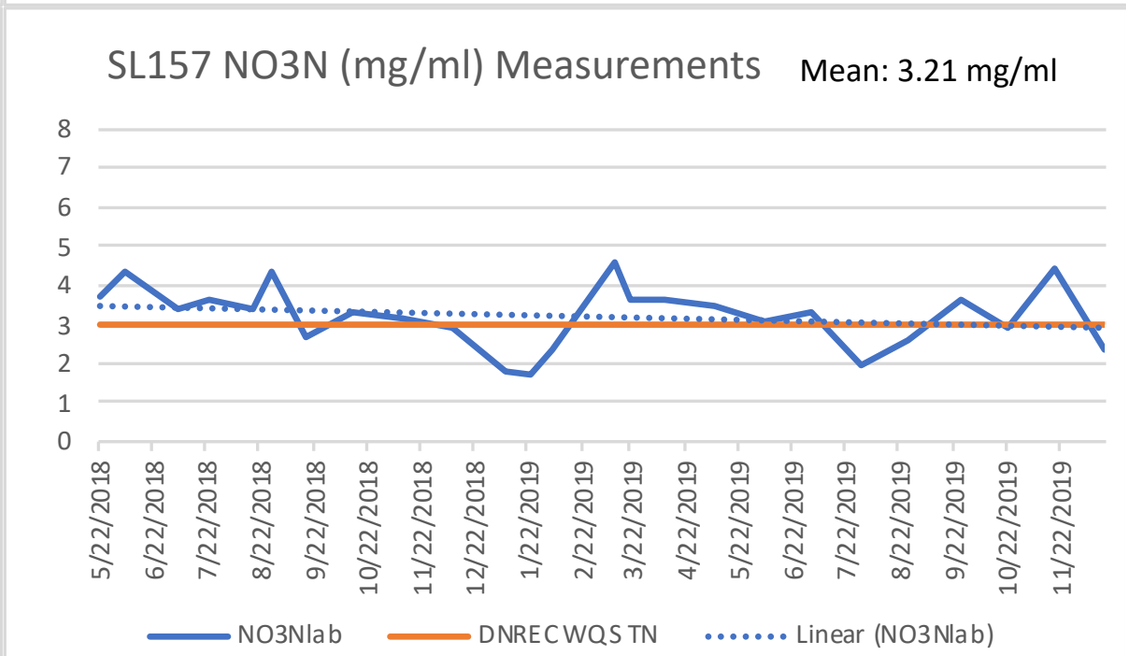


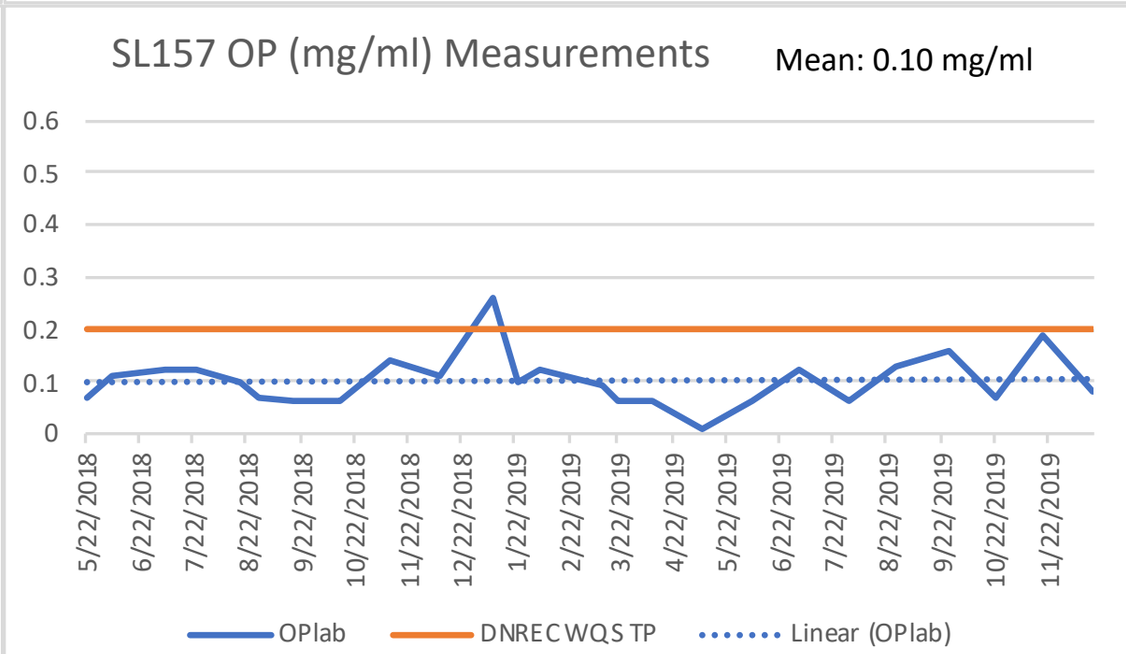


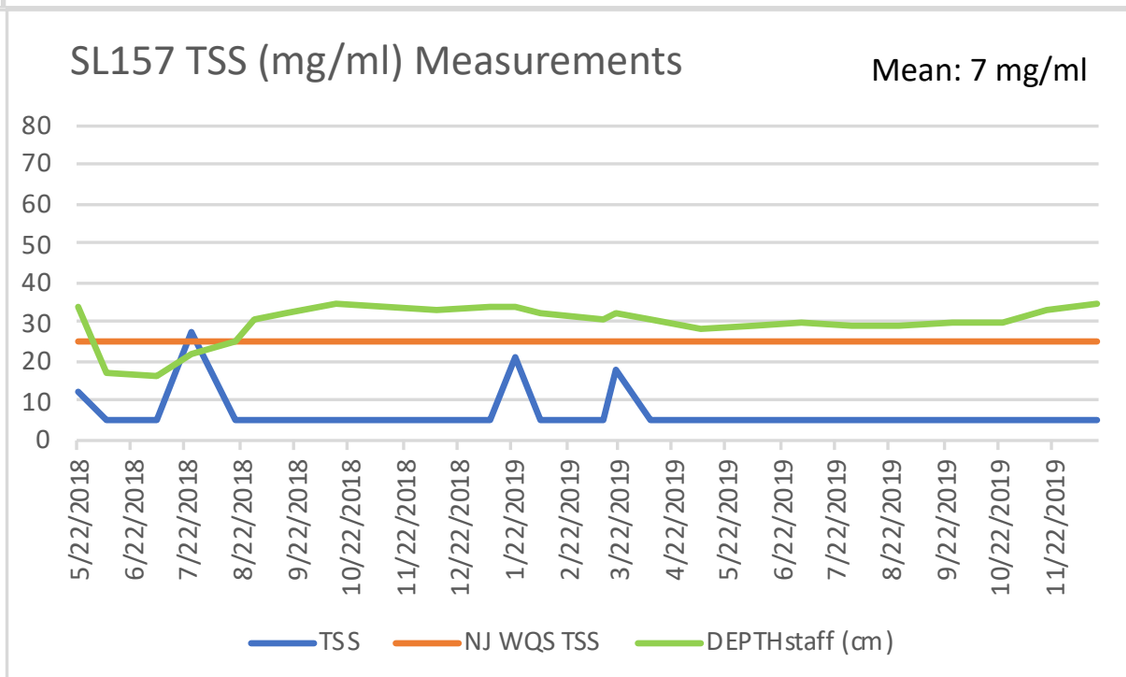


Tributary to Middle Run Below Paper Mill Road (SL157)





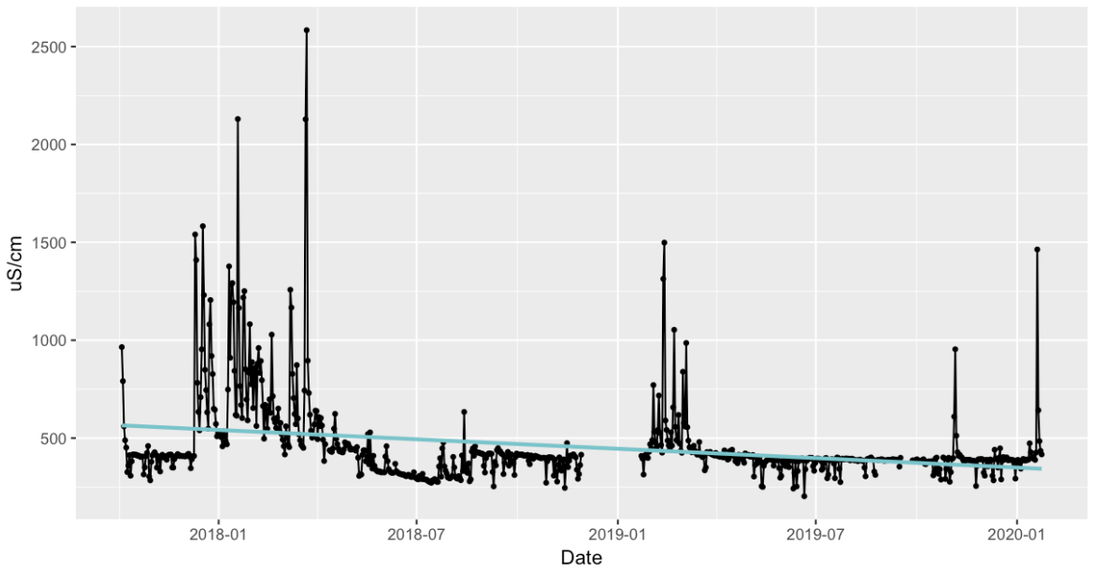




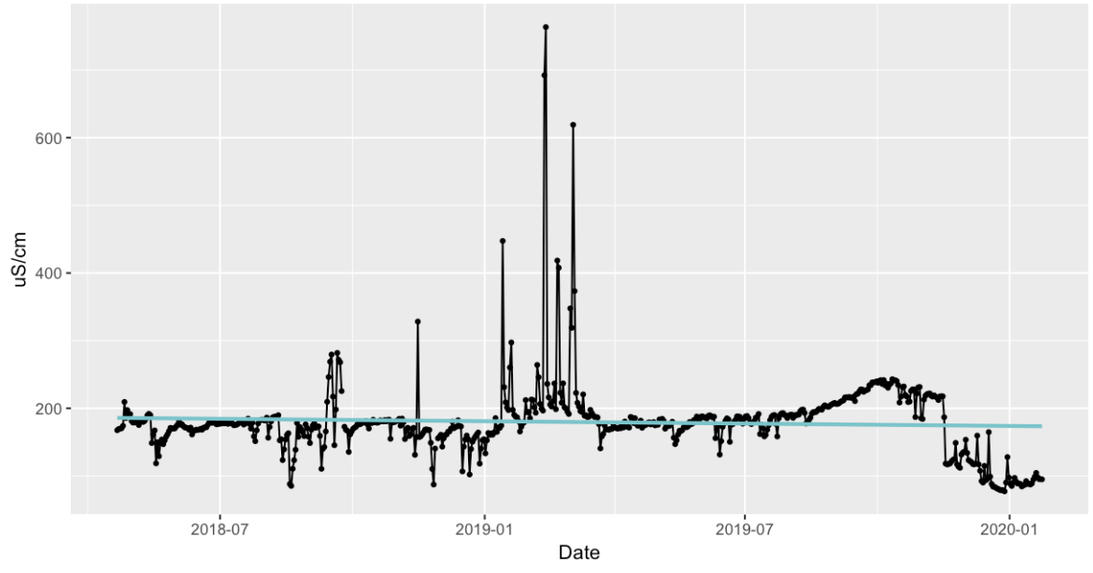
White Clay Wild and Scenic River Stream Watch Monitoring Program

Graphic presentation of Conductivity, Water Temperature, and Depth readings taken by in-stream continuous data loggers. Date Range 7/6/2018-12/17/2019.

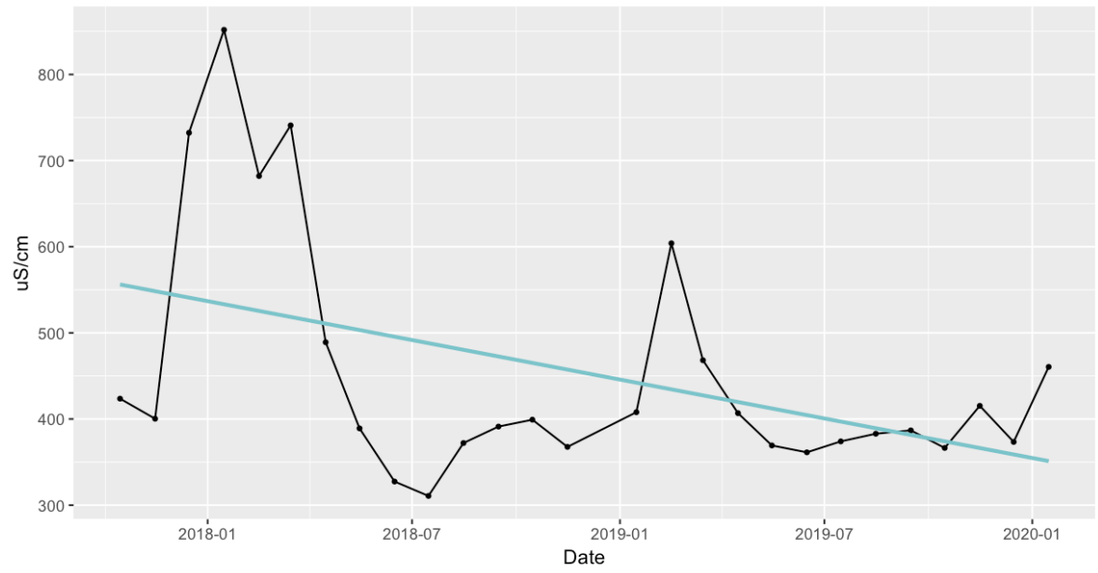
Hickory Hill on Mill Creek Daily Mean Conductivity (SL132)



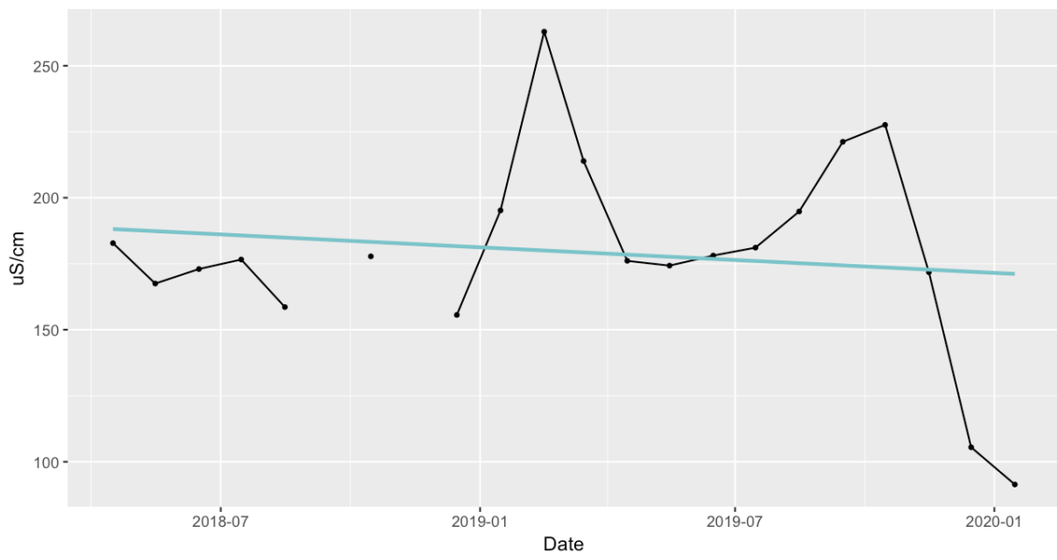
Tributary to Middle Run Daily Mean Conductivity (SL157)



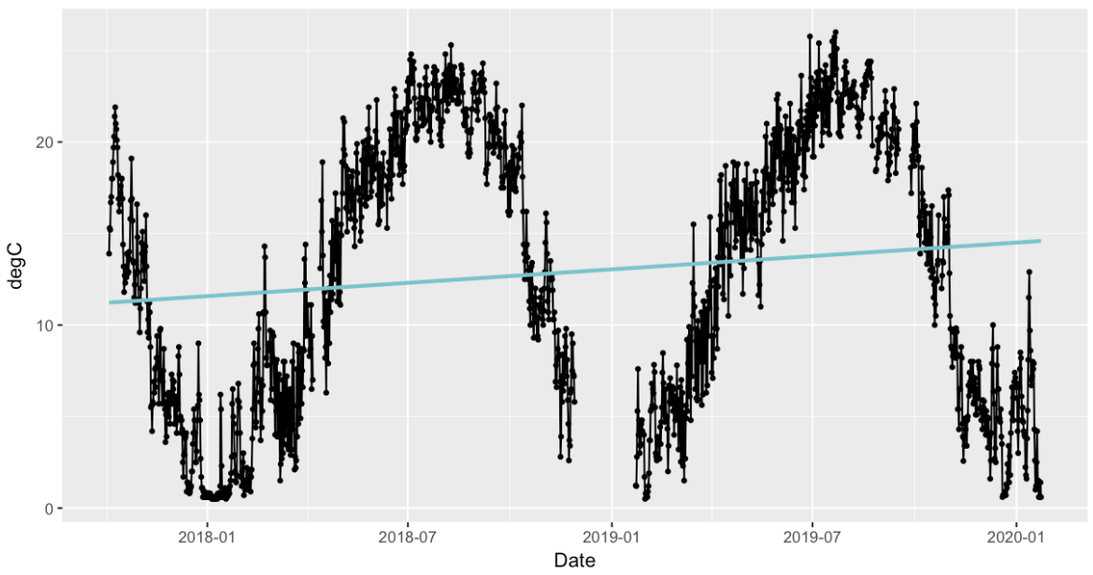
Hickory Hill on Mill Creek Monthly Mean Conductivity (SL132)



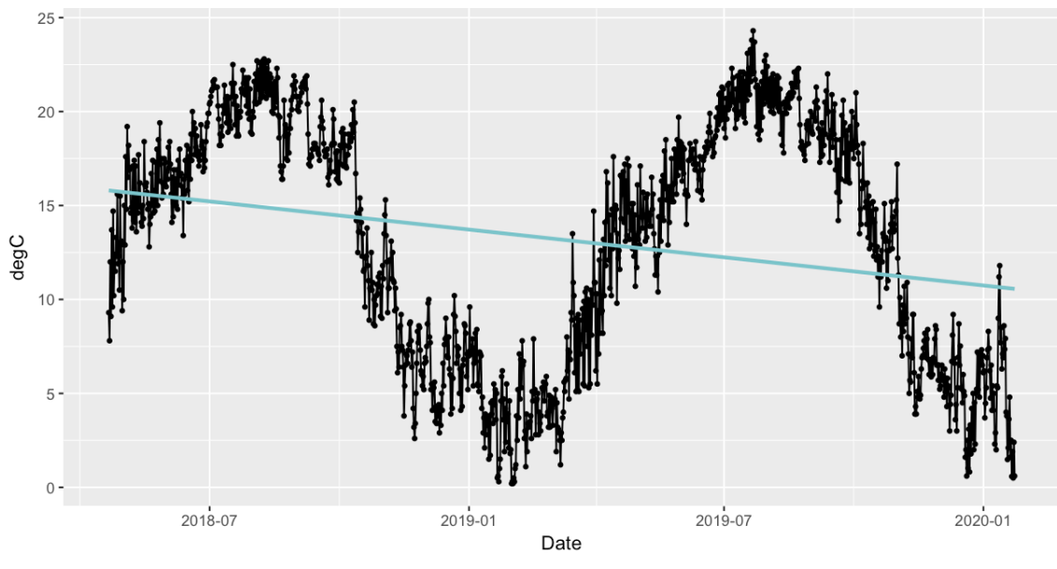
Tributary to Middle Run Monthly Mean Conductivity (SL157)



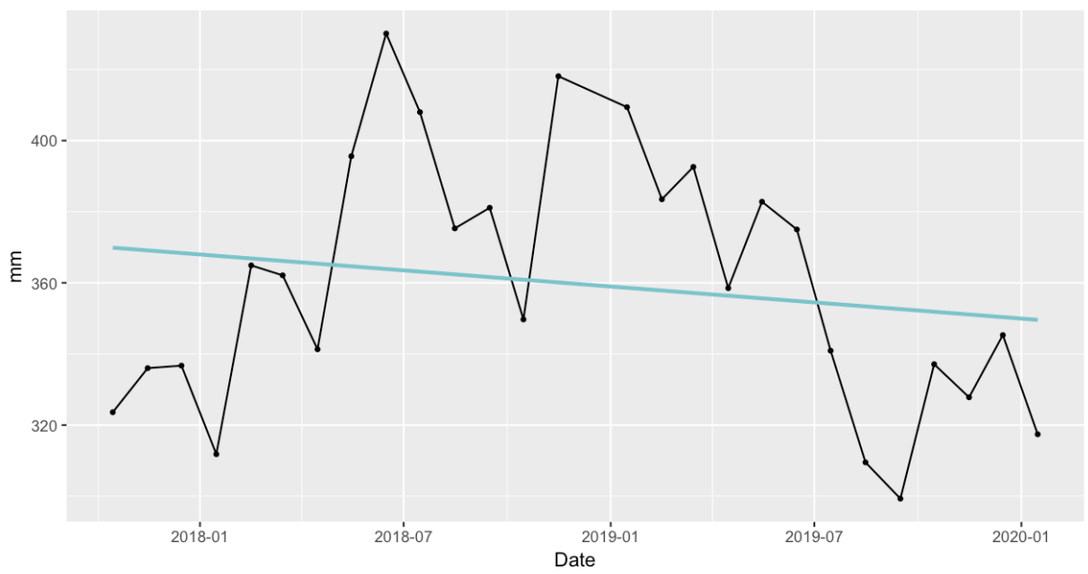
Hickory Hill on Mill Creek Water Temperature (degrees C) (SL132)



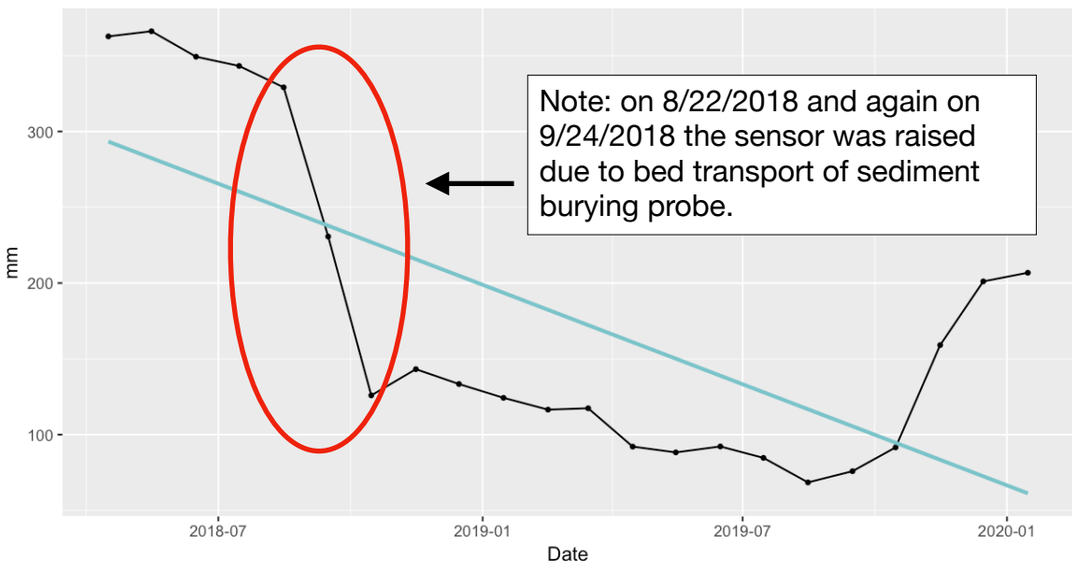
Tributary to Middle Run Water Temperature (degrees C) (SL157)



Hickory Hill on Mill Creek Monthly Mean Depth (mm) (SL132)



Tributary to Middle Run Monthly Mean Depth (mm) (SL157)



White Clay Wild and Scenic River Stream Watch Monitoring Program

Statistics for Bacteria Enterococcus (ENT) during the summer recreational season at Baseflow (baseflow defined as <0.25” rain in 48 hour period) . Five samples were collect at each site within a 30 day period during the summer season (2013-2019)

The geometric mean averaged over entire sampling period. Exceedance of standards indicates impairment.

SIte ID	Site Description	Sampling Years	Samples Taken	Enterococcus GeoMean (MPN)	DNREC Standard for Primary Contact ENT (MPN)
WCCDE28	Hickory Hill at Erikson Ave	2013-2019	35	1039	100
WCCDE29	Northpointe Main on Mill Creek	2016-2019	25	331	100
WCCDE30	Northpointe Trib to Mill Creek	2016-2019	25	429	100
WCCDE31	Middle Run Main Stem	2016-2019	25	590	100
WCCDE32	Middle Run Trib to Main Stem just above confluence	2016-2019	25	380	100
WCCDE37	Fairfield Run	2018-2019	10	726	100
WCCDE38	Bogey's Run/Blue Hen Creek	2018-2019	10	1471	100
WCCDE39	Jenney's Run	2018-2019	10	852	100
WCCDE40	Main @ Kirkwood & A Street	2018-2019	10	478	100
WCCDE42	Lower Pike Creek	2019	5	965	100

White Clay Wild and Scenic River Stream Watch Monitoring Program

Statistics for Bacteria Enterococcus (ENT) during the summer recreational season at Baseflow (baseflow defined as <0.25” rain in 48 hour period) . Five samples were collect at each site within a 30 day period during the summer season (2013-2019)

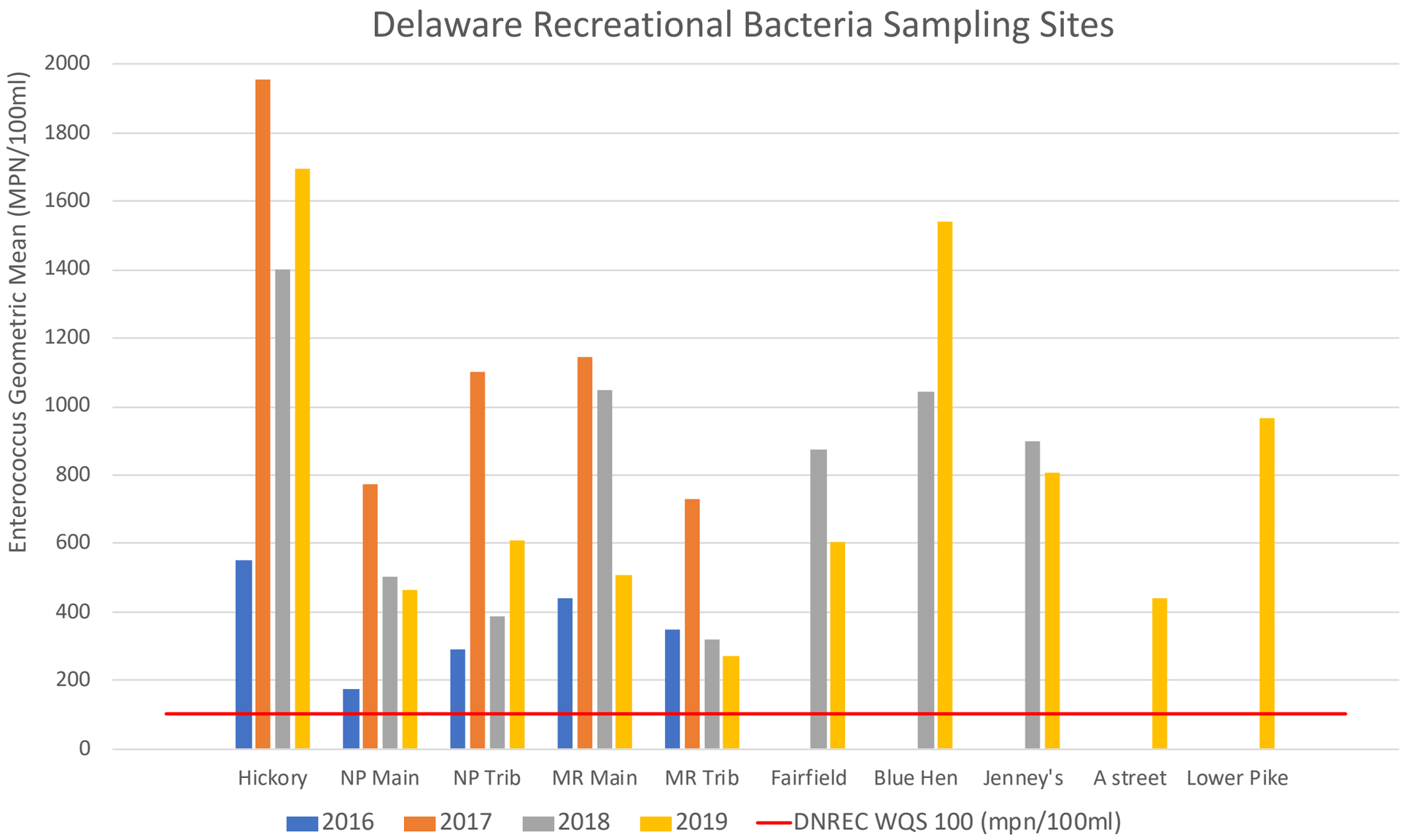
Geometric Means separated by 30 day sampling period. Exceedance of standards indicates impairment.

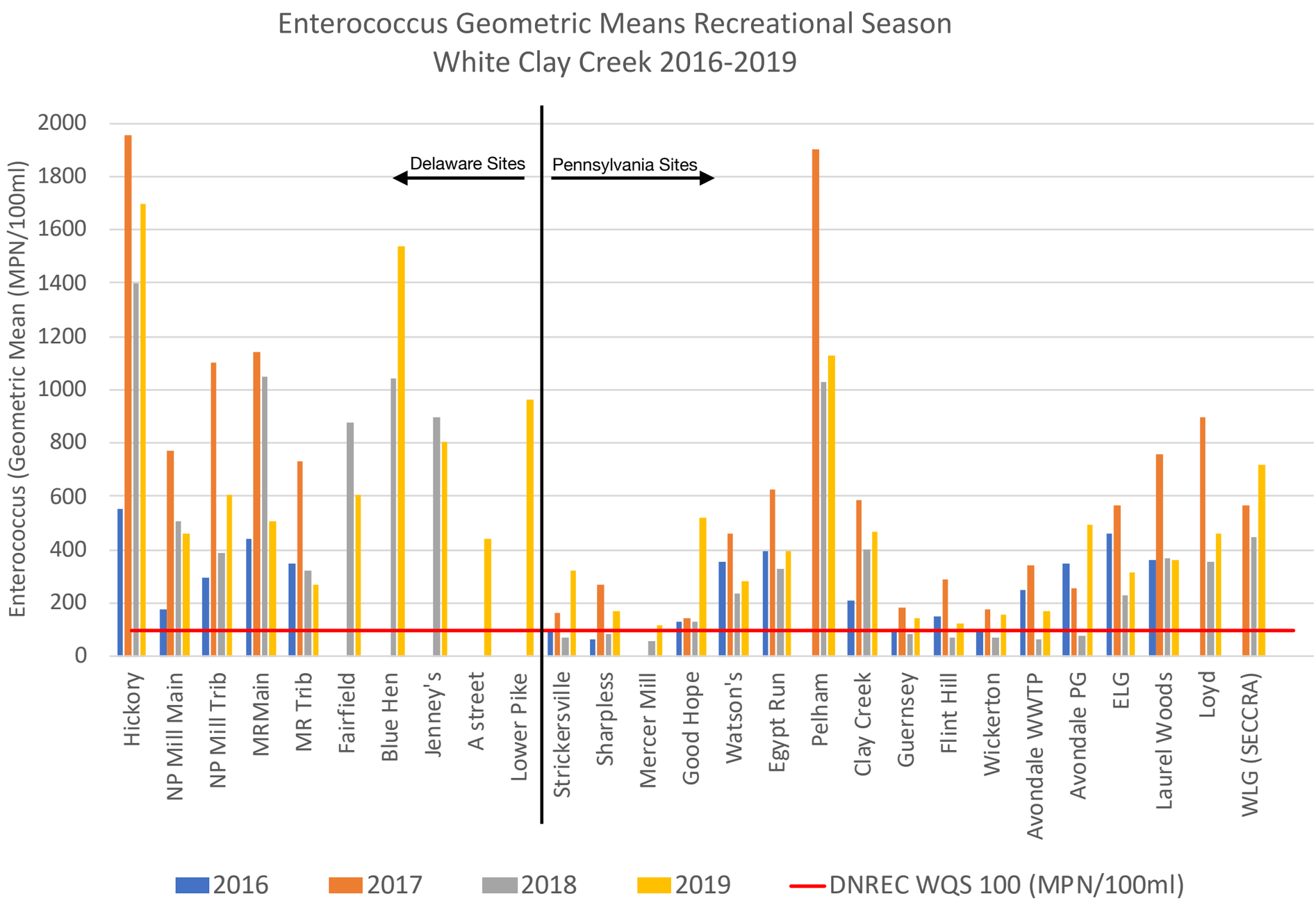
SIte ID	Site Description	Sampling Month	Samples Taken	Enterococcus GeoMean (MPN)	DNREC Standard for Primary Contact ENT (MPN)
WCCDE28	Hickory Hill at Erikson Ave	2013-06-26	5	2214.30	100
WCCDE28	Hickory Hill at Erikson Ave	2014-07-23	5	1077.40	100
WCCDE28	Hickory Hill at Erikson Ave	2016-08-04	5	423.60	100
WCCDE28	Hickory Hill at Erikson Ave	2016-08-25	5	678.30	100
WCCDE28	Hickory Hill at Erikson Ave	2017-08-10	5	1956.60	100
WCCDE28	Hickory Hill at Erikson Ave	2018-07-03	5	576.00	100
WCCDE28	Hickory Hill at Erikson Ave	2019-08-05	5	1696.30	100
WCCDE29	Northpointe Main on Mill Creek	2016-08-04	5	81.20	100
WCCDE29	Northpointe Main on Mill Creek	2016-08-25	5	270.50	100
WCCDE29	Northpointe Main on Mill Creek	2017-08-10	5	774.50	100
WCCDE29	Northpointe Main on Mill Creek	2018-07-17	5	504.00	100
WCCDE29	Northpointe Main on Mill Creek	2019-08-05	5	463.10	100
WCCDE30	Northpointe Trib to Mill Creek	2016-08-04	5	120.80	100
WCCDE30	Northpointe Trib to Mill Creek	2016-08-25	5	463.20	100
WCCDE30	Northpointe Trib to Mill Creek	2017-08-10	5	1103.20	100
WCCDE30	Northpointe Trib to Mill Creek	2018-07-17	5	386.40	100
WCCDE30	Northpointe Trib to Mill Creek	2019-08-05	5	609.30	100
WCCDE31	Middle Run Main Stem	2016-08-04	5	166.30	100
WCCDE31	Middle Run Main Stem	2016-08-25	5	711.30	100
WCCDE31	Middle Run Main Stem	2017-08-10	5	1145.50	100
WCCDE31	Middle Run Main Stem	2018-07-17	5	1046.10	100
WCCDE31	Middle Run Main Stem	2019-08-05	5	505.60	100

SIte ID	Site Description	Sampling Month	Samples Taken	Enterococcus GeoMean (MPN)	DNREC Standard for Primary Contact ENT (MPN)
WCCDE32	Middle Run Trib to Main Stem just above confluence	2016-08-04	5	199.00	100
WCCDE32	Middle Run Trib to Main Stem just above confluence	2016-08-25	5	494.90	100
WCCDE32	Middle Run Trib to Main Stem just above confluence	2017-08-10	5	731.90	100
WCCDE32	Middle Run Trib to Main Stem just above confluence	2018-07-12	5	407.30	100
WCCDE32	Middle Run Trib to Main Stem just above confluence	2019-08-05	5	270.70	100
WCCDE37	Fairfield Run	2018-07-17	5	874.20	100
WCCDE37	Fairfield Run	2019-08-05	5	603.70	100
WCCDE38	Bogey's Run/Blue Hen Creek	2018-07-17	5	1405.10	100
WCCDE38	Bogey's Run/Blue Hen Creek	2019-08-05	5	1540.60	100
WCCDE39	Jenney's Run	2018-07-17	5	899.30	100
WCCDE39	Jenney's Run	2019-08-05	5	807.20	100
*WCCDE40**	Main @ Kirkwood & A Street	2018-07-30	5	516.81	100
WCCDE40	Main @ Kirkwood & A Street	2019-08-05	5	442.30	100
WCCDE42	Lower Pike Creek	2019-08-05	5	964.90	100
**5 samples over a 31 day period*					

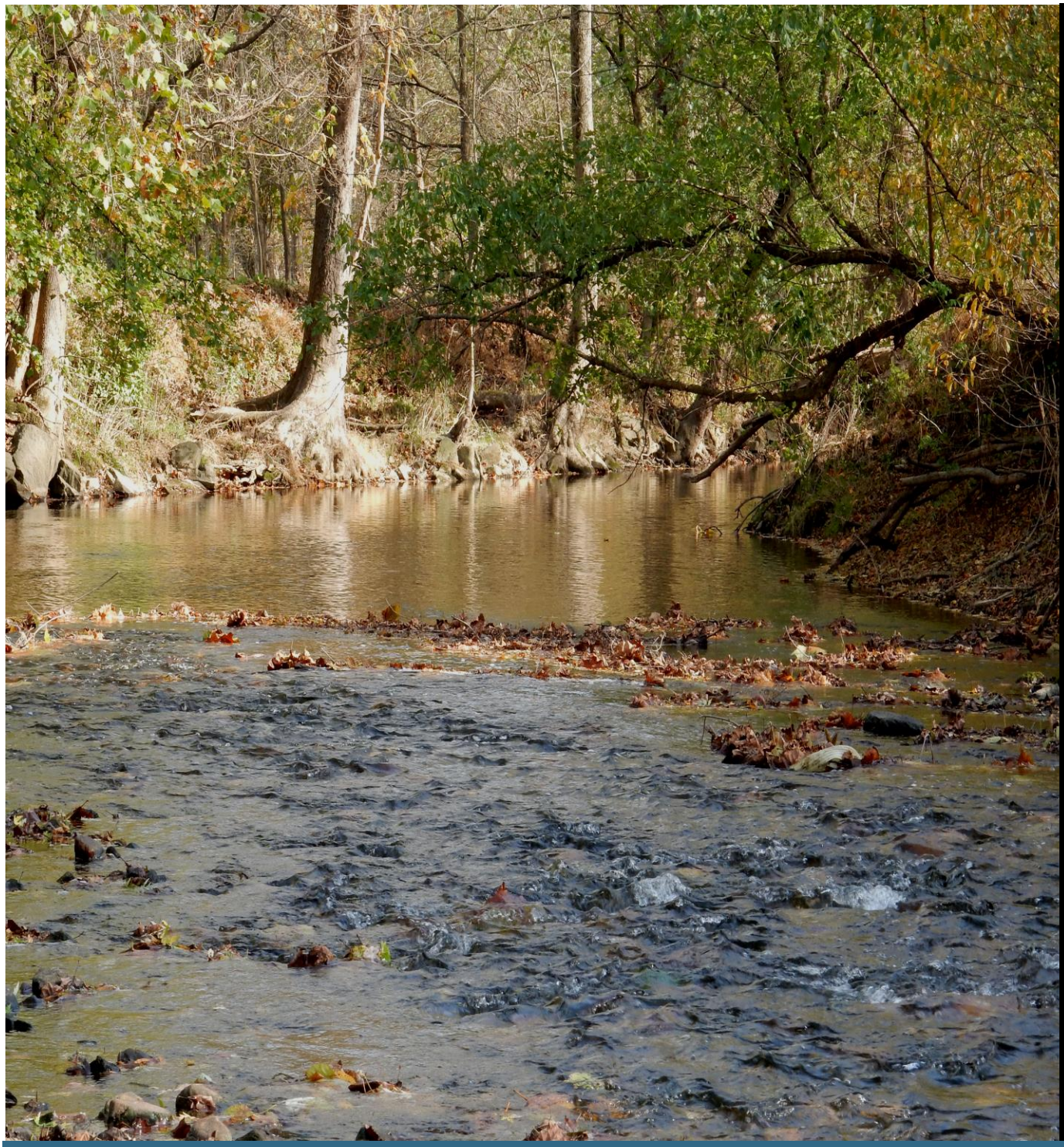
White Clay Wild and Scenic River Stream Watch Monitoring Program

Graphical presentation of fecal bacteria concentrations, Enterococcus (ENT) during summer recreational seasons (2016-2019) at baseflow (baseflow defined as <0.25” rain in 48 hour period) . A minimum of five samples were collected at each site within a 30 day period during the summer season and geometric means were recorded. Exceedance of standards (red line) indicates impairment. Top chart Delaware sites only. Bottom chart bistate comparison of sites.





Delaware Stream Watch Volunteer Data Summary



Delaware Stream Watch

Volunteer Data Summary

2014 - 2018

Delaware Nature Society

Delaware Stream Watch

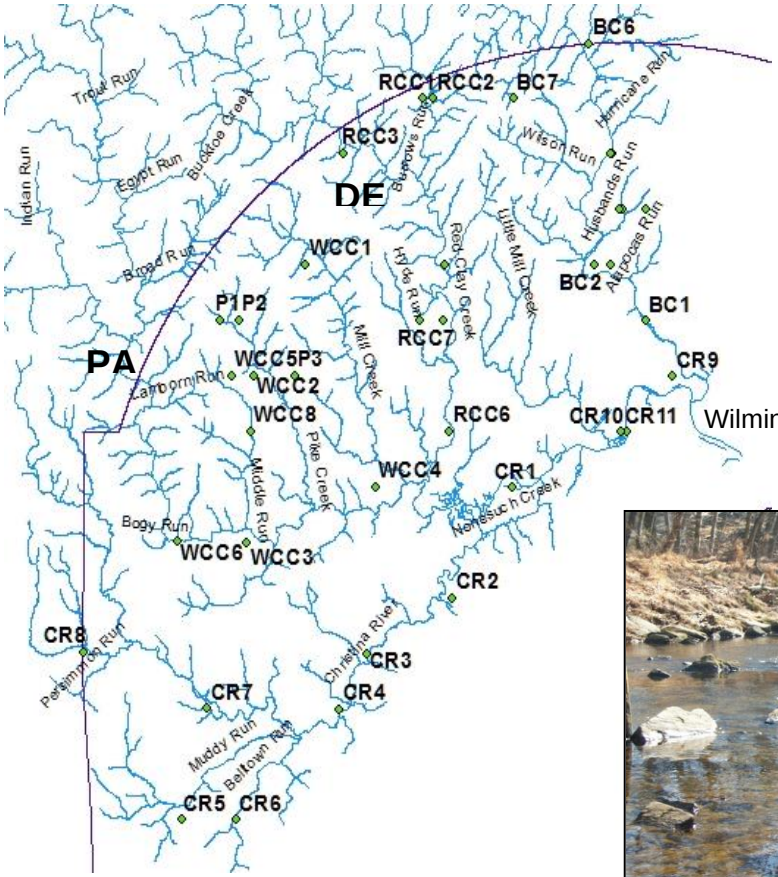
Delaware Stream Watch was established in 1992 to engage volunteers in collecting baseline chemical and physical data on waterways, primarily in the Christina Basin in Northern Delaware.

Volunteers in the Delaware Stream Watch Technical Monitoring program monitor designated long-term monitoring sites on a monthly basis, testing for dissolved oxygen, pH, alkalinity, nitrate, phosphate, conductivity, and temperature.

Data is collected through a combination of field test kits and meters.

Special thanks to the dedicated volunteers who take time out of their busy schedules to make a difference for our waterways!

Monitoring Locations



Delaware Stream Watch

Delaware Stream Watch is a citizen science program run by the Delaware Nature Society, that engages volunteers in monitoring the quality of local waters.

Data is shared on the Delaware Nature Society website and is used to inform watershed planning and outreach efforts.

Learn more and become involved:

Delnature.org/streamwatch

Delaware Stream Watch Site Averages 2014-18

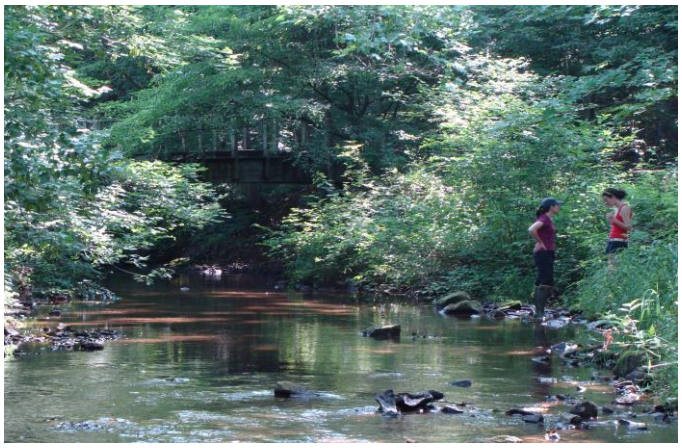
Brandywine Creek	Alkalinity (mg/l)	Conductivity (uS)	Dissolved Oxygen (mg/l)	Nitrate (mg/l)	pH	Phosphate (mg/l)
BC1: Mainstem, Vanburen Bridge	62	360	9.0	1.9	7.4	0.13
BC2: Mainstem, Hagley Museum	62	369	9.0	1.9	7.4	0.13
BC3: Husbands Run	46	539	9.5	1.4	7.0	0.26
BC4: Wilson Run	42	245	6.3	0.5	7.5	0.02
BC5: Rocky Run	44	617	10.7	0.7	7.3	0.02
BC6 Beaver Run	59	577	10.4	1.1	7.3	0.03
BC7: Trib @ Flint Woods	27	272	9.5	1.4	7.0	0.08
Christina River						
CR1: Mainstem, Rt. 141 boat ramp	65	483	7.3	1.6	7.2	0.09
CR2: Mainstem, Churchman's ramp	54	409	6.4	0.9	7.0	0.12
CR3: Mainstem, Smalley's Dam Rd	43	397	9.1	0.7	6.8	0.14
CR7: Mainstem, Cooch's Bridge	47	395	9.1	0.6	7.0	0.01
CR8: Mainstem, Rittenhouse Park	44	271	8.3	0.8	7.1	0.02
CR10: Mainstem Wilmington	55	413	9.3	1.1	7.1	0.15
CR11: Tidal Gut at DEEC	56	436	8.9	0.6	6.9	
Mispillion River						
MSP241: Tantrough Branch	34	188	9.7	13.2	6.5	0.03
MSP261: Johnson's Branch	30	170	8.7	5.0	6.5	0.01
MSP281: Causeway Branch	42	526	8.7	0.5	6.3	0.03
MSP291: Fishing Branch	59	961	9.2	3.5	6.5	0.09
Red Clay Creek						
RCC2: Burrows Run	50	299	9.4	0.9	7.2	0.15
RCC3: Mainstem, Yorklyn	86	506	10.5	3.2	7.7	0.18
RCC4: Mainstem, Ashland	86	478	10.0	2.8	7.6	0.18
RCC5: Mainstem, Woodale	74	432	10.0	3.6	7.6	0.17
RCC7: Hyde Run	35	403	8.2	1.5	7.3	0.07
RCC8: Hoopes Reservoir outflow	69	258	8.8	0.3	7.2	0.05
RCC15: Indian Rill		271		1.0		
White Clay Creek						
P1: Pike Creek trib	48	211	8.1	3.1	7.2	0.14
P2: Pike Creek trib	48	278	7.6	2.6	7.3	0.17
WCC1: Mill Creek	74	476	9.5	4.2	7.7	0.11
WCC2: Pike Creek	84	295	7.7	4.0	7.8	0.03
WCC3: Middle Run	26	197	8.9	1.3	7.1	0.14
WCC4: Mill Creek	44	362	8.9	2.1	7.4	0.20
WCC5: Middle Run	42	214	8.2	0.5	6.6	0.16
WCC6: Mainstem	73	362	8.2	3.0	7.5	0.18
WCC8: Middle Run	35	222	9.5	0.8	7.3	0.11

Alkalinity

Alkalinity measures the buffering capacity of a solution (i.e., its ability to neutralize acids). Most waters contain certain ions that can neutralize acidic ions based on their underlying geology. Streams that flow through limestone deposits have the highest alkalinity values and therefore the highest buffering capacity. The alkalinity of streams can vary due to the amount of rainfall, the season, as well as the geology of the watershed.

Data was collected using LaMotte Alkalinity field kits.

Alkalinity values were all above the minimum DNREC target of 20 mg/l. Values averaged from 26 – 88 mg/l.



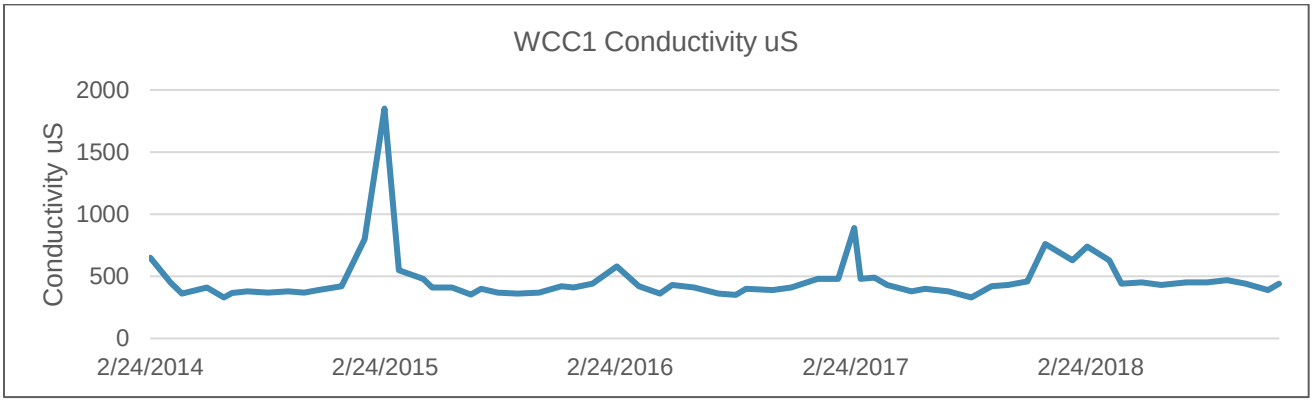
RCC2: Burrows Run

Conductivity

Conductivity is a measure of water's capability to pass electrical flow which is directly related to the concentration of ions in the water. These conductive ions come from dissolved salts and inorganic materials such as chlorides, sulfides and carbonate compounds. Geology can naturally influence the base conductivity level of streams. The application of road salt during winter months and runoff from urbanized areas can result in high conductivity levels. National and regional data sets point to winter road salt application as a potential concern as salts may accumulate in soils and shallow groundwater and slowly enter streams throughout the year.

In general, high conductivity at non-tidal sites occurred during winter months and can be attributed to road salt application. Enhanced monitoring is recommended to better understand the influence of road salt application on year-long trends.

LaMotte or Oakton Conductivity Pocket Testers were used for data collection.

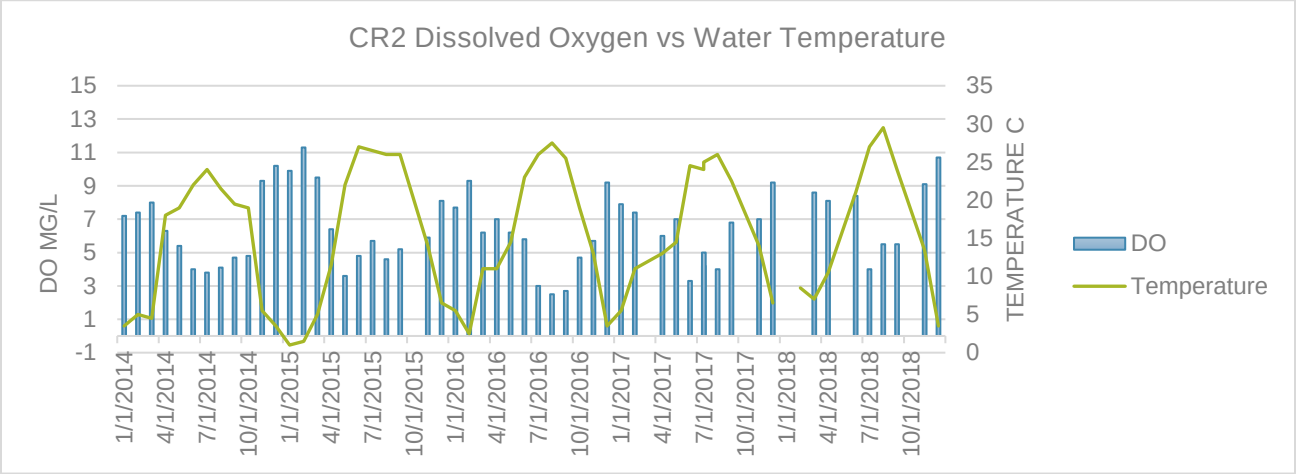


Dissolved Oxygen

Dissolved oxygen (DO) is an important water quality indicator for aquatic life. DO levels below 3-5 mg/L can harm or kill fish and other aquatic organisms. Temperature influences DO levels - the warmer the water is, the less dissolved oxygen it can hold. Wind or wave action or turbulence from churning over rocks can add oxygen to water. Aquatic plants both add (photosynthesis) and consume (respiration) oxygen. DO levels can also vary by time of day and by time of year.

All sites averaged over 6.3 mg/l and most sites over 8 mg/l indicating overall good DO levels. One site though, Christina River CR2, had 7 data points below 4.0 mg/l and warrants more observation during summer months.

Data were collected using Fisher DO meters.

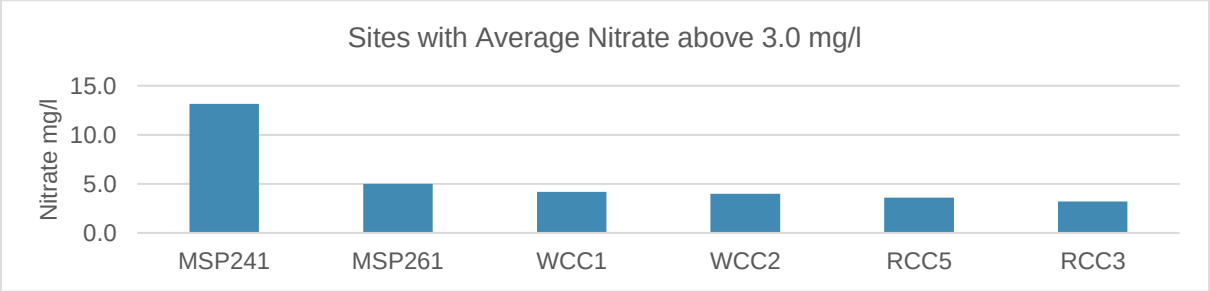


Nitrate

While nitrogen naturally occurs in waters, excess nitrates in water come from fertilizer runoff, malfunctioning septic or sewage systems, manure from livestock, industrial discharges and from air pollution. The target level for total nitrogen (all forms of nitrogen combined) in Delaware freshwater is below 3.0 mg/L. Delaware Nature Society volunteers measure nitrate-nitrogen, which is only one component of total nitrogen.

Overall, most sites averaged below 3.0 mg/l. Lower nitrate levels were generally observed at sites in the Christina and Brandywine watersheds. Higher levels were observed in the Mispillion, Red Clay and upper Mill Creek (WCC1), particularly at site MSP241.

LaMotte Nitrate Nitrogen field kits were used for data collection.



pH

pH is a measure of how acidic or basic water is based on the concentration of hydrogen ions. The pH scale ranges from 0 to 14. A pH of 7 is neutral. A pH less than 7 is acidic while a pH greater than 7 is basic. Because pH values are based on a logarithmic scale, each 1.0 change in pH represents a factor of ten change in acidity. This means that a pH of 3.0 is 10 times more acidic than a pH of 4.0.

LaMotte pH field kits were used for data collection.

pH averages across all sites fell within the target range of 6.5 – 8.5. Several data points between 5.0 – 6.0 were observed but these were isolated and not considered problematic.

Phosphate

While phosphorus is an essential nutrient, excess come from sources such as fertilizer runoff, malfunctioning septic systems, sewage treatment plants, manure from livestock animals, industry and air pollution. Since this nutrient is usually found in small amounts, even small increases can have large effects on aquatic systems.

Delaware considers total phosphorus (which includes organic phosphorus) levels higher than 0.2 mg/l as a potential problem. Stream Watch measures orthophosphate, the inorganic dissolved form of phosphate that is readily available to aquatic plants. As our results only measure a component of total phosphorus, values approaching 0.2 mg/l could be considered high.

Only one site, BC3, averaged over 0.2 mg/l. Approximately 60% of sites averaged between 0.1 - 0.2 mg/l.

Hach Orthophosphate field kits were used for data collection.

2014 – 2018 Alkalinity (mg/l) Summary				
Site	Average	Minimum	Maximum	# samples
BC1	62	40	76	53
BC2	62	44	78	53
BC3	46	30	63	27
BC4	42	36	48	2
BC5	44	32	60	34
BC6	59	40	77	35
BC7	27	18	39	11
CR1	65	47	84	56
CR10	55	41	62	12
CR11	56	42	66	9
CR2	54	30	80	55
CR3	43	26	64	37
CR7	47	37	57	11
CR8	44	28	60	27
MSP241	34	16	64	59
MSP261	30	20	50	23
MSP281	42	18	132	18
MSP291	59	20	90	23
P1	48	32	60	50
P2	48	36	59	32
RCC2	50	34	70	26
RCC3	86	60	108	56
RCC4	86	62	112	59
RCC5	74	60	99	62
RCC7	35	27	41	7
RCC8	69	46	84	58
WCC1	74	51	92	63
WCC2	84	40	128	2
WCC3	26	20	48	47
WCC4	44	24	62	46
WCC5	42	28	58	52
WCC6	73	0	96	51
WCC8	35	20	48	40

2014 – 2018 Conductivity (uS) Summary				
Site	Average	Minimum	Maximum	# samples
BC1	7.4	6.5	8	53
BC2	7.4	6.3	8	53
BC3	7	7	7	27
BC4	7.5	7.5	7.5	2
BC5	7.3	6.8	7.5	34
BC6	7.3	6.8	7.8	35
BC7	7	6.5	7.5	12
CR1	7.2	6.8	7.5	56
CR10	7.1	6.3	7.5	12
CR11	6.9	6	7	9
CR2	7	6.5	7.5	55
CR3	6.8	6.5	7.5	36
CR7	7	6.5	7	18
CR8	7.1	5.5	7.8	37
MSP241	6.5	5.5	6.8	59
MSP261	6.5	6	6.5	23
MSP281	6.3	6	6.5	18
MSP291	6.5	5.8	7	24
P1	7.2	7	7.5	50
P2	7.3	7.3	7.5	32
RCC2	7.2	6.5	7.8	26
RCC3	7.7	7	8	57
RCC4	7.6	7.3	8	59
RCC5	7.6	7	9	62
RCC7	7.3	7.3	7.5	7
RCC8	7.2	6.5	7.5	59
WCC1	7.7	7	8	62
WCC2	7.8	7.5	8	2
WCC3	7.1	6.5	7.5	47
WCC4	7.4	7	8	46
WCC5	6.6	6	8	51
WCC6	7.5	6.8	8	49
WCC8	7.3	7	8	40

2014 – 2018 Dissolved Oxygen (mg/l) Summary				
Site	**Average**	**Minimum**	**Maximum**	**# samples**
BC1	9	5.6	14.1	53
BC2	9	5	14.2	53
BC3	9.5	7.4	12.4	27
BC4	6.3	4.8	7.8	2
BC5	10.7	6.6	14.8	34
BC6	10.4	5.5	14.3	35
BC7	9.5	7.3	12.5	11
CR1	7.3	4.3	10.6	55
CR10	9.3	6	12	12
CR11	8.9	4	12.6	9
CR2	6.4	2.5	11.3	54
CR3	9.1	4.8	14.5	31
CR7	9.1	3.9	14.2	16
CR8	8.3	3.3	15.9	26
MSP241	9.7	7.5	12	58
MSP261	10	7.9	11.8	22
MSP281	8.7	6.6	12.1	18
MSP291	9.2	6.9	13.2	23
P1	8.1	5.5	11.3	48
P2	7.6	5	12.3	25
RCC2	9.4	5.8	13.6	22
RCC3	10.5	7.4	15.6	53
RCC4	10	5.7	15.5	56
RCC5	10	7.3	13.5	62
RCC7	8.2	7.3	10	7
RCC8	8.8	5.5	11.5	59
WCC1	9.5	4.7	15.9	61
WCC2	7.7	6.2	9.1	2
WCC3	8.9	5	14.6	41
WCC4	8.9	6.2	13.4	41
WCC5	8.2	3.5	14.5	46
WCC6	8.2	5.5	13.9	48
WCC8	9.5	7.2	12.7	38

2014 – 2018 pH Summary				
Site	**Average**	**Minimum**	**Maximum**	**# samples**
BC1	7.4	6.5	8	53
BC2	7.4	6.3	8	53
BC3	7	7	7	27
BC4	7.5	7.5	7.5	2
BC5	7.3	6.8	7.5	34
BC6	7.3	6.8	7.8	35
BC7	7	6.5	7.5	12
CR1	7.2	6.8	7.5	56
CR10	7.1	6.3	7.5	12
CR11	6.9	6	7	9
CR2	7	6.5	7.5	55
CR3	6.8	6.5	7.5	36
CR7	7	6.5	7	18
CR8	7.1	5.5	7.8	37
MSP241	6.5	5.5	6.8	59
MSP261	6.5	6	6.5	23
MSP281	6.3	6	6.5	18
MSP291	6.5	5.8	7	24
P1	7.2	7	7.5	50
P2	7.3	7.3	7.5	32
RCC2	7.2	6.5	7.8	26
RCC3	7.7	7	8	57
RCC4	7.6	7.3	8	59
RCC5	7.6	7	9	62
RCC7	7.3	7.3	7.5	7
RCC8	7.2	6.5	7.5	59
WCC1	7.7	7	8	62
WCC2	7.8	7.5	8	2
WCC3	7.1	6.5	7.5	47
WCC4	7.4	7	8	46
WCC5	6.6	6	8	51
WCC6	7.5	6.8	8	49
WCC8	7.3	7	8	40

2014 – 2018 Nitrate (mg/l) Summary				
Site	**Average**	**Minimum**	**Maximum**	**# samples**
BC1	1.9	0.1	4	53
BC2	1.9	0.3	4	53
BC3	1.4	0.5	4	26
BC4	0.5	0.3	0.8	2
BC5	0.7	0.1	1.5	32
BC6	1.1	0.3	3	34
BC7	1.4	0.3	3	11
CR1	1.6	0.5	3	55
CR10	1.1	0.1	2	11
CR11	0.6	0.3	2	7
CR2	0.9	0.3	3	54
CR3	0.7	0.1	3	35
CR7	0.6	0.3	1	17
CR8	0.8	0.1	3	37
MSP241	13.2	2	18	59
MSP261	5	2	8	23
MSP281	0.3	0.3	0.5	18
MSP291	3.5	0.3	8	24
P1	3.1	1	5	49
P2	2.6	0.3	4	30
RCC2	0.9	0.3	3	21
RCC3	3.2	0.5	6	53
RCC4	2.8	0.3	5	58
RCC5	3.6	0.3	6	61
RCC7	1.5	0.3	4	7
RCC8	0.3	0.3	0.5	55
WCC1	4.2	2	7	61
WCC2	4	4	4	2
WCC3	1.3	0.3	3	46
WCC4	2.1	0.3	3	44
WCC5	0.5	0.1	4	51
WCC6	3	0.1	6	52
WCC8	0.8	0.3	2	40

2014 – 2018 Phosphate (mg/l) Summary				
Site	**Average**	**Minimum**	**Maximum**	**# samples**
BC1	0.13	0.02	0.6	53
BC2	0.13	0.02	0.55	53
BC3	0.26	0.01	0.67	27
BC4	0.02	0.01	0.02	2
BC5	0.02	0.01	0.1	34
BC6	0.03	0	0.5	35
BC7	0.08	0.01	0.19	11
CR1	0.09	0.01	1	56
CR10	0.15	0.06	0.29	3
CR2	0.12	0.01	1	54
CR3	0.14	0.01	0.3	37
CR7	0.01	0.01	0.01	16
CR8	0.02	0.01	0.16	34
MSP241	0.03	0.01	0.18	59
MSP261	0.15	0.01	0.9	23
MSP281	0.03	0.01	0.18	18
MSP291	0.1	0.01	0.36	24
P1	0.14	0.1	0.3	49
P2	0.17	0.08	0.63	32
RCC2	0.15	0.01	0.3	12
RCC3	0.18	0.01	0.51	57
RCC4	0.18	0.01	0.66	59
RCC5	0.17	0.01	0.7	61
RCC7	0.07	0.02	0.12	7
RCC8	0.05	0.02	0.1	59
WCC1	0.11	0.01	0.6	62
WCC2	0.03	0.01	0.06	2
WCC3	0.14	0.01	0.48	47
WCC4	0.2	0.01	0.88	46
WCC5	0.16	0.04	0.4	52
WCC6	0.18	0.01	0.62	44
WCC8	0.11	0.01	0.3	40

Appendix Seven: Public Participation

Appendix Eight: PLACEHOLDER FOR Delaware's 2020 305(b) Groundwater-Quality Assessment Based on Public-Well Data

Appendix Nine: Trend Analyses for Waters of the State

Trend Analysis for Nitrogen and Phosphorus at Eleven Freshwater Stream Sites

Trend Analysis for Nitrogen and Phosphorus at Eleven Freshwater Stream Sites

Summary

Long-term nitrogen and phosphorus data collected from eleven C1 monitoring sites throughout the State have been analyzed for trends using the Weighted Regressions on Time, Discharge, and Season (WRTDS) method. For total nitrogen concentrations, trends have been detected from 9 out of the 11 sites; an upward trend has been detected from 3 sites in Nanticoke River, Marshyhope Creek and Deep Creek Branch, and a downward trend from 6 sites in Beaverdam Ditch, Millsboro Pond, Blackbird Creek, Brandywine Creek, White Clay Creek and the Christina River. For total phosphorus concentrations, trends have been detected from 8 out of the 11 sites; an upward trend has been detected from 3 sites in Beaverdam Ditch, Silver Lake of St. Jones River, Deep Creek Branch, and a downward trend from 5 sites in Nanticoke River, Red Clay Creek, White Clay Creek, Brandywine River and Christina River.

As an integral part of tracking watershed progress toward achieving TMDL targets, trend analysis of nutrient condition (concentration and load) has been performed at various locations throughout the State. For this report, the estimation of the direction and magnitude of trends in total nitrogen (TN) and total phosphorus (TP) concentrations as well as the associated uncertainties are presented. The analysis has been performed using an R statistical package called "Exploration and Graphics for RivEr Trends (EGRET)" (Hirsch and DeCicco, 2014). This package was built based on a multiple regression method called "Weighted Regressions on Time, Discharge, and Season (WRTDS)", (Hirsch et al, 2010). As the name indicates, the WRTDS method estimates daily concentration by establishing a regression relationship between concentration and stream flow and time of the year (season). The authors described the method's ability as "It can detect and describe temporal trends that may not conform to linear or quadratic functional forms;" and "it can not only provide estimates of the time series of annual mean concentration and fluxes, but also time series of "flow-normalized" mean concentration and fluxes which integrate over the probability distribution of discharge to remove the effect of interannual streamflow variability," (Hirsch et al, 2015). Furthermore, a new add-on package to EGRET, EGRETci - Exploration and Graphics for RivEr Trends Confidence Intervals (Hirsch et al, 2016) for analyzing uncertainties associated with the estimated trends, was also performed and the results are included. The WRTDS method has been widely used for conducting trend analysis. The United States Geological Survey (USGS) uses this method to assess water quality changes regularly in non-tidal tributaries of the Chesapeake Bay Watershed.

Basically, WRTDS uses two datasets - the daily stream flow measurements and monthly or bimonthly water quality samples collected at freshwater stream site. Both datasets are long-term and cover the same time period. In Delaware, eleven C1 monitoring sites that are located in the freshwater stream segments and co-located with the USGS stream gauging stations have been identified having nitrogen and phosphorus sample records and daily stream flow records long enough for the analysis. Figure 1 shows the locations of the 11 identified C1 sites, and Table 1 lists the C1 sites with their co-located USGS stream gauging stations.

The water quality samples of nitrogen and phosphorus were retrieved from three places - the Water Quality Portal (formerly STORET) under National Water Quality Monitoring Council at https://www.waterqualitydata.us/ for data collected after 1998, the STORET legacy dataset for data collected before 1998, and our lab reports for the most recent data that had not shown in the Water Quality Portal when data was retrieved for the analysis. This analysis focused on concentrations of total nitrogen (TN) and total phosphorus (TP). It was noted that in the sample records before 2005, TN was not directly measured. Instead, nitrogen species including nitrate-nitrite nitrogen, ammonia nitrogen, organic nitrogen, or/and total Kjeldahl nitrogen (TKN) were measured. Therefore, TN concentrations were estimated for the samples collected prior to 2005 by adding TKN to nitrate-nitrite nitrogen. TP has been directly measured throughout the recorded period. In these sample records, occasionally, concentrations of nitrogen species and total phosphorus were non-detected. In that case, a non-detect was replaced with a value of a half of the detection limit.

Figure 2 shows sampled TN and TP concentrations, respectively. On the graphs, the blue dots represent samples collected from all 11 sites for the period of 1979 – 2019. In addition, Delaware's TMDL targets for TN and TP (3 mg/l for TN and 0.2 mg/l for TP) are shown. It is apparent that concentrations of TN and TP in large numbers of samples are above the TMDL targets.

Individual site's TN and TP samples used for the analysis are presented in Figures 4 thru 14 in blue dots next to the estimated trend plot. The period of the data record used for the analysis varies from site to site and this information is listed in Table 2.

The daily mean flow records were obtained from the USGS website at https://maps.waterdata.usgs.gov/mapper/index.html. The record length used for the analysis is determined by the sampled TN and TP records lengths. Some of the stream gages have provisional data for the most recent months at the time flow data was retrieved for this analysis. For an overview, the annual runoff rates at each of the 11 sites are presented in Figure 3.

The direction and magnitude of the estimated TN and TP changes are presented in Table 2, and the uncertainties of the estimates in terms of likelihood (in arrow forms) are also included. The estimated change is an average change between the start date and the end date of the analyzed period. Negative value for the estimated change indicates downward trend (improving condition) and positive value indicates upward trend (degrading condition). Furthermore, the analysis results are also presented in Figures 4 and 5 for TN and TP, respectively, to show where the trends have happened and in what directions, as well as how strong the evidence supports the estimated changes at the 11 C1 sites in Delaware.

The time series of the trend estimates, along with the sampled data, is presented in Figures 6 through 16 for TN and TP**,** respectively**,** for each site. The graphs show the sampled concentrations (blue dots), the estimated annual mean concentrations (black dots), the flow normalized concentrations (green lines), and the confidence intervals (green dotted lines).

It can be easily seen from Table 2 and Figures 4 and 5 whether a site has a detected trend for TN or TP and how strong the evidence is to support the estimated change. The time series plots (Figures 6 thru 16) provide a closer look at when the changes might have happened and in what rates and directions. For example, at the Red Clay Creek site, the data has provided ~~a~~ strong evidence for a

downward trend in TP as indicated in Table 2, the time series plot in Figure 6 shows the rate of the downward TP trend for the period before 2008 is steeper than the one after 2008. A similar TP pattern is also observed for the other three sites in the Piedmont Basin. Even more, for the sites where trend for TN or TP is not detected, a pattern of changing directions of the estimates within the analyzed time period is observed, such as in Figure 6 for TP at Red Clay Creek, the curve for the estimates bends at around 2008, an upward slope for the period before 2008 and a downward slope after 2008.

Reference

Hirsch, R. M., and De Cicco, L. A., 2014, User Guide to Exploration and Graphic for RivEr Trends (EGRET) and dataRetrieval: R Packages for Hydrologic Data, USGS Techniques and Methods 4-A10, 95p.

Hirsch, R.M, Moyer, D.L., and Archfield, S.A., 2010, Weighted Regressions on Time, Discharge, and Season (WRTDS), with an Application to Chesapeake Bay River Inputs, Journal of the American Water Resources Association p. 857-880.

Hirsch, Robert M., Archfield, Stacey A., and DeCicco, Laura A., 2015, A bootstrap method for estimating uncertainty of water quality trends, Environmental Modelling and Software, 73, 148-166.

Hirsch, R. M., and De Cicco, L. A., 2016, Exploration and Graphic for RivEr Trends (EGRET) Confidence Intervals, R Package 1.0.2 Version.

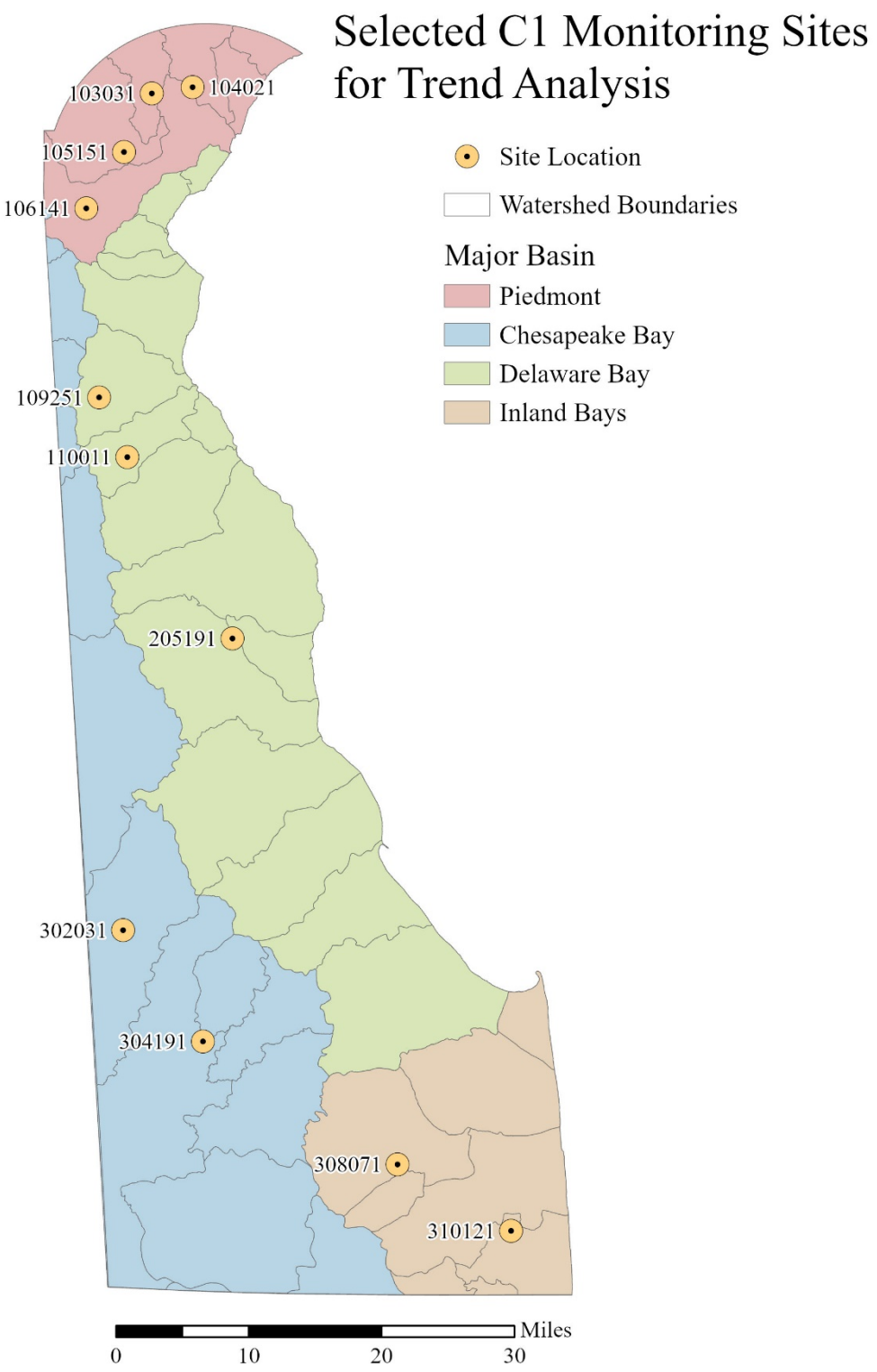


Figure 1. The Selected Eleven C1 Monitoring Sites for Using WRTDS for Trend Analysis

Table 1. Selected C1 Monitoring Sites and Their Co-located USGS Stream Gage Sites

C1 Site ID	Location Description	USGS Stream Gage ID	USGS Stream Gage Name	Drainage Area (mi2)
103031	Red Clay Creek at Lancaster Pike (Rt. 48)	1480000	RED CLAY CREEK AT WOODDALE, DE	47.0
104021	Brandywine River at New Bridge Rd. (Rd. 279)	1481500	BRANDYWINE CREEK AT WILMINGTON, DE	314.0
105151	White Clay Creek at Delaware Park Blvd.	1479000	WHITE CLAY CREEK NEAR NEWARK, DE	89.1
106141	Christina River at Sunset Lake Rd. (Rt. 72)	1478000	CHRISTINA RIVER AT COOCHS BRIDGE, DE	20.5
109251	Appoquinimink River's tributary, Deep Creek Branch at Summit Bridge Rd. (Rt. 71)	1483155	SILVER LAKE TRIBUTARY AT MIDDLETOWN, DE	1.7
110011	Blackbird Creek at Blackbird Station Rd. (Rd. 463)	1483200	BLACKBIRD CREEK AT BLACKBIRD, DE	4.1
205191	St. Jones River at Silver Lake at Spillway (Dover City Park)	1483700	ST JONES RIVER AT DOVER, DE	31.9
302034	Marshyhope Creek at Fishers Bridge Rd. (Rd. 308)	1488500	MARSHYHOPE CREEK NEAR ADAMSVILLE, DE	46.8
304191	Nanticoke River at Rifle Range Rd. (Rd. 545)	1487000	NANTICOKE RIVER NEAR BRIDGEVILLE, DE	75.4
308071	Indian River at Millsboro Pond outlet at John Williams Hwy. (Rt. 24)	1484525	MILLSBORO POND OUTLET AT MILLSBORO, DE	61.7
310121	Little Assawoman Bay, Beaver Dam Ditch at Beaver Dam Rd. (Rd 368)	1484695	BEAVERDAM DITCH NEAR MILLVILLE, DE	2.2

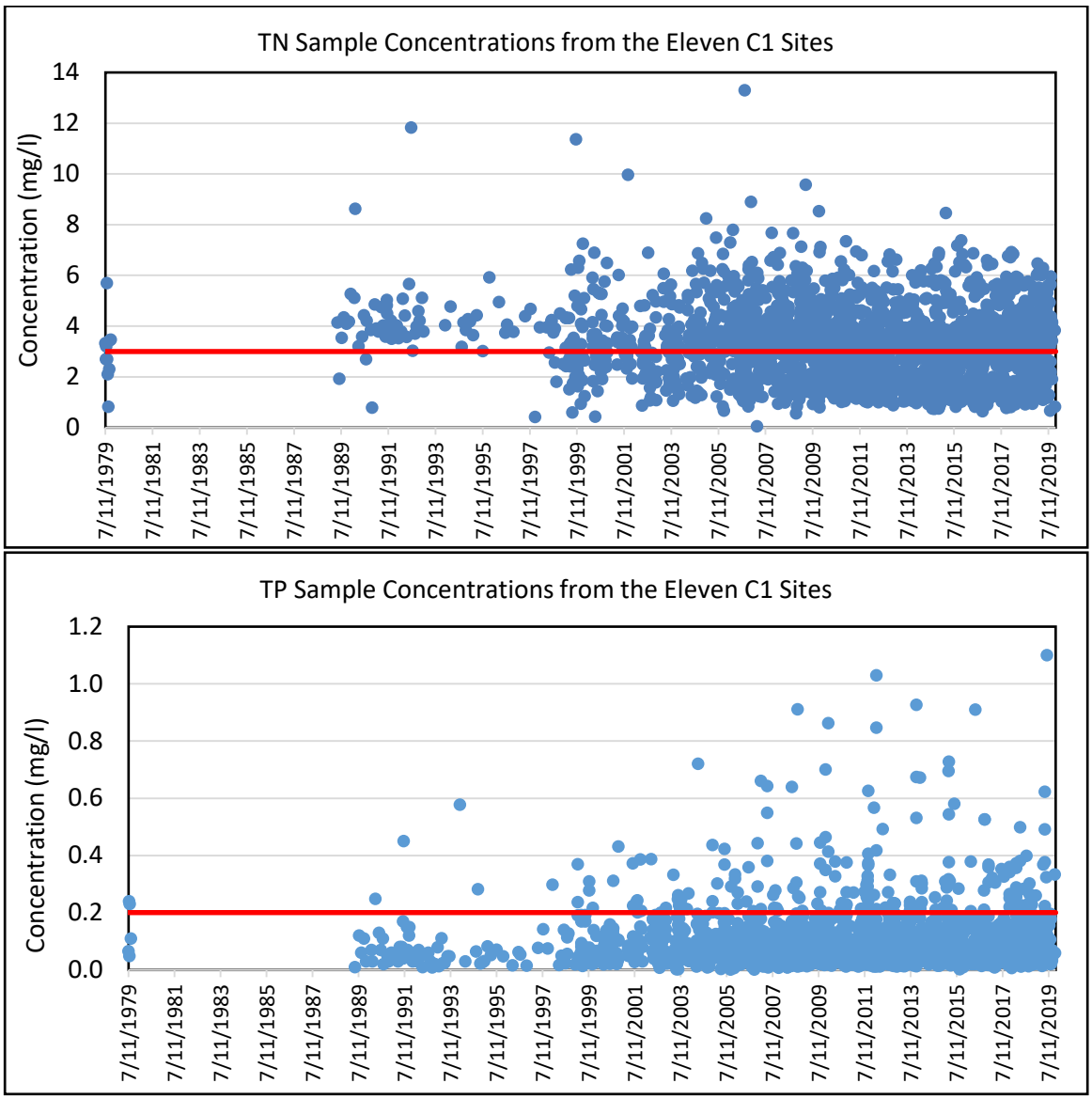


Figure 2. TN and TP Concentrations (blue dots) Sampled from the Selected Eleven C1 Sites and Delaware's TMDL Targets (red lines)

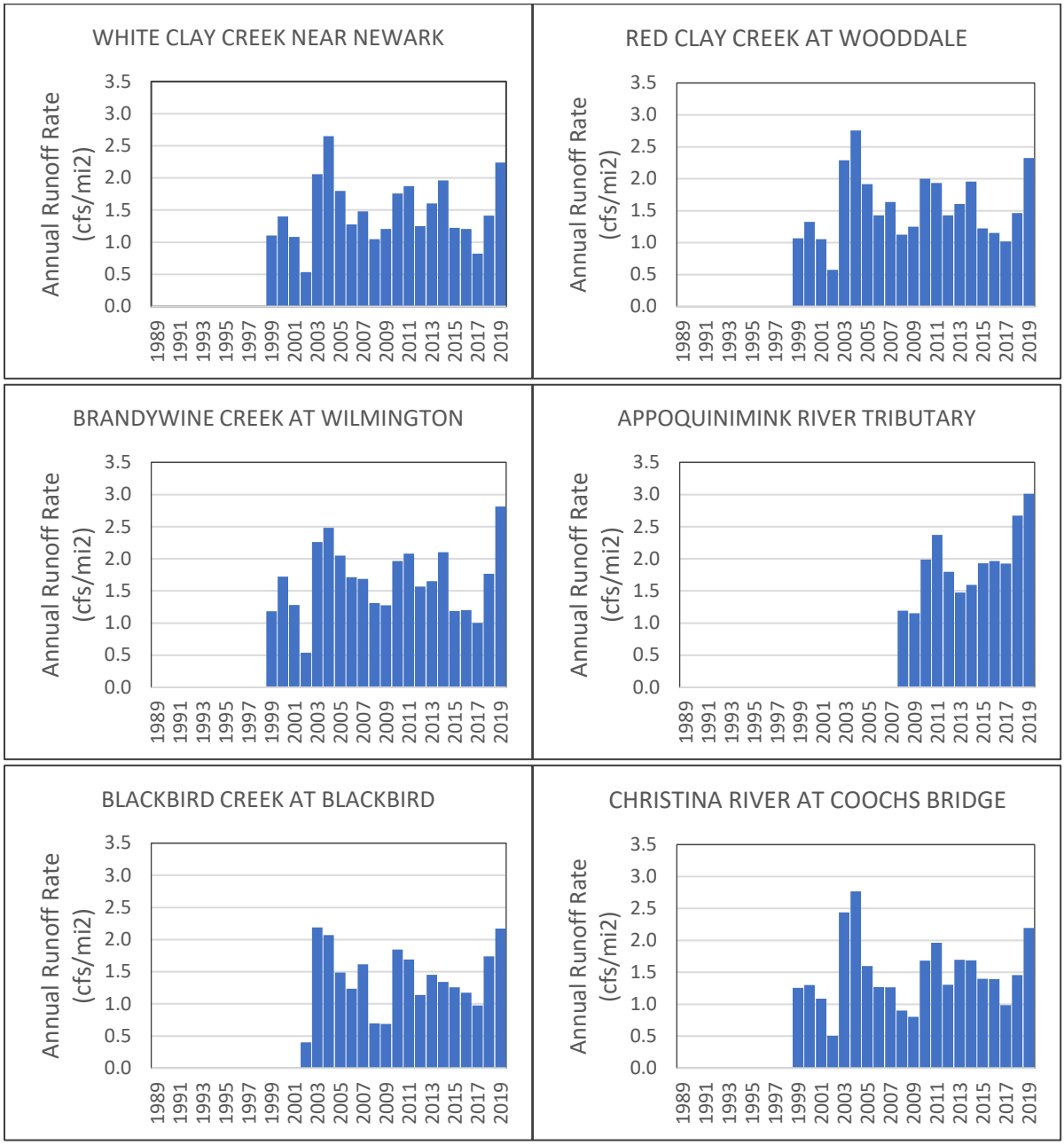


Figure 3. Annual Runoff Rates at the Eleven USGS Stream Gaging Stations

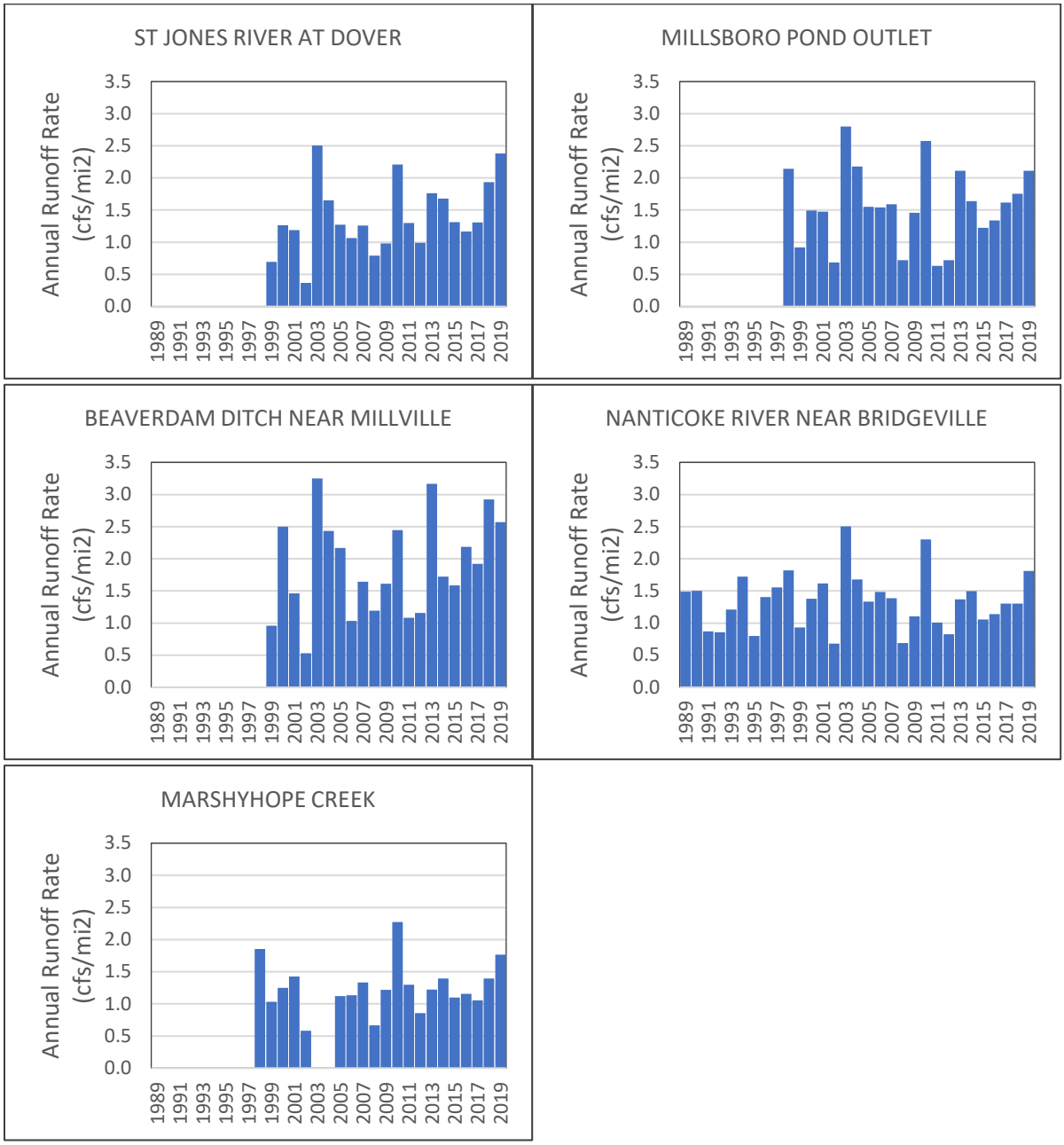


Figure 3. Annual Runoff Rates at the Eleven USGS Stream Gaging Stations (continued)

Table 2. Trend Analysis Results for TN and TP Concentrations at the C1 Monitoring Sites

C1 Site ID	Location description	Period (water year)	Estimated TN Change (mg/l)	Estimated TP Change (mg/l)	TN Trend*	TP Trend*
103031	Red Clay Creek at Lancaster Pike (Rt. 48)	1999 - 2019	-0.07	-0.177	~~~	
104021	Brandywine Creek at New Bridge Rd. (Rd. 279)	1999 - 2019	-0.19	-0.070		
105151	White Clay Creek at Delaware Park Blvd.	1999 - 2019	-0.63	-0.142		
106141	Christina River at Sunset Lake Rd. (Rt. 72)	1999 - 2019	-0.83	-0.026		
109251	Deep Creek Br. at Summit Bridge Rd. (Rt. 71), of Appoquinimink River	2008 - 2019	0.45	0.005		
110011	Blackbird Creek at Blackbird Station Rd. (Rd. 463)	2002 - 2019	-0.67	-0.003		~~~
205191	Silver Lake at Spillway (Dover City Park) of St. Jones River	1999 - 2019	0.00	0.012	~~~	
302034	Marshyhope Creek at Fishers Bridge Rd. (Rd. 308)	1998 - 2019	2.02	0.006		~~~
304191	Nanticoke River at Rifle Range Rd. (Rd. 545)	1989 - 2019	1.67	-0.029		
308071	Millsboro Pond at John Williams Hwy. (Rt. 24)	1998 - 2019	-0.46	0.002		~~~
310121	Beaver Dam Ditch at Beaver Dam Rd. (Rd. 368) in Little Assawoman Bay	1999 - 2019	-2.85	0.059		

*Wide dark green downward arrow for highly/very likely downward trend, narrow light green downward arrow for likely downward trend, wide dark red upward arrow for highly/very likely upward trend, narrow pink upward arrow for likely upward trend, and black squiggle line for no trend.

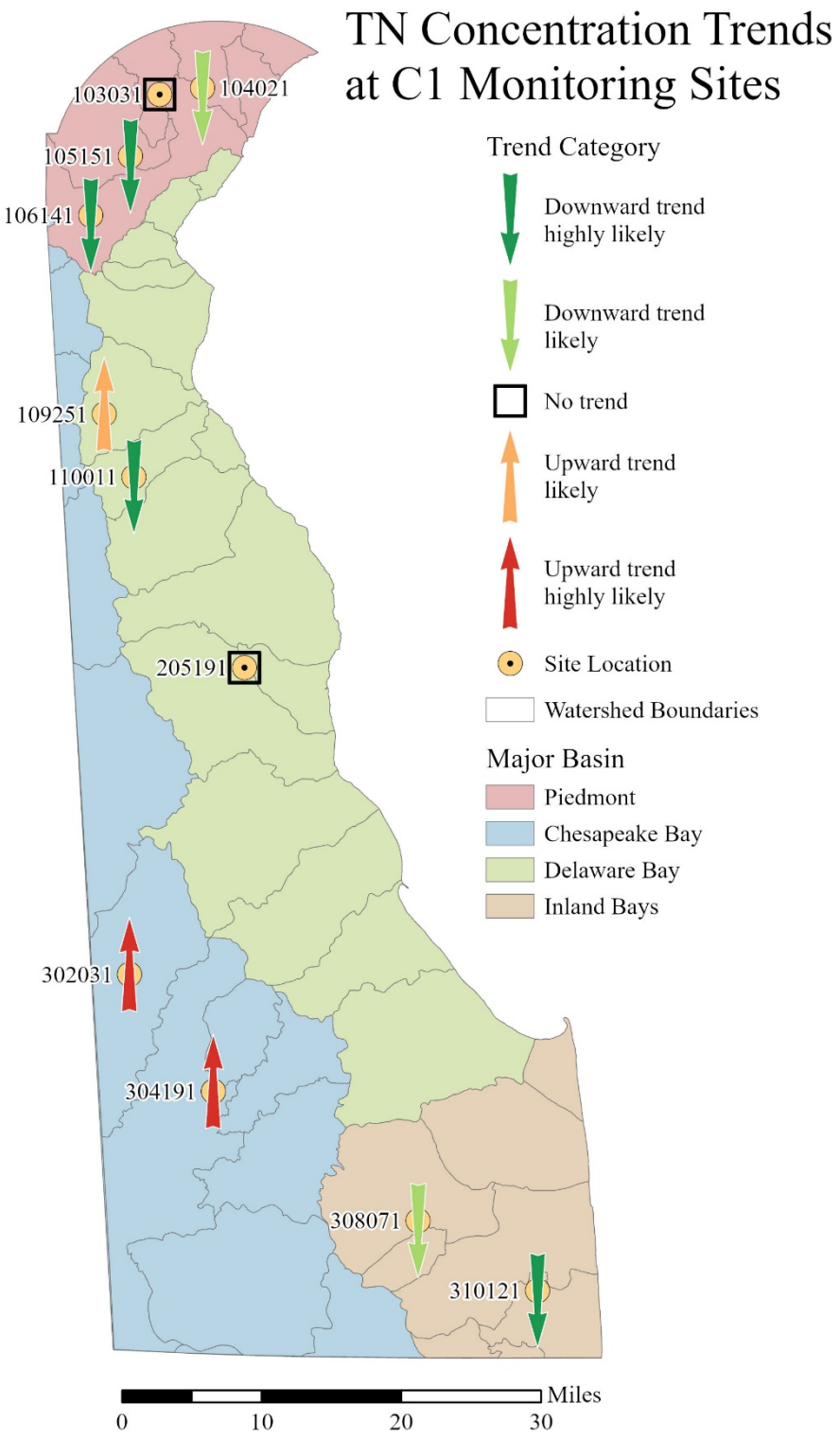


Figure 4. TN Trend Directions at the Selected 11 Monitoring Sites

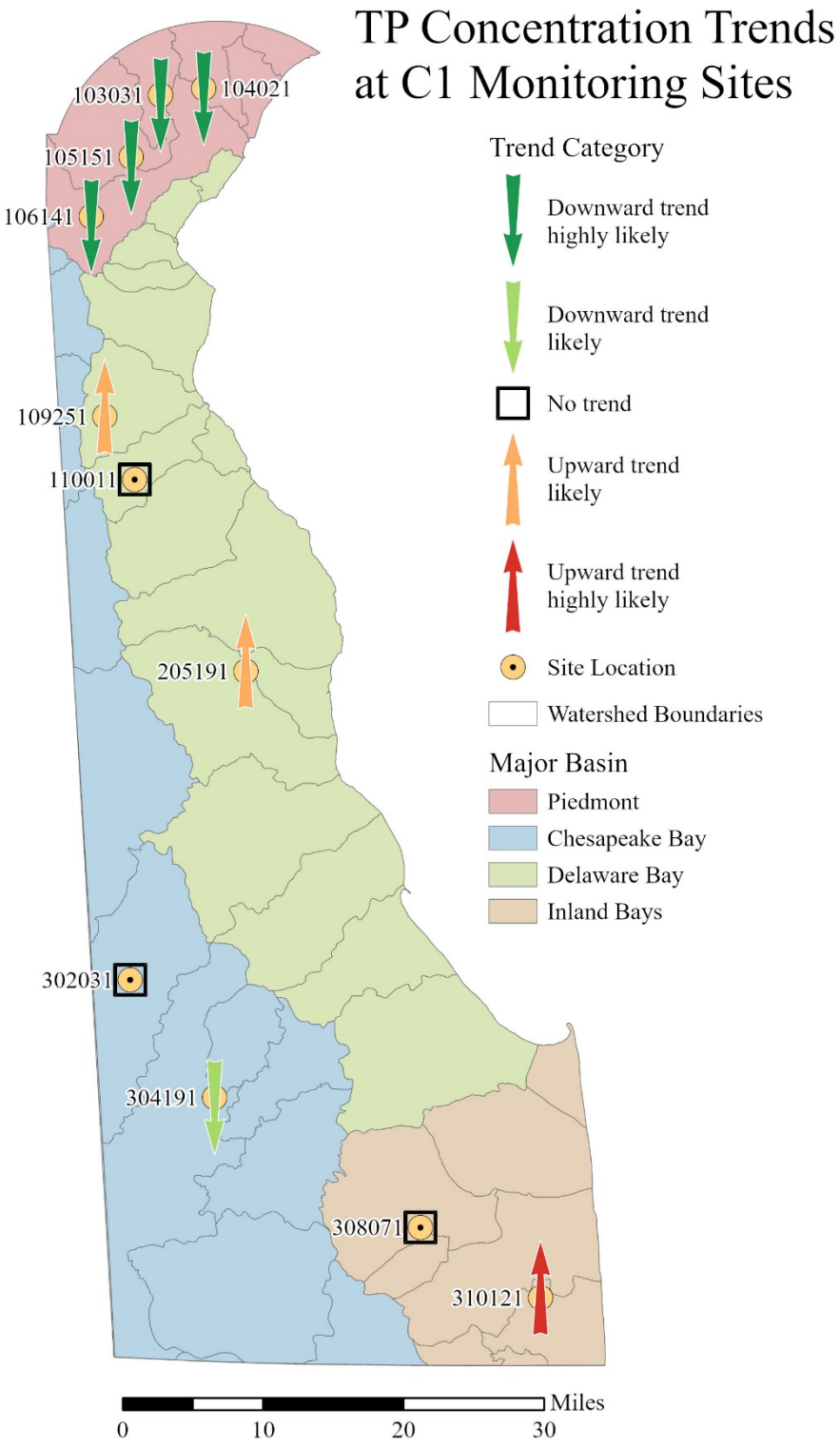


Figure 5. TP Trend Directions at the Selected 11 Monitoring Sites.

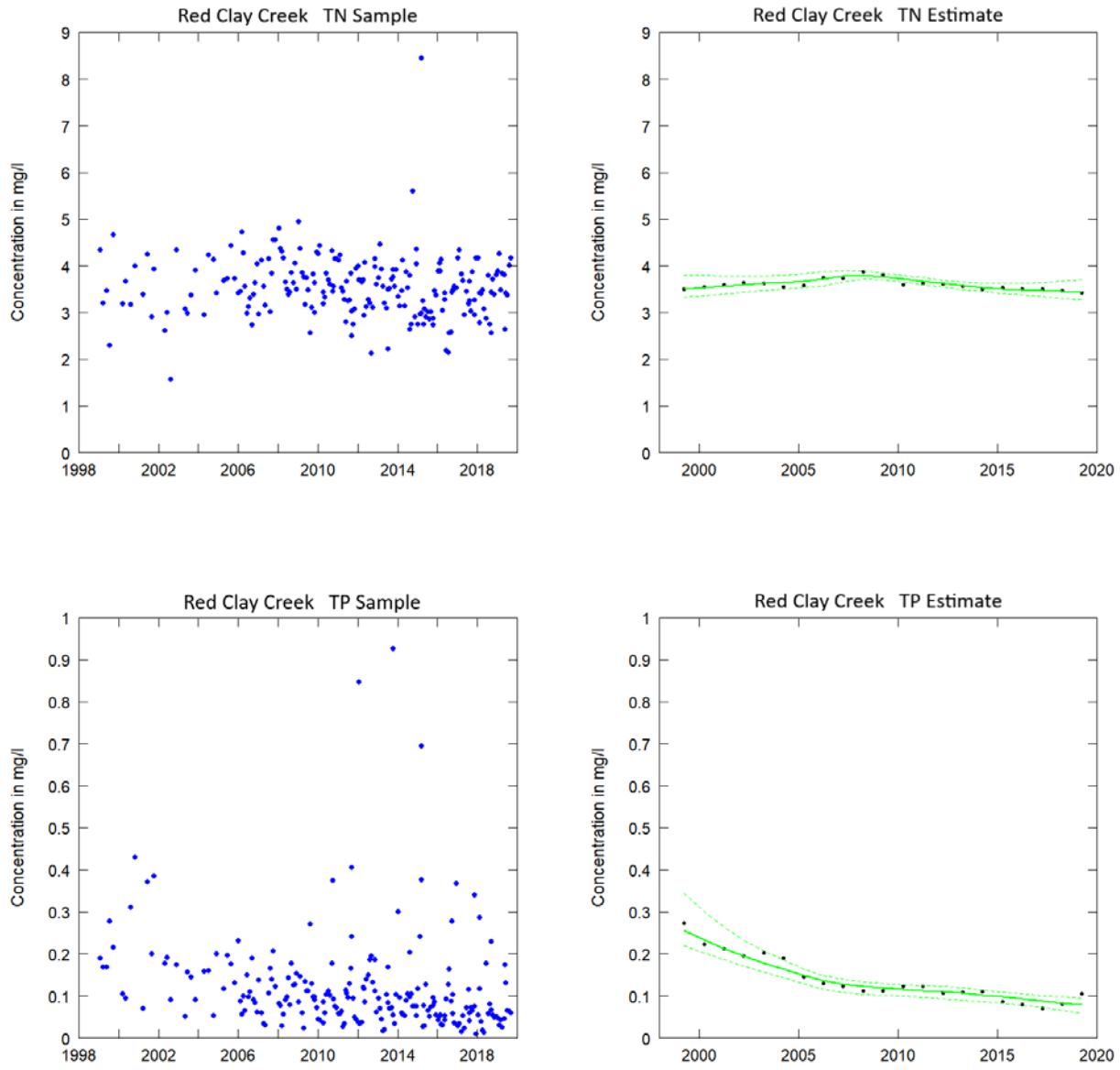


Figure 6. TN and TP sample concentrations (blue dots) at Red Clay Creek at Lancaster Pike (site ID 103031), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

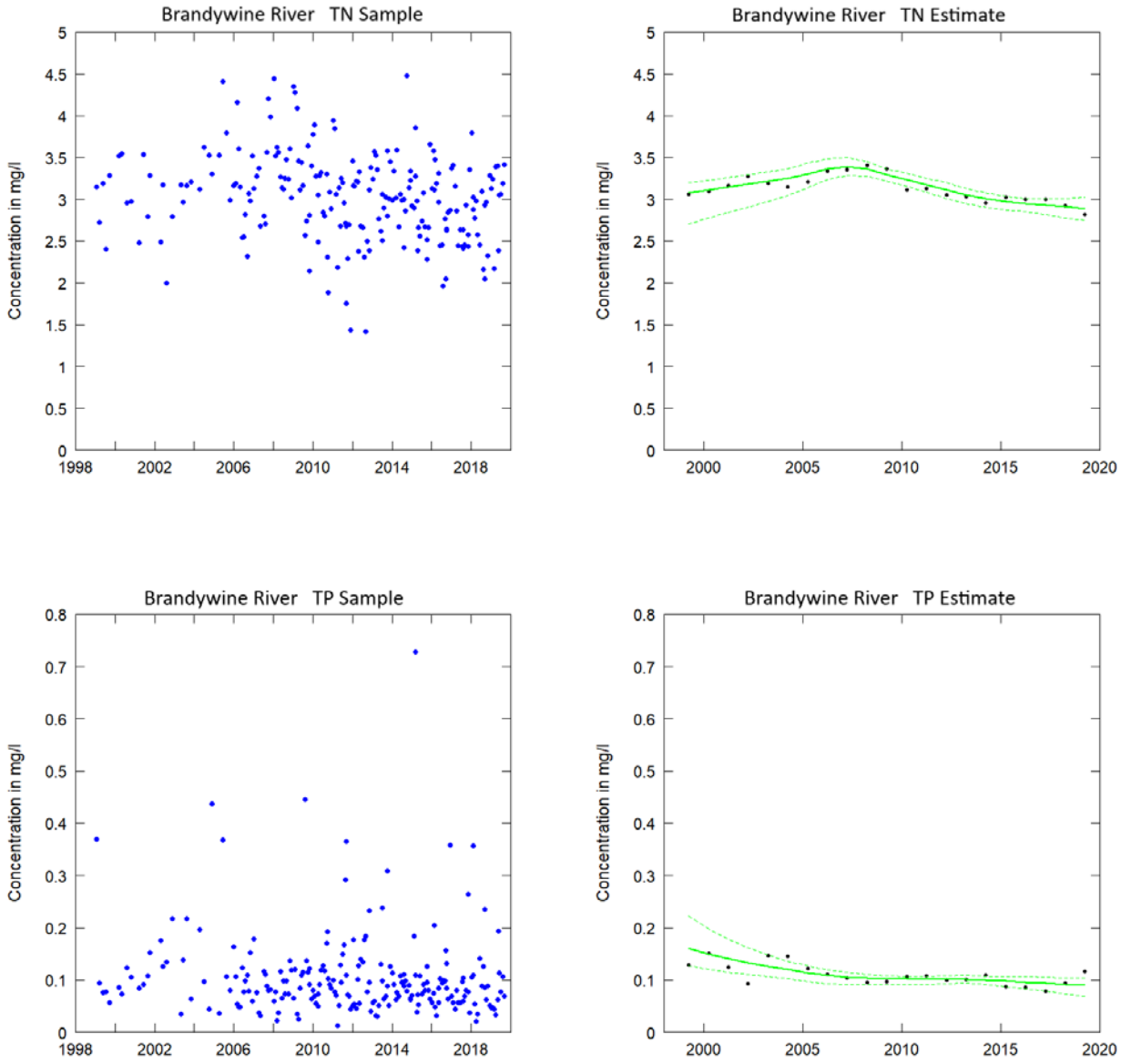


Figure 7. TN and TP sample concentrations (blue dots) at Brandywine River at New Bridge Road (site ID 104021), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

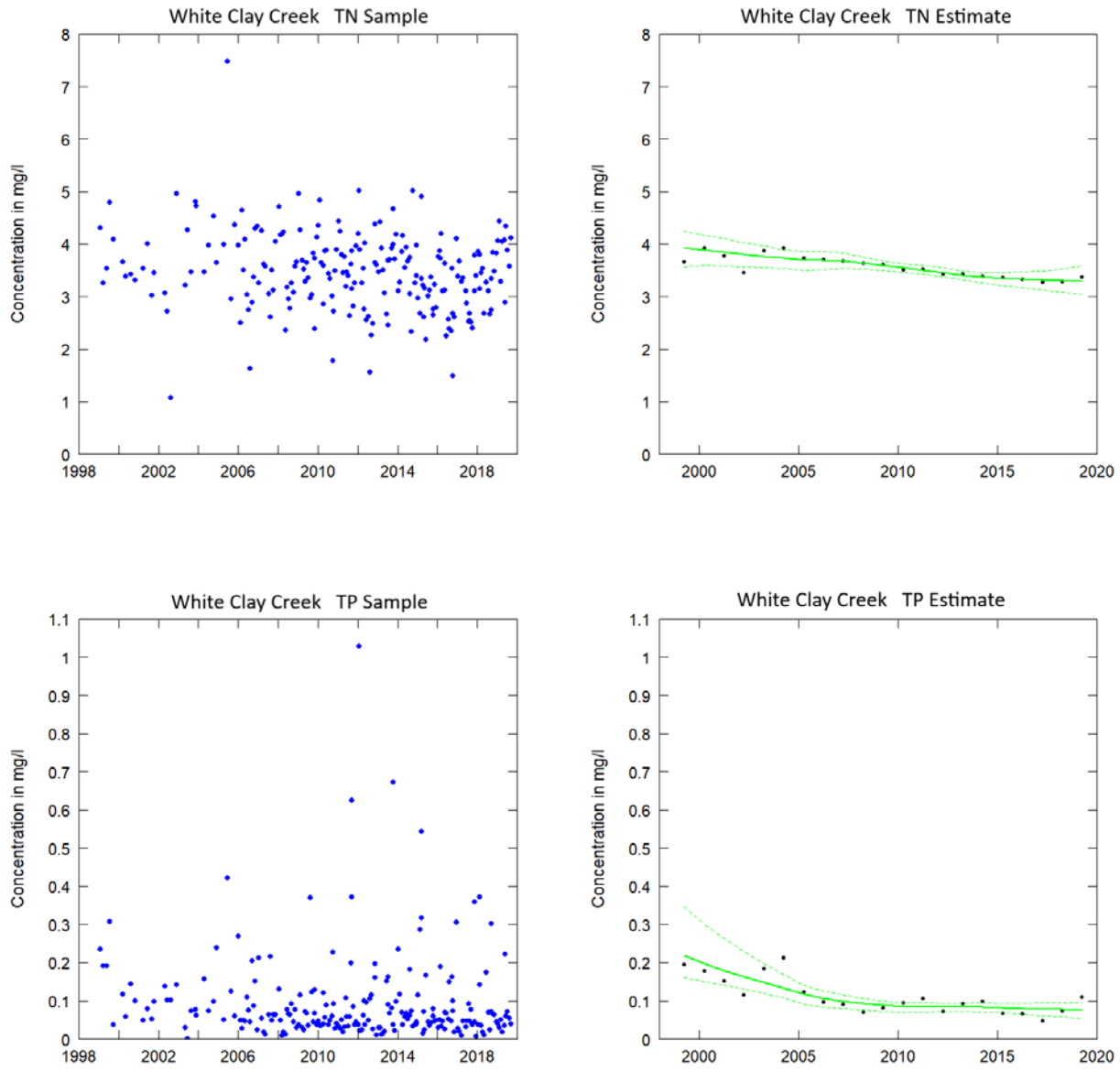


Figure 8. TN and TP sample concentrations (blue dots) at White Clay Creek at DE Park Boulevard (site ID 105151), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

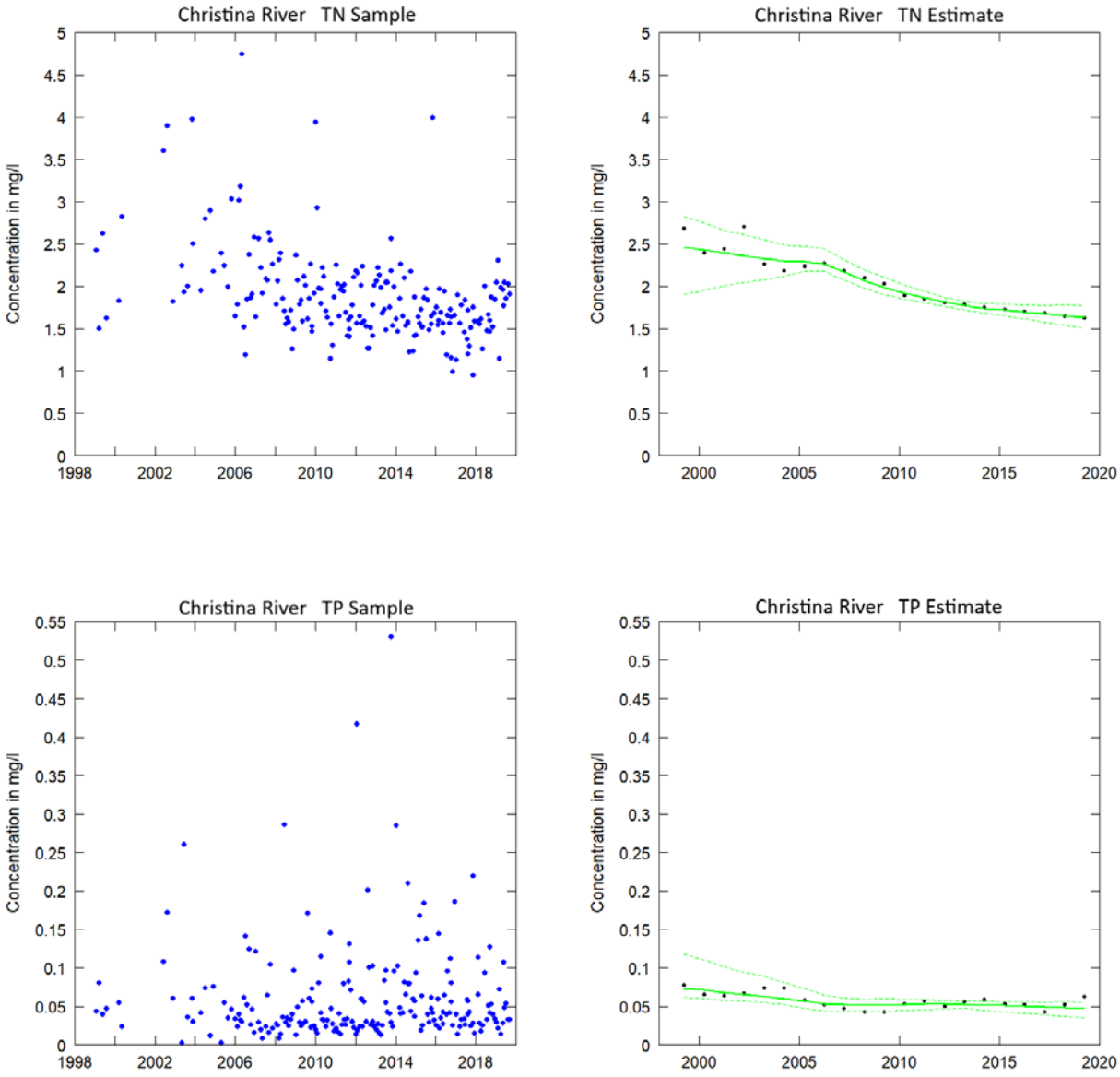


Figure 9. TN and TP sample concentrations (blue dots) at Christina River at Sunset Lake Road (site ID 106141), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

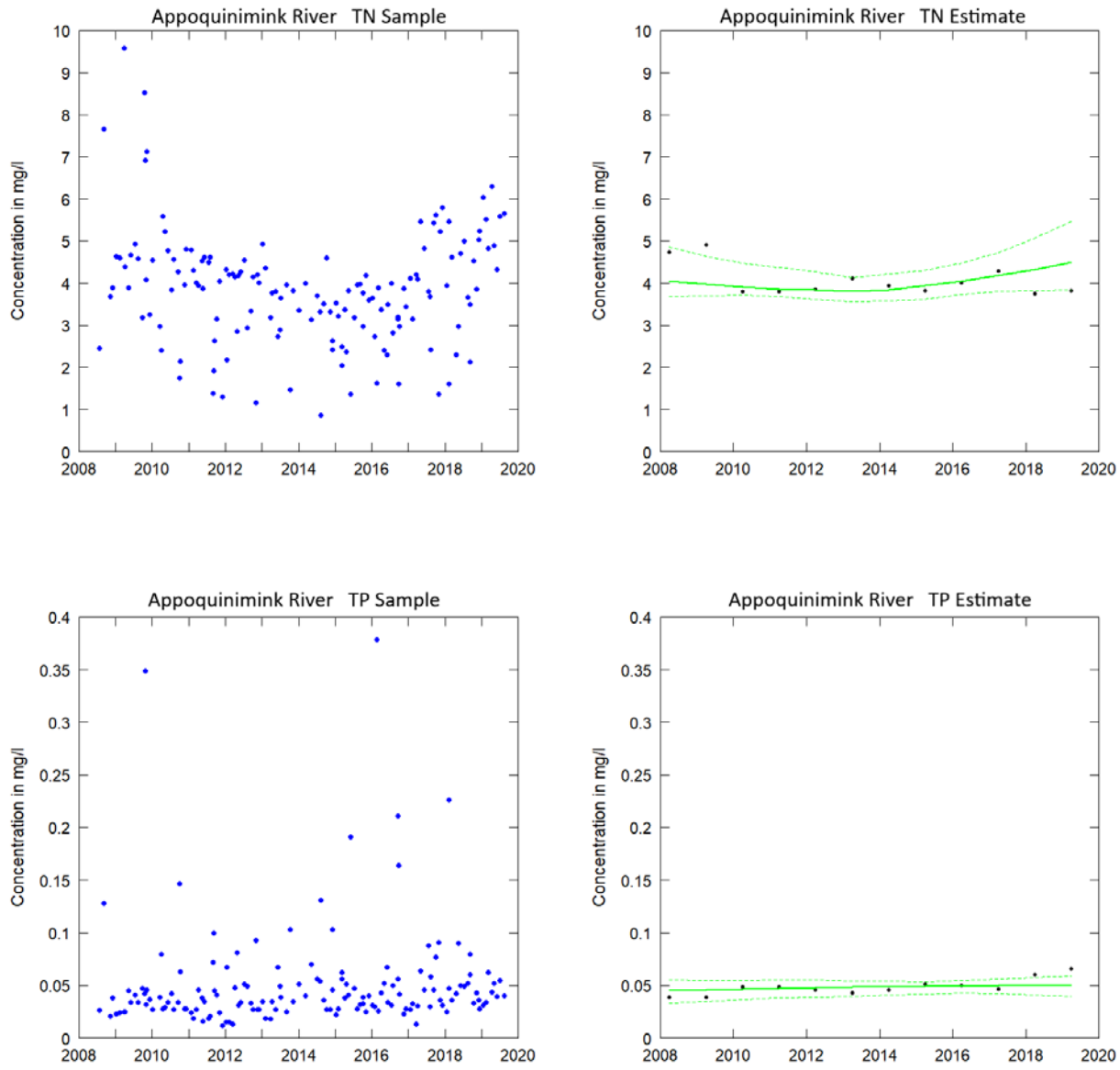


Figure 10. TN and TP sample concentrations (blue dots) at Appoquinimink River's tributary, Deep Creek at Summit Bridge Road (site ID 109251), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

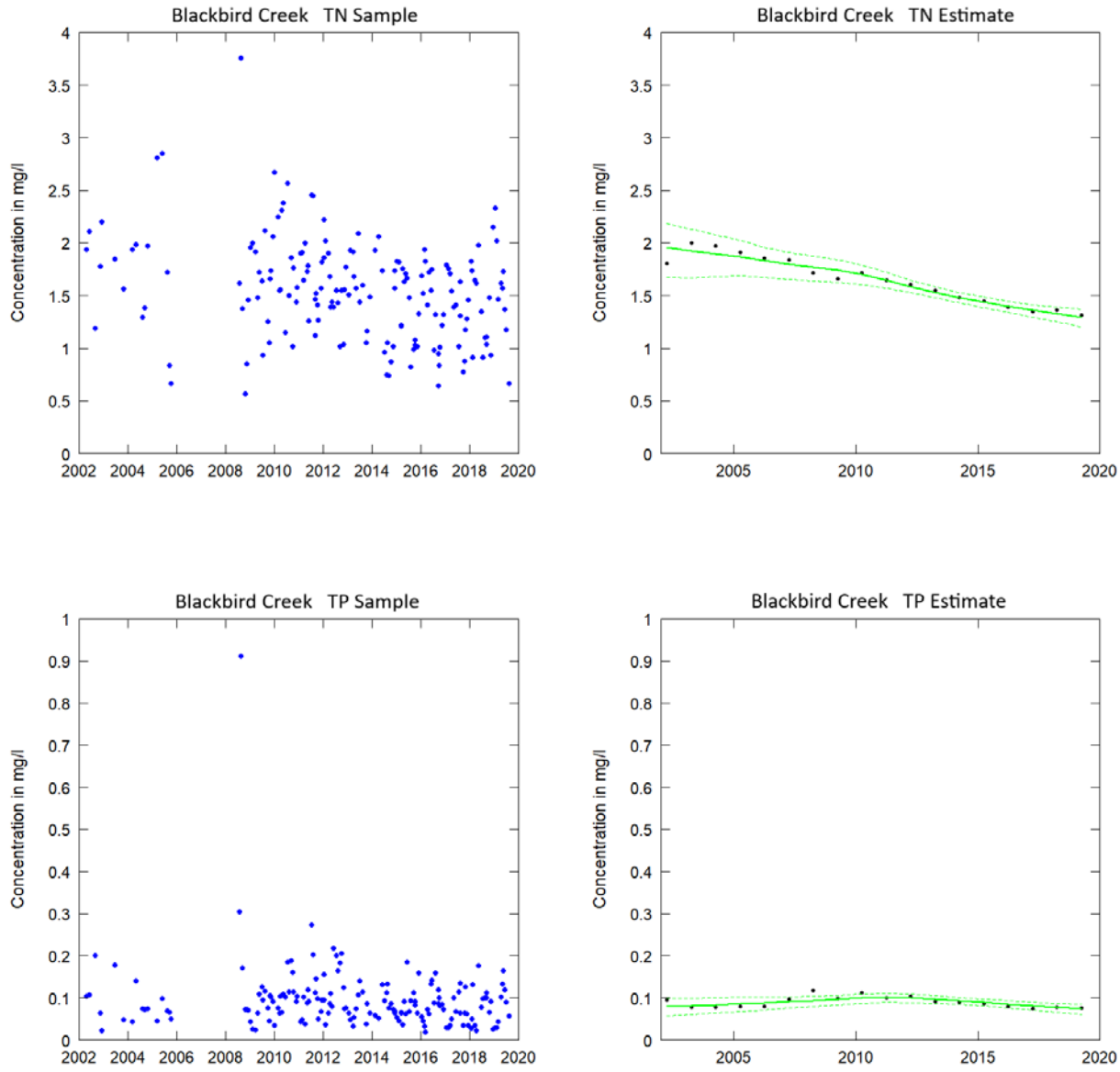


Figure 11. TN and TP sample concentrations (blue dots) at Blackbird River at Blackbird Station Road (site ID 110011), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

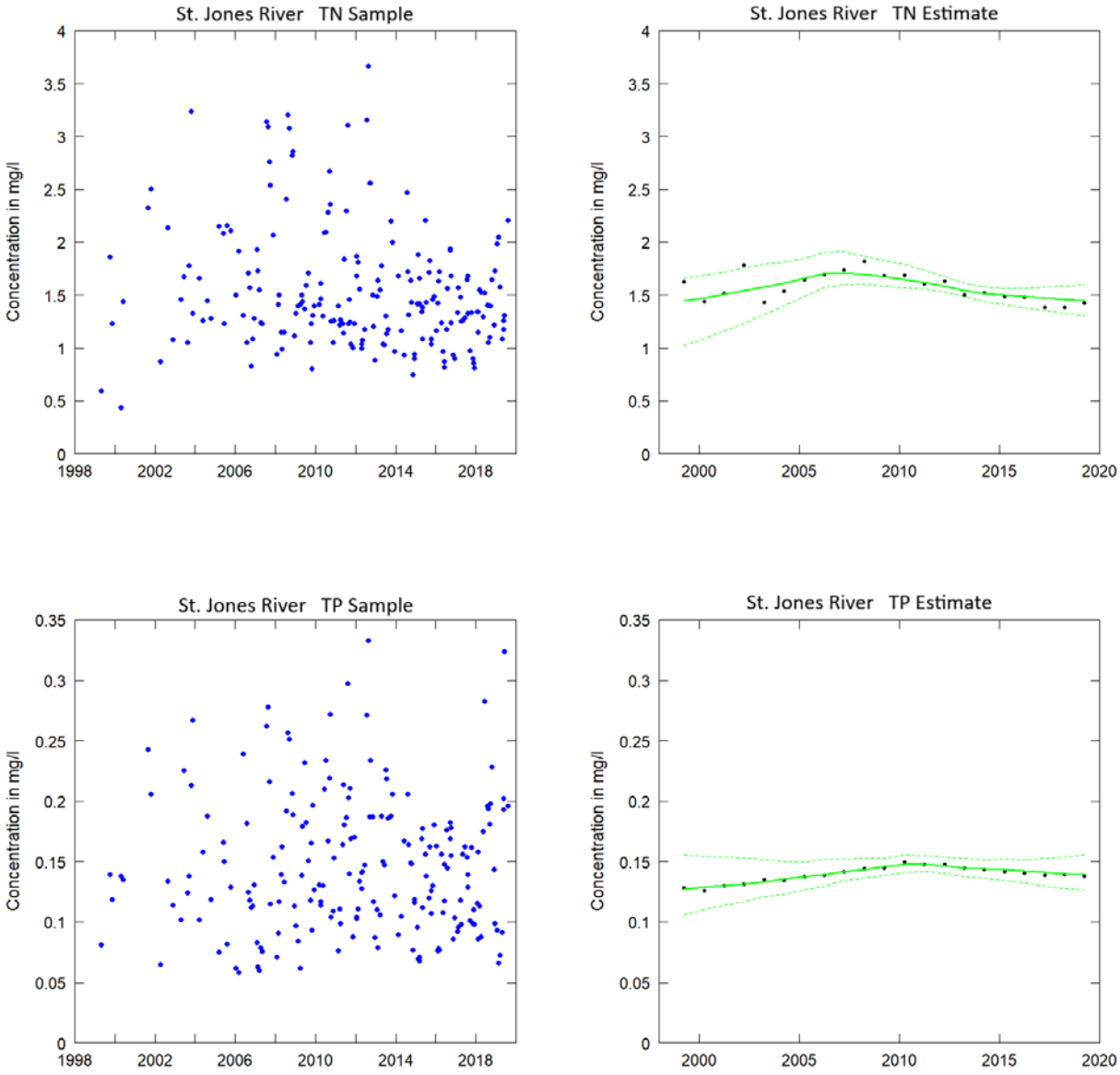


Figure 12. TN and TP sample concentrations (blue dots) at St. Jones River near Silver Lake spillway (site ID 205191), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

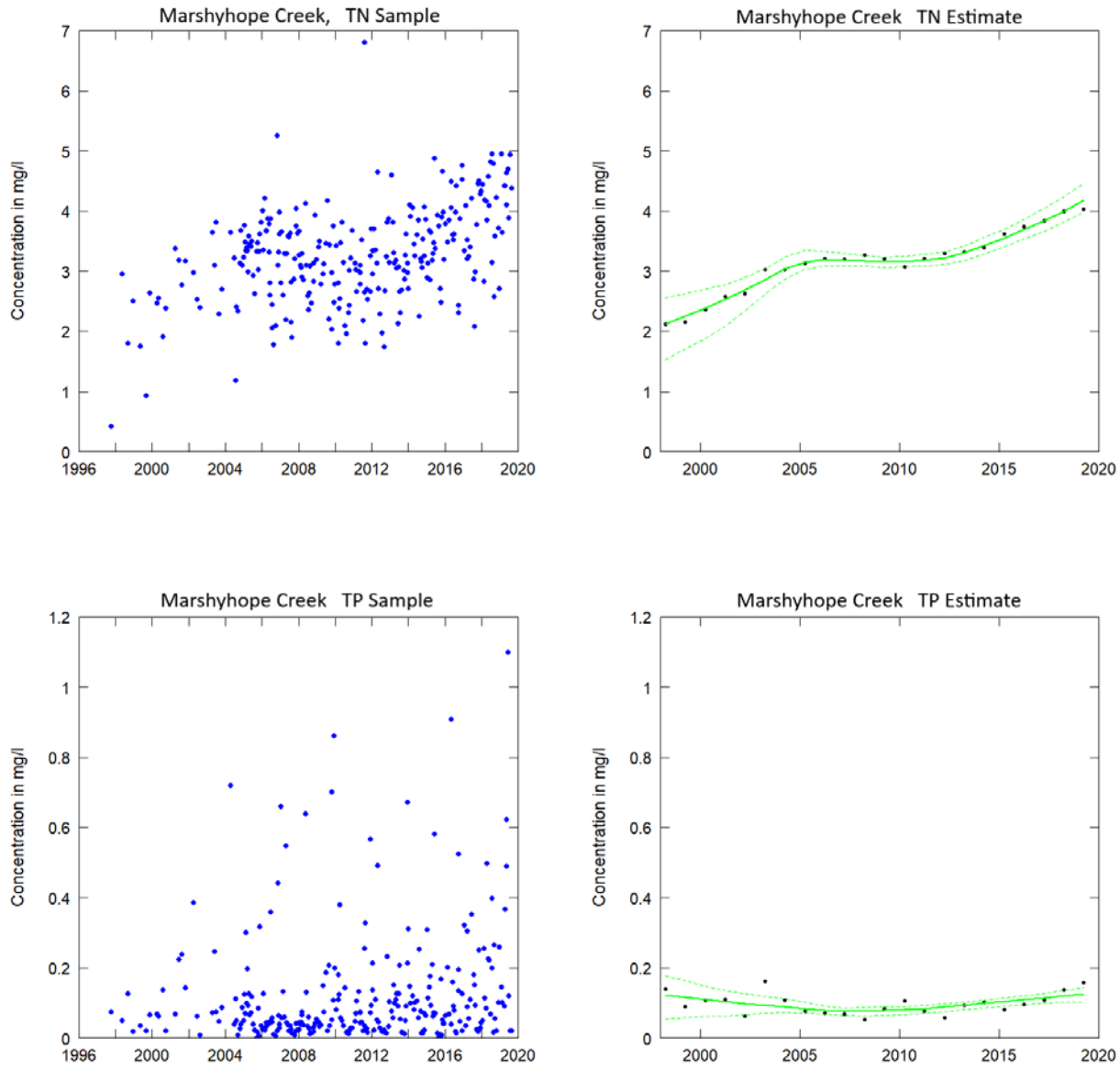


Figure 13. TN and TP sample concentrations (blue dots) at Marshyhope Creek at Fishers Bridge Road (site ID 302034), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

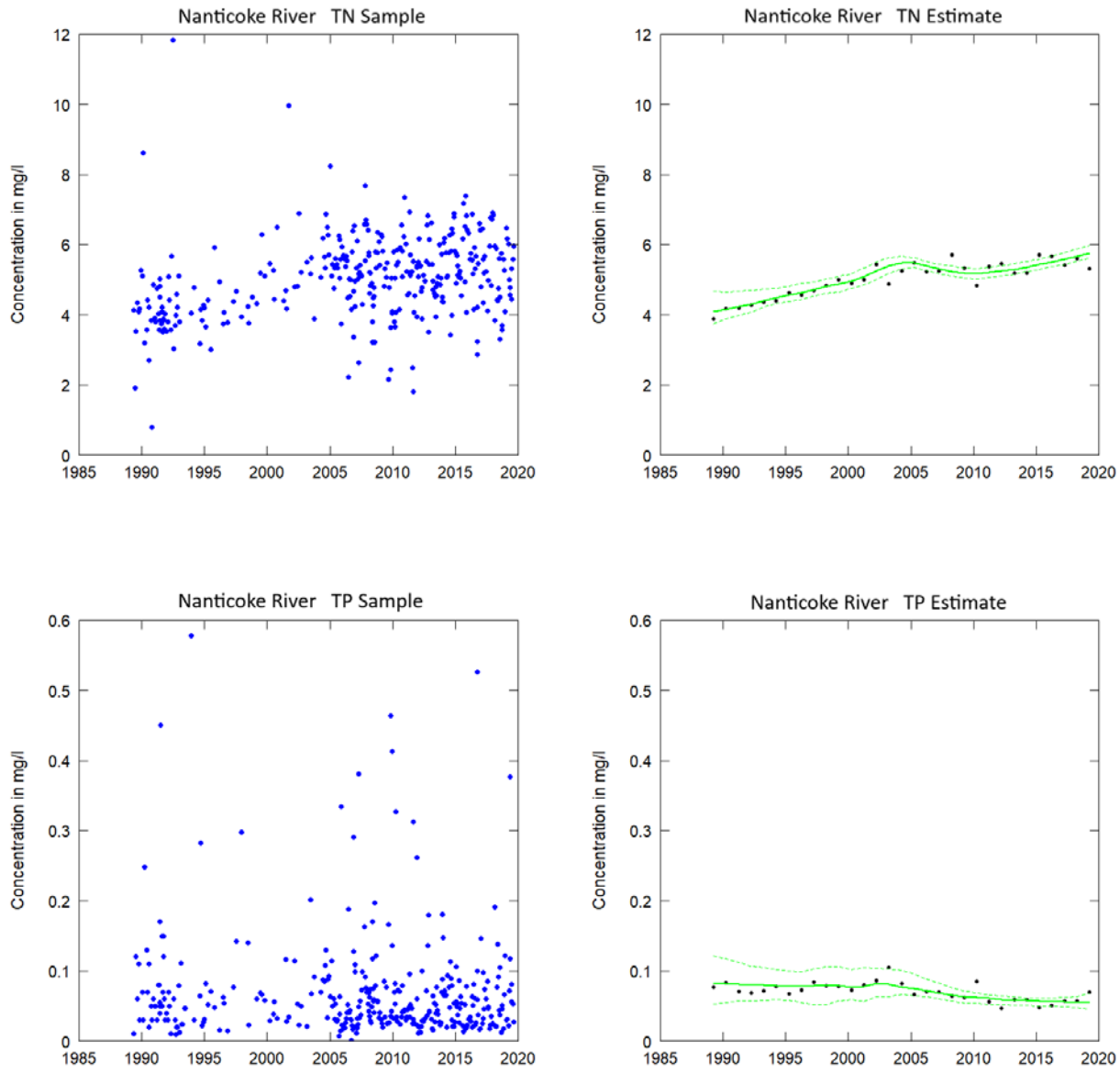


Figure 14. TN and TP sample concentrations (blue dots) at Nanticoke River at Rifle Range Road (site ID 304191), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

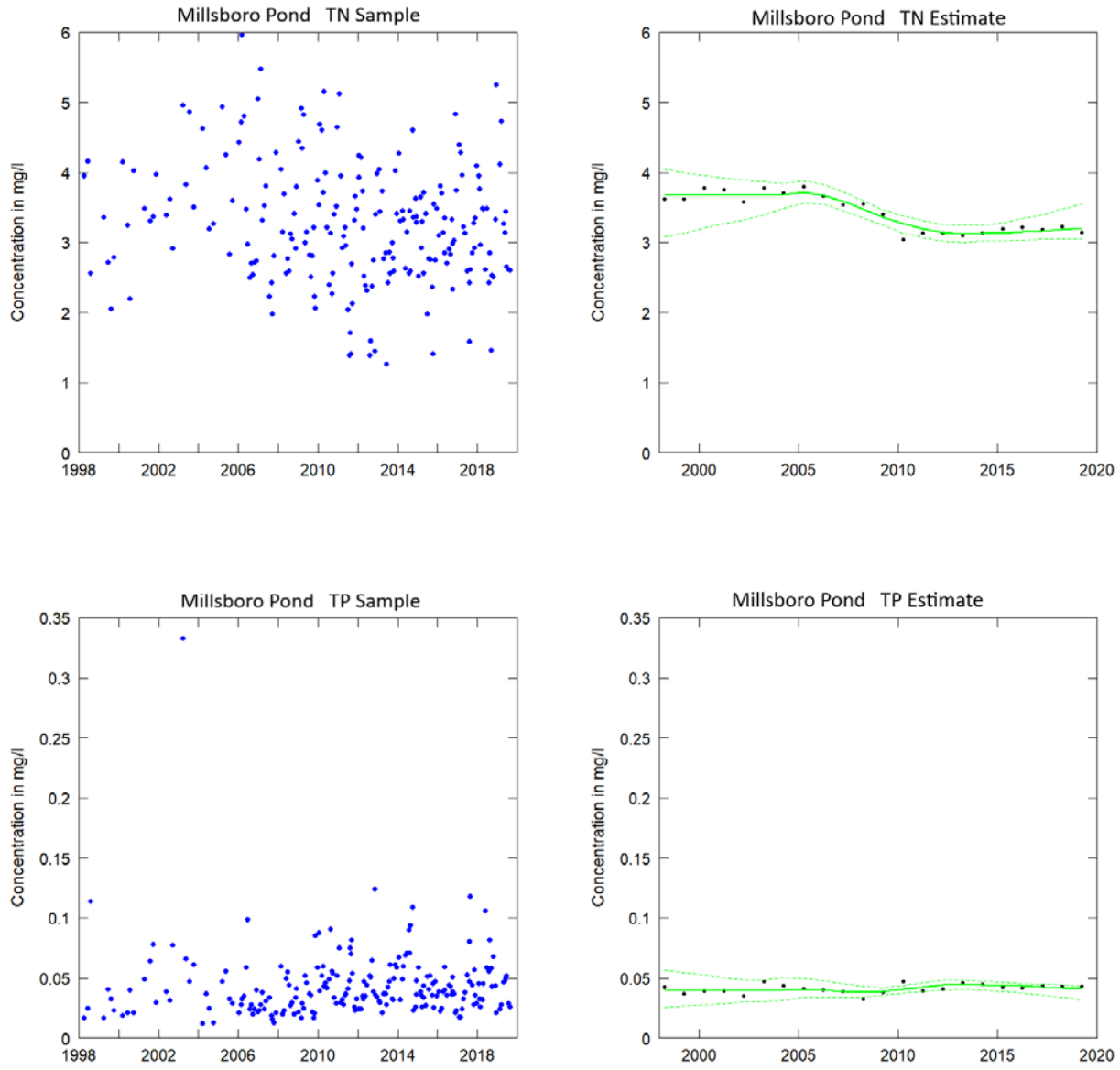


Figure 15. TN and TP sample concentrations (blue dots) at Millsboro Pond outlet of Indian River at John Williams Highway (site ID 308071), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

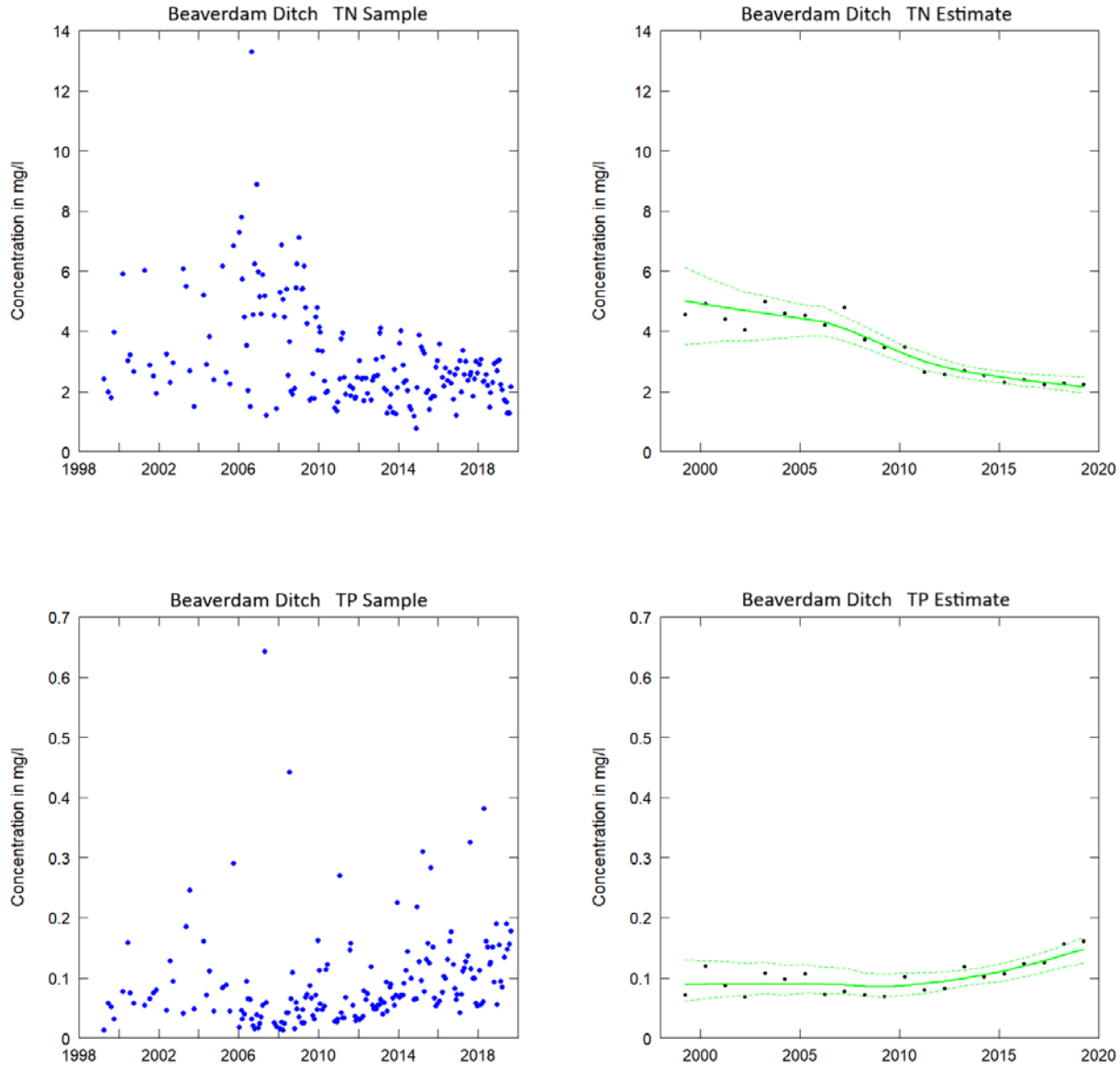


Figure 16. TN and TP sample concentrations (blue dots) at Beaverdam Ditch of Little Assawoman Bay at Beaverdam Road (site ID 310121), estimated annual mean (black dots) and flow normalized concentrations (green lines) with 90% confidence intervals (green dotted lines)

Generalized Additive Model to Analyze Long Term Total Nitrogen and Phosphorus Concentrations

Generalized Additive Model to Analyze Long Term Total Nitrogen and Phosphorus Concentrations

Summary

Generalized additive model was used to analyze long term (1998 – 2019) TN and TP trends in the fourteen tidal stations of Inland Bays. TN concentrations were decreasing in most of the stations except in station 306181 at Swan Creek. Decreasing trends of TN and TP in tidal stations of the Inland Bays can be attributed to full implementation of the requirements of the Inland Bays TMDLs for point sources and its partial implementation for the non-point sources. Even though TN concentration were decreasing, four of the stations' concentration were higher than the target value of 1 mg/L in Inland Bays, whereas some of the stations' recent years concentrations were higher than target value. The trend of TP concentration followed the flow pattern. TP concentrations in most of the stations were higher during peak flow, thus were cyclic in nature following flow events throughout the twenty years. Similar to TN concentrations, TP concentrations in recent years in some of the stations were higher than the target value of 0.1 mg/L. Linear regression modeling techniques are more frequently used to identify long term trends in the water quality data, which sometime miss the temporal cycling trend or temporal changes in the data. GAM analysis of tidal stations data with the inclusion of smooth functions allow the model shapes from linear to nonlinear, including patterns that changes direction over time, thus helped to identify changes of concentration over time in the Inland Bays.

Generalized additive model (GAM) is a statistical modeling technique that modeled response of interest as the sum of multiple smooth functions of independent or explanatory variables. Here in Delaware State water quality data for 14 tidal stations in the Inland Bays was analyzed using GAM, with the exclusion of mixed effects, and taking time as explanatory variable. This gives a trend of dependent variables over time. Results presented are with the use of a restricted maximum likelihood (REML) algorithm run for the GAM. The *gam ()* function in R *mgcv* package was used for the analysis and plots was obtained by using *ggplot2* package (Wood 2018).

Linear regression modeling techniques are more frequently used to identify long term trends in the water quality data, which sometime miss the temporal cycling trend or temporal changes in the data. GAM with the inclusion of smooth functions allow the model shapes from linear to nonlinear, including patterns that change direction over time. GAM was used for the trend analysis of total phosphorus (TP) and total nitrogen (TN) concentrations in the tidal portion of the Inland Bays from 1998 to 2019. GAM is relatively new to water quality change analysis with few recent works in the Chesapeake Bay and in other places (Harding et al. 2016; Beck and Murphy 2017; Haraguchi et al. 2015). TP and TN data from twelve stations (Figure 1a) were sorted. Missing rows in the data (i.e. data gaps) for each nutrient were deleted and daily sampling duplicates were averaged.

Nutrient concentration changes in the Inland Bays were observed from 1998 to 2019 (Figures 1a & b) to track the progress towards achieving nutrient reduction targets as required by the Total Maximum Daily Load (TMDL) for the Inland Bays Watershed. TP and TN trends were compared with the flow data obtained from USGS stream gauge monitoring station 01484525 at Millsboro Pond in order to investigate potential causes impacting nutrient trends. In general, TP and TN concentrations in tidal stations within the Inland Bays are decreasing (Figures 2 – 15). Red-lines in figures 2 – 15 indicate target value for Inland Bays TP and TN concentration i.e. 0.1 and 1 mg/L respectively. In most of the stations, TP trends since 1998 to 2019 showed some sort of cyclic patterns.

Table 1 and Figures 1b and 1c depicted long term trend of TP and TN concentrations in the 14 tidal stations. For TP concentration, dark green arrow indicates concentrations are decreasing, while light green indicates cyclic decreasing pattern (Table 1 and Figure 1b). These cyclic patterns of TP may be due to the annual changes in flow, as annual flow is fluctuating and can be seen in the discharge at USGS-01484525 (Figure 16). This indicates freshwater inflow to the tidal waters is the main source altering TP in Inland Bays. For TN concentration, green arrow indicates concentration are decreasing, red arrow indicates concentrations are increasing, and black line indicates concentrations are constant (Table 1 and Figure 1c). Only station 306181 at Swan Creek (a tributary of Indian River) had recent increasing trend of TN concentration. This may be related to the impact of Mountaire Farms discharge. Some of the stations data – i.e. TN

at 305011; TP at 306181; TP & TN at 306341; TN at 310031 – showed linear decreasing trend even when running GAM. This showed there was no cycling pattern and the concentrations are decreasing over the time.

Decreasing trends of TN and TP in tidal stations of the Inland Bays can be attributed to full implementation of the requirements of the Inland Bays TMDLs for point sources and its partial implementation for the non-point sources. Decreasing trends of TN may also be because of the reduction in atmospheric nitrogen deposition resulted from implementation of the requirement of the Federal Clean Air Act. Even though most of the concentrations out of the 14 stations presented here are decreasing, in some station's TP and TN concentrations are not yet meeting the TMDL target values for tidal stations in the Inland Bays i.e. 0.1 mg/L of TP and 1 mg/L of TN. For example, TN concentrations are linearly decreasing in 11 tidal stations, however, 4 out of those 11 i.e. Island Creek, Indian River (Station 306331), Island Creek upper third, Indian River (Station 306341), Old Mill Bridge Rd (Station 310031), and Dirickson Creek at Old Mill Bridge Rd (Station 310031) showed TN concentrations above the target value. Likewise, recent years TP concentrations in Swan Creek, Indian River at Buoy 49 (Station 306181), Island Creek upper third, Indian River (Station 306341), and Dirickson Creek at Old Mill Bridge Rd (Station 310031) are above target value. It is thus important to note that even though concentrations in most of the stations are decreasing they are still not meeting target values in all the tidal stations.

Figure 1a Map of Inland Bays with twelve tidal stations used for trend analysis.

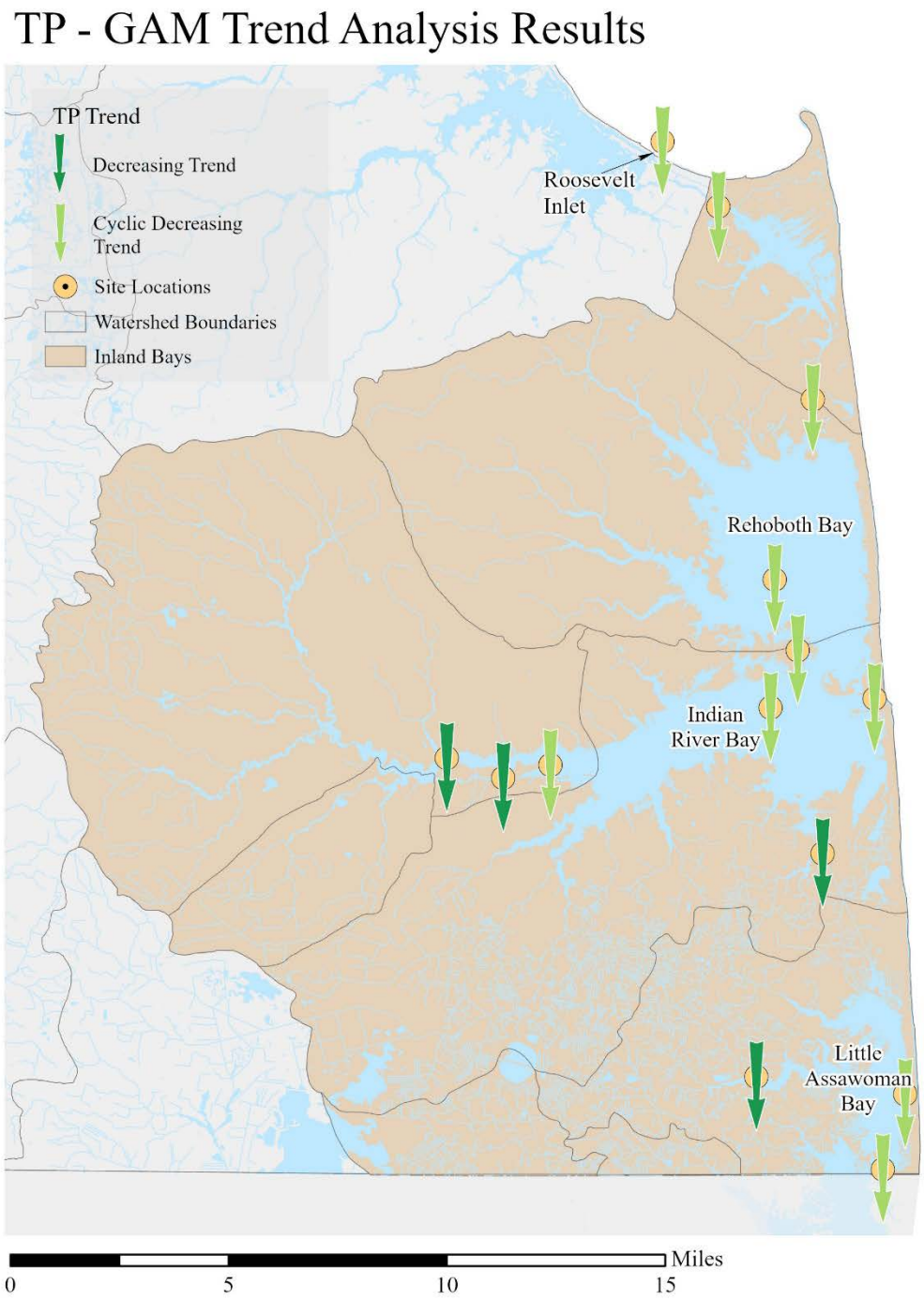


Figure 1b Map of Inland Bays with twelve tidal stations showing TP concentration.

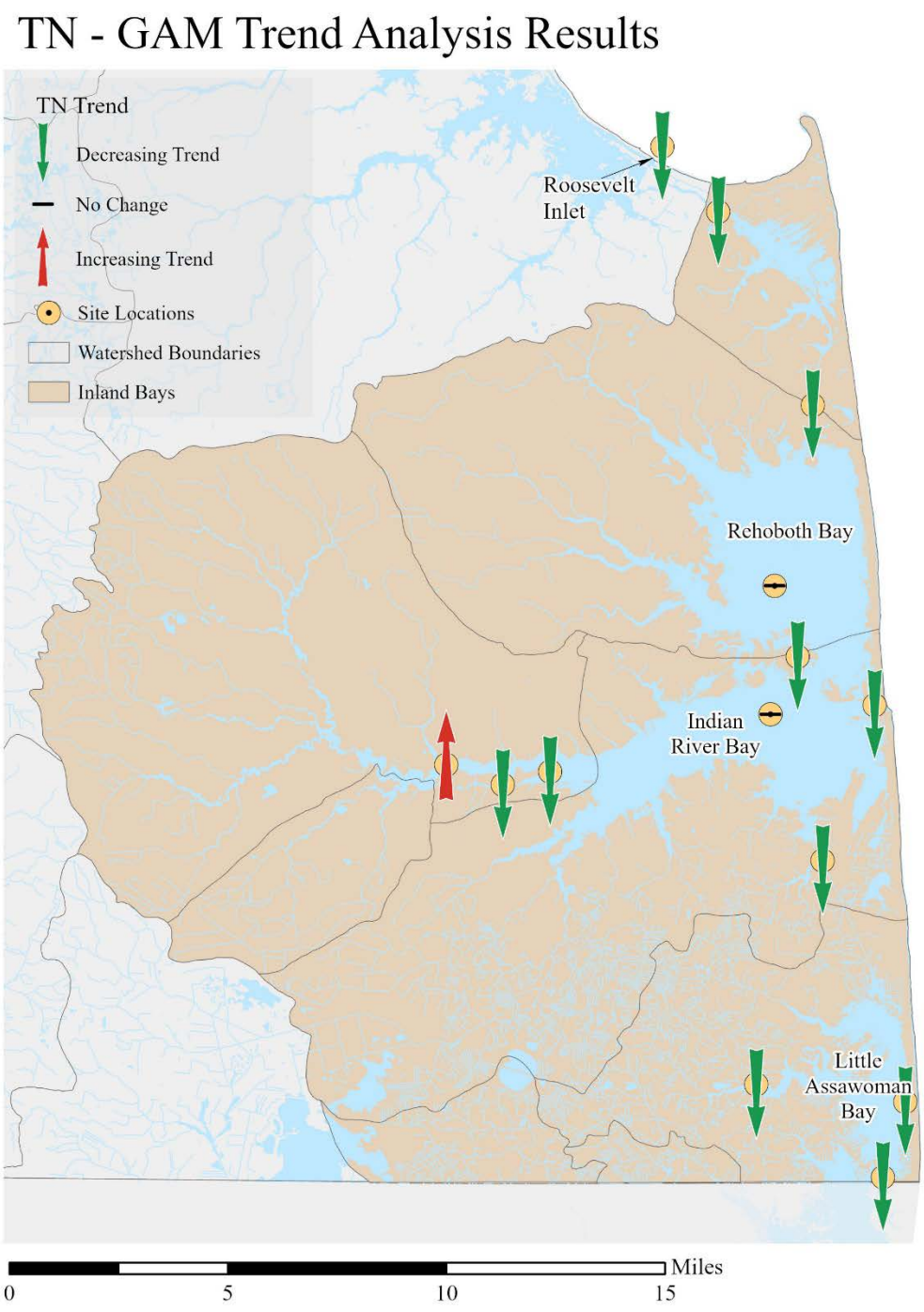


Figure 2c Map of Inland Bays with twelve tidal stations showing TN concentration.

Table 1 Red arrow indicate concentration is increasing; Dark green indicate concentration is decreasing; Light green indicate concentration is decreasing but with cyclic trend.

Station	Site Description	TP concentration	TN concentration
305011	Lewes & Rehoboth Canal Rt 1	↓	↓
305041	Lewes & Rehoboth Canal Rt 9	↓	↓
306181	Indian River @ Buoy 49; Swan Creek	↓	↑
306111	Massey Ditch @ Buoy 17	↓	↓
306331	Indian River @ Island Creek	↓	↓
306321	Indian River Inlet @ Coast guard Station	↓	↓
310011	Little Assawoman Bay Rt 54; the ditch	↓	↓
306341	Island Creek Upper Third, Indian River	↓	↓
310071	Little Assawoman Bay Mid Bay Ocean Park Lane	↓	↓
310031	Dirickson Creek @ Old Mill Bridge Rd	↓	↓
312011	White Creek @ mouth of Assawoman Canal	↓	↓
401011	Rosevelt Inlet	↓	↓
306091	Rehoboth Bay @ Buoy 7	↓	–
306121	Indian River Bay @ Buoy 20	↓	–

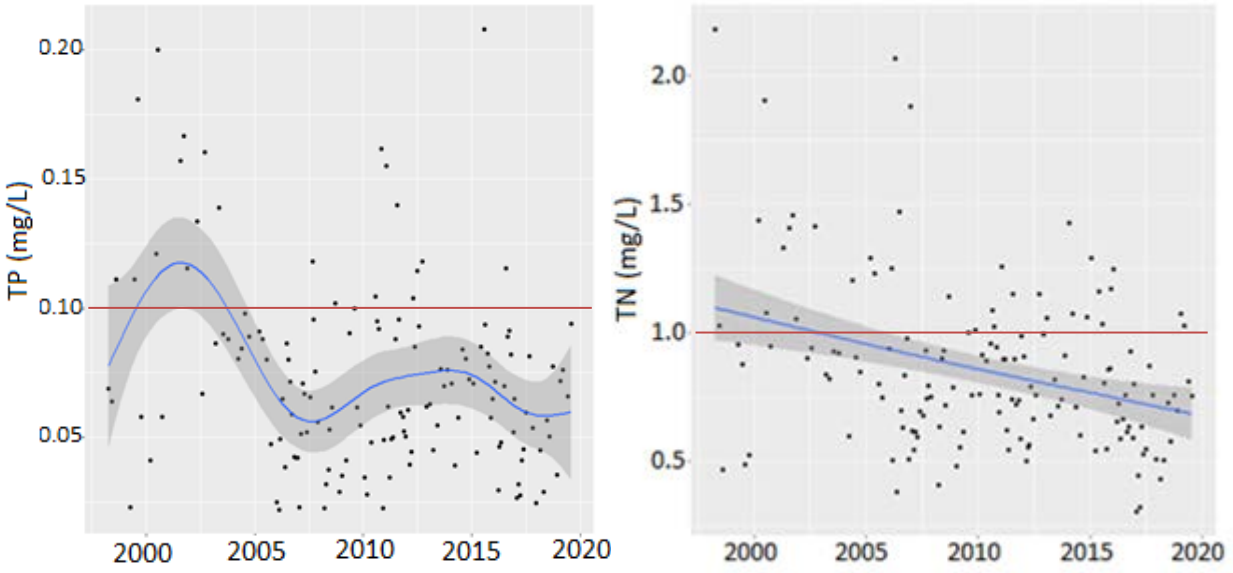


Figure 2 Changes in TP and TN since 1998 in Lewes & Rehoboth Canal at Rt 1 (Station 305011). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

Figure 3 Changes in TP and TN since 1998 in Lewes and Rehoboth Canal at Rt 9 (Station 305041). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

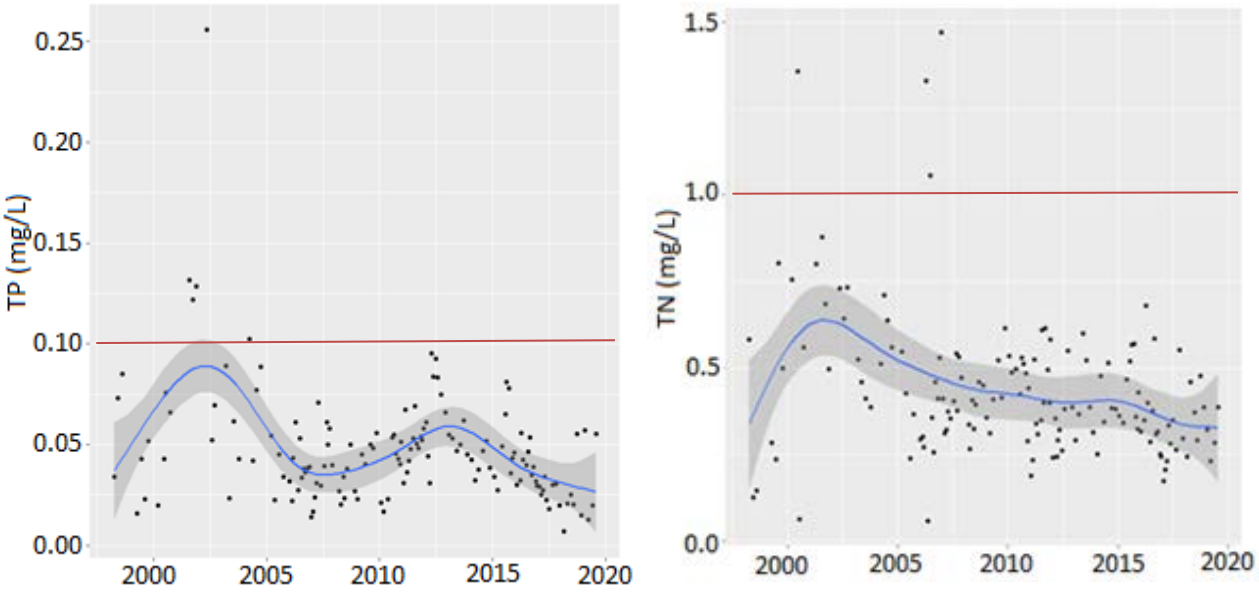


Figure 4 Changes in TP and TN since 1998 in Massey Ditch at Buoy 17 (Station 306111). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

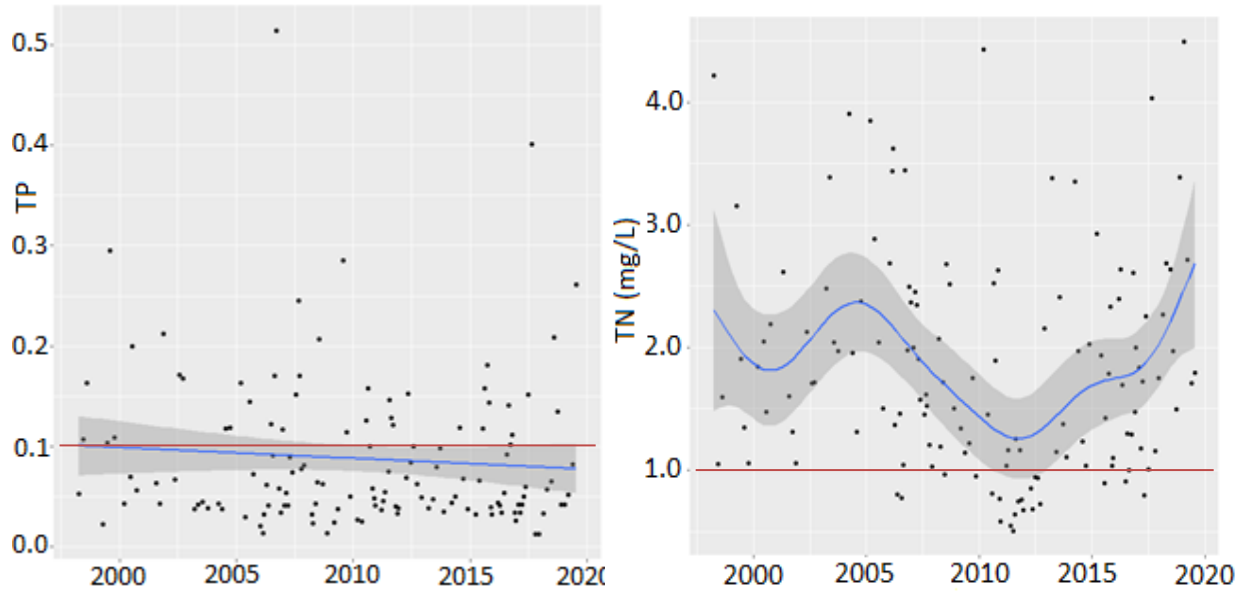


Figure 5 Changes in TP and TN since 1998 in Swan Creek, Indian River at Buoy 49 (Station 306181). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

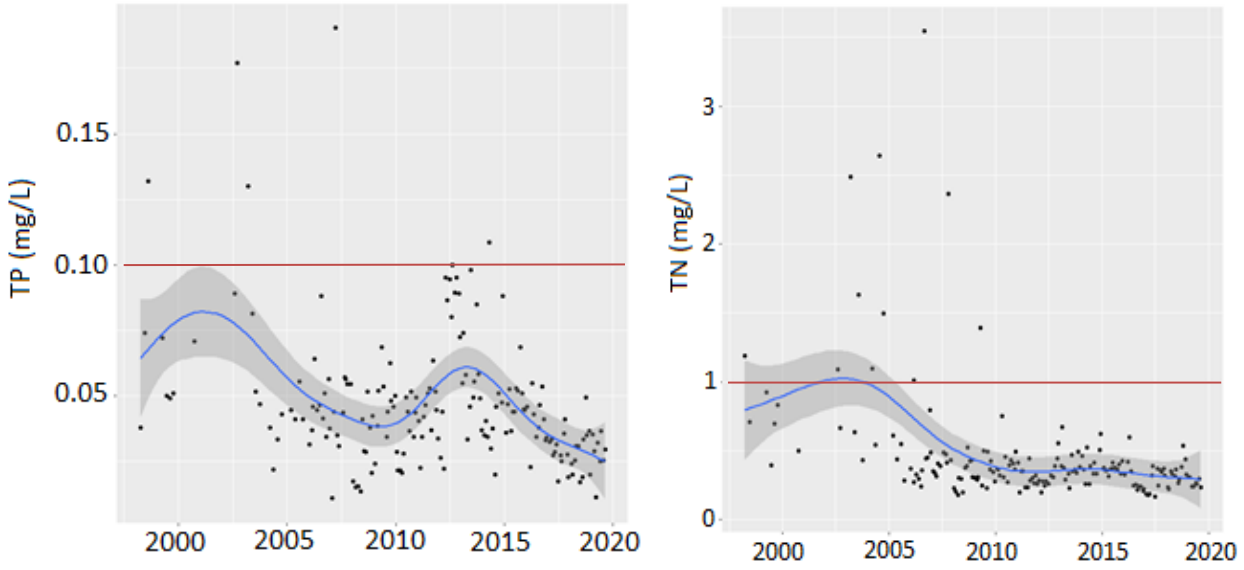


Figure 6 Changes in TP and TN since 1998 at Indian River inlet at coast guard station (Station 306321). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

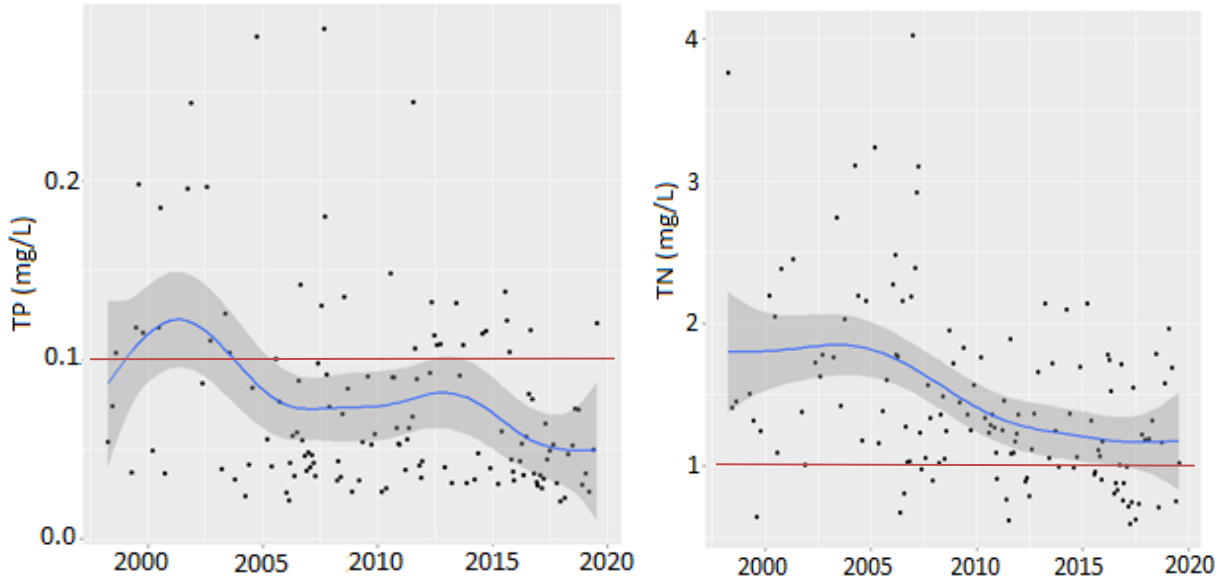


Figure 7 Changes in TP and TN since 1998 at Island Creek, Indian River (Station 306331). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

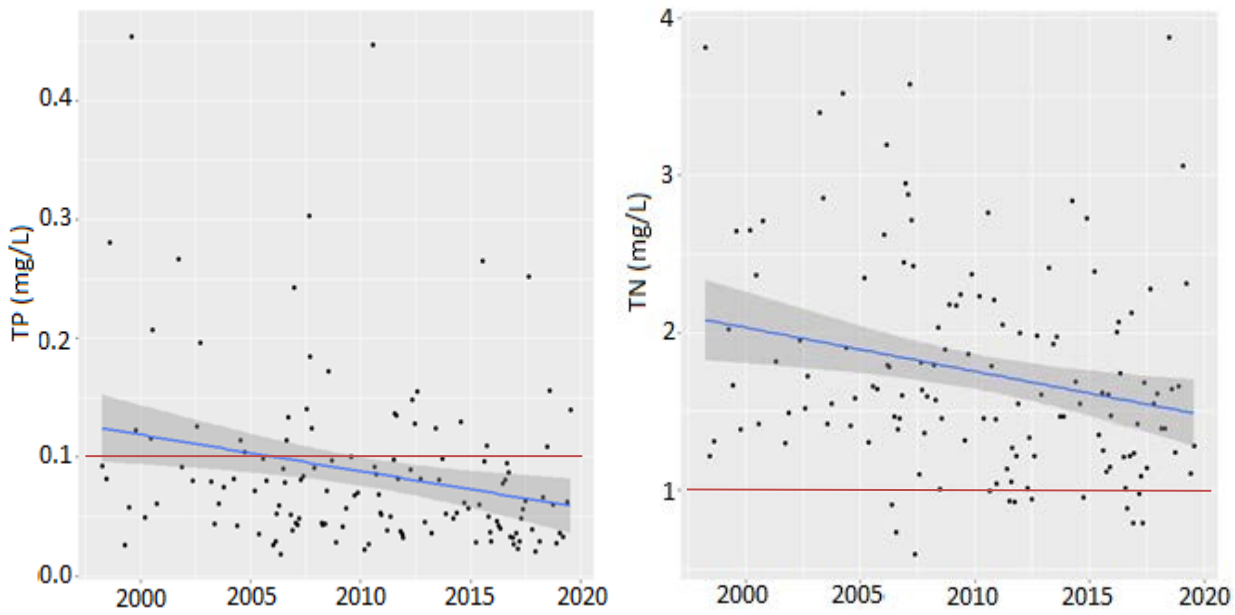


Figure 8 Changes in TP and TN since 1998 at Island Creek upper third, Indian River (Station 306341). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

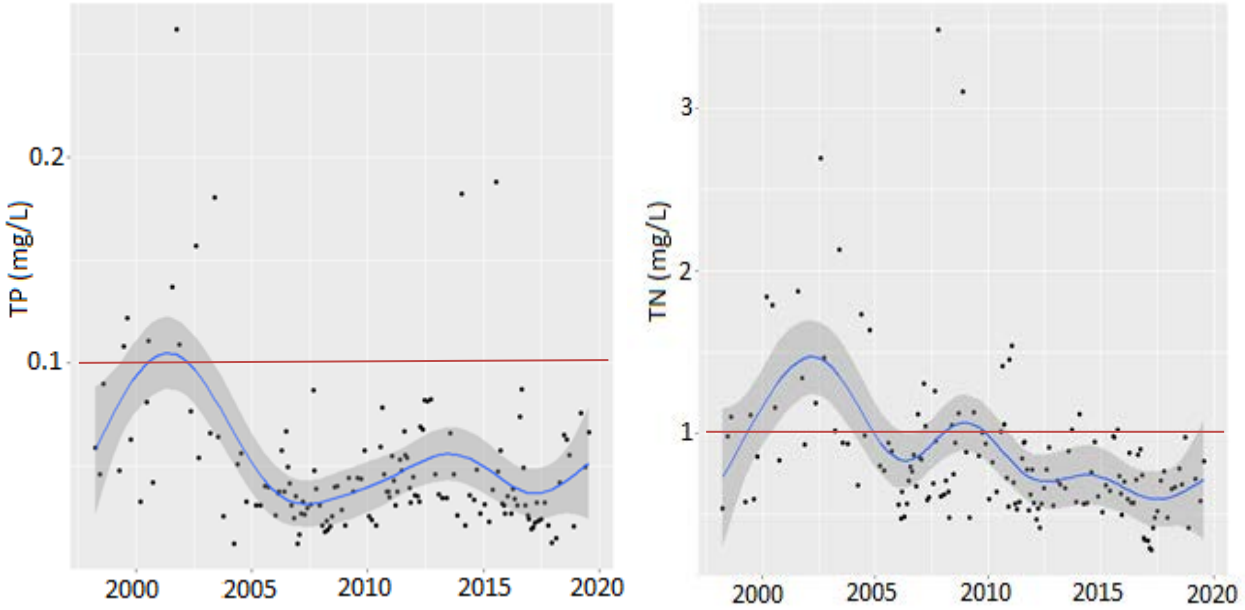


Figure 9 Changes in TP and TN since 1998 in Little Assawoman Bay Rt 54 (Station 310011). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

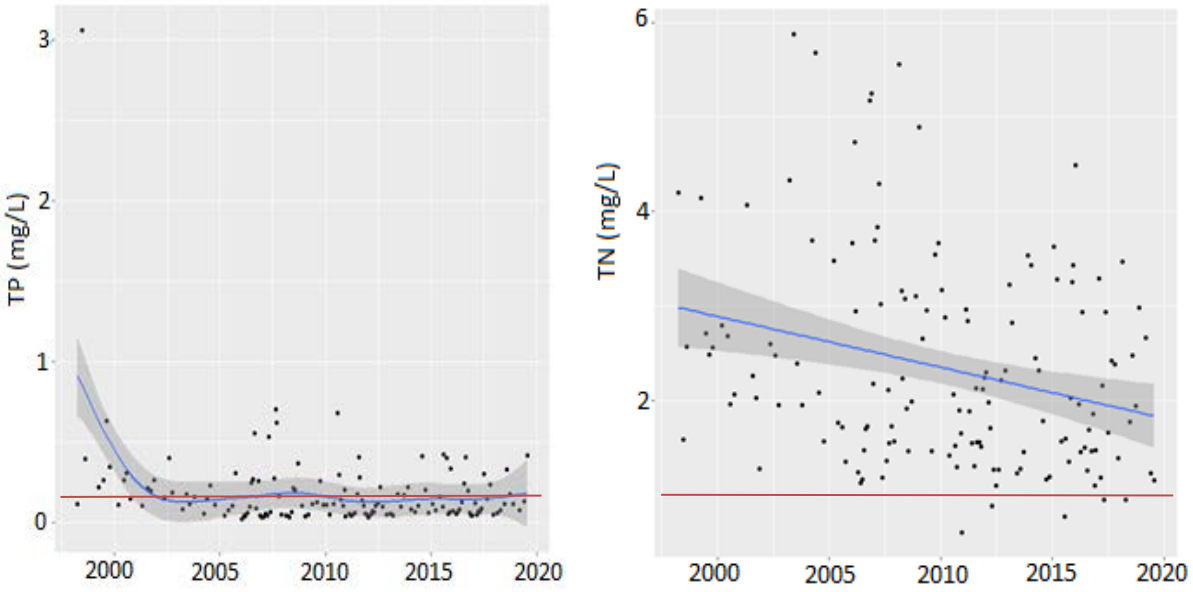


Figure 10 Changes in TP and TN since 1998 in Dirickson Creek at Old Mill Bridge Rd (Station 310031). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

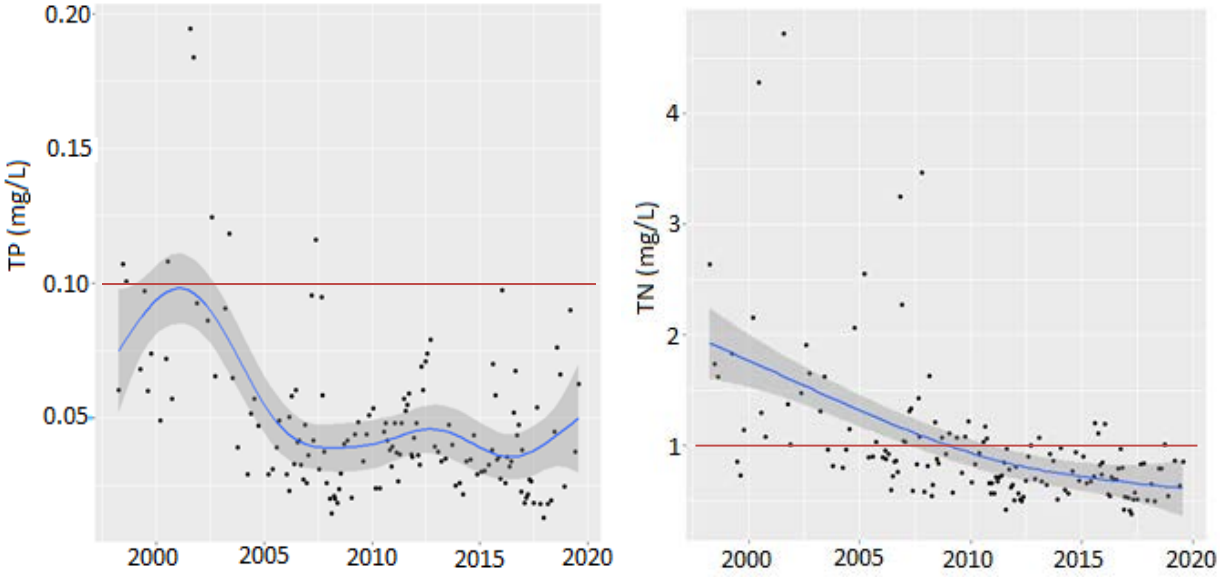


Figure 11 Changes in TP and TN since 1998 in Mid Bay, Little Assawoman Bay (Station 310071 @ Ocean Park Lane). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

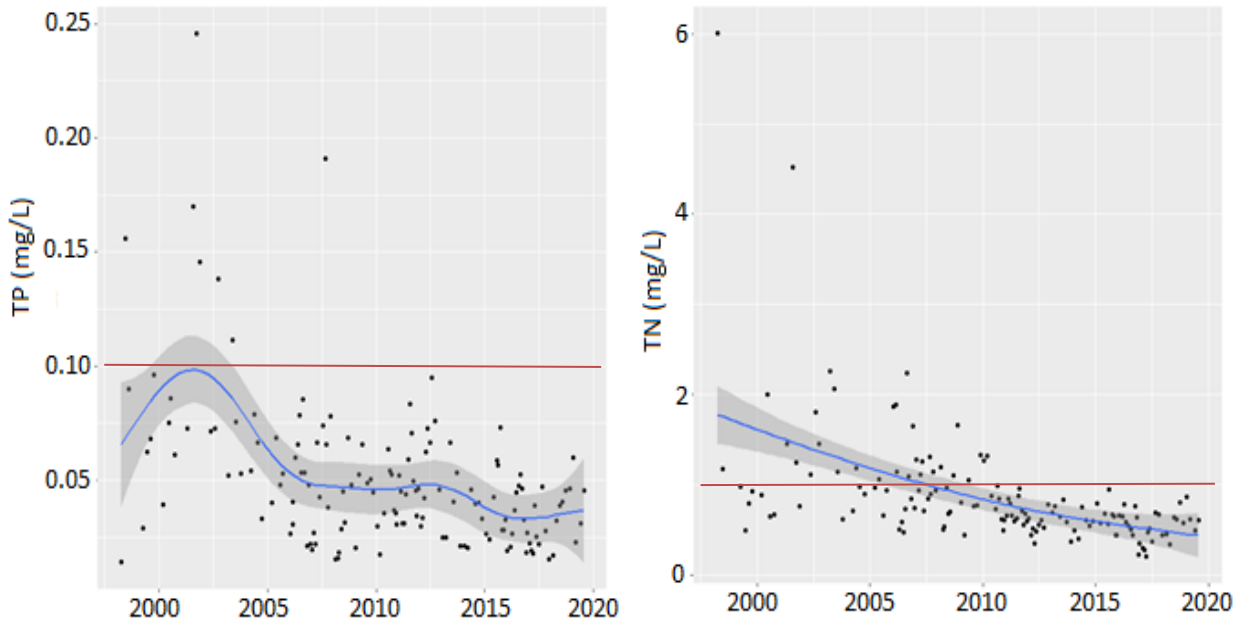


Figure 12 Changes in TP and TN since 1998 in White Creek at the mouth of Assawoman Canal (Station 312011). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

Figure 13 Changes in TP and TN since 1998 in Rosevelt Inlet (Station 401011). Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

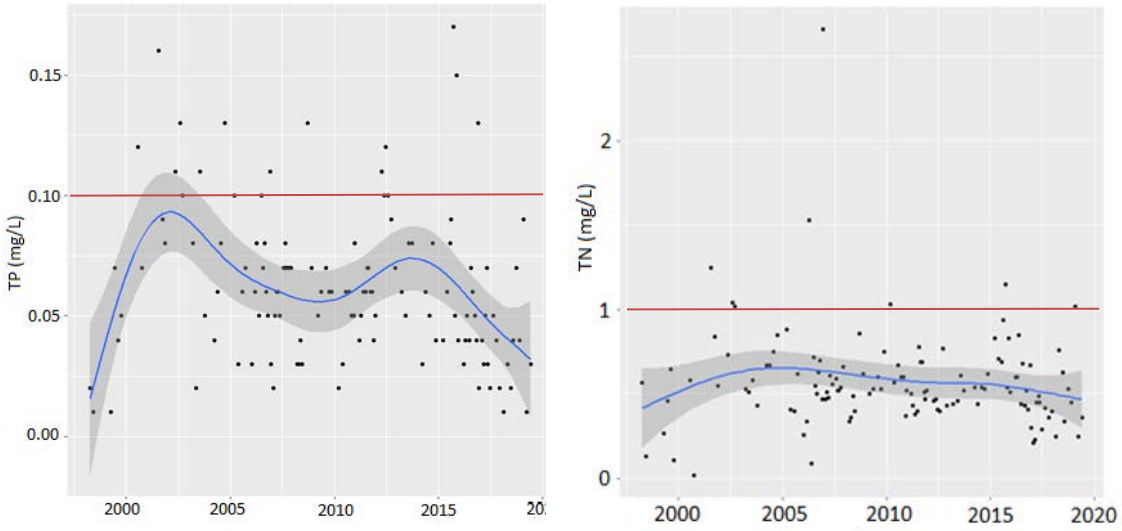


Figure 14 Changes in TP and TN since 1998 in Rehoboth Bay (Buoy 7) Station 306091. Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

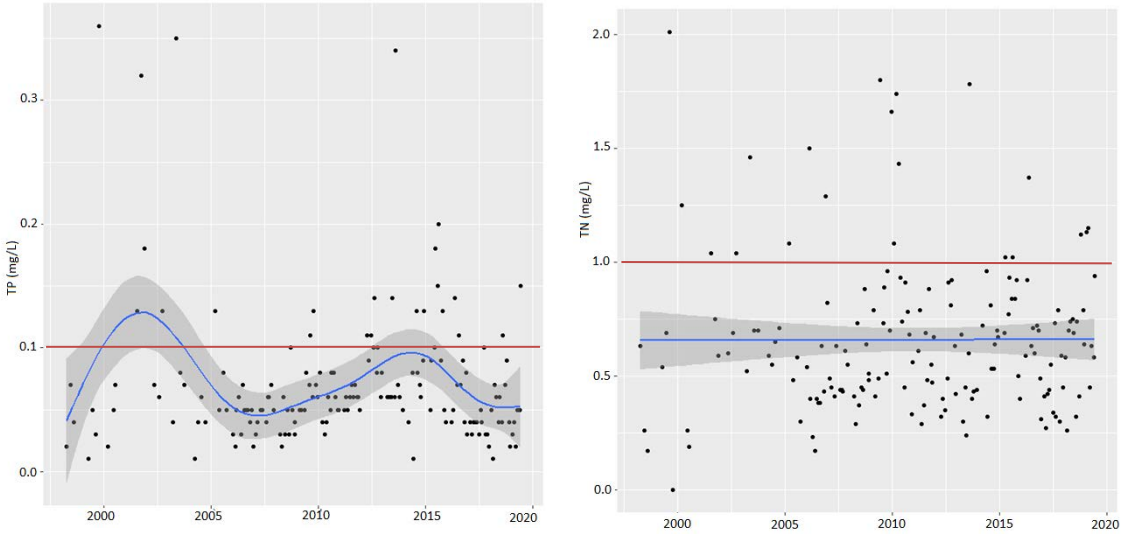


Figure 15 Changes in TP and TN since 1998 in Indian River Bay (Buoy 20) Station 306121. Gray band shows model fit with the data. Red line indicates target value of TP=0.1 mg/L and TN=1 mg/L for tidal stations in Inland Bays.

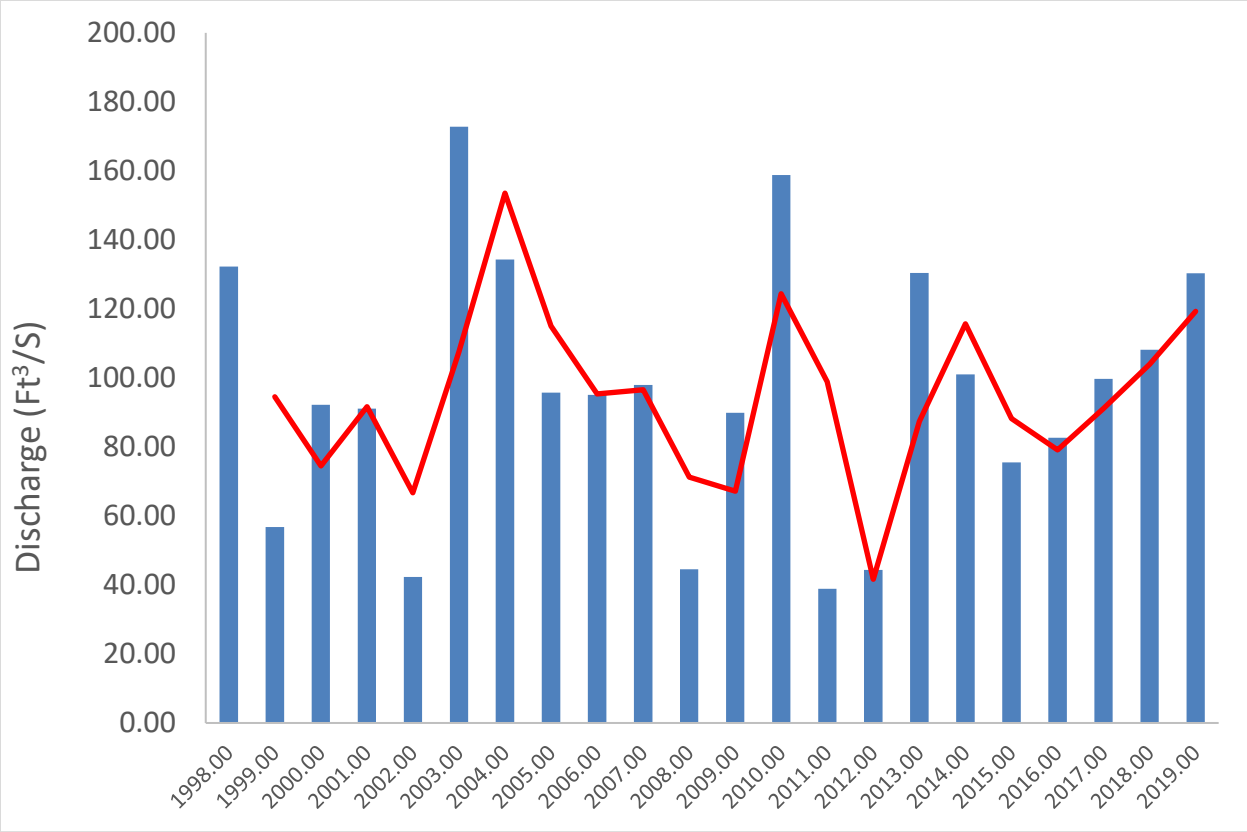


Figure 16 Discharge at USGS Station (01484525) at Millsboro Pond. Red line indicates two years moving average flow.

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