

**Report to the Environmental Review Commission
on the Implementation of the
Sedimentation Pollution Control Act of 1973
and the State Stormwater Program
by the Department of Environmental Quality
Division of Energy, Mineral, and Land Resources**

October 1, 2020

Introduction

Pursuant to Session Law 2017-10 (Senate Bill 131), the Department of Environmental Quality (DEQ) is required to submit a combined report to the Environmental Review Commission by October 1 of each year that provides an annual update on the implementation of both the State Sedimentation Pollution Control Program and the State Stormwater Program housed within the Division of Energy, Mineral, and Land Resources. This report contains two sections that outline how the Department has implemented these programs through its seven Regional Offices and Central Office as well as in coordination with multiple local government programs that implement these programs through Local, State and Federal laws, rules and permits.

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Executive Summary – Annual Sedimentation Program Report

The Department shall report to the Environmental Review Commission on the implementation of the [Sedimentation Pollution Control Act \(SPCA\) of 1973](#) on or before 1 October of each year. The Division of Energy, Mineral, and Land Resources is responsible for implementing the SPCA. There are 53 delegated SPCA programs across the state implemented by either county or municipal governments. In November of 2019, the Town of Huntersville received delegation authority for administering and enforcing the SPCA, as did the Town of Weddington in February of 2020. The Town of Columbus rescinded their program authority in December of 2019. The total number of new applications received by the Department decreased from 2,534 in FY 2018-19 to 2,380 in FY 2019-20. By contrast, the total number of newly disturbed acres increased from 28,408 acres in FY 2018-19 to 31,104 acres in FY 2019 - 20. Sediment inspections increased slightly from 10,573 in FY 2018-19 to 10,813 inspections in FY 2019-20.

Background

“The sedimentation of streams, lakes and other waters of this State constitute a major pollution problem. Sedimentation occurs from the erosion or depositing of soil and other materials into the waters, principally from construction sites and road maintenance. The continued development of this State will result in an intensification of pollution through sedimentation unless timely and appropriate action is taken. Control of erosion and sedimentation is deemed vital to the public interest and necessary to the public health and welfare, and expenditures of funds for erosion and sedimentation control programs shall be deemed for a public purpose”.

-Preamble to the Sedimentation Pollution Control Act of 1973

The Division of Energy, Mineral, and Land Resources (DEMLR) in the Department of Environmental Quality administers the SPCA. The Sedimentation Control Commission has also delegated administration of the SPCA to 53 county or municipal governments and the North Carolina Department of Transportation. The local program delegations do not regulate land-disturbing activities conducted by local, State or United States governments or persons with the power of eminent domain (e.g. public utilities), which remain under jurisdiction of the DEMLR.

The state sedimentation program also plays a critical role in meeting federal construction stormwater permitting requirements under the Clean Water Act. The United States Environmental Protection Agency (EPA) implements federal permitting requirements for stormwater discharges from active construction sites, but also has the authority to delegate those permitting responsibilities to the states. In many ways, federal construction stormwater requirements mirror the requirements of the state Sedimentation Pollution Control Act and the intent of the federal program is the same – to prevent damage to water bodies and other property.

North Carolina has delegated authority that allows DEQ - rather than EPA - to issue federal construction stormwater permits in the state. DEMLR has incorporated cross-training of central and regional personnel and consolidation of inspection and monitoring forms between the erosion and sedimentation control program and the construction stormwater program. This allows one point of contact for meeting both programs' permitting, inspection and reporting requirements to be used to communicate compliance with both programs' state and federal provisions.

Program Implementation

There has been a slight decline in the number of new projects under state jurisdiction with 2,380 new applications received in FY 2019-20. The actual area of land-disturbance covered by new erosion and sedimentation control plans approved in FY 2019-20 increased to approximately 31,104 acres. These totals do not include erosion and sedimentation control plans approved by local government sedimentation programs or land disturbed by the Department of Transportation under its delegated program.

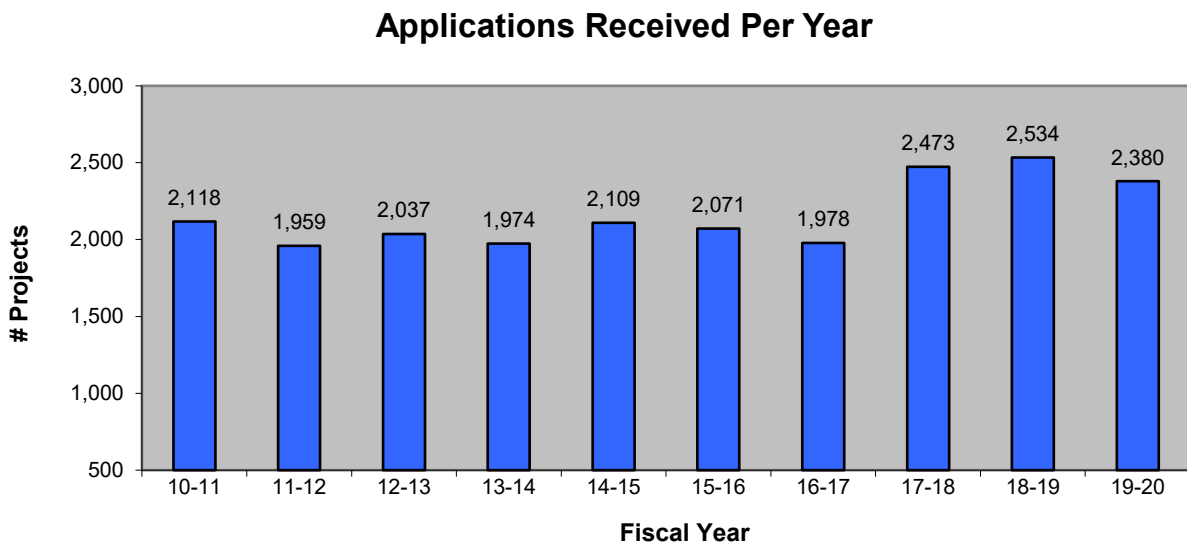


Figure 1 - Applications Received Per Year

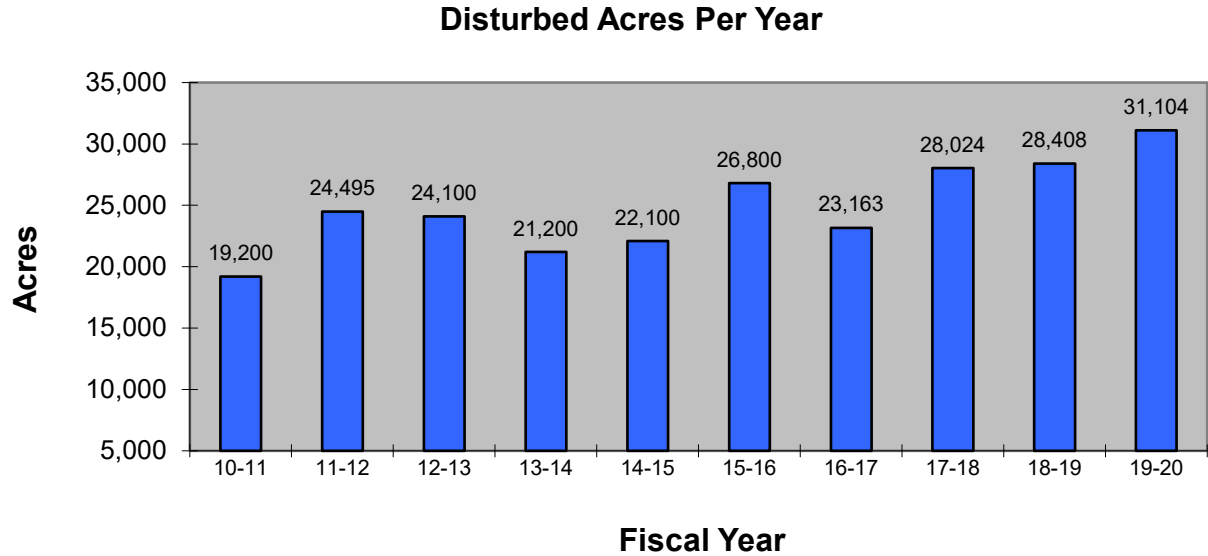


Figure 2 - Disturbed Acres Per Year

The number of open sediment projects requiring inspection by the state program has been estimated at 8,000 projects for several years. However, improvements to our database reporting capabilities during FY 2012-13 resulted in a more accurate estimate of 12,181 open projects at that time. Since that time, the number fluctuated and then dropped to 7,700 open projects during fiscal year of 2016-17 as a result of improved database management and an increased effort to inspect and close out completed and stabilized projects that had remained inactive during and following the Great Recession. The number of open projects is reported as 9,125 for FY 2019-20. The total includes all sites that are either under active construction or are inactive and not completed.

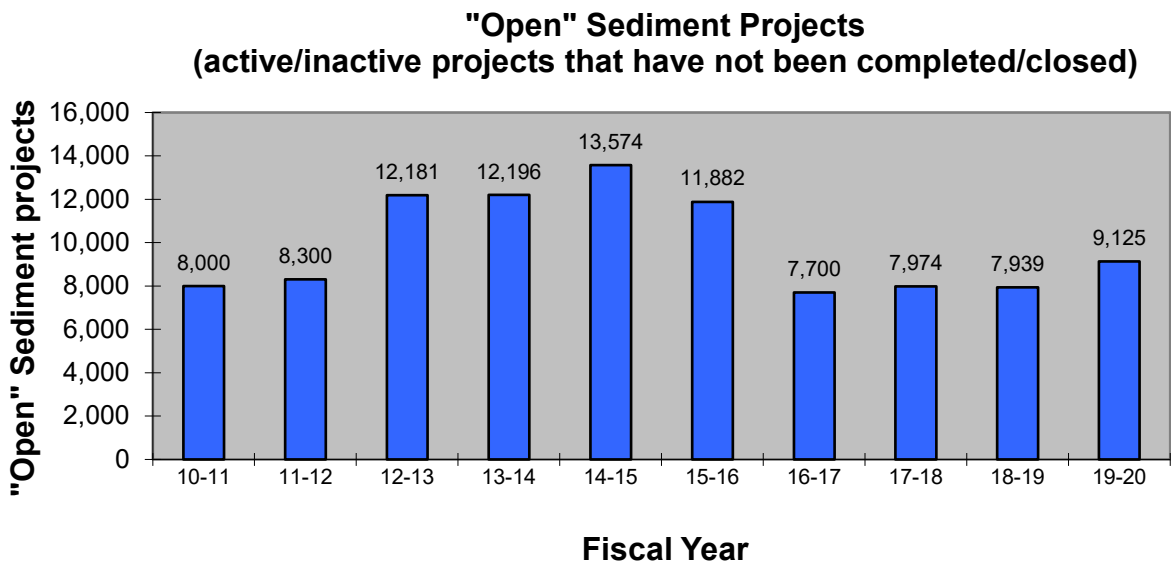


Figure 3 - Count of Open Sediment Projects

The number of full-time equivalent positions (FTE) in the DEMLR’s Sedimentation Control Program declined for several fiscal years until steadying as shown below:

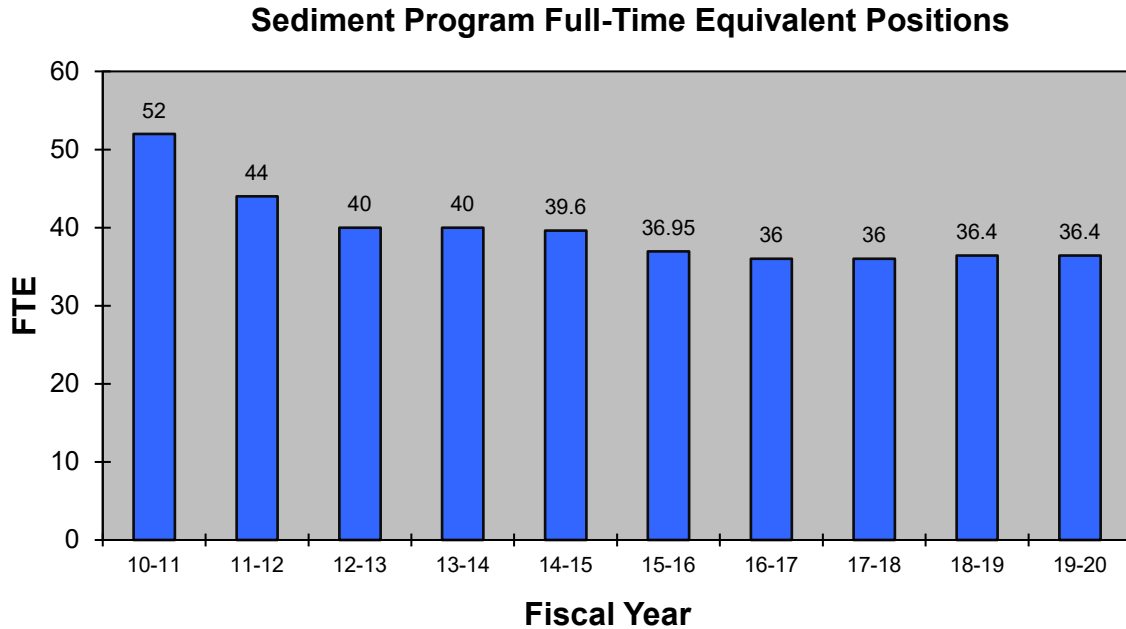


Figure 4 - Sediment Program Full-Time Equivalent Positions

Since revenue for the program comes from a sedimentation plan review fee for new projects, an increase in new construction has consequently provided some increase in our funding for vacant positions and operations. As the numbers show, there exists a lag between the number of projects and the number of staff available for inspections. Program staff have been successful in filling the vacancies in the Land Quality Section, despite frequent turnover.

Regional activities for the 2019-20 fiscal year include:

- 1,953 new erosion and sedimentation control plan reviews
- 532 sedimentation express plan reviews
- 717 revised erosion and sedimentation control plan reviews
- 10,813 sedimentation site inspections
- 108 notices of violation
- 6 enforcement case referrals

Plan Approval

The SPCA requires review of a proposed erosion and sedimentation control plan within 30 days for a new plan submittal and within 15 days for a revised plan. As mentioned above, newly disturbed acreage in North Carolina increased since the last fiscal year. The number of new erosion and sedimentation control plans received was 2,380 (down from 2,534 in FY 2018-19). For the past several years, the total number of new projects has fluctuated slightly but consistently remained around 2,000. In addition, DEMLR encourages applicants to meet with permit review staff in advance of the initial plan submittal to resolve quality and completeness issues prior to formal submittal to reduce the overall time for plan review and approval.

The Express Permitting Program for erosion and sedimentation control plans provides for plan review within as little as three working days. During FY 2019-20, 532 Express Permit reviews were conducted. This represents a 10% decrease in express permit reviews from the 591 express reviews completed in the previous year. The Winston-Salem, Mooresville, and Fayetteville regions have the most express reviews, reflecting the number of urban and residential area developments submitted for express review.

Inspections

Regional staff conducted 10,813 inspections last year, an increase of 240 inspections from the previous year. Inspection reports document field observations, and compliance or non-compliance with the SPCA. Based upon current staffing levels, open erosion and sedimentation control projects are inspected, on average, once every 10 to 11 months. Those under enforcement are usually inspected more frequently.

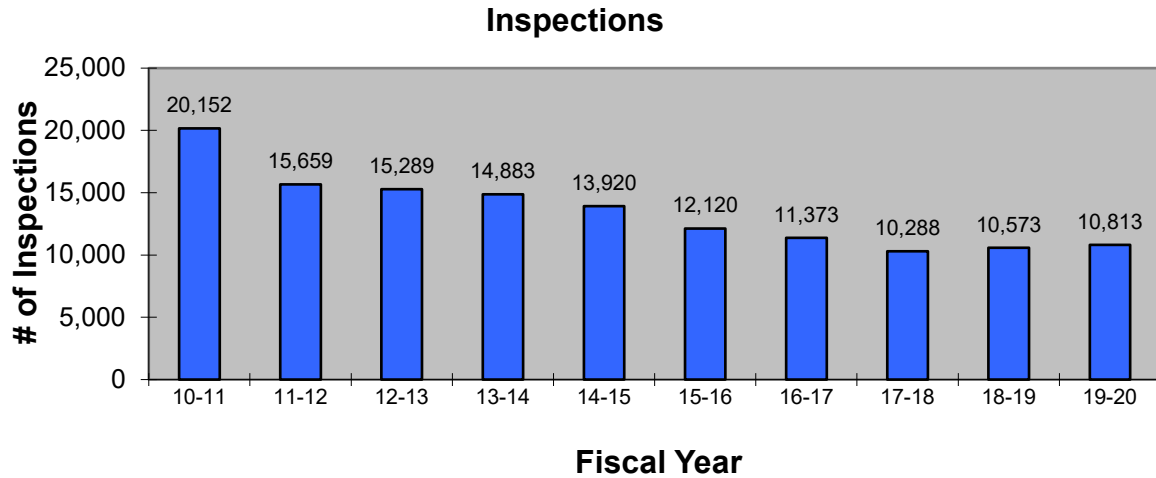


Figure 5 - Inspections per Year

The following are photos of good and poor practices found on construction sites during inspections. (Figures 6-13)



Figure 6 - Unmanaged Concrete Washout



Figure 7 - Good Construction Entrance



Figure 8 - Poor Practice – No Construction Entrance



Figure 9 - Good Application of Ground Cover



Figure 10 - No Ground Cover



Figure 11 - Rill Erosion on Sediment Basin Slope



Figure 12 - Good Vegetative Stabilization



Figure 13 - Good Inlet Protection

Enforcement

The DEMLR documents compliance or non-compliance with the SPCA through sedimentation inspection reports. Most violations are resolved by providing an inspection report to the responsible party and requesting correction of the deficiencies. Of the 10,813 inspections conducted during FY 2019-20, 108 (1%) resulted in a Notice of Violation (NOV). The NOV's led to 6 requests from the regional offices for additional enforcement action (6% of NOV's issued). Four civil penalties have been assessed so far, two of which were initial penalties of \$5,000 or less.

The Attorney General's Office provides litigation support to DEQ by filing actions in state courts and federal bankruptcy court to defend the agency's civil penalty assessments, complaints for injunctive relief, and to collect unpaid civil penalties.

Local Programs

The Sedimentation Control Commission encourages [local governments](#) to administer a delegated erosion and sedimentation control program by providing a model ordinance and technical assistance. Once a program is delegated to a local government, the DEMLR provides periodic oversight to ensure that the local programs are meeting the standards for the state program. State personnel informally assist and advise the local staff on problematic sites. The DEMLR's goal is to review each local program at least once every two years. The Division reviews the city or county ordinance to ensure that it is as stringent as state law and rules. The DEMLR's Regional Engineer and State Sediment Specialist and/or their Assistants meet with the local program staff during the review. A detailed report is provided back to the local government, noting strengths, deficiencies, and corrective actions. A summary report is presented to the Sedimentation Control Commission at its quarterly meetings.

The Commission then acts to continue the delegation, continue the review, place the program on probation, or give a 30-day notice that the Commission will assume administration and enforcement of the program.

Despite a vacancy in the Assistant position in February of 2020, twelve formal local program reviews were conducted during FY 2019-20. In addition, the regional offices provided 283 hours of technical assistance to the local programs during that same period.

Training and Education

In the Fall of 2019, the DEMLR helped plan two Erosion and Sedimentation Control Design [Workshops](#) for design professionals, contractors and developers with a total of 255 participants. A wide range of experts presented on common E&SC issues and on solutions based on innovative design and solid research. State and local program representatives provided updates on the latest regulatory changes and approaches to

successful plan approval. Vendors had the latest products on hand to demonstrate options that can help achieve cost-effective compliance.

The Division's Annual Local Program Workshop (2020) was postponed this fiscal year due to complications from the Coronavirus Disease of 2019. It was later cancelled when it was discovered that the funds could not be encumbered for the next fiscal year.

Program staff have continuously worked to improve publications and resources for both the regulated community and Division staff. Program data collection has either been moved to SharePoint or enhanced through the innovative use of legacy tools, making reporting more efficient and convenient for everyone. The Erosion and Sedimentation Control website now has a Frequently Asked Questions page, which should aid in reducing the volume of information requests.

New Program Efforts

North Carolina Session Law, 2013-413, requires a periodic review of all rules used by state agencies. The Division of Energy, Mineral, and Land Resources (DEMLR) and the Sedimentation Control Commission completed the review of the sedimentation and erosion control rules codified in [Chapter 04 of Title 15A of the North Carolina Administrative Code](#). In order to assure that the interests of all affected parties to the sedimentation control program are represented in review of these rules, the DEMLR staff established a "Sediment Rules Review Workgroup" composed of 19 members with a broad variety of interests. They met 11 times during a two-year period and proposed revisions to 27 of the 39 sedimentation control rules and recommended repeal of 12 of the rules. The result of the extensive public effort is a set of rules that are more up-to-date, easier to understand and provide more consistency with other programs being implemented in the state. The Sedimentation Control Commission adopted the last of the recommended changes to the rules at their May 2020 meeting. The last sediment-related rules were promulgated June 1, 2020. All information and guidance documents published or used by the Division have subsequently been updated to reflect the rule changes.

The Department of Information Technology (DIT) determined that the DEMLR Sedimentation Program's project database tracking system called ECLIPS (AMANDA) was inadequate to the task, and the Division has since migrated back to the existing IBEAM data management system due to technical and funding issues with ECLIPS (AMANDA). The conversion back to IBEAM is now complete. The program is also working with the DIT to develop a Microsoft Dynamics Customer Relationship Management database model as part of their initiative to streamline the permitting system across all divisions within the NCDEQ. Much progress has been made in designing new, more automated workflows to reduce administrative errors, paperwork, cross-referrals, and overall permit processing times. The database tracking system is slated for completion and beta testing in FY 20-21.

Staff worked with the Stormwater Program in the implementation of their NPDES Construction Stormwater General Permit, which was renewed on April 1, 2019.

Executive Summary – Annual Stormwater Program Report

The Stormwater Program serves a large and diverse number of permittees in a highly efficient manner. In addition to keeping up with our permitting workload described under “Program Overview” below, our top five accomplishments are as follows:

#1: *Improved technical guidance for the design community*

The Stormwater Program made updates to the NC Stormwater Design manual and other technical resources for the design community in response to comments and internal review by Division staff. The intent of the updates was to ensure that the guidance in the manual aligned with the Minimum Design Criteria and to clarify the requirements for the past fiscal year.

#2: *Expansion of the Stormwater Program Laserfiche Repository*

This year, the Stormwater Program has expanded the [Stormwater Program Laserfiche Repository](#) so that includes nearly all of the 4,130 active industrial permit files. The capability to access permit files remotely has been invaluable to permittees, stormwater staff and the public during this time when many staff are teleworking.

#3: *Timely reviews in the Post-Construction program*

The Stormwater Program staff’s average review time for stormwater submittals was well under the 90 days required by NC General Statute § 143-215.1(d)(1). The program has continued to review and issue permits in a timely manner while most of the staff are working remotely.

#4: *Improved communication with Water Supply Watershed communities*

There are currently 291 local governments who have jurisdiction within a water supply watershed and are required to implement measures to protect those resources. The Stormwater Program has made efforts on several fronts this year to provide more technical guidance and oversight to these communities.

#5: *Renewal of the Stormwater General Permits for Marinas and Mining*

Stormwater staff have worked with stakeholders and DEQ partners to update Stormwater General Permits NCG02 for Mining Activities and NCG19 for Marinas and Shipbuilding. During this renewal process this year, stormwater staff improved the clarity and organization of these two general permits and they will be used as a template for general permit renewals during the upcoming years.

Program Need: Additional Post-Construction Stormwater staff

Post-construction stormwater permits are issued in perpetuity so our program’s universe of permits continually grows. However, the number of staff that we have to issue those permits has in fact shrunk during the past ten years. The Stormwater Program needs more staff in order to be more proactive and customer service oriented for our multitude of existing permittees.

Program Overview

The DEMLR Stormwater Program comprises many programs aimed at protecting water quality from stormwater impacts. The following is a summary of the NC Stormwater Program's responsibilities:

- [NPDES Industrial Stormwater Program](#): Covers approximately 4,130 facilities (3,151 under general permits, 167 under individual permits, and 880 facilities under no exposure certifications). Industrial activities are required to manage and monitor their facilities for potential sources of stormwater pollution.
- [NPDES Construction Program](#): Covers construction activities that disturb one or more acres under a general permit (NCG01000). Permittees must have an Erosion and Sedimentation Control Plan, adhere to materials handling protocols, inspect their sites and keep records. The Stormwater Program partners with the Sediment Program to implement the NPDES Construction Stormwater Requirements.
- [NPDES MS4 Program](#): Covers 109 entities within urbanizing areas, such as municipalities, counties and universities. Other MS4 permittees include military bases and NCDOT. MS4 entities implement measures within their jurisdictions to prevent and control stormwater pollution from developed areas.
- [Post-Construction Program](#): Requires new developments to have permanent stormwater management measures after the project is built.
- The [Stormwater Design Manual](#) is a technical guidance document about implementing the rules pertaining to post-construction stormwater. The companion to the manual is the [Stormwater Control Measure Credit Document](#), which includes the state's estimation of each SCM's effectiveness in protecting hydrology and removing pollutants.
- [Water Supply Watershed Protection Program](#): Local governments with some or all of their jurisdictions within one or more water supply watersheds are required to implement measures within the water supply watersheds to prevent and control stormwater pollution. There are currently 229 watersheds classified as Water Supply Watersheds and 286 local government programs.
- Technical and compliance assistance for all of the above programs.

Current Active Stormwater Permits in North Carolina

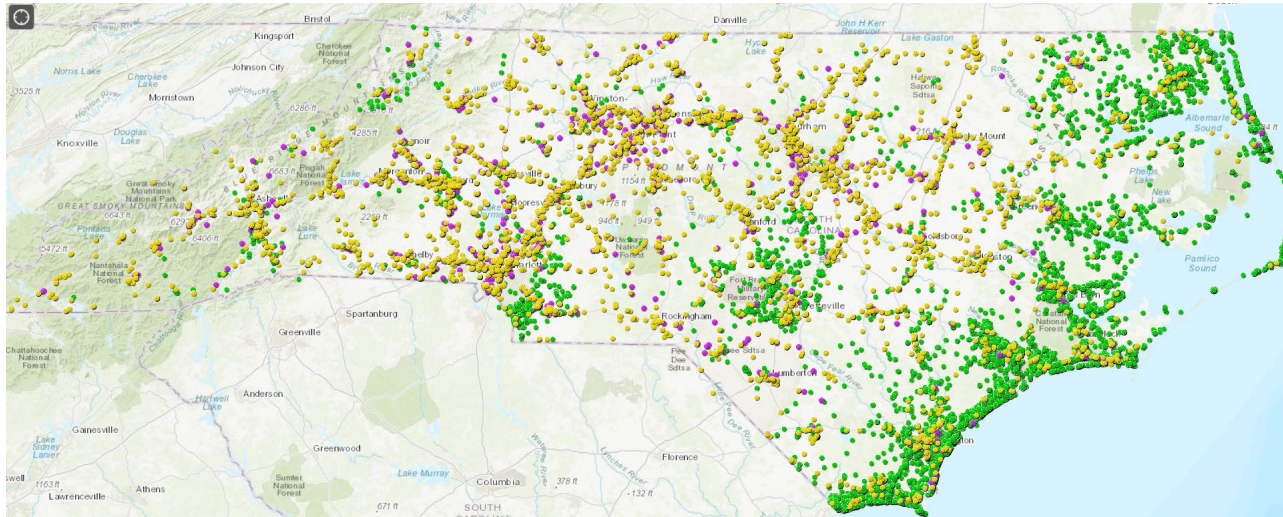


Figure 14 - Active Stormwater Permits in North Carolina

In the map above, green dots indicate post-construction permits, yellow dots indicate industrial stormwater permits, and purple dots indicate No Exposure Certifications.

Accomplishment #1: Updated Technical Guidance for the Design Community

The Stormwater Program made numerous updates to the Stormwater Design Manual and other tools in FY 19-20. A new chapter entitled “Vegetated Setbacks” was written and posted online. This chapter provides an overview of the benefits of vegetated setbacks, the requirements in the Stormwater Management Rules, and the changes made to these requirements by Session Law 2018-145. The new chapter gives guidance on how the Division interprets this legislation and how it affects future development projects that are subject to the vegetated setback requirements of 15A NCAC 02H .1000.

Four chapters in Part C: Minimum Design Criteria and Recommendations for Stormwater Control Measures were updated in FY 19-20. These chapters are:

- C-1: Infiltration System,
- C-3: Wet Pond,
- C-4: Stormwater Wetland, and
- C-7: Rainwater Harvesting.

These updates were made in response to comments from the design community as well as internal reviews and comments by Division staff. The intent of the various updates was to ensure that the guidance in the manual aligned with the Minimum Design Criteria and to clarify the requirements.

In addition to the Chapters on Stormwater Control Measures, staff also updated Chapter A-0: Areas of Research Needed. This chapter provides a list of stormwater topics for which additional research is needed to incorporate the practices into stormwater rules or

the design manual. This chapter of the manual is used by the Clean Water Management Trust Fund and other funding organizations to determine priorities for awarding grant monies to stormwater research topics.

In addition to the improvements to the Stormwater Design Manual, stormwater staff also worked to improve the Supplement EZ and O&M EZ tools for the design community. The Supplement EZ tool is a spreadsheet that summarizes the design requirements for a site to aid the designer and the reviewer in ensuring that the site design meets the regulations. This tool has been updated to make it more intuitive for designers to complete. The O&M EZ tool was updated to make sure that the maintenance plan templates are up-to-date and match the maintenance guidance offered in the design manual. All of these changes are currently draft and are expected to be published to the stormwater website and distributed to the public early in FY 20-21.

Accomplishment #2: Expansion of the Stormwater Program Laserfiche Repository

Nearly all of the 4,130 industrial stormwater permit files are now available to permittees, DEQ staff, and the public on the [Stormwater Program Laserfiche Repository](#). These digital files include permit applications, the permits themselves, and correspondence. In addition, the Stormwater Program is in the process of scanning the 17,000 current Post-Construction stormwater permit files, a project that is planned to be complete by December 2022.

In addition, the Stormwater Program has developed the capability for permittees to electronically submit additional information for a stormwater permit application. The process for this is currently under review. In addition, stormwater staff are developing the capability for industrial permittees to electronically submit water quality monitoring data. Between January 1, 2021 and January 1, 2022, the Stormwater Program plans to bring all industrial permittees into electronic submittal of monitoring data.

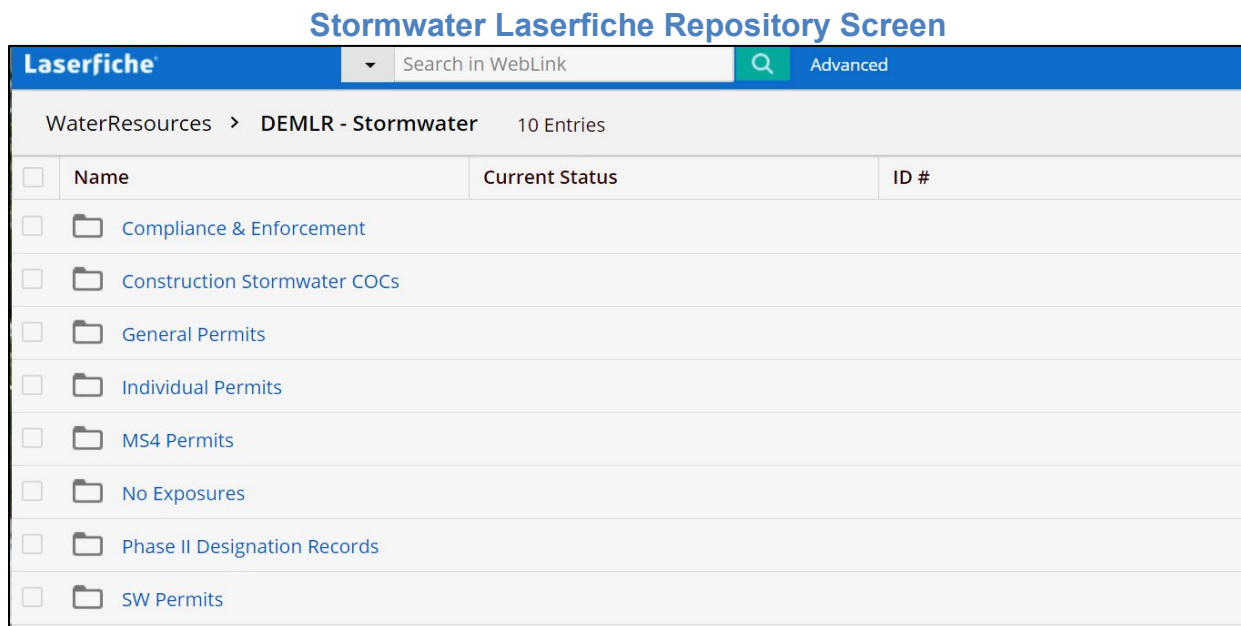


Figure 15 - Stormwater Laserfiche Repository Screen

Accomplishment #3: Timely Reviews in the Post-Construction Program

The Post-Construction program efficiently reviews Post-Construction permit applications and issues permits. The number of staff devoted to this task are:

- Central Office – 1.50 FTEs for 126 applications
- Washington Regional Office – 2.0 FTEs for 248 applications
- Wilmington Regional Office – 5.0 FTEs for 551 applications

Therefore, on average, each Post-Construction staff member reviews over 100 applications per year. Typically, these applications require at least one request for more information from staff to the applicant in order to be compliant with state stormwater rules and laws. Staff members in this program juggle many projects at once while the applications are in various states of review, while also being responsive to public inquiries and complaints.

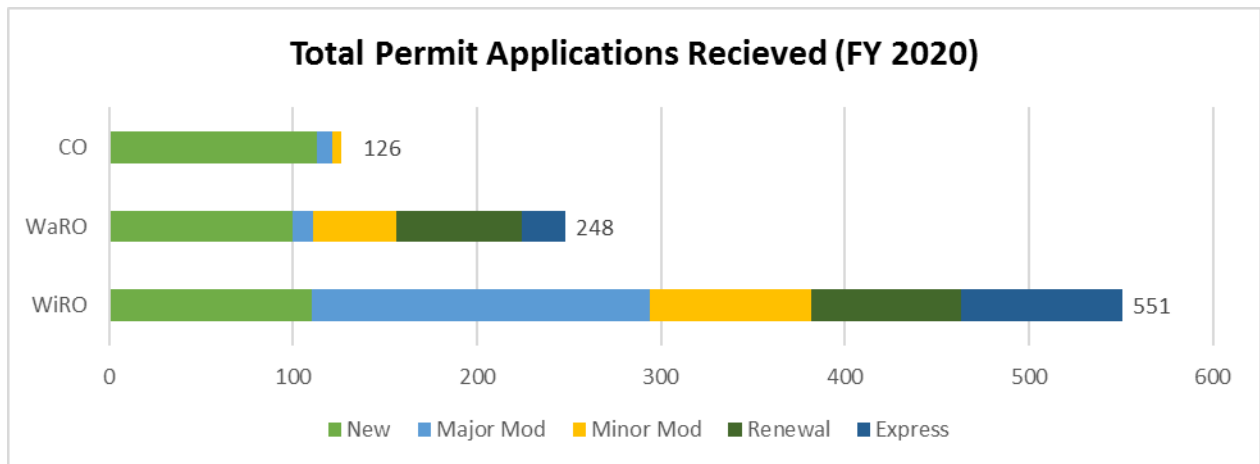


Figure 16 - Total Permit Applications Received in FY 2020

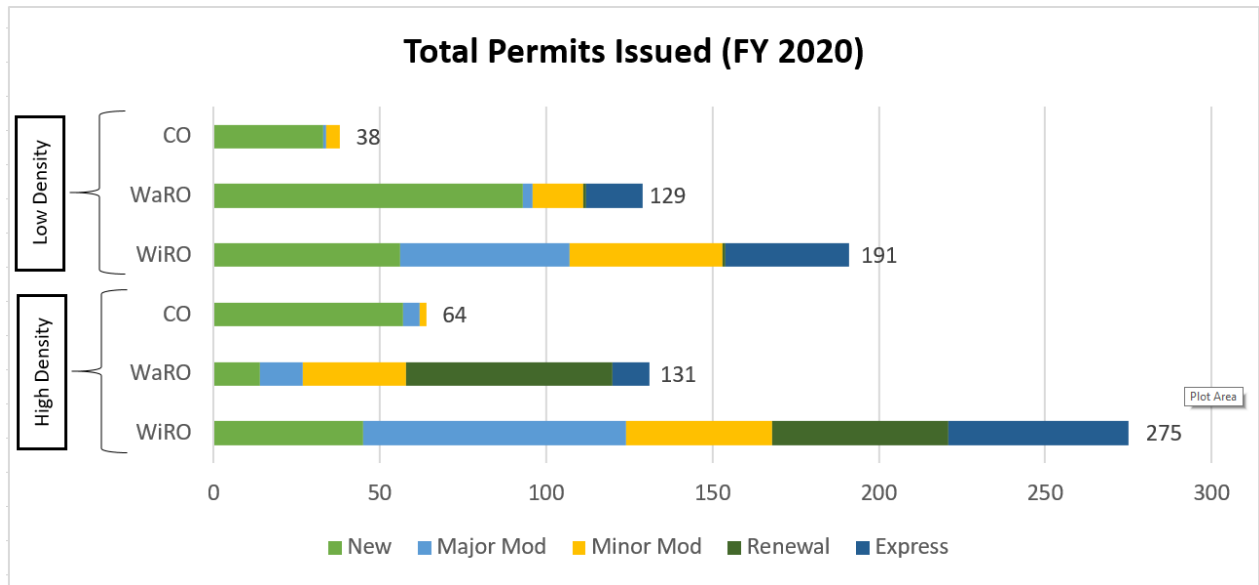


Figure 17 - Total Permits Issued in FY 2020

The Stormwater Program staff's average review time for stormwater submittals was well under the 90 days required by NC General Statute § 143-215.1(d)(1). The program has continued to review and issue permits in a timely manner while most of the staff are working remotely due to the Coronavirus Disease of 2019.

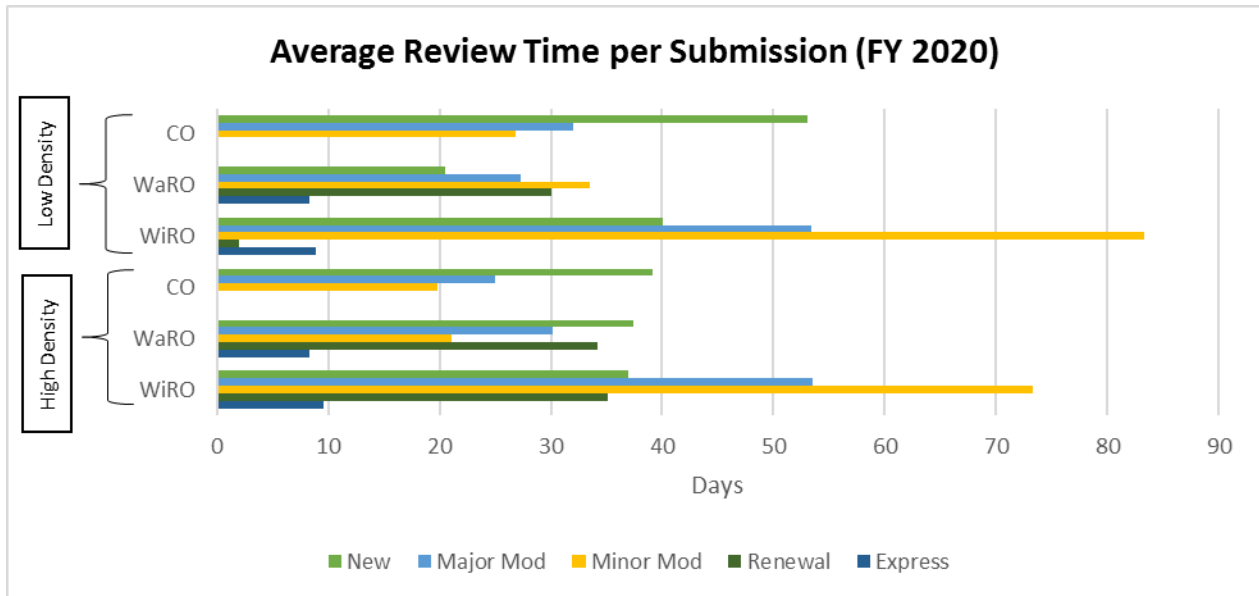


Figure 18 - Average Review Time per Submission in FY 2020

Accomplishment #4: Communication with Water Supply Watershed Protection Programs

There are 229 Water Supply Watersheds in North Carolina that are protected by 291 local government programs. Of these local government programs, there are 82 counties, 208 municipalities, and 1 airport authority. In many cases, the local governments that implement Water Supply Watershed Protection (WSWP) programs are limited in staff and resources and rely on DEQ for technical guidance.

The Stormwater Program has recently undertaken several efforts to reach out to the WSWP programs. The web site has been updated with information on the density averaging provisions of the WSWP program based on requests from local governments. Stormwater staff have also created a draft 2020 WSWP model ordinance to replace the current 1995 WSWP model ordinance. The draft 2020 model ordinance is currently under review by a small team of local and state government attorneys. By the end of 2020, the Stormwater Program plans to make the updated ordinance available to WSWP programs via email and the Stormwater Program web site.

The Stormwater Program recently sent out a web-based survey to all 291 WSWP programs to learn more about the current status of their programs. The survey requests that the local governments attach their most recent ordinances and WSWP maps, which are filed in the [Stormwater Program Laserfiche Repository](#). Based on the survey results, stormwater program staff will visit the communities that demonstrate the most need for technical guidance when it is safe to do so.

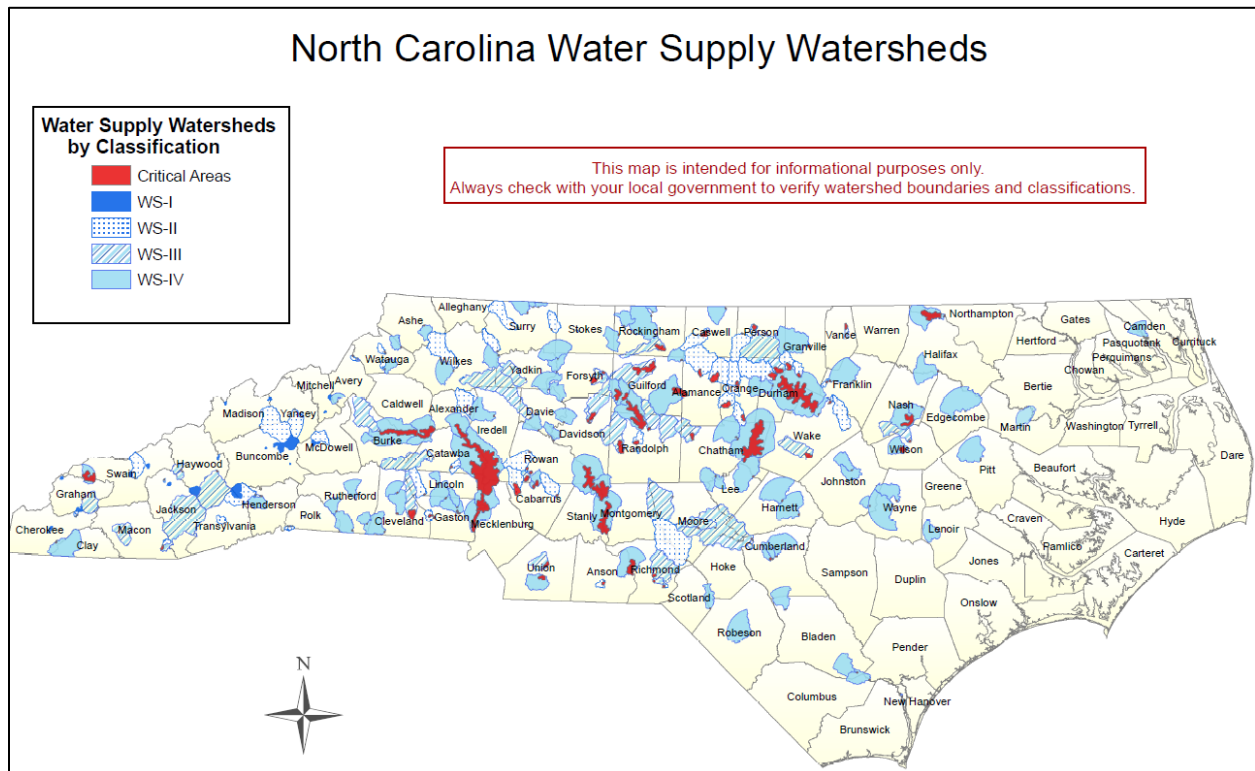


Figure 19 - North Carolina Water Supply Watersheds

Accomplishment #5: Renewal of the Stormwater General Permits for Marinas and Mining

The Stormwater Program administers 20 NPDES Industrial Stormwater General Permits for various sectors of industrial activities in North Carolina. EPA requires that these permits be renewed once every five years. The Stormwater Program has created a schedule whereby we renew two to six permits each year, which allows staff to focus on the particular needs of each industrial sector.

This year, stormwater staff have worked with stakeholders and DEQ partners to update Stormwater General Permits NCG02 for Mining Activities and NCG19 for Marinas and Shipbuilding. As a result of this work, many improvements were made to the permits. In addition to responding to stakeholder input, stormwater staff improved the clarity and organization of these two general permits and they will be used as a template for general permit renewals during the upcoming years.

The draft Stormwater General Permits NCG02 for Mining Activities and NCG19 for Marinas are posted on our web site, and the opportunity for public comment was advertised in newspapers and the NC Register from July 15 – August 14, 2020. These permits are scheduled to issue effective October 1, 2020.

NPDES General Industrial Permit Renewal Schedule

General Permit	Expiration Date	No. of Permittees (as of Jan 1, 2018)
NCG19 Marinas	9/30/20	63
NCG02 Mining	9/30/20	445
NCG03 Metal Fabrication	5/31/21	305
NCG06 Food and Kindred	5/31/21	187
NCG08 Transit and Transportation	5/31/21	414
NCG09 Paints and Varnishes	5/31/21	16
NCG10 Used Motor Vehicles	5/31/21	149
NCG12 Landfills	5/31/21	67
NCG14 Ready-Mixed Concrete	6/30/22	293
NCG15 Airports	8/31/22	69
NCG24 Compost Operations	9/30/22	14
NCG01 Construction	5/31/23	?
NCG05 Apparel, Printing, Rubber, Etc.	5/31/23	191
NCG07 Stone, Clay, Glass	5/31/23	123
NCG11 Treatment Works (WWTP > 1 MGD)	5/31/23	130
NCG13 Non-metal Waste and Scrap	5/31/23	53
NCG21 Timber Products	5/31/23	210
NCG01 Construction Activities	5/31/24	~8,000
NCG17 Textile Mills	5/31/24	110
NCG18 Furniture Manufacture	5/31/24	63
NCG16 Asphalt Paving	5/31/24	143
NCG20 Scrap Metal	5/31/24	90

Figure 20 – NPDES General Industrial Permit Renewal Schedule

Program Need: Additional Post-Construction Stormwater Staff

With over 17,000 existing permittees, the current staff of 8.5 FTEs is responsible for the oversight of, on average, more than 2,000 existing stormwater permits per FTE. However, stormwater staff are busy reviewing the 100+ new stormwater permit applications that they are each responsible for every year. This leaves little or no time to assist current permittees or manage the program for compliance with permit requirements.

The Stormwater Program needs additional staff in order to develop a meaningful program that is proactive and customer service-oriented to meet compliance goals and expectations rather than being solely complaint and permit issuance driven.