

**Annual Report to the
North Carolina General Assembly**

***Consolidated Report on the Sedimentation
Pollution Control Act and Stormwater Control
Programs***

July 1, 2017 – June 30, 2018

Division of Energy, Mineral, and Land Resources



**NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY**

**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, 2018

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 also 53 delegated SPCA programs across the state implemented by either county or municipal governments. The total number of new projects increased from 1,978 new projects in FY 2016-17 to 2,473 new projects in FY 2017-18. In addition, the total number of newly disturbed acres increased from 23,163 acres in FY 2016-17 to 28,024 acres in FY 2017-18. Sediment inspections dropped slightly from 11,373 inspections in FY 2016-17 to 10,288 in FY 2017-18.

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.

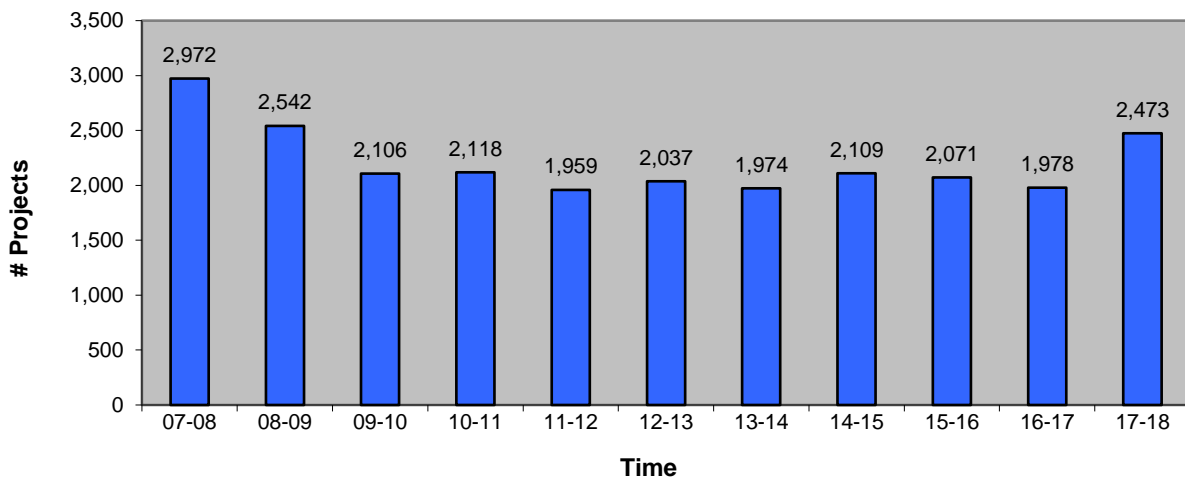
The state sedimentation program also plays a critical role in meeting federal construction stormwater permitting requirements under the Clean Water Act. The United States Environmental Protection Agency (EPA) implements federal permitting requirements for stormwater discharges from active construction 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.

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 so that one point of contact for meeting both programs' permitting, inspection and reporting requirements can be used to communicate compliance with both programs' state and federal provisions.

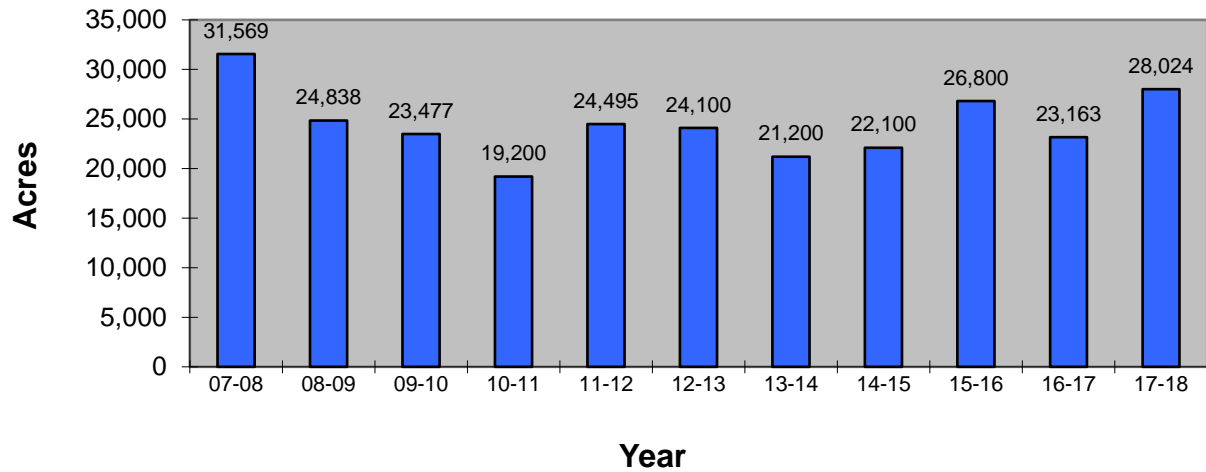
Program Implementation

The decline in the number of new projects under state jurisdiction leveled off in recent years, but has since increased with 2,473 new applications received in FY 2017-18. The actual area of land-disturbance covered by new erosion and sedimentation control plans approved in FY 2017-18 increased to approximately 28,024 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.

Permit Applications Received Per Year

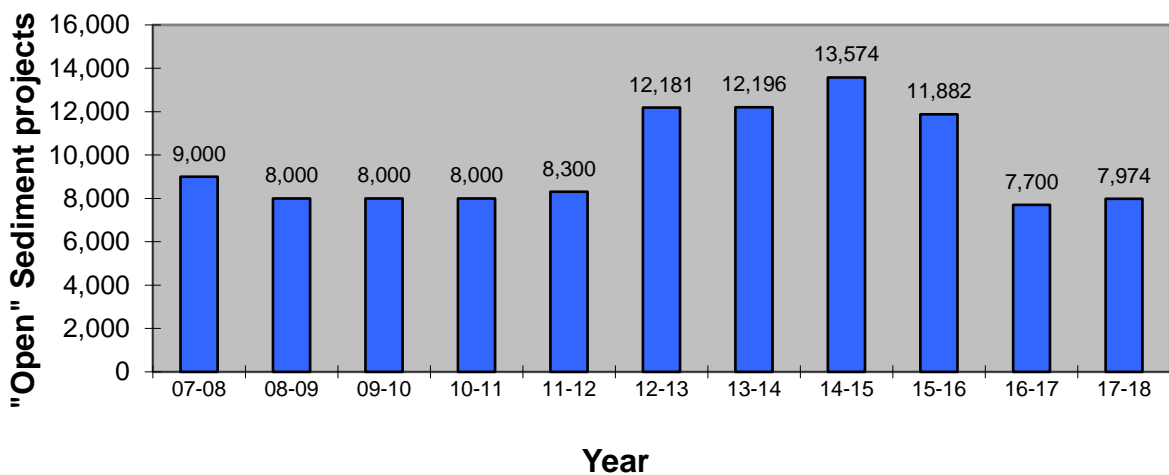


Disturbed Acres Per Year



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 recession. The number increased slightly to 7,974 in 2017-18. The total includes all sites that are either under active construction or are inactive and not completed.

"Open" Sediment Projects (active/inactive projects that have not been completed/closed)



The number of full time equivalent positions (FTE) in DEMLR's Sedimentation Control Program has continued to decline over the past nine fiscal years as follows:

Fiscal Year	Sediment FTE	Fiscal Year	Sediment FTE
2008-2009	65	2014-2015	39.6
2009-2010	61	2015-2016	36.95
2010-2011	52	2016-2017	36
2011-2012	44	2017-2018	36
2012-2013	40		
2013-2014	40		

Since the fee 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 operation. As the numbers show, there exists a lag between the number of new projects and the number of staff available for inspections. Program staff are working to fill the number of vacancies in the Land Quality Section.

Regional activities for the 2017-18 fiscal year include:

- 2,473 new erosion and sedimentation control plan reviews
- 694 sedimentation express plan reviews
- 830 revised erosion and sedimentation control plan reviews
- 10,288 sedimentation site inspections
- 175 notices of violation
- 10 enforcement case referrals

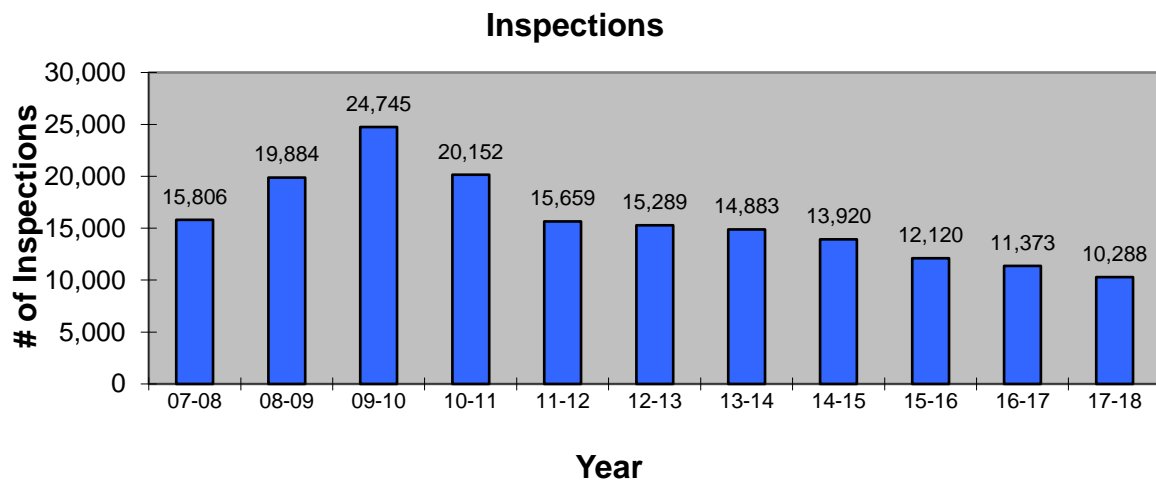
Plan Approval

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 2,473 (up from 1,978 in FY 2016-17 and the highest since FY 08-09). For the past several years, the total number of new projects has fluctuated slightly but consistently remained around 2,000 plans. 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 2017-18, 694 Express Permit reviews were conducted. This represents a 42% increase in express permit reviews from the 488 express reviews completed in the previous year. The Mooresville, Winston-Salem, and Fayetteville regions continue to have the most express reviews, reflecting the number of Department of Defense projects and urban area development submitted for express review, including Fort Bragg, Winston-Salem and Charlotte.

Inspections

Regional staff conducted 10,288 inspections last year, a decline of 1,085 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 8 to 9 months. Those under enforcement are usually inspected more frequently.



The following are photos of good and poor practices found on construction sites during inspections. (Figures 1-8)



*Figure 1 -
Unmanaged Concrete Washout Area*



*Figure 2 -
Construction Entrance needs maintenance*



*Figure 3 -
Poor Practice - No Construction Entrance*



*Figure 4 -
Example of Good Application of Ground Cover*



*Figure 5 -
No Ground Cover*



*Figure 6 -
Rill Erosion on side slope of the Sediment Basin*



*Figure 7 -
Good Vegetative Ground Cover*



*Figure 8 -
Silt Fence Outlet in Wrong Location*

Enforcement

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 10,288 inspections conducted during FY 2017-18, 175 (1.7%) resulted in a Notice of Violation (NOV). The NOVs led to 10 requests from the regional offices for additional enforcement action (5.7% of NOVs issued or less than 0.10% of the inspections conducted). Six civil penalties have been assessed so far, five 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.

New Program Efforts

The Department of Information Technology (DIT) determined that the DEMLR Sedimentation Program's project database tracking system ECLIPS (AMANDA) was inadequate to the task in December of 2017 and migrated back to the existing IBEAM data management system due to technical and funding issues with ECLIPS (AMANDA). As background, the Sedimentation Program was one of three statewide programs to be selected to pilot the AMANDA based Enterprise Certification Licensing Inspection and Permitting System (ECLIPS). ECLIPS was selected to facilitate project database management and electronic permitting and to provide the public the ability to track plans, inspections, and enforcement. As of this writing, the conversion back to IBEAM is near completion. 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. This model will have many of the abilities intended with the ECLIPS.

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. A review of each local program is scheduled at least every two years. DEMLR and the Attorney General's Office review the city or county ordinance to ensure that it is as stringent as state law and rules. 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, place the program on probation, or give a 30-day notice that the Commission will assume administration and enforcement of the program.

Seventeen formal local program reviews were conducted during FY 2017-18. In addition, the regional offices provided 8,879 hours of technical assistance to the local programs during that same period. This is quite an increase from the 429 hours provided last fiscal year and contributed to the number of decreased inspections conducted by the DEMLR.

Training and Education

DEMLR held one workshop this past year for design professionals, contractors and developers, with a total attendance of 139 participants, to assist them in preparing complete erosion and sedimentation control plans and to update them on recent administrative and legislative changes to the program over the past year. In addition, representatives from 41 delegated programs participated in DEMLR's Annual Local Program Workshop for local government erosion and sedimentation control personnel, with a total attendance of 95 participants, to ensure accurate and consistent implementation of the program across the state in accordance with the state's program.

Executive Summary – Annual Stormwater Program Report

The Stormwater Program has a large permitting load that is efficiently handled by a small number of staff. During the past year, we have made progress in addressing our permit backlog and incorporating digital information management, but we are still in need of more resources to meet all of the federal requirements for our program.

Our top three achievements for the past year are:

#1: *We have caught up on renewing NPDES General Stormwater Permits.*

North Carolina has 21 different Industrial General Permits that cover stormwater discharges associated with industrial activities and construction. They are issued for a five-year period and, as such, we typically renew 4-5 general permits each year. However, due to staffing shortages, we fell behind two years on renewing NPDES General Stormwater Permits. In order to get caught up, we issued the general permits that were due for renewal in 2016, 2017 and 2018 all this year (a total of 12 permits.)

#2: *We have updated stormwater permits for all facilities with coal ash residuals.*

Each of the state's 15 coal ash-fired power plants holds an NPDES Industrial Individual Stormwater permit. Although keeping these permits up to date is a portion of our typical workload in the Stormwater Program, the challenges surrounding coal ash management required an elevated level of staff effort, site visits, meetings with other DEQ programs and Duke Energy staff, and significant permit updates. We are pleased to report that as of August 1, 2018, we have renewed every stormwater permit for this type of facility.

#3: *We have made significant strides in digital information management.*

In every one of the stormwater programs, we now keep digital files of all actions from March 2018 forward that can be accessed by the public. These digital files include permit applications, permits, and correspondence with permittees. This information can easily be made available upon request. In addition, we are developing the capability for permittees to submit water quality monitoring information on line rather than in paper copy per current protocol. We also have developed the capability for permittees to electronically submit additional information for an stormwater permit application that is currently under review.

Our top two program needs for the upcoming year are:

#1 *We need additional staff to support the development of electronic Discharge Monitoring Reporting.*

The Stormwater Program administers over 2,000 NPDES industrial Stormwater permits that require regular monitoring of stormwater outfalls and reporting of the monitoring results. At present, these industrial facilities report all of this data via paper and post. Electronic reporting would be vastly more efficient for both the permittees and DEMLR. Not only would it be more efficient, but it is also required by the federal Electronic Reporting Rule.

The Stormwater Program will not be able to make any additional progress with electronic reporting unless additional staff resources are provided. We estimate that we would need three temporary administrative staff for data entry for approximately 18 months) and one permanent program consultant position to direct and oversee the administrative work and provide ongoing training and support for the NPDES Industrial Permitting program.

#2: *We need addition staff to address the permit backlog for NPDES Individual Industrial permits.*

Due to staffing shortages in the Stormwater Program, currently about 65 percent of our state's 167 NPDES Industrial Individual Permittees are expired. Some of these permits have been expired for up to five years. Facilities with Individual NPDES Industrial Permits are typically the largest and most complex industrial facilities in the state (less complex facilities typically hold general permits).

It is important to the protection of water quality that these Individual Industrial permittees have their facilities inspected and their permits updated accordingly to protect our state's surface waters.

Program Overview

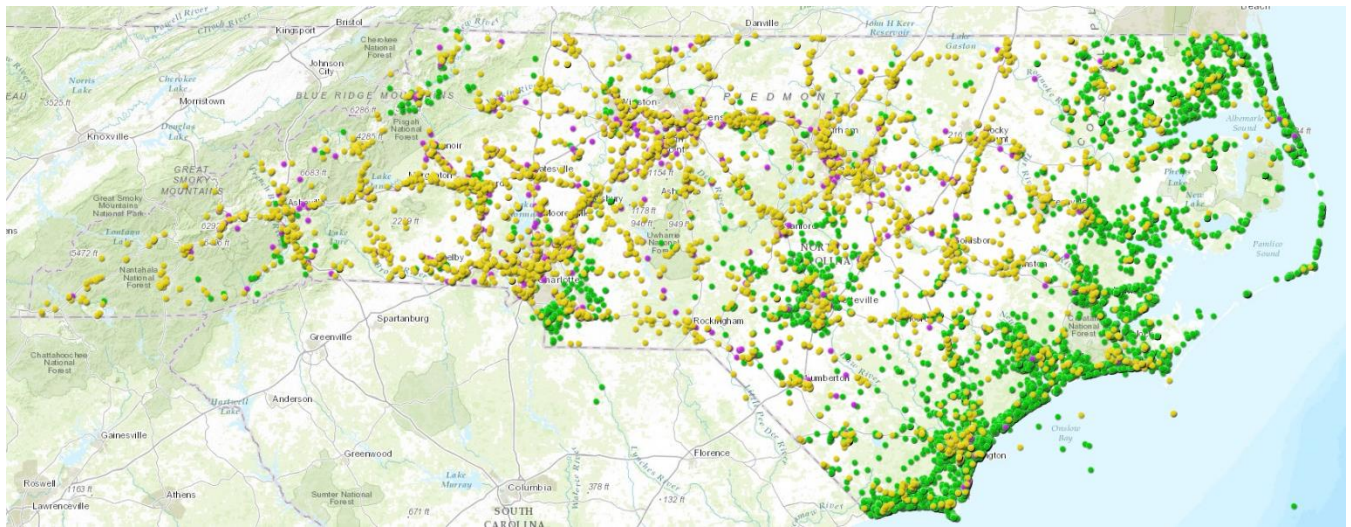
The Stormwater Program is a large and diverse program that makes efficient use of staff resources. The following is a summary of programs that we implement to protect North Carolina's surface waters from stormwater runoff:

- [NPDES Industrial Stormwater Program](#): Covers approximately 4,130 facilities (3100 under general permits, 150 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 MS4 Program](#): Covers 112 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.
- [NPDES Construction Program](#): Covers construction activities that disturb one or more acres under a general permit (NCG01000). Permittee must have an Erosion and Sedimentation Control Plan, adhere to materials handling protocols, inspect their sites and keep records. We partner with the DEMLR Sediment Program to implement the requirements of this program.
- [Post-Construction Program](#): Requires new developments to have permanent stormwater management measures after the project is built. There are numerous post-construction programs, including [Water Supply Watershed](#), [Coastal Counties](#), MS4 Tipped, [HQW & ORW](#), and [Special Watersheds](#).

- 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.
- Compliance assistance for all of the above programs.

Figure 9 below shows the locations of stormwater permittees. Green dots indicate permittees with post-construction permits, yellow dots indicate NPDES Industrial stormwater permittees, and purple dots indicate No Exposure Certifications.

Figure 9: Current Active Stormwater Permits in NC



The number of DEMLR staff members issuing and maintaining these permits is approximately 16 FTEs. Seven of those staff members are in the Central Office, which is responsible for issuing and renewing all of the NPDES Industrial permits and the post-construction permits outside of Coastal Counties. Post-construction permits for Coastal County projects are handled by the staff in the Wilmington and Washington Regional offices. Regional Office staff members across all seven regions perform inspections of both industrial and post-construction facilities and respond to complaints regarding these permits. It would be helpful to have more staff to support the stormwater program in the Regional Offices.

Accomplishment #1: NPDES General Industrial Permit Renewals

Getting caught up on NPDES General Industrial Permits has been a big focus for stormwater staff this year. In order to renew a general permit, staff works with permittees, staff in other DEQ programs, and with EPA staff. We also have to ensure that contact information for hundreds of permittees is correct and that permit fees are paid. For the NCG01 Construction Activities permit, staff have had several stakeholder meetings to obtain public input. Draft general permits for renewal are posted on our web site and the opportunity for public comment is advertised in newspapers and the NC Register. We have received positive feedback on the renewed permits. Some of the general permits (NCG01, 03, 06, 08, 09, 10, and 12) are on public notice from September 4 – October 5, 2018 and expected to be issued on November 1, 2018.

Table 1: Schedule for NPDES General Industrial Permits

General Permit	Expiration Date	Number of Permittees (as of January 1, 2018)
NCG17 Textile Mills	July 31, 2019	110
NCG18 Furniture Manufacture	August 31, 2019	63
NCG16 Asphalt Paving	September 30, 2019	143
NCG20 Scrap Metal	December 31, 2019	90
NCG19 Marinas	May 31, 2020	63
NCG02 Mining	September 30, 2020	445
NCG03 Metal Fabrication	May 31, 2021	305
NCG06 Food and Kindred	May 31, 2021	187
NCG08 Transit and Transportation	May 31, 2021	414
NCG09 Paints and Varnishes	May 31, 2021	16
NCG10 Used Motor Vehicles	May 31, 2021	149
NCG12 Landfills	May 31, 2021	67
NCG14 Ready-Mixed Concrete	June 30, 2022	293
NCG15 Airports	August 31, 2022	69
NCG24 Compost Operations	September 30, 2022	14
NCG01 Construction	May 31, 2023	~ 7,974 active projects
NCG05 Apparel, Printing, Rubber, Etc.	May 31, 2023	191
NCG07 Stone, Clay, Glass	May 31, 2023	123
NCG11 Treatment Works (WWTP > 1 MGD)	May 31, 2023	130
NCG13 Non-metal Waste and Scrap	May 31, 2023	53
NCG21 Timber Products	May 31, 2023	210

Accomplishment #2: Duke Energy Stormwater Permits Issued

After five years of significant staff effort, including many meetings and site visits, Stormwater Program staff have updated every NPDES Individual Industrial Stormwater Permit for Duke Energy coal-fired power facilities. The last two permits for Buck Steam Station and Buck Combustion Turbine Combined Cycle were issued on August 1, 2018 after being presented at a public hearing on June 7, 2018 in Kernersville, NC. Buck Steam Station is in the process of being decommissioned but continues to have stormwater discharge points during the decommissioning process that require coverage under the federal stormwater permitting program at present. See Table 2 below for a summary of the coal-fired power plants and their permit issuance dates.

Table 2: Schedule for NPDES General Industrial Permits

Plant Name	Permit Issuance Date
Allen Steam Station	May 15, 2015 August 1, 2015 - Minor mod to add outfalls June 20, 2016 – Minor mod to update monitoring
Belews Creek Steam Station	February 13, 2017 February 06, 2018 - Minor Mod to add two existing sediment basins as new outfalls
Buck Combustion Turbine Combined Cycle	August 1, 2018
Buck Steam Station	August 1, 2018
Cliffside Steam Station	October 1, 2015
Dan River Steam Station	October 1, 2015
Marshall Steam Station	May 15, 2015 January 24, 2017 - Minor mod to remove outfall
Riverbend Steam Station	May 15, 2015 June 20, 2016 - Minor mod for technical updates
Asheville Power Station	May 24, 2016 June 16, 2016 - Minor mod for technical updates
Cape Fear Power Station	May 27, 2016
Sutton Power Station	December 1, 2015 (Wastewater Permit including Stormwater)
Mayo Power Station	January 27, 2017
Roxboro Power Station	January 27, 2017
Weatherspoon Power Station	February 1, 2017
H.F. Lee Power Station	No point sources discharge of industrial stormwater needing permit coverage. Notes that future movement of material on haul roads may lead to need for permit coverage.

Accomplishment #3: Digital Information Management

During the past year, the Stormwater Program has made great strides in storing files digitally. Since March 2018, permit applications, supporting documentation, newly issued permits and correspondence are stored digitally and can easily be made available to the public upon request. We hope to develop the capability for the public to search permitting files through an on-line portal. In addition, the Stormwater Program has created on-line Notice of Intent Forms that allow some of the industrial stormwater permittees to apply and receive coverage under a General Permit through an entirely electronic process.

We do not yet have electronic application forms for the initial applications for post-construction stormwater permits, although that is a goal for the future. However, applicants are encouraged to submit additional information for existing permit applications through our on line [Supplemental Information Upload Form](#). This saves time and expense for the permittee and also allows the stormwater staff to file and route the additional information more efficiently.

Need #1: Federal Electronic Reporting Staff Support

The Stormwater Program administers over 2,000 NPDES industrial Stormwater permits that require regular monitoring of stormwater outfalls and reporting of the monitoring results. At present, these industrial facilities report all of this data via paper and post. Electronic reporting would be vastly more efficient for both the permittees and DEMLR. Not only would it be more efficient, but it is also required by the federal Electronic Reporting Rule. This Rule requires that monitoring data for NPDES permits be reported electronically to EPA beginning in 2016. However, EPA has agreed to work with DEMLR to allow us to submit such information via spreadsheets until an automated reporting system can be programmed and implemented.

Some of the tasks required to get the new electronic reporting system up and running include:

1. *Modifying the existing permit database to accommodate stormwater monitoring data (35% complete),*
2. *Expanding NC's eDMR system to accept data from Stormwater Program permit-holders (pending), and*
3. *Training industrial permittees on how to use the system (pending).*

The Stormwater Program has designed an on-line collector application that allows permittees to submit outfall locations by simply filling out a form and locating an outfall on a map. This effort involves over 2,000 permittees as DEMLR increases capability for the Stormwater Program to use NC's electronic discharge monitoring report protocol to meet federal requirements.

The NPDES Wastewater Program has already received appropriate resources to implement electronic reporting of monitoring data for permitted wastewater facilities.

The Stormwater Program will not be able to make any additional progress with electronic reporting unless additional staff resources are provided. We estimate that we would need three temporary administrative staff for data entry for approximately 18 months) and one permanent program consultant position to direct and oversee the administrative work and provide ongoing training and support for the NPDES Industrial Permitting program.

Need #2: Federal Electronic Reporting Staff Support

Due to staffing shortages in the Stormwater Program, currently about 65 percent of our state's 167 NPDES Industrial Individual Permittees are expired. Some of these permits have been expired for up to five years. Facilities with Individual NPDES Industrial Permits are typically the largest and most complex industrial facilities in the state (less complex facilities typically hold general permits).

EPA requires that their permits be renewed every five years to allow DEMLR the opportunity to inspect and take inventory of their facilities to address potential sources of stormwater pollution. At present, the expired permits continue to be in effect due to clause in the permit that allows the permittee to continue to operate under an expired permit provided that he has submitted a permit renewal application.

It is important to the protection of water quality that these Individual Industrial permittees have their facilities inspected and their permits updated accordingly to protect our state's surface waters.