

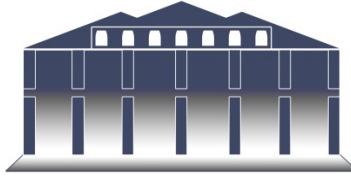
**Opportunities Exist to Improve the Erosion and
Sedimentation Control Program and Recover \$1.7
Million in Annual Costs**



**Final Report to the Joint Legislative
Program Evaluation Oversight Committee**

Report Number 2019-01

January 29, 2019



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John W. Turcotte
Director

January 29, 2019

Senator Brent Jackson, Co-Chair, Joint Legislative Program Evaluation Oversight Committee
Representative Craig Horn, Co-Chair, Joint Legislative Program Evaluation Oversight Committee

North Carolina General Assembly
Legislative Building
16 West Jones Street
Raleigh, NC 27601

Honorable Co-Chairs:

The 2018 Work Plan of the Joint Legislative Program Evaluation Oversight Committee directed the Program Evaluation Division to examine the effectiveness and efficiency of the State Erosion and Sedimentation Control (E&SC) program and determine whether duplication exists between it and the federal National Pollution Discharge Elimination System (NPDES) program.

I am pleased to report that the Department of Environmental Quality cooperated with us fully and was at all times courteous to our evaluators during the evaluation.

Sincerely,

A handwritten signature in black ink, appearing to read "John W. Turcotte".

John W. Turcotte
Director

Mandatory Evaluation Components

Report 2019-01: Opportunities Exist to Improve the Erosion and Sedimentation Control Program and Recover \$1.7 Million in Annual Costs

N.C. Gen. § 120-36.14 requires the Program Evaluation Division to include certain components in each of its evaluation reports, unless exempted by the Joint Legislative Program Evaluation Oversight Committee. The table below fulfills this requirement and, when applicable, provides a reference to the page number(s) where the component is discussed in the report.

N.C. Gen. § 120-36.14 Specific Provision	Component	Program Evaluation Division Determination	Report Page
(b)(1)	Findings concerning the merits of the program or activity based on whether the program or activity		
(b)(1)(a)	Is efficient	<p>The State's Erosion and Sedimentation Control program is inefficient because regional office performance was variable and often fell short of total statewide performance. In Fiscal Year 2017–18:</p> <ul style="list-style-type: none"> • 4 of 7 regional offices reported higher cost per approved erosion and sedimentation control plan compared to total statewide performance (\$841.49); • 4 of 7 regional offices did not meet erosion and sedimentation control approval rates compared to total statewide performance (88.4%); • 2 of 7 regional offices decreased the amount of time spent on erosion and sedimentation control plan review and approval per employee per week, and 3 of 7 did not experience the same level of workload growth as was experienced statewide (12.4%); and • 7 of 7 regional offices decreased the amount of time spent on monitoring and compliance per employee, and 4 of 7 experienced a greater decline than the total statewide workload decline (31%). 	21, 23, 27
(b)(1)(b)	Is effective	<p>The Erosion and Sedimentation Control program meets two performance target, but most other internal outcomes monitored by the program are not being met. In Fiscal Year 2017–18:</p> <ul style="list-style-type: none"> • 7 of 7 regional offices processed most erosion and sedimentation control plans within 30 days of receipt and total statewide performance was 99.6%; and 7 of 7 regional office processed most revised plans within 15 days; and total statewide performance was 99.4%. However, high target attainment suggests the need for target revision to stretch performance; • 4 of 7 regional offices performed fewer pre-application meetings per submitted erosion and sedimentation control plan compared to total statewide performance (0.6); • 0 of 7 regional offices inspected all approved sites once per month and total statewide performance in attaining this target was only 55%; and 	17, 22, 24, 26

		<ul style="list-style-type: none"> • 26 of 54 delegated local programs have not undergone review in the last two years and the State is not performing oversight. 	
(b)(1)(c)	Aligns with entity mission	The mission of the Erosion and Sedimentation program is to allow development in North Carolina while preventing pollution from sedimentation. This mission aligns with the Department of Environmental Quality's mission to provide science-based environmental stewardship for the health and prosperity of all North Carolinians.	6
(b)(1)(d)	Operates in accordance with law	The Erosion and Sedimentation Control program operates in accordance with the Sedimentation Pollution Control Act of 1973 and reports to the U.S. Department of Environmental Protection (EPA) on program operations. The EPA provides continual review of the State's performance on the implementation of the Clean Water Act.	11-16
(b)(1)(e)	Does not duplicate another program or activity	The Program Evaluation Division found that no duplication exists ; the State's Erosion and Sedimentation Program satisfies federal requirements that North Carolina must meet in delegation the State received from the EPA to implement the National Pollution Discharge Elimination System program.	11-16
(b)(1a)	Quantitative indicators used to determine whether the program or activity		
(b)(1a)(a)	Is efficient	The Program Evaluation Division determined efficiency of the State Erosion and Sedimentation Control program based on statutorily-created and internally established performance targets : <ul style="list-style-type: none"> • cost per approved erosion and sedimentation control plan by regional office and statewide, • erosion and sedimentation control plan approval rates by regional office and statewide, • erosion and sedimentation control plan review and approval workload per employee per week by regional office and statewide, and • monitoring and compliance workload per employee per week by regional office and statewide. 	21, 23, 27
(b)(1a)(b)	Is effective	The Program Evaluation Division determined effectiveness of the State Erosion and Sedimentation Control program based on statutorily-created and internally established performance targets : <ul style="list-style-type: none"> • erosion and sedimentation plan review and approval process within 30 and 15 days of receipt by regional office and statewide, • ratio of pre-application meetings to the number of plans submitted by regional office and statewide, • percentage of site inspections of approved sites performed once per month by regional office and statewide, and • delegated local program review performed once every two years by the Raleigh Central Office. 	17, 22, 24, 26
(b)(1b)	Cost of the program or activity broken out by activities performed	In Fiscal Year 2017–18, total expenditures for the Erosion and Sedimentation Control program were \$2.98 million. Those expenditures break down as follows: <ul style="list-style-type: none"> • plan review and approval = \$1,791,580 (60%) • monitoring and compliance = \$803,476 (27%) • technical support and outreach = \$384,944 (13%) The Program Evaluation Division performed further cost analysis on plan review and approval activities.	8-10, 23

(b)(2)	Recommendations for making the program or activity more efficient or effective	<p>To improve the effectiveness and efficiency of the Erosion and Sedimentation Control program, Recommendations 1 through 6 state the General Assembly should do the following:</p> <ul style="list-style-type: none"> • amend state law to outline reporting requirements for delegated local programs and program review frequency; • direct the Sedimentation Control Commission to amend agreements with delegated local programs and develop administrative rules for the use of a risk-based approach for performing inspections; and • direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to follow inspections policies and coordinate with the regulated community for the performance of inspections; develop policies and procedures for regularly performing oversight of delegated local programs; amend current policies on the use of risk-factors; enforce reporting; collect data on delegated local programs; and strengthen the collection, maintenance, and monitoring of valid and reliable program data to be used for performance management. 	37-40
(b)(2a)	Recommendations for eliminating any duplication	The Program Evaluation Division did not find evidence of duplication between the State's Erosion and Sedimentation Control program and the federal National Pollution Discharge Elimination System program.	11-16
(b)(4)	Estimated costs or savings from implementing recommendations	Recommendation 5 states the General Assembly should amend state law to increase sedimentation fees based on per acre of disturbed land to fully support the cost of program operations. Increasing the current \$65 per disturbed acre to \$125 per disturbed acre should allow the Erosion and Sedimentation Control program to be self-sufficient and could save an estimated \$1.7 million in annual appropriations.	29-33, 39-40



PROGRAM EVALUATION DIVISION

NORTH CAROLINA GENERAL ASSEMBLY

January 2019

Report No. 2019-01

Opportunities Exist to Improve the Erosion and Sedimentation Control Program and Recover \$1.7 Million in Annual Costs

Summary

The Joint Legislative Program Evaluation Oversight Committee directed the Program Evaluation Division to examine the effectiveness and efficiency of the State Erosion and Sedimentation Control (E&SC) program and determine whether duplication exists between it and the federal National Pollution Discharge Elimination System (NPDES) program. The E&SC program was created to prevent environmental damage from development activities by verifying erosion and sedimentation control measures are installed and maintained and overseeing other units of government to ensure federal and state standards are upheld. In Fiscal Year 2017–18, the E&SC program reviewed 28,024 acres (44%) of land development in North Carolina.

The E&SC program is not duplicative. The federal NPDES program regulates stormwater pollutants, and the E&SC program satisfies federal construction stormwater requirements.

The E&SC program is not self-supporting. Although total program expenditures have declined over the last five fiscal years, program fees (\$65 per disturbed acre) cover less than 50% of expenditures and state appropriations help support program operations. In Fiscal Year 2017–18, total program expenditures were \$2.98 million. Raising fees could recover \$1.7 million in annual appropriations.

Opportunities exist to improve program performance, but insufficient information management practices challenge continuous improvement. In Fiscal Year 2017–18, the E&SC program met its statutorily-mandated targets related to the review of erosion and sedimentation control plans. Target revision may further improve the process. Other targets related to performing inspections and reviewing delegated local programs are not being met. Additionally, poor information management practices hinder continuous improvement.

Based on these findings the General Assembly should

- amend state law to outline reporting requirements for delegated programs and increase fees;
- direct the Sedimentation Control Commission to develop rules for inspections, and amend Memorandums of Agreement with delegated local programs; and
- direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to follow inspection policies, collect data on delegated programs, and strengthen the collection, maintenance, and monitoring of valid and reliable program data to be used for performance management.

Purpose and Scope

The 2018–19 Work Plan of the Joint Legislative Program Evaluation Oversight Committee directed the Program Evaluation Division to examine the state-created Erosion and Sedimentation Control (E&SC) program as well as the federally-created National Pollution Discharge Elimination System (NPDES) program as administered at the state level by the Department of Environmental Quality's Division of Energy, Mineral and Land Resources (DEMLR).

This evaluation sought to determine the effectiveness and efficiency of the E&SC program as well as the existence of duplication between the E&SC program and the NPDES program. The Program Evaluation Division excluded stormwater discharges regulated by the NPDES program unrelated to construction activities. This evaluation is limited to the State's E&SC program and does not seek to determine the effectiveness or efficiency of any delegated program at the state or local level, or of the federal NPDES program.

This evaluation is guided by three research questions:

1. Is the E&SC program effective?
2. What opportunities exist to improve the efficiency of the E&SC program?
3. Does the E&SC program duplicate the construction stormwater component of the NPDES program administered by DEMLR?

The Program Evaluation Division collected and analyzed data from several sources including

- federal and state laws governing erosion and sedimentation control and stormwater;
- queries and interviews with DEMLR central and regional office staff;
- site inspections of active sites and observations of a delegated program review performed by DEMLR staff;
- data and reports on local units of government with delegated authority to administer erosion and sedimentation control programs;
- historical data on expenditures, revenues, and fees for the State's E&SC program and workload data of E&SC program staff;
- interviews with erosion and sedimentation control and stormwater practitioners in other states concerning their approaches to fulfill federal environmental NPDES requirements, academic experts in the implementation of erosion and sedimentation and stormwater controls, North Carolina local units of government with delegated authority to administer erosion and sedimentation control programs, and members of the Sedimentation Control Commission;
- focus groups with members of the regulated community; and
- a survey of environmental stakeholder groups on educational and outreach initiatives focused on topics of erosion and sedimentation control and stormwater.

Glossary

The following terms, defined below, will be used throughout this report.

- **E&SC** – The State Erosion and Sedimentation Control program that operates in the Division of Energy, Mineral and Land Resources and aims to prevent pollution from sedimentation
- **DEMLR** – The Division of Energy, Mineral, and Land Resources within the Department of Environmental Quality
- **SPCA** – The Sedimentation Pollution Control Act of 1973 that established the regulation of erosion and sedimentation control in North Carolina through an environmental program and a rulemaking commission
- **SCC** – The Sedimentation Control Commission that serves as the independent oversight and rulemaking body for the State Erosion and Sedimentation Control program
- **NPDES** – The National Pollution Discharge Elimination System, a federal permitting program that aims to prevent water pollution by regulating pollutants, including stormwater discharges as administered by the Department of Environmental Quality
- **NCG01** – The General Permit for Stormwater Discharges related to Construction Activities issued by state programs in North Carolina through delegation received from the U.S. Environmental Protection Agency; this federal permit was established by the National Pollution Discharge Elimination System program portion of the federal Clean Water Act
- **Regulated community** – Developers, contractors, financially responsible parties, or applicants that engage in development within North Carolina and are subject to federal and state laws, rules, and regulations associated with the E&SC and NPDES programs
- **NOV** – A Notice of Violation, one of several possible end results of a monitoring and compliance inspection at a construction site and is generally issued when egregious erosion or off-site sediment is discovered.

Background

Stormwater runoff occurs when rain or snowfall runs off surfaces. When stormwater runoff takes place at construction sites during building phases, it is called construction stormwater. This form of stormwater is of special interest because building practices require land grading that directly exposes soil to rain and other forms of moisture. Exposed soil lacks ground cover such as plants and grasses that provide stabilization and slow the velocity, or speed, of stormwater runoff, reducing the risk of erosion and sedimentation. Soil erosion occurs when soil particles are carried away by wind or water runoff and settle in other areas; eroded soil particles settling into water bodies is known as sedimentation.

Damage from sedimentation is costly both economically and environmentally. When sedimentation occurs in large quantities it

- reduces storage volume in water reservoirs,

- complicates municipal water filtration processes,
- clogs streams and rivers,
- reduces aquatic plant life,
- increases nutrient loading in streams, and
- alters the ecology of water bodies.

Although the effects of controlling erosion and sedimentation can be difficult to measure, an established erosion and sedimentation control program is one of several methods used to prevent water pollution. There are several categories of erosion and sedimentation control practices.

- **Land disturbing activities** include clearing, grading, and general preparation of land for the installation of measures and proposed development.
- **Surface stabilization** limits the transportation of unstable soil to offsite locations and smooths and blends ground cover with adjoining areas.
- **Runoff control measures** prevent or mitigate site stormwater runoff.
- **Runoff conveyance measures** guide water along a predetermined course.
- **Inlet and outlet protections** prevent sediment from entering and exiting a site's conveyance system and protect inlet points from runoff sediment pollution.
- **Sediment traps and barriers** capture sediment at a construction site, prevent sediment from leaving, provide a method for easy sediment removal, and localize damage from failed control systems.
- **Stream protection practices** protect streams or tributaries located on or near a construction site.

The use of controls reduces the presence of sediment in waterways. For example, using vegetative ground cover rather than bare soil reduces sediment by 93%. Likewise, the use of sediment basins with skimmers accompanied by certain baffles has been demonstrated to produce upwards of 99% reduction in sediment when installed correctly and maintained. Additional information on specific erosion and sedimentation control practices can be found in Appendix A; examples of common control practices are shown in Exhibit 1.

Exhibit 1: Common Erosion and Sedimentation Control Practices



Silt fences are cloth barriers that stretch along disturbed areas and capture sediment from the flow of water.



Inlet protection measures are intended to protect inlet points of runoff drainage.



Check dams are constructed of rock or other materials across a drainage ditch to mitigate erosion by reducing water flow velocity.



Temporary slope drains use flexible tubing or a conduit that extends from the top to the bottom of a cut or fill slope.



Sediment basins are low earthen dams across drainage ways that create a temporary storage pool.



Surface stabilization protects soil by slowing water velocity and holding seed until vegetation can become established.

Source: Program Evaluation Division based on documents provided by DEMLR and research on commonly used controls.

North Carolina's Erosion and Sedimentation Control program is designed to allow development by minimizing erosion at construction sites and preventing off-site pollution from sedimentation. The Department of Environmental Quality's (DEQ) Division of Energy, Mineral and Land Resources (DEMLR) administers the State's Erosion and Sedimentation Control (E&SC) program. The E&SC program consists of four components.

1. **Plan review and approval** ensures implementation of proper controls by requiring each member of the regulated community disturbing one or more acres of land to submit an erosion and sedimentation control plan for review and approval. The plan establishes the control measures intended to prevent erosion and off-site sedimentation at a construction site and serves as a blueprint for the location, installation, and maintenance of the practices used.
2. **Monitoring and compliance** is conducted through regular site inspections and ensures each site is in compliance with rules, statutes, and federal requirements. Inspections ensure all erosion and sedimentation control measures in an approved plan are installed and maintained, construction site pollutants are contained on-site, and self-inspection and reporting requirements are met.
3. **Technical support and outreach** includes program manuals, best management practices, conferences and workshops, and direct support to the regulated community and delegated local programs and are designed to clarify program requirements and improve processes.¹ Technical support and outreach is not only provided directly by the E&SC program, but also in partnership with or solely by some environmental stakeholder groups. Appendix B provides more information on outreach initiatives of the E&SC program and other environmental groups.
4. **Oversight of delegated programs** is performed by the Raleigh Central Office and ensures that delegated local programs meet state standards and federal requirements.

The E&SC program is administered through seven regional offices and 54 delegated local programs. DEMLR staff across seven regional offices are trained to perform all plan review and approval, monitoring and compliance, and technical support and outreach activities. In addition to regional office administration of the E&SC program, state law allows delegation of the program to local units of government such as counties and municipalities. Appendix C provides a summary of the one state agency with a delegated erosion and sedimentation control program, the North Carolina Department of Transportation.

Local units of government can request approval to administer an erosion and sedimentation control program by doing the following

- adopting state standards, or standards that are more stringent, in the form of a local ordinance;

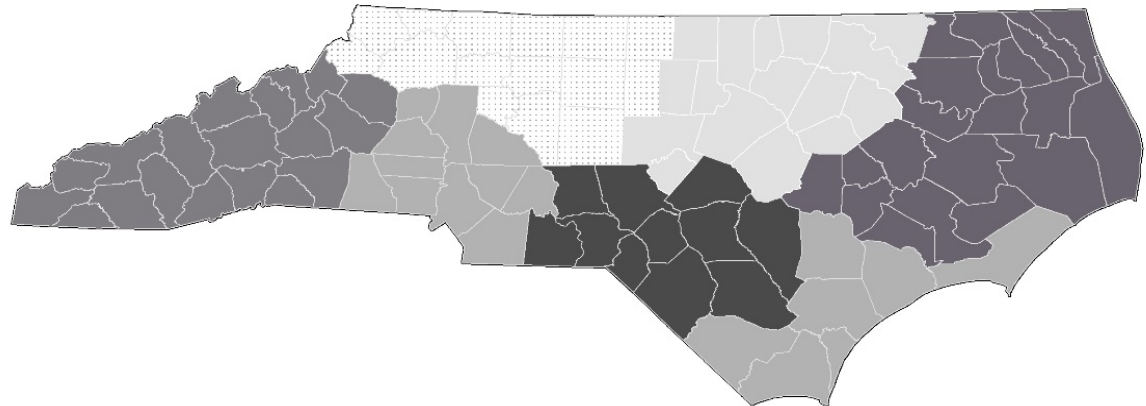
¹ The E&SC program holds an annual local program workshop and awards banquet to provide training for local program staff on regulatory changes, give updates on current events, and recognize delegated local programs for excellence in erosion and sedimentation practices.

- engaging in a memorandum of agreement with the E&SC program; and
- agreeing to regular program reviews conducted by E&SC staff.²

In Fiscal Year 2017–18, development that occurred under the jurisdiction of delegated local programs accounted for more than half (56%) of all developed acres in North Carolina. Exhibit 2 provides a map showing the seven regions of the E&SC program, the number of counties within each region, and the number of delegated local programs.

Exhibit 2:

E&SC Program Is Administered Statewide Through Seven Regional Offices



The Seven State Sedimentation Regions			
	Regional Office	Number of Counties	Number of Delegated Programs
	Asheville	19	13
	Fayetteville	11	2
	Mooreville	11	10
	Raleigh	16	14
	Washington	21	5
	Wilmington	7	2
	Winston-Salem	15	8

Source: Program Evaluation Division based on information from DEMLR.

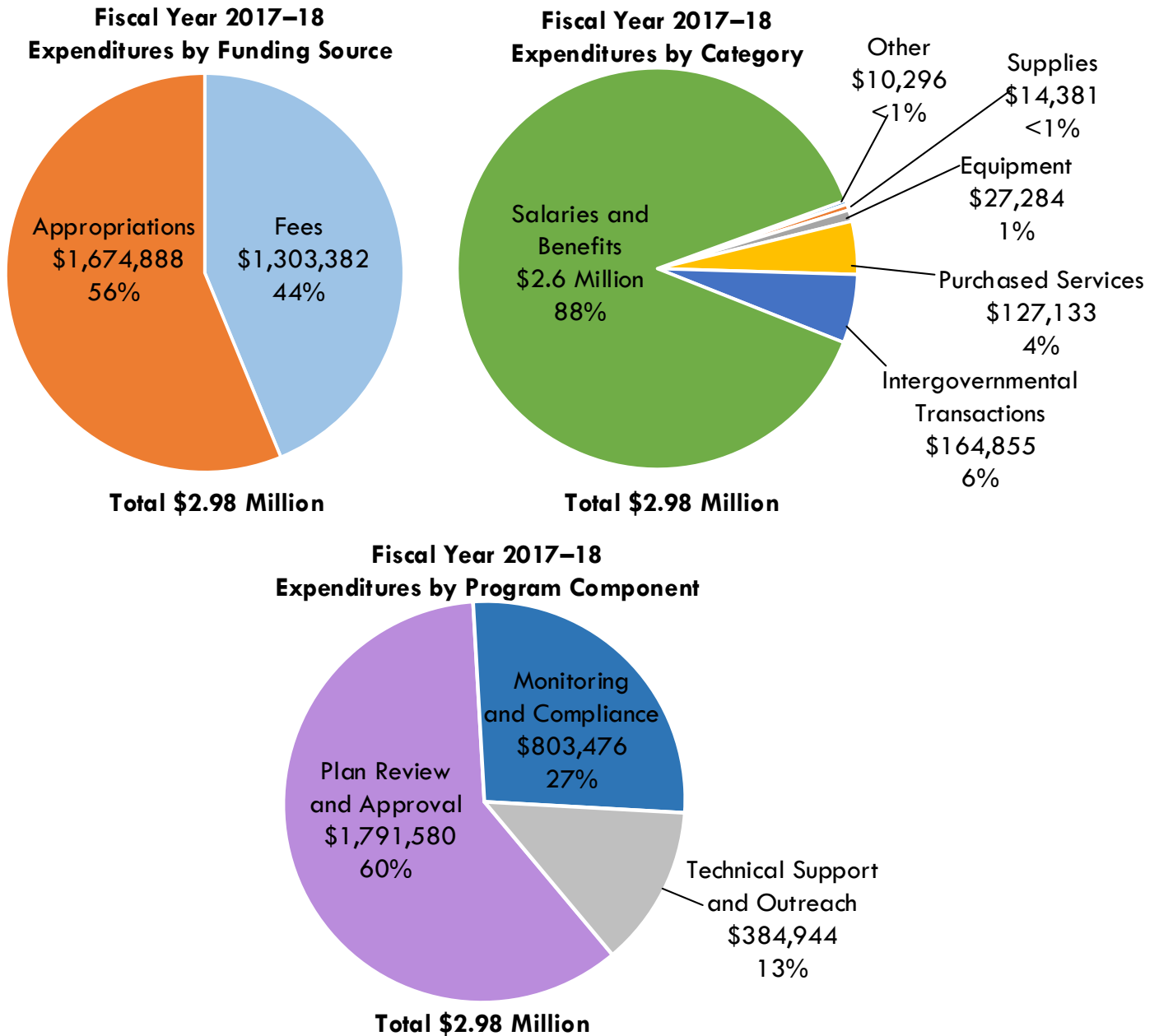
Delegated local programs carry out plan review and approval, monitoring and compliance, and technical support and outreach functions of the E&SC program and replace state operations in the local program’s jurisdiction. In addition, delegated local programs have the authority to establish a fee structure to support local operations. Local program delegation is beneficial because it prevents the State from having to solely administer erosion and sedimentation control statewide, allows for more localized control, and capitalizes on local program knowledge of local development, geography, and soil standards. Appendix D provides a list of all approved delegated local programs for Fiscal Year 2017–18.

² The Sedimentation Control Commission has created a model local ordinance that is inclusive of state standards. Units of local government have the option to adopt the model ordinance, modify the model ordinance, or create their own local ordinance that meets state standards. All ordinances must be approved by the Sedimentation Control Commission.

Total E&SC program expenditures—which are mostly dedicated to personnel costs—were \$2.98 million in Fiscal Year 2017–18, an 8% decline compared to five years ago. In total, expenditures supporting E&SC program operations span 12 different cost center codes. These codes range from DEQ General Fund Codes such as division administration and regional offices to DEQ Special Fund Codes such as sedimentation fees and express permitting. Some of these codes not only support E&SC operations, but also support other DEMLR programs such as dam safety and mining.

To determine the cost of the E&SC program, the Program Evaluation Division apportioned finances across these codes. Exhibit 3 shows a breakdown of expenditures by funding source, category, and program component. E&SC staff expenses such as salaries and benefits represent the largest share of program costs, which are funded by receipts paid by the regulated community as well as state appropriations that cover costs not recovered from fees. Fees charged to the regulated community cover less than half (44%) of expenditures. The fee is \$65 per disturbed acre (as shown in an erosion and sedimentation control plan or as actually disturbed) and is collected as part of the plan review and approval process.

Exhibit 3: Less Than Half of E&SC Program Costs are Recovered from Fees, Expenditures Largely Fund Salaries and Benefits, and Plan Review and Approval is the Costliest Component



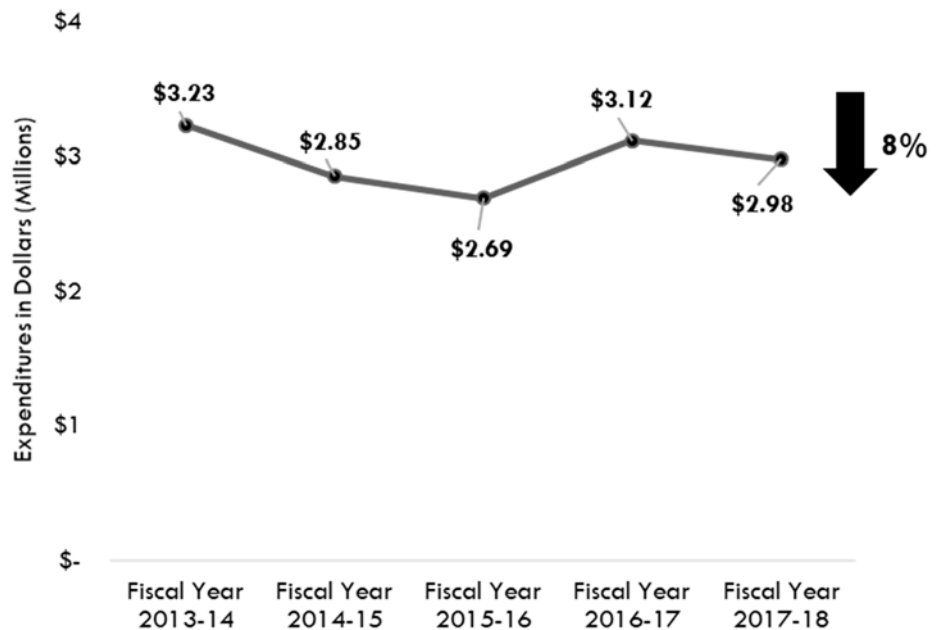
Note: Oversight of delegated local programs is excluded because it is only performed by central office staff.

Source: Program Evaluation Division based on collection and analysis of program expenditure data.

Expenditures declined 8% from \$3.23 million in Fiscal Year 2013–14 to \$2.98 million in Fiscal Year 2017–18, as shown in Exhibit 4.

Exhibit 4:

E&SC Program Expenditures Have Decreased by 8% During the Last Five Fiscal Years



Source: Program Evaluation Division based on collection and analysis of program expenditure data.

In Fiscal Year 2017–18, DEMLR maintained 81 staff positions, 62 of which were regional staff that spent a portion of their time on E&SC activities.³ As shown in Exhibit 5, these staff positions spent the largest portion of their time on performing plan review and approval activities, followed by monitoring and compliance, and lastly on technical support and outreach.⁴

Exhibit 5:

Staff Spend the Majority of Their Time on E&SC on Plan Review and Approval Activities

Regional Office	Fiscal Year 2017–2018			Plan Review	Monitoring Compliance	Technical Support
	Positions	FTE				
Asheville Regional Office	8	4.00		55%	32%	13%
Fayetteville Regional Office	8	3.39		63%	23%	14%
Mooresville Regional Office	9	4.71		53%	36%	11%
Raleigh Regional Office	8	3.81		66%	18%	16%
Washington Regional Office	8	1.95		68%	18%	15%
Wilmington Regional Office	13	4.03		66%	22%	12%
Winston-Salem Regional Office	8	4.87		57%	31%	12%

Note: Percentages are rounded. FTE stands for Full-Time Equivalent.

Source: Program Evaluation Division based on information from DEMLR.

³ The E&SC program has four dedicated central office staff positions. The Division of Energy, Mineral and Land Resources has experienced some central office staff turnover in recent years. However, Full-Time Equivalent amounts of staff time allotted to the E&SC program have remained consistent.

⁴ The Program Evaluation Division calculated time spent on program components using full-time equivalents (FTE), a unit of measurement that indicates the workload of an employed person and is often used to measure a worker’s involvement in a program activity or to track costs in an organization. FTE amounts can be equal to, or less than the number of positions allotted to an organization.

E&SC program staff report to an independent oversight and rulemaking body called the Sedimentation Control Commission (SCC). The SCC consists of 12 members that receive reports on program operations from E&SC staff. The SCC has the authority to

- issue rules,
- approve and assist delegated programs,
- sanction control plans,
- inspect land-disturbing activities,
- request prosecution of violations,
- recommend methods of control,
- prepare and make available materials for sedimentation control techniques for training and instruction, and
- work in conjunction with other groups as necessary.

Regulating construction stormwater through state erosion and sedimentation control programs, or even delegated local programs, is a national practice used to help prevent economic and environmental damage. Construction stormwater has been targeted as an area of particular importance because building practices directly expose land to rain and other forms of moisture. Controlling erosion and sedimentation that result from construction activities protects the environment while allowing development of state resources.

Findings

Finding 1. The Erosion and Sedimentation Control program is a state program that fulfills requirements of the federal National Pollution Discharge Elimination System program and thus no duplication exists; additionally, it is not advantageous to merge oversight of the programs.

The directive for this evaluation explicitly charged the Program Evaluation Division with identifying whether duplication existed between the federal National Pollution Discharge Elimination System (NPDES) program and the State's Erosion and Sedimentation Control (E&SC) program. The E&SC program is a state program that operationally fulfills federal requirements of the NPDES General Permit for Stormwater Discharges related to Construction Activities (NCG01).

North Carolina began to regulate erosion and sedimentation at construction sites by enacting the Sedimentation Pollution Control Act of 1973 (SPCA). In 1975, North Carolina began administering the NPDES permitting program. The United States Environmental Protection Agency (EPA) delegates authority to the North Carolina Department of Environmental Quality (DEQ) to issue NPDES permit coverage for all stormwater discharges, which DEQ implemented through two divisions: Division of Energy, Mineral and Land Resources (DEMLR) and the Division of Water Resources.

The federal NPDES program was created in 1972 through the Clean Water Act to address water pollution by delegating to states the ability to

regulate point source pollution into waters.⁵ There are 12 NPDES program areas. One of these is stormwater regulation, which is itself broken into three regulatory segments:

- industrial facilities,
- municipal separate storm sewer systems, and
- construction stormwater.

Exhibit 6 provides a history of federal and state actions on erosion and sedimentation control and shows how the E&SC program has changed through time.

Exhibit 6: History of Federal and State Action on Erosion and Sedimentation Control

State Action	Federal Action
<p>1948</p>	<p>The Federal Clean Water Act passes to restore and maintain the integrity of the Nation's water. It provides States with the right to prevent, reduce, and eliminate pollution, plan development and use land and water resources, consult with the EPA, and develop solutions for managing water resources.</p>
<p>1972</p>	<p>The United States Environmental Protection Agency (EPA) implements the National Pollution Discharge Elimination System (NPDES) permit program to address water pollution and regulate point sources that discharge pollutants into waters. The EPA authorizes the program for delegation to state governments to perform administrative, permitting, and enforcement of the program while retaining oversight responsibilities.</p>
<p>1973</p>	<p>The Sedimentation Pollution Control Act (SPCA) passes to create, administer, and enforce a program, and adopt mandatory standards to permit development and continue with the least detrimental effects from sedimentation pollution. It applies to land-disturbing activities of one acre or more and provides statutory language for the powers of the Sedimentation Control Commission and the Environmental Management Commission.</p>
<p>1975</p>	<p>The EPA delegates authority to North Carolina for the administration of the federal NPDES Program.</p>
<p>1976</p>	<p>The State implements mandatory standards for land-disturbing activities and erosion and sedimentation control plans are a requirement: (1) Any persons conducting land-disturbing activities shall take all reasonable measures to protect all public and private property from being damaged, and (2) an erosion and sedimentation control plan may be approved or disapproved if it does or does not meet federal, state, and local standards.</p>
<p>1992</p>	<p>The EPA issues NPDES General Permits for Stormwater Discharge from construction, authorizing the discharge of pollutants from construction. Additional statutory language under 40 CFR provides that all construction activities obtain coverage that disturb an acre or more.</p>
<p>1995</p>	<p>North Carolina issues NPDES Stormwater General Permit (NCG01) for construction-related activities that disturb an acre or more. When an erosion and sedimentation control plan is approved, the project has automatic coverage under NCG01.</p>
<p>2013</p>	<p>The Division of Water Resources' stormwater permitting programs are transferred to the Division of Energy, Mineral, and Land Resources. Construction stormwater and erosion and sedimentation control are combined into one management structure. NPDES permitting requirements for stormwater discharges from construction activities that disturb one to five acres of land begins, expanding the State's stormwater requirements.</p>
<p>2018</p>	<p>The NPDES Construction Permit (NCCG01) renews and organizes the erosion and sedimentation control plan cohesively with federal requirements.</p>

Source: Program Evaluation Division based on federal and state law.

⁵ A point source pollutant has a single identifiable source of pollution, whereas a non-point source pollutant is not from a single source.

E&SC program operations have been adapted to implement federal regulatory requirements for construction stormwater. When stormwater discharges were incorporated into the regulatory purview of NPDES, North Carolina structured its construction stormwater programs to fulfill federal requirements. In 1995, the E&SC program began meeting these federal requirements. As shown in Exhibit 7, state law requires a member of the regulated community to create an erosion and control plan before construction at a site can begin.⁶ When the erosion and sedimentation control plan receives approval, automatic coverage is granted for the federal NCG01 permit and construction can begin.

Exhibit 7:

Regulated Community Submits an Erosion and Sedimentation Control Plan to Receive NCG01 Coverage



Note: This exhibit excludes a notice of intent and certificate of coverage because the permitting approval process for construction stormwater did not include these steps in Fiscal Year 2017–18.

Source: Program Evaluation Division based on information from DEMLR.

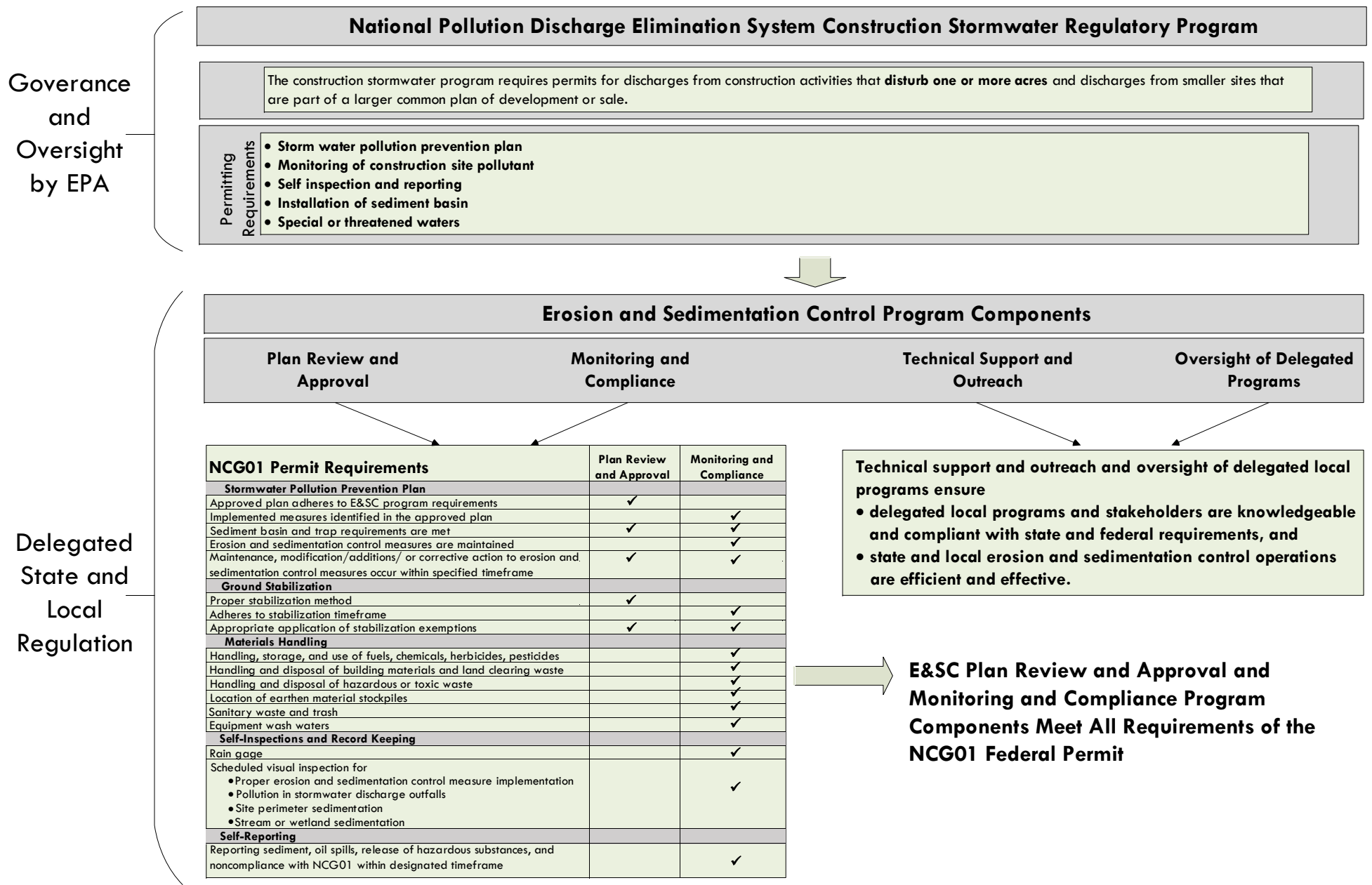
The E&SC program fulfills and enforces the construction stormwater requirements of the federal NCG01 General Permit for Stormwater Discharges related to Construction Activities; as a result, the E&SC and NPDES programs are not duplicative. The federal NCG01 permit regulates stormwater from construction activities for sites that disturb one or more acres of land. Meanwhile the erosion and sedimentation control plan, as a portion of the federal NCG01 permit, regulates erosion and sedimentation from construction activities. Therefore, the E&SC program fulfills this portion of the NPDES program. The federal permit for construction activities has five parts, and over time DEMLR has structured the erosion and sedimentation control plan to meet all requirements of the stormwater pollution prevention plan portion of the permit. The five parts of the federal NCG01 permit are

1. permit coverage;
2. stormwater pollution prevention plan;
3. self-inspection, recordkeeping, and reporting;
4. standard conditions for NPDES stormwater general permits; and
5. definitions.

As shown in Exhibit 8, E&SC program activities ensure the federal requirements of the federal NCG01 General Permit for Stormwater Discharges related to Construction Activities.

⁶ N.C. Gen. Stat. § 113A – Article 4.

Exhibit 8: The E&SC Program Meets Federal Construction Stormwater Requirements



Source: Program Evaluation Division based on information from DEMLR and the EPA.

As the exhibit shows, plan review and approval and monitoring and compliance functions contribute to meeting all requirements of the federal NCG01 permit. Although technical support and outreach and oversight of delegated local programs do not address specific components of the permit, all E&SC program components aim to ensure the E&SC program and delegated local programs are efficient, effective, and operating in accordance with state and federal requirements. As a result, the E&SC and NPDES programs are not duplicative because the E&SC program is a state program that implements and upholds federal standards.⁷

Two separate independent oversight bodies oversee the E&SC and NPDES programs, but it would not be advantageous to the State to merge these entities. As described in the Background, the E&SC program is overseen by an independent rulemaking body, the Sedimentation Control Commission (SCC). The SCC issues rules, makes decisions on program operations, and assists in the development of educational or technical advice as well as materials. The Environmental Management Commission (EMC) oversees all NPDES programs. The EMC also issues rules, makes decisions on program operations, and assists with the development of educational initiatives for NPDES areas as well as other areas of environmental concern.

Merging the oversight functions of the SCC and the EMC may dilute subject matter expertise, increase the length of time it takes to make decisions, and would not bring cost savings to the State. The sole focus of the SCC is erosion and sedimentation control, whereas subject areas under the purview of the EMC include

- air quality,
- groundwater and waste management,
- NPDES program areas,
- water allocation, and
- water quality.

The SCC has a diverse group of members that span the fields of water resources, soil sciences, engineering, landscaping, and architecture, allowing for the topic of erosion and sedimentation control to be assessed by individuals in academia, construction associations, and local units of government. Although the EMC also has diverse membership, merging the functions of the SCC into the operations of the EMC would create a loss of expertise from these key interest groups. Further, the current operational schedules and workload demands of both commissions would likely increase the length of time needed to effectively make decisions on program operations. Additionally, the Program Evaluation Division could not determine any cost savings that would be generated from merging the SCC and the EMC.

In summary, the Program Evaluation Division found the erosion and sedimentation control plans approved by the E&SC program are integrated into the federal requirements of the NPDES program and that

⁷ An example of program duplication would be the existence of separate E&SC and NPDES program permits with the same mandated requirements and separate fee structures.

the approval of an erosion and sedimentation control plan automatically provides the regulated community with federal NPDES coverage for stormwater discharges related to construction activities. In addition to plan review and approval, other components of the E&SC program such as monitoring and compliance also ensure that NPDES construction stormwater regulations are met. Therefore, no duplication exists. Lastly, the Program Evaluation Division found no cost savings or other advantages would result from merging the oversight entities of the E&SC and NPDES programs.

Finding 2. Oversight of delegated local programs does not meet performance targets and is challenged by inconsistent data collection and reporting.

As discussed in the Background, local units of government can request approval from the Sedimentation Control Commission (SCC) to administer an erosion and sedimentation control program. Delegation to local units of government is a national practice for erosion and sedimentation control programs, and the United States Environmental Protection Agency does not prevent states from allowing local governments to administer erosion and sedimentation control programs as long as federal National Pollution Discharge Elimination System (NPDES) program requirements are being met.⁸ To receive delegation for a local erosion and sedimentation control program, a local unit of government must

- adopt state or more stringent standards in a local ordinance,
- engage in a memorandum of agreement with the Erosion and Sedimentation Control (E&SC) program, and
- agree to regular program reviews conducted by E&SC staff.⁹

Oversight of delegated local programs is ineffective because the E&SC program does not meet its target for conducting local program reviews.

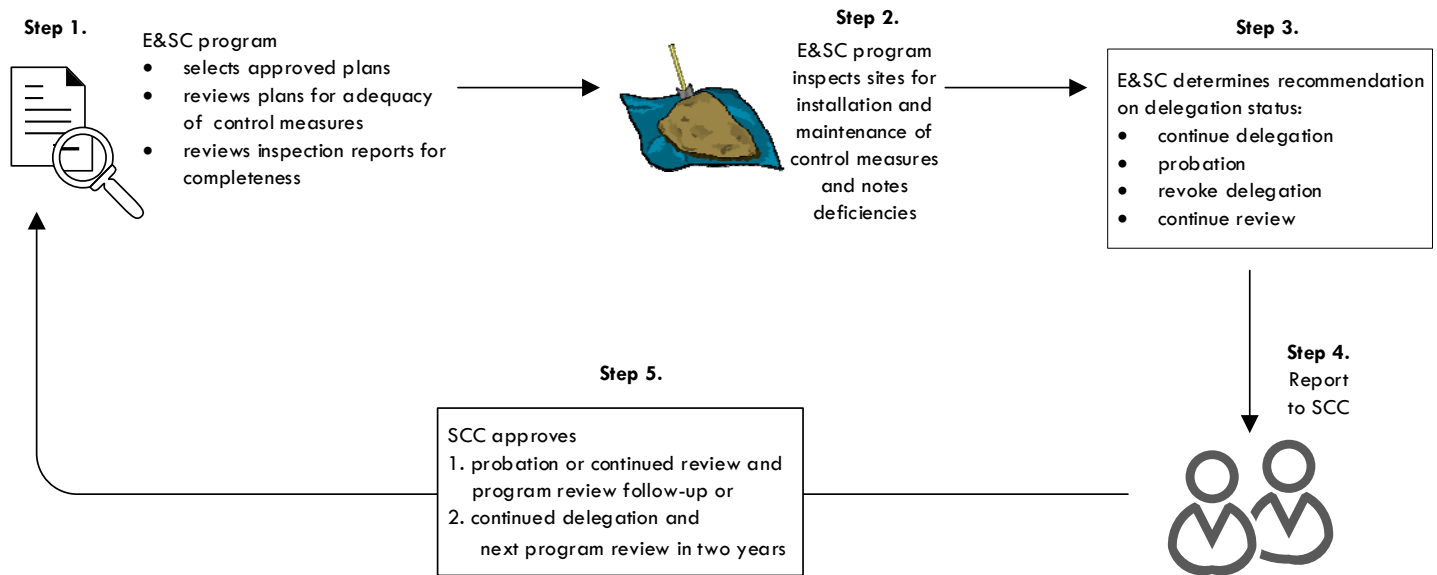
As shown in Exhibit 9, the E&SC program performs oversight of delegated local programs by conducting local program reviews. These reviews allow the E&SC program to determine if a local program is conducting its delegation in accordance with state standards. The E&SC program then provides a formal recommendation to the SCC as to whether delegation for a local program should continue, be placed on probation, or revoked.¹⁰

⁸ Delegated local programs also are not duplicative because they administer state standards, or more stringent standards, used to fulfill federal requirements.

⁹ The Sedimentation Control Commission has created a model local ordinance that is inclusive of state standards. Units of local government have the option to adopt the model ordinance, modify the model ordinance, or create their own local ordinance that meets state standards. All ordinances must be approved by the Sedimentation Control Commission.

¹⁰ The E&SC program oversees delegated state programs with the same program review process detailed in Exhibit 9.

Exhibit 9: The E&SC Program Assesses Delegated Local Programs for Implementation of State Standards



Source: Program Evaluation Division based on information from DEMLR.

The E&SC program's goal is that each local unit of government with delegation for an erosion and sedimentation control program undergo review at least once every two years. The Program Evaluation Division collected data showing that of all delegated local programs, 48% (n=26) have not received a program review within the past two years. Additionally, of those 26 programs, 62% (n=16) have not received a program review in the last five calendar years. Conducting these reviews is important because it not only provides the E&SC program with the opportunity to ensure delegated local programs are knowledgeable, efficient, and effective, but also provides delegated local programs with the opportunity to receive technical support by asking E&SC staff questions about reoccurring issues and procedures.¹¹

The E&SC program inconsistently collects required data on delegated local programs. In approving delegation for a local unit of government to operate its own erosion and sedimentation control program, the SCC approves a memorandum of agreement that details elements delegated local programs are required to report:

- monthly activity reports in a form adopted by the SCC,
- copies of all issued Notice of Violations, and
- relevant and up-to-date contact information.¹²

¹¹ Currently, no formal policy and procedure manual for delegated local programs exists. Instead, the E&SC program depends on a delegated local program's ability to operate according to a variety of PDF documents, rules, a Memorandum of Agreement, and local ordinance—the latter of which may not be adopted in the model format.

¹² Data elements that can be found in the monthly report include number of new sedimentation control plans received, number of sedimentation plan reviews (or re-reviews), number of sedimentation plans approved and disapproved, total number of disturbed acres permitted, number of sedimentation inspection reports, number of Notice of Violations issued, number of cases referred for enforcement, number of stop work orders issued or building permit suspensions, number of construction stormwater permits (NCG01) issued, total number of active projects, and total number of active projects covered under NCG01.

Delegated local programs are not consistently meeting reporting requirements. The Program Evaluation Division collected data showing that in Fiscal Year 2017–18, 87% (n=47) of delegated local programs submitted monthly reports for at least one month, meaning 13% of programs (n=7) did not submit a monthly report for any month.¹³ In interviews with E&SC staff, the Program Evaluation Division learned that the frequency delegated local programs submit reports varies, with some local programs reporting monthly, others reporting quarterly, and some not reporting at all. The Program Evaluation Division also found the E&SC program did not have current contact information for 17% of delegated local programs (n=9).

Moreover, in attempting to collect first-hand data, some local programs informed the Program Evaluation Division that they do not maintain records on specific data elements currently outlined in the mandated monthly report, such as total number of active projects.

Reporting elements for delegated local programs are not outlined in statute or administrative rule. Additionally, the E&SC program has not enforced mandatory reporting frequency. Without outlined reporting elements and enforcement of reporting, delegated local programs are not incentivized to inform the E&SC program on their performance, thereby hindering the State's ability to perform consistent and effective oversight.

In summary, local units of government can receive approval from the SCC to administer their own erosion and sedimentation control programs. The E&SC program oversees delegated local programs through program reviews intended to be conducted once every two years and by regularly collecting data on delegated local program operations. The Program Evaluation Division found the E&SC program does not perform delegated local program reviews as scheduled and does not enforce consistent or accurate data reporting on delegated local program operations. Additionally, reporting requirements are not outlined in statute or administrative rule, and this lack of guidance coupled with a lack of enforcement means delegated local programs are not incentivized to report to the State.

Finding 3. Although the Erosion and Sedimentation Control program is meeting plan review and approval performance targets, existing inefficiencies could be remedied by providing greater technical support to the regulated community.

As discussed in the Background, the Erosion and Sedimentation Control (E&SC) program ensures proper controls are implemented by requiring the regulated community submit an erosion and sedimentation control plan for review and approval. The plan establishes what control measures will be undertaken to prevent erosion and off-site sedimentation at a construction site. The plan serves as a blueprint for the location, installation, and maintenance of universally accepted controls that are considered best

¹³ Data limitations prevented the Program Evaluation Division from determining why delegated local programs failed to submit monthly reports.

management practices for minimizing erosion and preventing off-site sedimentation. Controls are dependent on topography and soil composition at each construction site.

A complete erosion and sedimentation control plan must fulfill several state requirements. Erosion and sedimentation control plans can be submitted electronically or via hard copy. At a minimum each plan must contain

- a site location or vicinity map,
- a site development drawing,
- a site erosion and sedimentation control drawing,
- a drawing and specifications of practices designated with supporting calculations and assumptions,
- vegetation specifications for both temporary and permanent soil stabilization,
- a construction schedule,
- a financial responsibility and ownership form, and
- a brief narrative describing the nature of the development project.

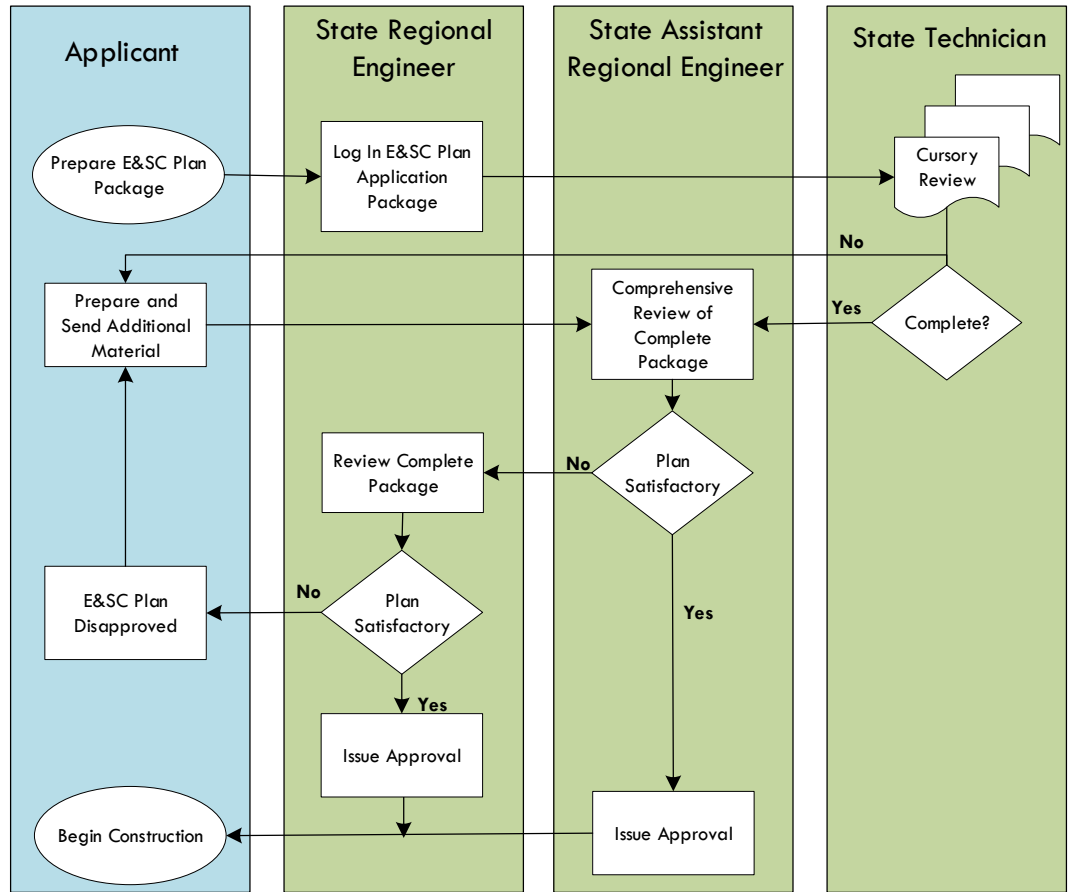
In addition to the required plan contents, there is also a fee of \$65 per disturbed acre as identified in the plan.¹⁴ When a developer submits a plan to the E&SC program, the plan is logged and undergoes a cursory review for completeness. Once the plan package has been deemed complete and the necessary documentation and payment has been received, it is forwarded to a State Assistant Regional Engineer in the Division of Energy, Mineral and Land Resources (DEMLR) for a comprehensive review. A comprehensive review determines if the selection and design of the control measures in the proposed plan are suitable for the site based on its topography, soil composition, and proximity to water sources. At this point, the plan is approved or rejected. If a plan is rejected by the State Assistant Regional Engineer, it is given a second comprehensive review by a State Regional Engineer in DEMLR. This step is not intended to duplicate plan review activities, but rather to serve as a method to limit unnecessary appeals. This step reduces the likelihood of appeal because each rejected plan is given a second comprehensive review.¹⁵ Exhibit 10 illustrates the plan review process.

¹⁴ This fee represents the fee charged by the E&SC program. Delegated local programs with jurisdictional authority to operate their own erosion and sedimentation control programs have the authority to set fees. A more in-depth comparison and analysis of fees can be found in Finding 5 of this report.

¹⁵ Each Regional Engineer is a licensed Professional Engineer.

Exhibit 10:

The State's Plan Review and Approval Process Prevents the Need for Appeals of Rejected Plans



Source: Program Evaluation Division based on DEMLR documentation and interviews with DEMLR program administrators.

Plan review and approval workload has increased statewide and across most regional offices in recent years. To understand the demands of plan review and approval, the Program Evaluation Division analyzed data on the amount of time staff spent on these activities and found the E&SC program experienced a 12% increase in its plan review and approval workload between Fiscal Years 2013–14 and 2017–18. As Exhibit 11 shows, most regional offices experienced heavier workloads with the Raleigh Regional Office experiencing the largest increase. Only the Fayetteville and Winston-Salem Regional Offices experienced a reduction in plan review and approval workload during the five-year period. This variability among regional offices is most likely attributable to economic development patterns across North Carolina.

Exhibit 11:

Plan Review and Approval Workload Has Grown Statewide and in Five of Seven Regional Offices

Fiscal Year 2013-14 through 2017-18	
Regional Office	Percent Change
Raleigh Regional Office	84.8%
Asheville Regional Office	27.1%
Mooresville Regional Office	25.7%
Wilmington Regional Office	19.7%
Washington Regional Office	5.9%
Winston-Salem Regional Office	(18.9%)
Fayetteville Regional Office	(39.8%)
Statewide	12.4%

Note: Regional offices in bold experienced decreased workloads.

Source: Program Evaluation Division based on analysis of workload data.

The erosion and sedimentation control plan review and approval process is effective; however, targets could be revised to stretch regional performance. State law establishes a 30-day performance target for regional offices to initially review and issue a determination for a draft erosion and sedimentation control plan and 15 days for the review of a revised plan.¹⁶ These performance targets are important because the sooner an erosion and sedimentation control plan is approved, the sooner construction can begin. In general, the vast majority of plans—draft and revised—undergo review and determination within the statutory timeframe.

As Exhibit 12 shows, six of seven regional offices regularly exceeded total statewide performance across the five fiscal years for the 30-day target and five of seven regional offices regularly exceeded statewide performance for the 15-day revised plan review target. The only regional office that consistently fell short of matching the statewide rate for these two performance targets was the Raleigh Regional Office, which may be due to the 85% increase that office experienced in its plan review workload during the last five fiscal years.

¹⁶ N.C. Gen. Stat. § 113A-54.1(a).

Exhibit 12: Most Erosion and Sedimentation Control Plans Are Reviewed Within the Statutory Performance Timeframes

		Fiscal Year 2013–14	Fiscal Year 2014–15	Fiscal Year 2015–16	Fiscal Year 2016–17	Fiscal Year 2017–18
Asheville Regional Office	30-Day Target	100%	99.2%	100%	96.1%	100%
	15-Day Target	100%	100%	100%	100%	97.1%
Fayetteville Regional Office	30-Day Target	99.8%	99.6%	98.9%	98.3%	99.0%
	15-Day Target	100%	97.6%	99.0%	98.6%	98.8%
Mooresville Regional Office	30-Day Target	100%	100%	100%	100%	100%
	15-Day Target	100%	100%	100%	100%	100%
Raleigh Regional Office	30-Day Target	94.8%	95.2%	92.4%	72.0%	99.3%
	15-Day Target	94.4%	100%	96.2%	87.7%	100%
Washington Regional Office	30-Day Target	100%	100%	99.5%	99.3%	100%
	15-Day Target	100%	100%	99.5%	99.3%	100%
Wilmington Regional Office	30-Day Target	99.6%	98.8%	100%	100%	100%
	15-Day Target	100%	95.8%	95.5%	96.7%	100%
Winston-Salem Regional Office	30-Day Target	100%	100%	100%	100%	100%
	15-Day Target	100%	100%	100%	100%	100%
Total Statewide Performance	30-Day Target	99.1%	99.1%	98.6%	96.3%	99.7%
	15-Day Target	99.2%	99.0%	98.7%	98.0%	99.4%

Note: Darkened rates represent instances of regional office performance exceeding statewide performance.

Source: Program Evaluation Division based on analysis of erosion and sedimentation control plan review and approval data.

The high rates with which plan review and approval targets are being met indicates a need to revise this performance target. Objectives or targets that are set too low and regularly attained limit opportunities for process improvement. Conversely, targets that are set too high can damage morale. The best targets and objectives stretch worker performance and are often higher than targets attained in the past while remaining achievable. Currently, the E&SC program has a 25-day internal performance target for regional offices to review and issue a determination for an erosion and sedimentation control plan. However, data limitations prevented the Program Evaluation Division from verifying if this internal target is being met. Data management practices and performance targets are further discussed in Finding 6.

Although most regional offices meet plan review and approval performance targets, inefficiencies in the process still exist. Efficient plan review and approval seeks to minimize the amount of resources used to produce a given output—in this case, the cost per approved plan. To determine if the plan review and approval process is efficient, the Program Evaluation Division analyzed the cost per approved plan by examining staff time spent on plan review and approval activities from apportioned expenditures to this program function. Exhibit 13 summarizes the results of this analysis. As the table shows, wide variability exists across the state in terms of cost per approved plan. In general, trends suggest cost per approved plan is declining. However, there exists a range of more than \$1,000 per approved plan across regions in Fiscal Year 2017–18.

Exhibit 13:

Wide Variation
in the Cost
Per Approved
Plan Exists
Across the
State

	Fiscal Year 2013-14	Fiscal Year 2014-15	Fiscal Year 2015-16	Fiscal Year 2016-17	Fiscal Year 2017-18
Asheville Regional Office	\$ 2,316.90	\$ 2,397.71	\$ 2,565.78	\$ 2,342.23	\$ 1,663.57
Fayetteville Regional Office	\$ 576.70	\$ 496.36	\$ 593.58	\$ 528.88	\$ 594.83
Mooresville Regional Office	\$ 685.46	\$ 530.26	\$ 515.41	\$ 685.85	\$ 534.57
Raleigh Regional Office	\$ 1,365.48	\$ 1,215.25	\$ 986.17	\$ 1,879.44	\$ 669.16
Washington Regional Office	\$ 1,085.49	\$ 787.14	\$ 966.89	\$ 1,458.97	\$ 1,063.63
Wilmington Regional Office	\$ 1,270.13	\$ 1,158.87	\$ 1,075.50	\$ 1,108.86	\$ 978.09
Winston-Salem Regional Office	\$ 1,744.99	\$ 1,102.16	\$ 1,108.70	\$ 1,314.33	\$ 1,401.85
Total Statewide Performance	\$ 1,090.26	\$ 885.99	\$ 898.77	\$ 1,075.65	\$ 841.49

Note: Darkened totals represent instances in which regional office costs per plan for a given year were lower than statewide per-plan costs.

Source: Program Evaluation Division based on analysis of erosion and sedimentation control plan review and approval data.

Some variability in cost per approved plan can be expected because of differences in geography and soil types across regional offices that may affect the amount of time staff take to review and approve plans. For example, plan review and approval may take longer in the Asheville Regional Office because of numerous tributaries that make up watersheds and gradient considerations in the mountains. However, the wide variability in average costs necessitates further examination of the plan review and approval process. As a result, the Program Evaluation Division also analyzed approval rates statewide and for each regional office to determine how approval rates serve as an efficiency indicator for the process. Exhibit 14 shows the plan approval rates at the state and regional level.

Exhibit 14:

Approval Rates Have
Declined in More than
Half of Regional
Offices

	Fiscal Year 2013-14	Fiscal Year 2014-15	Fiscal Year 2015-16	Fiscal Year 2016-17	Fiscal Year 2017-18
Asheville Regional Office	81.3%	77.5%	56.2%	67.1%	79.5%
Fayetteville Regional Office	94.2%	97.3%	93.0%	94.3%	94.3%
Mooresville Regional Office	91.1%	90.4%	88.9%	90.6%	93.7%
Raleigh Regional Office	88.2%	93.3%	89.3%	84.4%	81.2%
Washington Regional Office	89.9%	94.1%	82.8%	81.3%	86.0%
Wilmington Regional Office	98.0%	95.6%	95.3%	95.5%	95.8%
Winston-Salem Regional Office	84.5%	88.7%	87.4%	87.5%	84.6%
Total Statewide Performance	90.7%	92.3%	87.4%	88.5%	88.4%

Note: Darkened rates represent instances of regional office performance exceeding statewide performance.

Source: Program Evaluation Division based on analysis of erosion and sedimentation control plan review and approval data.

As the table shows, approval rates vary from region to region and 57% (n=4) of regional offices had approval rates lower than total statewide performance in Fiscal Year 2017-18. Across the state, approval rates have decreased during the last five fiscal years. This decline is concerning because approval rates are an indicator of efficiency. As the process diagram in Exhibit 10 showed, plans that are rejected or disapproved can be resubmitted with additional material for reconsideration. Each rejected

or disapproved plan that is re-reviewed requires additional staff time. Program Evaluation Division analysis shows a statistically significant inverse relationship between the cost per approved plan and plan approval rates.¹⁷ As approval rates decrease, the cost per approved plan increases meaning that implementing solutions that improve approval rates can control plan review and approval costs as well as free up staff time to address other program activities.

Technical support to the regulated community can improve plan approval rates and reduce inefficiencies. During plan review and approval, technical support occurs through pre-application meetings that provide assistance to members of the regulated community by helping them understand state standards and the requirements of the erosion and sedimentation control plan. These meetings serve to ensure plan review and approval occurs more quickly and reduces the need for multiple revised plan submissions resulting from disapproved or rejected plans. Exhibit 15 shows the frequency of pre-application meetings as a ratio of erosion and sedimentation control plans submitted statewide and by regional office. As the exhibit shows, the Wilmington Regional Office was the only regional office that held more frequent pre-application meetings than total statewide performance for every year examined. In Fiscal Year 2017–18, 0.6 pre-application meetings were held for every one erosion and sedimentation control plan submitted statewide. Compare this rate to the Wilmington and Winston-Salem regional offices, which held nearly two pre-application meetings for every one erosion and sedimentation control plan submitted.

Exhibit 15:

The Use of the Pre-Application Meeting Varies Widely Across Regional Offices

	Fiscal Year 2013–14	Fiscal Year 2014–15	Fiscal Year 2015–16	Fiscal Year 2016–17	Fiscal Year 2017–18
Asheville Regional Office	0.1	0.2	0.5	0.4	0.3
Fayetteville Regional Office	0.1	0.2	0.3	0.1	0.2
Mooresville Regional Office	0.2	0.3	0.1	0.1	0.2
Raleigh Regional Office	0.1	0.0	0.0	0.0	0.1
Washington Regional Office	0.5	1.3	0.9	0.8	0.7
Wilmington Regional Office	1.9	2.2	2.1	2.2	1.9
Winston-Salem Regional Office	0.0	0.6	0.6	1.7	1.9
Total Statewide Performance	0.4	0.6	0.6	0.7	0.6

Note: Darkened rates represent instances of regional office performance exceeding statewide performance.

Source: Program Evaluation Division based on analysis of erosion and sedimentation control plan review and approval data.

Program Evaluation Division analysis shows a positive statistically significant relationship between the frequency of pre-application meetings and plan approval.¹⁸ As the frequency of pre-application meetings increases so do approval rates. The higher the approval rate, the less time regional offices spend re-reviewing revised plans, resulting in less time spent on plan

¹⁷ P<.0001. A P-value is used to interpret the evidence of an effect between two variables, or demonstrate a relationship.

¹⁸ P<.03. A P-value is used to interpret the evidence of an effect between two variables, or demonstrate a relationship.

review and approval and more time reallocated to other E&SC program functions.

In summary, the plan review and approval process is important because the faster an erosion and sedimentation control plan can be approved the more quickly development can occur. The plan review and approval process is effective in meeting its performance targets of 30 days and 15 days, but because these targets are almost always achieved by all regional offices, they could be adjusted to stretch regional performance. In addition, analysis of the process shows inefficiencies evidenced by wide variability in the cost per approved plan across the state. This variability is due in part to approval rates. Low plan approval rates result in a higher cost per approved plan. To increase approval rates, regional offices can engage in more frequent technical support during the plan review and approval process by conducting more pre-application meetings.

Finding 4. Inspection operations reduce the Erosion and Sedimentation Control program's efficiency and effectiveness and create opportunities to improve monitoring and compliance.

In addition to performing plan review and approval, the State Erosion and Sedimentation Control (E&SC) program conducts monitoring and compliance inspections of active construction sites across North Carolina. Inspections ensure

- all erosion and sedimentation control measures in an approved plan are installed and maintained;
- erosion is controlled;
- sedimentation is contained on-site, and
- the site is in compliance with rules, statutes, and federal requirements.

Monitoring and compliance activities do not meet internal performance targets, and the amount of time employees spend performing inspections is decreasing. Since the E&SC program relies on the effective implementation of erosion and sedimentation control measures, inspections of installed control devices (e.g., sediment basins and skimmers) are necessary to ensure program effectiveness. The E&SC program has an internal performance target that calls for conducting inspections of all sites at least once per month.¹⁹ The Program Evaluation Division requested individual inspection records to determine if the E&SC program's internal performance target is being met. However, such data could not be supplied, requiring the Program Evaluation Division to perform analysis from aggregate reports.²⁰ As shown in Exhibit 16, these reports demonstrate that none of the seven regional offices met this internal inspections target in Fiscal Year 2017–18, suggesting that targets may be unreasonable and too challenging to attain. Additionally, the Program Evaluation Division found, statewide, this target has not been met once in

¹⁹ The E&SC program created this target when asked by the Sedimentation Control Commission to determine the ideal frequency of inspections.

²⁰ Performing analysis from aggregate reports prevents determination of the presence of data duplication.

any of the last five fiscal years, with performance ranging from 12% (Fiscal Year 2014–15) to 55% (Fiscal Year 2017–18).²¹ Therefore rather than stretching performance, this target may be unreasonable and too challenging to attain.

Exhibit 16:

No Regional Office
Met Internal
Inspections
Performance Target
in Fiscal Year
2017–18

Regional Office	Fiscal Year 2017-2018		Percent of Inspections Target Attained
	Inspections Target	Inspections Performed	
Asheville Regional Office	1,336	1,064	80%
Fayetteville Regional Office	3,216	1,633	51%
Mooresville Regional Office	4,930	2,591	53%
Raleigh Regional Office	2,534	879	35%
Washington Regional Office	1,566	438	28%
Wilmington Regional Office	2,646	1,813	69%
Winston-Salem Regional Office	2,673	1,846	69%
Total Statewide Performance	18,760	10,264	55%

Source: Program Evaluation Division based on information from DEMLR.

Further, the Program Evaluation Division attempted to determine if internal targets are not being met because of an increasing workload for monitoring and compliance activities. Workload data reveals the amount of time spent per employee per week on conducting inspections decreased by 31% during the last five fiscal years.²² As shown in Exhibit 17, the amount of time spent on monitoring and compliance activities relative to five years ago varies greatly by regional office, with the Mooresville Regional Office decreasing by 13% and the Washington Regional Office by 63%. Some variability in inspections workload can be expected across regional offices because of differences in the size and scope of developments that may affect the amount of time staff take to perform an inspection. For example, an inspection of a larger development can be more time-consuming, thereby limiting the total number of inspections that can be performed. Regardless, unreasonable targets coupled with decreased time spent conducting inspections inhibits the effectiveness of monitoring and compliance activities.

²¹ This change does not represent a statistically significant upward trend in target attainment. Target attainment was 14% in Fiscal Year 2013–14, 12% in Fiscal Year 2015–16, and 17% in Fiscal Year 2016–17.

²² Employees are measured according to the unit of full-time equivalent (FTE). FTE is often used to measure a worker's involvement in a program activity or to track costs in an organization.

Exhibit 17:

Regional Offices Are Spending Less Time Per FTE on Monitoring and Compliance Activities Compared to Five Years Ago

Fiscal Year 2013-14 through 2017-18	
Regional Office	Percent Change
Asheville Regional Office	(36.8%)
Fayetteville Regional Office	(42.2%)
Mooresville Regional Office	(12.6%)
Raleigh Regional Office	(35.8%)
Washington Regional Office	(62.9%)
Wilmington Regional Office	(25.8%)
Winston-Salem Regional Office	(23.5%)
Statewide	(31.0%)

Source: Program Evaluation Division based on information from DEMLR.

In Fiscal Year 2017-18, only 2% of inspections resulted in issuing a Notice of Violation (NOV); however, the Program Evaluation Division found NOV are not an adequate measure of compliance. Issuing a NOV is at the discretion of an E&SC inspector.²³ Through observations of site inspections both with and without the Division of Energy, Mineral and Land Resources (DEMLR) staff, the Program Evaluation Division concluded that actual compliance rates are much lower than they appear when using the number of NOV as a measurement for compliance. Therefore, using the number of NOV issued is not an appropriate measurement of compliance.²⁴ Low initial compliance rates require E&SC staff to perform numerous follow-up inspections to attain compliance.²⁵

The inspection process is outlined in an E&SC program publication called the Inspector's Guide. This document serves as a resource for program staff and details the proper way to perform inspections to determine the effectiveness of erosion and sedimentation controls. Per the Inspector's Guide, the main steps involved in performing an inspection are

- **Step 1** – Acquire and study the approved plan to become familiar with site characteristics and controls and, when possible, schedule an appointment with the contractor or responsible party to ensure that someone at the construction site is aware of the inspector.
- **Step 2** – Travel to the site and inspect the perimeter, checking the installation and maintenance of controls approved in the plan and those seen on-site, and determine if off-site sedimentation has occurred.
- **Step 3** – Complete and issue an inspection report indicating whether the site is in compliance and, if egregious noncompliance is

²³ For example, two different inspectors discovering the same violation with the same magnitude of damage at the same site with the same site characteristics and the same developer may result in two different inspection results. Where one inspector may issue a NOV, another may issue an inspection report indicating noncompliance was present. The Program Evaluation Division found other DEMLR programs operate under a Uniform Tiered Enforcement policy that prevents such discretion.

²⁴ The Program Evaluation Division requested data to calculate actual compliance rates, but the E&SC program could not provide valid and reliable data that could be used for this purpose because of issues with its data management system. Information management practices are further discussed in Finding 6.

²⁵ Academic experts in erosion and sedimentation and stormwater control, as well as DEMLR staff, stated that initial compliance rates are low for the E&SC program. The Program Evaluation Division requested data to perform analysis to verify this claim but this data is not available. Data management practices are discussed further in Finding 6.

discovered or previously identified problems still exist, issue a NOV.

Inspections are not scheduled in coordination with the regulated community, though this practice is outlined in program procedures and doing so when possible could reduce the number of follow-up inspections performed.

The E&SC program does not coordinate site inspections with the regulated community although the Inspector's Guide directs inspectors to do so. In interviews with the Program Evaluation Division, E&SC staff stated they generally do not schedule appointments with the regulated community for inspections for the following reasons

- planning inspections is difficult,
- conducting inspections is a lengthy process,
- the number of inspections to conduct is high, and
- there is a concern violations will be resolved in preparation for inspection.^{26,27}

The Program Evaluation Division conducted focus groups and informational queries with the regulated community regarding their interactions with the E&SC program and with delegated local programs. In discussing the need for coordinated site inspections, a focus group participant told the Program Evaluation Division that, “. . . if [developers or contractors] were physically there, issues would go down because they would know what the issues are.” Overall, it was conveyed to the Program Evaluation Division that coordinating all site inspections could

- allow the regulated community to be present during inspections,
- ensure the E&SC program provides a similar level of service that already exists with some delegated local programs,
- allow the E&SC program to explain how to properly correct violations, and
- reduce the need for follow-up inspections.

The E&SC program does not use a risk-based approach to focus or prioritize inspections at sites with the highest potential for environmental impact. Erosion and sedimentation control plans, as discussed in Finding 3, are approved with site-specific controls targeted at meeting the unique needs of controlling erosion and sedimentation at each construction site. Because sites have unique needs, they also pose different levels of risk for erosion and sedimentation damage.

Using a risk-based approach, sites are evaluated as being either high-risk, indicating the largest potential for environmental damage and thus subject to being inspected more frequently and prioritized to ensure compliance, or low-risk, indicating a small potential for environmental damage and hence given less priority. A risk-based approach can

²⁶ E&SC program staff stated that scheduled appointments with developers only occur when inspectors have limited access to a site and require assistance, or when a follow-up inspection is being performed for corrective actions taken from a previously issued Notice of Violation. Inspection reports that highlight compliance issues are sent to financially responsible parties at the conclusion of each inspection.

²⁷ Academic experts in erosion and sedimentation and stormwater control, as well as DEMLR staff, stated that evidence of erosion and sedimentation can be detected even after deficiencies from controls have been addressed, thereby still allowing inspectors to evaluate the effectiveness of controls.

determine a site's unique risk level according to one or several factors, such as

- construction calendar;
- level of active grading;
- presence of steep slopes;
- adjacent wetlands, streams, or other water bodies;
- a member of the regulated community having a history of repeat violations or public complaints;
- length of time for construction phases;
- number of permitted disturbed acres or size of the project; or
- specific soil characteristics.

In comparing the approach of the E&SC program to delegated local programs, the Program Evaluation Division found 74% (n=40) of delegated local programs use a risk-based approach for conducting inspections. Delegated local programs stated that using a risk-based approach represented the most efficient use of staff time and also allowed them to document remediation efforts more quickly, prevent public complaints, and establish a proactive relationship with the regulated community in enforcing compliance on-site.

In summary, the E&SC program performs monitoring and compliance through inspections that the program intends to occur at every active site at least once per month. The Program Evaluation Division found this internal target is not being met and E&SC program staff are spending less time on performing inspections as compared to five years ago. Additionally, the Program Evaluation Division found the E&SC program does not target inspections at the riskiest of approved sites even though this practice is used by most delegated local programs. The E&SC program also does not schedule site inspections with the regulated community even though the current inspections procedural manual recommends this practice; doing so may prevent the need for unnecessary follow-up inspections.

Finding 5. Sedimentation fees charged to the regulated community are not sufficient to recover program costs, requiring the State to appropriate funds to support program operations; adjusting fees could recover an estimated \$1.7 million annually.

State law establishes a non-reverting Sedimentation Account for fees collected from the review of erosion and sedimentation control plans, which are intended to recover the cost of administering the Erosion and Sedimentation Control (E&SC) program. However, as Exhibit 3 in the Background illustrated, only 44% of current E&SC funding is derived from fees; the program is mostly supported by state appropriations.

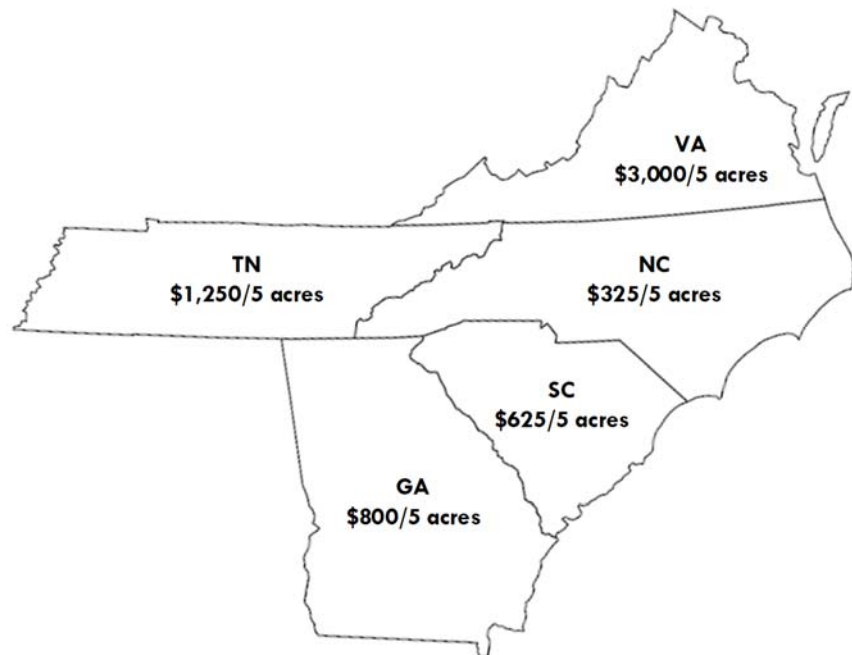
Current regulations require any development with greater than one acre of disturbed land to develop and submit an erosion and sedimentation control plan which, as stated in Finding 1, is a component of the federal General Permit for Stormwater Discharges related to Construction Activities (NCG01). As part of plan requirements, the regulated community remits \$65 per disturbed acre.

Fees have changed little over time and have not maintained pace with inflation. In the past two decades, fees have been adjusted only twice. In 2001, fees per disturbed acre were raised from \$40 to \$50 and in 2007 were raised from \$50 to \$65.²⁸ Fees have not been addressed in more than 10 years and, as result, have not kept pace with inflation. When adjusted for inflation, the value of \$65 per disturbed acre is \$79 (2018 dollars). Failing to keep pace with inflation means receipts from fees intended to support E&SC program operations have less buying power and thereby constrict operations.

Fees to support program operations are comparatively low. The Program Evaluation Division analyzed fees from surrounding states and delegated local programs within the State and found the E&SC program's fees are lower. As Exhibit 18 shows, of its four border states, the North Carolina E&SC program has the lowest fees at \$325 per five acres of development.²⁹ North Carolina's fee is nearly 48% lower than South Carolina's fee and 89% lower than Virginia's fee.³⁰

Exhibit 18:

North Carolina State
E&SC Program Fees
Are Lower than
Border States



Note: North Carolina fees do not include delegated local program fee amounts. Virginia has residential and nonresidential fees; the amount depicted in the exhibit represents the cost of nonresidential fees; residential fees would cost \$4,200 per 5 acres developed.

Source: Program Evaluation Division based on data from other states.

Additional analysis shows the E&SC program's fees are also comparatively lower than the vast majority of delegated local programs. As described in

²⁸ In 2014, the Sedimentation Control Commission passed a resolution to ask for an increase in plan review fees. Analysis performed by the Division of Energy, Mineral and Land Resources recommended a fee increase to \$180 per disturbed acre.

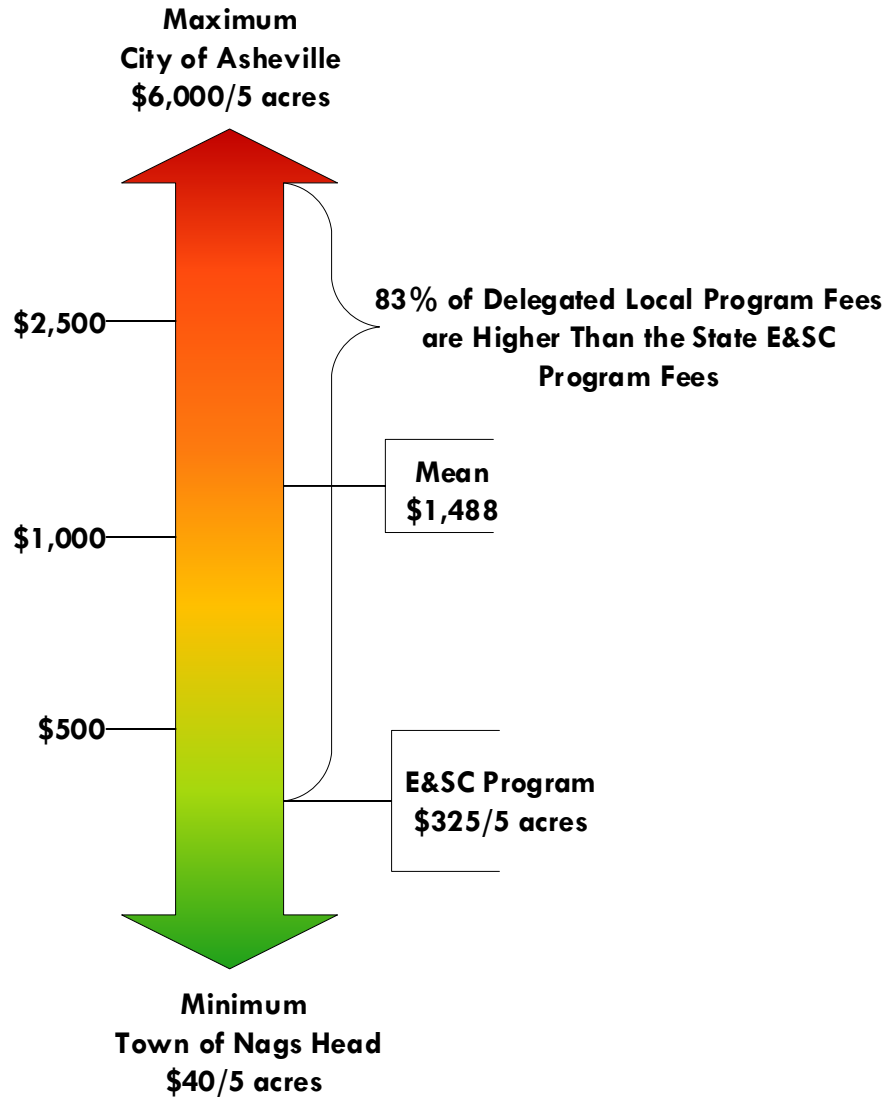
²⁹ The comparison of fees based on five acres of disturbed development was chosen based on the summary statistics of all active sites in North Carolina, whereas the average disturbed acreage was 12.8, the median value of 4.8 acres (rounded to 5) represented the best point of comparison.

³⁰ Whereas Georgia, North Carolina, South Carolina, and Tennessee are all located within United States Environmental Protection Agency region 4, Virginia is a member of the United States Environmental Protection Agency mid-Atlantic region 3.

the Background, there are 54 delegated local erosion and sedimentation control programs that establish independent fee structures.³¹ The Program Evaluation Division compared delegated local program fees to the fees of the E&SC program. Exhibit 19 demonstrates that the E&SC program’s fees are lower than the vast majority of fees charged by delegated local programs.

Exhibit 19:

Wide Variability Exists for Delegated Local Program Fees; 83% Are Higher Than State E&SC Program Fees



Note: Comparative analysis was based on 5 acres of disturbed development.

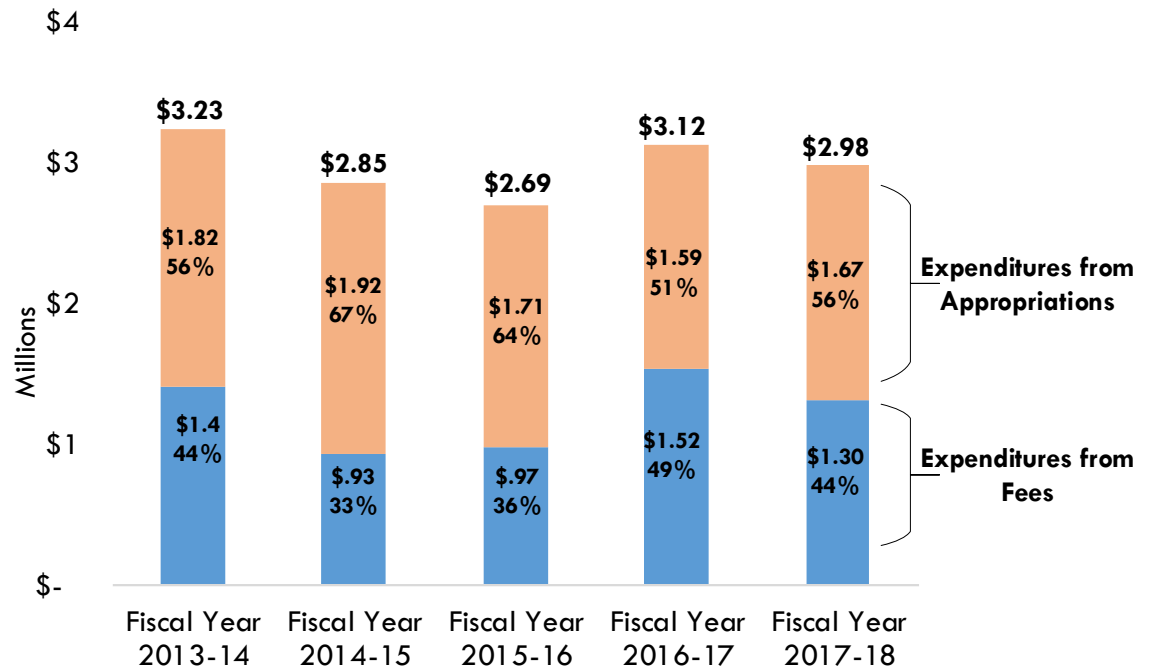
Source: Program Evaluation Division based on delegated local program data.

Current fees do not meet operational needs and, as a result, the General Assembly must appropriate funds to subsidize program operations. Even though operating costs have declined slightly during the last five fiscal years, E&SC program fees still cover less than half of operational needs. The remaining expenditures are supported by state appropriations, as

³¹ N.C. Gen. Stat. § 113A-54.2 “This section may not limit the existing authority of local programs pursuant to this Article [SPCA] to assess fees for the approval of erosion and sedimentation control plans.”

shown in Exhibit 20. In any given year during the last five fiscal years, the State has appropriated between 51% and 67% of program funds, meaning fees have supported less than half the revenue the program requires for operation.

Exhibit 20:
Less than Half of E&SC Program Operations Are Supported by Fees

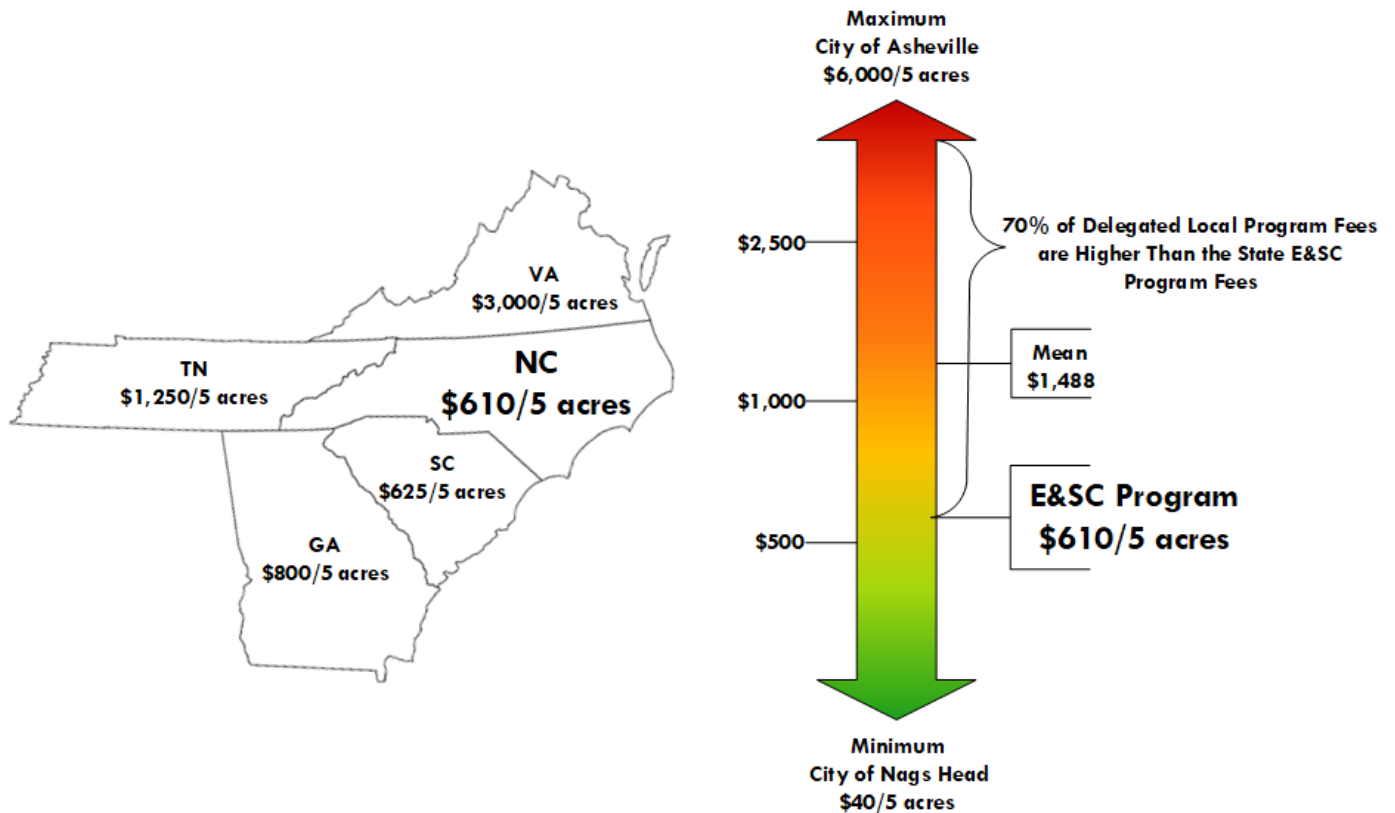


Note: Amounts shown in the bars may not sum to bolded totals due to rounding.

Source: Program Evaluation Division based on collection and analysis of program expenditure data.

Raising program fees to \$122 per disturbed acre would fully cover program operations, would still be lower than other programs, and would recover an estimated \$1.7 million in annual state appropriations. The Program Evaluation Division determined fees would need to be increased by 89% to an estimated \$122 per disturbed acre to fully support program operations. This fee increase would recover, on average, \$1.7 million in annual appropriations that would otherwise be needed for allocation to the E&SC program. Even with this fee increase, the cost per developed acre would still remain lower than neighboring states and most delegated local programs. Exhibit 21 shows how raising fees for the E&SC program would still ensure a fee structure that is lower than the majority of North Carolina’s delegated local erosion and sedimentation control programs as well as programs in neighboring states.

Exhibit 21: Even If Raised to Fully Support the Cost of Program Operations, E&SC Program Fees Would Still Be Below Other States and 70% of Delegated Local Programs



Source: Program Evaluation Division based on data from other states and delegated local programs.

In summary, fees are an important component of the E&SC program because they support program operations. Compared to other states and delegated local programs, E&SC program fees are low due to limited adjustments made within the past two decades. Although program expenditures have fallen by 8% over the last five fiscal years, revenues from fees are still not sufficient to cover program operations, and as a result the General Assembly must appropriate funds to fully cover operating costs. Raising fees by 89% from \$65 per disturbed acre to \$122 per disturbed acre would fully support the cost of program operations and would offset an estimated \$1.7 million per year for the State. Furthermore, fees set at \$122 per disturbed acre would remain comparatively low relative to North Carolina’s neighboring states and its delegated local programs.

Finding 6. The Erosion and Sedimentation Control program does not have information management practices that ensure valid and reliable data that can be used in a performance management system.

Strong information management practices are important because they ensure organizations are collecting valid and reliable data to use in

accomplishing goals.³² Effective information management practices include the use of technology to maintain databases, quality and assurance procedures for collected data, and routine archival of important data and documents. Organizations can collect data that is readily available and easy to track, or data that requires more effort and development. Collected data should reflect the targets an organization has set and should undergo regular monitoring to provide performance feedback, which can be accomplished with strong performance measures.

Strong performance measures are designed to help facilitate operational improvements through consistent tracking of objectives, indicators, targets, dates, and milestones with a focus on outcomes. Performance measures that exclusively focus on activities or outputs cannot effectively provide information on process deficiencies.³³

The Erosion and Sedimentation Control (E&SC) program has not implemented sufficient information management practices to ensure the collection of valid and reliable data. During the course of this evaluation, the Program Evaluation Division requested information that either could not be supplied or as submitted was not suitable for analysis, such as individual inspection records with inspection dates and inspection dispositions.

The E&SC program took part in a Department of Information Technology pilot study that migrated previous years' data from the program's original data system (IBEAM) into a data system called AMANDA, a data system that allowed monitoring and management of E&SC program data. Shortly after the implementation of the new system, the E&SC program realized AMANDA was not sufficient for effective operations and data was migrated back into the previously used IBEAM system. Following this second migration, E&SC program staff manually entered missing data that did not transfer. This process was necessary because data maintained in the IBEAM system for prior fiscal years was not archived and thus became unavailable when the E&SC program transferred systems. The E&SC program has indicated that it is currently in the process of a Department of Environmental Quality initiative to replace its current information management system with a Permit Transformation Plan that will provide online application, review, data management and monitoring, permitting, inspection and enforcement, and process management improvements.

However, the E&SC program generated reports from migrated data that, upon review, the Program Evaluation Division found to contain discrepancies between supplied figures and figures previously reported. As Exhibit 22 shows, the Program Evaluation Division found over 200 data discrepancies during the course of this evaluation.

To ensure the accuracy of data used throughout this study, the Program Evaluation Division performed data analysis using previously reported figures that existed prior to data migration issues and are also fields

³² Data reliability indicates consistency in the reproduction of data ensuring data is not vague or results in varying interpretation. Data validity indicates that data gathered is a true representation of what is meant to be captured and that there are no logical errors in drawing conclusions from the data.

³³ An output is a measure of completed services or products produced by a program. Output measures provide information about the workload accomplished.

reported to the North Carolina General Assembly, the Sedimentation Control Commission, and the United States Environmental Protection Agency. When the Program Evaluation Division discovered a data discrepancy, that data source was not used for analysis.

Exhibit 22:

Significant Discrepancies Exist in E&SC Program Activity Reporting for Fiscal Year 2017–18

	Program Activity Report	Submitted Data	Size of Discrepancy
Plans Submitted	2,482	2,421	61
Plans Reviewed	2,018	2,150	132
Complaints	660	651	9
Violations	14,567	14,563	4
Total Discrepancies			260

Source: Program Evaluation Division based on collection and analysis of standard activity reports provided by DEMLR staff.

The E&SC program has limited performance measures that are not focused on outcomes and therefore cannot fully inform process improvements. E&SC staff monitor program components using statutorily-mandated performance measures and several internal targets focused on outputs. E&SC program staff state that all program components are monitored on a monthly and annual basis. As discussed in the Background, the program components of the E&SC program are

- plan review and approval,
- monitoring and compliance,
- technical support and outreach, and
- oversight of delegated programs.

Performance measures and internal targets for these components that could not be verified by the Program Evaluation Division include

- plan review and approval within 25 days and
- inspections within
 - seven days of being notified of a construction start date,
 - seven days after receiving a complaint, or
 - seven days from receipt of a notice of completed corrective actions from a Notice of Violation (NOV).

Currently, the E&SC program does not maintain data or processes that assist in measuring internal target attainment and performance. Many of these targets are not tracked because of the transfer from the AMANDA system. As discussed in Findings 2, 3, and 4, the Program Evaluation Division was able to identify when some measures and targets were met. However, in most instances, the Program Evaluation Division was only able to make these determinations with analysis beyond what the E&SC program regularly performs.

Because the E&SC program focuses its performance measures and targets on outputs rather than outcomes and does not routinely monitor performance, the program does not have sufficient performance management practices to provide data for the program to receive regular feedback, improve performance, or set targets.

Outcome-based performance measures are important because they measure the substantive impacts that result from producing outputs and can speak directly to the effectiveness and importance of a program. Outcome measures detail specific changes, most often expressed at the individual level, and if accomplished to the extent intended will result in participants benefitting in certain ways. The E&SC program provided the Program Evaluation Division with the following goals that could be used to develop outcome-focused measures:

- improving the quality of erosion and sedimentation control plans submitted by the regulated community,
- improving the erosion and sedimentation control plan approval process including plan design,
- improving the communication process between program staff and the regulated community, and
- improving educational outreach initiatives with university-level students.

These goals can be translated into specific short-term (wherein activities are expected to lead to changes in one to three years) and long-term (wherein activities are expected to lead to changes in four to six years) outcome-focused performance measures such as

- reduction in erosion and sedimentation control plan resubmittals,
- increase in the presence of the regulated community during inspections, and
- increase in partnerships with North Carolina universities.

In summary, the E&SC program's information management practices do not ensure the collection of valid and reliable data, and as a result the Program Evaluation Division was able to identify over 200 data discrepancies. Additionally, the E&SC program does not have an established performance management system that provides regular feedback on whether targets and objectives are being met. Lastly, the E&SC program has limited performance measures that focus on program outputs rather than outcomes. The E&SC program does have short-term and long-term goals that could be used to develop outcome based performance measures that would be more suitable in measuring the effects of program operations.

Recommendations

Recommendation 1. The General Assembly should amend state law to outline reporting requirements for delegated local programs and mandate that the Erosion and Sedimentation Control program review delegated local programs at least once every five years.

As detailed in Finding 2, local units of government can request approval from the Sedimentation Control Commission (SCC) to administer an erosion and sedimentation control program. Upon approval, delegated local programs agree to regularly report state-requested data fields. Currently, reporting from delegated local programs is inconsistent. In addition, as discussed in Finding 2, although delegated local programs agree to undergo program reviews, the Erosion and Sedimentation Control (E&SC) program is not regularly performing reviews to oversee delegated local program operations.

The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources, in coordination with the SCC, to review and suggest modifications to state law regarding the reporting requirements of delegated local programs. The following requirements should be considered:

- reported data elements include, but not be limited to, those the State is required to submit to the U.S. Environmental Protection Agency;
- data reporting and submission format;
- frequency of reports; and
- validation of delegated local program activities in efforts to ensure accountability of local program operations.

Additionally, the General Assembly should direct the SCC to amend any existing agreements with delegated local programs to require the same detailed reporting requirements and direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to enforce all reporting requirements for delegated local programs.

The General Assembly should also amend state law to specify that all delegated local erosion and sedimentation control programs undergo a program review at least once every five calendar years.

Further, the General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to develop policies and procedures towards establishing an appropriate schedule to meet this new statutory target.

The Department of Environmental Quality's Division of Energy, Mineral and Land Resources should report to the Environmental Review Commission, the Joint Legislative Program Evaluation Oversight Committee, and the SCC by January 1, 2020 on its suggestions for amending the reporting requirements of delegated local programs and the use of such information to conduct delegated local program reviews.

Recommendation 2. The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to formally collect, maintain, monitor, and report data on its internal target of 25 days for review and determination of erosion and sedimentation control plans.

As discussed in Finding 3, current state law stipulates that the Erosion and Sedimentation Control (E&SC) program issue a determination of approved, approved with modifications, or disapproved for draft erosion and sedimentation control plans for land-disturbing activities within 30 days of receipt and 15 days for revised plans. When using these statutory statewide measures as a benchmark for performance, the vast majority of plans receive a determination within the required time frame of 30 days (99.7%) and 15 days (99.4%).

The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to formally collect, maintain, and monitor data on its current internal target for initial plan review and approval of 25 days.

Additionally, in an effort to stretch E&SC program performance, the General Assembly should direct DEQ DEMLR to maintain records for a two-year period to demonstrate whether this performance target is being met both statewide and by regional offices. Records should be reported to the Sedimentation Control Commission (SCC) quarterly. In coordination with the E&SC program, the SCC should determine the need for any subsequent modifications to further reduce the internal target of number of days allotted for initial plan review and approval based upon quarterly reports and maintained records for the two-year period.

The Department of Environmental Quality's Division of Energy, Mineral and Land Resources should report on the progress of these actions to the Environmental Review Commission and the Joint Legislative Program Evaluation Oversight Committee by January 1, 2020.

Recommendation 3. The General Assembly should direct the Sedimentation Control Commission to develop administrative rules to include the use of site-specific risk factors to prioritize monitoring and compliance activities.

As discussed in Finding 4, the Erosion and Sedimentation Control (E&SC) program does not use a risk-based approach to evaluate how often sites should be inspected. Erosion and sedimentation control plans are approved with site-specific controls targeted at meeting the unique needs for controlling erosion and sedimentation at a construction site, but sites pose different levels of risk for erosion and sedimentation damage. Risk-based inspections establish a frequency for inspecting a site based on the potential risk for environmental damage from erosion and sedimentation.

The General Assembly should direct the Sedimentation Control Commission to develop administrative rules to include the use of risk factors. By developing and implementing a risk-based approach to performing inspections, E&SC program staff will be able to target the riskiest sites for

inspections before sites that have a low risk for erosion and sedimentation damage. Additionally, the E&SC program should be directed to amend any existing policies, procedures, and handbooks that reference risk factors to include these newly developed rules to provide clear guidance on the use of risk factors for prioritizing inspections.

The Department of Environmental Quality's Division of Energy, Mineral and Land Resources should report on the progress of these actions to the Environmental Review Commission and the Joint Legislative Program Evaluation Oversight Committee by January 1, 2020.

Recommendation 4. The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to abide by inspection policies and coordinate with the regulated community for the performance of site inspections.

As discussed in Finding 4, the Erosion and Sedimentation Control (E&SC) program does not schedule site inspections with the regulated community even though the Inspector's Guide directs E&SC staff to do so when possible. Coordinating site inspections with the regulated community may assist developers and contractors in understanding how to properly correct violations and thereby reduce the need for excessive follow-up inspections and further prevent environmental damage from erosion and sedimentation.

The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to abide by inspections policies and coordinate inspections with the regulated community through a clear and well-developed scheduling process and report on the progress of its actions to the Environmental Review Commission, Joint Legislative Program Evaluation Oversight Committee, and the Sedimentation Control Commission by January 1, 2020.

Recommendation 5. The General Assembly should amend state law to reduce dependence on appropriations by increasing erosion and sedimentation control plan review fees to \$125 per acre of disturbed land to fully support the cost of Erosion and Sedimentation Control program operations.

As described in Finding 5, current regulations require any development with greater than one acre of disturbed land to develop and submit an erosion and sedimentation control plan and submit a fee of \$65 per disturbed acre. Although fees have changed over time, fees remain low compared to those assessed by other states and delegated local programs in North Carolina. Fees have not kept pace with inflation and currently do not support the cost of administering the Erosion and Sedimentation Control (E&SC) program. As a result, the General Assembly is required to subsidize what is intended to be a self-supporting program through state appropriations. To support current operations without the need for appropriations, fees would need to be raised to \$122 per disturbed acre.

To enable fees to fully fund program operations, the General Assembly should amend state law to increase the current application fee of \$65 per acre of disturbed land (as shown in an erosion and sedimentation control plan or as actually disturbed) during the life of a project to \$125 per disturbed acre. Increasing fees to this amount will support the total cost of the E&SC program and will allow North Carolina's fees to more closely mirror neighboring states while still remaining comparatively low.

To ensure funds do not accumulate excessively over time, the General Assembly should also consider amending state law to establish an upper maximum of funds that can be held within the Sedimentation Account.

Recommendation 6. The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to establish information management policies and a performance management system for the Erosion and Sedimentation Control program.

As discussed in Finding 6, the Erosion and Sedimentation Control (E&SC) program has limited performance measures outside of statutorily-mandated and internal targets, most of which cannot be sufficiently utilized because of a lack of valid and reliable data resulting from an absence of adequate information management policies and practices.

The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to establish information management policies to ensure the collection and use of valid and reliable E&SC program data. Additionally, the General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to create, in coordination with the Sedimentation Control Commission, a performance management system that includes

- internal objectives and associated targets for all components of the E&SC program by regional office,
- policies and practices that outline the collection of the internal objectives and targets at the regional office level and specific to regional office operations, and
- benchmarking of regional offices to statewide performance for each objective and target.

The Department of Environmental Quality's Division of Energy, Mineral and Land Resources should report to the Environmental Review Commission, Joint Legislative Program Evaluation Oversight Committee, and the Sedimentation Control Commission by January 1, 2020 on its actions to develop and implement information management policies and procedures as well as a performance management system for the E&SC program.

Appendices

Appendix A: Erosion and Sedimentation Control Practices

Appendix B: Outreach Activities Performed by the E&SC Program and Environmental Stakeholder Groups

Appendix C: North Carolina Dept. of Transportation Delegated Erosion and Sedimentation Control Program

Appendix D: List of Delegated Local Erosion and Sedimentation Control Programs

Agency Response

A draft of this report was submitted to the Department of Environmental Quality to review and respond. Its response is provided following the appendices.

Program Evaluation Division Contact and Acknowledgments

For more information on this report, please contact the lead evaluator, Adora Thayer, at Adora.Thayer@ncleg.net.

Staff members who made key contributions to this report include Sean Hamel and Sidney Thomas. John W. Turcotte is the director of the Program Evaluation Division.

Appendix A: Erosion and Sedimentation Control Practices

The State's Erosion and Sedimentation Control (E&SC) program uses a number of control practices that can be generalized into eight categories. This appendix provides a brief description of each practice.

- 1. Site Preparation involves clearing, grading, and general preparation of land for the installation of measures and proposed development.**
 - The *construction schedule* follows a specified work schedule that coordinates land-disturbing activities and the installation of control measures.
 - *Land grading* fits development to natural landscapes and establishes drainage areas and patterns.
 - *Surface roughing* is the first step in vegetative stabilization and aids vegetative covering with seed, reducing runoff velocity, and increasing infiltration.
 - *Topsoiling* provides zones for root development and biological activities for plants.
 - *Tree protection* protects trees that stabilize soil and helps prevent erosion and decrease stormwater runoff.
 - *Temporary gravel* is placed at entrances and exits to create a buffer for deposition of mud and sediment.
- 2. Surface Stabilization measures allow for the removal of erosion and sedimentation, prevent unstable sediment, and smooth and blend ground cover with adjoining areas.**
 - *Temporary seeding* is achieved by planting rapidly growing annual grasses, grain, or legumes.
 - *Permanent seeding* stabilizes dirt that is adaptive to site conditions and allows selection of the most appropriate plant materials.
 - *Sodding* provides immediate vegetative cover to stabilize areas and is useful around drainage ways or channels.
 - *Trees, shrubs, vines, and ground covers* stabilize soil with vegetation that provides food and shelter to wildlife and provides windscreen, thereby reducing wind-driven erosion.
 - *Mulching* is applying a protective blanket of residual plant material, gravel, or a synthetic material to a soil surface to protect uncovered surfaces from overland flow and to foster growth of vegetation.
 - *Riprap* is a layer of stone used to stabilize and protect areas subject to erosion.
 - *Vegetative dune stabilization* uses vegetation to stabilize and protect low-lying back shore areas.
 - *Rolled erosion control products (RECPs)* are mats or blankets that protect soil and hold seed and mulch in place so that vegetation can become established.
- 3. Run off control measures are intended to prevent or mitigate site run off.**
 - *Temporary diversion* are earthen ridges or excavated channels that divert water.
 - *Permanent diversions* are permanent ridges or channels that divert water from areas of excess to locations where it can be used or released without sedimentation.
 - *Diversion dikes* are dikes and channels constructed along the perimeter of a disturbed construction area.
 - *Right-of-way diversions (water bars)* limit the accumulation of erosive volumes of water by diverting surface run-off in predesigned intervals.
 - *Riparian seeding* is seeding at buffers between upland area streams through temporary native vegetative cover.
- 4. Run off conveyance measures guide water along a predetermined course.**
 - *Grass-lined channels* have vegetative lining and are preferred where suitable.
 - *Riprap and paved channels* are channels with riprap, paving or other structural materials designed to convey and dispose of excess water.
 - *Temporary slope drains* are temporary flexible tubing or conduits that extend from the top to the bottom of a cut or fill slope.
 - *Paved flumes* are small concrete-lined channels to permanently convey water on steep slopes.

-
- 5. Outlet protection measures prevent sediment from entering a site's conveyance system.**
 - *Level spreaders* disperse flow across a stable slope.
 - *Outlet stabilization* prevents erosion at the outlet of channels, culverts, and other structures.
 - 6. Inlet protection measures are intended to protect inlet points from runoff drainage.**
 - *Excavated drop inlet protection* is a temporary control that creates an effective settling pool to remove sediment at a stormwater inlet.
 - *Hardware cloth and gravel inlet protection* keeps sediment and debris from construction out of drop inlets, yard inlets, or grated storm drains.
 - *Block and gravel protection* creates a small, sturdy barrier to trap sediment at the entrance to a storm drain to prevent sediment from entering the drain.
 - *Sod drop protection* is a permanent grass sod filter around a storm drain that limits sediment from entering storm drain systems.
 - *Rock doughnut inlet protection* is used temporarily to trap sediment in the excavated depression surrounding the doughnut.
 - *Rock pipe inlet protection* is a horseshoe shaped rock dam that surrounds a pipe inlet to store sediment around the outside perimeter of a structure.
 - 7. Sediment traps and barriers catch sediment location at a development site, can prevent sediment from leaving a site, provide opportunity for easy sediment removal, and localize damage from failed control systems to the construction site.**
 - *Temporary traps* are embankments across low areas that form a sedimentation pool for rainfall events.
 - *Sediment basins* are low earthen dams across drainage ways that create a temporary storage pool.
 - *Silt Fences* are cloth barriers that stretch along disturbed areas that capture sediment from the flow of water.
 - *Rock dams* form sedimentation basins with broad crested weir spillways to keep flow depth and discharge velocity low.
 - *Skimmers* are installed in sediment basin pools and pull water from the surface of the sediment basin pool to ensure discharge of only the highest quality, non-sediment-laden runoff.
 - 8. Stream protection are intended to protect streams or tributaries located on or near a development.**
 - *Temporary stream crossings* provide means of crossing such as bridges, culverts, and fords.
 - *Permanent stream crossings* offer suitable means to cross streams or other watercourses located onsite at a development during and after construction.
 - *Vegetative streambank stabilization* stabilizes streambanks through the use of vegetation.
 - *Structural streambank stabilization* is used when vegetative stabilization is insufficient.

Appendix B: Outreach Performed by the Erosion and Sedimentation Control Program and Environmental Stakeholder Groups

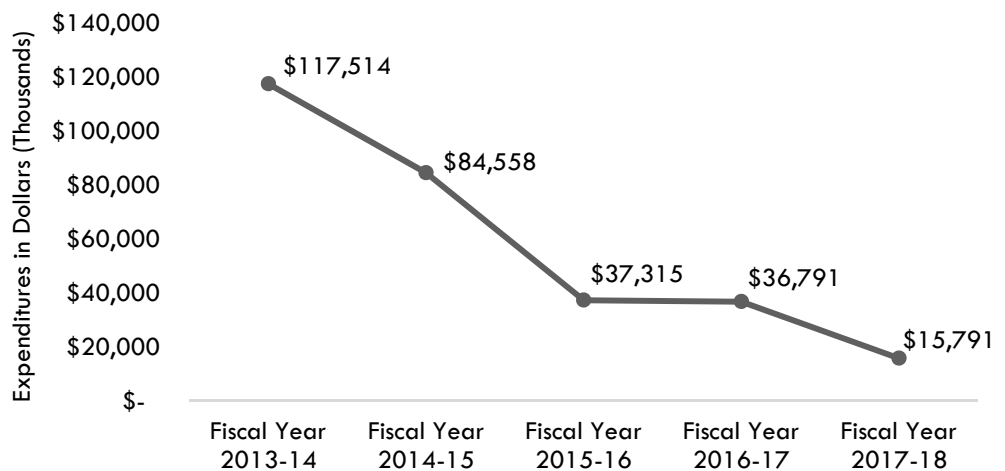
As stated in the Background, the State’s Erosion and Sedimentation Control (E&SC) program performs educational outreach for groups such as

- internal staff;
- developers and contractors;
- engineers, consultants, and planners;
- environmental interest groups;
- local units of government with delegated programs; and
- teachers, students, and the general public.

E&SC program staff host workshops for professionals and also educate K-12 classes through lecture series, conferences, and career days. Through local program workshops, delegated local program staff are trained on regulatory changes and current events and have the opportunity to exchange information and innovations. The E&SC program has recently decreased the number of educational outreach opportunities it offers, having provided six events in Fiscal Year 2015–16 but no events in Fiscal Year 2016–17. The E&SC program attributes this decline to reduced funding for educational outreach as well as a vacant Sediment Education Engineer position.³⁴ As shown in Exhibit 1, expenditures for the Sedimentation Education Fund have decreased by 87% during the past five fiscal years. In Fiscal Year 2017–18, the E&SC program filled the position of Sediment Education Engineer, which had been vacant for one year. Since filling this position, the E&SC program has been able to update its electronic content such as forms and educational packets for students in Grades K-12 and for program staff.

Exhibit 1:

Expenditures for the Sedimentation Education Fund Have Declined Over Time



Source: Program Evaluation Division based on analysis of program expenditures.

Historically, the E&SC program has partnered with various stakeholder groups to host educational programs. In 1992, the E&SC program began hosting workshops in conjunction with the North Carolina State Water Resource Institute (WRII).³⁵

³⁴ The Sediment Education Engineer develops and provides technical training materials related to the E&SC program and sediment control engineering for professionals through workshops, engineering manuals, or articles in technical journals, and provides technical expertise to education professionals to raise sedimentation pollution awareness in public schools. The Education Engineer also monitors the progress of projects, reviews technical merits, and serves as a liaison.

³⁵ The E&SC program has partnered with a series of non-regulated and regulated industries (e.g., North Carolina Coastal Federation) to provide educational outreach events.

The Program Evaluation Division performed a survey of various national and local non-profit organizations that focus on erosion and sedimentation control and perform outreach initiatives. Responding organizations stated that they advocate, educate, and communicate with partners, the public, the regulated community, and other entities about erosion and sedimentation control as well as protecting rivers, wetlands, lakes, and other water bodies. For instance, WRRI hosts annual workshops for individuals who work in erosion and sedimentation control on several topics from federal, state, and local rules and regulations to best management practices to new technologies. All respondents indicated that their outreach activities receive positive feedback from participants. The Program Evaluation Division found few organizations that stated they had a working relationship with the E&SC program. An exception is WRRI, which until 2015 contracted with the Department of Environmental Quality to implement and host statewide education and training events. When asked how to improve the E&SC program, most of the organizations suggested that

- erosion and sedimentation control activities need to be up-to-date,
- more attention needs to be provided for inspections and follow-up, and
- technical support for engineers and site developers on how to better control sedimentation and prepare project designs should be increased.

In summary, the Program Evaluation Division found that although the E&SC program has hosted numerous training sessions, workshops, and technical outreach events, education funding for the program continues to decline. As a result, program staff are unable to efficiently perform educational outreach and technical support for developers, construction workers, and delegated local programs. Most organizations surveyed suggested that control activities need to be current and technical support needs to be increased for engineers and site developers. Additionally, the Program Evaluation Division found several organizations perform educational outreach for the public, developers, and other entities involved in erosion and sedimentation control. In the past, organizations such as WRRI have partnered with the Department of Environmental Quality's Division of Energy, Mineral and Land Resources. However, the organization currently hosts education and training events for state employees, students, developers, and other entities on its own.

Appendix C: North Carolina Dept. of Transportation Delegated Erosion and Sedimentation Control Program

The Sedimentation Pollution Control Act (SPCA) allows the State’s Erosion and Sedimentation Control Program to delegate authority for the administration of independent erosion and sedimentation control programs, under the oversight of the State, to local governments and other state agencies. Currently, the North Carolina Department of Transportation (DOT) is the only state agency with delegated authority to administer its own erosion and sedimentation control program. This delegation is limited to areas of focus under the jurisdiction of DOT for land-disturbing activities of one or more acres associated with highway construction, such as linear (roadway, tolls, rail, and bridges) and non-linear (DOT office buildings and equipment shops) construction projects.

To ensure compliance, DOT has dedicated an in-house regulatory division to the design and review of erosion and sedimentation control plans known as the Roadside Environmental Unit Soil and Water Engineering Section (REU). REU’s primary responsibility is to focus on the issues, policies, and environmental commitments surrounding sediment and erosion control. This responsibility includes preparing erosion control plans for all phases of highway construction, implementing and maintaining standard specifications and project special provisions, and monitoring active work sites for compliance. REU inspects devices on a weekly basis to ensure full functionality and proper maintenance and revises plans as devices are installed, changed, or eliminated.

DOT also has a manual and guidelines incorporating rules, regulations, and requirements including some that are more stringent such as special environmental concerns and employee certifications. The manual also provides current law, preparation of plans, and best practices. Exhibit 2 below provides an overview of the manual and field guide for DOT.

Exhibit 1:

Overview of NC DOT Erosion and Sedimentation Control Program Publications

NC DOT EROSION AND SEDIMENTATION CONTROL PROGRAM PUBLICATIONS		
PUBLICATION	PURPOSE	EXAMPLE CONTENT
MANUAL	<ul style="list-style-type: none"> Reduce stormwater impacts of transportation-related development Establish the Roadside Environmental Unit Soil and Water Engineering Section to design and review plans Provide guidance for designers and contractors on evaluating, planning, and conducting construction to prevent erosion and sedimentation 	<ul style="list-style-type: none"> Requirements of approved projects Installation techniques such as gravel construction entrance Training and Certification programs
FIELD GUIDE	<ul style="list-style-type: none"> Provide specific erosion and sedimentation control measures to ensure effectiveness 	<ul style="list-style-type: none"> Installation techniques such as temporary silt fences

Source: Program Evaluation Division based on information from DEMLR and research.

Appendix D: List of Delegated Local Erosion and Sedimentation Control Programs

Fiscal Year 2017–2018			
Delegated Local Erosion and Sedimentation Control Programs			
1.	Town of Apex	28.	Jackson County
2.	City of Archdale	29.	City of Jacksonville
3.	City of Asheville	30.	Johnston County
4.	Avery County	31.	Town of Kill Devil Hills
5.	Town of Beech Mountain	32.	Town of Kitty Hawk
6.	Town of Boone	33.	Town of Lake Lure
7.	Buncombe County	34.	Lincoln County
8.	City of Burlington	35.	Macon County
9.	Town of Cary	36.	Mecklenburg County
10.	Catawba County	37.	City of Monroe
11.	Town of Chapel Hill	38.	Town of Nags Head
12.	City of Charlotte	39.	New Hanover County
13.	Chatham County	40.	City of Newton
14.	Town of Columbus	41.	Orange County
15.	Durham City/County	42.	Pitt County
16.	Gaston County	43.	City of Raleigh
17.	Grandfather Village	44.	City of Rocky Mount
18.	City of Greensboro	45.	Rowan County
19.	City of Greenville	46.	Town of Southern Pines
20.	Guilford County	47.	Swain County
21.	Haywood County	48.	Wake County
22.	City of Henderson	49.	Town of Wake Forest
23.	Henderson County	50.	Watauga County
24.	Town of Highlands	51.	Village of Whispering Pines
25.	City of High Point	52.	City of Wilson
26.	Town of Holly Springs	53.	Winston-Salem/Forsyth County
27.	Iredell County	54.	Town of Waxhaw

Source: Program Evaluation Division based on information from DEMLR.



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

S. DANIEL SMITH
Interim Director

January 4, 2019

John W. Turcotte, Director
Program Evaluation Division
300 N. Salisbury Street, Suite 100
Raleigh, NC 27603-5925

Subject: Department of Environmental Quality - Formal Response Letter
Program Evaluation Division's Examination of the State's
Sedimentation Control Program -
Division of Energy, Mineral and Land Resources

Dear Mr. Turcotte:

Prior to the receipt of the Program Evaluation Division's report, the Department of Environmental Quality initiated a systematic effort to enhance: 1) implementation of regulatory programs as related to land disturbance, 2) promote and affect statewide consistency, 3) improve staff training, and 4) to strengthen central office oversight and program support roles to regional offices and delegated programs for Division Energy, Mineral, and Land Resources (DEMLR).

To accommodate these efforts, the following program elements are proposed for development, updating, and implementation by January 1, 2020:

Regional Office and Central Office - Expectations Document. DEMLR will develop and/or update the existing expectation documents for both the Central Office and Regional Offices. This will include review, inspection, risk assessment, database management, delegated program oversight, compliance expectations, and annual program goals.

As a part of this effort, each Regional Office (RO) will assign work and document oversight by considering risk and other spatial concerns for land disturbance projects. These expectations documents are intended to be a tool to affect consistency, efficiency, oversight, and provide the autonomy required for program staff to respond to compliance and outreach needs in each region.

Assistance and Compliance Oversight Workgroup & Unit. DEMLR is developing an Assistance and Compliance Oversight Unit to further support field staff, develop compliance documents, affect consistency, assist with implementation of local programs, and to improve data management.



North Carolina Department of Environmental Quality | Division of Energy, Mineral and Land Resources
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- **Field Staff Support.** This Unit will actively build relationships with RO inspectors (staff) and systematically participate on inspections with all seven ROs. The purpose is to affect consistency and provide program outreach. Assistance to field staff may include how to conduct and document inspections, as well as the review or preparation of inspection letters, Notices of Violation (NOVs), restoration approaches, and/or development of compliance documents.
- **Compliance Documents.** The Assistance Unit will also expand on existing processes by ensuring personnel have compliance tools (template letters, NOVs, CPA, and other documents), and the skill sets to draft inspection letters, conduct inspections, evaluate compliance, and make recommendations for site restoration.
- **Consistency Meetings.** The Assistance Unit will develop recurring East/West Regional Office Consistency meetings. (**East Regions:** WiRO, WaRO, FRO, RRO; **West Regions:** ARO, MRO, WSRO). The subjects discussed and presented at these Consistency Meetings will build on themselves, becoming increasingly more advanced/diverse going forward. The Consistency Meetings will address inspections issues, compliance remedies, restoration approaches, ways to assist local programs and affect outreach, etc. This process, including the interaction with other ROs, will help maintain/sustain skill sets in response to staff turnover.
- **Local Delegated Program.** Both the ROs and the Assistance Unit will work with and oversee local programs. This will include development of joint local government and RO inspection approaches. Inspection locations will be based on risk, complaints, if any, and other criteria relevant to the region. This effort will allow DEMLR staff to routinely work with local programs to ensure all delegated program elements are in place.

The Assistance Unit will then be able to systematically review the field results from these visits, send written correspondence to local programs to document findings, and request written responses to address programmatic deficiencies, as appropriate.

- **Database Management.** The Assistance Unit will collect and evaluate plan approval data submitted by each RO and local program. Compliance evaluation inspections, deficient/noncompliance inspection results, NOVs, and enforcement data will be collected on project site bases for each RO. This information (data analysis) will be used to help determine how to focus staff assistance and compliance efforts going forward.

Implementation and Reporting Schedule. The development of the Expectations Document and the creation of the Assistance and Compliance Oversight Workgroup or Unit will be completed by July 1, 2019, and a status update will be provided to the Sediment Control Commission at that time. It is DEQ's intention that the program elements listed above will continuously be revisited, enhanced, and modified, as appropriate. This is necessary due to staff turnover (CO, ROs, and local programs) and as data reveals program gaps or inefficiencies to be addressed. Accordingly, DEQ will submit annual status results/updates to the Sediment Control Commission starting in January 2020.

Program Evaluation Division's Report Recommendation and DEQ response:

Given DEQ's proposal, please see the listed response to the PED's recommendations below:

1) The General Assembly should amend state law to outline reporting requirements for delegated local programs and mandate that the Erosion and Sedimentation Control program review delegated local programs at least once every five years.

- ***Local Program Reporting.*** DEQ supports PED's recommendation to amend state law to outline reporting requirements for delegated Erosion and Sedimentation Control local programs.
- ***Local Program Review Frequency.*** DEQ supports the need to increase local program review frequencies, but does not recommend amending state law. Rather, it is DEQ's position that a remedy is best accomplished through implementation of the new program information management system, new expectations and roles of ROs, and a new Assistance and Compliance Oversight Unit. Further, DEMLR will be reporting the delegated program data/results to the Sediment Control Commission on an annual basis.

Note:

- All data collected for this study was requested through fiscal year 2017-2018 and does not consider data or improvements made since June 30, 2018.
- Since April of 2017, there has been a steady increase in both the number of programs reporting on their operations as well as the number of programs reviewed by the DEMLR.
- Programs have been reviewed at an average rate of six to seven per quarter, which is approaching or has exceeded target rate of reviews for all 54 local programs. The PED's determination on local program oversight should not imply that local governments are not meeting their program obligations.
- The contact information collected for 100% of local government programs is current as of September 2018.
- In the summer of 2018, a new reporting mechanism was developed to take advantage of online reporting capabilities.
- SharePoint reporting was launched in July of 2018. (Current users have communicated increased ease in reporting.)

2) The General Assembly should direct the Department of Environmental Quality's Division of Energy Mineral and Land Resources to formally collect, maintain, monitor,

and report data on its internal target of 25 days for review and determination of erosion and sedimentation control plans.

- ***Internal review target.*** DEQ supports PED's recommendation to collect data and analyze the internal target of 25 days for review of the erosion and sedimentation control plans.
- ***Reporting Results of Internal Target.*** DEQ supports PED's recommendation to report the results the internal target of 25 days for review to the Sedimentation Control Commission.

3) The General Assembly should direct the Sediment Control Commission to develop administrative rules to include the use of site-specific risk factors to prioritize monitoring and compliance activities.

- ***Site-Specific Risk Factors.*** It is DEQ's position that development of or modification to the Administrative Code is not necessary. DEQ agrees with PED that "risk-based management" is an appropriate management approach. DEQ will develop and implement risk-based inspection approaches specific to each of the seven regions. From these results, DEMLR will report to the Sedimentation Control Commission on both the approaches developed and the respective inspection results. The information generated from these efforts can then be considered during rule development, as appropriate. At the end of 2020, the analysis will include a recommendation for Sedimentation Control Commission consideration.

4) The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to abide by inspection policies and coordinate with the regulated community for the performance of site inspections.

- *It is DEQ's position that this finding will be addressed through updates to expectations documents and the creation of a new Assistance and Compliance Oversight Unit. Further, DEMLR will be reporting these inspection results and outreach efforts to the Sedimentation Control Commission on an annual basis.*
 - **Note:**
 - To be clear, for active sites, DEMLR inspectors regularly meet with the regulated community on inspections. Observations are communicated while onsite to managers, contractors, design consultants, or owners that are present during the inspection. Also, all inspection reports are provided in writing. Plan reviews, on-site discussions during inspections, inspection reports, letters, and NOV's etc. all provide opportunities to communicate the requirements of the Sediment Control Plan Act and how to comply with approved erosion and sediment control plans.
 - The PED's calculated "Time per FTE" did not account for inspection times or project size and is not an adequate measure of the time spent per employee per week on monitoring and compliance activities.
 - Failure of a financially responsible party to respond to inspection requests cannot be allowed to impede site access and inspection necessary to assess compliance.

This item is best addressed through a Regional Office expectations and outreach documents developed by the DEMLR Compliance Oversight Unit.

- 5) The General Assembly should amend state law to reduce dependence on appropriations by increasing erosion and sedimentation control plan review fees to \$125 per acre of disturbed land to fully support the cost of erosion and sediment control programs operations.**

If PED recommends a fee increase for the E&SC programs, DEQ would propose an alternative approach to a flat fee as described below.

- **Risk and Resources-based tiered fee structure.** * This recommended approach is based on a project's size. The table below depicts a simple tiered structure. As the disturbance acreage increases, so too will the plan review times, inspection times, frequency of inspections, complaints, and potential risk. In short, the fees increase as disturbed area is increased.

Percentiles Disturbed Area: FY 17-18	Acres	Proposed Fee/acre
50%	0 > 5	\$120
50% > 90%	5 > 25	\$185
≥ 90%	25 ≥	\$250

Whether or not a flat fee approach or a tiered structure is developed, appropriations will still be necessary to ensure the Agency can be responsive to economic increases, avoid program implementation gaps, and mitigate the immediate need to cut staff or operations when development slows.

*Note: Several years ago, the Sediment Control Commission agreed with increasing the flat fee to \$170.

- 6) The General Assembly should direct the Department of Environmental Quality's Division of Energy, Mineral and Land Resources to establish information management policies and a performance management system for the Erosion and Sediment Control program.**

- *DEMLR's Compliance Assistance Workgroup is in the process of developing a performance management system. DEMLR is working with the NC Department of Information Technology (DIT) as one of the first programs within the DEQ to develop an online permit tracking and reporting tool for all program-related operations and management functions. The goal of this effort is to streamline the permitting process for both DEMLR and the regulated community. The reporting aspects of this database model will include the ability to collect and track*

statistics for meeting internal targets as well as those required by the Sedimentation Control Commission.

- *It is DEQ's position that while this finding is indeed valid, formal direction to establish management policies and a performance management system from the General Assembly is not necessary.*
- *Work towards developing the online permit tracking and reporting tool began mid-2018 and is expected to be ready for testing by the end of 2019. DEMLR will report its progress on information management to the Sediment Control Commission on an annual basis.*

Summary

The Division of Energy, Mineral, and Land Resources (DEMLR) is responsible for implementing state and federal delegated permitting programs, state rules, permits and approvals for all new development/land disturbing activities for North Carolina, and the for oversight of local and State delegated erosion and sediment control programs. DEQ agrees with the findings that Sediment programs and NPDES construction stormwater are not duplicative. Lastly, DEQ believes that the development of Central Office and Regional Office Expectation Documents, Assistance and Compliance Oversight Workgroup and Unit, and the recommended tiered fee structure are the requisite actions and suggestions necessary to achieve enhanced program implementation.

These efforts along with the updates and annual reporting to the Sediment Control Commission on the E&SC program address all of the Program Evaluation Division's Report findings and recommendations. We thank you for the opportunity to comment on the subject report.

If you have any questions or wish to discuss these matters further, please do not hesitate to contact S. Daniel Smith, Interim Director Division of Energy, Mineral, and Land Resources at (919) 707-9222.

Sincerely,



Sheila Holman, Assistant Secretary
Department of Environmental Quality

Cc: S. Daniel Smith, Interim Director
Division of Energy Mineral and Land Resources