

# Division of Mitigation Services 2021-22 Annual Report

DMS-WIDE

FLOOD MITIGATION  
AND PLANNING

APPENDICES

REGULATORY  
ADDENDUM

NCDOT  
PROGRAM

STATEWIDE  
PROGRAM

RIPARIAN BUFFER  
PROGRAM

NUTRIENT OFFSET  
PROGRAM

MISSION: To provide cost-effective mitigation alternatives that improve the state's water resources.



# Executive Summary

In fiscal year (FY) 2021-22, the NC Division of Mitigation Services (DMS):

- Assisted the North Carolina Department of Transportation (NCDOT) in obtaining permits for 68 transportation projects by providing 26,741 stream mitigation credits and 109.85 wetland mitigation credits.
- Assisted customers with 245 development projects in the Statewide Stream and Wetland, Riparian Buffer, and Nutrient Offset In-Lieu Fee (ILF) Programs by providing:
  - 97,639.5 stream credits,
  - 50.849 wetland credits,
  - 2,378,160 credits of buffer mitigation (equivalent to 54.6 ac buffer restoration)
  - 90,790 pounds of nitrogen reduction, and
  - 1,441 pounds of phosphorus reduction.
- The 2021-2022 fiscal year represented a large increase from recent years in the number of development projects and amounts of mitigation serviced.
- DMS received funding for the Natural Infrastructure Flood Mitigation Program (NIFMP). Specifically, DMS received \$3.5 million for a pilot project in the Stoney Creek watershed.
- DMS also received \$20 million to develop a Statewide Flood Mitigation Blueprint.



# Program-Wide

The FY 2021-2022 DMS annual report fulfills statutory and regulatory reporting requirements as detailed in the 2010 NCDEQ/DMS In-Lieu Fee Instrument governing in-lieu fee programs for stream & wetland mitigation and the Federal Rules in 33 CFR Parts 325 and 332 & 40 CFR Part 230, and North Carolina G.S. §143-214.13.

DMS operates four in-lieu fee programs:

- NC DOT Statewide Stream and Wetland ILF
- Statewide Stream and Wetland ILF
- Riparian Buffer ILF, and
- Nutrient Offset ILF Program

And also implements Flood Mitigation and Planning.



# Property



- During FY 2021-2022, the State Property Office closed 18 conservation easement transactions totaling **339** acres associated with DMS' projects.
- All properties that closed during FY 2021-2022 are shown in [Appendix A-1](#).
- A full inventory of all properties associated with DMS projects acquired to date is presented in [Appendix A-2](#).
- More than 80,000 acres of conservation land or conservation easements have been acquired by DMS and partners to date.
- A full list of DMS projects is in Appendices [A-3](#), [A-4](#), [A-5](#), and [A-6](#).



# Program Costs

Recent credit costs were summarized by analyzing full delivery contracts and mitigation bank purchases awarded over the last three fiscal years. The data includes project contracts, admin, overhead, and other costs required to complete these projects. The program rates for the last three years are also summarized.

CREDIT TYPE	RANGE OF RECENT CREDIT COSTS PER CREDIT	PROGRAM RATES**
Stream	\$299 to \$529	\$525.65 to \$603.87
Freshwater Wetland	\$25,000 to \$106,400	\$52,273.99 to \$149,604.11
Coastal Marsh Wetland	N/A*	\$560,000
Riparian Buffer	\$0.45 to \$3.50	\$0.94 to \$4.69
Nutrient Offset Nitrogen	\$7.85 to \$150	\$8.47 to \$136.25
Nutrient Offset Phosphorus	\$110 to \$111.21	\$120.03 to \$689.59

\*DMS did not implement any Coastal Marsh wetland projects in the last three fiscal years.

\*\*Program rates are set using the Actual Cost Method, which is a full cost accounting method and may result in premium rates in high costs watersheds.



# Cost Analysis of Private Mitigation Banks

Reporting requirements of G.S. §143 214.13 require DMS to compare project costs with private mitigation bank rates. For this analysis, DMS used the actual submitted prices for mitigation bank credits from requests for bids in the last fiscal year. A complete list of purchased bank credits during 2021-2022 are listed in [Appendix B](#).

MITIGATION TYPE	RANGE OF BANK PRICES PER CREDIT
Stream Mitigation Credits	\$425 to \$800
Riparian Wetland Mitigation Credits	\$41,819 to \$120,000
Non-Riparian Wetland Mitigation Credits	\$40,000 to \$75,000
Coastal Marsh Mitigation Credits	None Submitted
Riparian Buffer Mitigation Credits	\$0.85 to \$3.50
Nitrogen Offset Credits	\$9.24 to \$180.00
Phosphorus Offset Credits	\$130.83 to \$350.00



# Advance Credits



DMS' in-lieu fee mitigation instrument allocated advance credits by river basin and eight-digit cataloging units. Pursuant to this operating agreement, this annual report includes a summary of the status and use of "Advance Credits" as defined by federal rules in Appendix C.



# Mitigation Losses and Gains

G.S. §143-214.13 requires DMS to document statewide wetland losses and gains and compensatory mitigation performed under G.S. §143-214.8 through G.S. §143-214.12. The data below have been provided by the Division of Water Resources (DWR\*) and reflect permitting by the Department of Environmental Quality (DEQ). This remainder of this report documents DMS compensatory mitigation. Complete lists of DMS mitigation requirements and assets are provided in the Regulatory Addendum.

<b>DWR Quarterly Reports for 7/1/2021 through 6/30/2022</b>					
<b>Streams (Linear Feet)</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>YTD</b>
Lost from permitting	49,031	33,042	68,549	29,375	179,997
Gained from permitting (mitigation)	6,015	3,375	41,526	1,649	52,565
<b>Wetlands (Acres)</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>YTD</b>
Lost from permitting	32.23	14.89	67.55	19.42	134.09
Gained from permitting (mitigation)	11.91	7.57	17.17	10.12	46.78
<b>Riparian Buffers (Acres)</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>YTD</b>
Lost from permitting	14.92	12.78	8.87	143.06	179.63
Gained from permitting (mitigation)	3.23	12.78	5.22	11.11	32.33

\* Data is from the DWR database only. Due to permit processes, mitigation and impacts may not (usually do not) occur in the same quarter. Data may include impacts to resources that do not require mitigation (under required thresholds, for example). Due to versions and revisions, different versions of the same project may occur in the same reporting period causing a double calculation of impacts. As of May 4, 2017, the stream mitigation threshold requirements changed. Only impacts 300 lf or greater of perennial stream require mitigation. As of June 15, 2020, the wetland mitigation threshold requirements changed. Impacts 0.10 acre or greater of wetlands require mitigation. Mitigation required by USACE applicable to permitted impacts is not tracked by DWR.





# Flood Mitigation and Planning

STONEY CREEK

FUND STATUS

BLUEPRINT

EXPENDITURES

DMS' newest mission is to identify and reduce flood risks through flood resiliency planning and the implementation of natural infrastructure projects.



# Flood Mitigation and Planning

## Stoney Creek

- In the 2021 Appropriations Act, DMS received \$3.5 million in appropriations to create one or more pilot projects addressing chronic flooding in the Stoney Creek watershed impacting businesses, roadways, and access to emergency services in Wayne County and Goldsboro.
- The pilot projects shall also serve as the basis for expanding natural infrastructure flood mitigation projects to additional watersheds and scaling solutions to enhance community resiliency across North Carolina.
- DMS expects to be under contract in 2022-2023 for the Stoney Creek Pilot Project.



# Flood Mitigation and Planning

## NC Flood Resiliency Blueprint

- The 2021 Appropriations Act provided \$20 million for DMS to develop North Carolina's first Flood Resiliency Blueprint. The blueprint is a statewide watershed planning effort to establish a framework and tools to assist local communities in decision-making related to reducing flood risk and increasing resilience.
- Goals
  - Identify sources and types of flooding.
  - Account for existing resilience efforts, programs and funding sources.
  - Inventory data & identify data gaps.
  - Develop visualization and decision-making tools that quantify and map flood risk, match appropriate resilience tools and tactics to areas of risk, match available funding sources to specific actions, and prioritize specific actions.
  - Make recommendations for statewide implementation, including governance and decision-making structures, future blueprint iteration management, watershed-scale stakeholder engagement, and stewardship of projects that receive state funding.



# Flood Mitigation and Planning

(2545, 2546)

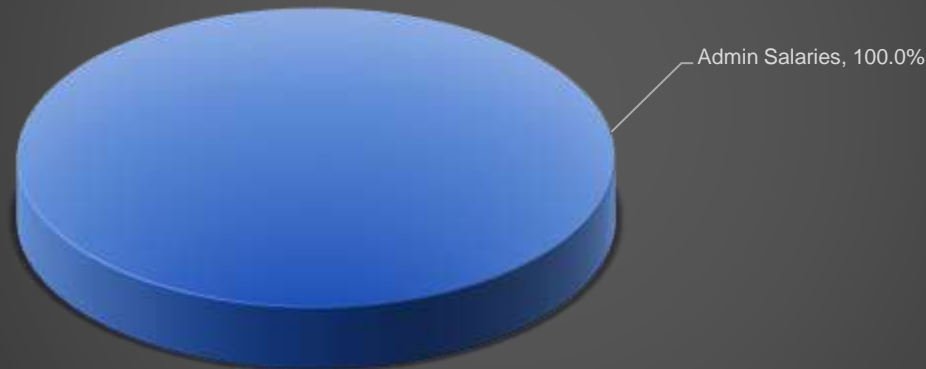
<b>Beginning Cash</b>	<b>\$0</b>
Revenues	\$ 23,500,000.00
Expenditures	\$ 39,387.75
Adjustment To Cash Basis	\$0
<b>Ending Cash and Bond Balance</b>	<b>\$ 23,455,752.25</b>



# Flood Mitigation and Planning

This figure summarizes the expenditures by payment type for the Natural Infrastructure Flood Mitigation Program and the blueprint. [Appendix E](#) provides a full listing of the expenditures by fund.

**\$ 39.4 Thousand Total in 2021-2022**



# DMS ILF Programs

NCDOT  
Stream &  
Wetland

Statewide  
Stream &  
Wetland

Riparian  
Buffer

Nutrient  
Offset

Each of the four DMS in-lieu fee programs are financially independent funds that operate solely on receipts and do not receive any appropriations from the General Assembly.



# DMS Program Fiscal Summary

Detailed information showing the FY 2021-2022 fund status for each of the DMS in-lieu fee programs.

	NCDOT In-Lieu Fee Program	Statewide Stream & Wetland In-Lieu-Fee Program	Riparian Buffer In-Lieu-Fee Program	Nutrient Offset In-Lieu Fee Program	Natural Infrastructure Flood Mitigation Program
<b>Beginning Cash</b>	<b>\$3,015,637.20</b>	<b>\$50,735,884.37</b>	<b>\$16,126,802.10</b>	<b>\$7,127,636.50</b>	<b>\$0</b>
Revenues	\$31,827,882.95	\$64,079,429.38	\$5,636,252.87	\$2,634,902.92	\$23,500,000.00
Expenditures	\$32,351,529.29	\$14,193,066.45	\$4,858,954.97	\$1,724,520.81	\$39,387.75
Adjustment to Cash Basis	\$0	\$4,252.24	\$0	\$27,223.88	\$0
Allow-FV Bond Index Fund	\$0	\$(58,642.28)	\$0	\$(30,979.69)	\$0
Bond Index Fund	\$0	\$229,525.57	\$0	\$1,188,058.86	\$0
Equity Index Fund	\$0	\$1,520,210.51	\$0	\$0	\$0
<b>Ending Cash and Cash Equivalents</b>	<b>\$2,491,990.86</b>	<b>\$102,313,614.10</b>	<b>\$16,894,054.00</b>	<b>\$9,195,097.78</b>	<b>\$23,455,752.25</b>



# NCDOT Stream & Wetland ILF

REQUIREMENTS

FUND STATUS

EXPENDITURES



COMPLIANCE

INVENTORY





# NCDOT Stream & Wetland ILF

- ❖ The goal of this program is to produce mitigation credits to offset anticipated impacts from the implementation of the NCDOT seven-year Strategic Transportation Improvement Program (STIP). Anticipated impacts are provided to DMS by the Natural Environment Unit at NCDOT.
- ❖ In fiscal year 2021-2022 DMS provided mitigation for 68 NCDOT transportation permitted projects requiring stream and/or wetland mitigation.
- ❖ For these NCDOT projects, DMS is providing 26,741 stream mitigation credits and 109.85 wetland mitigation credits.
- ❖ Appendix D-1 provides NCDOT Stream and Wetland Program permitted requirements for fiscal 2021-22.



# NCDOT Stream & Wetland ILF Fund Status

(2984, 2984-9310,2930-9303,)

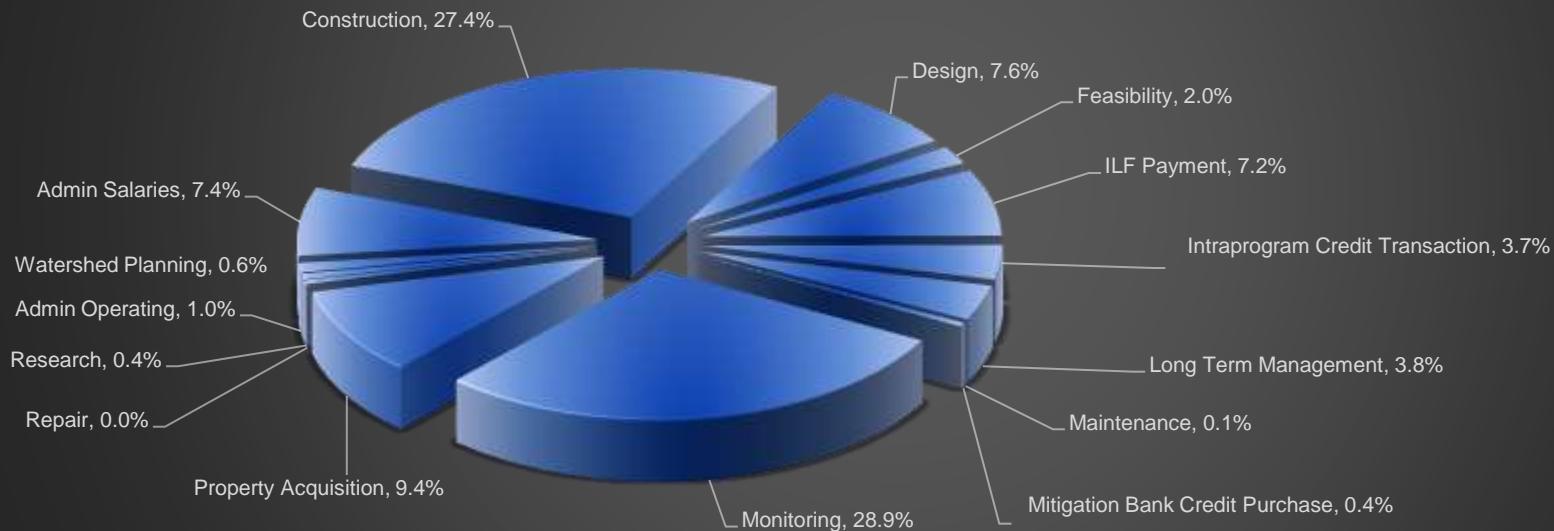
<b>Beginning Cash</b>	<b>\$3,015,637.20</b>
Revenues	\$31,827,882.95
Expenditures	\$32,351,529.29
Adjustment To Cash Basis	\$0
<b>Ending Cash and Bond Balance</b>	<b>\$2,491,990.86</b>



# NCDOT Stream & Wetland ILF Expenditures

This figure summarizes the expenditures by payment type for the NCDOT Stream and Wetland ILF Program. [Appendix E](#) provides a full listing of the expenditures by fund.

## \$ 32.4 Million Total in 2021-2022



# NCDOT Stream & Wetland ILF Compliance

The NCDOT Stream and Wetland ILF Program is a national leader in producing compensatory mitigation in advance of unavoidable environmental impacts. Since 2003, the agreements between NCDOT, NCDEQ, and the U.S. Army Corps of Engineers have allowed NCDOT to move forward with more than \$25 billion in road development projects without delays associated with compensatory mitigation. Regulatory Addendum IV provides a detailed compliance action strategy by cataloging unit.

DOT Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)	Total Advanced Mitigation * (unassigned)
Stream	1,092,809.200	1,092,809.200	0	100.00%	609,148.901
Wetlands	2,574.239	2,574.239	0	100.00%	8,644.129

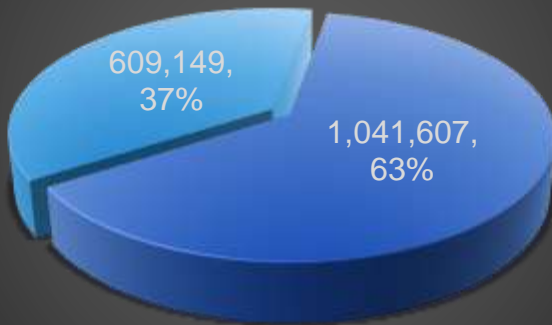
*\*Includes surplus credits developed by NCDOT and managed by DMS*



# NCDOT Stream & Wetland ILF Inventory

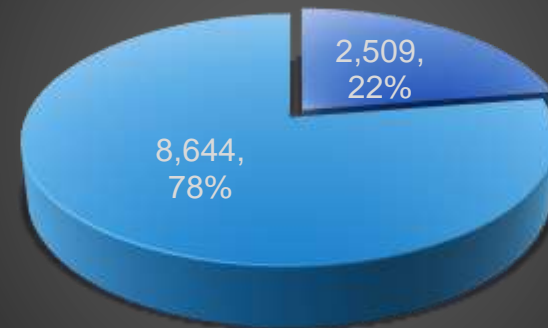
The NCDOT Stream and Wetland ILF Program's gross inventory\* totaled 1,653,149 stream credits and 11,165 wetland credits. A large portion of these credits are unassigned and available for future permit requirements as projected in the state's Strategic Transportation Improvement Program. Detailed information about the NCDOT Stream and Wetland ILF Program Gross and Net inventories can be found in Appendices F-1 and F-2 (for non HQP), and F-3 and F-4 (for HQP).

## Stream Inventory fiscal 2021-22



■ Applied Credits (59%) ■ Unassigned Credits (41%)

## Wetland Inventory fiscal 2021-22



■ Applied Credits (22%) ■ Unassigned Credits (78%)

*\*Includes surplus credits developed by NCDOT and managed by DMS.  
Unassigned credits are generated for future development.*



# Statewide Stream & Wetland ILF

REQUIREMENTS

FUND STATUS

EXPENDITURES

COMPLIANCE

INVENTORY



# Statewide Stream & Wetland ILF

- ❖ In fiscal year 2021-2022, DMS accepted 143 new customer ILF payments into the Statewide Stream and Wetland ILF Program, totaling \$62,632,487.45, a 355 percent increase from the prior year.
- ❖ These 143 customer payments represent 113 development projects, 20,592.925 stream credits and 34.943 wetland credits.
- ❖ Appendix D-2 provides Statewide Stream and Wetland ILF Program fiscal year 2021-2022 receipts and requirements.



# Statewide Stream & Wetland ILF Fund Status

(2981, 2937)

<b>Beginning Cash</b>	<b>\$50,735,884.37</b>
Revenues	\$64,079,429.38
Expenditures	\$14,193,066.45
Adjustment to Cash Basis	\$4,252.24
Allow-FV Bond Index Fund	\$(58,642.28)
Bond Index Fund	\$229,525.57
Equity Index Fund	\$1,520,210.51
<b>Ending Cash and Bond Balance</b>	<b>\$102,313,614.10</b>

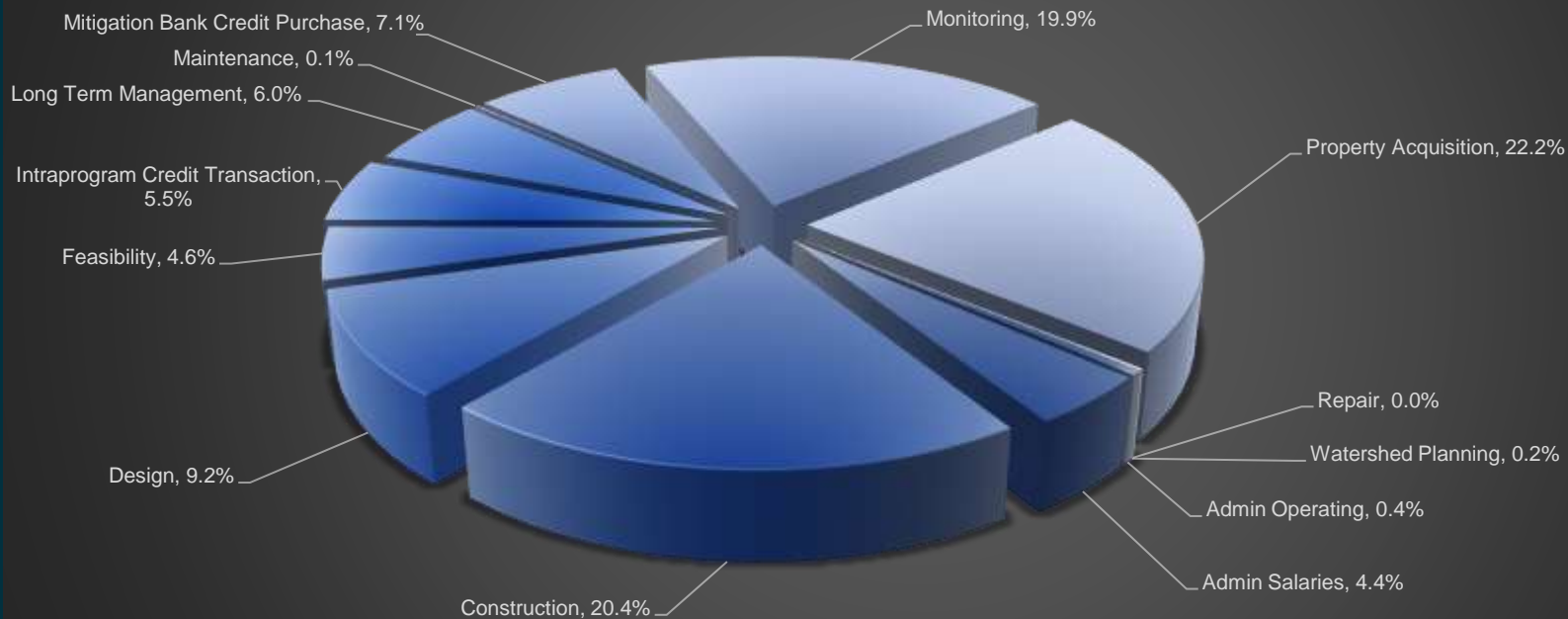




# Statewide Stream & Wetland ILF Expenditures

This figure summarizes the expenditures by payment type for the Statewide Stream and Wetland ILF Program. [Appendix E](#) provides a full listing of the expenditures by fund.

**\$14.2 Million Total Fiscal 2021-2022**



# Statewide Stream & Wetland ILF Compliance

For fiscal year 2021-2022, the Statewide Stream and Wetland ILF Program had satisfied 100 percent of all stream requirements and 100 percent of all wetland requirements. DMS continues to implement projects to address all of its permit requirements. Regulatory Addendum IV provides a detailed compliance action strategy by cataloging unit.

Statewide Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)	Total Advanced Mitigation (Unassigned)
Stream	785,639.915	785,639.915	0	100.00%	136,643.670
Wetlands	1,534.296	1,534.296	0	100.00%	337.428



# Statewide Stream & Wetland ILF Program Inventory

The Statewide Stream and Wetland ILF Program's gross inventory totaled 702,159.754 stream credits and 1,611.772 wetland credits. Detailed information about the Statewide Stream and Wetland ILF Program Gross and Net Inventories can be found in Appendices [F-5](#) and [F-6](#).

## Stream Inventory Fiscal 2021-22

Unassigned Credits, 136,644,  
19%



■ Applied Credits   ■ Unassigned Credits

## Wetland Inventory Fiscal 2021-22

Unassigned Credits, 337.43,  
21%



■ Applied Credits   ■ Unassigned Credits

*Unassigned credits are generated for future development.*



# Riparian Buffer Mitigation ILF

REQUIREMENTS

FUND STATUS

EXPENDITURES

COMPLIANCE &  
INVENTORY



# Riparian Buffer Mitigation ILF

- ❖ In fiscal year 2021-2022, DMS received 34 new customer payments into the Riparian Buffer Mitigation Program, totaling \$3,311,335.47. Payments this year represented a 200 percent increase from the prior year.
- ❖ These 34 customer payments represent 2,378,160 credits of buffer mitigation – equivalent to 54.6 acres of buffer restoration.
- ❖ Approximately 77.4 percent of the fiscal 2021-22 requirements came from fifteen NCDOT projects.
- ❖ Appendix D-3 provides Riparian Buffer Program fiscal 2021-2022 receipts and requirements.



# Riparian Buffer ILF Fund Status

(29CA, 29CF, 29NE, 29TP, 29YA)

<b>Beginning Cash</b>	<b>\$16,126,802.10</b>
Revenues	\$5,636,252.87
Expenditures	\$4,858,954.97
Bond Index Fund	\$0
<b>Ending Cash and Bond Balance</b>	<b>\$16,894,054.00</b>

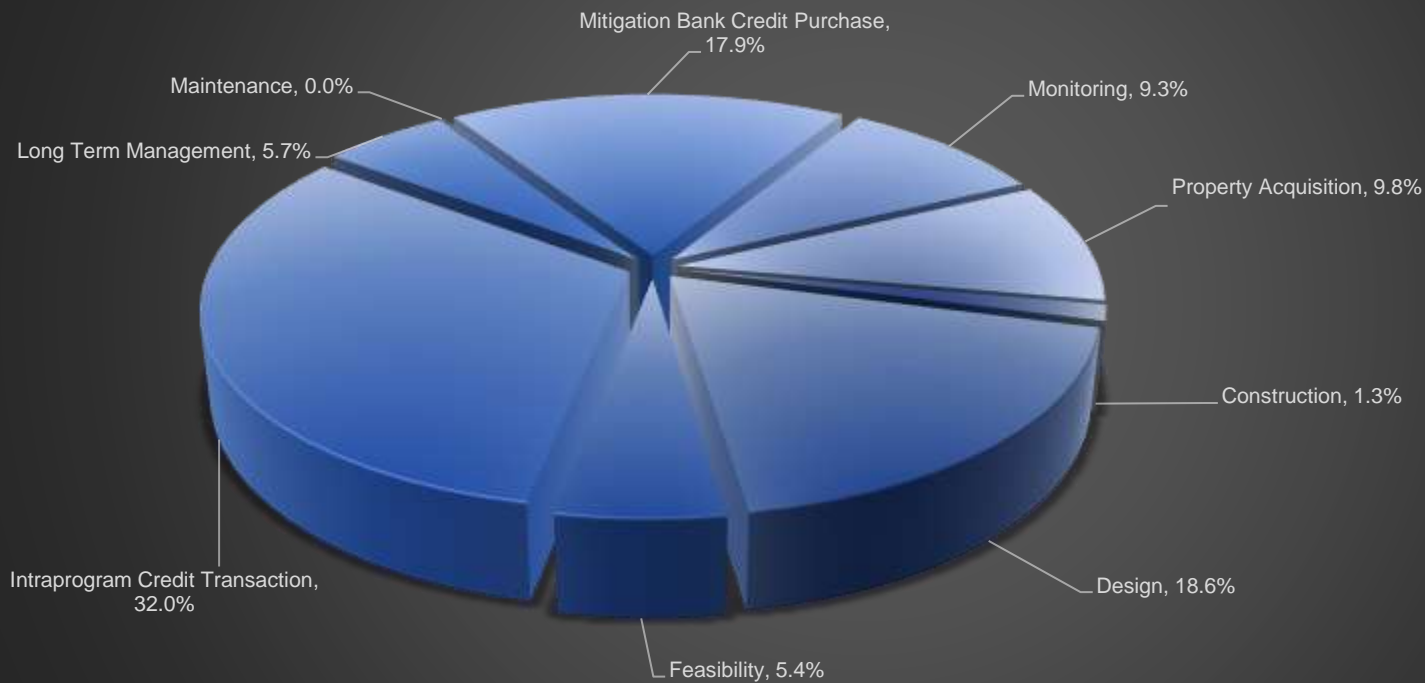
This table summarizes the finances of all five riparian buffer river basin funds.



# Riparian Buffer ILF Expenditures

This figure summarizes the expenditures by payment type for the Riparian Buffer Mitigation ILF Program. [Appendix E](#) provides a full listing of the expenditures by fund.

**\$4.9 Million Total Fiscal 2021-22**



# Riparian Buffer ILF Compliance and Inventory

Detailed information about the Riparian Buffer ILF Program's compliance action strategy can be found in [Regulatory Addendum IV](#) and about the program's gross and net Inventories can be found in Appendices [F-7](#) and [F-8](#).

Buffer Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance	Total Advanced Mitigation (Unassigned*)
Cape Fear	12,426,326.710	11,652,381.301	773,945.409	93.77%	432,075.012
Catawba	208,825.000	208,825.000	0	100.00%	0
Neuse	34,136,625.330	34,136,625.330	0	100.00%	183,752.917
Tar-Pamlico	5,518,521.910	5,518,521.910	0	100.00%	344,545.746
Yadkin	683,587.000	683,587.000	0	100.00%	38,681.333
Grand Total	52,973,885.95	52,199,940.54	773,945.409	98.54%	999,055.008

*\*Unassigned credits are generated for future development.*





# Nutrient Offset ILF

REQUIREMENTS

FUND STATUS

EXPENDITURES

COMPLIANCE &  
INVENTORY



# Nutrient Offset ILF

- ❖ In fiscal 2021-2022, DMS received 98 customer payments into the Nutrient Offset ILF Program, totaling \$2,625,375.64, a 272 percent increase from the prior fiscal year.
- ❖ These 98 customer payments represent reductions of 90,790 pounds of nitrogen and 1,441 pounds of phosphorus.
- ❖ DMS did not receive any nutrient refund requests during the 2021-2022 fiscal year.
- ❖ Appendix D-4 provides Nutrient Offset Program fiscal 2021-2022 receipts and requirements.



# Nutrient Offset ILF Fund Status

(2982-9829)

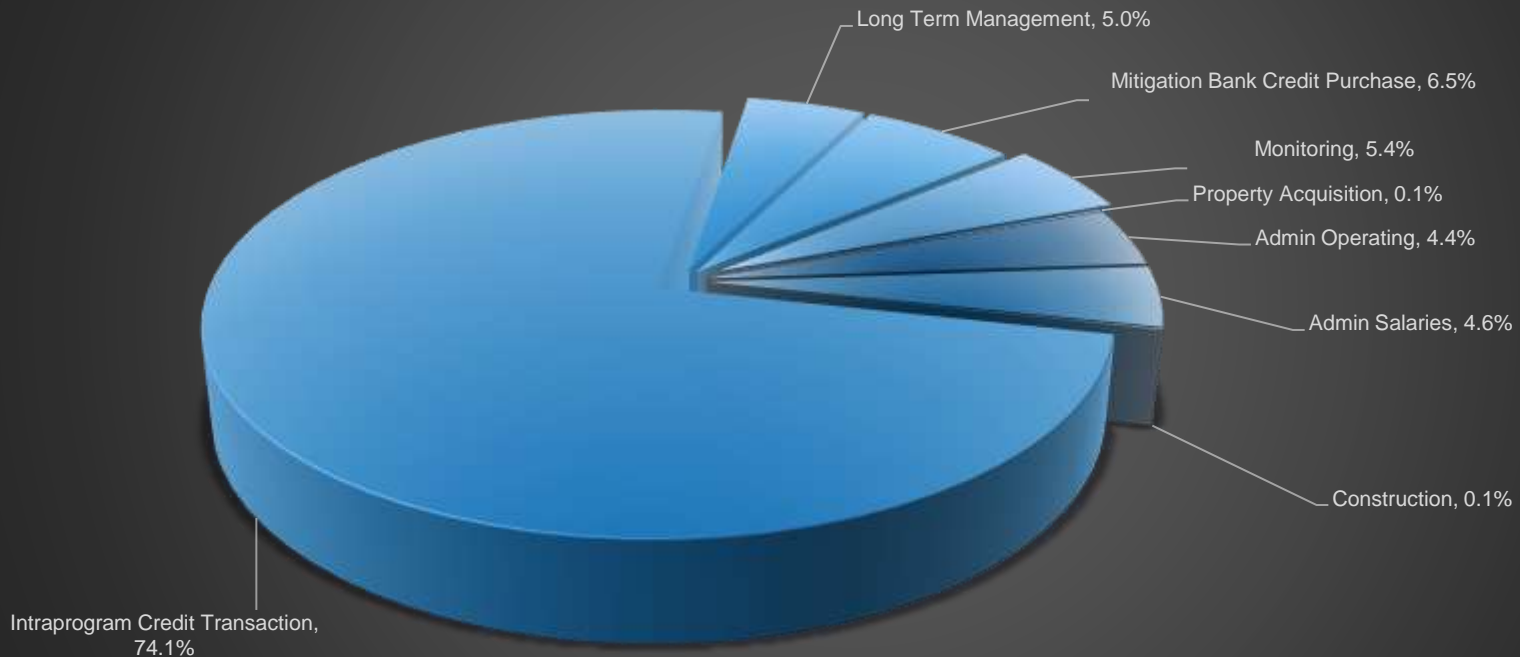
<b>Beginning Cash</b>	<b>\$7,127,636.50</b>
Revenues	\$2,634,902.92
Expenditures	\$1,724,520.81
Adjustment to Cash Basis	\$27,223.88
Allow-FV Bond Index Fund	\$(30,979.69)
Bond Index Fund	\$1,188,058.86
Equity Index Fund	\$0
<b>Ending Cash Balance</b>	<b>\$9,195,097.78</b>



# Nutrient Offset ILF Expenditures

This figure summarizes the expenditures by payment type for the Nutrient Offset ILF Program. [Appendix E](#) provides a full listing of the expenditures by fund.

**\$1.7 Million Total Fiscal 2021-22**



# Nutrient Offset ILF Compliance and Inventory

DMS accepts payments for nitrogen reduction in the Neuse basin and nitrogen and phosphorus reductions in the Tar-Pamlico basin, the Falls Lake watershed and in the Jordan Lake watershed. Detailed information about the Nutrient Offset ILF Program's gross and net inventories can be found in Appendices F-9 and F-10, and the program's compliance action strategies can be found in Regulatory Addendum IV.

Nutrient Offset Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)	Total Advanced Mitigation (Unassigned*)
Falls Nitrogen	15,516.980	15,516.980	0.000	100.00%	65,950.580
Falls Phosphorus	4,963.435	4,963.435	0.000	100.00%	205.897
Jordan Nitrogen	53,924.450	44,201.248	9,723.202	81.97%	0.002
Jordan Phosphorus	18.420	6.190	12.230	33.60%	1,543.037
Neuse Nitrogen	1,381,806.390	1,381,806.390	0.000	100.00%	115,630.109
Tar Pamlico Nitrogen	150,306.060	150,306.060	0.000	100.00%	35,563.148
Tar Pamlico Phosphorus	12,019.209	11,906.937	112.272	99.07%	632.810
<b>Grand Total</b>	<b>1,618,554.944</b>	<b>1,608,707.240</b>	<b>9,847.704</b>	<b>99.39%</b>	<b>219,525.583</b>

*\*Unassigned credits are generated for future development.*



# Appendices

<b>Appendix A - Property</b>	<b>A-1. <u>Closed Fiscal Year</u></b>	<b>Appendix F - Inventory</b>	<b>F-1. <u>NCDOT Gross Assets (no HQP)</u></b>
	<b>A-2. <u>Cumulative Properties</u></b>		<b>F-2. <u>NCDOT Net Assets (no HQP)</u></b>
	<b>A-3. <u>Non-HQP Site List</u></b>		<b>F-3. <u>NCDOT Gross Assets (HQP)</u></b>
	<b>A-4. <u>HQP Site List</u></b>		<b>F-4. <u>NCDOT Net Assets (HQP)</u></b>
<b>Appendix B - Mitigation Bank Costs</b>	<b>A-5. <u>Riparian Buffer ILF Projects</u></b>		<b>F-5. <u>Statewide Gross Assets</u></b>
	<b>A-6. <u>Nutrient Offset ILF Projects</u></b>		<b>F-6. <u>Statewide Net Assets</u></b>
<b>Appendix C - Advance Credits</b>	<b>C. <u>Advance Credit Summary</u></b>		<b>F-7. <u>Riparian Buffer Gross Assets</u></b>
	<b>D-1. <u>NCDOT FY Requirements</u></b>		<b>F-8. <u>Riparian Buffer Net Assets</u></b>
<b>Appendix D - FY Requirements</b>	<b>D-2. <u>Statewide FY Requirements</u></b>		<b>F-9. <u>Nutrient Offset Program Gross Assets</u></b>
	<b>D-3. <u>Riparian Buffer FY Requirements</u></b>		<b>F-10. <u>Nutrient Offset Program Net Assets</u></b>
<b>Appendix E - Expenditures</b>	<b>D-4. <u>Nutrient Offset Requirements</u></b>		
		<b>Regulatory Addendum</b>	



click on each to download, or here for [Full Appendices](#)

# Regulatory Addendum

**Addendum I. -  
Requirement Ledgers**

**I-A. NCDOT Program –  
Requirement Ledger**

**I-B. Statewide Program –  
Requirement Ledger**

**I-C. Riparian Buffer  
Program – Requirement  
Ledger**

**I-D. Nutrient Offset  
Program – Requirement  
Ledger**

**Addendum II. – Asset  
Ledgers**

**II-A1. NCDOT Stream  
and Wetland Program –  
Asset Ledger (Non-HQP)**

**II-A2. Statewide Stream  
and Wetland Program –  
Asset Ledger**

**II-B. NCDOT Program –  
(HQP) Asset Ledger**

**II-C. Riparian Buffer  
Program – Asset Ledger**

**II-D. Nutrient Offset  
Program – Asset Ledger**

**Addendum III. – Advance  
Credit Ledger**

**Addendum IV. – Action  
Strategies**

**Addendum V. – River  
Basin Map**

**Addendum VI. –  
Ecoregions Map**



**click on each to download, or here for Full Addendum**