



PAT MCCRORY  
Governor

DONALD R. VAN DER VAART  
Secretary

## MEMORANDUM

TO: ENVIRONMENTAL REVIEW COMMISSION  
The Honorable Jimmy Dixon, Co-Chairman  
The Honorable Chuck McGrady, Co-Chairman  
The Honorable Trudy Wade, Co-Chairman

FROM: Mollie Young, Director of Legislative Affairs, NCDEQ

SUBJECT: Mitigation Services Annual Report

*Pursuant to S.L. 2015-1, section 4.6, "The Department of Environment and Natural Resources shall report each year by November 1 to the Environmental Review Commission and to the Joint Legislative Commission on Governmental Operations regarding its progress in implementing the Division of Mitigation Services and its use of the funds in the Ecosystem Restoration Fund. The report shall document statewide wetlands losses and gains and compensatory mitigation performed under G.S. 143-214.8 through G.S. 143-214.12. The report shall also provide an accounting of receipts and disbursements of the Ecosystem Restoration Fund, an analysis of the per-acre cost of wetlands restoration, and a cost comparison on a per-acre basis between the State's Division of Mitigation Services and private mitigation banks. The Department shall also send a copy of its report to the Fiscal Research Division of the General Assembly."*

If you have any questions or need additional information, please contact me by phone at (919) 339-9433 or via e-mail at [mollie.young@ncdenr.gov](mailto:mollie.young@ncdenr.gov).

Cc: Don Van der Vaart, Secretary, NCDEQ  
Tom Reeder, Assistant Secretary for Environment, NCDEQ  
Michael Ellison, Director of Mitigation Services, NCDEQ  
Lanier McRee, Fiscal Research Division, NCGA



# Division of Mitigation Services

## 2015-16 Annual Report

DMS-WIDE

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) 2015-16, the NC Division of Mitigation Services (DMS):

- Helped North Carolina Department of Transportation (NCDOT) obtain permits for 82 transportation projects by providing 55,014 stream mitigation credits and 31.27 wetland mitigation credits.
  
- Assisted customers with 131 development projects in the Statewide Stream and Wetland, Riparian Buffer, and Nutrient Offset In-Lieu Fee (ILF) Programs by providing:
  - 23,186 stream credits,
  - 76.6 wetland credits,
  - 8.56 acres of buffer mitigation,
  - 10,220 pounds of nitrogen reduction, and
  - 963 pounds of phosphorus reduction.
  
- Received 94% of its nutrient payments from private developers for schools, recreational, medical, and other commercial and residential projects.



# Program-Wide

The FY 2015-16 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 40 CFR Part 250/33, CFR Parts 325 and 332, 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**



# Property



- During FY 2015-16, the State Property Office closed 31 conservation easement transactions totaling 233.7 acres associated with DMS' projects.
- All properties that closed during FY 2015-16 are shown in [Appendix A-1](#).
- A full inventory of all properties acquired to date is presented in [Appendix A-2](#).
- More than 76,800 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

Average mitigation credit costs for the last fiscal year have been determined by analyzing Full Delivery contracts awarded over the last 5 fiscal years. The dataset includes actual contracts awarded and estimates of costs required to complete projects.

CREDIT TYPE	RANGE OF PROGRAM COSTS PER CREDIT	CURRENT FEES
Stream	\$220 to \$454	\$297 (Standard); \$391 (High)
Riparian Wetland	\$15,000 to \$98,500	\$40,297 (Standard); \$71,273 (High)
Non-Riparian Wetland	\$28,000 to \$62,458	\$26,445 (Standard); \$51,422 (High)
Coastal Marsh Wetland	N/A*	\$175,323
Riparian Buffer	\$0.80 to \$1.43	\$1.11
Nutrient Offset Nitrogen	\$12.68 to \$137.80**	\$8.60 to \$125.22**
Nutrient Offset Phosphorus	\$155.01 to \$287.91**	\$167.14 to \$382.41**

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

\*\*Nutrient Offset fees are set using the Actual Cost Method and vary by region, see [Nutrient Offset Mitigation Fees](#)



# Cost Analysis of Private Mitigation Banks

Reporting requirements of G.S. §143 214.13 require DMS to compare DMS project costs with private mitigation bank rates. For this analysis, DMS used the actual submitted prices for Mitigation Bank Credits from its request for Bids in the last fiscal year.

MITIGATION TYPE	RANGE OF BANK PRICES PER CREDIT
Stream Mitigation Units	\$270 to \$400
Riparian Wetland Mitigation Units	\$37,000 to \$72,000
Non-Riparian Wetland Mitigation Units	\$19,850 to \$52,000
Coastal Marsh Mitigation Units	None Submitted
Riparian Buffer Mitigation Units	\$0.90 to \$1.55
Nitrogen Offset Credits	\$16.00 to \$135.00
Phosphorus Offset Credits	\$168.50 to \$750.00



# Advance Credits



The In-Lieu Fee mitigation instrument allocated advance credits by river basin and eight-digit cataloging units for use by DMS. 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.





# Wetland Losses and Gains

Reporting requirements of G.S. §143-214.13 require 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 annual report documents compensatory mitigation performed by DMS. Complete lists of mitigation requirements and assets are provided in the Regulatory Addendum.

<b>DWR Quarterly Reports for 7/1/2015 through 6/30/2016</b>					
<b>Streams (Linear Feet)</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>YTD</b>
Lost from permitting	18,391.9	13,690.61	21,188.0 0	40,782.0 6	94,052.57
Gained from permitting (mitigation)	11,622.0	3,731.00	8,317.00	19,964.0 0	43,634.00
<b>Wetlands (Acres)</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>YTD</b>
Lost from permitting	14.30	16.94	36.35	17.55	85.14
Gained from permitting (mitigation)	2.86	8.79	23.14	7.47	42.26
<b>Riparian Buffers (Acres)</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>YTD</b>
Lost from permitting	12.94	12.07	20.83	12.39	58.23
Gained from permitting (mitigation)	3.27	2.13	4.63	3.29	13.32



# Program Costs

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. A fund status report for each program is provided.



# Financial Glossary

Financial Term	Definition
<b>Beginning Cash Balance</b>	Amount of cash in fund account at beginning of fiscal year (abbrev. FY)
<b>Revenues</b>	Amount of money collected during FY
<b>Expenditures</b>	Amount of money spent during FY
<b>Ending Cash Balance</b>	Amount of money in fund account at end of FY
<b>Cost to Complete Program Requirements</b>	Estimate of the amount of money needed to execute all of the remaining contracts and projects required to satisfy the program's mitigation obligations
<b>Net Accounts Receivable</b>	Outstanding receipts that will be collected over time
<b>Net Asset Inventory Value</b>	Current estimated value of unused credits available for sale at current fee schedule
<b>Grand Total Program</b>	Summary of all financial assets and liabilities



# NCDOT Stream & Wetland ILF

REQUIREMENTS

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# NCDOT Stream & Wetland ILF Requirements

- ❖ The goal of this program is to produce mitigation credits to offset anticipated impacts from the implementation of the NCDOT seven-year Transportation Improvement Program (TIP). Anticipated impacts are provided to DMS by the Natural Environment Unit at NCDOT.
- ❖ In fiscal 2015-16 DMS accepted mitigation for 82 NCDOT transportation projects requiring stream and/or wetland mitigation.
- ❖ For these NCDOT projects, DMS is providing for 55,014 stream mitigation credits and 31.27 wetland mitigation credits.
- ❖ Appendix D-1 provides NCDOT Stream and Wetland Program permitted requirements for fiscal 2015-16.



# NCDOT Stream & Wetland ILF Fund Status

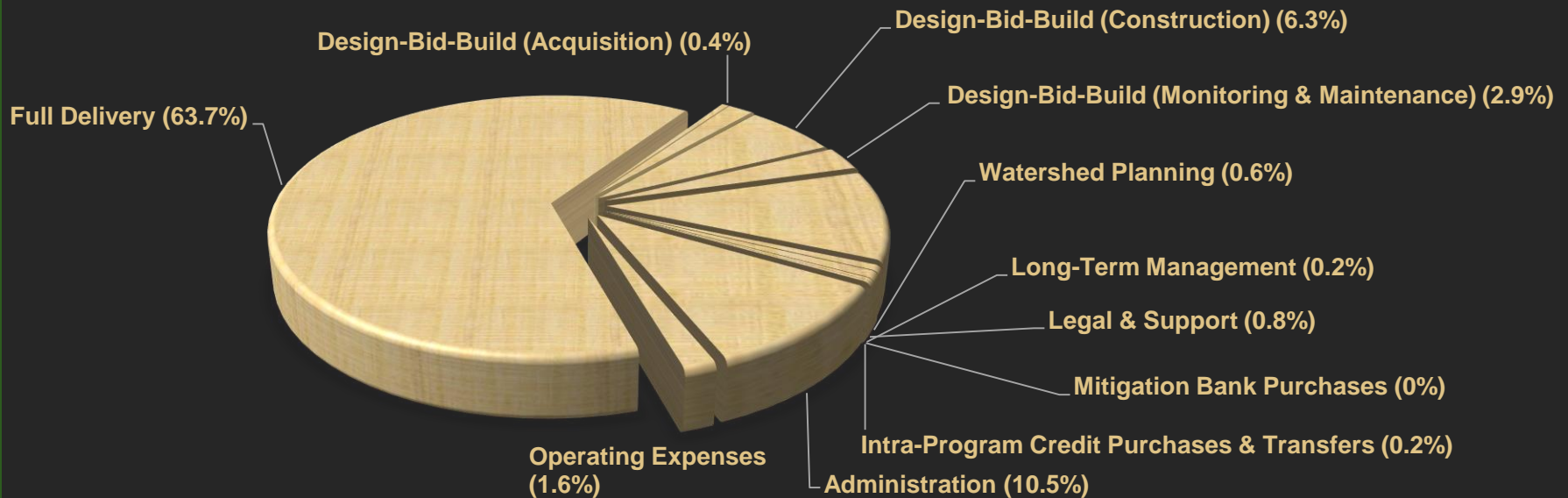
Beginning Cash Balance		\$8,107,137.05
	Revenue	\$24,005,750.98
	Expenditures	(\$21,706,424.55)
Ending Cash Balance		\$10,406,463.48
	Cost to Complete Program Requirements	(\$61,374,514.44)
	Projected Encumbrance Adjustment	(\$8,093,889.56)
	Net Accounts Receivable	\$59,061,940.52
Total Projected Cash Reserve		\$0.00



# NCDOT Stream & Wetland ILF Expenditures

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

## \$21.7 MILLION FISCAL 2015-2016



# NCDOT Stream & Wetland ILF Compliance

The NCDOT Stream and Wetland 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 \$15 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	636,894	634,605	2,289	99.64%	772,637
Wetlands	1,359.23	1,356.08	3.15	99.77%	9,294.42

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

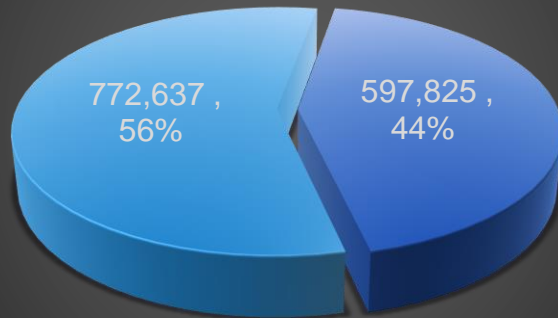




# NCDOT Stream & Wetland ILF Inventory

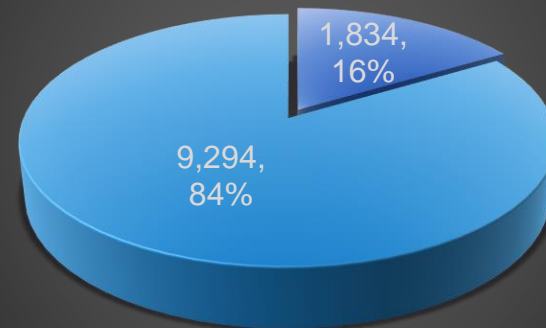
The NCDOT Stream and Wetland ILF Program's gross inventory\* totaled 1,370,462 stream credits and 11,129 wetland credits. The vast majority of these credits are unassigned and available for future permit requirements as projected in the state's Transportation Improvement Program. Detailed information 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 2015-16



■ Applied Credits (44%) ■ Unassigned Credits (56%)

## Wetland Inventory fiscal 2015-16



■ Applied Credits (16%) ■ Unassigned Credits (84%)

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



# Statewide Stream & Wetland ILF

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# Statewide Stream & Wetland ILF Requirements

- ❖ In fiscal 2015-16, DMS received 81 customer payments into the Statewide Stream and Wetland Program, totaling \$\$13,464,713.25.
- ❖ These 81 customer payments represent 23,186 stream credits and 76.6 wetland credits.
- ❖ Appendix D-2 provides Statewide Stream and Wetland Program fiscal 2015-16 receipts and requirements.



# Statewide Stream & Wetland ILF Fund Status

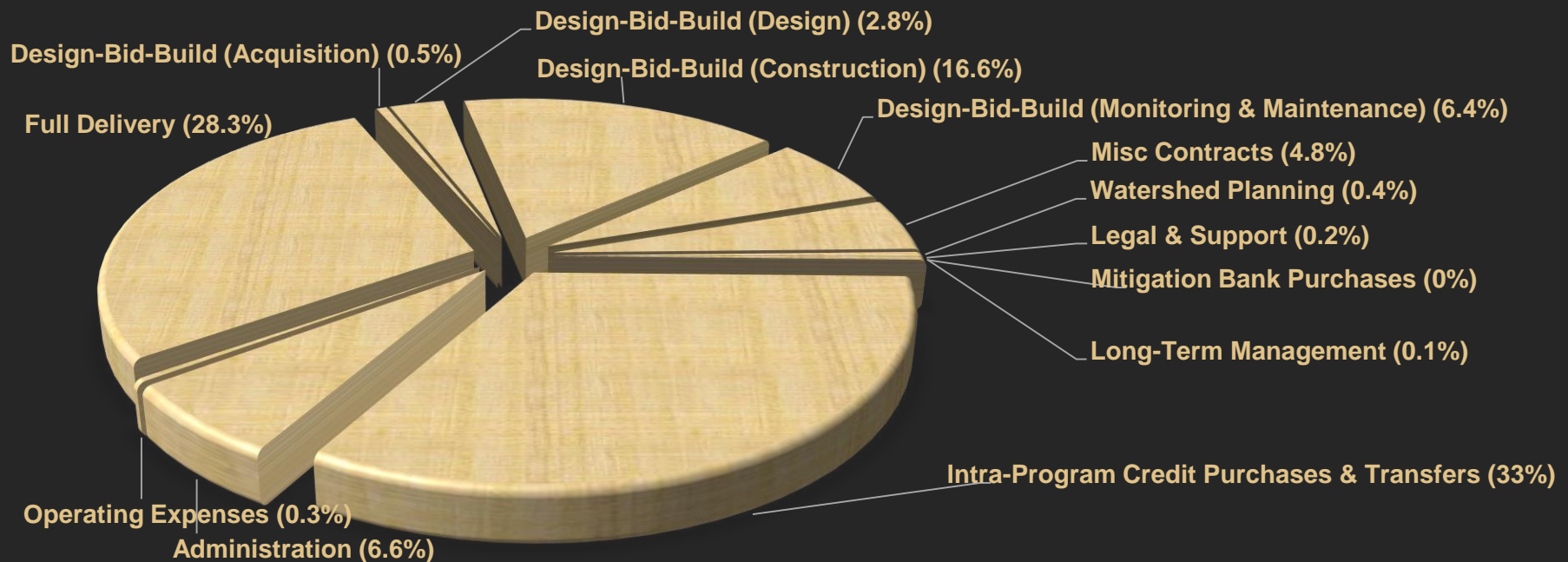
Beginning Cash Balance	\$13,231,282.77
Revenue	\$19,726,920.87
Expenditures	(\$6,438,098.66)
Ending Cash Balance	\$26,520,104.98
Cost to Complete Program Requirements	(\$32,962,281.18)
Projected Encumbrance Adjustment	(\$5,326,618.57)
Net Accounts Receivable	\$7,013,532.63
Total Projected Cash Reserve	(\$4,755,262.14)
Net Asset Inventory Value	\$32,230,029.55
Grand Total Program	\$27,474,767.41



# Statewide Stream & Wetland ILF Expenditures

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

## \$6.4 MILLION TOTAL FISCAL 2015-2016



# Statewide Stream & Wetland ILF Compliance

For fiscal 2015-16, the Statewide Stream and Wetland Program had satisfied 99.20 percent of all stream requirements and 97.61 percent of all wetland requirements. The Statewide Stream and Wetland Program also measures compliance by percentage of permits satisfied. DMS continues to implement projects to address all of its permit requirements. Regulatory Addendum IV provides a detailed compliance action strategy by Cataloging Unit.

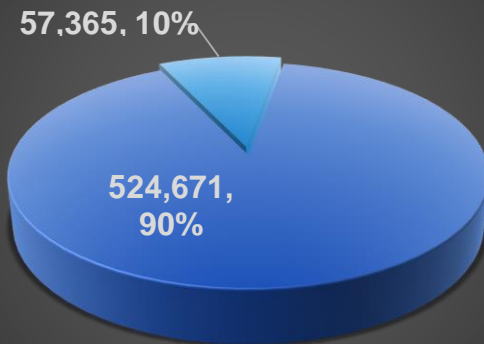
Statewide Program Type	Requirements Due (credits)	Requirements Met (credits)	Requirements Not Met (credits)	Compliance (credits)	Total Advanced Mitigation (unassigned)
Stream	555,865	551,445	4,419	99.20%	57,365
Wetlands	1,042	1,017	24.89	97.61%	213.74



# Statewide Stream & Wetland ILF Program Inventory

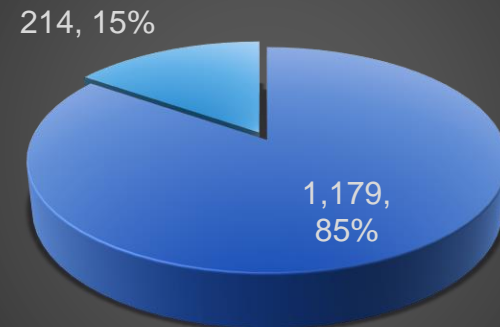
The Statewide Stream and Wetland Program's gross inventory totaled 582,036 stream credits and 1,393 wetland credits. Detailed information about the Statewide Stream and Wetland Program Gross and Net Inventories can be found in Appendices [F-5](#) and [F-6](#).

## Stream Inventory fiscal 2015-16



■ Applied Credits (90%) ■ Unassigned Credits (10%)

## Wetland Inventory fiscal 2015-16



■ Applied Credits (85%) ■ Unassigned Credits (15%)



# Riparian Buffer Mitigation ILF

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# Riparian Buffer Mitigation ILF Requirements

- ❖ In fiscal 2015-16, DMS received 16 customer payments into the Riparian Buffer Mitigation Program, totaling \$410,175.83.
- ❖ These 16 customer payments represent 372,757 square feet (8.56 acres) of buffer mitigation.
- ❖ Approximately 5.49% of the fiscal 2015-16 requirements came from NCDOT.
- ❖ Appendix D-3 provides Riparian Buffer Program fiscal 2015-16 receipts and requirements.



# Riparian Buffer ILF Fund Status

Beginning Cash Balance	\$8,391,560.27
Revenue	\$1,384,602.49
Expenditures	(\$526,001.78)
Ending Cash Balance	\$9,250,160.98
Cost to Complete Program Requirements	(\$10,181,576.69)
Projected Encumbrance Adjustment	\$3,648,018.58
Net Accounts Receivable	\$309,924.23
Total Projected Cash Reserve	\$3,026,527.11
Net Asset Inventory Value	\$1,559,590.86
Grand Total Program	\$4,586,117.97

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 Program. [Appendix E](#) provides a full listing of the expenditures by fund.

**\$0.53 MILLION TOTAL FISCAL 2015-16**

**Intra-Program Credit Purchases & Transfers**  
21.9%

**Full Delivery**  
32.1%

**Design-Bid-Build (Acquisition)**  
0.0%

**Design-Bid-Build (Construction)**  
8.1%

**Legal & Support**  
0.9%

**Watershed Planning**  
0.3%

**Long-Term Management**  
0.6%

**Mitigation Bank Purchases**  
36.0%



# Riparian Buffer ILF

## Compliance and Inventory

Detailed information about the Riparian Buffer 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	9,778,108	6,518,958	3,259,150	66.67%	0.20
Catawba	145,060	145,060	0	100.00%	72,740
Neuse	21,972,656	21,517,069	455,587	97.93%	1,033,715
Tar-Pamlico	2,668,181	2,436,086	232,095	91.30%	152,085
Yadkin	22,575	22,575	0	100.00%	0
Grand Total	34,586,580	30,639,748	3,946,832	88.59%	1,258,540



# Nutrient Offset ILF

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# Nutrient Offset ILF Requirements

- ❖ In fiscal 2015-16, DMS received 34 customer payments into the Nutrient Offset Program, totaling \$1,353,961.75.
- ❖ These 34 customer payments represent reductions of 10,220.25 pounds of nitrogen and 962.66 pounds of phosphorus.
- ❖ 94% of the fiscal 2015-16 payments came from private developers for schools, recreational, medical, and other commercial and residential projects.
- ❖ Appendix D-4 provides Nutrient Offset Program fiscal 2015-16 receipts and requirements.



# Nutrient Offset ILF Fund Status

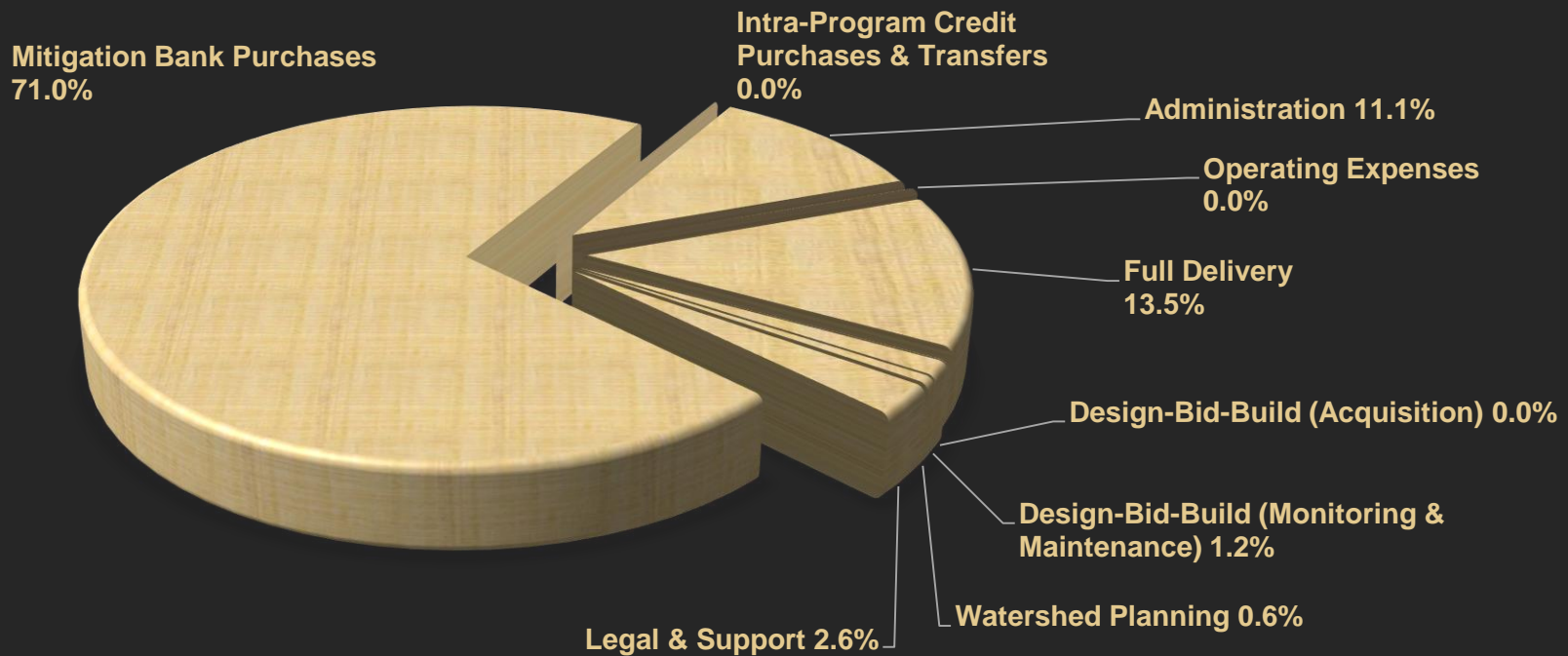
Beginning Cash Balance		\$5,588,643.57
	Revenue	\$1,039,383.36
	Expenditures	(\$422,817.60)
Ending Cash Balance		\$6,205,209.33
	Cost to Complete Program Requirements	(\$5,845,933.27)
	Projected Encumbrance Adjustment	\$3,104,705.73
	Net Accounts Receivable	(\$4,688.20)
Total Projected Cash Reserve		\$3,459,293.59
Net Asset Inventory Value		\$4,359,068.48
Grand Total Program		\$7,818,362.07



# Nutrient Offset ILF Expenditures

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

**\$0.42 MILLION TOTAL FISCAL 2013-14**





# Nutrient Offset ILF Compliance and Inventory

DMS accepts payments for nitrogen reduction in the Neuse basin and nitrogen and phosphorus in the Tar-Pamlico basin, the Falls Lake watershed and in the Jordan Lake watershed. Detailed information about the Nutrient Offset Program's Gross and Net Inventories can be found in Appendices [F-9](#) and [F-10](#), and about 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	14,818	14,818	0	100.00%	568
Falls Phosphorus	413	413	0	100.00%	574
Jordan Nitrogen	25,322	20,445	4,877	80.74%	0
Jordan Phosphorus	12.23	12.23	0	100.00%	289
Neuse Nitrogen	1,355,556	1,355,556	0	100.00%	112,133
Tar Pamlico Nitrogen	100,164	100,164	0	100.00%	80,901
Tar Pamlico Phosphorus	6,331	6,331	0	100.00%	5,395
<b>Grand Total</b>	<b>1,502,617</b>	<b>1,497,740</b>	<b>4,877</b>	<b>99.68%</b>	<b>199,861</b>



# Appendices

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