



UNRBA  
Nutrient Credit  
Development  
Project  
PFC Meeting  
June 2017



June 7, 2017



# Credit Development



## Status of Completed Practices

Practice	Final Approved by PFC	Public Comment Complete	Director Signature or in DEMLR BMP Manual/Crediting
Bioretention design variants	✓	✓	✓
Level spreader filter strip design variants	✓	✓	✓
Infiltration devices (over/under sizing)	✓	✓	✓
Soil improvement with pervious area nutrient management	✓	✓	✓
Cattle exclusion	✓	✓	✓
Removal of illicit discharges	✓	✓	✓
Land conservation	✓	NA	See status update
Buffer improvement in developed areas	✓	✓	See status update



## Land Conservation Credit--Status of DEQ Review

- Met with DEQ Secretary and leadership team on April 3, 2017
- Were scheduled to meet again on May 12, 2017 to continue discussions, but meeting was cancelled
- Meeting has not yet been rescheduled
- Proposed UNRBA changes to Senate Bill 434 – next slide



## Land Conservation Credit—Proposed Legislation

**Nutrient credits** shall be recognized by the Department **for the conservation of existing forested lands** when included in the inventory of nutrient credits submitted by a unit of local government or a government entity, as those terms are defined in G.S. 143-214.11, in an amount at least **equal to the nutrient loading that would occur if the forested lands were converted to new development less the nutrient loading, if any, designated for forested lands in the basin where the conservation protection is established.** To qualify for a conservation credit, the responsible governmental body must enter into legally binding agreements for conservation of the forested lands which agreements may allow for management of the forested lands to enhance the nutrient utilization capacity of the forested lands.



## Status of Buffer Improvement in Developed Areas

- Received comments during the public comment period which ended in early May
  - UNC Energy Services
  - Watershed Investments, NC
  - Division of Mitigation Services
- Call to be scheduled with DWR the week of June 20<sup>th</sup>
  - Comments received
  - Action plan for responding to comments and finalizing the document



# Tool Development



## Purpose of the Tool

“The purpose of the modeling tool is to estimate the annual total nitrogen and total phosphorus load reductions achieved through implementation of nutrient reducing measures on existing development at the subwatershed-scale that integrates output from the existing tools and enables users to facilitate development of the local programs and assist local jurisdictions in compliance with the Falls Lake Rules reporting requirements.”





## Tool Structure

- Spreadsheet Tool with Fifteen Tabs:
  - Two Guidance Tabs
  - Seven Input Tabs
    - Two of these import data from other tools (JFSNAT, SNAP, Wake County Tool)
    - Others consistent with nutrient crediting documents.
  - Six Reporting Tabs

### User Guidance:

- Instructions
- Subwatershed Map

### Input and Calculations:

- Jurisdiction Data
- Imported SCMs
- Imported Land Changes
- Buffers
- IDDE
- Cattle Exclusion
- Miscellaneous

### Reporting:

- Overall Progress
- Credit Summary – This Period
- Administrative – Credits Earned
- Pollutants – Credits Earned
- Administrative – Credits Lost
- Pollutants – Credits Lost



## SCMs from Existing Tools

- Tool reads in files from the following model versions:
  - JFSNAT versions 2 and 3
  - SNAP version 4
  - Wake County Tool (version 2.2)
- Results are presented on two tabs:
  - Imported SCMs
  - Imported Land Changes
- Hand entry required for some information not in these tools.

*Stormwater Nitrogen and Phosphorus*  
*Tool* Version 4.0.20 beta

Project Information  
Land Cover Characteristics  
SCM Characteristics  
Overall Summary  
Individual SCM Summaries

Where Do I Start?  
User's Manual & Library  
Export .csv Summary File  
Import An Existing Project  
Save Spreadsheet

NC  
Environmental Quality

DWR  
Division of Water Resources

NCDEQ - DWR Webpage | DWR Nonpoint Source Webpage | Jordan Lake Rules Webpage | Falls Lake Rules Webpage



# Non-Structural Practices

- Practices
  - Buffer Improvement
  - IDDE
  - Cattle Exclusion
  - Miscellaneous Practice
- All information entered by hand

Approved by DEQ 04-05-2017

## Design Specifications and Nutrient Accounting for Cattle Exclusion

Practice Description and Utility
<p><i>Purpose:</i> This chapter defines the practice of cattle exclusion with nutrient management, provides design criteria and implementation specifications, and provides nutrient credit assignments used for compliance with Nutrient Management Strategy Rules developed for Falls Lake and Jordan Lake watersheds.</p> <p><i>Applicability:</i> This practice is developed to provide nutrient reduction credits for cattle exclusion from intermittent and perennial streams. This practice is applicable towards compliance with Existing Development rules. This practice applies to any lands that best available information substantiates supported grazing cattle as of the baseline period for the applicable nutrient strategy. This practice establishes to-stream load reduction credit for use in meeting nutrient rules with comparable load requirements. Cattle exclusion for purposes of meeting collective agriculture nutrient loss reduction targets shall follow credit guidance and methods determined by Basin or Watershed Oversight Committees.</p> <p>This practice standard establishes the technical basis for nutrient credits associated with cattle exclusion. Approval of this credit by the Division of Water Resources (DWR) will be contingent upon development of an acceptable trading framework for the exchange of credits between parties affected by the respective Agricultural Rule and parties not affected by the Agricultural Rule. This development process will be initiated by DWR, with full participation of the Watershed Oversight Committee and other regulated stakeholders in the respective watersheds. Credits will not be issued for this practice to any party until the processes governing these exchanges have been established.</p> <p><i>Method:</i> Cattle Exclusion includes fencing along a stream as a physical barrier to animals entering open water and degrading stream banks. This practice prevents trampling of stream banks and cattle-induced erosion, reduces direct deposition of animal waste in the stream, and allows for establishment of buffers. A drainage stakeholder</p>



## Reporting Tables- Overall Progress

Update Results Tables

Please press the button to the left to update results.  
Values will be inaccurate if they are not updated.

### Summary of Overall Progress for Reporting Period from 1/1/2006 to 5/13/2017

Time Period	TN Credit (lbs/yr)	TP Credit (lbs/year)
Credits Recorded in Other Files	500.00	50.00
Net Credits Before Reporting Period	0.00	0.00
Credits Earned During Reporting Period	13.14	4.42
Credits Lost During Reporting Period	9.64	2.20
<b>Net Credits At End of Reporting Period</b>	<b>503.50</b>	<b>52.22</b>
Stage 1 Target	1,000	400
% Stage 1 Target Met This Period	0.4%	0.6%
% Stage 1 Target Met to Date	50.4%	13.1%
Credits Beyond Stage 1 Target	0.00	0.00



## Reporting Tables – Summary by BMP Category

<b>Summary of Net Credits Earned by BMP Category from 1/1/2006 to 5/13/2017</b>						
<b>BMP Category</b>	<b>Total Area Treated (ac)</b>	<b>Projected Annual Cost (\$/yr)</b>	<b>TN Credit (lbs/yr)</b>	<b>TN Credit Unit Cost (\$/lb)</b>	<b>TP Credit (lbs/yr)</b>	<b>TP Credit Unit Cost (\$/lb)</b>
<b>Stormwater</b>						
Level Spreader-Filter Strip	1.45	\$6,110.07	7.53	\$811.32	2.65	\$2,308.42
Wet Pond	2.00	\$11,300.72	4.57	\$2,475.35	0.46	\$24,485.74
Treatment Swale	0.70	\$279.19	1.02	\$274.37	1.30	\$214.32
<b>Stormwater Total</b>	<b>4.15</b>	<b>\$17,689.98</b>	<b>13.11</b>	<b>\$1,348.95</b>	<b>4.41</b>	<b>\$4,010.36</b>



## Summary Tables – Administrative Data

Administrative Data for Practices Implemented (Credits Earned) or Credits Released for the Reporting Period from 1/1/2006 to 5/13/2017								
Unique ID	BMP Type	County	Subwatershed	Date Approved	Date Decommissioned	Projected Capital Cost (\$)	Projected or Actual Annual O&M Cost (\$/yr)	Projected Annual Cost (\$/yr)
<b>Test Site 1 Wet Pond-Catchment 1 BMP 1</b>	Wet Pond per MDC	Wake	Falls Zone HCC	1/20/2016		\$50,000.00	\$5,656.00	\$9,615.73
<b>Test Site 2-Catchment 1 BMP 1</b>	Wet Detention Pond	Orange	Falls Zone ENR1	2/21/2014	5/13/2017	\$10,000.00	\$5,542.60	\$1,684.98
<b>Golden Goose-Catchment 1 BMP 1</b>	Level Spreader, Filter Strip	Franklin	Falls Zone HSE	3/22/2011		\$60,000.00	\$1,000.00	\$5,751.68



## Summary Tables – Pollutant Data

Pollutant Removal Data for Practices Implemented (Credits Earned) or Credits Released for the Reporting Period from 1/1/2006 to 5/13/2017							
Unique ID	BMP Model Program Group	BMP Category	BMP Type	Area Treated (acres)	Primary Land Use Treated	TN Credit During Reporting Period (lb/yr)	TP Credit During Reporting Period (lb/yr)
Test Site 1 Wet Pond-Catchment 1 BMP 1	Stormwater	Wet Pond	Wet Pond per MDC	1.00	Residential	1.88	0.12
Test Site 2-Catchment 1 BMP 1	Stormwater	Wet Pond	Wet Detention Pond	1.00	Commercial/Industrial	2.68	0.34
Golden Goose-Catchment 1 BMP 1	Stormwater	Level Spreader-Filter Strip	Level Spreader, Filter Strip	1.15	Institutional	7.04	2.56
Wake Example-Catchment 1	Stormwater	Level Spreader-	Level Spreader,	0.30	Mixed	0.50	0.09



## User's Guide

- Provides guidance for using the Tool.
- Describes inputs in more detail.
- Points the user to other resources.

### UNRBA Credit Tool User's Guide

Draft for Final PFC Review  
June 1, 2017





## Status of UNRBA Credit Tool and User Guide

- Hosted webinar on May 24<sup>th</sup> to demonstrate the Tool to the PFC
- Revised the Tool and User Guide in response to comments
- Redistributed files on June 1<sup>st</sup> for final PFC review
- Options for addressing buffers in the Tool and User Guide
  - Hide sheet and delete references in the Guide
  - Add text box on buffer tab stating credits are not yet available
- Would like to discuss PFC approval of files (contract ends June 30<sup>th</sup>)
- Provide any additional comments within week
- Finalize documents and post to UNRBA website

