

HEARING OFFICERS' REPORT

Consolidated Buffer Mitigation Rule

Amendment of 15A NCAC 02B .0295

June 2015

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INTRODUCTION:

PUBLIC HEARING OFFICER:

Mr. David Anderson – Environmental Management Commission
 Mr. Steve Tedder – Environmental Management Commission

PUBLIC HEARINGS INFORMATION:

Date:	March 12, 2015
Location:	Raleigh, NC
Number of Attendees:	5
Speakers:	0

A total of 10 individuals or organizations submitted written comments on the proposed rules. One of the 10 comments was submitted by one organization on behalf of itself and 2 other organizations.

REASONS FOR PROPOSED RULEMAKING:

The purpose of this rulemaking is to amend Temporary Rule 15A NCAC 02B .0295, Mitigation Program Requirements for the Protection and Maintenance of Riparian Buffers for permanent adoption, and in order to comply with the requirements in G.S. 143-214.20 (Riparian Buffer Protection Program: Alternatives to maintaining riparian buffers; compensatory mitigation fees).

In accordance with S.L. 2014-95, the Environmental Management Commission (EMC) adopted Temporary Rule 15A NCAC 02B .0295 on September 30, 2014; those rules became effective October 24, 2014. Per G.S. 150B-21.1 the Temporary Rule shall expire within 270 days unless a permanent rule has been submitted to the Rules Review Commission (RRC).

The proposed rule (15A NCAC 02B .0295) will provide mitigation options not currently available to the NC Department of Transportation (DOT), developers, industry and private individuals. In addition to providing greater regulatory flexibility, the proposed changes incorporate current technical and operational techniques into the rules as well as bring consistency to the current riparian buffer mitigation rules. The proposed rule adheres to the principles of Executive Order 70. It advances the public interest and is designed to achieve its objective in a cost-effective and timely manner. The proposed rule was developed through a public stakeholder process.

SUMMARY OF PROPOSED REVISIONS IN RESPONSE TO PUBLIC COMMENTS:

- 15A NCAC 02B .0295(b)(11) – revised definition to clarify “Preservation Site” to provide consistency between Preservation site and Restoration Site success criteria, while retaining staff flexibility in decisions-making.
- 15A NCAC 02B .0295(b) (13) – revised definition to clarify “Riparian Buffer Mitigation Unit”.
- 15A NCAC 02B .0295(f) – revised “In the adjacent eight-digit HUC” to “Outside of eight-digit HUC” and remove footnote C.
- 15A NCAC 02B .0295(h) – Modified language to be consistent with G.S. 143-214.20 and to remove “written demonstration of practicality” requirement.
- 15A NCAC 02B .0295(h) – remove requirement for an area of restoration or enhancement at least equal to the footprint of the buffer impact before use of alternative buffer mitigation options. [A limit on the amount of preservation was added in Subparagraphs (o)(3) and (4).]
- 15A NCAC 02B .0295(l)(2)(B) – included the term “hydrological” to match language in G.S.143-214.11.
- 15A NCAC 02B .0295(l)(5) – removed “applicant” from text.
- 15A NCAC 02B .0295(l)(6) – reworded second sentence for clarification.
- 15A NCAC 02B .0295(l)(6) – included specific criteria to be submitted to the DWR for credit on completed projects.
- 15A NCAC 02B .0295(n)(1) – modified buffer width credits to better align with scientific research.
- 15A NCAC 02B .0295(n)(2)(B) and (E) – revised text to provide clarity and allow for success criteria to drive mitigation plan approval.
- 15A NCAC 02B .0295(n)(4) – revised text to provide clarity and to match up with revisions in (n)(2)(B) and (E).
- 15A NCAC 02B .0295(o) – removed first sentence to remove ambiguity.
- 15A NCAC 02B .0295(o)(3) – added language limiting the amount of preservation credit within a buffer mitigation site instead of having a restoration/enhancement footprint requirement.
- 15A NCAC 02B .0295(o)(4) – added language limiting the amount of preservation credit within a buffer mitigation site instead of having a restoration/enhancement footprint requirement.
- 15A NCAC 02B .0295(o) (9) – clarified that the approval for other alternative options is for types of mitigation rather than specific sites and included more specific criteria.

SUMMARY OF PROPOSED REVISIONS – TECHNICAL CORRECTIONS

- 15A NCAC 02B .0295 – changed “Ecosystem Enhancement Program”, “EEP”, and “program” to “Division of Mitigation Services” and “DMS”.
- 15A NCAC 02B .0295(b)(15) – added definition of “stem”; a term used in (n)(2).

COMMENTS RECEIVED AND RESPONSES:**Comments received that do not have a specific item reference:**Comment:

Baseline condition - The rule should provide clarity as to the baseline period from which site conditions will be judged. Is it the rule's effective date? The timeframe that the aquatic system was analyzed for rulemaking purposes? A combination of these? Something else? This would allow mitigation providers assessing sites to have improved clarity as to the land use condition that would qualify a site for potential riparian buffer credits.

Response:

The proposed rule addresses baseline conditions in .0295(l): "For each mitigation site proposed by an applicant or mitigation provider under Paragraphs (n) or (o), the Authority shall identify functional criteria to measure the anticipated benefits of the mitigation to the adjacent water. The Authority shall issue a mitigation determination that specifies the area, type, and location of mitigation and the water quality benefits to be provided by the mitigation site."

Comment:

In coastal plain areas riparian buffer mitigation should be allowed in active pasture that abuts seasonally flooded riverine wetlands. These open water swamp systems are valuable aquatic resources and frequently contain defined channels and braided channels. The buffer mitigation area should be defined as beginning at the seasonal OHWM. In these instances the protective easement should extend a minimum 30 feet into the riverine wetland.

Response:

This comment is relevant to the buffer protection rules , and the definition of a buffer, rather than this buffer mitigation rule.

Comment:

We experienced a situation last year in which someone was wanting to utilize payment to a compensatory buffer mitigation bank for local buffer regulations. This was not allowed since these were not State buffers and the City was not the delegated authority in the Neuse river basin. The City would prefer a mechanism be included in the regulations which would allow the use of State approved compensatory buffer mitigation banks for more stringent local requirements as I am unaware of authority to approve our own compensatory buffer mitigation bank.

Response:

The DWR has been informed by the Division of Mitigation Services (DMS) that they have been previously advised by their legal counsel that they do not have the statutory authority to accept payment beyond what state regulations require. This issue is outside the purview of this Rule.

.0295 (b)(1) "Authority" means either the Division or a local government that has been delegated or designated pursuant to Rules .0233, .0243, .0250, .0259, .0267 or .0607 of this Subchapter to implement the riparian buffer program.”:

Comment:

"Authority", which has been defined to include delegated local governments, has been substituted for "Division" in most cases. However, it is interesting which mitigation options can be approved by the "Authority" and which can be approved only by the Division.

The 5 mitigation options for applicants are:

(1) Applicant-provided riparian buffer restoration site or enhancement site - all of the provisions relating to this option refer to approval by the Authority, so the local government would be the authority for buffers under their jurisdiction.

(2) Payment to a compensatory buffer mitigation bank. Under the definition of Compensatory Buffer Mitigation Bank, it's made clear that the Division is the approving authority. I'm fine with this.

(3) Donation of real property - this is subject to approval by the Secretary, or the Secretary's designee. Doesn't seem like there's much room for the local government authority to have a say in this. Since there are delegated authorities, we just want to verify that was the intent.

(4) Alternative buffer mitigation options - the only authority given any say in approving the various alternatives is the Division. Since Durham is a delegated authority in the Jordan Basin, why couldn't the local government have authority for this. This seems to go along with the intent of S.L. 2014-120 Sec. 29.

(5) Other buffer mitigation options approved by the EMC as a condition of a variance approval.

Response:

Donation language will be discussed later in the report. See discussion presented for .0295(k).

Alternative Mitigation is expected to be used infrequently, and mostly by Mitigation Banks and DMS. Projects proposed by DMS and Mitigation Banks already fall under DWR implementation (by definition). The current language should have very little, if any, impact on the local governments implementation process. S.L. 2014-120 Sec. 29 (Reform Agency Review of Engineering Work) does not dictate whether DWR or local governments review projects.

.0295 (b)(2) ““Compensatory Buffer Mitigation Bank means a buffer mitigation site created by a mitigation provider and approved for mitigation credit by the Division through execution of a mitigation banking instrument”.:

Comment:

This definition applies to mitigation providers and indicates they need a mitigation banking instrument. This Item is a sound requirement and should apply to the North Carolina Division of Mitigation Services, the predominant provider of mitigation credits in the State and one that may implement projects through its design-bid-build program. No such instrument has been developed but should be required explicitly in the requirements of this rule.

Comment:

4 commenters stated that they support the definition.

Response:

DMS is identified as a separate entity both within this rule and within G.S. 143-214.11. No Instrument exists between DWR and DMS.

.0295 (b)(4) ““Enhancement Site" means a riparian zone site characterized by conditions between that of a restoration site and a preservation site such that the establishment of woody stems (i.e., tree or shrub species) will maximize nutrient removal and other buffer functions”:

Comment:

The rule states that an enhancement site is characterized by conditions between that of a restoration site and a preservation site “such that the establishment of woody stems will maximize nutrient removal and other buffer functions.” Commenter suggests the word maximize be replaced with “increased” or “maximized to the extent practicable” as maximization is subjective and may be impossible in many circumstances.

Response:

The RRC has previously requested the EMC remove the term “to the maximum extent practicable” from rules.

.0295 (b)(5) ""Hydrologic Area" means the Watershed Boundary Dataset (WBD), located at no cost at <http://data.nconemap.com/geoportal/catalog/search/resource/details.page?uuid={16A42F31-6DC7-4EC3-88A9-03E6B7D55653}> using the eight-digit Hydrologic Unit Code (HUC) prepared by the United States Geological Survey":

Comment:

Recommend removing web links from the rule or at least making the link general (e.g. to DWR website). Specific links change frequently and may trigger the need to modify the rule frequently.

Response:

Internet links were included throughout the rule as required by the RRC.

.0295 (b)(6) ""Locational Ratio" means the mitigation ratio applied to the mitigation requirements based on the location of the mitigation site relative to the impact site as set forth in Paragraph (f).":

Comment:

Commenter states they believe all of the credit and mitigation ratios in the Rule can be more succinctly presented and that locational ratios should not be used. Locational credit ratios are used to adjust the amount of credits necessary to satisfy a permit based on the location of the mitigation relative to the location of the impact.

Comment:

3 commenters indicated that the locational mitigation ratios are acceptable.

Response:

Locational ratios are necessary to account for locational requirements identified in Paragraph (f). This Rule addresses buffer mitigation requirements for buffer impacts as well as mitigation site criteria.

.0295 (b)(9) "Non wasting endowment.":

See discussion presented below for .0295(l)(2)

.0295 (b)(11) ""Preservation Site" means riparian zone sites that are characterized by a natural forest consisting of the forest strata and diversity of species appropriate for the Omernik Level III ecoregion available at no cost at http://www.epa.gov/wed/pages/ecoregions/level_iii_iv.htm."

Comment:

The Omernik Level II ecoregion component of this definition is unnecessary and so broad as to be not meaningful for any site-specific application. Commenter recommends that the Omernik reference be removed.

Response:

Reference to the Omernik Level III ecoregion was included in response to an earlier request from public comments received in 2013. Propose to remove reference.

Comment:

Commenter recommends the following definition : ““Preservation Site” means riparian zone sites that are characterized by a forested condition.” Efforts to overly define “forest” often result in conflicting outcomes. By being more general, the rule will provide the flexibility to implement the rule effectively.

Response:

Recommend the definition be modified to better align with the success criteria of a restoration site:

"Preservation Site" means riparian zone sites that are characterized by a forest of trees or trees and shrubs where no one species is greater than 50 percent of the vegetation and where invasive species are not present in quantities which will cause or are likely to cause harm to the health of the forest.

.0295 (b)(12) “Restoration Site” means riparian zone sites that are characterized by an absence of trees and by a lack of dense growth of smaller woody stems (i.e., shrubs or saplings) or sites that are characterized by scattered individual trees such that the tree canopy is less than 25 percent of the cover and by a lack of dense growth of smaller woody stems (i.e., shrubs or saplings).”:

Comment:

The Division’s current approach to defining restoration and enhancement is more objective than the proposed definitions (e.g., stem counts of trees with a dbh of 5 inches[reference to previous Jordan/Randleman Buffer Mitigation Rules]). The proposed definition allows for subjectivity which raises uncertainty and may result in inconsistent implementation. Would canopy cover determination vary based on individual? To me, these definitions provide less clarity and would require further guidance on how they would be implemented. I’d suggest trying to make it more objective and quantified.

Comment:

4 commenters stated that they support the definition.

Response:

The current definition is not as prescriptive as previous definitions within the Jordan and the Randleman Buffer Mitigation Rules. DWR staff have previously experienced that such prescription within the definition has prevented restoration or enhancement on sites that staff considered worthy of buffer mitigation. As with most rules, proper implementation and consistency will be a responsibility of the implementing Authority and dispute resolution methods exist for all agency decisions.

.0295 (b)(13) ""Riparian buffer mitigation unit" means a unit representing a credit of riparian buffer mitigation that offsets one square foot of riparian buffer impact.":

Comment:

The riparian buffer mitigation unit is defined incorrectly and the terminology should be redefined. One square foot of impact in Zone 1 requires three credits of mitigation due to zonal mitigation ratios. Zone 2 impacts usually require a 1.5 zonal mitigation ratio. Commenter recommends replacing this throughout with the following definition: "Riparian Buffer mitigation credit – the unit of measurement for compensatory mitigation shall be the "credit." Authorizations requiring compensatory mitigation shall specify the amount of mitigation required in credits. Riparian buffer mitigation projects, as approved by the Department, shall also be quantified in credits and shall be fungible to satisfy all authorized riparian buffer compensatory mitigation requirements.

Response:

Recommend simplification of the language to: "Riparian buffer mitigation unit" means a unit representing a credit of riparian buffer mitigation as set forth in Paragraph (m).

.0295 (e) "AREA OF MITIGATION REQUIRED ON ZONAL MITIGATION RATIOS. The Authority shall determine the required area of mitigation for each Zone by applying each of the following ratios to the area of impact calculated under Paragraph (d) of this Rule:

Basin/Watershed	Zone 1 Ratio	Zone 2 Ratio
Neuse River Basin (15A NCAC 02B .0233)	3:1	1.5:1
Catawba River Basin (15A NCAC 02B .0243)	2:1	1.5:1
Randleman Lake Watershed (15A NCAC 02B .0250)	3:1	1.5:1
Tar-Pamlico River Basin (15A NCAC 02B .0259)	3:1	1.5:1
Jordan Lake Watershed (15A NCAC 02B .0267)	3:1	1.5:1
Goose Creek Watershed (15A NCAC 02B .0607)	3:1 ^A	

^A **The Goose Creek Watershed does not have a Zone 1 and Zone 2. The mitigation ratio in the Goose Creek Watershed is 3:1 for the entire buffer.”:**

Comment:

A more appropriate location for the ratios in this paragraph would be in each Buffer Rule for each basin or watershed management area. Inclusion of these in this Rule only adds to the Rule’s complexity. These ratios apply to permittees not mitigation providers.

Comment:

3 commenters indicated that these are acceptable zonal mitigation ratios.

Response:

Zonal Mitigation ratios are necessary in Paragraph (e). This Rule addresses buffer mitigation requirements for buffer impacts as well as mitigation site criteria.

.0295 (f) “Locational Mitigation Ratios”:

See discussion for .0295(b)(6)

.0295 (g) “Mitigation shall be performed in the same river basin where the impact is located with the following additional specifications:

- (1) In the following cases, mitigation shall be performed in the same watershed in which the impact is located:
 - (A) Falls Lake Watershed, as defined in Rule .0275 of this Section;
 - (B) Goose Creek Watershed, as defined in Rule .0601 of this Subchapter;
 - (C) Randleman Lake Water Supply Watershed, as defined in Rule .0248 of this Section;
 - (D) Each subwatershed of the Jordan Lake watershed, as defined in Rule .0262 of this Section; and
 - (E) Other watersheds as specified in riparian buffer protection rules adopted by the Commission.
- (2) Buffer mitigation for impacts within watersheds with riparian buffer rules that also have federally listed threatened or endangered aquatic species may be done within other watersheds with the same federally listed threatened or endangered aquatic species as long as the impacts are in the same river basin and same Omernik Level III ecoregion as the mitigation site”:

Comment:

The original rules for the location of riparian buffer mitigation stated that the mitigation should be the same distance from the estuary as the proposed impact or closer to the estuary than the impact and as close to the location of the impact as feasible. Due to scale, timing, and in some

cases, limited availability, a portion of the historical riparian buffer mitigation requirements have been located downstream of the watershed of impact. The proposed rule makes adjacent watershed mitigation allowable, but is silent on whether or not mitigation can be provided even closer to the estuary or more than one watershed away. Commenter recommends that mitigation should be allowed when it is closer to the estuary than the impact, adjacency notwithstanding. The use of Omernik within this paragraph should be deleted for the same reasons as detailed in (11) above.

Comment:

3 commenters indicated that the geographic restrictions on location of mitigation are acceptable.

Response:

The Proposed Rule incorporates language from existing buffer protection rules indicating that mitigation must occur within the protected watershed. Although previous DWR policy allowed for mitigation to be conducted outside of the watershed when no other options existed, the increased flexibility of this rule will ensure future compliance with the buffer rules by supplying mitigation within the same watershed as the impact. Recommend modifying the text within the table to include non-adjacent HUC within the watershed and to remove Footnote C.

Location	Ratio
Within the 12-digit HUC ^A	0.75:1
Within the eight-digit HUC ^B	1:1
Outside of eight-digit HUC ^{B,€}	2:1

^A Except within the Randleman Lake Watershed. Within the Randleman Lake Watershed the ratio is 1:1.

^B Except as provided in Paragraph (g) of this Rule.

~~[€] To use mitigation in the adjacent eight-digit HUC, the applicant shall describe why buffer mitigation within the eight-digit HUC is not practical for the project~~

Comment:

Reference (E) is not applicable to this section of the rule and should be removed.

Response:

Reference (E) is included so that this rule may be applicable to any future buffer rules without modification of this Rule.

.0295 (h) “The applicant may propose any of the following types of mitigation and shall provide a written demonstration of practicality that takes into account the relative cost and availability of potential options, as well as information addressing all requirements associated with the option proposed:

- (1) Applicant-provided riparian buffer restoration site or enhancement site pursuant to Paragraph (n) of this Rule;
- (2) Payment of a compensatory mitigation fee to a compensatory buffer mitigation bank if buffer credits are available pursuant to Paragraph (i) of this Rule or payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (j) of this Rule. Payment shall conform to the requirements of G.S. 143-214.20;
- (3) Donation of real property or of an interest in real property pursuant to Paragraph (k) of this Rule; or
- (4) Alternative buffer mitigation options pursuant to Paragraph (o) of this Rule.
- (5) Other buffer mitigation options when approved by the Environmental Management Commission as a condition of a variance approval”:

Comment:

Propose this section be rewritten for clarity. There are three primary mitigation options for applicants: applicant provided mitigation, payment into the DMS Riparian Buffer Restoration Fund, and purchasing mitigation credits from a mitigation bank. Donation of property is a form of applicant-provided mitigation and should be merged with (1). Items (4) and (5) should be moved to the section of the rule that describe the types of riparian buffer mitigation that are allowable— particularly since all of the items in 4 and 5 are available to all three types of providers.

The language “written demonstration of practicality” is unclear, undefined and should be removed. An applicant’s options are defined in § 143-214.20. Commenter recommends the following: “The applicant may propose any of the following types of mitigation pursuant to § 143-214.20.”

Response:

Propose to modify language to be more consistent with GS 143-214.20 and to remove “written demonstration of practicality”

~~The applicant may propose any of the following types of mitigation and shall provide a written demonstration of practicality that takes into account the relative cost and availability of potential options, as well as information addressing all requirements associated with the option proposed:~~

- (1) ~~Applicant-provided~~ Riparian buffer restoration site or enhancement site pursuant to Paragraph (n) of this Rule;

- (2) Payment of a compensatory mitigation fee to a compensatory buffer mitigation bank ~~if buffer credits are available~~ pursuant to Paragraph (i) of this Rule. Payment shall conform to the requirements of G.S. 143-214.20;
- (3) Payment of a compensatory mitigation fee to the Riparian Buffer Restoration Fund pursuant to Paragraph (j) of this Rule. Payment shall conform to the requirements of G.S. 143-214.20;
- (3) ~~Donation of real property or of an interest in real property~~ pursuant to Paragraph (k) of this Rule; or
- (4) Alternative buffer mitigation ~~options~~ pursuant to Paragraph (o) of this Rule.
- (5) Other buffer mitigation ~~options when~~ as approved by the Environmental Management Commission as a condition of a variance approval

.0295 (h) “Riparian buffer restoration or enhancement is required with an area at least equal to the footprint of the buffer impact, and the remaining mitigation resulting from the application of the zonal mitigation ratios in Paragraph (e) and locational mitigation ratios in Paragraph (f) may be met through other mitigation options”:

Comment:

5 commenters stated that the use of preservation should be limited to only a portion of any given mitigation project with no more than 25% of credits generated from a mitigation site being preservation. Preservation should be used as a “tool” to increase the ecological benefits of a site by incentivizing protection of existing buffers since these areas would not provide mitigation credit if preservation was not considered. For example, there may be a restoration site that has a section of existing forested riparian buffer that is fully functioning with restoration opportunity on the up and downstream sides of the areas. Including this existing forested area between the two restoration areas provides for an ecological corridor as well as covers the area under one conservation easement. Again, preservation should never be allowed as a stand-alone project. Preservation alone does not contribute to an increase in the improvement of water quality. Subject features pursuant to rules .0233, .0243, .0250, .0259, .0267 or .0607 have some protection under the law.

Comment:

This language seems to be strengthened so as to require the applicant to perform a minimum amount of buffer restoration or enhancement if that option is chosen. This may not be practical on small existing lots of record. Generally this would cause one to go through a variance procedure just because they have a small lot. This would force them to do just that, which is not desirable for any of the parties involved.

Comment:

The Proposed Rule eliminates the requirement that lost riparian buffers be replaced with riparian buffers before granting preservation credit or credit for the use of Alternative Buffer Stormwater Treatment Options. See Proposed .0295 (m)(2)(C), (m)(2)(D), (m)(3)(A). Of all the mitigation options contemplated by the mitigation rule, restored and enhanced riparian buffers remain the most reliable long-term option for replacing the function of lost riparian buffers. The Final Rule should reinstate the requirement that structural options be paired with buffer restoration or enhancement.

Comment:

Commenter strongly opposes the language that requires utilizing riparian buffer restoration or enhancement to offset an area at least equal to the footprint of the buffer impact. This simple requirement more than doubles the complexity of mitigation accounting under the proposed rules for all types of mitigation providers. This proposed rule creates two classes of requirements, two classes of mitigation credits, and two sets of mitigation accounting ledgers with tedious and unneeded complexity. Authorizations will also need more sophistication in order to comply with the rule, particularly when there are multiple providers associated with an authorized impact, as each will need to know the class and amount of impacts associated with the required mitigation. Mitigation projects will also be more complex and require more sophisticated and therefore expensive surveying techniques to measure the different types of mitigation credits. Commenter believes that simplifying the Rule such that mitigation credits are fungible will lead to lower costs and more effective implementation. Limits can be applied on a mitigation project basis to reduce the concerns that one type of mitigation might be over-applied or applied exclusively (e.g. preservation). This type of limitation is easy to implement and will result in the same environmental outcome, but at a much lower implementation cost.

Response:

Preservation is a valuable tool increase the protections on a mitigation site when combined with other methods of buffer mitigation, however there are concerns with preservation being appropriate as a sole method of mitigation for a buffer impact. To address that concern, this rule (and earlier versions) required that for each foot of buffer impact, at least 1 foot of buffer restoration or enhancement be conducted and the additional mitigation requirement (determined by the required multipliers) could be satisfied by preservation. The draft permanent rule relocated this language within the rule during reorganization and it appears that the relocation of the text caused some confusion as to whether the requirement had been removed from the rule altogether.

An alternative method to address the concern of mitigation being provided exclusively by preservation, would be to limit the amount of preservation that may be proposed on a given mitigation site. This would provide surety that a minimum amount of buffer mitigation would be satisfied by restoration or enhancement, however it would prevent

mitigation providers and permittees from proposing “preservation only” mitigation sites. The comments received from the DMS and the Mitigation Banking Companies indicate this would be an acceptable compromise. The recommendation is to accept a maximum amount of preservation to be 25% per mitigation site as proposed. According to one commenter, the current restrictions may present a hardship to individual residential permittees who propose on-site mitigation on small lots. This concern would not be addressed by the change proposed. The current text would be deleted in Item (h) and new text would be added in Item:

(h) MITIGATION OPTIONS FOR APPLICANTS. ~~Riparian buffer restoration or enhancement is required with an area at least equal to the footprint of the buffer impact, and the remaining mitigation resulting from the application of the zonal mitigation ratios in Paragraph (e) and locational mitigation ratios in Paragraph (f) may be met through other mitigation options.~~

(l) All mitigation proposals shall meet the following criteria:

- (8) The area of preservation credit within a buffer mitigation site shall comprise no more than 25 percent of the total area of buffer mitigation.

.0295 (k) “Applicants who choose to satisfy their mitigation requirement by donating real property or an interest in real property to fully or partially offset an approved payment into the Riparian Buffer Restoration Fund pursuant to Paragraph (j) of this Rule shall do so in accordance with 15A NCAC 02R .0403.”:

Comment:

Commenter supports the proposed change to (k). However, commenter is also not opposed to striking this reference entirely from this rule as it will be covered in the original rule for donations in-lieu of payment. In the past, donation of property as a form of applicant-provided mitigation has often been confused with “donation of land in-lieu of payments.” Care must be taken to avoid that same confusion in the current rule. Any semblance of donation of land as a form of payment to DMS should be stricken from this rule.

Comment:

3 commenters stated that donation of property should require the approval of the Division before any property donations are accepted.

Response:

No changes proposed.

.0295 (l)(1) “The location of the buffer mitigation site shall comply with the requirements of Paragraphs (e), (f), and (g) of this Rule. In the Catawba watershed, buffer mitigation may be done along the lake shoreline as well as along intermittent and perennial stream channels throughout the watershed”:

Comment:

The location of the buffer mitigation site should only comply with (f) and (g). Reference to (e) refers to DWR zonal mitigation ratios applied to applicants and should not be listed here.

Response:

Propose to remove reference to (e).

.0295 (l)(2)(B) “The mitigation proposal shall include a commitment to provide a non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and maintenance of lands or structures”:

Comment:

3 commenters stated that the purpose of the non-wasting endowment or other dedicated financial surety should be used to fund the enforcement of the perpetual conservation easement or similar preservation mechanism and not for management. The mitigation buffer site is designed as a natural, self-sustaining system that should not require active management.

Comment:

The rule states that the endowment shall provide for “perpetual land management and maintenance.” Commenter believes that the purpose of the endowment is to ensure that the easement restrictions are monitored and in the event that they are not, any violations are turned over to the proper authorities for enforcement. The current rule language implies something far more significant and costly and therefore should be eliminated. Management and maintenance should only be an element of structural mitigation projects as allowed under the rule. Nonstructural projects are designed to be self-sustaining and do not require perpetual land management and maintenance.

Response:

The language was taken from § 143-214.11 however one word was accidentally deleted. Language from § 143-214.11 states “to provide for the perpetual land management and hydrological maintenance of lands”

Propose to modify language to correct error:

“a non-wasting endowment or other dedicated financial surety to provide for the perpetual land management and hydrological maintenance of lands ~~or~~ and/or maintenance of structures;”

.0295 (1)(2)(C) “The mitigation proposal shall include a commitment to provide financial assurance in the form of a completion bond, credit insurance, letter of credit, escrow, or other vehicle acceptable to the Authority payable to, or for the benefit of, the Authority in an amount sufficient to ensure that the property is secured in fee title or by easement, and that planting or construction, monitoring and maintenance are completed as necessary to meet success criteria as specified in the approved mitigation plan. This financial assurance obligation shall not apply to the NC Ecosystem Enhancement Program”:

Comment:

I encourage maintaining the proposed rule language that allows flexibility to mitigation providers for providing financial assurances. This will encourage mitigation providers by lowering barriers and reducing costs while allowing for security for the project’s completion. The cost of a \$100,000 dollar or more financial bond for construction, then another for monitoring can be a significant annual cost, excessive, and a deterrent to mitigation providers. In proportion to the project, these costs are increased on smaller projects that only involve low-impact activities such as planting trees. These smaller projects will become more prevalent as bigger mitigation sites become fewer in number. Alternative financial assurances should provide the same security and allow mitigation providers to pass along their reduced cost and help promote mitigation. Also, these assurances should be proportionate to the cost or size of the project to accommodate the need to implement smaller projects in areas where those may be the only project sites available.

Comment:

The rule requires that the assurance be payable to the Authority. Insurance need not be payable to Authority and in most cases should probably not be payable to the Authority. In cases such as performance bonds, the performance bond company retains the ability to implement the corrective action or to pay the bond. Requiring payment to the Authority will increase the cost of the insurance. The commenter believes the rule should allow the assurance dollars be allowed to go to any qualified entity that can complete the work. Since Authorities have rarely, if ever, completed such work, the commenter questions whether the Authorities should be allowed to receive such funds under the rules.

Response:

During research done by the DWR with regards to Mitigation Banking Instruments the agency had extensive discussions with DENR Office of General Counsel as to how to word bonding language and who should be the beneficiary. The current language was provided to DWR by the DENR assistant general counsel. The language “made payable to, or for the benefit of, the Authority” provides sufficient flexibility.

.0295 (l)(3) “Diffuse flow of runoff shall be maintained in the riparian buffer. Any existing impervious cover or stormwater conveyances such as ditches, pipes, or drain tiles shall be eliminated and the flow converted to diffuse flow. If the applicant or mitigation provider determines that elimination of existing stormwater conveyances is not feasible, then they shall include a justification and shall provide a delineation of the watershed draining to the stormwater outfall and the percentage of the total drainage by area treated by the riparian buffer with the mitigation plan specified in Paragraph (n) or Paragraph (o) for Authority approval; during mitigation plan review and approval. The Authority may reduce mitigation credit proportionally”:

Comment:

Buffers only provide water quality benefits if diffuse flow passes through the buffer. The Proposed Rule, however, allows DWR to award full credit to projects that do not eliminate existing “impervious surface cover or stormwater conveyances such as ditches, pipes, or drain tiles.” See Proposed .0295(i)(3). Allowing existing impervious cover and stormwater conveyances to remain in the buffer will render the buffer ineffective. The Proposed Rule should be revised to prohibit awarding riparian buffer credit unless existing impervious surfaces and stormwater conveyances are removed.

Response:

Language provided in the rule which states “The Authority may reduce mitigation credit proportionally” has been sufficiently addresses the concern. If upon site specific review, the Authority believes that the lack of elimination of any impervious surfaces or stormwater conveyances reduces the function of the mitigation site, then the buffer mitigation credit may be reduced (proportional to the reduction in buffer function).

Comment:

The punctuation leaves something to be desired. It seems that these sentences would be better rewritten as “If the applicant or mitigation provider determines that elimination of existing stormwater conveyances is not feasible, then they shall include, for Authority review and approval, a justification and shall provide a delineation of the watershed draining to the stormwater outfall and the percentage of the total drainage treated by the riparian buffer with the mitigation plan specified in Paragraph (n) or Paragraph (o). During mitigation plan review and approval, the Authority may reduce mitigation credit proportionally.

Response:

The version posted on the DWR website included a typographical error that had been corrected prior to Rule filing with OAH. Current language corrects the punctuation error that was referenced in the City of Durham’s comments.

.0295 (l)(4) "Sewer easement within the buffer. If the proposed mitigation site contains a sewer easement in Zone 1, that portion of the sewer easement within Zone 1 is not suitable for buffer mitigation credit. If the proposed mitigation site contains a sewer easement in Zone 2, the portion of the sewer easement in Zone 2 may be suitable for buffer mitigation credit if:

- (A) the applicant or mitigation provider restores or enhances the forested buffer in Zone 1 adjacent to the sewer easement;**
- (B) the sewer easement is required to be maintained in a condition that meets the vegetative requirements of the collection system permit; and**
- (C) diffuse flow is provided across the entire buffer width"**

Comment:

Although the provisions of this "Sewer easement within the buffer" paragraph have been moved elsewhere, this 30-foot requirement has been eliminated. Was a width purposely omitted.

Response:

Upon review of the previous language referencing a 30 foot easement, and upon consultation with the League of Municipalities, it was determined that the language was unclear and posed implementation difficulties and was therefore removed.

Comment:

Commenter supports (4) and suggests that other utilities be added as they offer essentially the same conditions as sewer easements. This can be accomplished by replacing the word sewer with utility. Any utility easement maintained in vegetative cover will achieve buffer functions. Commenter also suggests that if the easement in zone 2 is suitable for credit, the easement in zone 1 should also be suitable for mitigation credit.

Response:

During EMC review of the Rule in 2013, allowances were made specifically for sewer lines within buffer mitigation sites. The justification for the allowance was that gravity sewer lines are very limited regarding location and are often required to be at topographically low points within watersheds which is almost always adjacent to streams. Sewer lines are regulated under 15A NCAC 02T rules and DWR permitting. Mechanisms exist for ensuring water quality protection and inspection requirements within those rules and permits would ensure proper operation and maintenance. It has been determined that since rules and permits regarding sewer lines do not allow maintenance corridors to be vegetated in a manner that is required for buffer mitigation credit (trees and shrubs) then they would not qualify for receiving credit in Zone 1, however they may be present within a buffer mitigation site in Zone 2 only since Zone 2 is allowed to be graded and vegetated in grass (per the buffer rules). These locational constraints and rule protections do not exist for other utility lines, therefore no changes proposed to current language.

.0295 (l)(5) “The applicant or mitigation provider shall provide a site specific credit/debit ledger to the Authority at regular intervals as specified in the mitigation plan approval or Mitigation Banking Instrument once credits are established and until they are exhausted”:

Comment:

3 commenters stated that Division of Mitigation Services should provide ledgers on at least a semi-annual basis.

Response:

There is no current Instrument or MOA between DWR and DMS which would specify credit/debit ledger submittal requirements for DMS. DMS currently includes ledgers in the Annual Report they submit to the ERC; DWR also receives a copy of this annual report.

Comment:

Commenter supports the proposed changes, however, applicants do not bank or accumulate credits and therefore do not have or need credit ledgers.

Response:

“Applicant” was removed from the text.

.0295 (l) (6) “Projects that have been constructed and are within the required monitoring period on the effective date of this Rule are eligible for use as buffer mitigation sites. Projects that have completed monitoring and released by the Division on or before the effective date of this Rule are eligible for use as buffer mitigation sites for a period of 10 years from the effective date of this Rule”:

Comment:

5 commenters stated that “retroactive credits” should only be allowed if the site has been constructed within the last three years (4 of the comments indicate 3 years, the others indicate a baseline period or a need for clarity) or after the enactment of the buffer rules and these areas of buffer mitigation have been approved by the Division. Older sites where credits are being considered presents problems in determining what the historic watershed baseline conditions were prior to any mitigation activity. Clear documentation of existing site conditions needs to exist to consider sites for retroactive credits. Retroactive credit sites need to demonstrate that they meet the intent of the rule and provide for water quality improvements. The ecological benefits of a retroactive site in some cases would be just based on judgment without any documented baseline conditions to prove water quality improvements. Only sites that are currently being monitored and have verified historic baseline conditions should be allowed.

More conditions are needed for the use of retro-active credits. As currently written, there is excessive latitude to use credits funded for different purposes and under different rules that would result in a net environmental loss.

The main reason for this position is that buffer impacts were not regulated or mitigated prior to rule existence. Without accounting for the loss of streamside forest on pre-buffer rule permits, there is no understanding whether pre-rule projects have accounted for those losses.

Commenter suggest that either of the following conditions be satisfied prior to allowing use of retroactive credits:

- 1. A statement within the approved Bank Parcel Development Plan or a letter from the Authority prior to the project's implementation that state's the Authority will allow buffer credits from the site, if any exist, for prospective rules. Even with such a letter, I'd advocate that these credits should sunset 10 years after project implementation if such rules are not in place; or*
- Buffer impacts prior to the effective date of the buffer rules should be accounted for and compensated for prior to the granting of retroactive credits. The accounting would cover buffer impacts from the strategies baseline period to the effective date of the buffer rules (i.e., buffers lost) and environmental projects that restored buffer function (i.e., buffers gained). The results of this accounting would justify whether credits should be available for sale. If there has been a net gain, then parties with potentially available credits would need to agree upon a framework for dividing any available credits. Accounting for those impacts would be complicated, but necessary in order to assure there are no environmental losses from retroactive crediting.*

Response:

Development of this rule began in 2008. As the rule was in development, a handful of regulated entities and mitigation providers initiated alternative mitigation projects with the understanding that the rule would be finalized within a short time. As it was recognized that development of the rule would be protracted, this language was modified in order to provide for those entities to seek credit for alternative mitigation projects (projects that would not qualify for buffer mitigation credit until the new rule was finalized).

During implementation of the Temporary Rule, the interpretation of the text was questioned. As a result, the language was relocated in the Draft Permanent Rule to provide for retroactive credits for all types of mitigation. This relocation is the basis for some of the comments received. In addition, the text is unclear as to the process and minimum criteria necessary to receive "retroactive credit".

It is recommended that the language be modified to clarify the process and qualifications for retroactive credit. Establishing minimum criteria should address the concerns from the commenters more appropriately than setting a specific time limit for “retroactive credit.”

Proposed language:

.0295 (l) (6) “Projects that have been constructed and are within the required monitoring period on the effective date of this Rule are eligible for use as buffer mitigation sites. Projects that have completed monitoring and released by the Division on or before the effective date of this Rule are eligible for use as buffer mitigation sites for a period of 10 years from the effective date of this Rule”. For each mitigation site proposed under this Sub-Paragraph, the Division shall identify functional criteria to measure the benefits of the mitigation to the adjacent water. All mitigation site proposals submitted under this Subparagraph shall include the following:

- (a) A map of the proposed mitigation site;
- (b) Documentation of pre-existing conditions showing that the mitigation site met the criteria to qualify as a restoration site or enhancement site as defined in Paragraph (b) of this Rule, or that the mitigation site met the criteria to qualify as an alternative mitigation site as specified in Paragraph (o);
- (c) Documentation of the activities that were conducted at the buffer mitigation site to meet the success criteria identified in the applicable Paragraph or Subparagraph;
and
- (d) Documentation that the project met the success criteria identified in the applicable Paragraph or Subparagraph.

Buffer mitigation sites shall receive credit in accordance with the criteria set forth in Paragraph (m) and Subparagraph (n)(1).

Comment:

The rule is unclear regarding what is meant when it states projects are eligible for use as buffer mitigation sites for a period of 10 years. Does this mean that if a request is not made within 10 years of the rule, no buffer mitigation credit can be pursued on these preexisting projects? The commenter supports this interpretation of the rule.

Response:

Reword second sentence for clarity.

Projects that have been constructed and are within the required monitoring period on the effective date of this Rule are eligible for use as buffer mitigation sites. Projects that have completed monitoring and were released by the Division on or ~~before~~ within the

~~past ten years of the effective date of this Rule are may be eligible for use as a buffer mitigation sites site. for a period of 10 years from the effective date of this Rule~~

.0295 (l)(7)(C) “Buffer mitigation credit may be generated on stream mitigation sites as long as the width of the restored or enhanced riparian buffer meets the requirements of Subparagraph (n)(1).”:

Comment:

Commenter recommends adding “except as provided in this rule” to the end of 7(C).

Comment:

3 of the commenters stated that the terms of accounting for credit are acceptable [Comment is not specific to (7)(C)].

Response:

The language is sufficient as it references the Subparagraph in the Rule that discusses buffer widths.

.0295 (m) “RIPARIAN BUFFER MITIGATION UNITS. Mitigation activities shall generate riparian buffer mitigation units as follows”:

Mitigation Activity	Square Feet of Mitigation Buffer	Riparian Buffer Mitigation Units Generated
Restoration Site	1	1
Enhancement Site	2	1
Preservation Site on Non-Subject Urban Streams	3	1
Preservation Site on Subject Urban Streams	3	1
Preservation Site on Non-Subject Rural Streams	5	1
Preservation Site on Subject Rural Streams	10	1

Comment:

The temporary rule that the Proposed Rule modifies, decreased the required mitigation to earn one mitigation credit through buffer enhancement from 3:1 to 2:1, reducing mitigation provided by that unit by one third. As a result, an enhancement project will now produce additional mitigation credit, with corresponding higher payments to the mitigation providers, but provide significantly less water quality benefit. The Proposed Rule continues this weakening of water quality protections without justification. The ratio should be restored to 3:1

Response:

The enhancement credit ratio was proposed for modification to be consistent with the ratio elsewhere in the rule for enhancement of grazing areas adjacent to streams and is consistent with the ratio for enhancement in 15A NCAC 02H .0506 (401 water quality certification rules).

Comment:

Commenter recommends the word "unit" be replaced with the word "credit." Paragraph (m) would more accurately be labeled "Riparian Buffer Mitigation Credit Ratios." Credit ratios are applied to convert the physical quantities of a mitigation activity (e.g. restoration) into mitigation credits. The commenter recommends that all of the separate credit ratios be combined into one table to reduce confusion. As it currently stands, one cannot determine the actual credits until all of the separate ratios are applied. For example, this table must be combined with the buffer width table in section (n)

Response:

The definition of "Riparian Buffer Mitigation Unit" was included in this rule at the request of the regulated community. The definition is proposed to be modified to improve clarity as described above.

.0295 (m) and .0295 (n):Comment:

Currently 15A NCAC 02B .0295 has 44 combinations of creditable activities not including the stormwater options which are described in paragraph (o)(8). This creates tremendous complexity and calls into question whether or not both regulators and providers will be able to implement the rule consistently and accurately. Commenter recommends that the credit ratios from (m) and (n) are combined to following actual credit ratios in a new table. Although commenter recommends simplifying the Rule throughout, the proposed new complex table can be reduced to a simplified version (without changing the rule). The proposed table provides a representation of what the true credit ratios are as listed in the current proposed rules. Commenter recommends additional consolidation to provide clarity and effective and consistent implementation.

Response:

Presentation of a new format and table would add complexity at this late time in the development of this Rule.

.0295 (n)(1) “Buffer restoration sites or enhancement sites may be proposed as follows:

Urban Areas		Non-Urban Areas	
Buffer width (ft)	Proposed Percentage of Full Credit	Buffer width (ft)	Proposed Percentage of Full Credit
Less than 20	0 %	Less than 20	0 %
20-29	75 %	20-29	0 %
30-100	100 %	30-100	100 %
101-200 A	50 % ^A	101-200 ^A	50 % ^A

^A The area of the buffer mitigation site beyond 100 linear feet from the top of bank shall comprise no more than 10 percent of the total area of buffer mitigation.”:

Comment:

The Proposed Rule awards 50% mitigation credit to buffers between 101 and 200 feet wide. The science shows that additional water quality benefits beyond 75 feet are generally regarded to be minimal. In nutrient sensitive waters like the Tar-Pamlico and Neuse Rivers, decreasing the amount of buffer restoration and enhancement done within the first 100 feet of buffer will degrade water quality. As reflected in the Division of Water Resources’ response to the Ecosystem Enhancement Program’s comments during the last comment period on riparian buffer mitigation rules, nutrient reduction potential decreases significantly between 76 and 200 feet. DWR estimated “~16% increase [in N removal] between 76 and 200 feet.” Based on that analysis, DWR staff recommended 25% buffer credit between 101-200 feet. The Proposed Rule should be revised to adopt this lower credit amount to reflect the decreased nutrient removal observed in buffers between 101 and 200 feet.

Comment:

Under paragraph (n) (1), the rule states that the area of the buffer mitigation site beyond 100 linear feet from the top of bank shall comprise no more than 10 percent of the total area of buffer mitigation. Commenter believes that this is overly restrictive, unnecessary, and perhaps deconstructive to the intent of the rule. The more efficient method for determining credits is to adjust the credit ratio in table (n) to properly adjust credit yield (after it has been combined with table (m)) to reflect the functional benefit of restoring enhancing or preserving riparian buffers in this zone. The table in (l)(1) states that the credit ratio for the 100-200 foot corridor is 50% compared with the 0-100 foot corridor. The reduced credit yield is a disincentive to producing credits in the 100-200 foot corridor. The 10 percent cap is designed to further limit the production of credit in this zone

Response:

Reduced credits for buffer widths beyond 50 feet were incorporated into this Rule through a stakeholder involvement process and then through legislative mandate for the Temporary Rule. One of the comments received refers to a literature review conducted previously by the DWR. In response to the comments received, and the language in the draft Permanent Rule, the literature review was re-evaluated.

Mayer (2007) conducted an analysis based on available scientific literature (45 studies, 89 individual buffers) that contained data on riparian buffer and nitrogen (N) concentration in streams and groundwater. The authors developed a nonlinear regression model to estimate nitrogen removal efficiency within three different buffer width ranges. Two distinct zones emerged, with 50-75% N removal for buffers up to 75 feet wide and a much lower increase in N removal between 75 and 200 feet (~16% increase between 76 and 200 feet). See Figure 3 at the end of this document for a summary of this data.

The Nitrogen Loss Estimation Worksheet (NLEW) Committee (Osmond et al. 2011) also reviewed several studies conducted primarily in North Carolina. The studies looked at the effect of buffer widths and riparian vegetation on subsurface nitrate reductions. The NLEW committee determined that credit should be based on net N reduction rather than gross reduction. Net N reduction refers to the additional nitrogen removal that will result from changing an area from some pre-existing use (such as row crops) to a forested riparian buffer. The authors identified % N reduction credit for four different ranges of buffer widths. These % N reduction credits were used to calculate nitrogen offset credit from riparian reforestation along a 1,000 linear foot stream segment – see Figure 4 at the end of this document for a summary of this data.

Both the Mayer method and the NLEW method demonstrated a significant drop in the additional amount of nutrients removed for wider buffers beyond a certain point. This information has been used to propose the buffer credit table below for various buffer widths. It is recommended that with the proposed changes, the distinction between Urban and Non-Urban can be removed to simplify the rule.

Propose to modify buffer widths credits to:

Urban Areas		Non-Urban Areas	
Buffer width (ft)	Proposed Percentage of Full Credit	Buffer width (ft)	Proposed Percentage of Full Credit
Less than 20	0 %	Less than 20	0 %
20-29	75 %	20-29	0 %
30-100	100 %	30-100	100 %
101-200 A	50 % ^A 25 %	101-200 ^A	50 % ^A

^A ~~The area of the buffer mitigation site beyond 100 linear feet from the top of bank shall comprise no more than 10 percent of the total area of buffer mitigation.”;~~

.0295 (n)(2)(B) “A vegetation plan that shall include a minimum of four native hardwood tree species or four native hardwood tree and native shrub species, where no one species is greater than 50 percent of established stems, planted at a density sufficient to provide 260 stems per acre at the completion of monitoring. Native hardwood and native shrub volunteer species may be included to meet the final performance standard of 260 stems per acre. The Authority may approve alternative vegetation plans upon consideration of factors, including site wetness and plant availability to meet the requirements of this Part;”:

Comment:

Commenter strongly opposes the substitution of the word “established” with “planted” in (2)(B) and would cite this as a substantive change from the existing temporary rule that is in place. The mitigation plan should put forth a plan for establishing a forest that is based on sound science and fundamental economics. Planting stems is often not the best method to establish or restore an area to a forested condition and can often lead to poorer results. Utilizing the word planted is prescriptive and prevents the evolution and practice of utilizing the most effective ecological science to establish forests. This change in wording will also increase the financial burden of the rule on the regulated public without resulting in better environmental outcomes.

Response:

Propose language change to address concerns (changes made to (2)(E) are for improved wording/clarity and to address some additional concerns in (4):

(2) The applicant or mitigation provider shall submit to the Authority a restoration or enhancement mitigation plan for written approval. The plan shall demonstrate compliance with the requirements of this Paragraph and Paragraphs (l) and (m) and shall also contain the following:

(A) A map of the proposed restoration or enhancement site;

(B) A vegetation plan that shall detail the activities proposed to ensure a final performance standard of 260 stems per acre at the completion of monitoring. The final performance standard shall include a minimum of four native hardwood tree species or four native hardwood tree and native shrub species, where no one species is greater than 50 percent of established stems, planted at a density sufficient to provide 260 stems per acre at the completion of monitoring. Native hardwood and native shrub volunteer species may be included to meet the final performance standard of 260 stems per acre. The Authority may approve alternative vegetation plans upon consideration of factors, including site wetness and plant availability to meet the requirements of this Part;

(C) A grading plan (if applicable). The site shall be graded in a manner to ensure diffuse flow through the entire riparian buffer;

- (D) A schedule for implementation, including a fertilization and herbicide plan if applicable; and
- (E) A monitoring plan to document whether the site is expected to meet the final performance standards as defined in Subparagraph (n)(2)(B) including monitoring of vegetative success and other anticipated benefits to the adjacent water. The plan shall include monitoring the vegetative status of the restoration or enhancement site for five years, including the health and average stem densities of native hardwood tree or tree and shrub species that are to be counted toward the final performance standard.

.0295 (n)(4) “The applicant or mitigation provider shall submit written annual reports for a period of five years after the restoration or enhancement has been conducted showing:

- (A) the survival of the trees or tree and shrub species planted;**
- (B) whether the vegetation of the site is expected to meet success criteria; and**
- (C) that diffuse flow through the riparian buffer has been maintained.**

The applicant or mitigation provider shall replace trees or shrubs and restore diffuse flow if needed during that five-year period. If the Authority determines that the objectives identified in this Paragraph have not been achieved at the end of the five-year monitoring period the Authority may require additional years of monitoring”:

Comment:

Commenter strongly opposes the rule language that requires that annual monitoring reports to show the “survival of the trees or tree and shrub species planted.” This represents a significant and potentially costly change from the temporary rule. The monitoring reports should demonstrate that the forest is being established. Whether the species originated from seeds, stumps, plantings, or other sources or practices is immaterial to the establishment of the riparian buffer which is the objective of both the project and the monitoring program. The success criterion is 260 trees per acre- this is a measurement of stocking levels commonly used in forest management. Any monitoring required should simply measure progress toward the success criterion. Any additional requirements place an unnecessary financial burden on the regulated public. As currently worded, mitigation providers must flag each planted stem in the vegetation plots and make an annual determination as to whether that individual plant is surviving. This is expensive and unnecessary and provides no meaningful information to inform project success. Since the number and type of species planted is known, the number and type of species surviving is also known. The provider and the regulator can easily determine if there is any deviation from the desired species composition without identifying and measuring individual plants each year. Lastly, while annual monitoring is often utilized because DWR releases mitigation bank credits on an annual cycle, annual monitoring is not necessary to

determine success or to decide when adaptive management techniques are needed.

Commenter recommends that the Rule allow for the proposal of alternative monitoring cycles in the mitigation plan.

Response:

The comments are inaccurate in that the word “planted” was in this Subparagraph of the Temporary Rule. With regards to the concern for submitting annual reports, annual reports are appropriate to identify concerns at the earliest possible time.

Propose language change to address concerns (changes are in conjunction with changes proposed to (2)(B)):

- (4) The applicant or mitigation provider shall submit written annual reports for a period of five years after completion of the restoration or enhancement site ~~has been conducted~~ showing ~~(A) the survival of the trees or tree and shrub species planted~~ compliance with the monitoring plan approved pursuant to Item (n)(2)(E) of this Rule; and that diffuse flow through the riparian buffer has been maintained. If the Authority determines that the native hardwood tree or tree and shrub species at the site are not expected to meet the final performance standards listed in Item (n)(2)(B), then the Authority may require that the applicant or mitigation provider shall replace trees or trees and shrubs and restore diffuse flow if as needed during that five-year period. If the Authority determines that diffuse flow through the buffer is not being maintained, then the Authority may require that the applicant or mitigation provider restore diffuse flow. If the Authority determines that the objectives final performance standards listed in Subparagraph (n)(2)(B) identified in this Paragraph have not been achieved at the end of the five-year monitoring period the Authority may require additional years of monitoring.

Comment:

Commenter has concerns with the language that if success is not achieved at the end of five years “additional years of monitoring may be required.” For providers to fully understand the ramifications, costs, and risks, this language needs to be more specific.

Response:

Current language: “additional years of monitoring may be required” provides flexibility to address concerns on a situational basis.

.0295 (o) Alternative Buffer Mitigation Options:

Comment:

The only subparagraphs (mitigation activities) in (o) that mitigation practitioners would reasonably consider to be “alternative” are (8) stormwater treatment options and (9) case-by-

case options yet to be developed for use as buffer mitigation. All of the other mitigation techniques in (1) through (7) are similar to current mitigation techniques and result in fungible credits. There is no reason to distinguish these mitigation techniques from other forms of forested riparian buffer mitigation activities. Commenter strongly recommends consolidating all forms of riparian buffer mitigation practices into a single paragraph of the rule followed by a paragraph with the credit ratios for all of the techniques. This would significantly improve clarity. Commenter disagrees with the categorization of (1) through (7) as “alternative” types of mitigation and will only support a Rule that categorizes these techniques as types of riparian buffer mitigation methods

Response:

The word Alternative has been used in Statute and in this Rule to mean any type of buffer mitigation that is not traditional restoration or enhancement as previously allowed by each individual buffer mitigation rule. Modification as proposed would introduce confusion at this late time in the development of this Rule

.0295 (o) “Some or all of a buffer mitigation requirement may be met through any of the alternative mitigation options described in this Paragraph. Any proposal for alternative mitigation shall meet the requirements of Paragraphs (l), and (m) of this Rule and the requirements set out in the named Subparagraph addressing that option:”

Comment:

This directly conflicts with other portions of the rule that limit how much of these types of mitigation may be applied toward a permit. Commenter recommends that all forms of riparian buffer mitigation produce fungible credits.

Response:

Propose to strike the first sentence in (o).

~~.0295 (o) Some or all of a buffer mitigation requirement may be met through any of the alternative mitigation options described in this Paragraph. Any proposal for alternative mitigation shall meet the requirements of Paragraphs (l), and (m) of this Rule and the requirements set out in the named Subparagraph addressing that option:~~

.0295 (o)(1) “Wooded buffers planted along Outer Coastal Plain headwater stream mitigation sites may also be approved as riparian buffer mitigation credit if the site meets all applicable requirements of Paragraph (n) of this Rule. In addition, all success criteria specified in the approval of the stream mitigation site by the Division shall be met. The area of the buffer shall be measured perpendicular to the length of the valley being restored. The area within the proposed buffer mitigation site shall not also be used as wetland mitigation. The

applicant or mitigation provider shall monitor the site for at least five years from the date of planting and provide annual reports for written Division approval.”

Comment:

Commenter supports the inclusion of this form of riparian buffer mitigation. However, since most regulatory Coastal Headwater Projects are jurisdictional wetlands, the commenter believes that jurisdictional status should not be required for classification as riparian buffer credit.

Response:

There is no reference to a requirement for the site to be classified as jurisdictional wetlands within this Rule or the USACE guidance the rule is based on.

.0295 (o)(2) “Restoration or enhancement of buffers may be conducted on intermittent or perennial streams that are not subject to the applicable riparian buffer Rules .0233, .0243, .0250, .0259, .0267 or .0607 of this Subchapter. These streams shall be confirmed as intermittent or perennial streams by Division staff certified per G.S. 143-215.25A using the Division publication, Methodology for Identification of Intermittent and Perennial Streams and Their Origins (v.4.11, 2010). The proposal shall meet all applicable requirements of Paragraph (n) of this Rule”:

Comment:

What if the buffers are in the Jordan Lake Basin? Guess the State would be the buffer determination authority in cases such as this. For delegated entities, is this what the State intended.

Response:

The current rule requires that all alternative mitigation options are required to be approved by the DWR. It is important that the DWR have implementation authority for all alternative mitigation options to ensure there is consistency and clarity with these new and infrequently used types of mitigation.

.0295 (o)(7) “Mitigation on ditches... For purposes of riparian buffer mitigation as described in this Part, a "ditch" is defined as a man-made channel other than a modified natural stream that was constructed for drainage purposes. To be used for mitigation, a ditch shall meet all of the following criteria:

- (A) be directly connected with and draining towards an intermittent or perennial stream;**
- (B) be contiguous with the rest of the mitigation site protected under a perpetual conservation easement;**
- (C) stormwater runoff from overland flow shall drain towards the ditch;**
- (D) be between one and three feet in depth; and**

(E) the entire length of the ditch shall have been in place prior to the effective date of the applicable buffer rule.

The width of the restored or enhanced area shall not be less than 30 feet and shall not exceed 50 feet for crediting purposes. The applicant or mitigation provider shall provide a delineation of the watershed draining to the ditch. The watershed draining to the ditch shall be at least four times larger than the restored or enhanced area along the ditch. The perpetual conservation easement shall include the ditch and the confluence of the ditch with the intermittent or perennial stream, and provide language that prohibits future maintenance of the ditch. The proposal shall meet all applicable requirements of Paragraph (n) of this Rule for restoration or enhancement”:

Comment:

The rule strikes a good balance between allowances for alternative mitigation on ephemeral channels and ditches and requirements of mitigation on intermittent and perennial channels. Thereby it recognizes the potential effects of storm water runoff on water quality without expansion of jurisdictional definitions.

Comment:

Commenter supports the inclusion of this form of riparian buffer mitigation. The commenter disagrees, however, that the ditch must be “directly connected with and draining towards an intermittent or perennial stream.” While it is agreed that the ditch must drain to an intermittent or perennial stream, requiring a direct connection greatly limits the opportunities to remove significant sources of water quality pollution in the Coastal Plain where ditches are often very long. A better approach would be to simply reduce the credit ratio for ditches to account for the reduced overbank flow function. The commenter does not agree with the provision that the watershed draining to the ditch shall be at least four times larger than the restored or enhanced area along the ditch. The requirements are already such that only the watershed draining to the ditch can be creditable. This additional restriction creates a smaller population of creditable areas that requires additional watershed analysis. If the reduced credit ratio is accounted for as described above, the watershed size criterion becomes unnecessary.

Comment:

The Proposed Rule further weakens mitigation requirements by including mitigation credit for establishing buffers on ditches. DWR has previously recognized that ditches do not have sufficient drainage area to provide water quality protection equal to or better than protected riparian buffers. Section .0295(m)(2)(H) should be deleted. By artificially lowering the water table, ditches eliminate the many factors necessary for nutrient removal capabilities. Furthermore, research by NC State University suggest that for riparian buffers along ditches to provide water quality benefits via nitrogen removal (primarily via denitrification), water control

structures should also be employed as part of the buffer project.² If ditches are to be included as buffer mitigation options, the Proposed Rule must be revised to include water control structures that will ensure that water is exposed to the buffers.

Response:

The proposed rule language is a compromise on the issues by providing buffer mitigation credit along ditches in very specific instances where the greater good to the mitigation site may offset the scientific concerns regarding buffers along ditches.

.0295 (o)(9) “CASE-BY-CASE APPROVAL FOR OTHER ALTERNATIVE BUFFER MITIGATION OPTIONS. Other alternative riparian buffer mitigation options may be submitted to the Division for review and recommendation to the Environmental Management Commission on a case-by-case basis as long as the options otherwise meet the requirements of this Rule. Prior to recommendation to the Environmental Management Commission the Division shall issue a 30-calendar day public notice through the Division's Mailing List in accordance with 15A NCAC 02H .0503. Division staff shall present recommendations including comments received during the public notice period to the Environmental Management Commission for a final decision with respect to any proposal for other alternative buffer mitigation options not described in this Rule”:

Comment:

Commenter supports the flexibility offered by allowing new and improved buffer mitigation options. The commenter recommends that the word “Alternative” be dropped from (9) and recommends that the authority to approve new forms of riparian buffer mitigation reside with the Director of DWR. Requiring EMC approval and a 30-day public comment period will add a significant amount of time to the process of approving new techniques. The commenter recommends that if the EMC component is retained, that the rule specify that the EMC approval be relegated to other forms of buffer mitigation that are not covered in the rule and that their approval is not limited to the individual request (i.e. that the EMC approval is an approval of the practice proposed). Another recommendation is to give the DWR Director the ability to approve an exception to requirements specific in the rule on a case-by-case basis.

Comment:

Section .0295(o)(9) [referenced corrected] must be deleted. In short, it would allow the EMC to approve any proposed mitigation without meeting any specific requirements to ensure water quality benefits. The section vaguely states that the proposal must “otherwise meet the requirements of this Rule” but provides no indication of which requirements apply. The “requirements of this Rule” range widely, from standard buffer mitigation to coastal headwater stream restoration to structural stormwater controls. The case-by-case proposal is presumably

included to account for options that do not fit in any of these categories-making the standards for determining that a project “otherwise meet[s] the requirements of this Rule” essential elements of ensuring that mitigation provides water quality benefit. As written, the case-by-case analysis provides no limitation on potential mitigation options and must be rejected.

Moreover, the provision is unnecessary. The Proposed Rule provides plentiful mitigation options. It was designed by, and written to accommodate, the largest buffer mitigation providers in the state. Retroactive credits were included to accommodate existing projects that were not authorized to provide mitigation credit under the previous mitigation rules (authorizing retroactive riparian buffer credit for existing projects). The Proposed Rule already includes numerous mitigation options with, at best, speculative water quality benefit. The case-by-case approval of alternative buffer mitigation options must be rejected.

Response:

Case-by-case approval has been included in this rule to allow for future approval of Alternative Mitigation Options as science and technology advance, not for sites that do not meet the requirements stated elsewhere within this rule. Propose to modify the language to establish a clear process and minimum criteria necessary to request a case-by-case approval. Do not recommend that the authority be granted to the Director, though the EMC may choose to delegate this authority to the Director in the future.

Propose to modify the text to:

.0295 (o)(9) ~~CASE-BY-CASE APPROVAL FOR OTHER ALTERNATIVE BUFFER MITIGATION OPTIONS.~~ Other alternative riparian buffer mitigation options that have not been specified within this Rule may be submitted to the Division for review and recommendation to the Environmental Management Commission on a case-by-case basis as long as the options comply with Paragraph (f), (g), and (l) of this Rule. Any proposal for approval of an alternative buffer mitigation option not specified within this rule shall provide documentation or calculations to demonstrate that the proposed alternative mitigation option removes an equal or greater annual mass load of nutrients to surface waters as a riparian buffer. Upon completion of the review and prior to recommendation to the Environmental Management Commission, the Division shall issue a 30-calendar day public notice through the Division's Mailing List in accordance with 15A NCAC 02H .0503. Division staff shall present their recommendations, including comments received during the public notice period, to the Environmental Management Commission for a final decision. If approved by the Environmental Management Commission the alternative buffer mitigation option may be proposed by applicants and mitigation providers.

RECOMMENDATION:

Following a careful and comprehensive review of all the submitted written comments and supporting data, the hearing officer recommends that the North Carolina Environmental Management Commission adopt 15A NCAC 02B .0295 with the amendments identified in this Report.

Appendix E contains the hearing officer's recommended rule language for 15A NCAC 02B .0295.

APPENDIX A: Written Comments Received

APPENDIX B: Hearing Officer Designation Memos

APPENDIX C: Notice of Text

APPENDIX D: Approved Fiscal Analysis with Amendments – June 2015

APPENDIX E: Hearing Officer's Recommended Rule Text for 15A NCAC 02B .0295