

## January 2018 Urban Buffer Restoration document – Comments Themes and Roundup

### **Theme #1: Do we structure this credit strictly around the nutrient reduction benefits buffer restoration provides, or expand it to credit the many other benefits buffers provide?**

#### Comments Summary:

- Buffers provide so many benefits beyond nutrient reduction, a holistic approach is desirable, we don't want to discourage their use or discount their value, this is especially important when buffers are viewed skeptically by the Legislature
- Buffer protection rules protect the first 30 feet of buffer, allowing a smaller minimum undermines the approach of the buffer protection rules
- Tables 4 and 5 make it appear that wider buffers are not valuable

#### DWR Response:

- Rules lock us into a paradigm of rating everything by nutrient increase/decrease, we don't know how to translate other benefits to some sort of "nutrient equivalent" when the science doesn't support it
- We can address concerns that we don't adequately convey the many benefits of buffers by stating those up front in the document summary, including gross removal efficiency numbers, but stating that this credit is focused on the net nutrient reduction benefit from increasing forest along streams and waterbodies
- We can remove Table 4 (load reductions per acre of buffer restoration), which is evidently confusing and is perceived to devalue wider buffers, and alter Table 5 to present absolute pounds removed (or percent improvement) rather than normalizing it to pounds removed per acre of buffer
- We can address the concern that this will undermine legislative support for minimum 30' forested buffers in buffer rules by limiting minimum improvement width to 30'

### **Theme #2: How do we properly value the net change in nutrient reduction by converting from non-forest to forested buffers?**

#### Comments Summary:

- Describing the source of net reduction numbers as measuring change from grassy/herbaceous buffers to forested is incorrect
- Grassy/herbaceous buffers perform as well as forested buffers, managed pervious buffers not the same as "grassy/herbaceous" buffers
- Insufficient scientific support for N reduction: using NLEW reductions for N is problematic, NLEW designed for ag lands, cannot assume urban hydrology is the same as rural, coastal soils different than piedmont, insufficient conditions (hydrology/carbon) to drive denitrification, need much lower crediting for incised streams, reduction rates seem high

- Using NLEW numbers for P reduction is not supported by the literature, data for sediment-attached P but this may not be appropriate for urban situations
- Insufficient support for credit release schedule, should be longer/tied to vegetation growth, feasibility of monitoring for credit release

DWR Response:

- We will correct the description of the source for net reduction numbers as measuring the improvement in nutrient removal coming from changing from crops to forest rather than from grass/herbaceous to forest. This practice is converting not protected herbaceous buffers to forested, but riparian zones with all kinds of human activities to protected forested areas, in the process eliminating those activities.
- There are implementation difficulties with “grassy/herbaceous” buffers, particularly in residential/urban settings, which discourage its use (can’t be assured grass will be “minimally managed”, mown high and infrequently, not fertilized, get adequate sun, get low traffic)
- Are there crediting alternatives for nitrogen? We need a measure of NET CHANGE in nutrient reduction due to reforestation. We are assuming net improvement is approximately the same between incised/non-incised systems, but can change approach if studies warrant.
- What alternatives are there for credit release tied to vegetative performance?
- We can propose to not offer a phosphorus credit if it is deemed there is insufficient data to support it. Or we can base a credit on some other concept of phosphorus reduction if there are data to support that.

**Theme #3: Who/What/Where is this credit/practice intended for?**

Comments Summary:

- Unclear who the primary stakeholders/intended audience is, who will be doing implementation
- Is this intended to apply to new development somehow? How will developers be affected? Why include any entities affected by nutrient offset?
- Strong opposition to use involving agricultural lands
- Request for high flexibility on where the practice may be used

DWR Response:

- Our initial discussions with ag reps suggest a good option is the use of the practice where it does not convert active ag land in a buffer or adjacent to the converted buffer. Ag land outside of this area would be treated as “managed pervious” in the SNAP tool. “Ag land” may also include “idle ag land” which we are currently discussing.
- We propose that anyone who can meet the requirements may implement projects, including both local governments and bankers
- We propose this credit be available for generating New Dev offset credits (these would have to be permanent installations), also wastewater offset credits (could be temporary credits), we can make it explicit in the summary/text that the primary purpose will be for Existing Dev credits
- We can make it clear in the summary/text that this credit is not intended to be used as an on-site stormwater treatment method analogous to SCMs (and remove references to that idea in

the summary), and that any New D that takes place in the drainage area subsequently may not add to flows through the buffer

#### **Theme #4: Implementation Details**

Comments Summary (does not include fairly straightforward clarifications/requests to restate or reword):

1. Define small/minor concentrated flows more precisely
2. Define/describe what violations of the Buffer Protection Rule look like, how to review, how to make sure it's not pre-emptively cleared (esp outside of 50ft buffer)
3. Who is responsible to review/approve buffer improvement plans?
4. Selective removal for natural regeneration?
5. Requirements different from Jordan Buffer Mitigation Rule
6. Shouldn't allow camping and mountain biking in the buffer
7. Discourage fencing of the entire buffer
8. Should vegetation surveys follow Carolina Vegetation Survey protocols?
9. Discourage use of early-successional species
10. Discourage use of pesticides
11. Are we encouraging conversion of ephemeral streams to regenerative stormwater conveyance?

DWR Response:

1. Need better definition.
2. Need better description.
3. We expect that DWR will be reviewing/approving buffer improvement plans, reviewing monitoring reports, assuring compliance, etc.
4. Selective removal can be used with natural regeneration to maintain the target species balance. Additional planting may be required if the seedbank is dominated by a single species.
5. Jordan Buffer Mitigation Rule (.0268) was repealed.
6. We should probably remove camping, should probably cite a reference to trail design requirements and maximum trail density
7. Many successful restoration projects where there is the potential for mowing nearby incorporate light-duty fencing or markers of some kind to protect the stand.
8. Intent was to provide a monitoring method less intensive than the CVS
9. Early-successional species may be more competitive against invasive species in disturbed settings (probably better than many climax species) and may better prepare the soil for climax species to establish later, allowing early-successional species enables restoration through natural regeneration
10. Herbicides are essential to manage invasive plant species, grass may need to be suppressed right around young trees to prevent damage from rodents (remove hiding places), we do not want to remove tools to deal with likely future pest invasions. We can be specific that pesticide formulations need to be for aquatic/near-aquatic applications.
11. RSCs may garner more nutrient reduction credits than riparian restorations around ephemeral streams, especially when those streams are incised. RSC guidance in the future will likely involve some component of near-bank reforestation. We can modify this to suggest using RSCs when ephemeral streams are incised.