VDEQ BRRO-R Response to Comments Document

Little River Watershed TMDL Implementation Plan
Comment Period: May 16 -June 15, 2011

Miller, Richard (DEQ)

From: Miller, Richard (DEQ)
Sent: Thursday, June 23, 2011 11:35 AM
To: 'Courtois, Danielle R NAO'
Subject: RE: Little River Implementation Plan - Comment from Army Corps of Engineers, Blue Ridge Field Office (UNCLASSIFIED)

Ms. Courtois,

Thank you for your email regarding the Little River Implementation Plan. Virginia Department of Environmental Quality (VDEQ) and Virginia Department of
Conservation and Recreation (VDCR) appreciate the time and effort you have taken to comment on the draft implementation plan and we look forward to working with you as we work to restore water quality in the Little River Watershed.

In the comment and response format below, I have attempted to address the concern raised in your email.
Please contact me at (540)-562-6873 if there are further questions.

Sincerely,

Drew Miller
Virginia Department of Environmental Quality
3019 Peters Creek Road
Roanoke, VA 24019
540-562-6873
540-562-6725 Fax
Please note the change of email address:
Richard.Miller@deq.virginia.gov

Comments from Danielle Courtois, US Army Corps of Engineers :

Comment
My comment is focused on the section titled "Stakeholders' Role in Implementation" on page 25 of the document. The list of agencies begins with the EPA, and says that "The EPA has the responsibility overseeing the various programs necessary for the success of the Clean Water Act. However, administration and enforcement of such programs falls largely to the states."

That is largely an incorrect statement.

The Department of the Army regulatory program is one of the oldest in the Federal Government. The US Army Corps of Engineers issues permits under the authority of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 for regulated activities proposed throughout the state of Virginia. The most frequently exercised authority is contained in Section 10 (33 U.S.C. 403) which covers construction, excavation, or deposition of materials in, over, or under such waters, or any work which would affect the course, location, condition, or capacity of those waters. The authority is granted to the Secretary of the Army.

In 1972, amendments to the Federal Water Pollution Control Act added what is commonly called Section 404 authority (33 U.S.C. 1344) to the program. The Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill material into waters of the United States at specified disposal sites.

Selection of such sites must be in accordance with guidelines developed by the Environmental Protection Agency (EPA) in conjunction with the Secretary of the Army; these guidelines are known as the 404(b)(1) Guidelines.

The discharge of all other pollutants into waters of the U. S. is regulated under Section 402 of the Act. Division and district engineers are authorized to issue conditioned permits (Part 325.4) and to modify, suspend, or revoke them (Part 325.7). Division and district engineers also have authority to issue alternate types of permits such as letters of permission and regional general permits (Part 325.2). In certain situations the delegated authority is limited (Part 325.8).

GEOGRAPHIC EXTENT
The term "water of the United States" includes:
1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; 2. All interstate waters including interstate wetlands; 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
a. which are or could be used by interstate or foreign travelers for recreational or other purposes; or b. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or c. which are used or could be used for industrial purpose by industries in interstate commerce; 4. All impoundments of waters otherwise defined as waters of the United States under the definition; 5. Tributaries of waters; 6. The territorial seas; 7. Wetlands adjacent to waters (other than waters that are themselves
wetlands)

The geographic jurisdiction of the Rivers and Harbors Act of 1899 includes all navigable waters of the United States which are defined (33 CFR Part 329) as, "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce." This jurisdiction extends seaward to include all ocean waters within a zone three nautical miles from the coast line (the "territorial seas"). Limited authorities extend across the outer continental shelf for artificial islands, installations and other devices (see 43 U.S.C. 333 (e)). Activities requiring Section 10 permits include structures (e.g., piers, wharfs, breakwaters, bulkheads, jetties, weirs, transmission lines) and work such as dredging or disposal of dredged material, or excavation, filling, or other modifications to the navigable waters of the United States.

The Clean Water Act uses the term "navigable waters" which is defined (Section 502(7)) as "waters of the United States, including the territorial seas." Thus, Section 404 jurisdiction is defined as encompassing Section 10 waters plus their tributaries and adjacent wetlands and isolated waters where the use, degradation or destruction of such waters could affect interstate or foreign commerce.
Activities, requiring Section 404 permits are limited to discharges of dredged or fill materials into the waters of the United States. These discharges include return water from dredged material disposed of on the upland and generally any fill material (e.g., rock, sand, dirt) used to construct fast land for site development, roadways, erosion protection, etc.

I hope that short discourse of the US Army Corps of Engineers (USACE) regulatory authority under Section 10 and Section 404 has been helpful. Most of the information contained with this email can be found at the US Army Corps of Engineers headquarters page:
http://www.usace.army.mil/CECW/Pages/cecwo_reg.aspx

Also, there is a seventh state agency that regulates activities that impact water quality: the Virginia Marine Resource Commission (VMRC). The VMRC, in cooperation with USACE and DEQ, published the Joint Permit Application (used for permit applications).

From their website: "Established in 1875 as the Virginia Fish Commission, the Virginia Marine Resources Commission (VMRC) is one of the oldest agencies in Virginia State Government. A legislative study commission in 1967 recommended a broadened mission resulting in the agency being renamed the Virginia Marine Resources Commission in 1968 by an act of the Virginia General Assembly. The Virginia Wetlands Act was passed in 1972 and placed under the management of VMRC, as was the 1980 Coastal Primary Sand Dune Protection Act. In 1982, the General Assembly broadened the 1972 Wetlands Act to include non-vegetated wetlands." http://www.mrc.state.va.us/mrcoverview.shtm

I would also like to add that we do have a nationwide permit primarily for Aquatic Habitat Restoration, Establishment, and Enhancement Activities, among many others. Depending on the future activities of the working group and its stakeholders, I would be pleased to help with any future permitting needs.

Response

Your statement: "*That is largely an incorrect statement*." referring to the text "*Stakeholders' Role in Implementation"* on page 25 of the document and stated here:

"*The EPA has the responsibility overseeing the various programs necessary for the success of the Clean Water Act. However, administration and enforcement of such programs falls largely to the states.*"

is noted and will be changed to reflect that multiple State and Federal agencies share the responsibilities with the EPA of overseeing the various programs necessary for the success of the Clean Water Act.

-----Original Message-----
From: Courtois, Danielle R NAO [mailto:Danielle.R.Courtois@usace.army.mil]
Sent: Monday, May 16, 2011 7:02 PM
To: Miller, Richard (DEQ)
Cc: Evans, John D NAO
Subject: Little River Implementation Plan - Comment from Army Corps of Engineers, Blue Ridge Field Office (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mr Miller,

I am sorry I was unable to attend the working group sessions held at the Floyd Library. Thank you for providing the opportunity to comment on the Draft Little River TMDL Development Plan.

My comment is focused on the section titled "Stakeholders' Role in Implementation" on page 25 of the document. The list of agencies begins with the EPA, and says that "The EPA has the responsibility overseeing the various programs necessary for the success of the Clean Water Act. However, administration and enforcement of such programs falls largely to the states."

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a. which are or could be used by interstate or foreign travelers for recreational or other purposes; or
b. from which fish or shellfish are or could be taken and sold in interstate or
foreign commerce; or
c. which are used or could be used for industrial purpose by industries in interstate commerce;
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Danielle R. Courtois
Environmental Scientist, USACE Norfolk District
Mailing Address:
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Norfolk District webpage:
http://www.nao.usace.army.mil/

Classification: UNCLASSIFIED
Caveats: NONE

Miller, Richard (DEQ)

From: Miller, Richard (DEQ)
Sent: Thursday, June 23, 2011 12:05 PM
To: 'Jeff T. Walker'
Cc: Rowan, Eileen (DCR); Anderson, Gregory (DEQ)
Subject: Little River Watershed Implementation Plan Comment Responses
Attachments: Hydric_Rating_by_Map_Unit-Floyd_County_Virginia.pdf; Little River TMDL Hydric soils.pdf

Mr. Walker,

Thank you for your comments and suggestions regarding the Little River Implementation Plan. Virginia Department of Environmental Quality (VDEQ) and Virginia Department of Conservation and Recreation (VDCR) appreciate all of your time and your efforts made on the draft implementation plan and we look forward to working with you as we work to restore water quality in the Little River Watershed.

In the comment and response format below, I have attempted to address your suggestions and concerns raised in your emails.
Please contact me at (540)-562-6873 if there are further questions.

Sincerely,

Drew Miller
Virginia Department of Environmental Quality
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540-562-6873
540-562-6725 Fax
Please note the change of email address:
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Comments from Jeff Walker, Citizen via email

Email 1

"Good morning:
Last night was the "final" public meeting, best attendance yet, and fertile discussions about prioritization and applicable BMP's which may lead to an IP which will be effective in improving water quality. We should not lose sight of the goal, long term water quality improvements developed with seed money for incentives which improve land use practices. The Little River TMDL process, has been slow to respond to boots on the ground insight, to be sure the bundled proposal RC&D funded did not give sufficient focus on public outreach, nor integration with the local conditions, I hope these suggestions will improve the outcome of this and future programs.
To my mind the IP goal should focus on the valuation of landscapes with water quality value, these lands are predominately wetlands and instead of being undervalued as marginal lands ought to be protected as working to filter and protect rivers and streams from polluted runoff. My considered opinion is that the key focus ought promote programs such as CREP which pay an annual lease and other incentives to compensate landowners for their stewardship of lands which lead to water quality improvements.

I ran with Gary's suggestion concerning Hydric soils and assembled the attached file. (Figure 1)
In it we see soils of hydric importance which are an overlay of the 2009 Floyd County Soil Survey.
Among all the promoters and workers of this survey Dean Gall was instrumental in getting this mapped and published, and I have found it to be a very well researched document, "boots on ground," and published for just this sort of application. The posted example is focused on a small subset of the area, I am certain that Maptech can expand this assessment to encompass inclusion of critical landscapes across the watershed.

If the priority areas are identified by using a hydric soils overlay such as is attached. For convenience I picked out my own neigborhood, which includes areas of Terry's and Middle Creek, these were part of the East Fork Little River Watershed Association which was active in implementing stream buffer, water access and grazing management practices during the 1990's.
The focus on areas may be integrated with other ranking systems, and remote sensed databases. An example would be terrain models, land-use taxation files (which can identify working lands), IR DOQQ, local Department of Foresty BMP permits or forest plans, County/VDoT roads and sub-urban stormwater impacts.
I can assist in providing photographs to illustrate the issues of concern: damaged lands, contrasted with protected wateshed and buffer areas, and other examples of the challenges to altering land use practices which do not give sufficient value to wetland impacts on water quality.
I welcome further discussion, and stand ready to assist with this Plan in it's final drafting stages.

Comment 1
"The Little River TMDL process, has been slow to respond to boots on the ground insight, to be sure the bundled proposal RC&D funded did not give sufficient focus on public outreach, nor integration with the local conditions, I hope these suggestions will improve the outcome of this and future programs."

VDEQ Response 1
Thank you for providing your observations and constructive suggestions regarding the TMDL Implementation Plan (IP) process. In addition, VDEQ is appreciative of your efforts to provide supporting information to the IP. VDEQ will consider your suggestions of: "boots on the ground; focus on sufficient public outreach in the bundled contract proposal; and integration with local conditions" in future development of TMDL IP's. These suggestions will be discussed with TMDL Program staff in VDEQ's Central Office. It is important to note that the goal of the TMDL IP is "to describe actions (*i.e.*, best management practices) to implement the allocations contained in the TMDL" (Commonwealth of Virginia, 2003).

VDEQ Regional TMDL staff routinely monitor water quality in the watershed and become familiar with the watershed through this process. It must be stated that participating agencies and contractors staffs are resource limited and rely upon the public participation process to identify local conditions and adapt the IP to address the specific needs of the watershed. Upon completion, a final Implementation Plan identifies the resources necessary to provide for the goal of receiving the funding necessary to allow for a "boots on the ground" approach to improving water quality. In summary, increasing focus on "sufficient public outreach" within the bundled contract proposal is a logical first step based upon your suggestions of improving the IP process.

In the case of this IP process VDEQ staff used the following methods to advertise the meetings: signs at bridge crossings; notices on community announcement boards, posts to community list-serves; public service announcements and direct emails to the variety of members within the watershed. As you know through the public participation process networking was successful in producing a story in the local newspaper.

Comment 2
"To my mind the IP goal should focus on the valuation of landscapes with water quality value, these lands are predominately wetlands and instead of being undervalued as marginal lands ought to be protected as working to filter and protect rivers and streams from polluted runoff. My considered opinion is that the key focus ought promote programs such as CREP which pay an annual lease and other incentives to compensate landowners for their stewardship of lands which lead to water quality improvements."

VDEQ Response 2

VDEQ will make additions to the IP document that reflect your recommendations as a stakeholder that: 1) IP goals should focus on the valuation of landscapes providing natural functions that improve water quality (wetlands in the Little River watershed) and 2) to focus on programs during implementation that are similar to and include Conservation Reserve Enhancement Program (CREP) and Wetland Reserve Program (WRP) which compensate landowners for protection of these lands.

Comment 3

If the priority areas are identified by using a hydric soils overlay such as is attached. For convenience I picked out my own neigborhood, which includes areas of Terry's and Middle Creek, these were part of the East Fork Little River Watershed Association which was active in implementing stream buffer, water access and grazing management practices during the 1990's.

The focus on areas may be integrated with other ranking systems, and remote sensed databases. An example would be terrain models, land-use taxation files (which can identify working lands), IR DOQQ, local Department of Foresty BMP permits or forest plans, County/VDoT roads and sub-urban stormwater impacts.
I can assist in providing photographs to illustrate the issues of concern: damaged lands, contrasted with protected wateshed and buffer areas, and other examples of the challenges to altering land use practices which do not give sufficient value to wetland impacts on water quality.

VDEQ Response 3

VDEQ appreciates your continued efforts to identify resources and to provide efforts that are valuable in achieving the water quality goals in the Little River Watershed. VDEQ will take into consideration your recommendations.

References:

Commonwealth of Virginia. 2003. Guidance Manual for Total Maximum Daily Load Implementation Plans. http://www.deq.virginia.gov/tmdl/ipguide.html

Email 2

"Drew, Jim, Gary, et als;
Once again I would like to comment regarding the Little River TMDL study.
I incorporated Gary Boring's suggestion of breaking out the hydric soils identified in the Floyd County Soil Survey for the watershed and classifying them by mapping unit. This effort yields the attached (Figure 2) geospatial orientations for the Watershed's wetland landscapes. The total wetland and riparian features delineated represent an area of approximately 22,850 acres in 3 Counties, almost 10% of the watershed.
I believe these will correlate to areas deserving of protection, and ought to be used to determine the focus of any abatement measures. Measures which are focused on protection or enhancement of these landscapes are most likely to enhance the recognized watershed functions of these wetlands and stream bottoms. The identified landscapes are critical regardless of land use, residential, agricultural, forest or open space.
A few observations are in order:
1. The data set is remarkable in showing the importance of the headwaters which comprise an arterial like system of influent to the major channels.
2. The majority of wetlands are in the distal reaches of tributaries across the Blue Ridge Plateau.
3. Some watersheds are deficient in wetlands as a proportion of drainage area, this deserves comment. In my experience streams which have been deeply incised or artificially drained tend to lack the wetlands critical to filter and retention functions. Those deficient areas may deserve consideration of the recreation of mitigation wetlands to restore these critical functions, especially those watersheds which carry a high pollution load (e.g. animal waste, sediment, storm water or sub-urban runoff).

I would like these comments and accompanying PDF added to the official record, I would also recommend that the Contractor address these issues in the Implementation Plan.

My intention is to illustrate remarks concerning the importance of prioritizing the conservation and enhancement of wetland functions to improve the water quality of the study area. Any advocacy by an association of landowners is improved by the resident's understanding functional aspects of the scope of the system within which we reside. Aside from the Regulatory mandate of the TMDL, education of residents and an improved understanding of the natural functions served by these landscapes have the greatest potential for improving water quality in this watershed. The highest and best use of wetlands are not as browse for livestock, or eradication due to misperception or lack of recognition of the watershed functions. Floyd County's residents have widespread regard and appreciation for the water resource. Linking land use practices to water quality is the critical means to finding common ground among residents. And in my opinion introducing incentives to compensate landowners for their stewardship of lands (and increase the perceived value of those lands) will lead to water quality improvements and is the best means of delisting the LR Watershed. I have further suggestions regarding how to administer such an effort, which is beyond the scope of this brief comment.

Thank you for the opportunity to comment on this effort; if you desire we can discuss providing these data-sets of the watershed in a georeferenced format for incorporation into the report and plan. The first caveat is that credit be given to the agencies providing the information; furthermore the attached document represents a considerable area and elements of scale and purpose should be taken into account prior to incorporating into policy."

VDEQ Response to Email 2

VDEQ appreciates your observations, efforts to quantify land area that is important to improving water quality, and identifying resources and efforts that are valuable in achieving the water quality goals in the Little River Watershed TMDL. VDEQ will take into consideration your recommendations and your documents will be included with this Comment Response document on VDEQ's website.

Email 3

G'morning Jim, Thanks for taking this idea into consideration. This is to confirm I'm suggesting that both wetland systems are relevant, those still present, and those lost or damaged. The prioritization of the expenditure of public funds ought to follow the off-site impacts which are attenuated by the privately owned wetland in question.

There are many factors which might influence the distribution of wetlands. Some are natural, steeper terrain won't harbor landscapes with sufficient area to be accumulate wetland geomorphology, or they may be too small to be mapped.

To influence the landuse the focus should integrate protection of wetlands which have high potential for damage, or to restore those which have been damaged. This can not be done without a boots on ground element.

I don't know if the CD has programs for this sort of goal. If so then this should be part of the plan.

Since I'm not privy to where the IP stands now I can only suggest that you consult your colleagues on opportunities for program current or prospective, which might be effective. Once the IP is released there might be other comments which could aid in defining opportunities or limitations.

I suspect that the Blue Ridge Plateau is unique in comparison with lower elevations, one of the problems in the approach the Corp of Engineers has taken is to address wetlands as thought they are standalone entitities, and valued according to an area. Actually the wetland's functions are a result of 3-dimensional space (volume above and below ground), density (leaves, stems, roots), diversity (number of species in competition for and in association with their neighboring species), and most importantly the slope and contact with the volume of water passing through at a range of rates.

It might be a PE's nightmare, (or dream), to model all these in order to define value. A wetland ecologist or soil scientist, or naturalist, could each make a subjective evaluation of the importance of a wet landscape after a brief assesment. The wetland functions would require a manual to evaluate the benefit which I would like you to consider, I don't know if such a manual exists.

The message I hope you can integrate into the IP is that these landscapes have important functions, and are being damaged and destroyed by faulty landuse practices. Furthermore the people that own these landscapes generally view them as marginal lands, and often attempt to use them which damages the actual utility.

The good news is that these landscapes recover quickly with a few provisions, generally if the pressure is taken off, (e.g. remove livestock, close under-drainage or ditches, cease vegetation management (mowing or cutting down "brush"), the wetlands recover. If there is a reason to accelerate this recovery, or a reason to restore- for example a bank failure epidemic requireing cutback) the bare lands can be started on recovery by the normal methods which you know (livestakes, rootwads, barbs). The error in this is using public funds to restore a river bank on behest of a landowner without making a case that the restore functions other than the landowners offended view or perception. The restoration only makes sense (at public expense) if the restoration changes stream flows (attenuates flooding i.e. allows a flood to spread across wetlands or croplands) and reducing peak flows. This is a tall order, and only relevant when the incision of the stream or river is less than a definite limit. For example you can calculate watershed area, and define the volume of water running off, and calculate channel volume; the flood must be able to break banks and spread at a predictable area for retention and reabsorption to see a benefit in flood control or water quality improvement.

This is a complex subject, forgive my brevity; if you would like to discuss the topic in a larger forum I welcome the opportunity to participate, give me a call.

VDEQ Response to Email 3

VDEQ appreciates your efforts to strengthen the case that protection and restoration of wetlands in the Little River Watershed will aid in the recovery of water quality. VDEQ will take into consideration your recommendations that wetland enhancement/protection best management practices should be a priority in the watershed.

Email 4

Drew, here is the Alexander- Headwaters reference:
If you'd like to see the rest and can't locate it, let me know.

THE ROLE OF HEADWATER STREAMS IN DOWNSTREAM WATER QUALITY[1]

Richard B. Alexander, Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, and Richard B. Moore2

ABSTRACT: Knowledge of headwater influences on the water-quality and flow conditions of downstream waters is essential to water-resource management at all governmental levels; this includes recent court decisions on the jurisdiction of the Federal Clean Water Act (CWA) over upland areas that contribute to larger downstream water bodies. We review current watershed research and use a water-quality model to investigate headwater influences on downstream receiving waters. Our evaluations demonstrate the intrinsic connections of headwaters to landscape processes and downstream waters through their influence on the supply, transport, and fate of water and solutes in watersheds. Hydrological processes in headwater catchments control the recharge of subsurface water stores, flow paths, and residence times of water throughout landscapes. The dynamic coupling of hydrological and biogeochemical processes in upland streams further controls the chemical form, timing, and longitudinal distances of solute transport to downstream waters. We apply the spatially explicit, mass-balance watershed model SPARROW to consider transport and transformations of water and nutrients throughout stream networks in the northeastern United States. We simulate fluxes of nitrogen, a primary nutrient that is a water-quality concern for acidification of streams and lakes and eutrophicati on of coastal waters, and refine the model structure to include literature observations of nitrogen removal in streams and lakes. We quantify nitrogen transport from headwaters to downstream navigable waters, where headwaters are defined within the model as first-order, perennial streams that include flow and nitrogen contributions from smaller, intermittent and ephemeral streams. We find that first-order headwaters contribute approximately 70% of the mean-annual water volume and 65% of the nitrogen flux in second-order streams. Their contributions to mean water volume and nitrogen flux decline only marginally to about 55% and 40% in fourth- and higher-order rivers that include navigable waters and their tributaries. These results underscore the profound influence that headwater areas have on shaping downstream water quantity and water quality. The results have relevance to water-resource management and regulatory decisions and potentially broaden understanding of the spatial extent of Federal CWA jurisdiction in U.S. waters.

(KEY TERMS: rivers / streams; nitrogen; transport and fate; streamflow; headwaters; SWANCC; Rapanos.)

Alexander, Richard B., Elizabeth W. Boyer, Richard A. Smith, Gregory E. Schwarz, and Richard B. Moore, 2007. The Role of Headwater Streams in Downstream Water Quality. Journal of the American Water Resources Association (JAWRA) 43(1):41-59. DOI: 10.1111/j.1752-1688.2007.00005.x

[1]Paper No. J06018 of the Journal of the American Water Resources Association (JAWRA). Received February 3, 2006; accepted October

[2]3, 2006. a 2007 American Water Resources Association. No claim to original U.S. government works.

[2]Respectively, Research Hydrologist, National Water Quality Assessment Program, U.S. Geological Survey, 413 National Center, Reston, Virginia 20192; Assistant Professor, Department of Environmental Science, Policy, and Management, University of California, Berkeley, California; Hydrologist, National Water Quality Assessment Program, U.S. Geological Survey, Reston, Virginia; Economist, National Water Quality Assessment Program, U.S. Geological Survey, Reston, Virginia; Hydrologist, New Hampshire State Science Center, U.S. Geological Survey, Pembroke, New Hampshire (E-Mail / Alexander: ralex@usgs.gov).

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VDEQ Response to Email 4
VDEQ appreciates the supporting reference to your recommendations regarding the role of headwater streams in downstream water quality and the pertinence of the article to the Little River Watershed TMDL IP. The supporting information will be taken into consideration and will provide a reference in the IP for the implementation of best management practices in the Little River watershed.

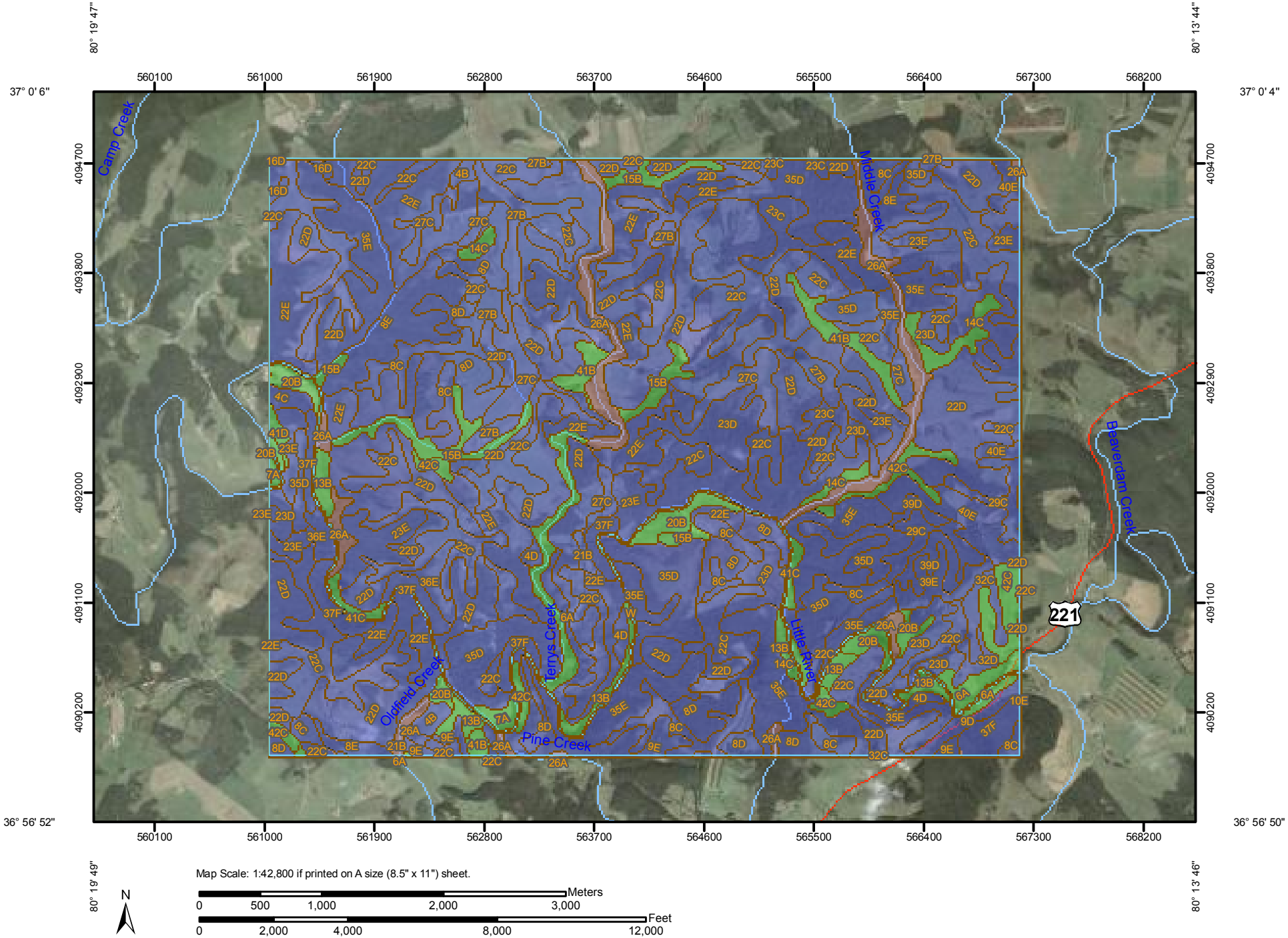
Email 5
Jim, Drew et al;
Attached find the same Little River Watershed Hydric Soils map, but improved with easier to read key and features.
I'd prefer you substitute this for the original rendering as it is easier to discern in the PDF format.
Also call your attention to the following abstract which references the connection between water quality and headwater wetlands and backs this up with discussion of jurisdictional concern.

VDEQ Response to Email 5
VDEQ sincerely appreciates your continued effort toward improving water quality in the Little River Watershed. Your contribution to the identification of suggested high priority areas in the watershed for protection and restoration supported with reference documents will be considered in the efforts to improve water quality. VDEQ will replace the document you requested (Figure 2) and include this document with the Comment Response document on VDEQ's website.

Figure 1
Attached: (Hydric Rating by Map Unit Floyd County Virginia)

Figure 2
Attached: (Little River TMDL Hydric soils)

Hydric Rating by Map Unit—Floyd County, Virginia
(Hydric soils Little River (Middle-Terry))



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- All Hydric
- Partially Hydric
- Not Hydric
- Unknown Hydric
- Not rated or not available

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads

MAP INFORMATION

Map Scale: 1:42,800 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 17N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Floyd County, Virginia
Survey Area Data: Version 4, Oct 14, 2009

Date(s) aerial images were photographed: 8/26/2003; 9/17/2003; 9/16/2003; 11/10/2004

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Floyd County, Virginia				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
4B	Braddock cobbly loam, 3 to 8 percent slopes	Not Hydric	21.5	0.3%
4C	Braddock cobbly loam, 8 to 15 percent slopes	Not Hydric	13.4	0.2%
4D	Braddock cobbly loam, 15 to 25 percent slopes	Not Hydric	22.7	0.3%
6A	Codorus loam, 0 to 3 percent slopes, frequently flooded	Partially Hydric	92.8	1.2%
7A	Comus fine sandy loam, 0 to 5 percent slopes, frequently flooded	Partially Hydric	17.6	0.2%
8C	Cowee loam, 8 to 15 percent slopes	Not Hydric	208.6	2.8%
8D	Cowee loam, 15 to 35 percent slopes	Not Hydric	268.4	3.6%
8E	Cowee loam, 35 to 55 percent slopes	Not Hydric	180.7	2.4%
9D	Cowee gravelly loam, 8 to 35 percent slopes, stony	Not Hydric	26.9	0.4%
9E	Cowee gravelly loam, 35 to 55 percent slopes, stony	Not Hydric	101.1	1.4%
10E	Cowee-Rock outcrop complex, 35 to 55 percent slopes	Not Hydric	0.2	0.0%
13B	Delanco fine sandy loam, 3 to 8 percent slopes, rarely flooded	Partially Hydric	80.5	1.1%
14C	Delanco fine sandy loam, 8 to 15 percent slopes	Partially Hydric	59.7	0.8%
15B	Delanco-Kinkora complex, 0 to 8 percent slopes, rarely flooded	Partially Hydric	115.1	1.5%
16D	Edneytown-Ashe complex, 15 to 25 percent slopes	Not Hydric	8.8	0.1%
20B	Elsinboro fine sandy loam, 3 to 8 percent slopes, rarely flooded	Partially Hydric	86.0	1.2%
21B	Glenelg and Hayesville loams, 3 to 8 percent slopes	Not Hydric	11.7	0.2%
22C	Glenelg loam, 8 to 15 percent slopes	Not Hydric	1,177.1	15.8%
22D	Glenelg loam, 15 to 25 percent slopes	Not Hydric	1,556.0	20.9%
22E	Glenelg loam, 25 to 35 percent slopes	Not Hydric	623.6	8.4%
23C	Glenelg loam, 8 to 15 percent slopes, very stony	Not Hydric	79.3	1.1%

Hydric Rating by Map Unit— Summary by Map Unit — Floyd County, Virginia				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
23D	Glenelg loam, 15 to 35 percent slopes, very stony	Not Hydric	209.2	2.8%
23E	Glenelg loam, 35 to 55 percent slopes, very stony	Not Hydric	286.0	3.8%
26A	Hatboro sandy loam, 0 to 3 percent slopes, frequently flooded	All Hydric	203.8	2.7%
27B	Hayesville loam, 3 to 8 percent slopes	Not Hydric	121.9	1.6%
27C	Hayesville loam, 8 to 15 percent slopes	Not Hydric	155.7	2.1%
29C	Junaluska channery loam, 8 to 15 percent slopes	Not Hydric	73.3	1.0%
32C	Myersville loam, 8 to 15 percent slopes	Not Hydric	31.5	0.4%
32D	Myersville loam, 15 to 25 percent slopes	Not Hydric	16.7	0.2%
35D	Peaks very gravelly loam, 8 to 35 percent slopes	Not Hydric	429.1	5.8%
35E	Peaks very gravelly loam, 35 to 55 percent slopes	Not Hydric	530.4	7.1%
36E	Peaks very gravelly loam, 35 to 55 percent slopes, very stony	Not Hydric	39.1	0.5%
37F	Peaks-Rock outcrop complex, 25 to 90 percent slopes, extremely stony	Not Hydric	131.4	1.8%
39D	Sylco-Sylvatus complex, 15 to 35 percent slopes	Not Hydric	39.9	0.5%
39E	Sylco-Sylvatus complex, 35 to 55 percent slopes	Not Hydric	41.2	0.6%
40E	Sylco-Sylvatus complex, 35 to 55 percent slopes, very stony	Not Hydric	103.0	1.4%
41B	Tate loam, 3 to 8 percent slopes	Partially Hydric	63.6	0.9%
41C	Tate loam, 8 to 15 percent slopes	Partially Hydric	22.2	0.3%
41D	Tate loam, 15 to 25 percent slopes	Partially Hydric	8.2	0.1%
42C	Tate loam, 8 to 15 percent slopes, stony	Partially Hydric	102.7	1.4%
W	Water	Unknown Hydric	77.5	1.0%
Totals for Area of Interest			**7,438.2**	**100.0%**

Description

This rating indicates the proportion of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is designated as "all hydric," "partially hydric," "not hydric," or "unknown hydric," depending on the rating of its respective components.

"All hydric" means that all components listed for a given map unit are rated as being hydric, while "not hydric" means that all components are rated as not hydric. "Partially hydric" means that at least one component of the map unit is rated as hydric, and at least one component is rated as not hydric. "Unknown hydric" indicates that at least one component is not rated so a definitive rating for the map unit cannot be made.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Absence/Presence

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Absence/Presence" returns a value that indicates if, for all components of a map unit, a condition is always present, never present, partially present, or whether the condition's presence or absence is unknown. The exact phrases used for a particular attribute may vary from what is shown below.

"Always present" means that the corresponding condition is present in all of a map unit's components.

"Never present" means that the corresponding condition is not present in any of a map unit's components.

"Partially present" means that the corresponding condition is present in some but not all of a map unit's components, or that the presence or absence of the corresponding condition cannot be determined for one or more components of the map unit.

"Unknown presence" means that for components where presence or absence can be determined, the corresponding condition is never present, but the presence or absence of the corresponding condition cannot be determined for one or more components.

The result returned by this aggregation method quantifies the degree to which the corresponding condition is present throughout the map unit.

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Little River Watershed
Priority Wetlands Hydric and Partial Hydric Soils

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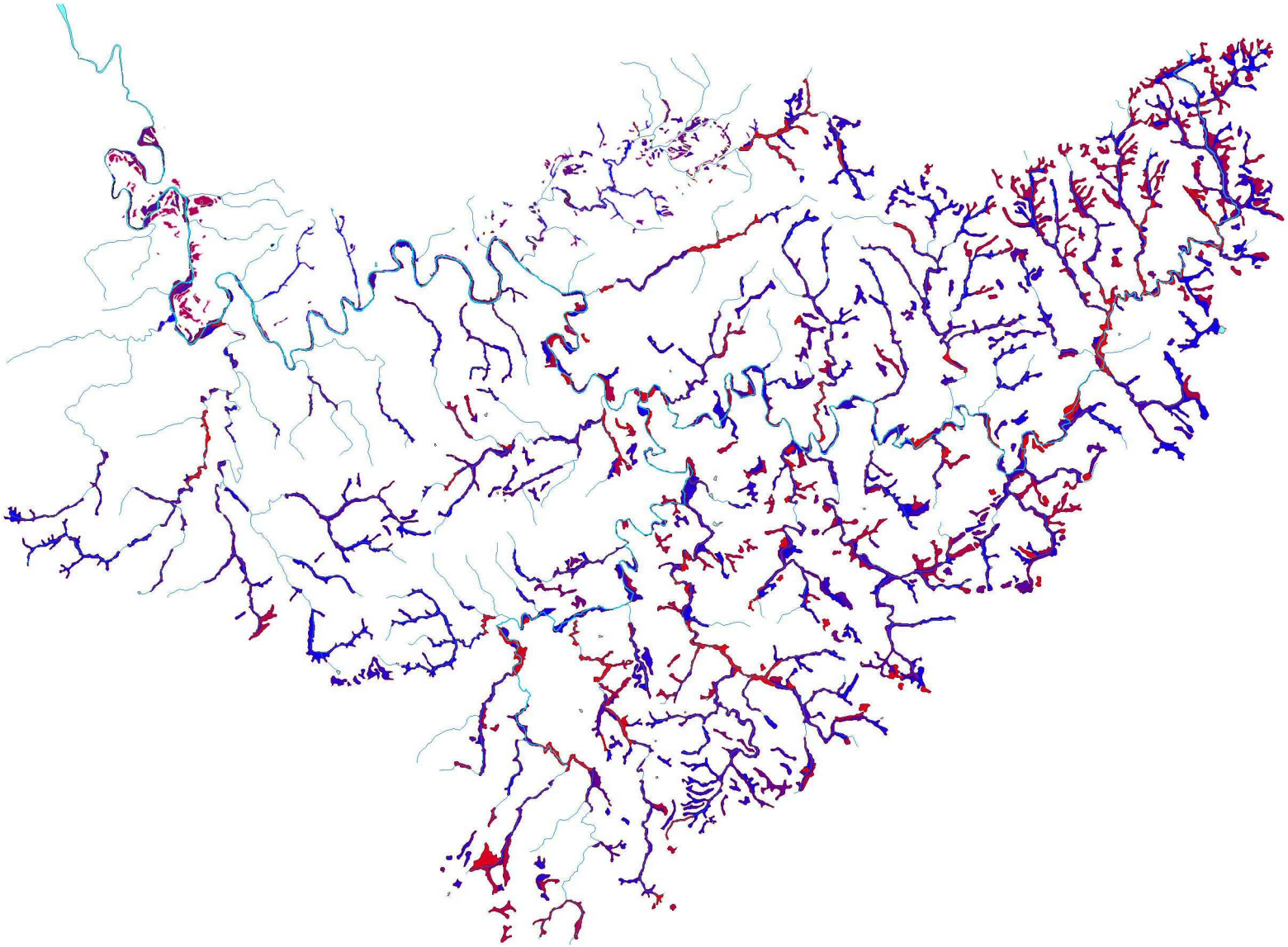

NHD_hydroPLUS_floyd
Riparian setback

soilmu_a_va121(by MUSYM)
'10'
'12B'
'15B'
'20B'
'21C'
'25'
'28'
'30B'
'W'

soilmu_a_va063(by MUSYM)
'12A'
'13B'
'15B'
'20B'
'21B'
'26A'
'27B'
'30A'
'32B'
'41B'
'41C'
'4B'
'6A'
'7A'
'W'

N
W
E
S

18000 0 18000 36000 54000 72000 90000 US Feet

Scale = 1 : 18000.00 (In : US Feet)

05-05-2011