



Green Umbrella

REGIONAL SUSTAINABILITY ALLIANCE

5030 Oaklawn Drive | Cincinnati, OH 45227 | (513) 541-1538 | www.GreenUmbrella.org

March 12, 2019

Dr. Patricia A. Grace-Jarrett
U.S. Army Corps of Engineers, Louisville District
CELRL-RDE, Room 752
P.O. Box 59
Louisville, KY 40201-0059

Re: Public Notice Number LRL-2018-01040-pgj

Dear Dr. Grace-Jarrett,

The Green Umbrella Watershed Action Team (GUWAT) appreciates the U.S Army Corps of Engineers' efforts to define mitigation districts throughout the state of Kentucky by utilizing a resource-based approach. GUWAT acknowledges that providing consistent and transparent methodologies while implementing the Mitigation Rule will be more effective and efficient for those entities affected in Kentucky.

Green Umbrella is the leading alliance working to maximize the environmental sustainability of Greater Cincinnati. GUWAT, a collaborative of over 200 organizations and individuals, works to protect, enhance, and celebrate streams, rivers, and water resources in a 10-county region in Southwest Ohio, Northern Kentucky, and Southeast Indiana.

GUWAT recognizes the geographic limits of our entity and therefore will restrict our comments to focus on the proposed Mitigation Service Area 6 within the Public Notice. GUWAT also recognizes that the proposed Mitigation Service Area 6 is located within the "Bluegrass" bioregion, as defined by the Kentucky Division of Water. With that, we understand that certain characteristics are consistent across this region, and understand the logic that impacts made in the Bluegrass that require mitigation could potentially be mitigated for throughout that region.

However, GUWAT wants to ensure that the local knowledge base regarding the condition, restoration, and preservation of NKY water resources is properly considered when evaluating mitigation potential. GUWAT would like to highlight that one of our members, SD1 (the local wastewater and storm water utility), and other local entities have a decade-long program that has documented (see Hawley, et al. 2013¹ and Hawley, et al. 2016²) significant hydromodification impacts (i.e., habitat alterations) to local streams and would encourage that local streams be given an equal opportunity for remediation or preservation when evaluating

the use of mitigation projects/credits generated by NKY development projects (i.e., projects/credits that are generated due to local impacts should be utilized to address local issues). Therefore, G UWAT requests that the Corps of Engineers consider the following information and recommendations.

G UWAT would like to highlight that a review of available scientific literature indicates there is substantial scientific evidence that the Bluegrass Region is, in fact, quite diverse, and consists of several sub-regions (see Parola, et al. 2007³). Specifically, the northern-most portion of the “Outer Bluegrass” sub-region (locale of the SD1 service area) is noted as having steeper gradient systems than that of other areas within the Bluegrass region, as well as a more erodible geology, thereby being more susceptible to flash flooding, increased stream bank erosion, and accelerated stream bed incision that is associated with land use changes via development. These accelerated physical changes can lead to property loss and damage, impacts to nearby infrastructure (e.g. utilities and roads), and can directly impact aquatic communities throughout an entire stream network. In N KY, these concerns led the storm water utility (along with local partners) to develop and establish a highly resolute monitoring program that identified critical flow regime thresholds as management tools to inform decisions that will serve to address these impacts. This program has been professionally vetted through peer review and has established additional scientific precedence as to the extent land use change can impact receiving stream systems (see Hawley, et al. 2013¹ and Hawley, et al. 2016²).

Given the established scientific precedent outlined above, along with the local community’s intimate understanding of stream systems in N KY, G UWAT has great concern that the proposed Mitigation Service Area 6 may not properly consider the unique characteristics of our region and will serve to facilitate the exportation of critical financial resources outside of the Northern Kentucky region.

That said G UWAT strongly encourages the Corps to proactively engage the local knowledge base to allow for flexibility while evaluating projects for mitigation.

Specifically, G UWAT recommends:

1. Allow the local storm water utility to use storm water management facilities that are designed to restore and/or preserve natural hydrology to serve as mitigation credit. The influence of hydrology (or flow regime) on receiving stream integrity is well established among the scientific literature (see Poff, et al. 1997⁴), and given the local research to identify relevant flow thresholds and demonstrated ability to improve stream class (i.e., ephemeral to intermittent/perennial, see Hawley et al. 2017⁵), the opportunity for flow regime related credits is very feasible. G UWAT recommends the Corps work with local entities to facilitate this approach.
2. Explore opportunities to further facilitate stream mitigation and restoration projects in urban/suburban systems. G UWAT is aware that, historically, the Interagency Review Team has been hesitant to approve projects in these settings primarily due to constraints such as nearby infrastructure or easement restrictions. Again, given the extensive knowledge acquired by local entities, G UWAT feels that more flexibility should be applied when attempting to mitigate impacts in N KY. G UWAT recommends that the Corps work with local entities to facilitate such projects.

3. When projects occur in Boone, Kenton, and Campbell counties, include processes that encourage urban/suburban mitigation (e.g. proximity factors and approved watershed based plans) from impacted sites (thereby discouraging resource export from the local area), as well as consult local entities/knowledge bases to ensure that mitigation resources stay local to the impacts created.
4. Regarding the Methodology Report referenced in the Public Notice that the Corps used to define the new mitigation district service areas, G UWAT strongly recommends that the report could be substantially strengthened with a comprehensive literature review that would include more current research, as well as research in localized areas (referenced earlier in these comments). Additionally, several areas within the report suggest the approach was quite subjective at times, and therefore, G UWAT also recommends a more robust statistical approach (e.g., multivariate) in order to strengthen the justification for the new district boundaries.

G UWAT appreciates the Corps efforts in obtaining input from stakeholders and the opportunity to provide these comments. Furthermore, G UWAT is willing to engage in any additional dialogue if you have any questions or require clarification on any of the identified issues.

Best regards,

Green Umbrella Watershed Action Team

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ⁱ Hawley, et al. (2013) Bed Coarsening, Riffle Shortening and Channel Enlargement in Urbanizing Watersheds in Northern Kentucky, USA *Geomorphology*. 201:111-126.

² Hawley, et al. (2016) When do Macroinvertebrate Communities of Reference Streams Resemble Urban Streams? The Biological Relevance of Qcritical *Freshwater Science*. 35(3):778-794.

³ Parola, et al. (2007) Geomorphic Characteristics of Streams in the Physiographic Region of Kentucky *University of Louisville Stream Institute*

⁴ Poff, et al. (1997) The Natural Flow Regime. *BioScience*. 47:769-784.