Dear Mr. Anderson,  
  
Your manuscript, JoVE55391R3 Vegetated treatment systems for removing contaminants associated with surface water toxicity in agriculture and urban runoff, has been editorially and peer reviewed, and the following comments need to be addressed. Note that editorial comments address both requirements for video production and formatting of the article for publication. Please track the changes within the manuscript to identify all of the edits. After revising and uploading your submission, please also upload a separate rebuttal document that addresses each of the editorial and peer review comments individually.  
  
**Your revision is due by Jan 17, 2017.**  
  
To submit a revision, go to the [JoVE submission site](http://www.editorialmanager.com/jove) and log in as an author. You will find your submission under the heading "Submission Needing Revision".  
  
Best,  
  
Nam Nguyen, Ph.D.  
Review Editor  
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Editorial comments:  
The manuscript has been modified by the Science Editor to comply with the JoVE formatting standard. Please maintain the current formatting throughout the manuscript. The updated manuscript (55391\_R3\_102416.docx) is located in your Editorial Manager account. In the revised PDF submission, there is a hyperlink for downloading the .docx file. Please download the .docx file and use this updated version for any future revisions.  
  
  
  
  
Reviewers' comments:  
**Reviewer #1:**  
*Manuscript Summary:*  
I do not find any concern with the document. Actually I find the protocol very useful for these systems designed to treat urban stormwater. The analysis for the key contaminants is crucial and it is explained in detail in this protocol.  
  
*Major Concerns:*  
N/A  
  
*Minor Concerns:*  
N/A  
  
*Additional Comments to Authors:*  
N/A  
  
  
**Reviewer #2:**  
*Manuscript Summary:*  
Author summarized the design and treatment to treat the urban storm water and agriculture irrigation runoff which contains complex mixture of contaminants causing toxic to the receiving water bodies and runoffs. Author designed simple systems to treat the runoff by promoting sorption of contaminants to vegetation and soils and promote infiltration. Author described two systems: first one is bioswale treatment system for urban storm water treatment, and second is vegetated drainage ditch for treating agriculture irrigation runoff both have similar features that reduce contaminant loading in runoff: vegetation that results in sorption of the contaminants to the soil and plant surfaces, and water infiltration. Both the systems has facilitated with granulated activated carbon as a polishing unit to remove residual contaminants. Author has observed the both systems performance in terms of treatment efficiency by chemical monitoring for specific contaminants responsible for toxicity especially pesticides which are responsible for surface water toxicity to aquatic ecosystem. The following some are the modifications require to improvising article prior to publish in peer review journal.

\*Explain how does the pollutants and TSS can be removed in the Urban Bioswale Efficacy protocol.

**See the next bullet**

\*Please explain the mechanism involved in vegetative system for treating the pollutants.

**The mechanism for removing contaminants was briefly discussed in lines 397-400 which cites two articles. We note that the protocol emphasizes methods to monitor the efficacy of vegetated treatment systems for reducing contaminants associated with toxicity. We therefore didn’t go into great detail how these systems work, since that is beyond the scope of the paper. This point also pertains to our rebuttal of some of the other questions raised by this reviewer and Reviewer #3.**

\*The operational parameters like hydraulic retention time of polluted water to vegetative system and GAC.

**As discussed previously, these parameters are important but beyond the scope of this paper, which emphasizes monitoring. We added text to address this question in lines 263-270. We explain that hydraulic residence time varies with the interaction of several parameters and that we did not track this in the example being discussed. We noted the general residence times of small scale ditch systems, and also our observation that contact time for water being filtered by the GAC filters was one or two of minutes.**

\*Explain the impact of rain on the both treatment system efficiency.

**We touch on this briefly in lines 263-270 in the context of hydraulic residence time.**

\*Author need to explain very clearly bout the operational methods and construction of both treatment systems for easy understanding.

**This paper is about monitoring toxicity and chemistry to demonstrate the efficacy of these systems, and therefore we do not go into great detail about the construction of these systems. These methods are provided in the literature cited.**

\*Figure 2 need to redraw by including the details of each component very clearly, improvise visibility and should easily understand.

**As above, the paper emphasizes monitoring, so we did not go into much detail about the specifics of each design component. More detailed descriptions of the design components are provided in the references cited. Figure 2 provides a general layout of the agriculture vegetated ditch and shows where the samples were collected during monitoring.**

\*In figure 1 please give the legends for easy understand the components.

**Figure 1 was an original engineering diagram of the parking lot bioswale and we decided it’s too complicated to aid the reader. We substituted this with a grey scale image of a bioswale (taken by the author). The Figure 1 legend now includes a description of storm water sampling locations.**

*Major Concerns:*  
N/A  
  
*Minor Concerns:*  
N/A  
  
*Additional Comments to Authors:*  
N/A  
  
  
**Reviewer #3:**  
*Manuscript Summary:*  
The article of Anderson et al., "Vegetated treatment systems for removing contaminants associated with surface water toxicity in agriculture and urban runoff" is an interesting study. All the experiments seems relevant, however, there are certain issues which need specific attention of the authors before processing further for final approval. I recommend major revision of the manuscript.  
  
*Major Concerns:*  
\* Line 99-100. What is meaning of "pre-treatment"? and "post-treatment"?

**I re-read the text here and can’t think of a better way to explain that pre-treatment means stormwater collected before it enters the bioswale and post-treatment means water sampled after it goes through the bioswale.**

\* Line 110. The volume of the outlet samples should be given.

**This info is now included.**

\* Line 114. How long will the collected samples be stored in a refrigerator at 4 °C before chemistry analysis? This temperature is too high.

**This is standard holding temperature for chemistry, the holding time is now included.**

\* The techno-economics feasibility of the proposed process for practical application should be evaluated in the future work. Author should refer to it (Bioresource Technology 2016, 202: 107-112) in this manuscript.

**We noted that an economic analysis of costs associated with designing building and maintaining these systems is part of future work and include this citation.**

\* It is difficult to judge the efficiency of this treatment due to lack of control experiment.

**The “control” in these studies is untreated storm water or agriculture runoff collected at the inlets of the vegetated ditch and bioswale. Contaminant concentrations and toxicity in these samples are compared to those in the runoff treated by the two systems.**  
  
*Minor Concerns:*  
N/A  
  
*Additional Comments to Authors:*  
N/A  
  
  
**Reviewer #4:**  
*Manuscript Summary:*  
his is a 4th version of the paper!Its value is that it gives a fairly straightforward and simple way to treat stormwater.Nothing obviously wrong with it  
  
*Major Concerns:*  
N/A  
  
*Minor Concerns:*  
N/A  
  
*Additional Comments to Authors:*  
N/A