



For a Fishable and Swimmable Spokane River

May 15, 2013

Rob Lindsay
Utilities Water Resources
1026 West Broadway Avenue
Public Works Bldg. 4th Floor
Spokane, WA 99260

SENT VIA EMAIL (RLindsay@spokanecounty.org)

RE: Comments on Draft Spokane County Critical Aquifer Recharge Areas Review Final Report

Dear Rob:

Thanks for the opportunity to comment on the Draft Spokane County Critical Aquifer Recharge Areas Review Final Report ("Report"). These comments are submitted on behalf of the Spokane Riverkeeper program of the Center for Justice. Overall, the Riverkeeper appreciates the effort of the County and its contractors in drafting the Report and the supporting documents.

The Riverkeeper does have the following specific comments on the Report:

Page B-13: Phosphorus: According to the Department of Ecology's TMDL for the Spokane River, a significant source of phosphorus is septic tanks located in Spokane County:

In 2005, 7,914 were located in the County's sewer service area over the aquifer. Of those 7,914, 18.5 percent were calculated to have lost phosphorus to the aquifer or achieved "breakthrough" by exceeding the soil loading capacity. ... In 2005, Spokane County estimated that about 3,400 active septic tanks located above the Spokane Valley / Rathdrum Prairie aquifer had the potential for "breakthrough" with increased phosphorus loading to the aquifer (HDR 2007). The county estimates that total phosphorus loading may be reduced by between 12.2 lbs/day and 20 lbs/day when these septic tanks are removed upon completion of the Septic Tank Elimination Program

According to HDR's Onsite Sewage Disposal Systems Phosphorus Loading Estimate Technical Memorandum,¹ the rate of phosphorus absorption into soil is high variable:

[I]t is evident that the retention of P is greatly dependent upon the physical and chemical characteristics of the soil. Furthermore, it is also dependent upon the age of the drainfield – the older the system, the greater likelihood that P sorption sites have become saturated resulting in the downward movement of P in the vadose zone and into the groundwater. In general, coarse soils with near neutral or alkaline pH tend to have lower P retention compared to fine textured (clay) soils and soils with low pH.

That Memorandum noted that phosphorus breakthrough can occur long before sorption capacity of the soil buffer is reached:

There is also a growing body of scientific evidence, which suggests that for soil systems, phosphorus breakthrough (i.e. increasing phosphorus concentrations in leachate) occurs long before the theoretical phosphorus sorption capacity of the soil is reached. This concept is referred to as the soil P change point (McDowell and Sharpley, 2001) or the degree of phosphorus saturation (Nair, et al, 2004).

Given the significant impact of phosphorus from septic tanks, the Riverkeeper program recommend that this section be amended to specifically identify situations where a detailed phosphorus study (Level 3) would be required. Riverkeeper recommends that these include:

1. Situations where development is not likely to be included within the Urban Growth Area boundary within a 20-year time frame;
2. Situations where the water table is likely to rise to or exists within less than 10 feet of the bottom elevation of the drainfield or dry pit. (The existing SMP allows a three foot separation).
3. Situations where the soil or other geologic features are likely to result in a less than 20 year retention of phosphorus.
4. A County-adopted phosphorus management plan calls for greater analysis of phosphorus loading.

¹ Available at http://www.spokanecounty.org/utilities/rptdoc/2008jan/04-B%20Septic_Phosphorus_Study-FINAL.pdf.

Thanks for the opportunity to comment on this proposal.

Sincerely,

A handwritten signature in black ink, reading "Bart Mihailovich". The signature is written in a cursive style with a large, stylized "B" and "M".

Bart Mihailovich
Spokane Riverkeeper