

Subj: **Raspberry Falls Wastewater Expansion - Limestone Branch**  
Date: 4/23/2010 4:36:22 PM Eastern Daylight Time  
From: SallyKurtz@aol.com  
To:  
CC:

Thank you for your note expressing concerns about expanding wastewater flow from both the Raspberry Falls Water Reclamation Facility and the North Spring facility, both under management by Loudoun Water. You have concerns because both facilities discharge to Limestone Branch, a Loudoun impaired stream in the Limestone geologic area.

I have contacted Loudoun Water to obtain history and current information about both wastewater facilities and their DEQ discharge loading permits into Limestone Branch. The Raspberry Falls Water Reclamation Facility (WRF) is regulated by the Department of Environmental Quality (DEQ) through five-year discharge permits. The current permit was issued in 2005, and Loudoun Water has submitted the package for permit renewal to DEQ.

For Raspberry Falls the current permit is based upon the fact that, at times, there is little flow in Limestone Branch to which that facility discharges directly. Therefore, the quality of discharge must be able to sustain life because it may be the bulk of the water in the stream (based on the lowest 7 day flow in a 10 year period).

Limestone Branch has a Total Maximum Daily Load (TMDL) for fecal coliform. When issuing the permit in 2005, DEQ took this into account and set the E. coli limit accordingly. In fact, because the stream can at times be almost 100% reclaimed water, all effluent concentrations have been established to attain or maintain water quality criteria established for the stream. The Raspberry WRF produces a high-quality reclaimed water and must meet the following limits:

5-day Carbonaceous Biochemical Oxygen Demand (CBOD5) = 10 mg/L monthly average  
Total Suspended Solids (TSS) = 10 mg/L monthly average  
Total Kjeldahl Nitrogen (TKN) = 3.0 mg/L monthly average  
pH = 6 - 9  
Dissolved Oxygen  $\geq$  7.0 mg/L  
E. coli = 126 n/100 mL monthly average

Although permitted to have 126n/100 mL monthly average levels of E. coli, Loudoun Water has records documenting their discharge count as usually 1 or 2n/100 mL. In that context their outflow is fishable and swimmable. An added benefit is that Limestone Branch keeps flowing during dry periods so it reduces the mosquito population associated with stagnant water.

The other wastewater facility North Spring operated by Loudoun Water (whose outflow discharges into an unnamed tributary which then flows into Limestone Branch) has the same antidegradation criteria. The effluent must still sustain life, like that of Raspberry Falls outflow.

The current limits for North Spring are:  
5-day Biochemical Oxygen Demand (BOD5) = 30 mg/L monthly average  
Total Suspended Solids (TSS) = 30 mg/L monthly average  
Ammonia-Nitrogen (NH3-N) = 11.9 mg/L monthly average  
pH = 6 - 9  
Dissolved Oxygen (DO)  $\geq$  6.5 mg/L  
E. coli = 126 n/100 mL

In discussion with Loudoun Water of the increase for North Spring from 10,000 to 16,000 gals/day the concentration limits above could decrease

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accordingly to assure that the total load to the stream does not change. DEQ has indicated that they would incorporate that into the renewed permit.

The calculations are set for both facilities outflow from the point of the downstream receiving stream and its condition. That stream would be Limestone Branch, so it looks like DEQ is already aware from Loudoun Water that there should be no load increase from North Spring to Limestone Branch.

I will ask my assistant, Naomi to send your letter and this response to you on to DEQ for consideration during their review.

Again thanks for taking time to let me know of your concerns. Let me know if you have further questions.

My best regards,  
Sally

Catoctin District Supervisor  
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