

KING CONSERVATION DISTRICT  
Board of Supervisors Meeting Minutes  
Ames Creek Water Quality Public Meeting  
June 2, 2008

1 **Supervisors Present:** Bill Knutsen, Chair, Scott Wallace, Member

2 **Associate Supervisors Present:** none

3 **Guests Present:** Janne Kaje - King County Snoqualmie Program Development Lead, Janet  
4 Barker Heubach - Landowner, Blake Johnston - Farmer, Andrew Stout - Farmer, David Burger -  
5 Stewardship Partners, Steve Humphreys - Restoration Logistics, Claire Dyckman- King County  
6 Agriculture Staff, Sara Hemphill - Sustainable Solutions,

7 **KCD Staff Present:** Joshua Monaghan

8 Chair Knutsen called the meeting to order at 6:40pm. Bill refreshed everyone's memories with a  
9 brief background review of water quality data collection efforts in the Ames Creek basin. This  
10 focused inquiry began back in '03 as a part of ADAP and the fish and ditch effort. KCD was  
11 working on a DOE grant that required water quality testing. Landowners were concerned that the  
12 full story wouldn't be told without a more focused research effort. King County Ag stepped up  
13 and secured funding for expanded research which sampled water in seven creeks in the basin.

14 Before opening the presentation introductions were made around the table.

15 Bill then introduced Janne Kaje who'd spent considerable time organizing the data for  
16 presentation.

17 Janne's power point presentation synthesized water quality data conclusions from several  
18 sources:

- 19 ○ King County – Snoqualmie Watershed Agricultural Assistance Team (SWAAT). 2007.  
20 Prepared for King Conservation District.
- 21 ○ Washington Department of Ecology – TMDL Effectiveness Monitoring Report. 2008.
- 22 ○ King County Roads Division – Baseline water quality monitoring data. 1999-2006.
- 23 ○ King County Agricultural Lands Program – Water quality near the Snoqualmie watershed  
24 Agricultural Production District (APD). 2005.

25 Janne noted that while this data comes from various sources it is all very useful and relevant. He  
26 pointed out that the 'roads' data is unique in that it spans several years and is ongoing.

27 The presentation focused on five water quality parameters of interest:

*“Promoting sustainable uses of natural resources  
through responsible stewardship”*

- 28 • Fecal bacteria: human health and recreation
- 29 • Temperature: Aquatic life
- 30 • Dissolved Oxygen: Aquatic life
- 31 • pH: acidity/alkalinity: Aquatic life & potability
- 32 • Nutrients: nitrogen and phosphates

33 The data highlighted a medley of issues:

34 Bacteria: fecal concentration rises after rains, indicating that the problem is more likely one of  
35 surface sources such as fertilizers/livestock, rather than septic or other more constant sources.  
36 However, these other sources can't be ruled out as contributing to the problem. Bacteria levels  
37 were highest in the Sikes Lake Creek portion of the basin. Both Ames Creek and Sikes Lake  
38 Creek violate state standards.  
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40 Temperature: there were no problems readily apparent except in Ames Lake itself, however, the  
41 nature of the data, non continuous, leaves this issue unresolved since the state standard is based  
42 on continuous data.

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43 Dissolved oxygen (DO): this is the main problem. When the concentration is very low, fish  
44 don't survive. Fish mortality has occurred in Cherry Creek where DO is also very low in certain  
45 areas. The lowest daily DO concentrations are usually found in early morning and since all of  
46 the data here was collected later in the day, the problem is likely worse than the data indicates.

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47 The Cause for dissolved oxygen is typically excessive organic matter in the stream as the  
48 decomposition of that matter causes oxygen to be used up. This is linked to too many nutrients  
49 in the stream (nitrogen, phosphorus). DO appears much worse (lower) in the lower mainstem of  
50 Ames between 80<sup>th</sup> and 100<sup>th</sup> Streets than in other parts of the basin.

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51 pH: standard is 6.5 – 8.5. pH affects others substances toxicity levels. Since surface waters  
52 naturally have different pH levels due to soil composition, there is a second part to the standard  
53 that limits how much the pH can be altered from natural conditions due to human activities.  
54 There may be a link between low pH and the decomposition of the organic matter in the stream.  
55 While most data points appear to meet the standard, occasional low value at the mouth of the  
56 creek and in the lower mainstem of Ames mean that the creek is not meeting the pH standard.

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57 Nutrients: Here again spikes tend to follow rain events indicating a higher likelihood of surface  
58 sources, rather than septic systems or other more 'constant' sources. The big question is: how  
59 much are nutrients responsible for the low DO? Nitrogen and phosphorus are both elevated  
60 above guidelines at all sampling stations, but the lower mainstem of Ames has higher values than  
61 Sikes. Ames Creek at the mouth fails the state standard for Ammonia-nitrogen.

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62 What does it all mean?

63 1) Low DO is the biggest concern. Excess nutrients are the likely cause, either as fertilizer,  
64 manure or other sources. [Note: Older septic systems do not address nitrogen very well, so they may  
65 be contributors, but may not explain post-rain spikes].

Commented [JK1]: I did not go into this at the meeting, but it is worth noting.

66 2) Nutrients exacerbate poor DO

67 3) Temperature may meet standards, but we do not have adequate data to be certain the  
68 picture is accurate. Actions to improve temperature (like riparian plantings) help to address  
69 each of the other areas of impairment. King County is following up in part by putting  
70 continuous temperature monitors into the stream for the summer of 2008.

71 4) It is alarming that DO stays low even at cool water temperatures, since cool water can  
72 typically hold much higher levels of oxygen than warm water.

73 5) Lower Ames, downstream of 80<sup>th</sup> appears to be the most impaired. DO levels appear to be  
74 much lower here than further upstream. Nutrients appear to be highest in this reach.

75 David Berger asked if farmers could volunteer to be data collectors. Discussion ensued  
76 regarding the concern for credibility, reliability and consistency. Sara Hemphill shared that Don  
77 Norman has been very impressed with the Ducks Unlimited member data collection program and  
78 is working with some folks in King County to coordinate a project to demonstrate how such  
79 research might work. Hemphill also shared that where you've established protocols this  
80 approach has worked well. The resistance comes from the farmers more often than from the  
81 bureaucrats.

82 Recommendations for next steps:

83 • Look into the lower stream issues more thoroughly – low DO and the nutrient  
84 connection. Let's try to figure out where the problem is coming from.

85 • Protect and improve temperature condition – this will help reduce other impairments as  
86 well.

87 • Spikes in fecal correlating with rain events indicates that livestock management and  
88 modification of field applications would be helpful; improve nutrient and manure  
89 management basin-wide, not only in the APD, such as horse farms located upstream.

90 • Need funding to continue research and monitoring and to get the word out.

91 Andrew Stout asked where the funding might be found. Bill Knutsen indicated that KCD's  
92 funds are committed for the short term; but he volunteered to continue to pursue this with the  
93 Pioneer Fund and Community Salmon Fund, until it's resolved. [Claire reminded the group that  
94 research such as this is expensive and that there are many competing demands for the funding.](#)

95 Janne suggested that DOE might well have funding for expanding this research effort especially  
96 if this would be a duplicable project in other areas.

97 It was noted that it will be important to determine whether the fecal problem is natural (such as  
98 waterfowl) or man made (livestock, septic). And we need to stress that the Valley is a food  
99 growing region first, and other operations, such as hobby farms, [need to be especially careful.](#)

100 Andrew Stout and Bill Knutsen urged all to consider developing a Basin plan to management  
101 and support collaborative stewardship. [Claire noted that stewardship can focus on and prioritize](#)  
102 [protection of food growing; neighbors urging neighbors to step up and do the right thing.](#)  
103 Andrew asked if we knew what had transpired with the stable land horse operation that slid into  
104 Jerry Sinnema's and suggested that if there were more such situations, we should address it.

105 Discussion followed which explored ways to engage the broader community, and interest in  
106 further targeted data collection to better understand likely sources in some key reaches. All  
107 volunteered to get the word out, create an expanded and directed contact list and take this  
108 workshop to several venues.

109 There being no more business before the Board, the meeting was adjourned at 8:30pm.

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Authorized Signature

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Date