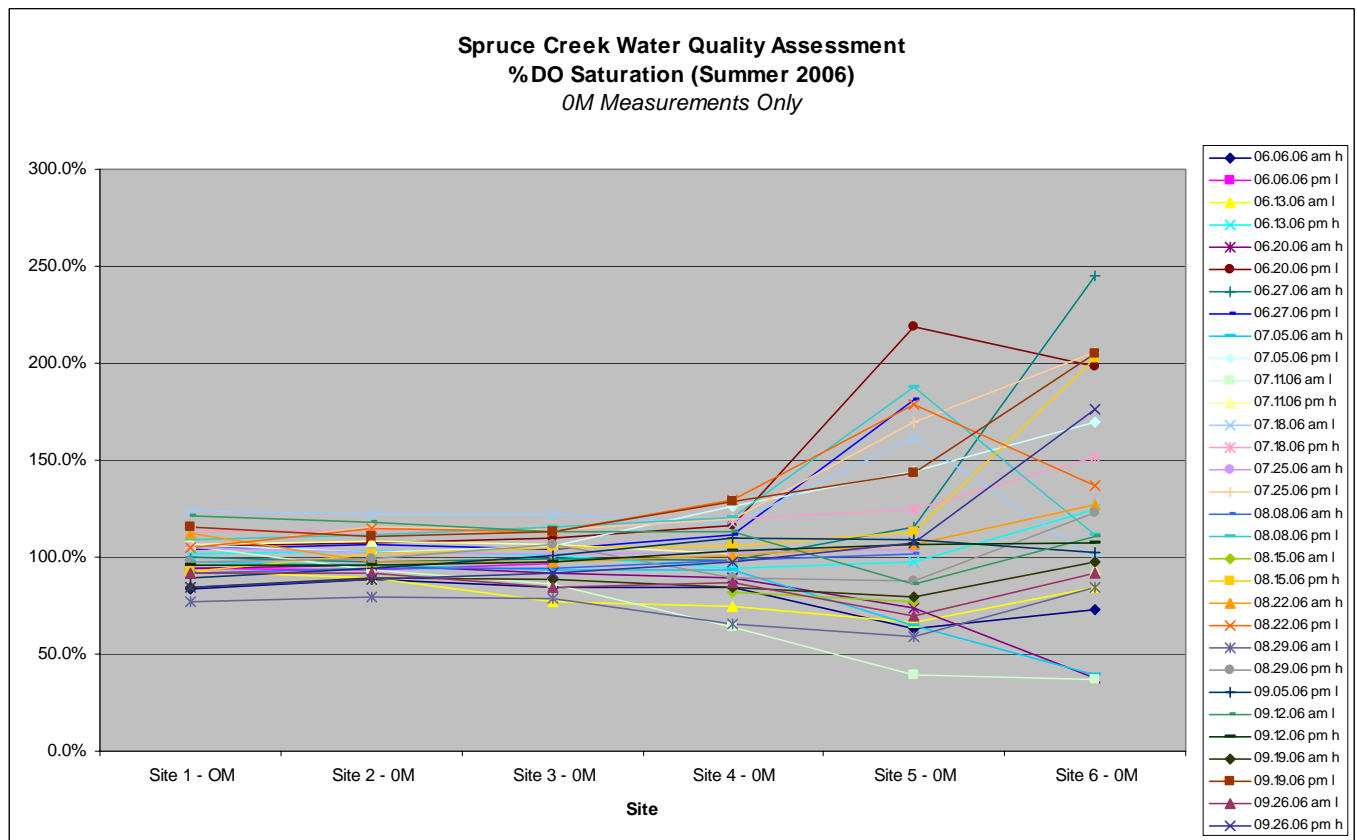
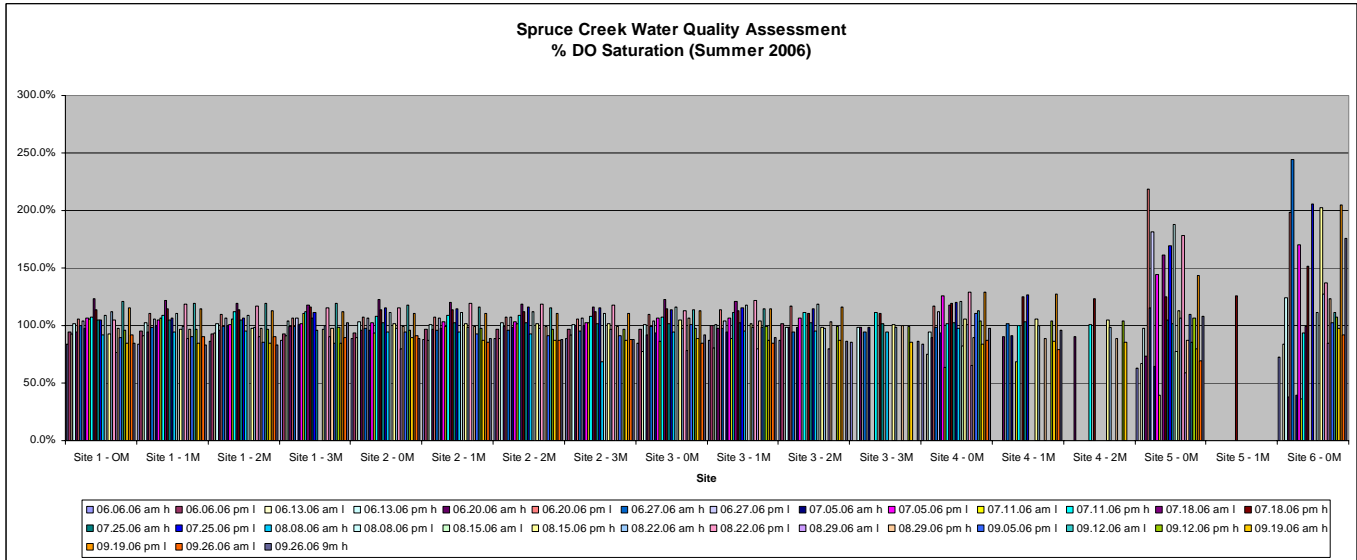


Spruce Creek Association
 Review & Analysis of 2006 Water Quality Data
 Reviewed by Sue Cobler*

Generally speaking, the down stream stations 1, 2, and 3 have less variability in oxygen saturation than the upstream stations 4, 5 and 6. The variability increases with increasing distance upstream. The results the 2006 survey show the same general trends as the comparable 2005.



All stations appear to be tidally influenced based on salinity measurements. Stations 1, 2, 3, and 4 (from Bond Road to the Trading Post) have higher salinity levels in general than the up stream stations, which is likely due to the down stream stations' proximity to the ocean influences. The water column at each station appears to be fully mixed based on similar levels of DO, salinity, and temperature at each depth per station. The full mixing is likely due to the tidal currents and shallow depths.

The table below summarizes the oxygen saturation data for the 6 stations samples, as well as the measurements for 2005. While stations 5 and 6 have the highest mean measured saturation, they also have a higher frequency of low readings, indicating how variable the measurements were at those stations. This can be typical of tidally influenced waters.

Table 1: 2006 Oxygen Saturation - OM readings Only

Station	2006				2005		
	Mean	Minimum	Maximum	Under 85%	Under 75%	Under 85%	Under 75%
1	101	77	123	1 of 30	0 of 30	1 of 33	1 of 33
2	102	80	122	1 of 30	0 of 30	0 of 32	0 of 32
3	101	77	122	1 of 30	0 of 30	6 of 32	1 of 32
4	101	65	129	6 of 30	2 of 30	8 of 33	2 of 33
5	109	39	219	9 of 29	7 of 29	9 of 34	7 of 34
6	116	37	245	6 of 26	4 of 26	9 of 32	7 of 32

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With a BA in biology from Wellesley College (1981) and an MS in marine ecology from Northeastern University (1984), Ms. Cobler has over 20 years experience in environmental management and consulting. Her primary field of expertise is in the environmental impact assessment and regulatory compliance of wastewater quality and treatment processes with special regard to nutrient enrichment, organic loading, toxicity, and pathogenic effects. In addition to her wastewater expertise, Ms. Cobler has extensive experience in assessing the environmental effects of dredged material disposal, hazardous waste, and solid waste. As a project biologist for Metcalf & Eddy, Inc. for 10 years, Ms. Cobler managed over 60 multi-disciplinary environmental projects including the U.S. EPA Environmental Impact Statements for the Boston Harbor Clean-Up; several Environmental Risk Assessments for U.S. EPA Superfund Sites; several Environmental Impact Statements for DOD military installations. Ms. Cobler has also worked extensively with regulators at the local, state, and federal levels in developing environmental guidance and in assuring environmental compliance for a variety of projects. Ms. Cobler most recently managed corporate development and regulatory affairs for WASTECH International, an environmental equipment developer.