

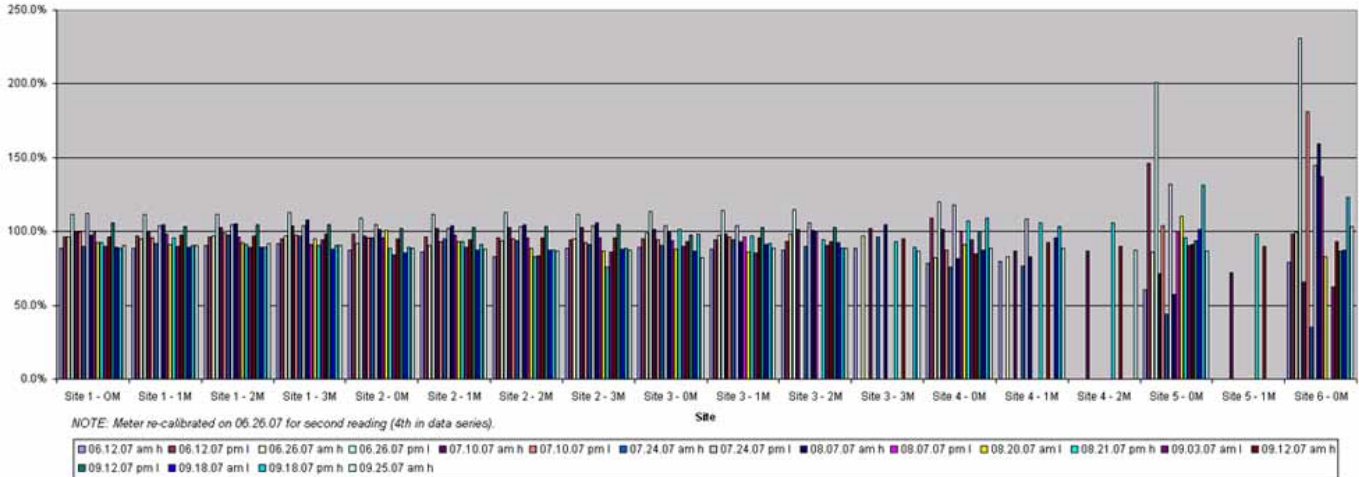


SPRUCE CREEK ASSOCIATION

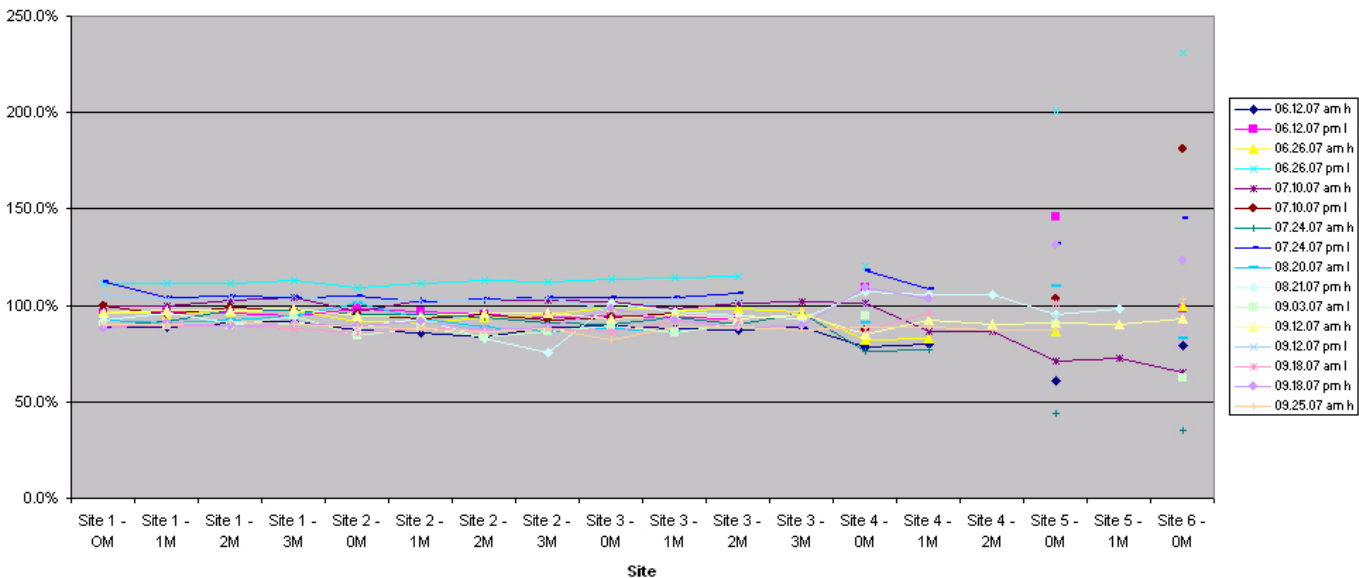
Review & Analysis of 2007 Water Quality Data
*Reviewed by Sue Cobler**

Generally speaking, down-stream stations 1, 2 and 3, have less variability in oxygen saturation than the upstream stations, 5 and 6. The variability increases with increasing distance upstream. The results the 2007 survey show the same general trends as the comparable 2005 and 2006 data.

Spruce Creek Water Quality Assessment
% DO Saturation (Summer 2007)



Spruce Creek Water Quality Assessment
% DO Saturation (Summer 2007)
OM Measurements Only



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.

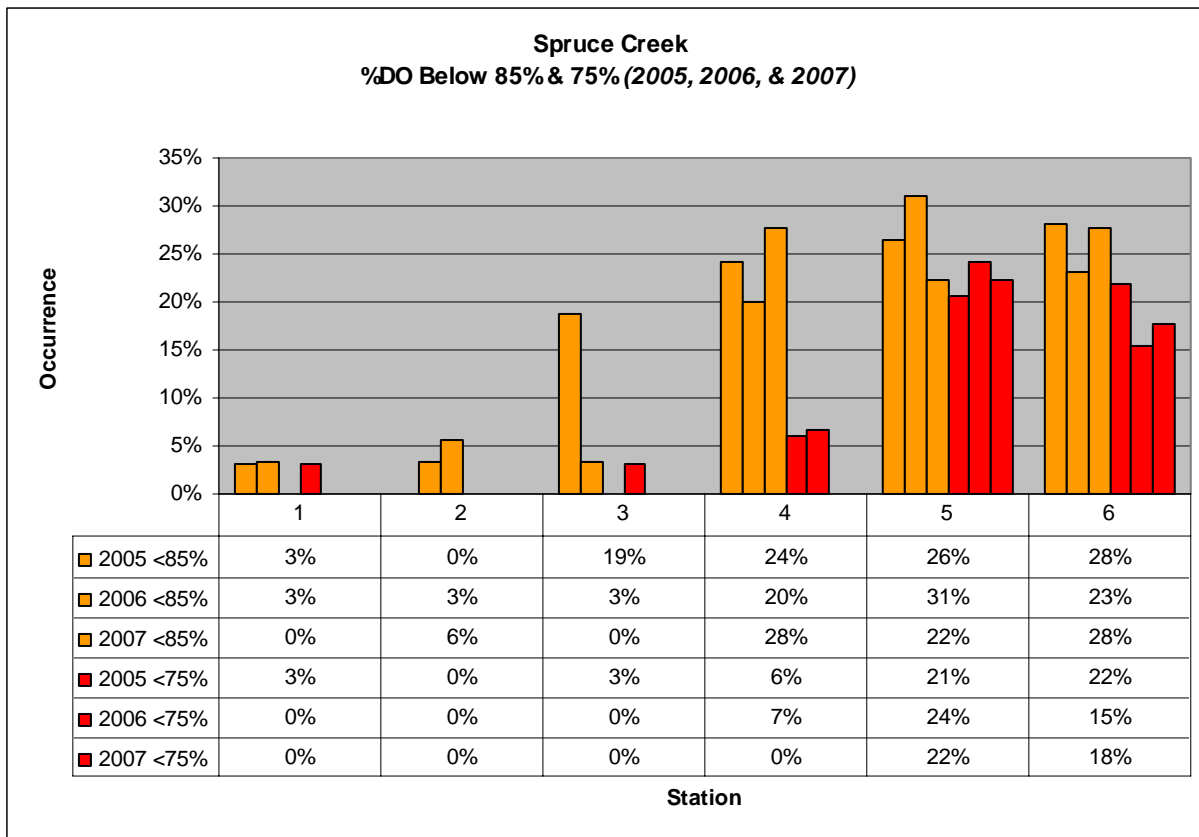


SPRUCE CREEK ASSOCIATION

The table below summarizes the oxygen saturation data for the 6 stations sampled for seasons 2007, 2006 and 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. As stated previously, all three seasons of data show similar trends from upstream to down-stream in oxygen saturations.

Table 1: 2005, 2006, & 2007 Oxygen Saturation - OM readings Only

| Station | 2007 | | | | | 2006 | | 2005 | |
|---------|------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Mean | Minimum | Maximum | Under 85% | Under 75% | Under 85% | Under 75% | Under 85% | Under 75% |
| 1 | 96 | 88 | 112 | 0 of 18 | 0 of 18 | 1 of 30 | 0 of 30 | 1 of 33 | 1 of 33 |
| 2 | 95 | 84 | 109 | 1 of 18 | 0 of 18 | 1 of 30 | 0 of 30 | 0 of 32 | 0 of 32 |
| 3 | 96 | 88 | 113 | 0 of 18 | 0 of 18 | 1 of 30 | 0 of 30 | 6 of 32 | 1 of 32 |
| 4 | 95 | 76 | 120 | 5 of 18 | 0 of 18 | 6 of 30 | 2 of 30 | 8 of 33 | 2 of 33 |
| 5 | 100 | 44 | 201 | 4 of 18 | 4 of 18 | 9 of 29 | 7 of 29 | 9 of 34 | 7 of 34 |
| 6 | 110 | 35 | 231 | 5 of 17 | 3 of 17 | 6 of 26 | 4 of 26 | 9 of 32 | 7 of 32 |





SPRUCE CREEK ASSOCIATION

*** Sue Cobler**

Former Program Manager, WASTECH International, Inc.,

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.