

Dissolved Oxygen Listings

Everett notes that four 2004 listings for Cat. 2 (10155, 10123, 10127, and 10133) were placed in Category 2 in 2004 based on a determination that exceedances may be due to natural conditions but anthropogenic sources are unknown. These listings were moved to Category 5 for the 2008 Assessment. Likewise, several new dissolved oxygen listings in the Whidbey Basin were placed in Category 5. Everett questions why these were not also placed in Category 1 or 2 based on the Ecology (Grantham 2005) memo.

Since the 2004 Assessment, data submitted for the Whidbey basin stations were reviewed by staff, who found increasing dissolved oxygen exceedances that lead to increasing indications that the exceedances are from anthropogenic sources. A memo to this effect (Bos and Alberston, 2007) is attached.

We would note that EPA recently funded a Puget Sound-wide nutrient study to develop a model that will determine natural from anthropogenic sources. Once this model is available, we will be able to fully verify sources for these waters and will use the results to qualify future Assessment listings.

pH

This listing is being placed in Category 3 because questions have been raised about the accuracy of the pH measurements. Ecology will focus efforts on pH in current Puget Sound studies and monitoring to ensure that pH measurements measured in the marine environment are reliable, and will focus on technical issues regarding collection of marine pH data. This will help insure that credible pH measurements will be collected in the future.

Sediment Listings

The SMS [WAC 173-204-320(2)(a)] requires that, when laboratory results indicate a undetected chemical, the detection limit shall be reported to be at or below the Marine Sediment Quality Standards (SQS) chemical criteria. Sediment Sampling and Analysis Plan Appendix Chapter 7 (Ecology Pub No. 03-09-043) notes that the PQL shall not be greater than the SQS of the SMS. Therefore the PQL must be at or below the SQS chemical criteria. It is the interpretation of Ecology that, when the PQL is above the SQS chemical criteria it is considered an exceedance of the SMS. Ecology must enforce the SMS chemical criteria limits for all sediment data.

Dissolved Oxygen Listing for North Creek

Listing ID 7455 will not be moved to category 4a because the North Creek TMDL and load allocations are not expressly applicable to dissolved oxygen according to EPA's approval policy.

Nov. 20, 2007

TO: Bob Cusimano

THROUGH: Carol Maloy, Supervisor, Marine Monitoring Unit

FROM: Julia Bos, Oceanographer, Marine Monitoring Unit
Skip Albertson, P.E. & Sr. Oceanographer, Marine Monitoring Unit

SUBJECT: REVIEW OF WATER QUALITY PROGRAM PLAN TO ADDRESS IMPAIRED WATERS IN THE STATE OF WASHINGTON

In response to your request, Carol Maloy, Skip Albertson and I have reviewed the Water Quality Proposed Plan to address impaired (marine) waters in the state of Washington. Absent from this proposal is any mention of impaired areas in Whidbey Basin. Data from 2004-2005 have recently been submitted for assessment and we believe that review will show that dissolved oxygen levels are of concern for this basin. Data from 2000-2003 also indicate impairment. These data will be resubmitted for assessment.

The areas of concern include:

- PSS019 - Possession Sound North – near Gedney Island
- PSS008 - Possession Sound South – inner Everett Harbor
- PNN001- Penn Cove
- SKG003 - Skagit Bay (pre-2000 assessment)
- SUZ001 - Port Susan (pre-2000 assessment)
- HLM001- Holmes Harbor (pre-2000 assessment)
- SAR003 - Saratoga Passage

During the current sampling year (2007) water quality monitoring occurs at all of the above stations except Possession Sound South and Port Susan on a monthly basis. This monitoring is proposed to continue into 2008, to be used for additional water quality assessment in this basin.

Below is a table showing the frequency of violations observed over the number of surveys completed during each year. Figure 1 shows that the trend for these occurrences is increasing when expressed as a ratio over surveys completed, indicating changes in water quality conditions for this basin. The data for 2007 is current through September and only data for Oct. - Dec. are still under review.

Table 1.

Violations per Sampling Events																		
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	*2007
PSS019	2/9	2/10	5/10	4/10	7/8	4/10	6/10	5/11	9/10	7/10	8/12	5/8	4/9	9/9	9/9	9/10	9/9	6/9
SAR003	2/10	5/10	3/10	4/9	5/8	5/10	6/11	6/12	6/10	5/10	5/11	5/10	5/8	8/8	4/9	7/10	10/10	5/8
PNN001				1/1	4/7	1/2	6/6	3/3	9/9					9/9				7/7

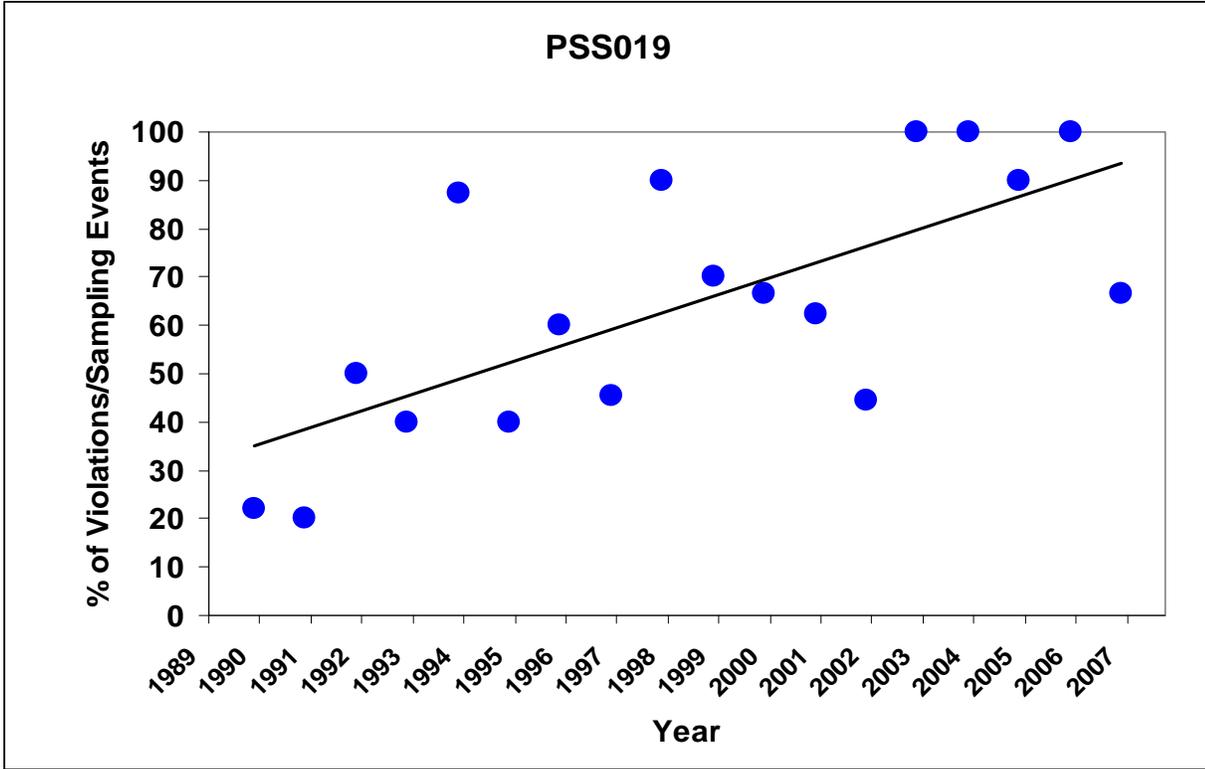


Figure 1. Increasing ratio of violations to total surveys in Possession Sound.

Map 1. Long-term marine monitoring stations in Whidbey Basin.

