

PERTH SEAWATER DESALINATION PLANT

**REPORTING IN ACCORDANCE WITH THE
PERTH SEAWATER DESALINATION PLANT
MARINE MONITORING AND MANAGEMENT PLAN**

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INTRODUCTION

In accordance with the Perth Seawater Desalination Plant's (PSDP) Marine Monitoring and Management Plan (MMMP), the Water Corporation submits this report to the Office of Environmental Protection Authority (OEPA) as per Section 7.

Near Sea Bed Loggers were deployed on the 29 April 2011 at two sites – North and South. At each site, dissolved oxygen sensors were placed at 0.2m and 0.5m above the seabed (ASB) in order to establish whether any empirical relationships exist between dissolved oxygen saturation at the two depths.

The coordinates and plotted locations of the sites are provided in Figure 2 and Attachment 8 of the MMMP. Data was collected fortnightly for 6 months. On the 8 of August the Water Corporation formally requested that the NSDO data collection frequency be reduced to monthly intervals and this request was granted.

This report covers the time period from 8 September 2011 – 6 October 2011

RESULTS

Dissolved oxygen saturation measured at 0.2m and 0.5m above the seabed at North and South NSDO sites are graphed in Appendix A and Appendix B respectively.

In summary, the difference in dissolved oxygen saturation recorded between the two depths is presented below:

	Average Difference 0.5m – 0.2m	Standard Deviation	Maximum Difference
North	1.73%	0.80%	8.30%
South	2.90%	1.18%	13.1%

Table 1: Summary of NSDO Data 8/9/11 – 6/10/11

SUMMARY

Over the period 8 September 2011 to 6 October 2011, dissolved oxygen measured at 0.2m and 0.5m above the seabed at North NSDO had an average difference of 1.73% with a standard deviation of 0.80%. At South NSDO the average difference between dissolved oxygen measured at 0.2m and 0.5m ASB was 2.90% with a standard deviation of 1.18%. Please refer appendix A and B for graphical representation. The maximum readings occurred over a short period of time. For North, the difference between 0.5m and 0.2m ranged between 6.7 to 8.3% over 1 hour on 16 September 2011. For South, the maximum difference between 0.5m and 0.2m ranged between 4.4% and 13.1% over 14 hours on 15 September 2011.

Such small averages and standard deviations indicate that there is only a very small difference in DO readings between 0.5 and 0.2m from the seabed.

APPENDIX A: NSDO North

Near Seabed Dissolved Oxygen: North 08/09/11 - 06/10/11

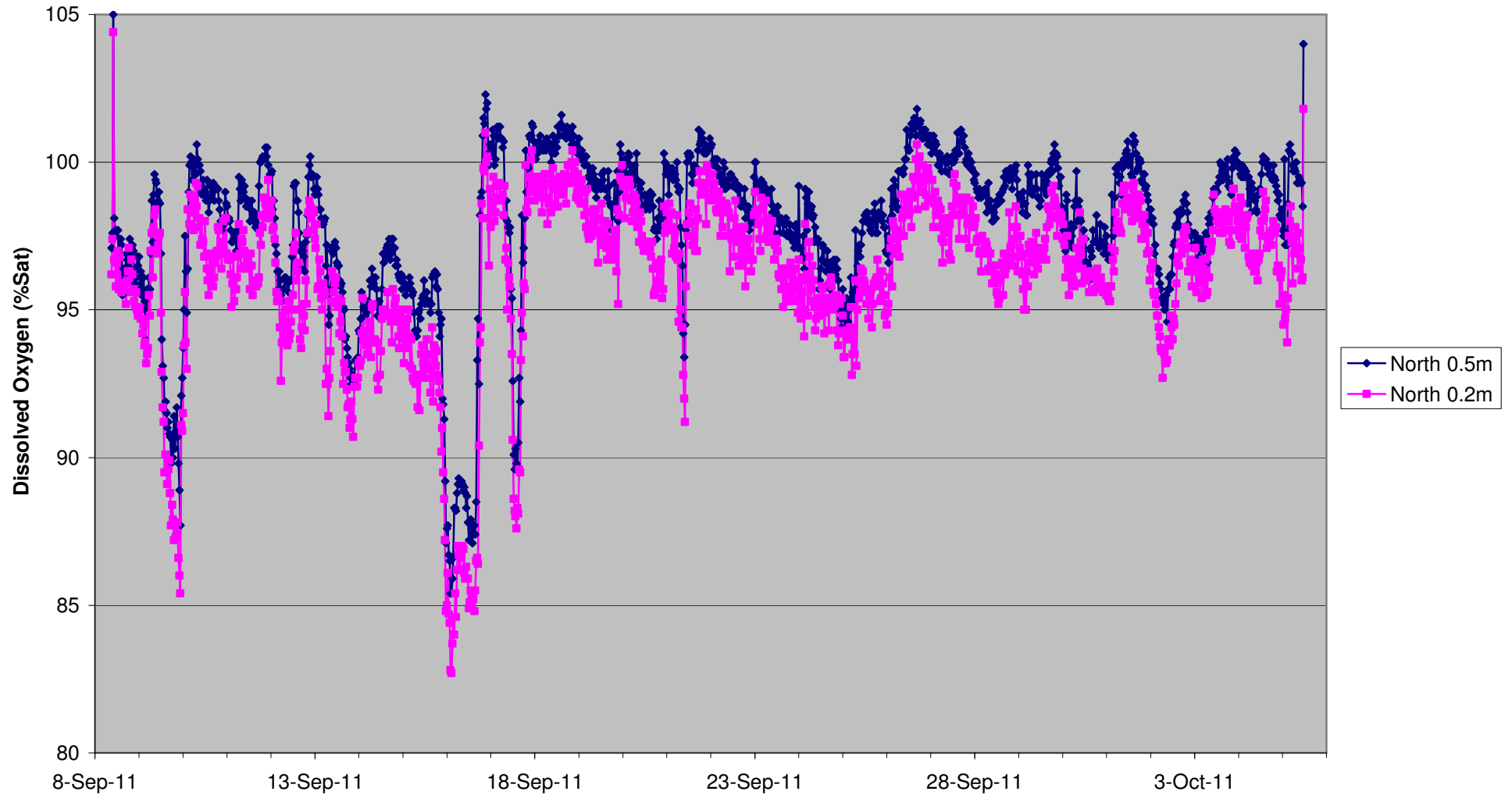


Figure 1(a): Near Seabed Dissolved Oxygen: North 8/9/11 – 6/10/11

Difference in DO % Saturation between 0.5m & 0.2m: North

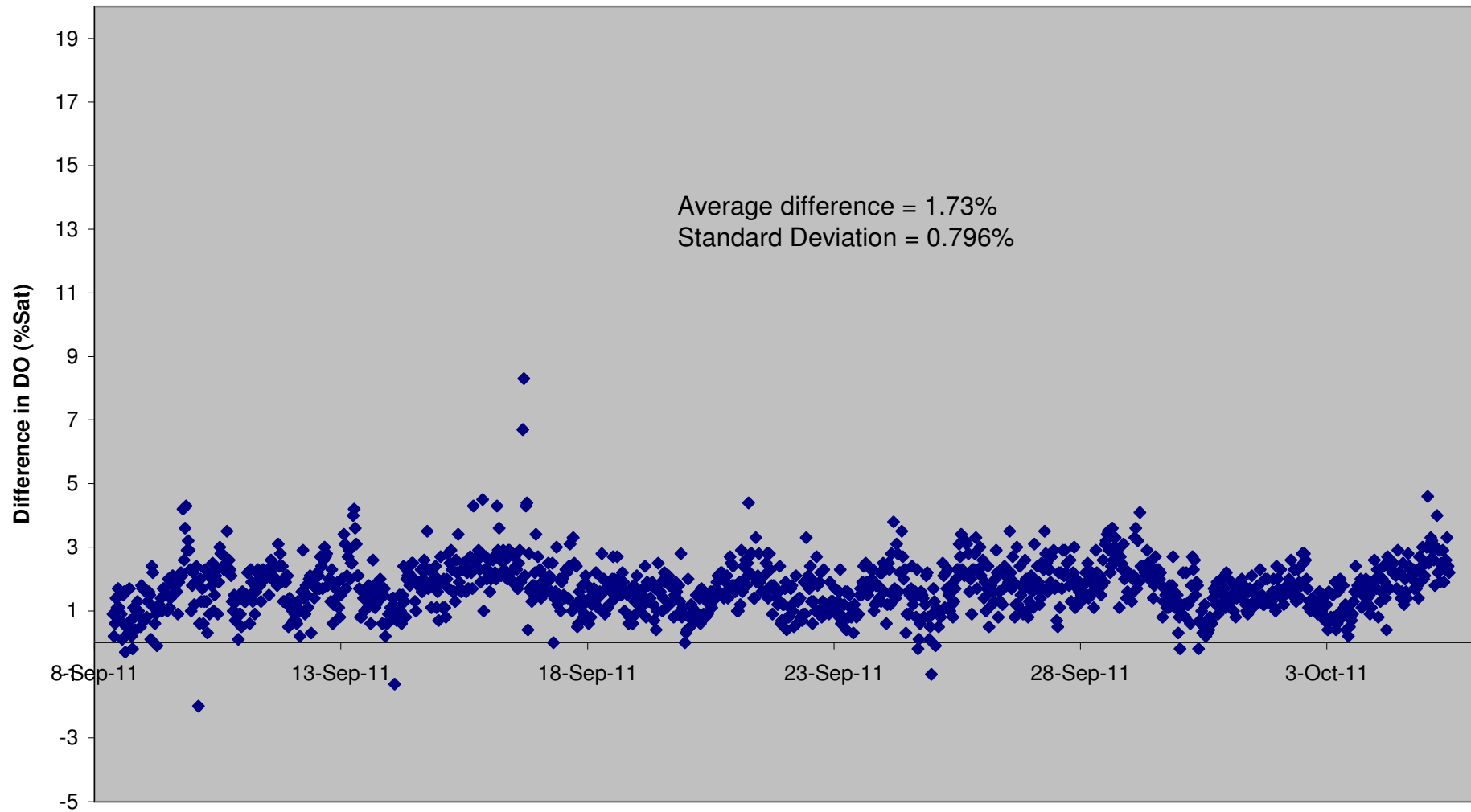


Figure 1(b): Difference in Near Seabed Dissolved Oxygen at North Site (0.5m – 0.2m)

APPENDIX B: NSDO South

Near Seabed Dissolved Oxygen: South 08/09/11 - 06/10/11

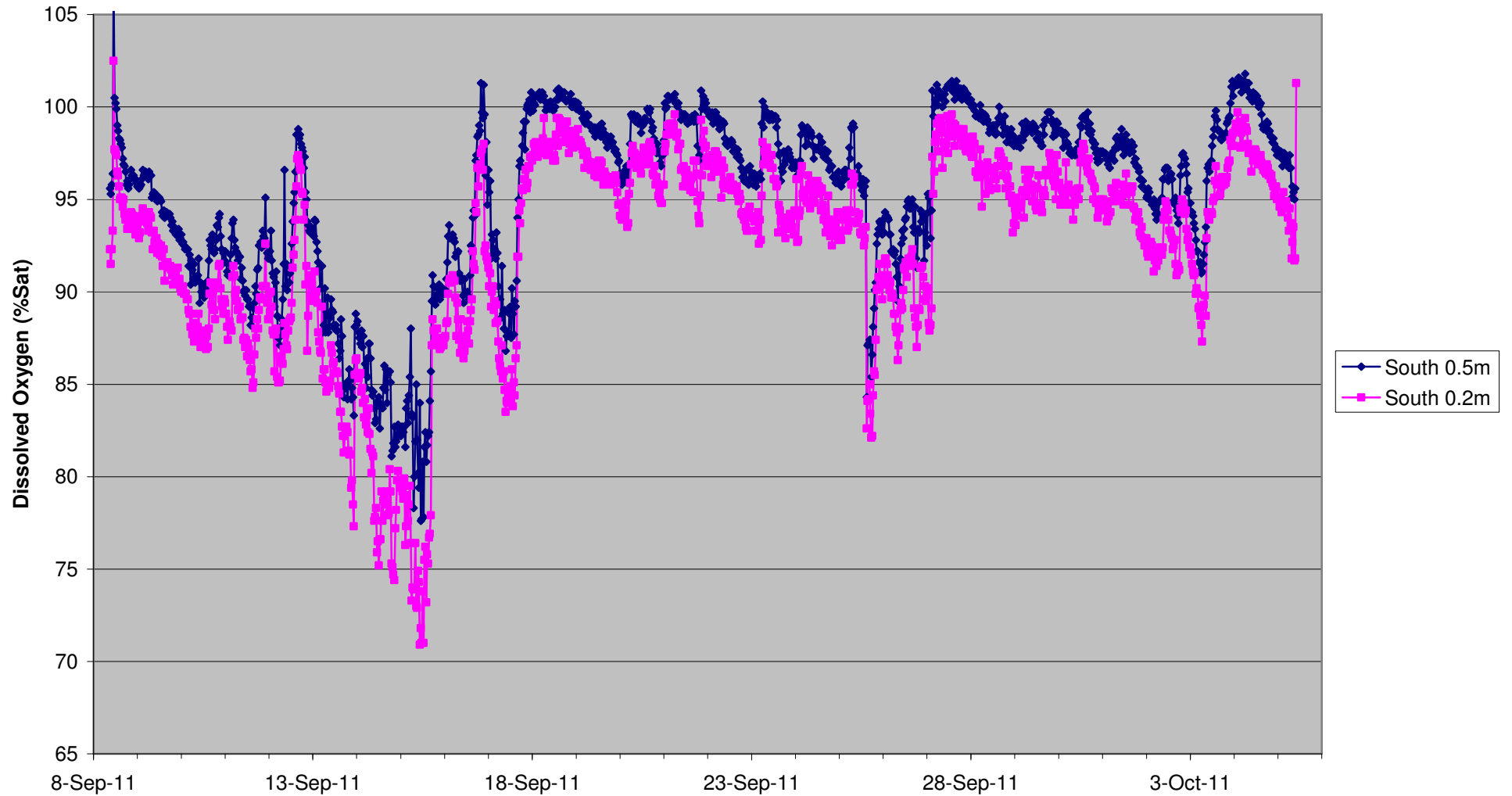


Figure 2(a): Near Seabed Dissolved Oxygen: South 8/9/11 – 6/10/11

Difference in DO % Saturation between 0.5m & 0.2m: South

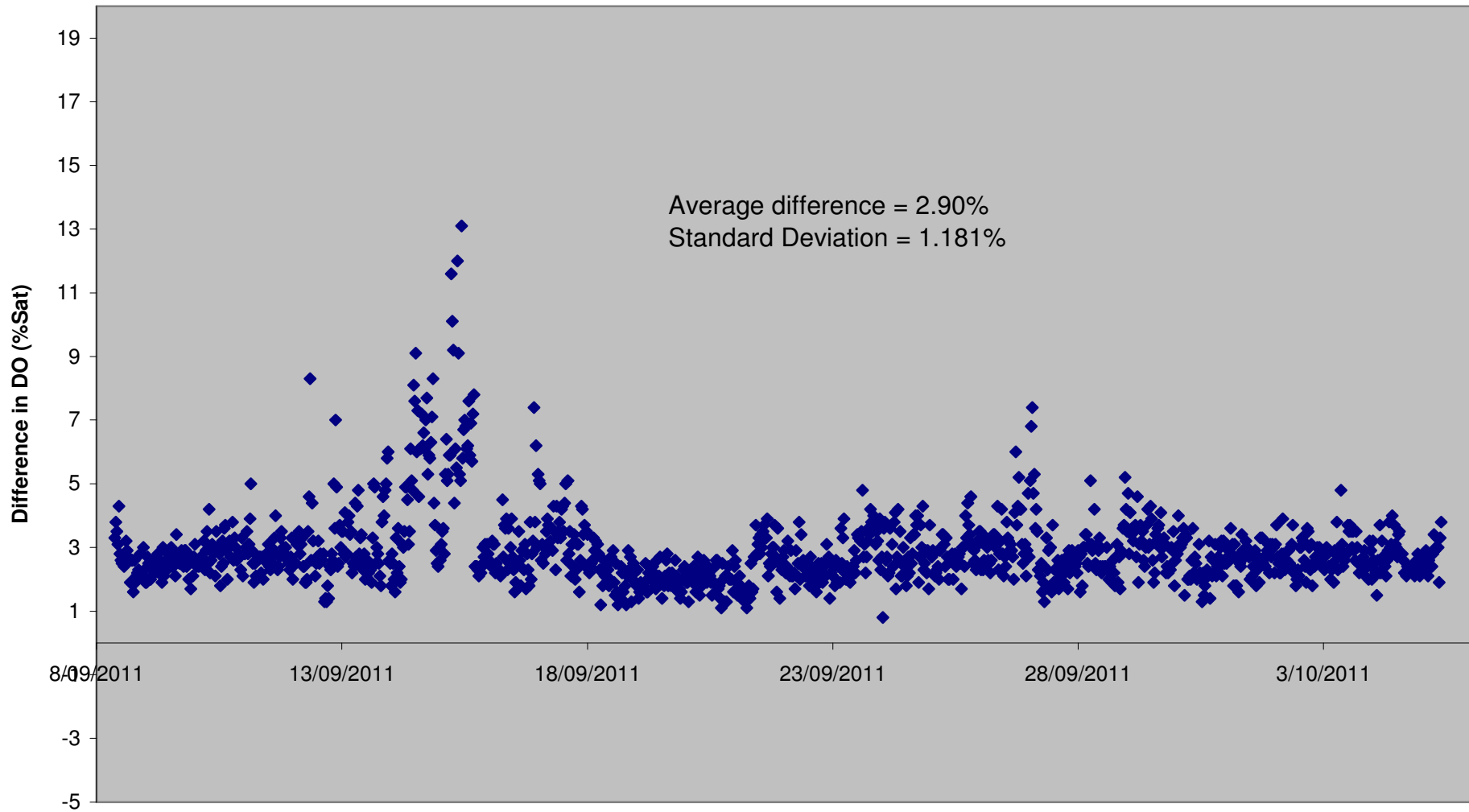


Figure 2(b): Difference in Near Seabed Dissolved Oxygen at South Site (0.5m – 0.2m)