

MALHEUR RIVER BASIN TMDL

APPENDIX E: CHLOROPHYLL DATA REGRESSION ANALYSIS

Final
September 2010



State of Oregon
Department of
Environmental
Quality

This page intentionally left blank.

Data from DEQ Lasar site 10407, Malheur River @ hwy 201, Ontario, OR, 1978-2008**Recent Data - April through June**

	Chlorophyll a ($\mu\text{g/L}$)	In Chlor a
Chlorophyll a ($\mu\text{g/L}$)	1.00	
In Chlor a	0.95	1.00
Mon	0.28	0.48
Hour	0.42	0.51
Temperature ($^{\circ}\text{C}$)	0.05	0.22
Dissolved Oxygen (mg/L)	0.18	0.13
Total Nitrogen as N (mg/L)	0.31	0.48
Ammonia as N (mg/L)	0.49	0.50
Nitrate/nitrite as N (mg/L)	0.28	0.46
Dissolved Inorganic N (mg/L)	0.29	0.47
In DIN	0.34	0.53
Total Phosphorus (mg/L)	0.29	0.42
In TP	0.29	0.42
Dissolved Orthophosphate as P (mg/L)	0.20	0.36
In PO ₄ P	0.24	0.39
Total Suspended Solids (mg/L)	0.38	0.37
Field pH (SU)	0.22	0.23

Recent - July through September

	Chlorophyll a ($\mu\text{g/L}$)
Chlorophyll a ($\mu\text{g/L}$)	1
In Chlor a	0.78
Mon	NA
Hour	-0.47
Temperature ($^{\circ}\text{C}$)	-0.07
Dissolved Oxygen (mg/L)	-0.38
Total Nitrogen as N (mg/L)	-0.17
Ammonia as N (mg/L)	0.55
Nitrate/nitrite as N (mg/L)	-0.32
Dissolved Inorganic N (mg/L)	-0.30
In DIN	-0.31
Total Phosphorus (mg/L)	0.60
In TP	0.60
Dissolved Orthophosphate as P (mg/L)	-0.21
In PO ₄ P	-0.18
Total Suspended Solids (mg/L)	-0.15
Field pH (SU)	-0.01

Recent Data - All Seasons

	Chlorophyll a (µg/L)	In Chlor a
Chlorophyll a (µg/L)	1	
In Chlor a	0.76	1.00
Mon	-0.24	-0.16
Hour	0.14	0.14
Temperature (°C)	0.13	0.10
Dissolved Oxygen (mg/L)	-0.14	-0.05
Total Nitrogen as N (mg/L)	-0.08	-0.09
Ammonia as N (mg/L)	0.38	0.34
Nitrate/nitrite as N (mg/L)	-0.14	-0.22
Dissolved Inorganic N (mg/L)	-0.13	-0.21
In DIN	-0.03	-0.09
Total Phosphorus (mg/L)	-0.10	-0.07
In TP	-0.12	-0.10
Dissolved Orthophosphate as P (mg/L)	-0.02	-0.09
In PO4P	-0.01	-0.07
Total Suspended Solids (mg/L)	0.17	0.05
Field pH (SU)	-0.08	-0.03

All years - April through June

	Chlorophyll a (µg/L)	In Chlor a
Chlorophyll a (µg/L)	1.00	
In Chlor a	0.93	1.00
Mon	-0.57	-0.42
Hour	-0.12	0.06
Temperature (°C)	-0.57	-0.38
Dissolved Oxygen (mg/L)	0.31	0.27
Total Nitrogen as N (mg/L)	-0.11	0.07
Ammonia as N (mg/L)	0.52	0.58
Nitrate/nitrite as N (mg/L)	-0.33	-0.16
Dissolved Inorganic N (mg/L)	-0.30	-0.14
In DIN	-0.25	-0.04
Total Phosphorus (mg/L)	0.74	0.65
In TP	0.69	0.61
Dissolved Orthophosphate as P (mg/L)	-0.60	-0.49
In PO4P	-0.70	-0.57
Total Suspended Solids (mg/L)	0.19	0.25
Field pH (SU)	0.08	0.06

All Years – July through September

	Chlorophyll a ($\mu\text{g/L}$)	In Chlor a
Chlorophyll a ($\mu\text{g/L}$)	1.00	
In Chlor a	0.83	1.00
Mon	-0.29	-0.11
Hour	-0.11	-0.08
Temperature ($^{\circ}\text{C}$)	0.24	0.11
Dissolved Oxygen (mg/L)	-0.16	-0.03
Total Nitrogen as N (mg/L)	-0.12	-0.02
Ammonia as N (mg/L)	0.07	0.14
Nitrate/nitrite as N (mg/L)	-0.23	-0.22
Dissolved Inorganic N (mg/L)	-0.22	-0.21
In DIN	-0.10	-0.07
Total Phosphorus (mg/L)	-0.09	-0.02
In TP	-0.09	-0.05
Dissolved Orthophosphate as P (mg/L)	-0.18	-0.16
In PO ₄ P	-0.17	-0.14
Total Suspended Solids (mg/L)	0.02	0.04
Field pH (SU)	-0.16	-0.13