

MEMORANDUM

Sampling Dates: January 24 and February 21, 2011
 To: *Bear Creek Watershed Association*
 From: Russell N. Clayshulte, Manager
 Re: **2011 Bear Creek Reservoir Summary Data**



Table 1 Reservoir Profile 1/24/2011

Date 1/24/2011

Site	Time	SC	DO	Temp	pH
TCIn; 16a	9:35	1.42	11.58	1.7	7.89
BCIn; 15a	10:00	0.398	12.31	0.8	8.52
LBCOut; 45	10:30	0.444	11.1	2.9	8.32
BCReservoir	Site 40 (CP)				
1/2m	11:45	0.408	11.37	3.8	8.52
1m		0.432	11.85	4.6	8.54
1 1/2m		0.444	12.1	4.6	8.52
2m		0.453	12.1	4.6	8.55
2 1/2m		0.46	11.73	4.4	8.57
3m		0.467	10.4	4.3	8.48
3 1/2m		0.475	9.9	4.2	8.4
4m		0.481	9.1	4.1	8.44
5m		0.493	8.51	4	8.27
6m		0.535	8.22	4.00	8.15
7m		0.492	7.40	4.00	8.12
8m		0.625	6.62	4.10	8.06
9m		0.671	6.27	4.20	7.95
10m		0.713	5.70	4.30	7.92
11m		0.783	5.82	4.3	7.87

Secchi m	T Depth m
2.65	11.75

Temp 1/2-2m 4.4
 Temp 1/2-11m 4.2
 DO 1/2-11m 9.14
 DO 1/2-2m 11.86
 pH 1/2-11m 8.29
 SC 1/2-11m 0.529

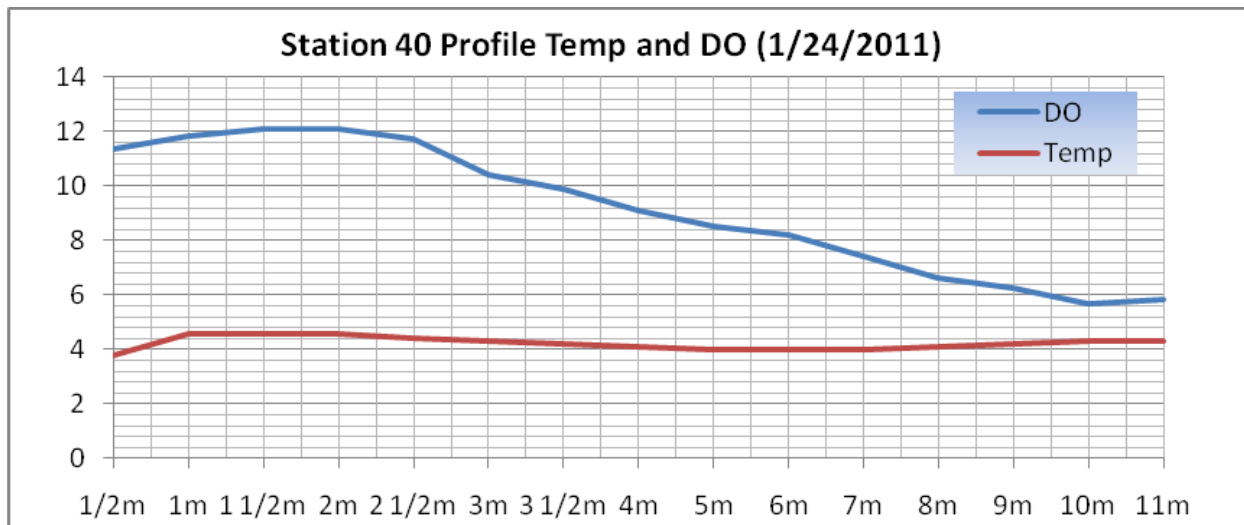


Table 2 Coyote Gulch Field Data 1/24/11

	Time	SC	DO	Temp	pH	Flow
Upper Coyote	10:46	1.66	9.55	0	8.3	0.29 cfs
Lower Coyote	11:04	1.66	11.86	0.1	8.2	0.32 cfs

Table 3 January Recreation Uses

Recreational Uses	1/24/2011	1/19/2011
Archery	1	1
Walking/ Running	29	6
dog leash	8	
dog no leash	3	
Bicycle	6	5
Horseback Riding	1	2
Fishing	11	16

Table 4 Reservoir Profiles 1/24/2011

Reservoir Profiles

date: 1/24/2011

Site 41 (1)	Time	SC	DO	Temp	pH	Secchi m	T Depth m		
1/2m	12:18	0.439	12.1	4.6	8.6	2.3	4.8	Temp 1/2-2m	4.7
1m		0.438	12.1	4.7	8.5			Temp 1/2-11m	4.5
1 1/2m		0.446	12.1	4.7	8.47				
2m		0.453	11.21	4.6	8.46			DO 1/2-11m	10.50
2 1/2m		0.459	11.21	4.6	8.43			DO 1/2-2m	11.88
3m		0.469	11.01	4.3	8.31				
3 1/2m		0.474	9.33	4.3	8.33				
4m		0.482	9.12	4.2	8.24				
5m		0.499	6.33	4.5	8.11				
Site 42 (3)	Time	SC	DO	Temp	pH	Secchi m	T Depth m		
1/2m	12:35	0.417	11.92	4.4	8.6	2.47	9.95	Temp 1/2-2m	4.6
1m		0.431	11.92	4.8	8.32			Temp 1/2-11m	4.5
1 1/2m		0.447	11.8	4.7	8.39				
2m		0.455	11.61	4.6	8.43			DO 1/2-11m	9.12
2 1/2m		0.447	11.35	4.5	8.48			DO 1/2-2m	11.81
3m		0.474	10.14	4.3	8.35				
3 1/2m		0.478	9.15	4.3	8.33				
4m		0.483	8.92	4.2	8.25				
5m		0.504	8.1	4.1	8.14				
6m		0.539	7.36	4.2	8.12				
7m		0.573	4.85	4.7	8.14				
8m		0.677	2.28	5.2	7.99				
Site 43 (4)	Time	SC	DO	Temp	pH	Secchi m	T Depth m		
1/2m	1:10	0.417	11.42	3.8	8.5	2.5	4	Temp 1/2-2m	4.1

1m		0.437	11.88	4.2	8.41
1 1/2m		0.443	11.7	4.3	8.38
2m		0.458	11.84	4.2	8.39
2 1/2m		0.463	11.32	4.2	8.34
3m		0.467	11.2	4.3	8.35
3 1/2m		0.475	11.1	4.2	8.37
4m		0.507	10.5	3.8	8.3
Site 44 (5)	Time	SC	DO	Temp	pH
1/2m	1:30	0.414	11.63	3.7	8.49
1m		0.444	11.5	4.5	8.39
1 1/2m		0.451	11.4	4.6	8.43
2m		0.453	11.55	4.6	8.44
2 1/2m		0.46	11.4	4.4	8.32
3m		0.469	10.46	4.2	8.36
3 1/2m		0.478	10.52	4	8.34
4m		0.493	9.56	4	8.25
5m		0.512	9.38	4	8.16
6m		0.548	6.2	4.2	8.13

Temp 1/2-11m 4.1

DO 1/2-11m 11.41

DO 1/2-2m 11.67

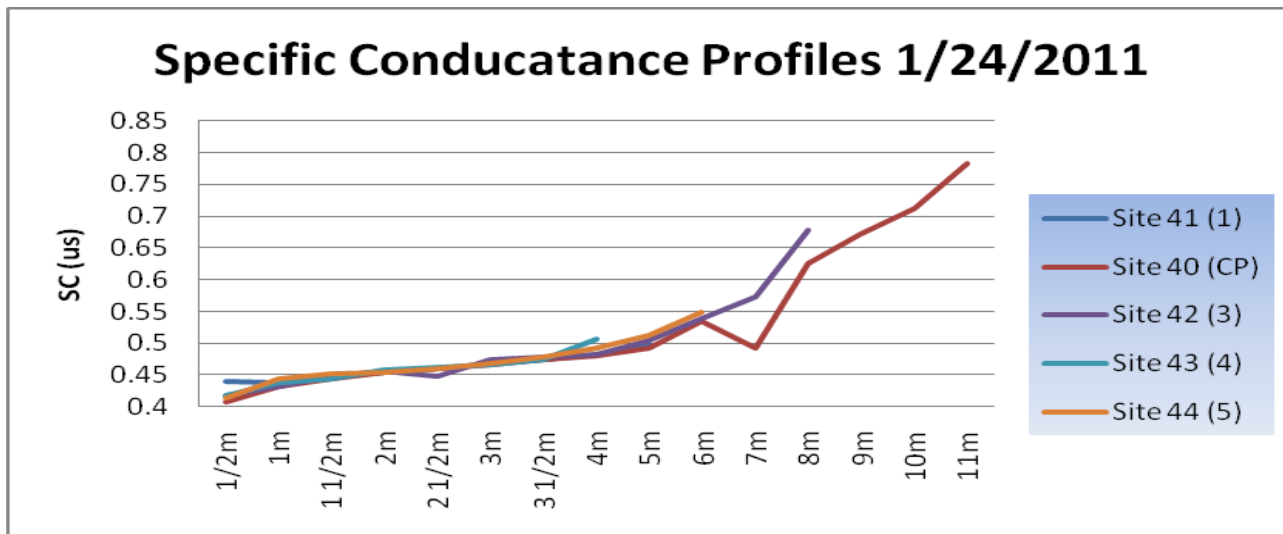
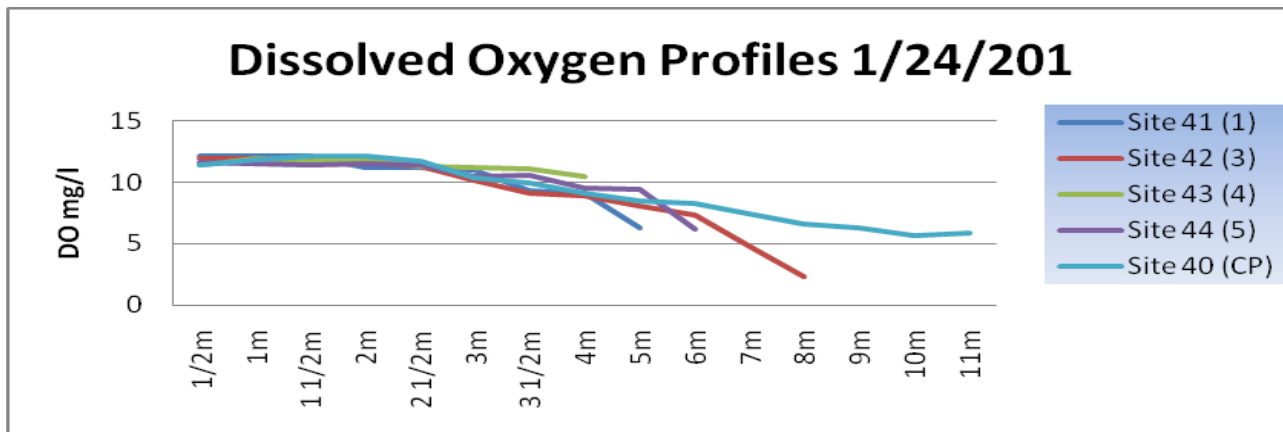
Temp 1/2-2m 4.4

Temp 1/2-11m 4.2

DO 1/2-11m 10.36

DO 1/2-2m 11.52

Secchi m	T Depth m
2.4	6.3



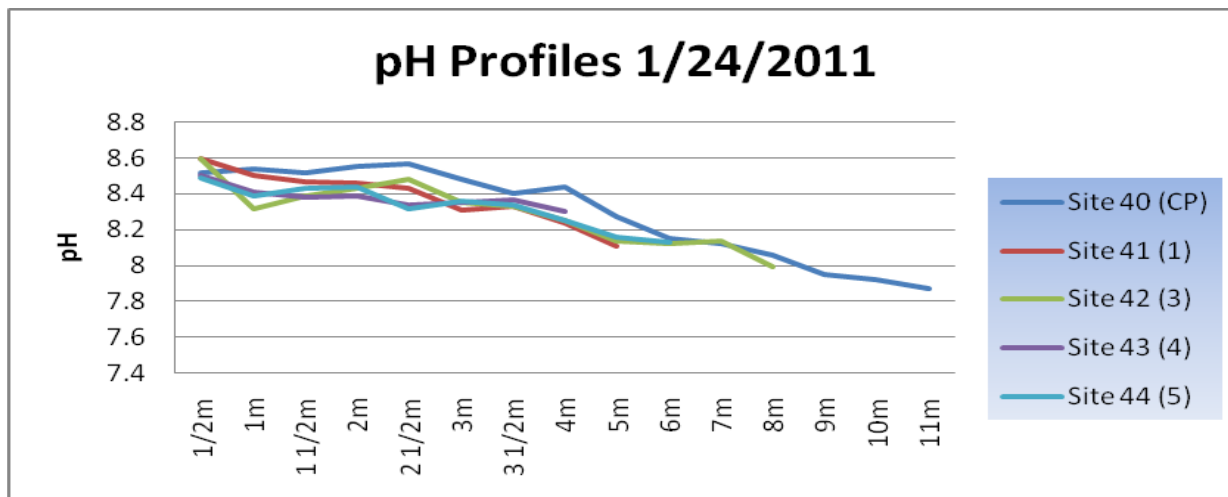


Table 5 2011 Flow Estimates

Average cfs	Jan	Feb
Turkey Creek Inflow	0.39	4.49
Bear Creek Inflow	2.3	10.56
Lower Bear Creek	0.5	9
Average acre-ft/day	Jan	Feb
Turkey Creek Inflow	0.8	8.9
Bear Creek Inflow	4.6	20.9
Lower Bear Creek	1.0	17.8

Table 6 Sampling 2/21/2011

Date 2/21/2011						
Site	Time	SC	DO	Temp	pH	
TCIn; 16a	9:25	1.19	11.38	0.7	7.76	
BCIn; 15a	9:40	0.372	11.47	0	7.99	
LBCout; 45	10:20	0.48	9.87	4.9	8.07	
BCReservoir	Site 40 (CP)					Secchi m
1/2m	11:44	0.457	8.75	5.3	8.34	3
1m		0.461	8.9	5.4	8.13	
1 1/2m		0.471	9.01	5.4	8.01	
2m		0.481	9.07	5.3	7.96	Temp 1/2-2m 5.4
2 1/2m		0.51	9.16	4.8	7.94	Temp 1/2-10m 4.7
3m		0.521	8.85	4.6	7.83	DO 1/2-10m 7.44
3 1/2m		0.54	8.33	4.4	7.81	DO 1/2-2m 8.93
4m		0.569	6.5	4.2	7.74	
5m		0.611	6.5	4.2	7.66	pH 1/2-10m 7.80
6m		0.639	5.70	4.3	7.67	SC 1/2-10m 0.581
7m		0.672	6.13	4.3	7.58	
8m		0.7	6.25	4.4	7.51	
9m		0.729	6.40	4.4	7.51	
10m		0.766	4.65	4.8	7.55	

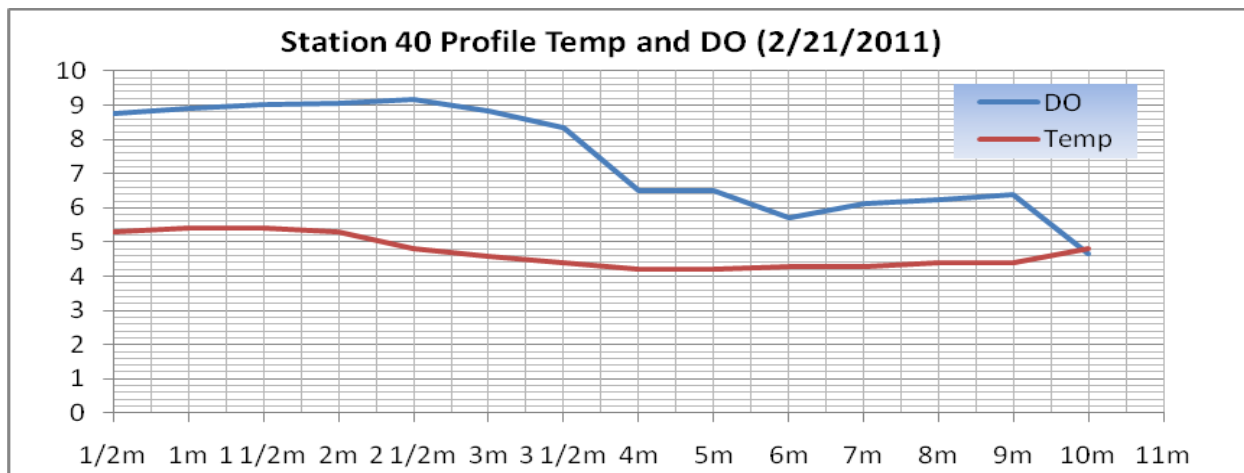


Table 7 Coyote Gulch Sampling 2/21/2011

Site	Time	SC	DO	Temp	pH	
Upper Coyote	10:33	1.66	9.55	0	8.3	0.29 cfs
Lower Coyote	10:40	1.66	11.86	0.1	8.2	0.32 cfs

Table 8 Recreation Uses February

Rec Uses	2/21/2011
Archery	7
Walking/ Running	33
dog leash	6
dog no leash	2
Bicycle	11
Horseback Riding	3
Fishing	17

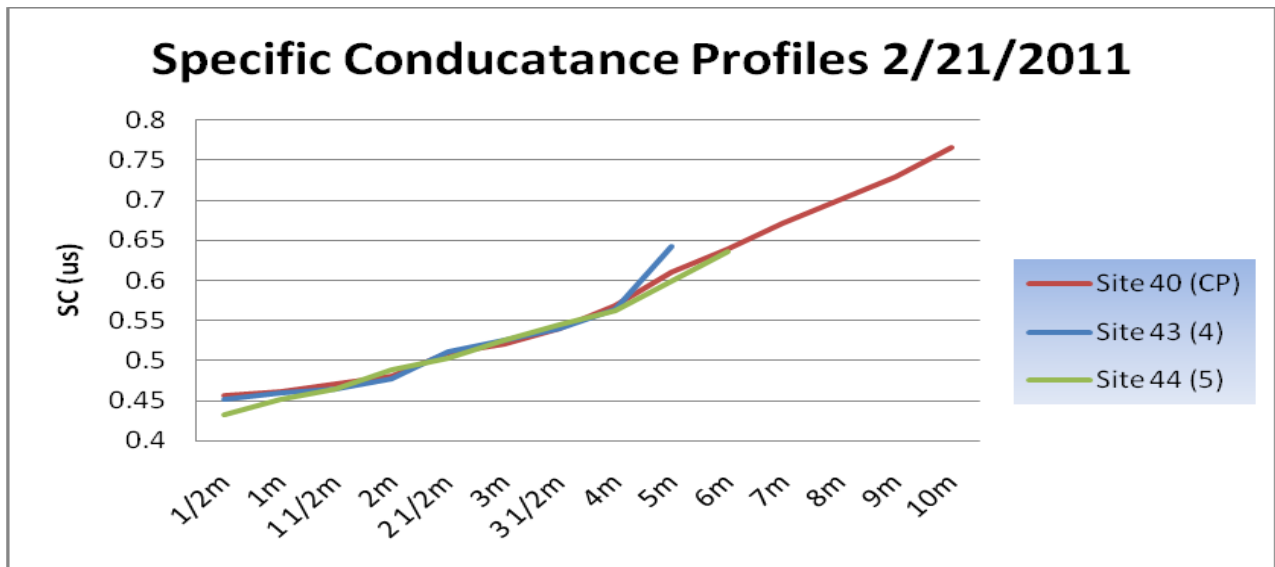
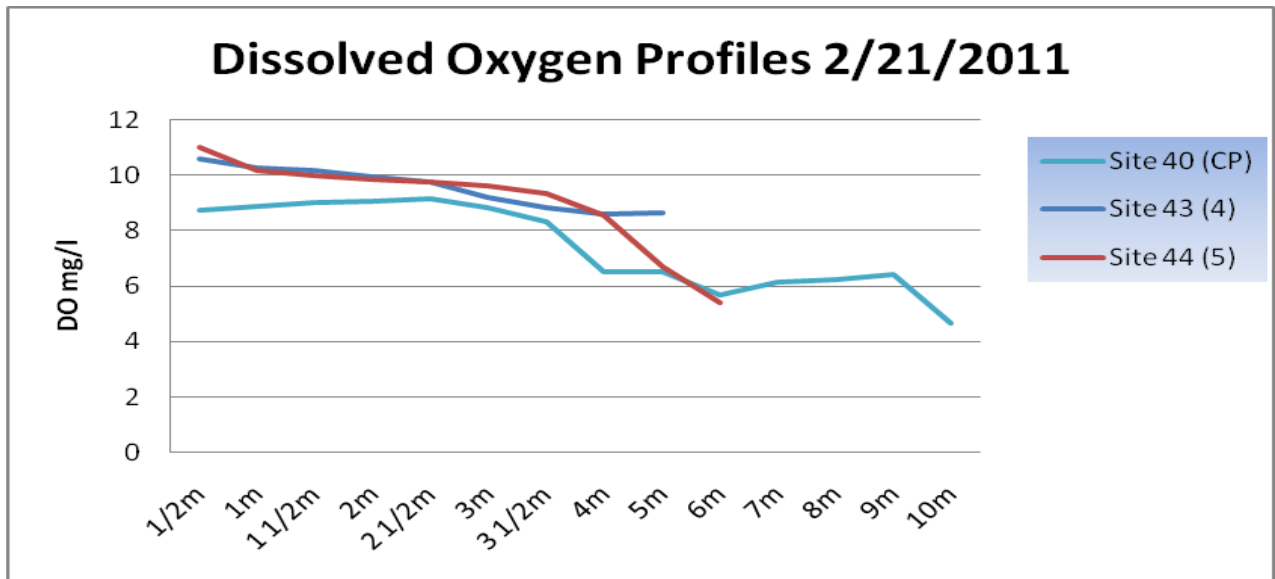
Table 9 Profile 2/21/2011

Site 43 (4)	Time	SC	DO	Temp	pH	Secchi m	T Depth m
1/2m	12:03	0.452	10.6	4.8	8.32	3	5.2
1m		0.459	10.25	5.1	8.14		
1 1/2m		0.464	10.2	5.1	8.2		Temp 1/2-2m 5.0
2m		0.478	9.95	5.1	8.1		Temp 1/2-11m 4.6
2 1/2m		0.511	9.75	4.6	7.9		
3m		0.526	9.2	4.4	7.98		DO 1/2-11m 9.77
3 1/2m		0.54	8.85	4.3	7.85		DO 1/2-2m 10.35
4m		0.564	8.6	4.2	7.8		
5m		0.642	8.66	4.2	7.74		
Site 44 (5)	Time	SC	DO	Temp	pH	Secchi m	T Depth m
1/2m	12:20	0.432	11.00	4.1	8.28	3	6.4

1m		0.452	10.20	4.5	8.01
1 1/2m		0.465	10.00	4.8	7.98
2m		0.488	9.86	4.7	7.94
2 1/2m		0.503	9.75	4.5	7.85
3m		0.526	9.64	4.0	7.83
3 1/2m		0.545	9.35	4.0	7.85
4m		0.562	8.54	4.0	7.75
5m		0.599	6.70	4.2	7.64
6m		0.636	5.40	4.4	7.67

Temp 1/2-2m 4.5
Temp 1/2-11m 4.3

DO 1/2-11m 9.04
DO 1/2-2m 10.27



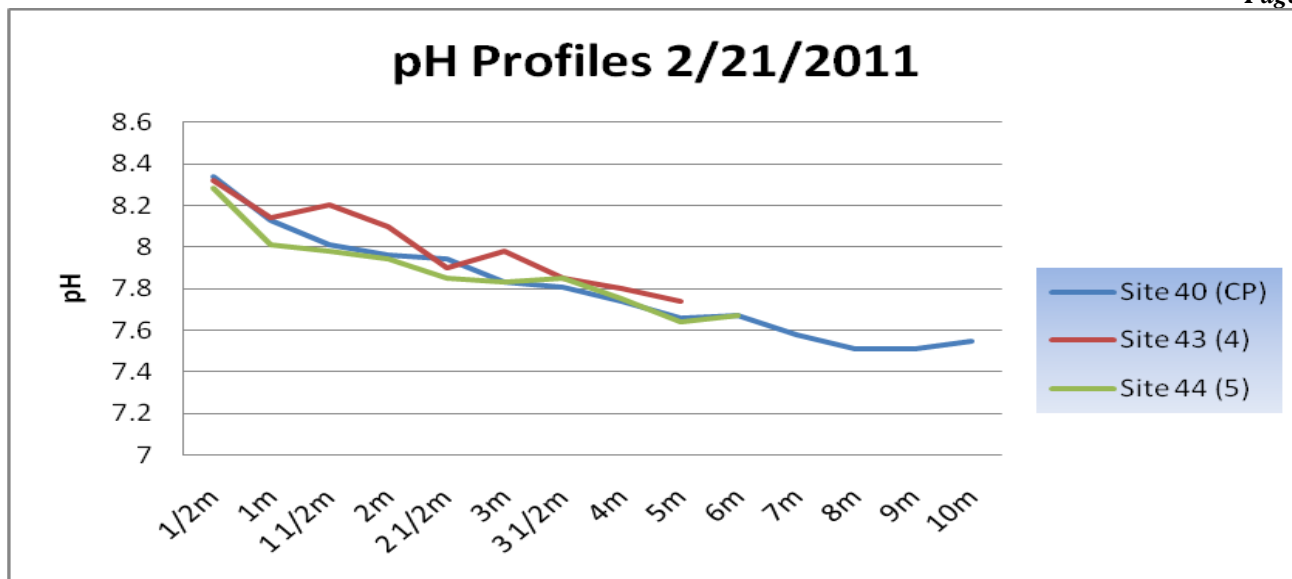


Table 10 Laboratory Data 2011
Bear Creek Laboratory Monitoring Data

Site	Parameter (ug/l)	24-Jan	21-Feb
Bear Creek Inflow, Site 15a	Total Nitrogen	2,248	1373
	Nitrate/Nitrite as N, dissolved	1,958	1160
	Phosphorus, total	38	29
	Total Dissolved Phosphorus	25	26
	Residue, Non-Filterable (TSS)	10.4	6.8
Turkey Creek Inflow, Site 16a	Total Nitrogen	747	935
	Nitrate/Nitrite as N, dissolved	603	671
	Phosphorus, total	2	23
	Total Dissolved Phosphorus	2	10
	Residue, Non-Filterable (TSS)	0	15
Bear Creek Reservoir Top, Site 40a	Chlorophyll a	7	2.75
	Nitrate/Nitrite as N, dissolved	454	213
	Total Nitrogen		
	Phosphorus, total	23	16
	Total Dissolved Phosphorus	8	7
	Residue, Non-Filterable (TSS)	0.0	0.0
Bear Creek Reservoir Bottom, Site 40c	Nitrate/Nitrite as N, dissolved	303	431
	Total Nitrogen		
	Phosphorus, total	21	102
	Total Dissolved Phosphorus	5	8
	Residue, Non-Filterable (TSS)	0	33.8
Lower Bear Creek Outflow, Site 45	Total Nitrogen	1012	776
	Nitrate/Nitrite as N, dissolved	494	385
	Phosphorus, total	32	24
	Total Dissolved Phosphorus	15	8
	Residue, Non-Filterable (TSS)	4.4	9.2