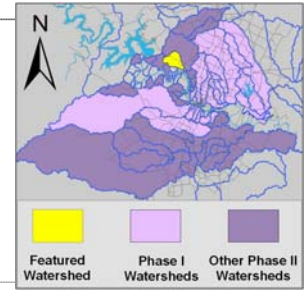


West Bull Creek Watershed

Summary Sheet

Catchment	Total area	6.9 sq. miles				
	Area in recharge	2.7 sq. miles				
	Creek length	5 miles				
	Receiving water	Bull Creek				
Demographics	2000 population	2,446				
	2030 projected population	10,987				
	30 year projected % increase	349 %				
Land Use	Impervious cover (2003 estimate)	6.39 %				
Overall EII Scores		2001	2004	2007	2010	2012
		81	78	75	75	76



Flow Regime* for Sample Sites on West Bull Creek

Site #	Site Name	2004						2007					2010				2011	2012		
		Mar	May	May	Jun	Oct	Dec	Feb	May	Jun	Sep	Dec	Mar	May	May	Oct	Dec	Mar	Apr	May
		WQ	WQ	Bio	WQ	WQ	WQ	WQ	WQ	Bio	WQ	WQ	WQ	WQ	Bio	WQ	WQ	WQ	Bio	Bio
148	Bell Mt	B	B	B	B	n	B	B	B	B	B	B	B	B	B	B	B	B		B
343	us BUL	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B	B	
1107	Jester Blvd	B	B	B	B	B	B													
1030	Standing Rock	B	B	B	B	B	B													

* B = baseflow n = no flow storm = storm flow blue = Samples were taken grey = Samples were not taken blank = not visited

Summary of 2012 Data for West Bull Creek

Summary	Parameter	Mean	Max	Min	Comments
Physicochemical	D.O. mg/l	7.5	10.6	2.9	Wide range, elevated value downstream, low value upstream.
	pH st.units	7.57	7.93	7.20	Some low values, but mostly within normal range.
	Cond uS/cm	692	851	584	Within normal range, increases downstream.
Nutrients	NH ₃ mg/l	0.015	0.039	0.008	Within normal range.
	NO ₃ mg/l	1.696	4.07	0.010	Some above average values, but within normal range.
	Ortho P mg/l	0.004	0.004	0.004	Consistently low.
Sediment Load	TSS mg/l	1.6	3.6	1.0	Within normal range.
	Turbidity ntu	0.47	0.66	0.30	Within normal range.
Biology	E.Coli /100ml	102	291	1	Low to normal range.
	Benthic Macroinvertebrates and Diatoms: evaluations are provided in the introduction of this report				

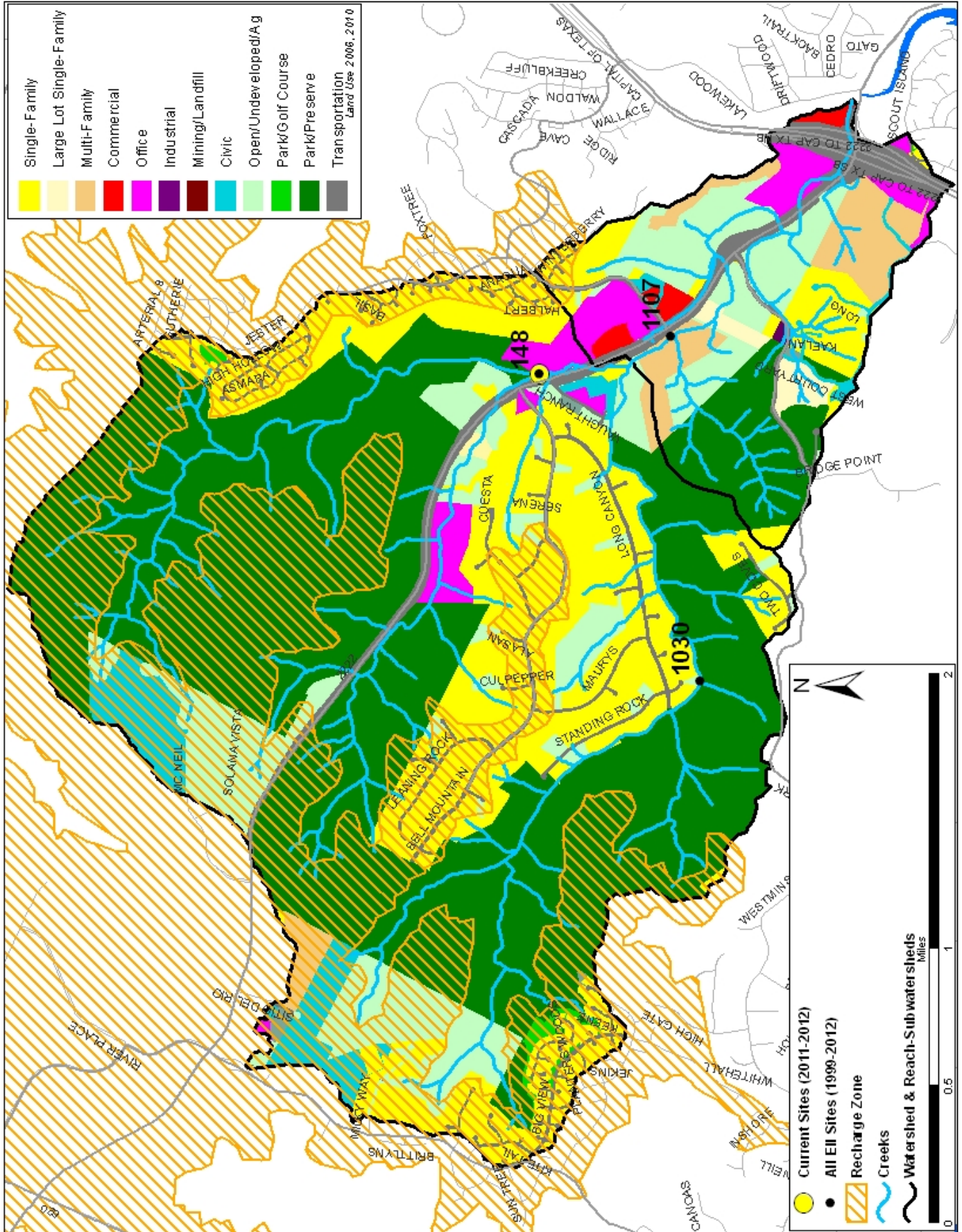
Index scores* for West Bull Creek Sites by Year

Reach	Site	Site Name	Year	Water Quality	Sediment**	Contact Rec.	Non-Contact Rec.	Physical Integrity	Aquatic Life	Benthic subindex	Diatom subindex	Total EII Score
COW1	1030	Cow Fork Bull Creek @ Standing Rock Trail	1998	69	85	79	93	76	88	84	92	82
WBL1	343	West Bull Creek Upstream of Bull Creek (EK)	1998	72	85	65	86	76	92	98	86	79
WBL1	1107	West Bull Creek @ Jester Blvd	1998	74	85	88	82	84	83	75	91	83
WBL2	148	West Bull Creek @ Bell Mt. Road (ED)	1998	74	85	83	83	66	71	58	84	77
COW1	1030	Cow Fork Bull Creek @ Standing Rock Trail	2001	66	91	88	80	47	76	60	92	73
WBL1	343	West Bull Creek Upstream of Bull Creek (EK)	2001	69	91	89	87	85	89	90	87	81
WBL1	1107	West Bull Creek @ Jester Blvd	2001	68	91	95	88	84	91	90	92	82
WBL2	148	West Bull Creek @ Bell Mt. Road (ED)	2001	64	91	93	90	66	58	54	62	73
COW1	1030	Cow Fork Bull Creek @ Standing Rock Trail	2004	65	84	52	88	86	87	80	93	77
WBL1	343	West Bull Creek Upstream of Bull Creek (EK)	2004	75	84	47	83	89	95	90	99	79
WBL1	1107	West Bull Creek @ Jester Blvd	2004	68	84	65	89	88	93	86	100	81
WBL2	148	West Bull Creek @ Bell Mt. Road (ED)	2004	68	84	59	80	72	84	81	87	75
WBL1	343	West Bull Creek Upstream of Bull Creek (EK)	2007	65	73	44	88	71	99	98	100	73
WBL2	148	West Bull Creek @ Bell Mt. Road (ED)	2007	77	73	76	96	78	62	54	70	77
WBL1	343	West Bull Creek Upstream of Bull Creek (EK)	2010	67	80	56	91	67	98	99	97	73
WBL2	148	West Bull Creek @ Bell Mt. Road (ED)	2010	70	80	60	92	79	75	74	76	76
WBL1	343	West Bull Creek Upstream of Bull Creek (EK)	2012	50	86	42	91	85	88	99	77	74
WBL2	148	West Bull Creek @ Bell Mt. Road (ED)	2012	71	86	81	86	85	59	61	57	78

* blank cells indicate parameter was not collected, blank row indicate site was dropped **sediment samples only collected at the downstream site
 100-87.5 Excellent 87.5-75 V. Good 75-62.5 Good 62.5-50 Fair 50-37.5 Marginal 37.5-25 Poor 25-12.5 Bad 12.5-0 V. Bad

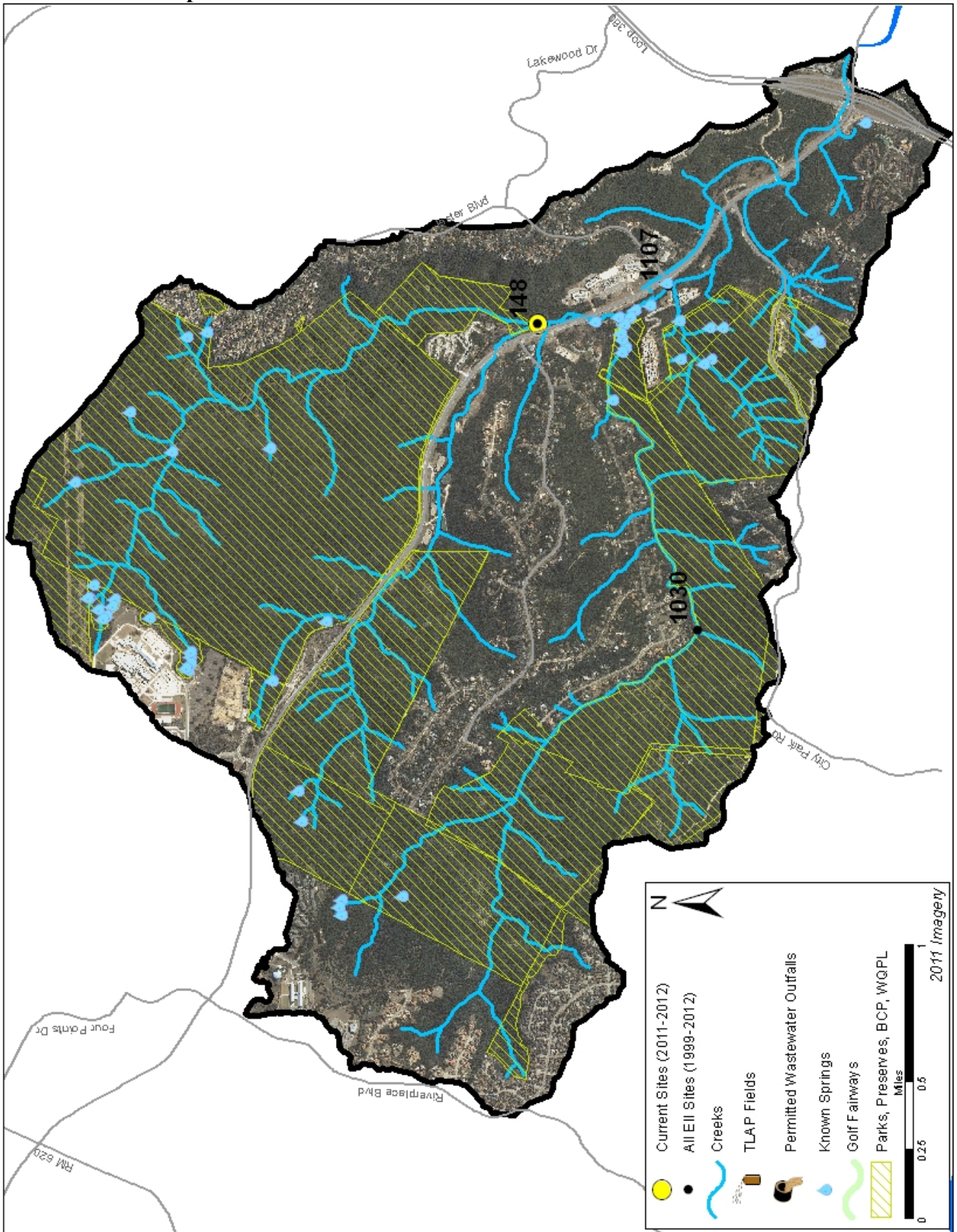
West Bull Creek Watershed

Land Use Map



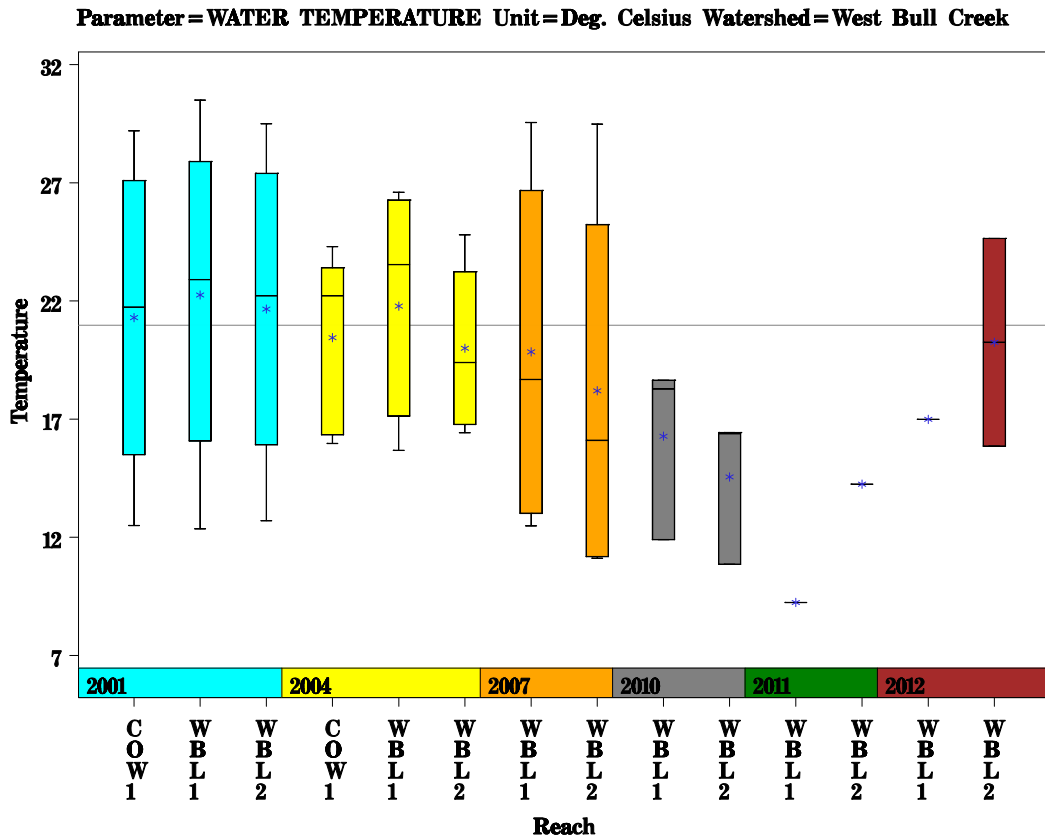
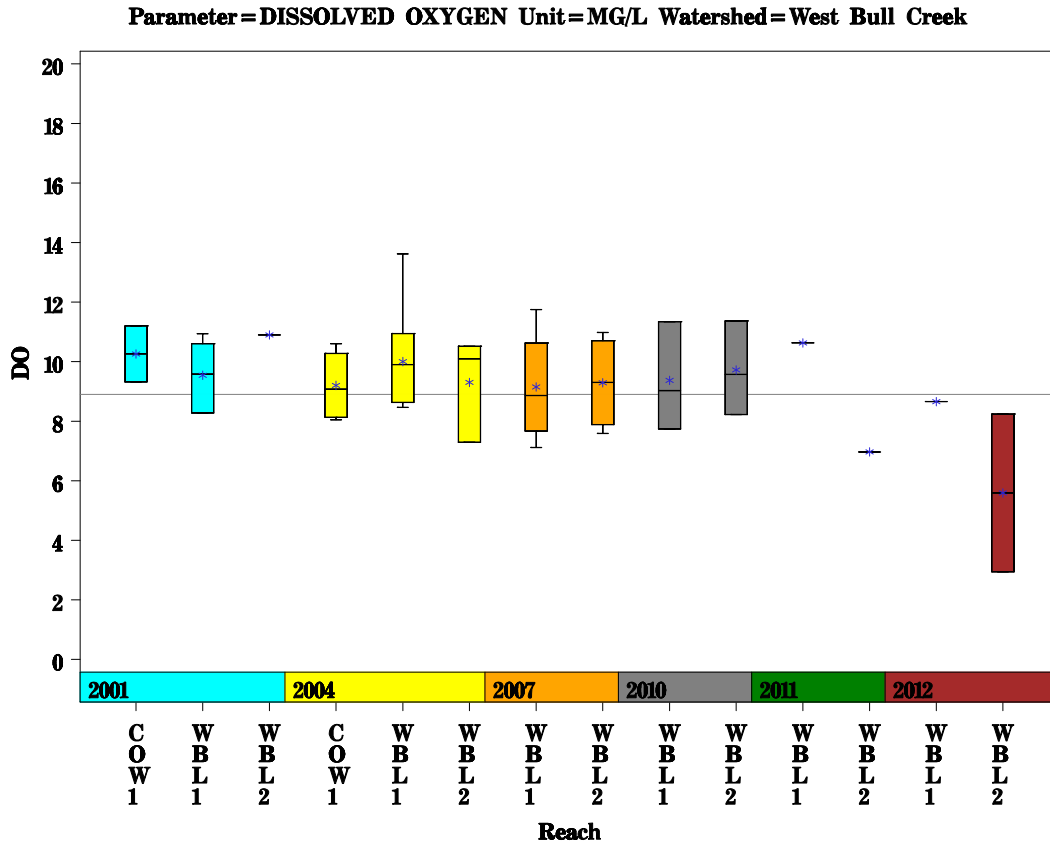
West Bull Creek Watershed

Aerial Map



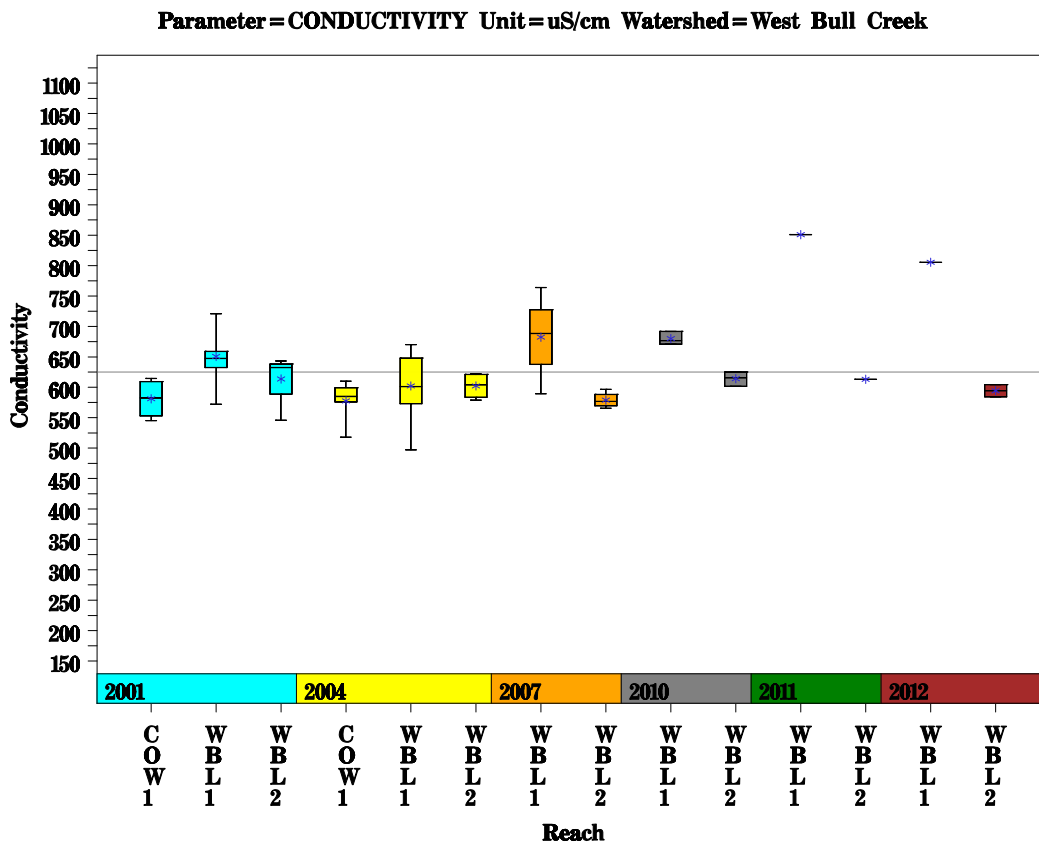
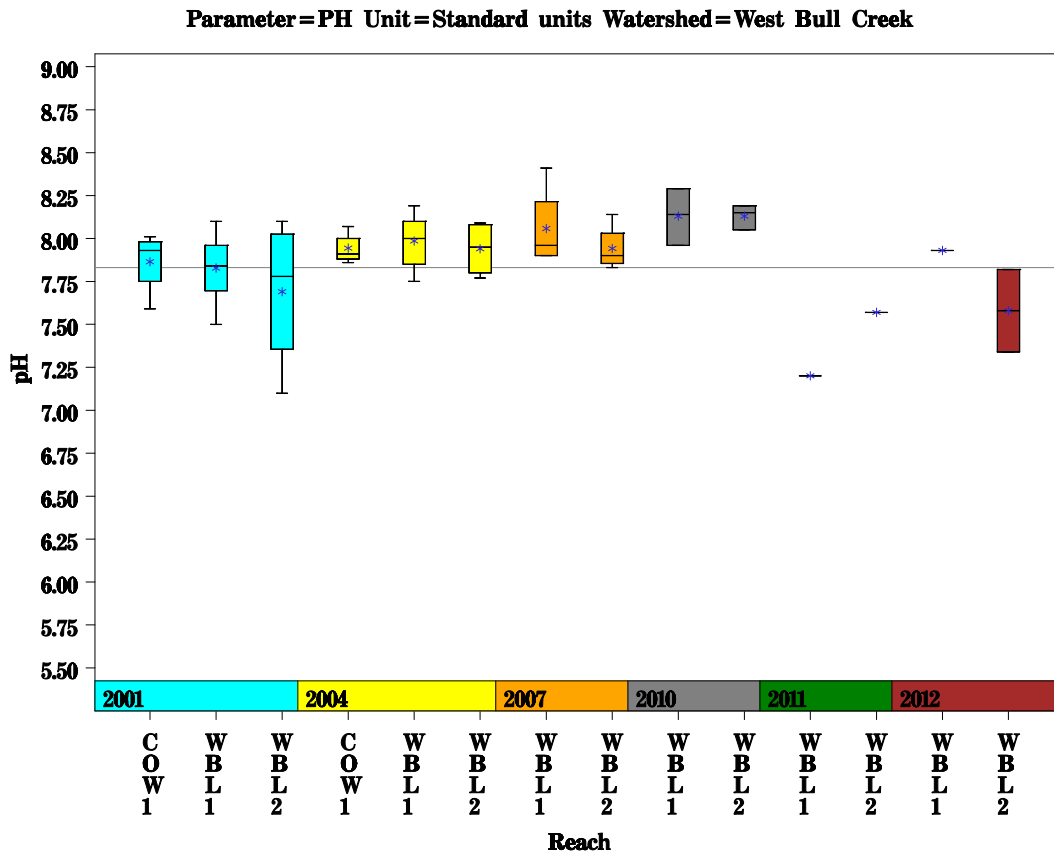
West Bull Creek Watershed

Data Summary Graphs – Dissolved Oxygen and Temperature (Downstream to Upstream by Year)



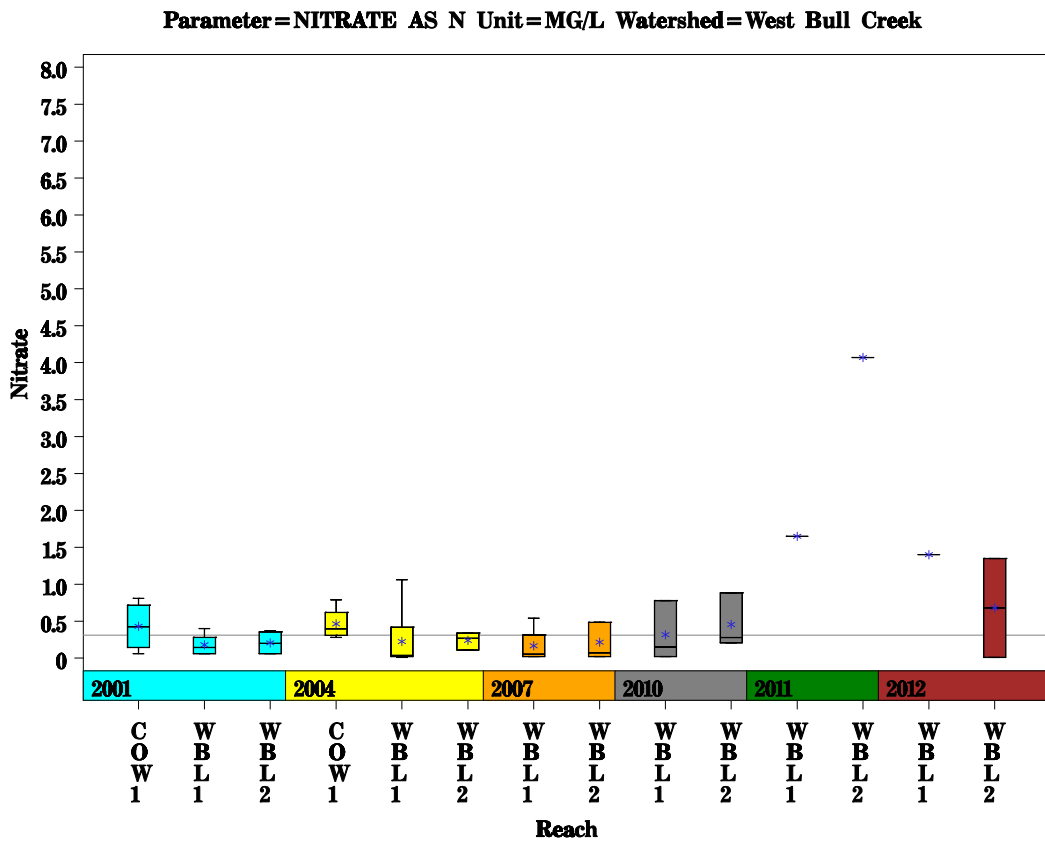
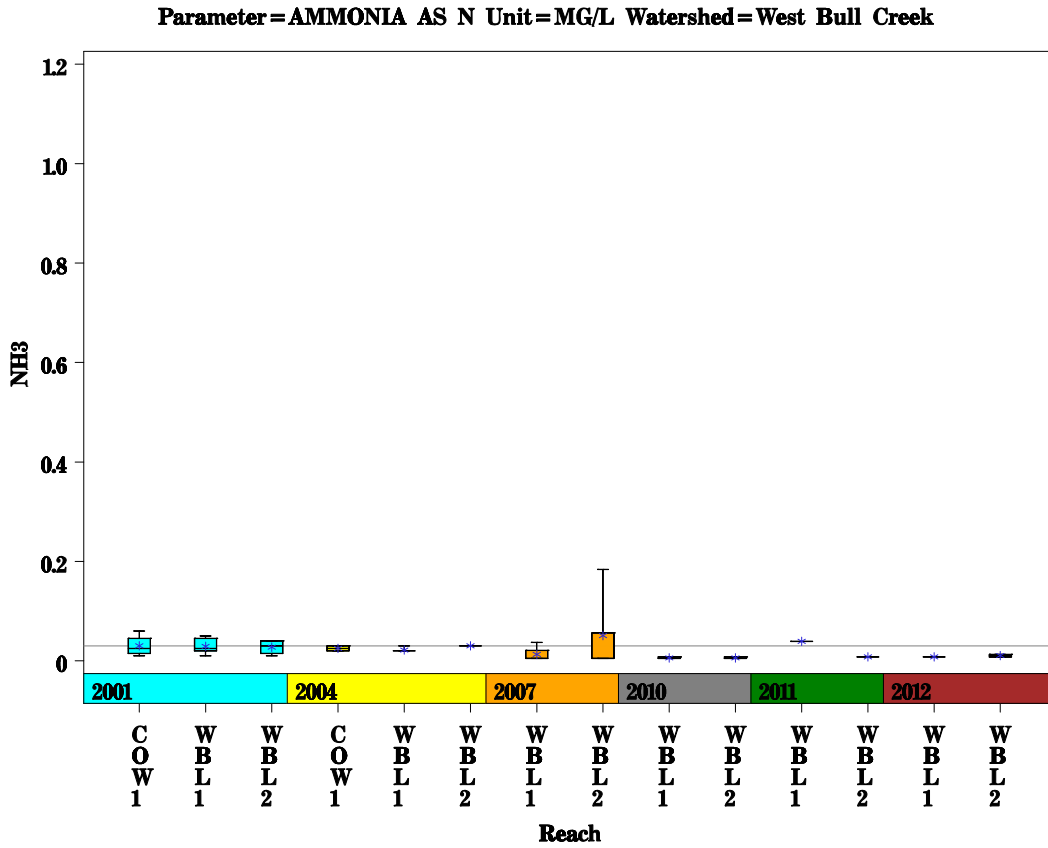
West Bull Creek Watershed

Data Summary Graphs – pH and Conductivity (Downstream to Upstream by Year)



West Bull Creek Watershed

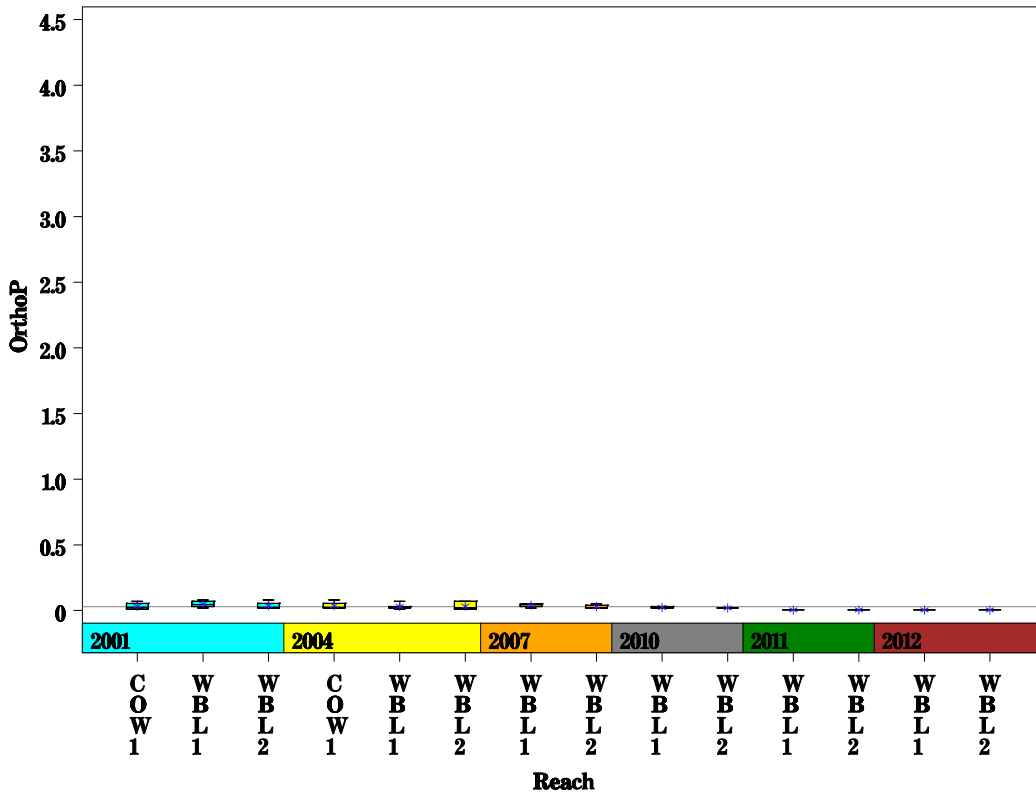
Data Summary Graphs – Ammonia and Nitrate/Nitrite (Downstream to Upstream by Year)



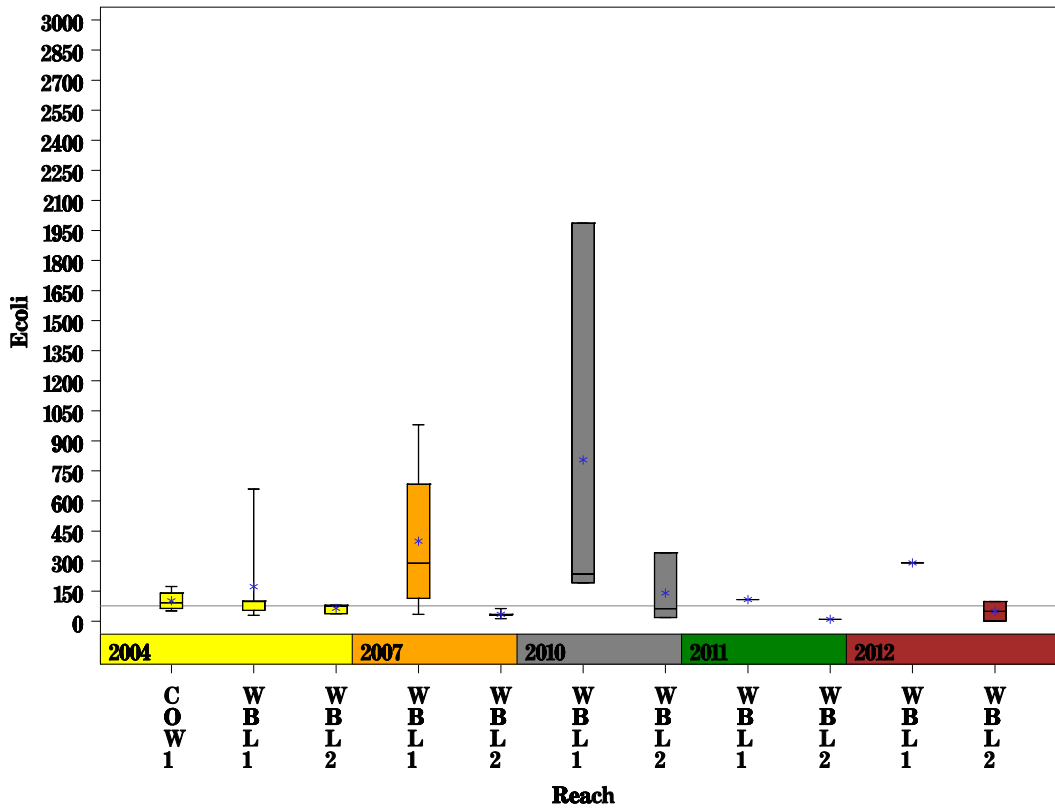
West Bull Creek Watershed

Data Summary Graphs – Orthophosphate and E.coli (Downstream to Upstream by Year)

Parameter=ORTHOPHOSPHORUS AS P Unit=MG/L Watershed=West Bull Creek

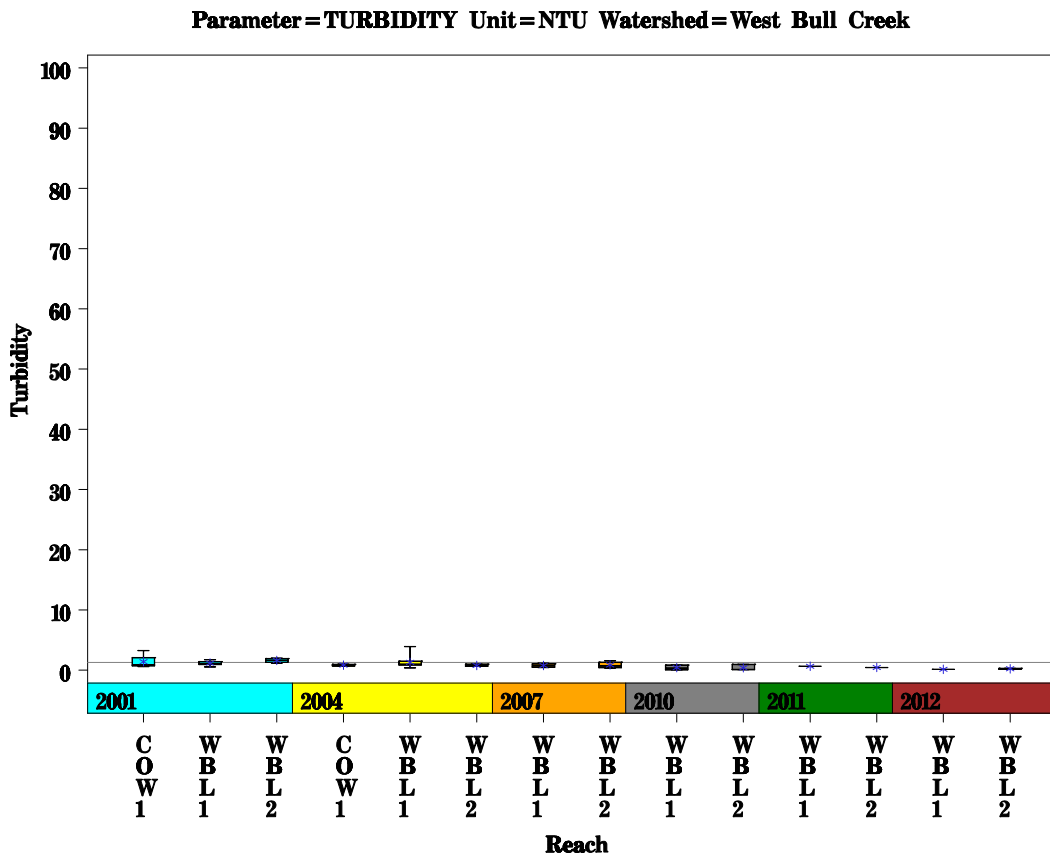
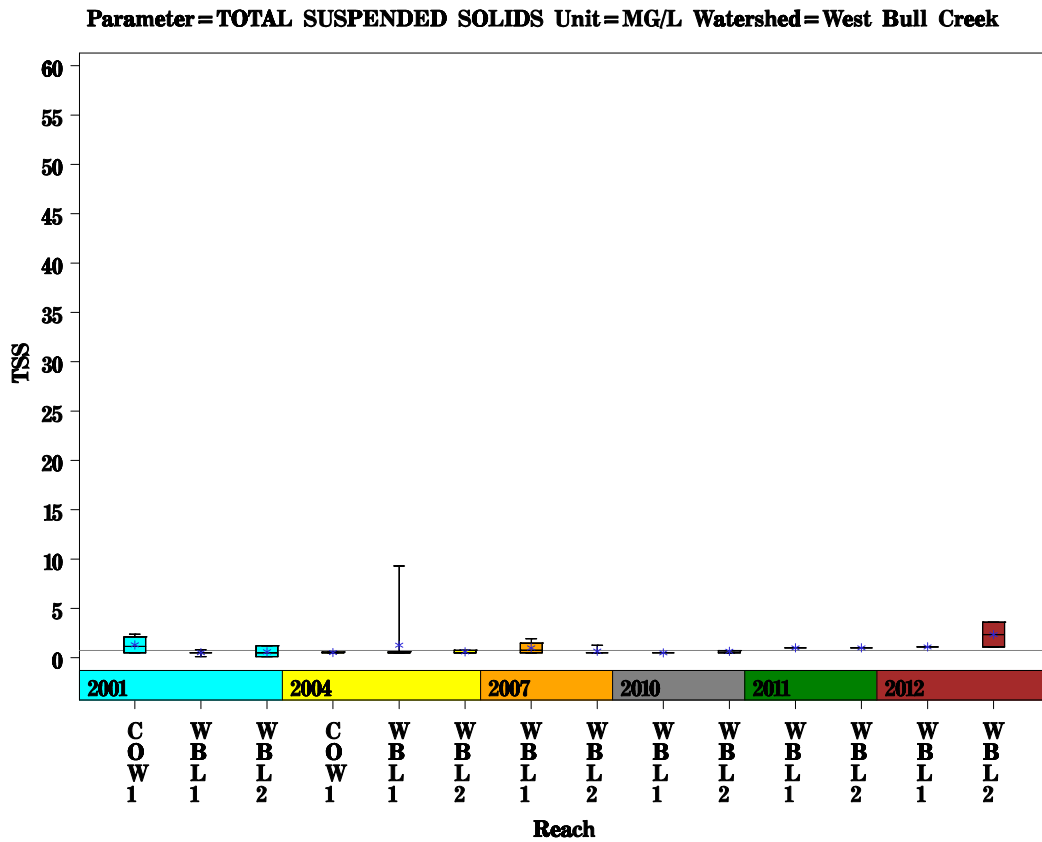


Parameter=E COLI BACTERIA Unit=MPN/100ML Watershed=West Bull Creek



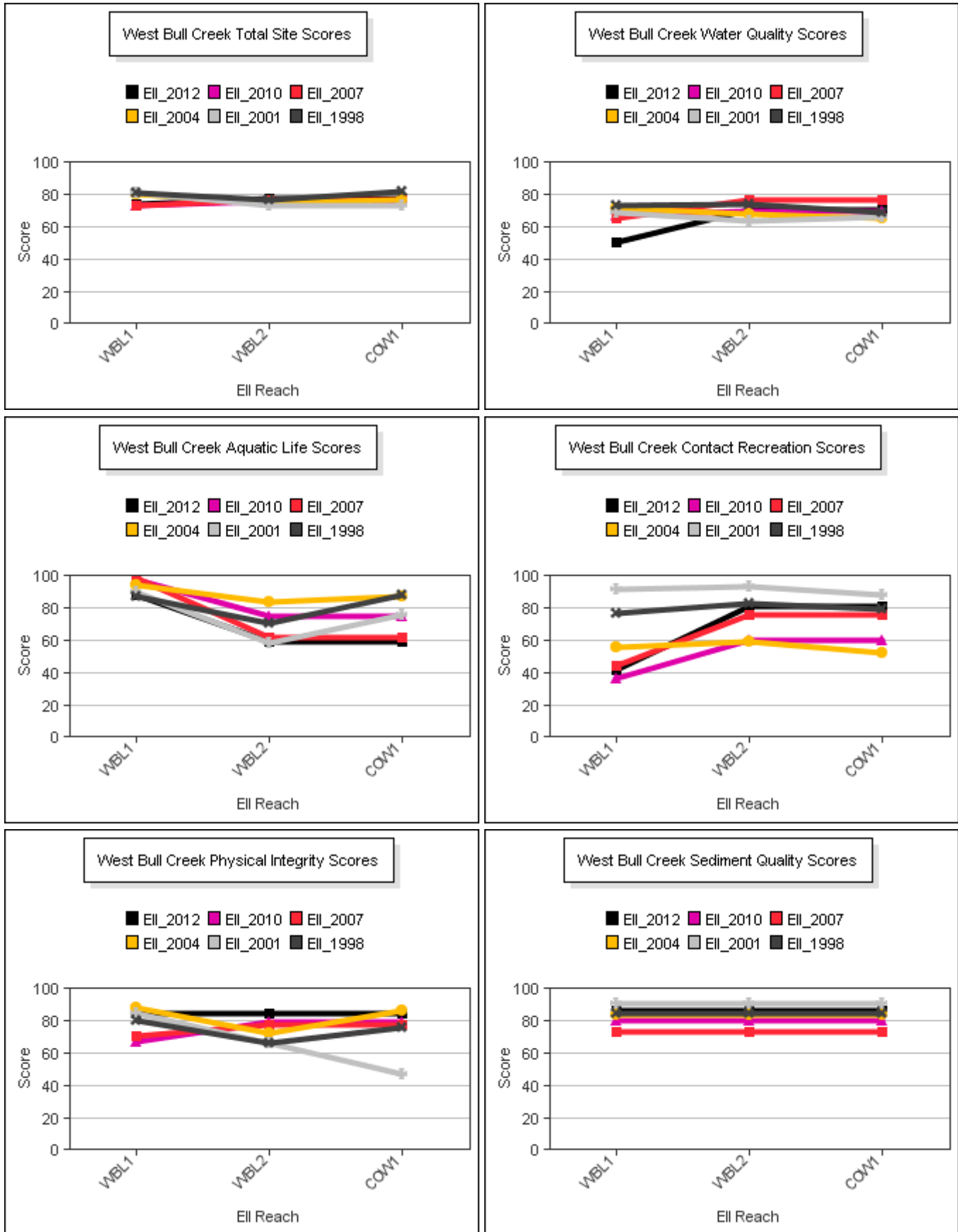
West Bull Creek Watershed

Data Summary Graphs – Total Suspended Solids and Turbidity (Downstream to Upstream by Year)



West Bull Creek Watershed

Score Summary – Reach scores for each sample year



West Bull Creek Watershed

Site Photographs



148_t00-us-05_20_2004



148_t00-ds-05_20_2004



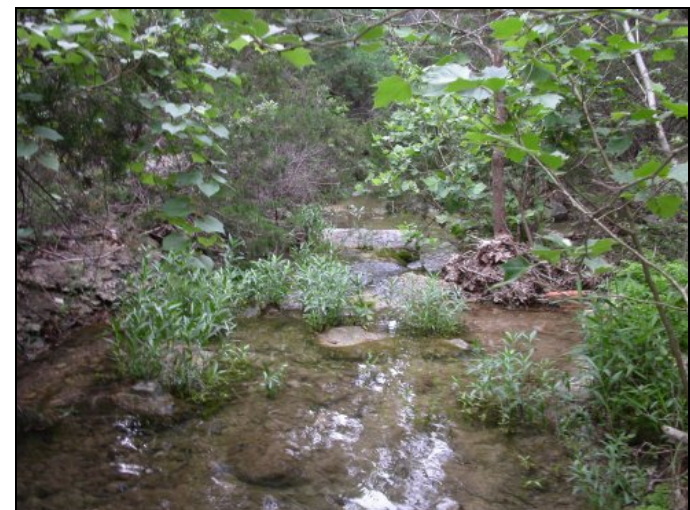
148_00-ur-05_26_2010



148_00-ds-05_26_2010



1030_t00-us-05_20_2004



1030_t00-ds-05_20_2004

West Bull Creek Watershed

Site Photographs



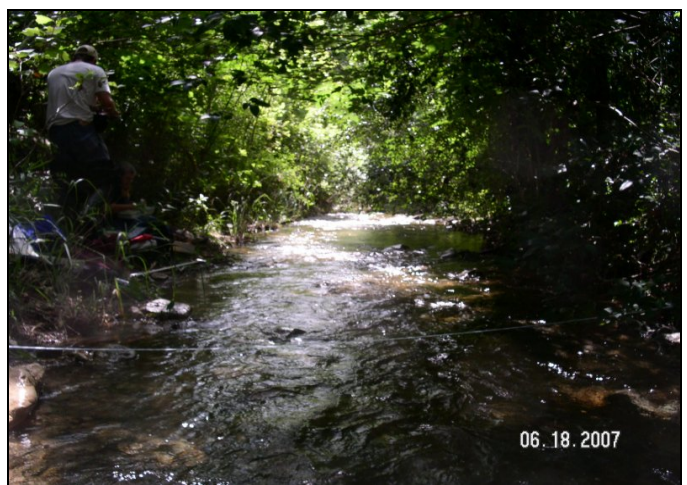
1107_t00-us-05_20_2004



1107_t00-ds-05_20_2004



343_t00-us-05_19_2004



343_ds_06_18_2007



343_00-ur-05_26_2010



343_00-ds-05_26_2010

This page left intentionally blank