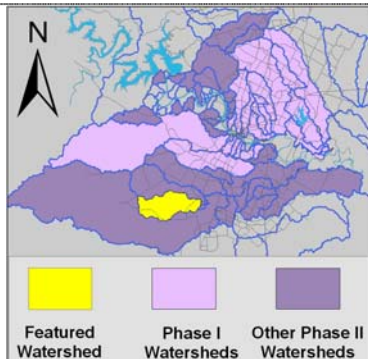


# Little Bear Creek Watershed

## Summary Sheet

Catchment	Total area	23.1 sq. miles			
	Area in recharge	18.8 sq. miles			
	Creek length	15 miles			
	Receiving water	Bear Creek			
Demographics	2000 population	4,232			
	2030 projected population	18,341			
	30 year projected % increase	333 %			
Land Use	Impervious cover (2003 estimate)	3.94 %			
Overall EII Scores	2001	2004	2007	2010	
	72	65	76	80	



## Flow Regime\* for Sample Sites on Little Bear Creek

Site # upstream to downstream	Site Name	2001				2004					2007					2010			
		Mar WQ	Jun WQ	Sep WQ	Dec WQ	Mar WQ	May Bio	Jun WQ	Oct WQ	Dec WQ	Feb WQ	May WQ	Jun Bio	Sep WQ	Dec WQ	Mar WQ	May WQ	May Bio	Oct WQ
1103	L. Bear at FM 967	B		B	B	n													
3374	L. Bear at Ashmun Prop						B	B	n	B	B	B	B	B	n	B	B	B	B
1101	L. Bear at Bear Creek						B	B	n	B	B	B	B	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 2010 Data for Little Bear Creek

2010 Summary	Parameter	Mean	Max	Min	Discussion
Physicochemical	D.O. mg/l	11.2	14.0	8.2	Generally within normal range
	pH st.units	8.3	10.9	7.6	Generally within normal range with one high value in May 2010
	Cond uS/cm	570	687	472	Generally within normal range
Nutrients	NH <sub>3</sub> mg/l	0.01	0.02	0.01	Generally within normal range with a few values above average
	NO <sub>3</sub> mg/l	0.33	1.10	0.00	Typically above average with a few high values historically
	Ortho P mg/l	0.03	0.07	0.02	Generally within normal range with a few values above average
Sediment Load	TSS mg/l	1.0	2.3	0.5	Generally low with some values above average, but none high
	Turbidity ntu	1.1	2.1	0.6	Consistently low
Biology	E.Coli /100ml	120	579	8	Generally low with some values above average, but none high
	Benthic Macs	Average or above average metrics with good diversity, composition and structure			
	Diatoms	Site 3374 had average to above average metrics; however site 1101 had no Cymbella taxa, a high percent of motile taxa and a low percent similarity to reference conditions.			

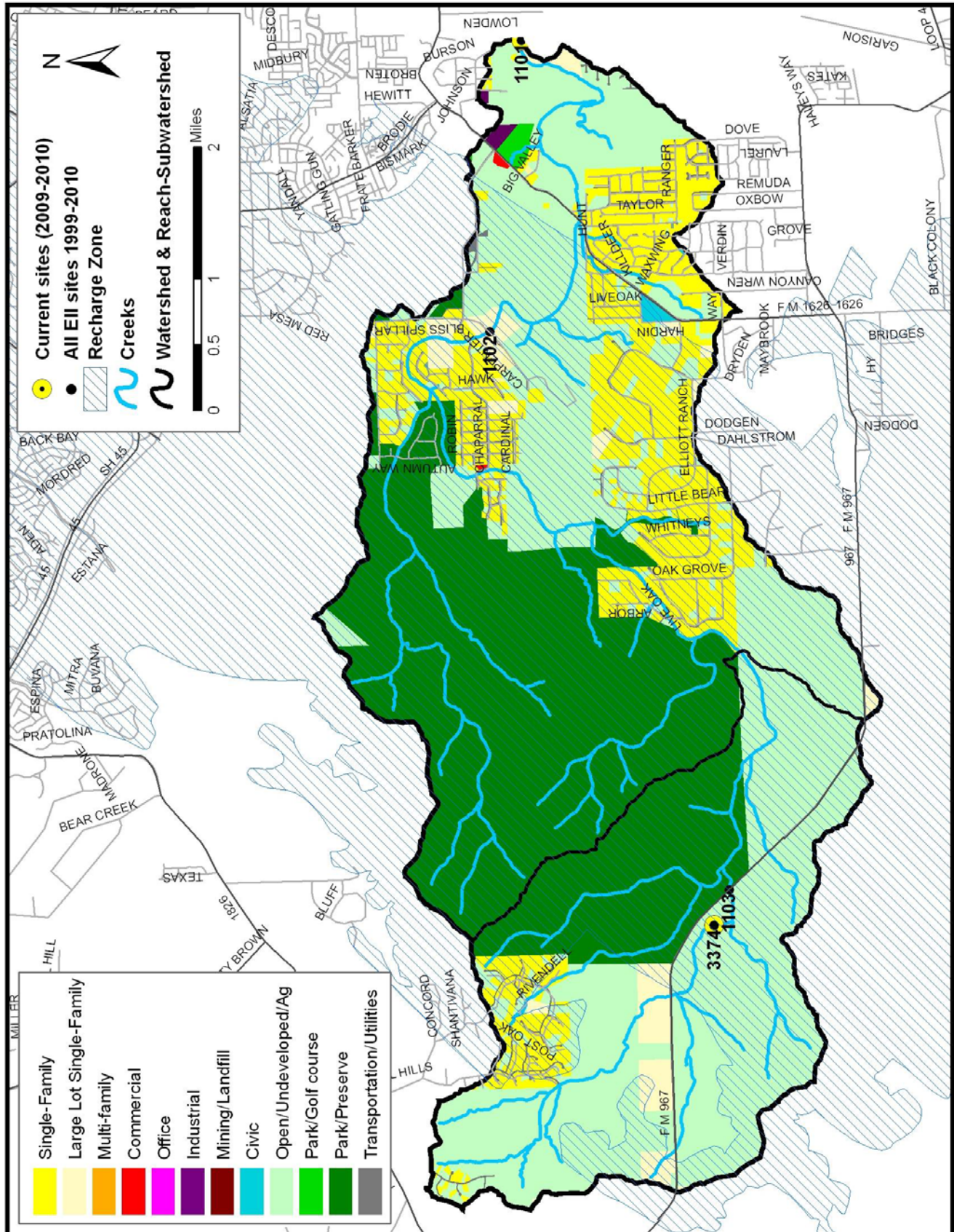
## Index scores\* for Little Bear Creek Sites by Year

Reach	Site	Site Name	Year	Water Quality	Sediment**	Contact Recreation	Non-Contact Recreation	Physical Integrity	Aquatic Life	Benthic subindex	Diatom subindex	Total Site Score
LBR1	1101	Little Bear Creek @ Bear Creek	1998	50	86	80	63	78	42	49	34	67
LBR1	1102	Little Bear Creek @ Carpenter Rd	1998		86		65	76				57
LBR2	1103	Little Bear Creek @ FM 967	1998	71	86	94	81	76	81	70	92	82
LBR1	1101	Little Bear Creek @ Bear Creek	2001	63	81	84	71	74	39	45	33	66
LBR2	1103	Little Bear Creek @ FM 967	2001	53	81	78	88	75	68	61	75	70
LBR1	1101	Little Bear Creek @ Bear Creek	2004	55	84	53	62	58				52
LBR2	3374	Little Bear @ Ashmun Property	2004	71	84	55	92	87	82	75	89	79
LBR1	1101	Little Bear Creek @ Bear Creek	2007	58	76	59	83	78	66	71	61	70
LBR2	3374	Little Bear @ Ashmun Property	2007	78	76	86	95	78	76	69	82	82
LBR1	1101	Little Bear Creek @ Bear Creek	2010	68	83	90	78	76	70	89	51	78
LBR2	3374	Little Bear @ Ashmun Property	2010	79	83	56	96	88	86	85	86	81

\* blank cells indicate parameter was not collected, blank row indicate site was dropped

\*\*sediment samples only collected at the downstream site

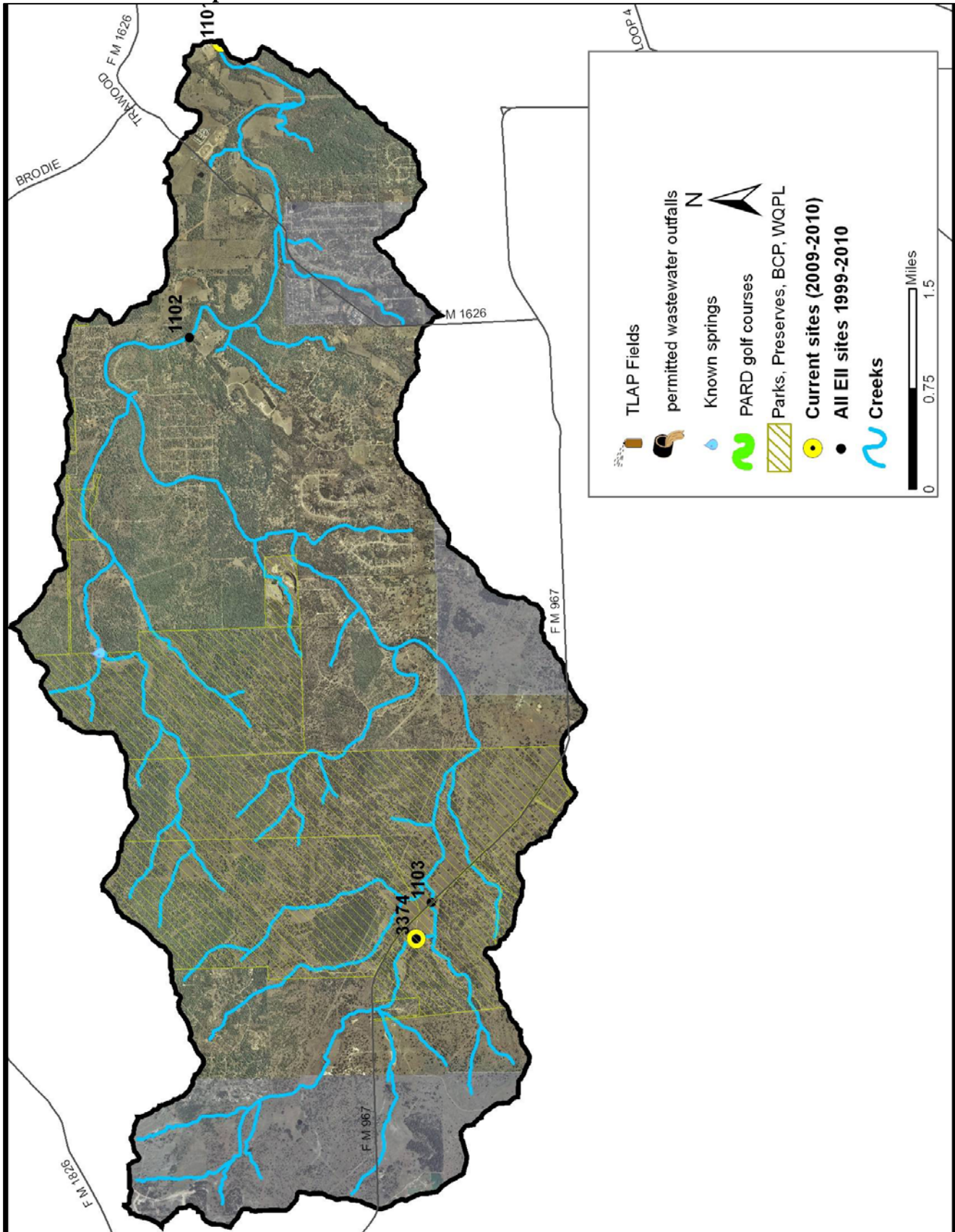
100-87.5 Excellent    87.5-75 V. Good    75-62.5 Good    62.5-50 Fair    50-37.5 Marginal    37.5-25 Poor    25-12.5 Bad    12.5-0 V. Bad





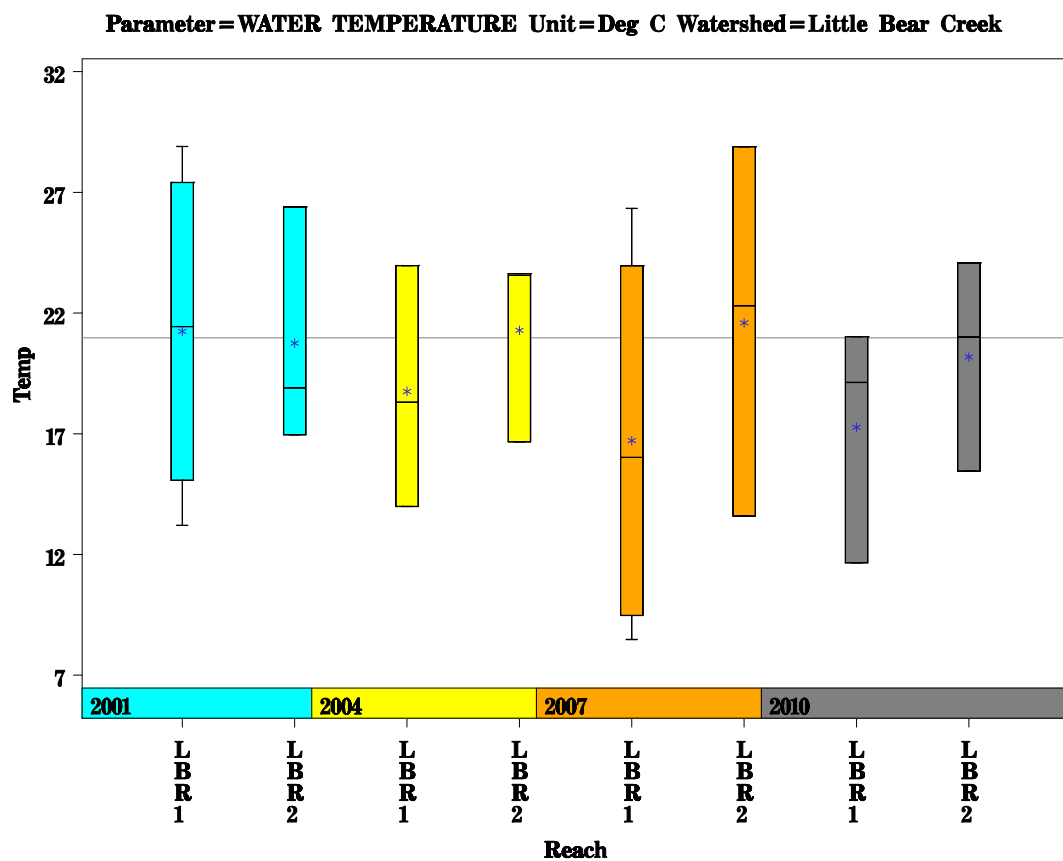
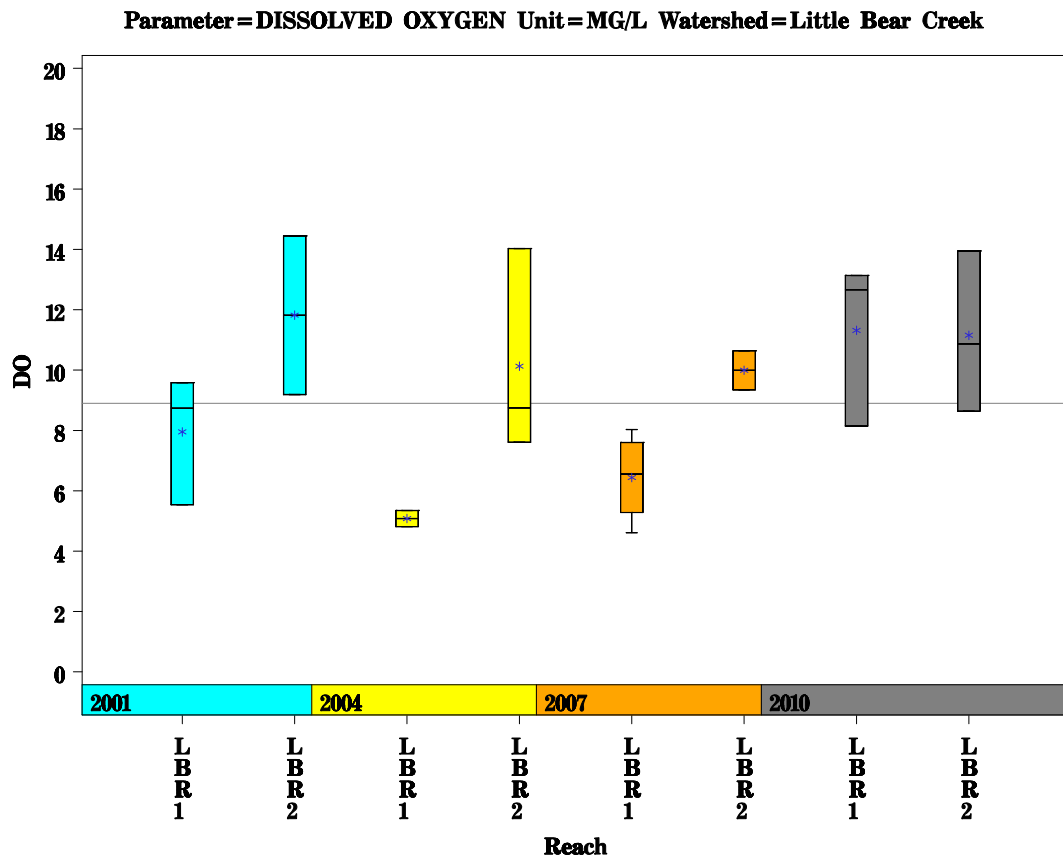
# Little Bear Creek Watershed

## Aerial Map



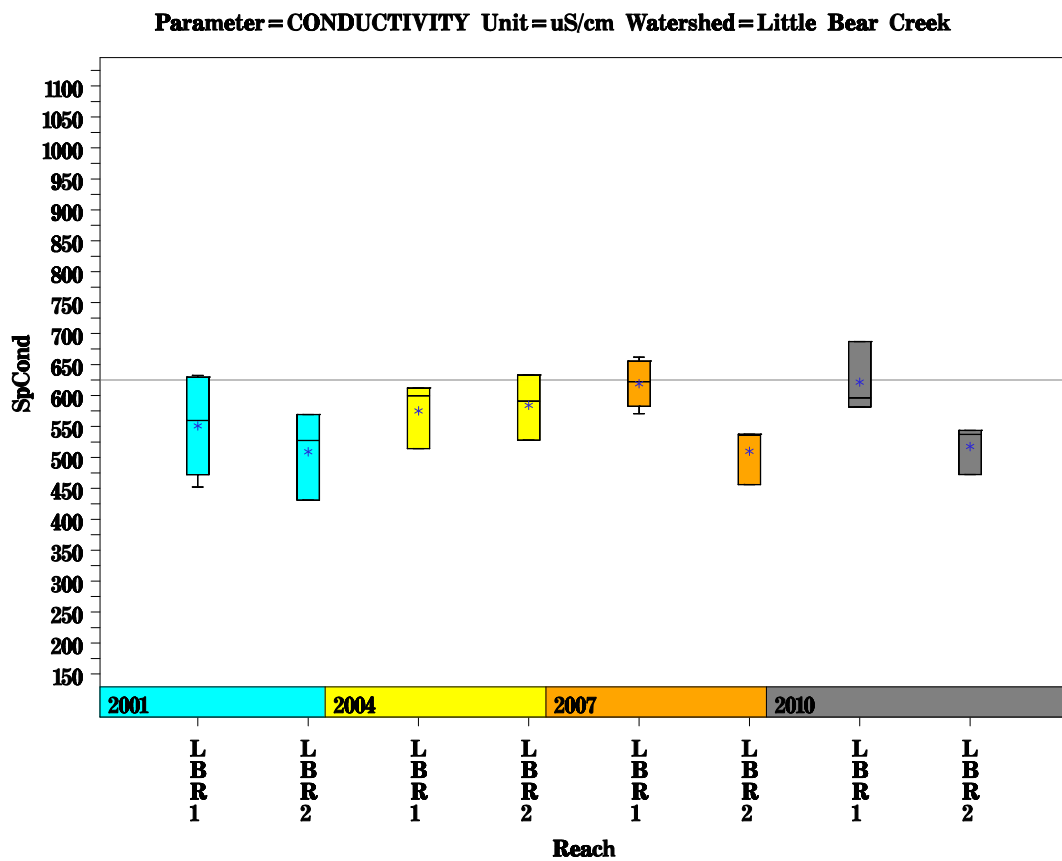
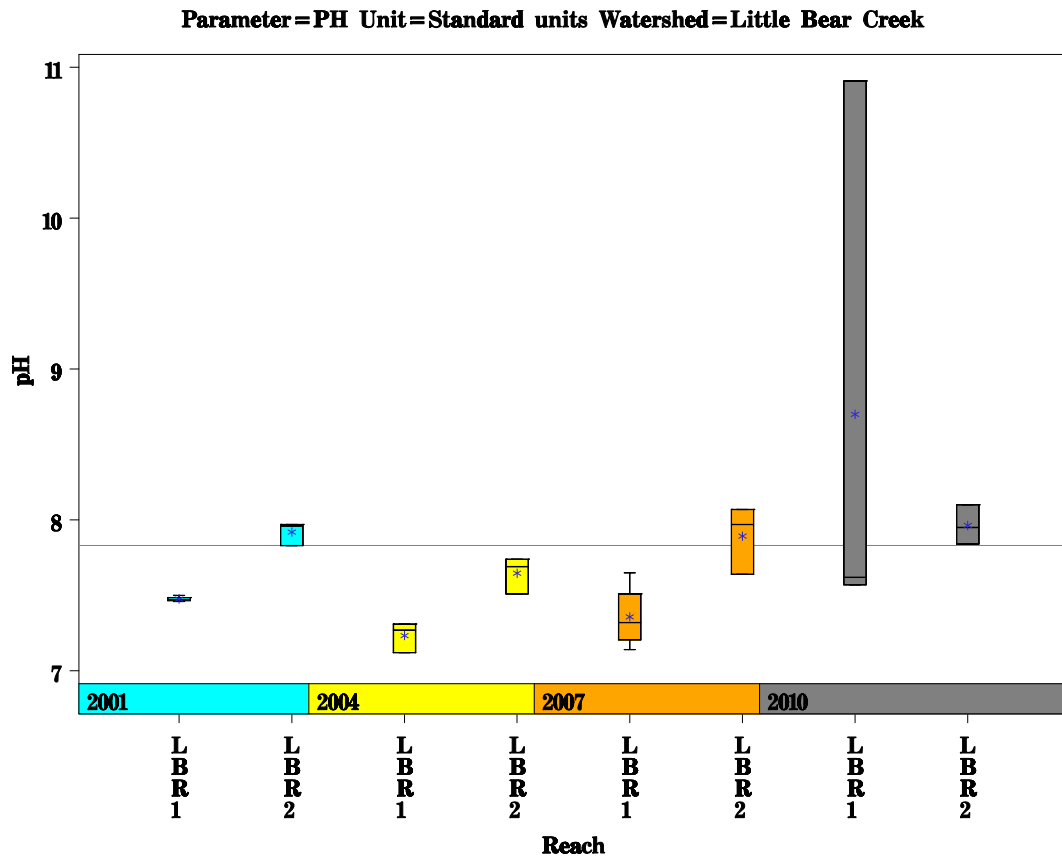
# Little Bear Creek Watershed

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



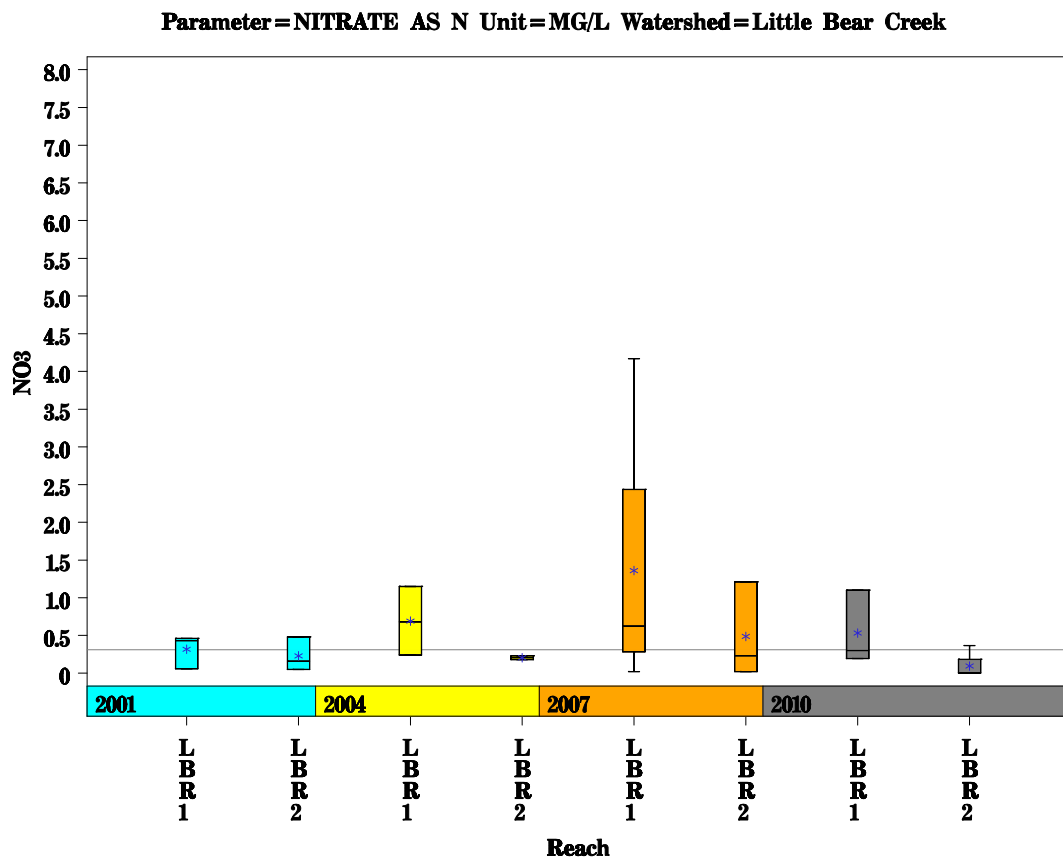
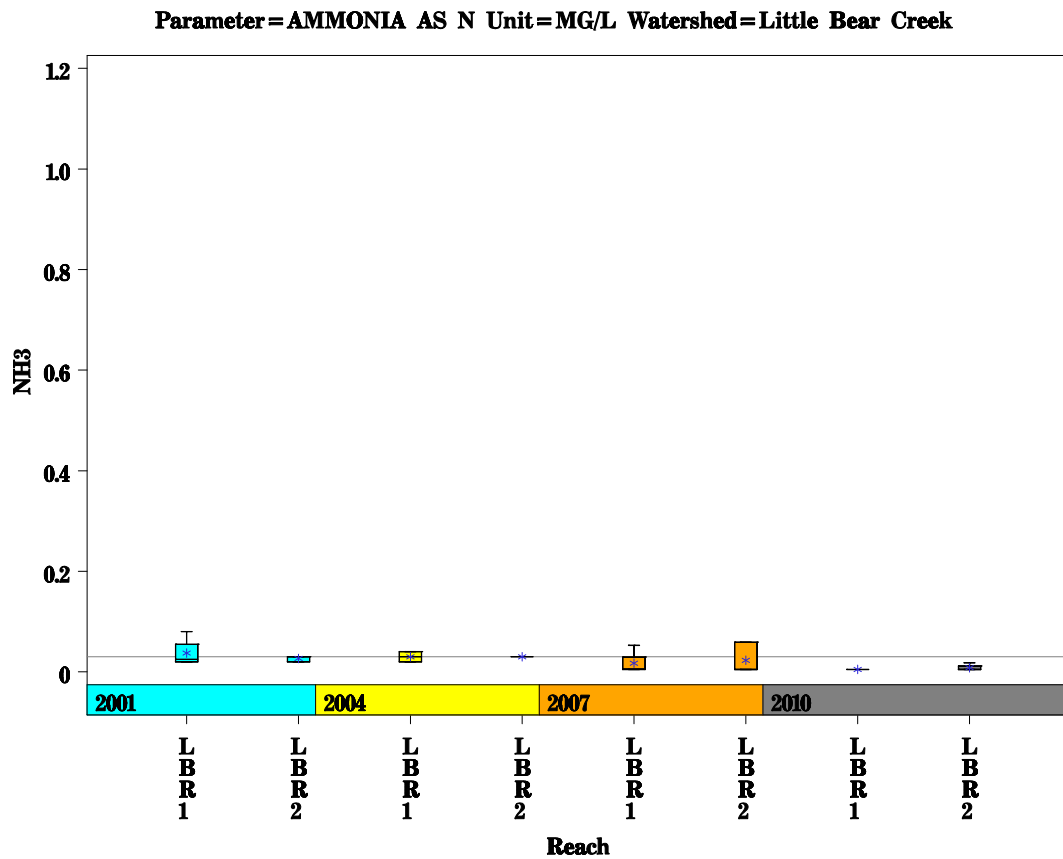
# Little Bear Creek Watershed

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



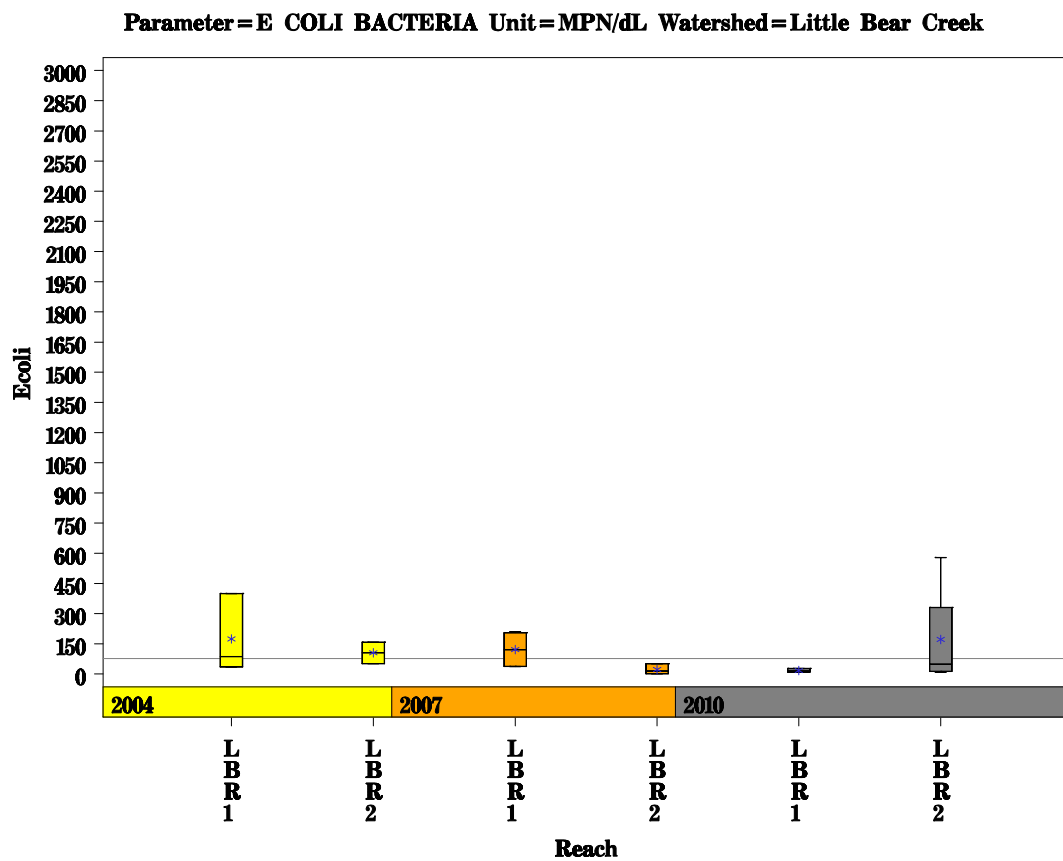
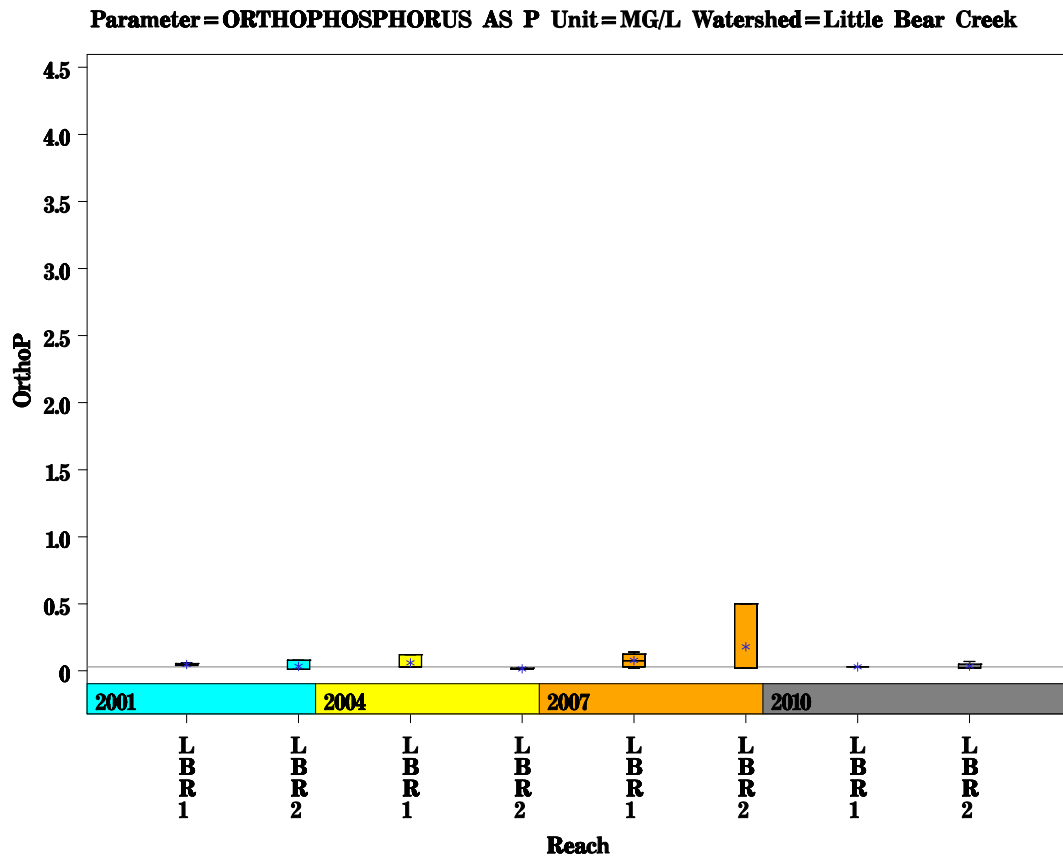
# Little Bear Creek Watershed

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



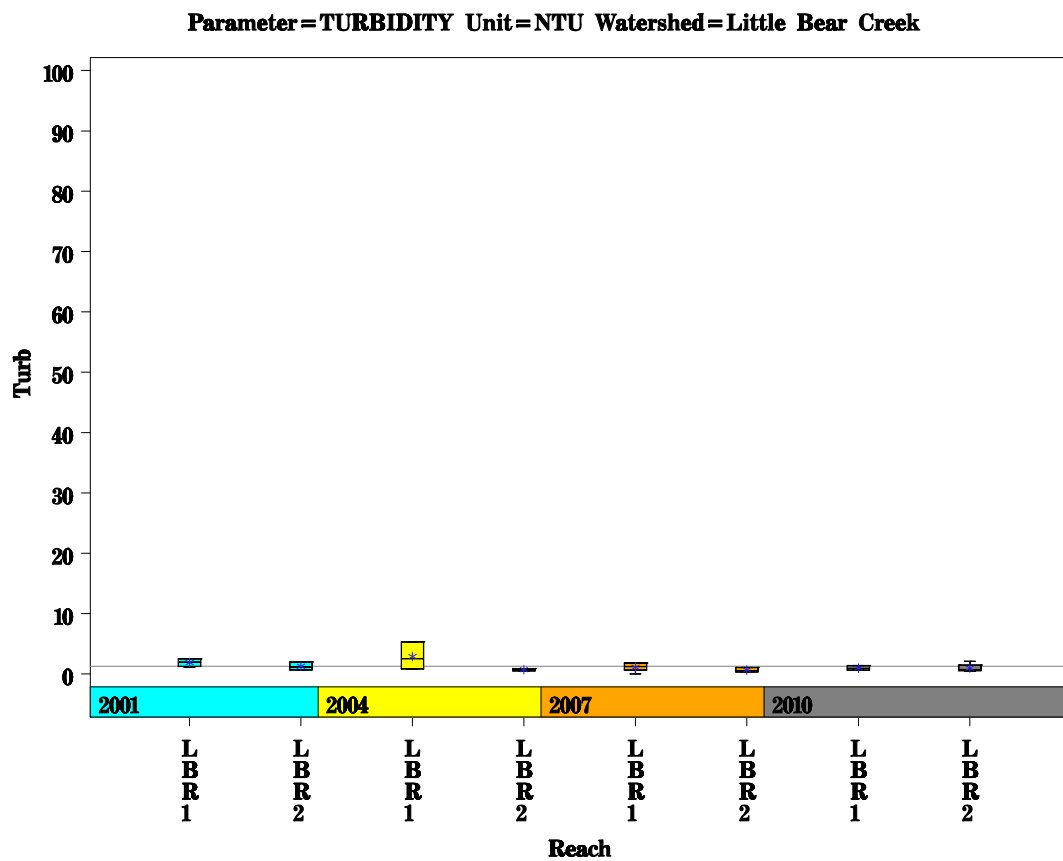
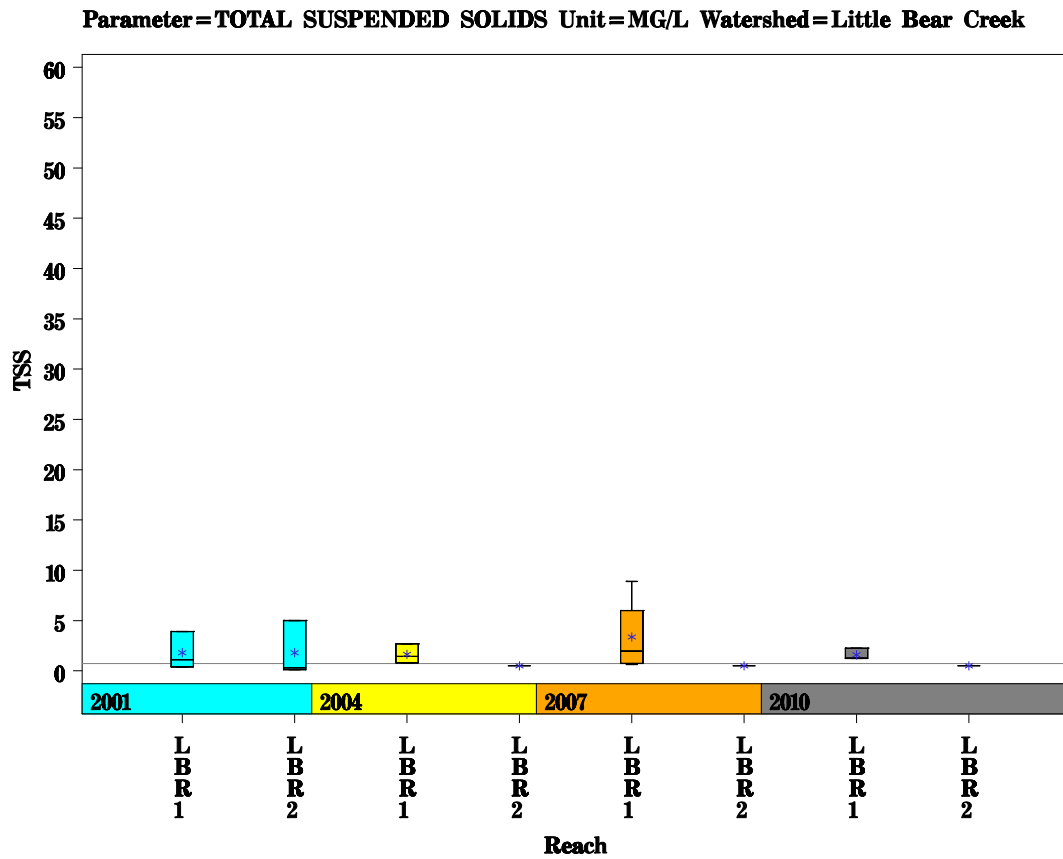
# Little Bear Creek Watershed

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



# Little Bear Creek Watershed

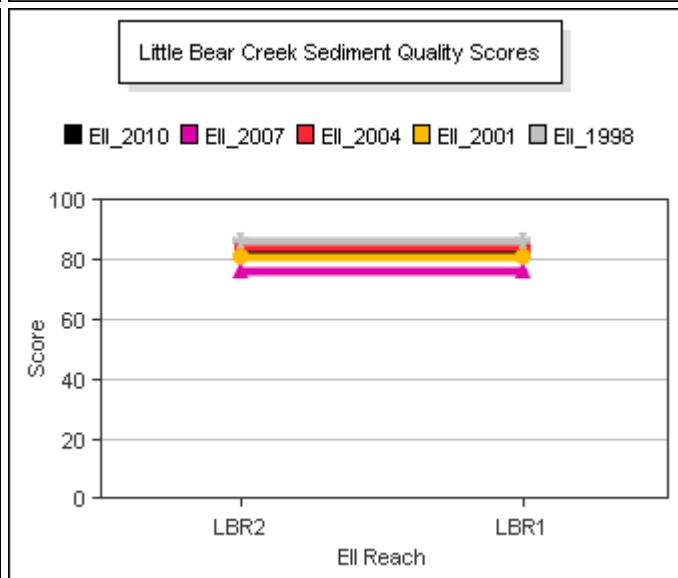
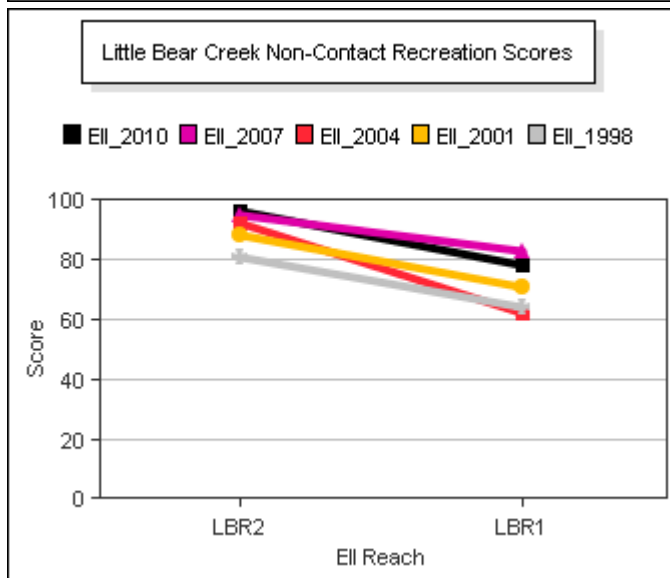
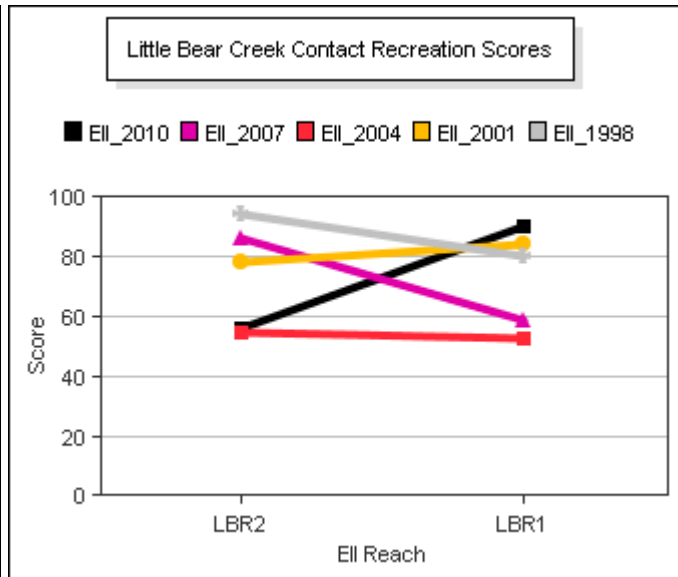
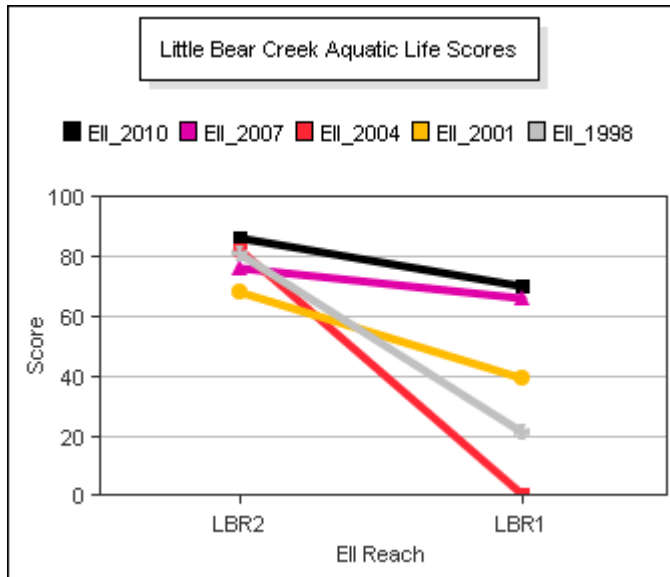
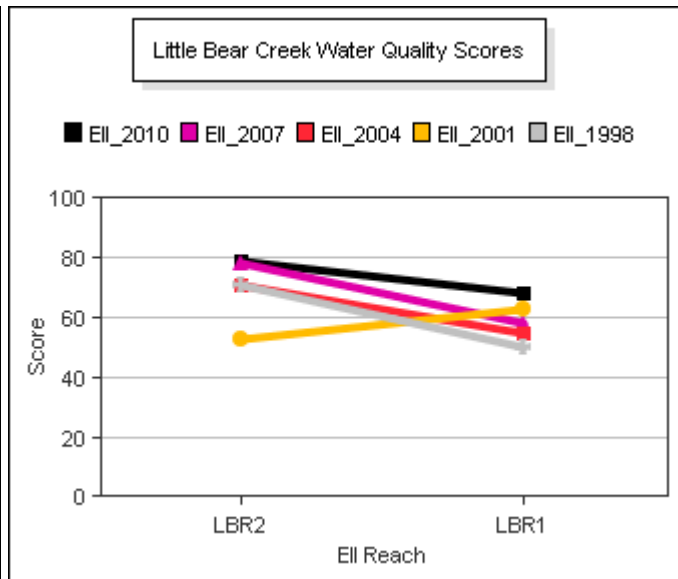
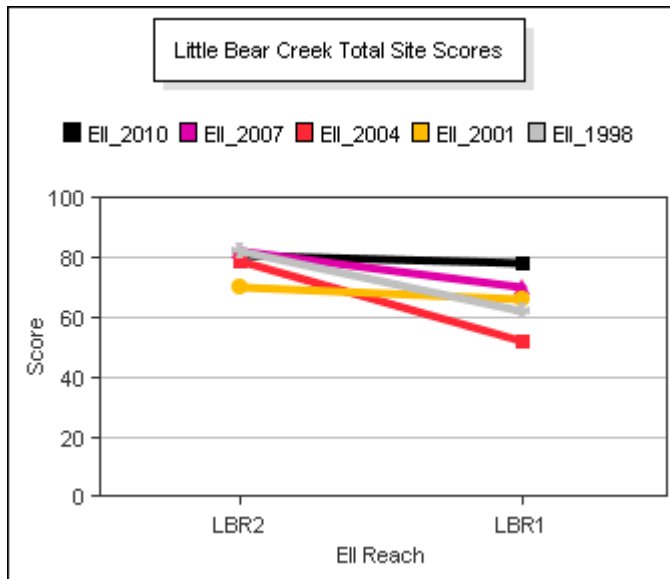
Data Summary Graphs – Total Suspended Solids and Turbidity (Downstream to Upstream by Year)





# Little Bear Creek Watershed

## Score Summary – Reach scores for each sample year



# Little Bear Creek Watershed

## Site Photographs



3374\_t00-ds-05\_25\_2004



3374\_t00-us-05\_25\_2004



3374\_00-ur-05\_20\_2010



3374\_ur\_06\_27\_2007



3374\_00-ds-05\_20\_2010

SR-12-01



3374\_00-us-05\_20\_2010

320

Oct 2011



# Little Bear Creek Watershed

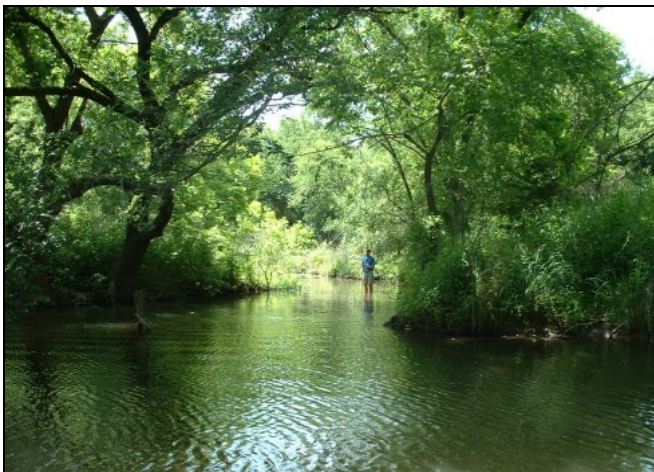
## Site Photographs



1103\_t00-ds-05\_17\_2004



1103\_t00-us-05\_17\_2004



1101\_t00-us-05\_25\_2004



1101\_us\_07\_13\_2007



1101\_00-us-05\_28\_2010



1101\_00-ds-05\_28\_2010

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