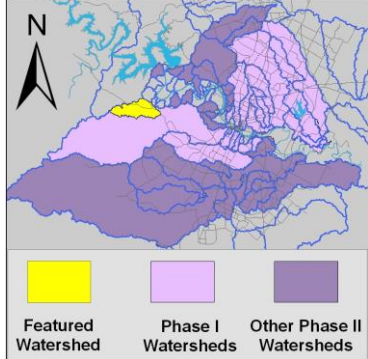


# Little Barton Creek Watershed

## Summary Sheet

Catchment	Total area	11.4 sq. miles				
	Area in recharge	none				
	Creek length	10 miles				
	Receiving water	Barton Creek				
Demographics	2000 population	459				
	2030 projected population	4,076				
	30 year projected % increase	788 %				
Land Use	Impervious cover (2003 estimate)	4.1 %				
	Impervious cover (2013 estimate)	9.5 %				
Overall EII Scores	2001	2004	2007	2010	2012	2014
	82	76	77	89	82	82



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

Site	Site Name	1999		2001				2004					2007					2010				2011				2012				2014				
		Jan	Jan	Mar	Mar	Jun	Sep	Dec	Mar	May	May	Jun	Oct	Dec	Feb	May	Jun	Sep	Dec	Mar	May	May	Oct	Dec	Mar	May	Jul	Sep	Jan	Apr	May	Jun	Jul	Sep
1115	Hamilton Pool	B	B	B	B	B	n	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	n	n	B	B	n		B	n
1114	Great Divide	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	n	B	B	n		B	n
77	BAR	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

\* B = baseflow n = no flow S = storm flow blue = Samples were taken light blue = Samples were not taken blank = not visited

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

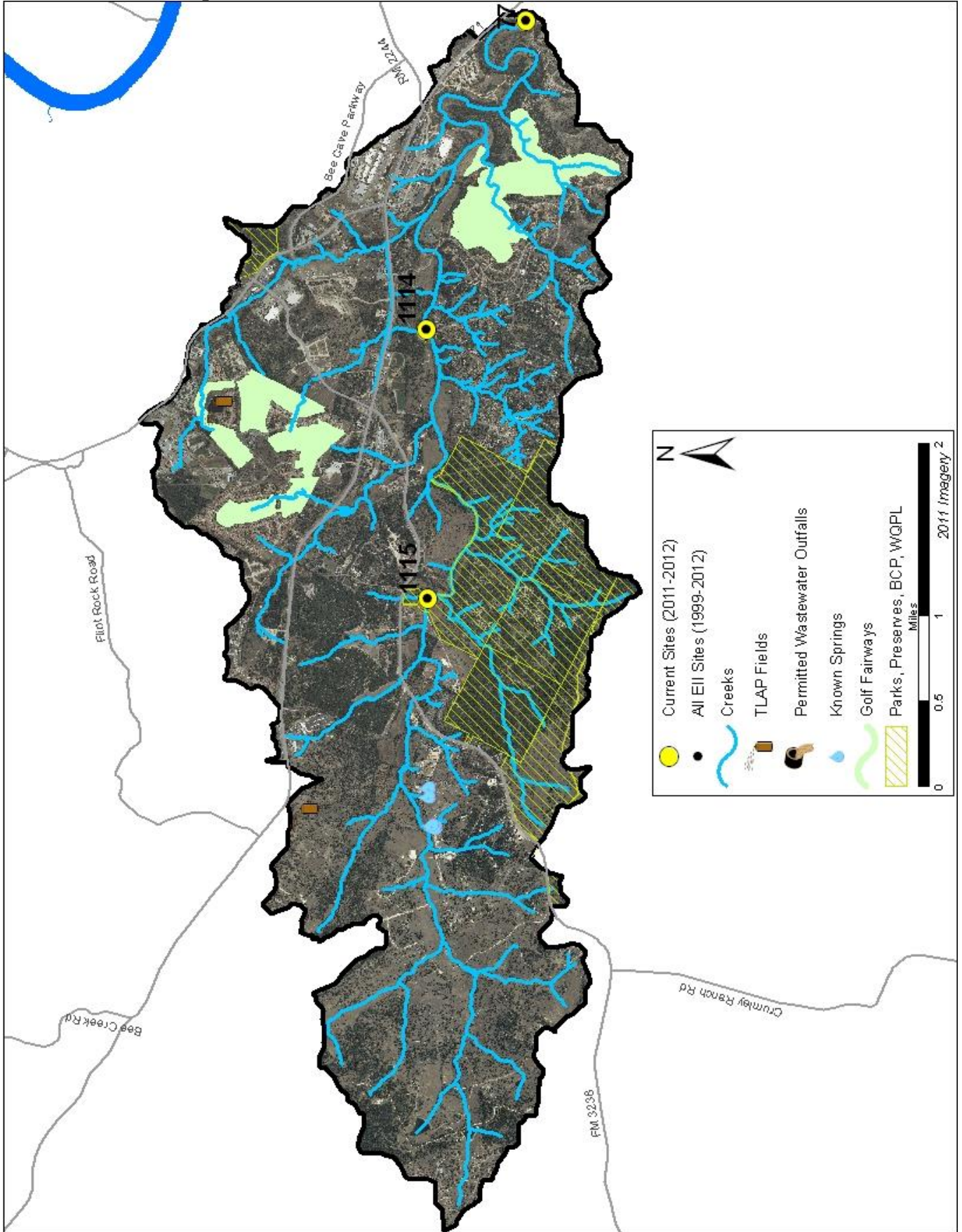
Reach	Site	Site Name	Year	Water Quality	Sediment**	Contact Rec.	Non-Contact Rec.	Physical Integrity	Aquatic Life	Benthic subindex	Diatom subindex	Total EII Score
LBA1	77	Little Barton Creek @ Barton Creek	1998	78	95	95	95	73	87	77	96	87
LBA2	1114	Little Barton Creek @ Great Divide Dr	1998	76	95	92	89	89	76	61	91	86
LBA3	1115	Little Barton Creek @ Hamilton Pool Rd	1998	81	95	97	86	81	75	67	82	86
LBA1	77	Little Barton Creek @ Barton Creek	2001	64	92	87	81	71	73	73	72	74
LBA2	1114	Little Barton Creek @ Great Divide Dr	2001	68	92	94	98	89	71	61	81	81
LBA3	1115	Little Barton Creek @ Hamilton Pool Rd	2001	68	92	93	88	83	70	61	79	78
LBA1	77	Little Barton Creek @ Barton Creek	2004	73	90	63	86	66	92	89	95	78
LBA2	1114	Little Barton Creek @ Great Divide Dr	2004	63	90	47	92	73	93	94	92	76
LBA3	1115	Little Barton Creek @ Hamilton Pool Rd	2004	66	90	45	84	64	84	79	89	72
LBA1	77	Little Barton Creek @ Barton Creek	2007	72	85	82	94	78	71	71		80
LBA2	1114	Little Barton Creek @ Great Divide Dr	2007	66	85	66	94	81	70	79	60	77
LBA3	1115	Little Barton Creek @ Hamilton Pool Rd	2007	67	85	58	88	75	60	82	37	72
LBA1	77	Little Barton Creek @ Barton Creek	2010	79	85	97	100	76	96	99	92	89
LBA2	1114	Little Barton Creek @ Great Divide Dr	2010	78	85	86	100	86	94	100	88	88
LBA3	1115	Little Barton Creek @ Hamilton Pool Rd	2010	84	85	94	98	93	83	90	76	90
LBA1	77	Little Barton Creek @ Barton Creek	2012	71	87	92	88	75	100	100	100	86
LBA2	1114	Little Barton Creek @ Great Divide Dr	2012	59	87	67	72	88	97	100	94	78
LBA3	1115	Little Barton Creek @ Hamilton Pool Rd	2012	60	87	75	91	83	94	90	98	82
LBA1	77	Little Barton Creek @ Barton Creek	2014	73	84	89	83	85	99	100	97	86
LBA2	1114	Little Barton Creek @ Great Divide Dr	2014	58	84	77	83	84	95	100	90	80
LBA3	1115	Little Barton Creek @ Hamilton Pool Rd	2014	68	84	75	78	82	89	92	86	79

\* 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 Barton Creek Watershed

## Aerial Map



# Little Barton Creek Watershed

## Water Quality Data – Temperature, Conductivity, pH, Dissolved Oxygen & E. coli for 2014 Sample Sites (Downstream to Upstream)

Qualifiers to the left of value:	>	greater than	Qualifiers to the right of value:	(blank)	Useable
	<	less than		S	Exceeds standard range
	< J	less than detection limit		R	Rejected, failed QC
	J	Estimated			

Site Name	Site #	Reach	Date	Temp. Value	Temp. flag	Cond. Value	Cond. flag	pH Value	pH flag	D.O. Value	D.O. flag	E. coli Value	E. coli flag
Little Barton @ Barton Creek	77	LBA1	01/15/2014	10.6		776		8.17		12.3		22.6	
Little Barton @ Barton Creek	77	LBA1	04/17/2014	17.1		781		7.96		8.9		8.4	
Little Barton @ Barton Creek	77	LBA1	05/07/2014	22.3		782		8.24		7.0			
Little Barton @ Barton Creek	77	LBA1	07/02/2014	26.8		737		7.94		7.4		31.3	
Little Barton @ Barton Creek	77	LBA1	09/10/2014	26.8		745		7.94		6.6		13.5	
<b>Site 77 Mean</b>				20.7		764		8.05		8.4		19.0	
Little Barton @ Great Divide Dr	1114	LBA2	01/15/2014	11.3		845		7.68		10.4		4.1	
Little Barton @ Great Divide Dr	1114	LBA2	04/17/2014	18.0		839		7.36		5.4		116.2	
Little Barton @ Great Divide Dr	1114	LBA2	05/07/2014	20.3		826		7.52		2.8			
Little Barton @ Great Divide Dr	1114	LBA2	07/02/2014	27.2		748		7.48		5.3		22.3	
<b>Site 1114 Mean</b>				19.2		814		7.51		6.0		47.5	
Little Barton @ Hmltn Pool Rd	1115	LBA3	01/15/2014	9.9		799		8.09		12.5		54.8	
Little Barton @ Hmltn Pool Rd	1115	LBA3	04/17/2014	17.6		809		7.33		3.6		47.1	
Little Barton @ Hmltn Pool Rd	1115	LBA3	07/02/2014	29.2		796		7.86		7.2		14.1	
<b>Site 1115 Mean</b>				18.9		801		7.76		7.7		38.7	
<b>Watershed Mean</b>				19.7		790		7.80		7.4		33.4	

Orange highlighting indicates that the value exceeds one standard deviation from the mean of all E.I.I. sites combined.

Summary Statistics for all 2013 – 2014 E.I.I. Sites Combined.					
Parameter	2013-2014 Average	2013-2014 Minimum	2013-2014 Maximum	1 Standard Deviation Above	1 Standard Deviation Below
Temperature (C°)	19.6	8.6	34.0	25.8	
Conductivity (uS/cm)	711	107	1783	942	
pH (Standard units)	7.86	6.96	8.97	8.19	7.52
D.O. (mg/l)	8.1	1.2	30.5	11.4	4.8
E.coli. (col/100ml)	435	1	4840	1127	

# Little Barton Creek Watershed

## Water Quality Data – Ammonia, Nitrate / Nitrite, Ortho-Phosphorus, Total Suspended Solids & Turbidity for 2014 Sample Sites (Downstream to Upstream)

Qualifiers to the left of value:	> greater than	Qualifiers to the right of value:	(blank) Useable
	< less than		S Exceeds standard range
	< J less than detection limit		R Rejected, failed QC
	J Estimated		

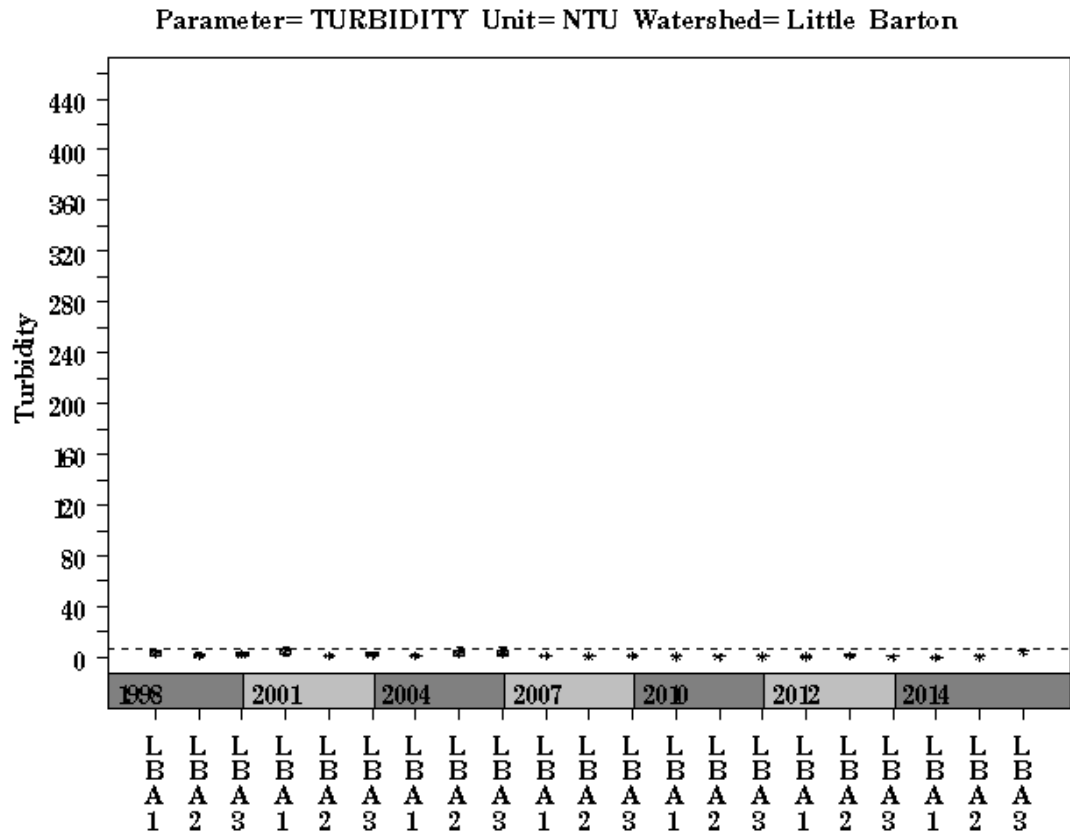
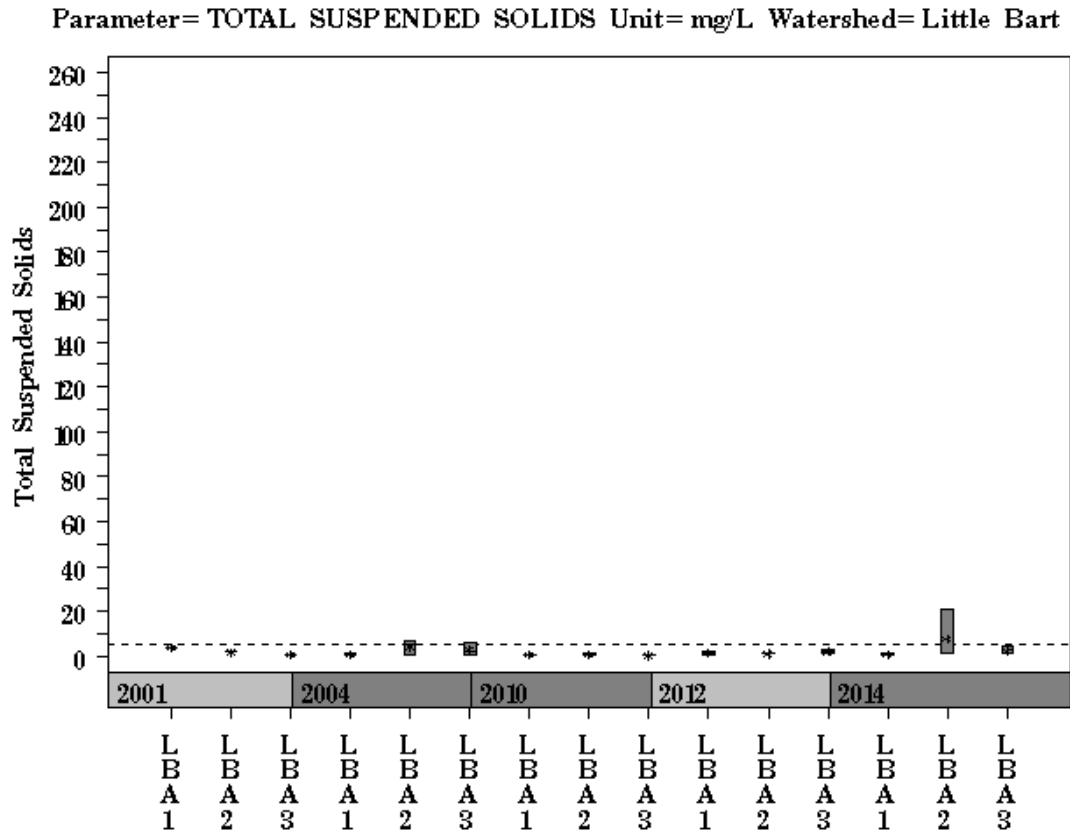
Site Name	Site #	Reach	Date	NH3-N		NO3/NO2		Ortho-P		T.S.S.		Turb.	
				<> Value	flag	<> Value	flag	<> Value	flag	<> Value	flag		
Little Barton @ Barton Creek	77	LBA1	01/15/2014	<J	0.008		0.22	<J	0.004	<J	1.02	0.5	R
Little Barton @ Barton Creek	77	LBA1	04/17/2014	<J	0.008		0.34	<J	0.004	<J	1.04	0.9	R
Little Barton @ Barton Creek	77	LBA1	05/07/2014										
Little Barton @ Barton Creek	77	LBA1	07/02/2014	<J	0.008		0.12	<J	0.004	<J	1.03	0.4	
Little Barton @ Barton Creek	77	LBA1	09/10/2014		0.026		0.04	<J	0.004		1.23	1.7	R
<b>Site 77 Mean</b>					<b>0.012</b>		<b>0.18</b>		<b>0.004</b>		<b>1.08</b>	<b>0.9</b>	
Little Barton @ Great Divide Dr	1114	LBA2	01/15/2014	<J	0.008		0.76		0.025	<J	1.11	0.4	R
Little Barton @ Great Divide Dr	1114	LBA2	04/17/2014		0.071		0.33	<J	0.004		<b>20.90</b>	7.6	R
Little Barton @ Great Divide Dr	1114	LBA2	05/07/2014										
Little Barton @ Great Divide Dr	1114	LBA2	07/02/2014	<J	0.008		0.17	<J	0.004		1.30	0.7	
<b>Site 1114 Mean</b>					<b>0.029</b>		<b>0.42</b>		<b>0.011</b>		<b>7.77</b>	<b>2.9</b>	
Little Barton @ Hmltn Pool Rd	1115	LBA3	01/15/2014		0.022		0.05	<J	0.004	<J	1.11	0.9	R
Little Barton @ Hmltn Pool Rd	1115	LBA3	04/17/2014		0.041	<J	0.01	<J	0.004		1.59	<b>22.4</b>	R
Little Barton @ Hmltn Pool Rd	1115	LBA3	07/02/2014	<J	0.008	<J	0.01	<J	0.004		4.22	4.8	
<b>Site 1115 Mean</b>					<b>0.024</b>		<b>0.02</b>		<b>0.004</b>		<b>2.31</b>	<b>9.3</b>	
<b>Watershed Mean</b>					<b>0.021</b>		<b>0.20</b>		<b>0.006</b>		<b>3.46</b>	<b>4.0</b>	

Orange highlighting indicates that the value exceeds one standard deviation from the mean of all E.I.I. sites combined.

Summary Statistics for all 2013 – 2014 E.I.I. Sites Combined.				
Parameter	2013-2014 Mean	2013-2014 Minimum	2013-2014 Maximum	1 Standard Deviation Above
NH3-M (mg/l)	0.031	0.008	2.250	0.150
NO3-N (mg/l)	1.16	0.01	16.30	4.02
Ortho-P (mg/l)	0.041	0.004	1.360	0.164
TSS (mg/l)	5.6	1.0	70.0	15.3
Turbidity (NTU)	4.5	0.0	97.1	13.2

# Little Barton Creek Watershed

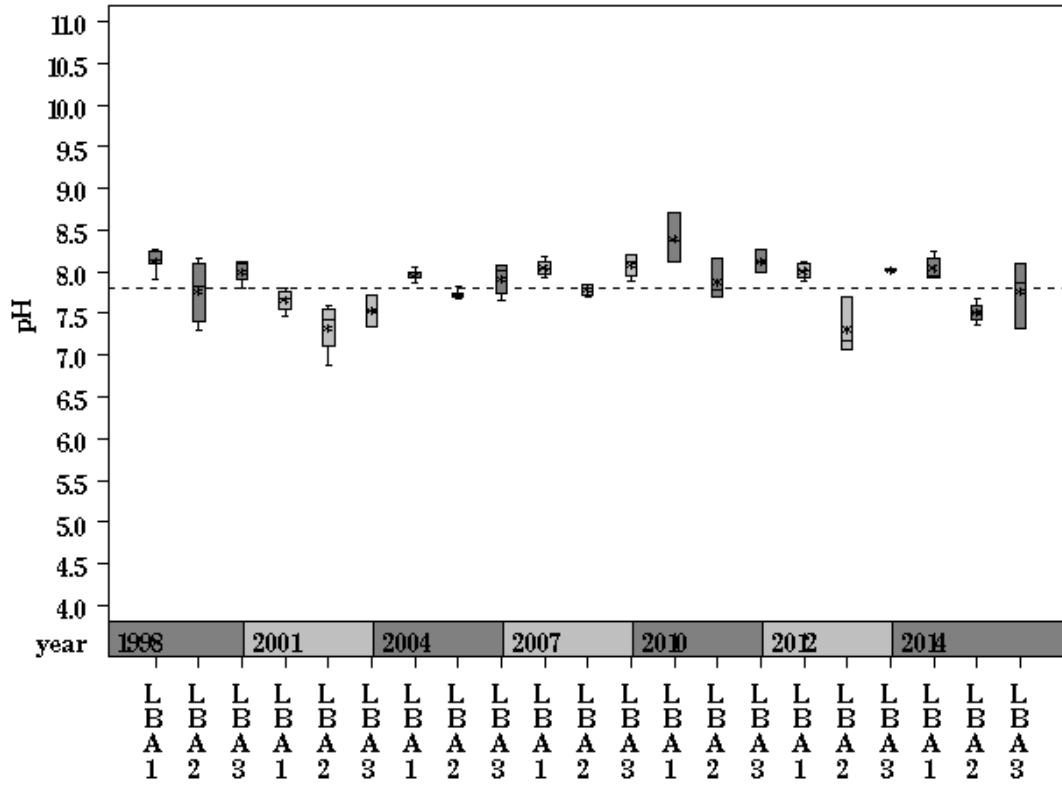
Data Summary Graphs – Total Suspended Solids and Turbidity (Downstream to Upstream by Year)



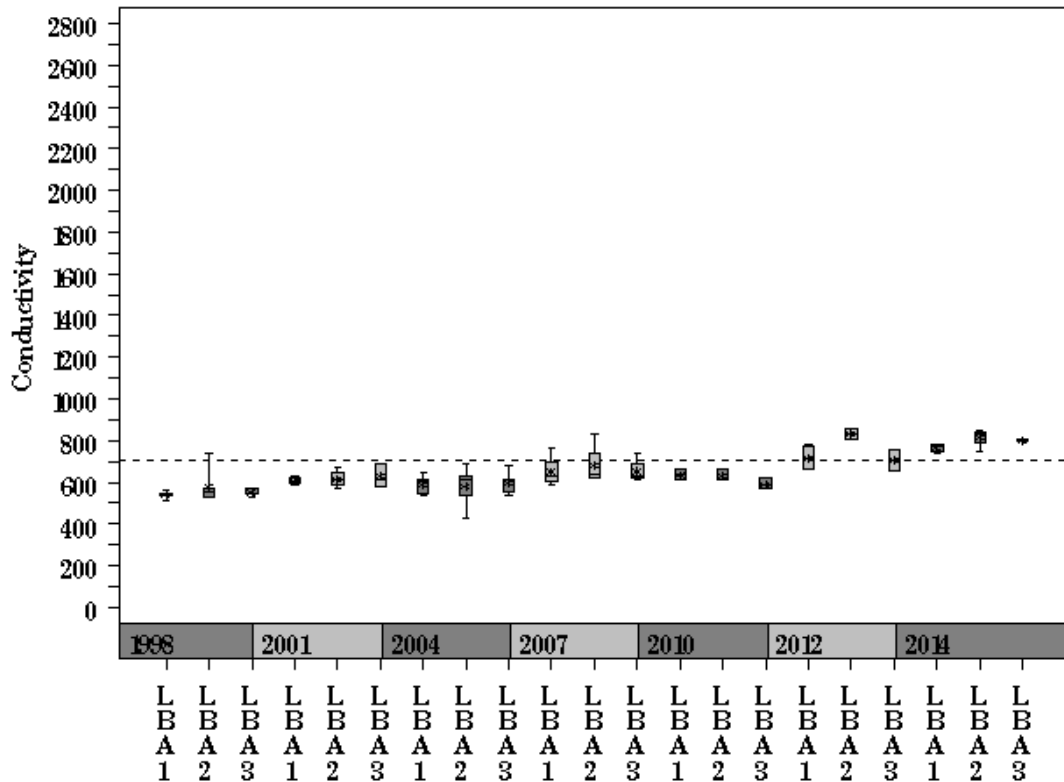
# Little Barton Creek Watershed

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

Parameter= PH Unit= Standard units Watershed= Little Barton



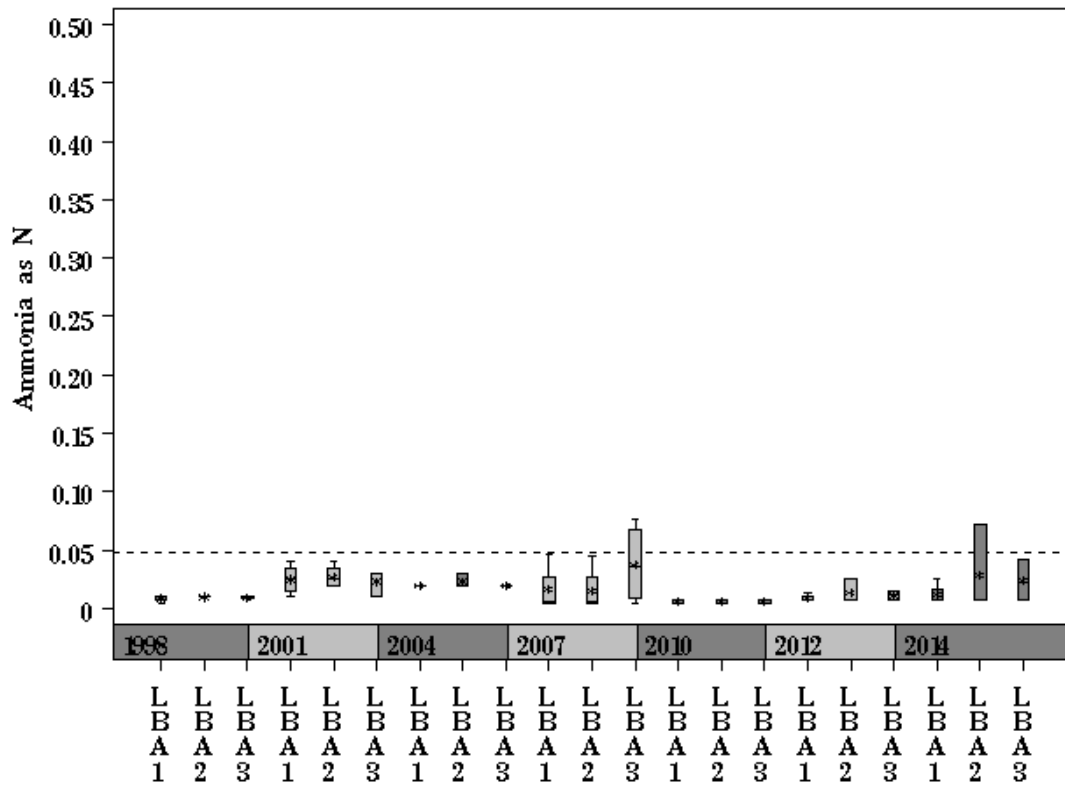
Parameter= CONDUCTIVITY Unit= uS/cm Watershed= Little Barton



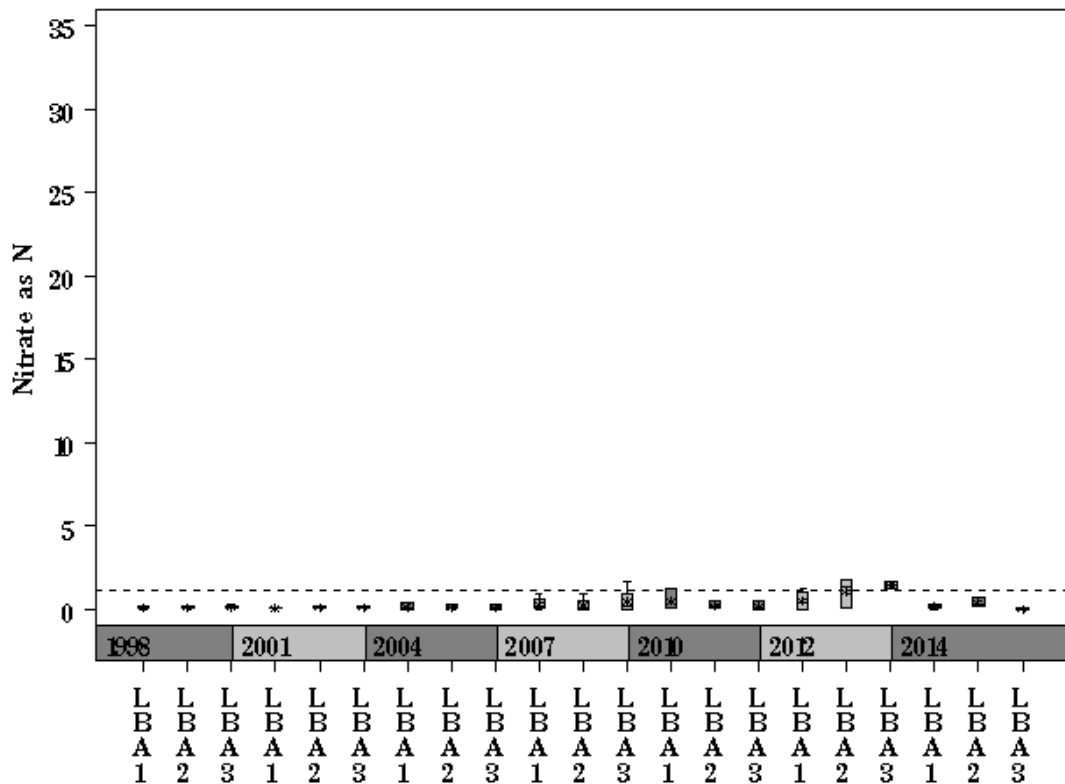
# Little Barton Creek Watershed

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

Parameter= AMMONIA AS N Unit= mg/L Watershed= Little Barton



Parameter= NITRATE AS N Unit= mg/L Watershed= Little Barton

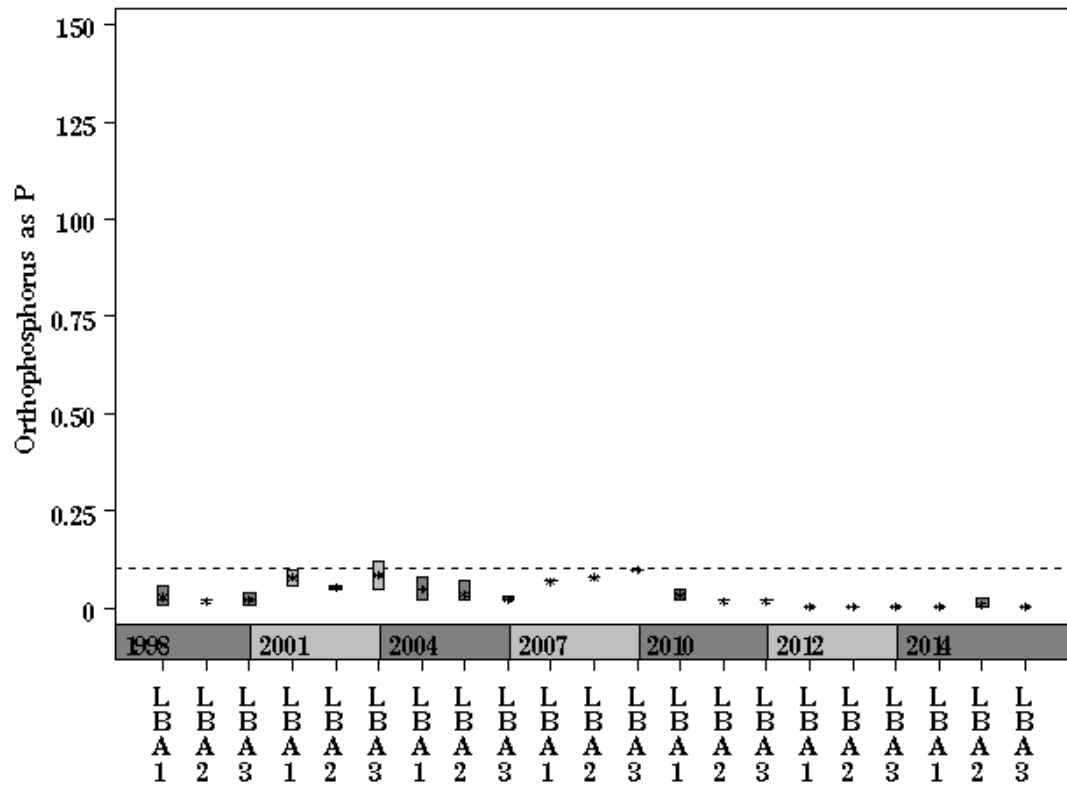




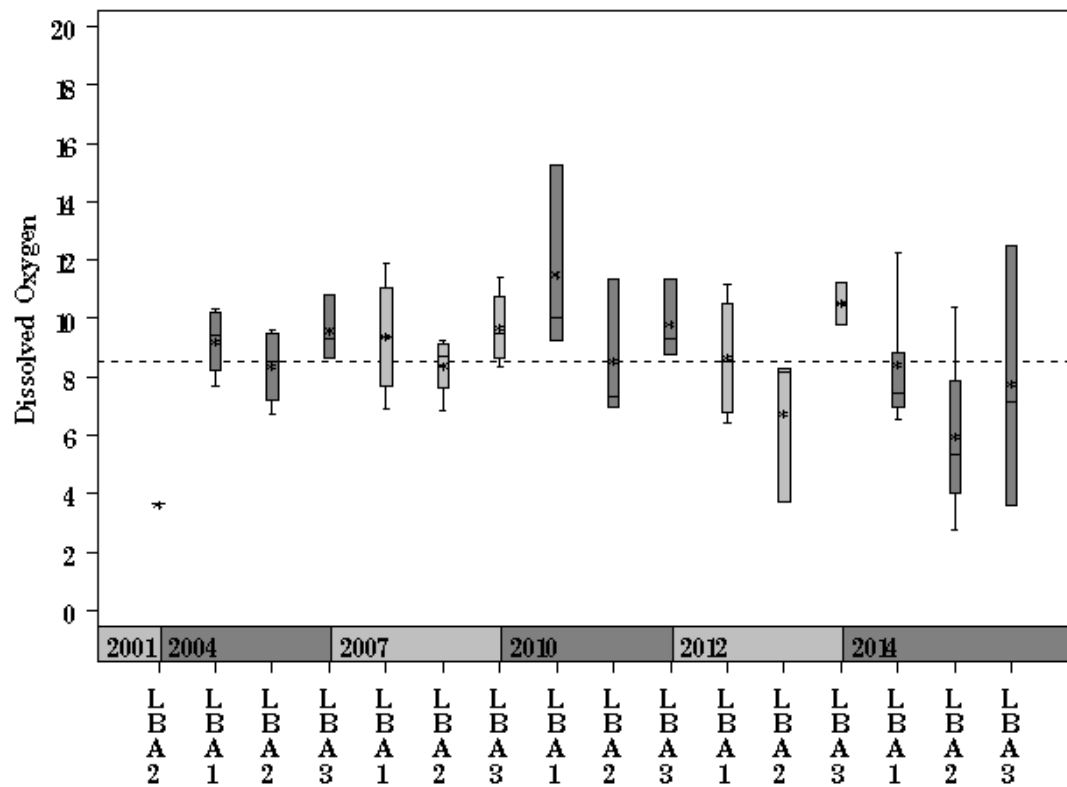
# Little Barton Creek Watershed

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

Parameter= ORTHOPHOSPHORUS AS P Unit= mg/L Watershed= Little Barton



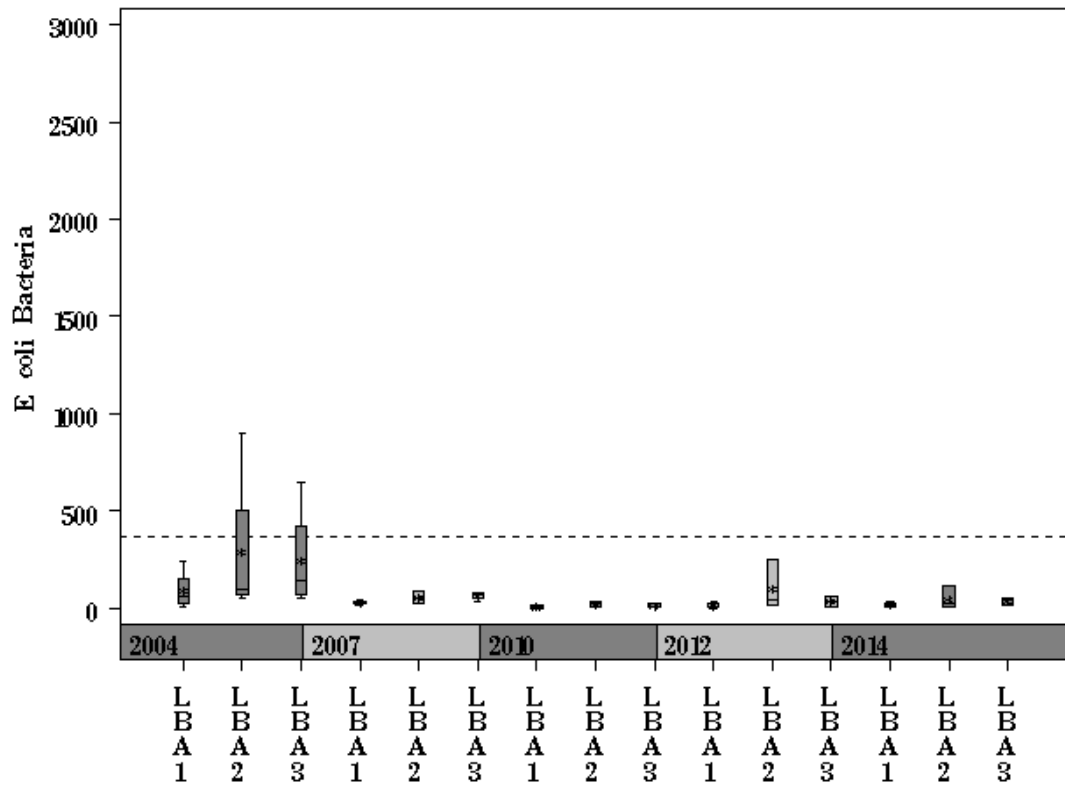
Parameter= DISSOLVED OXYGEN Unit= mg/L Watershed= Little Barton



# Little Barton Creek Watershed

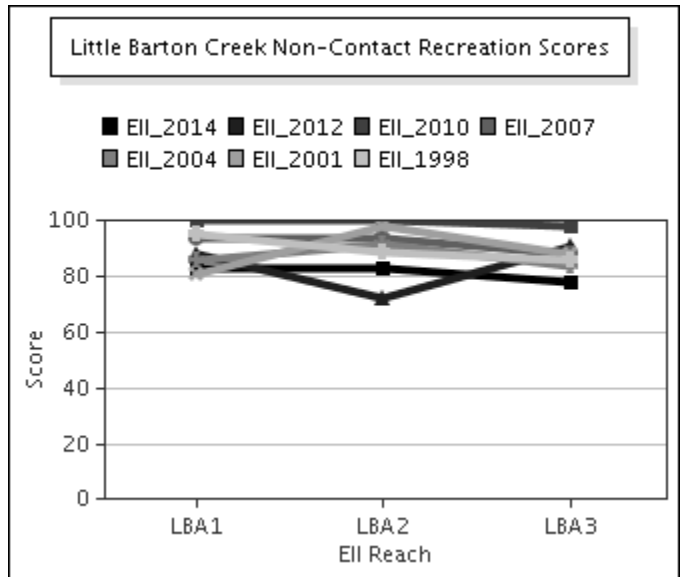
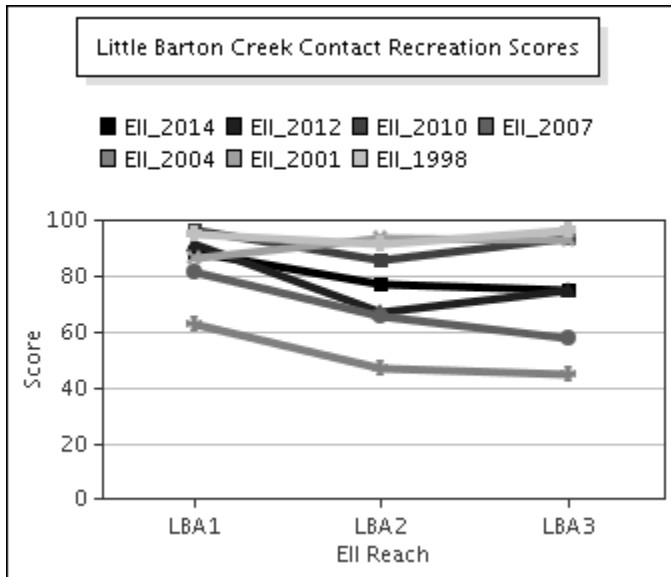
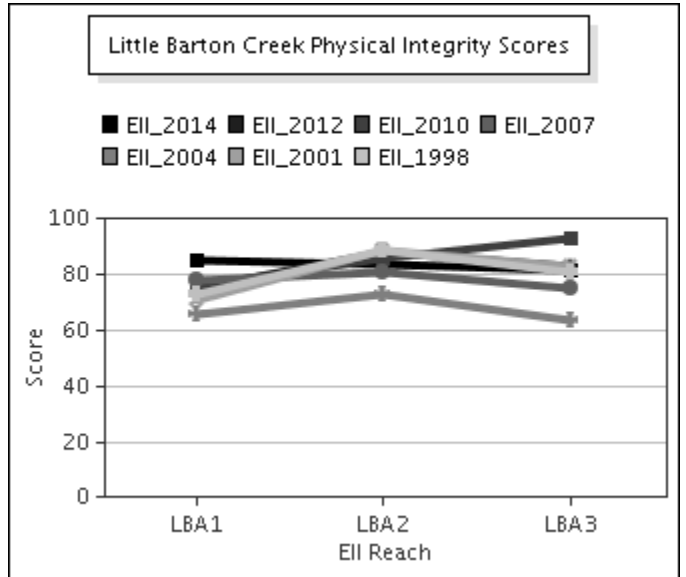
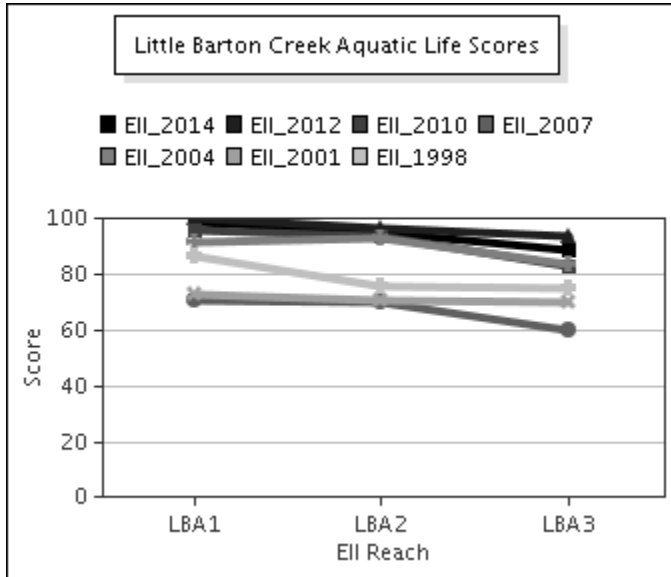
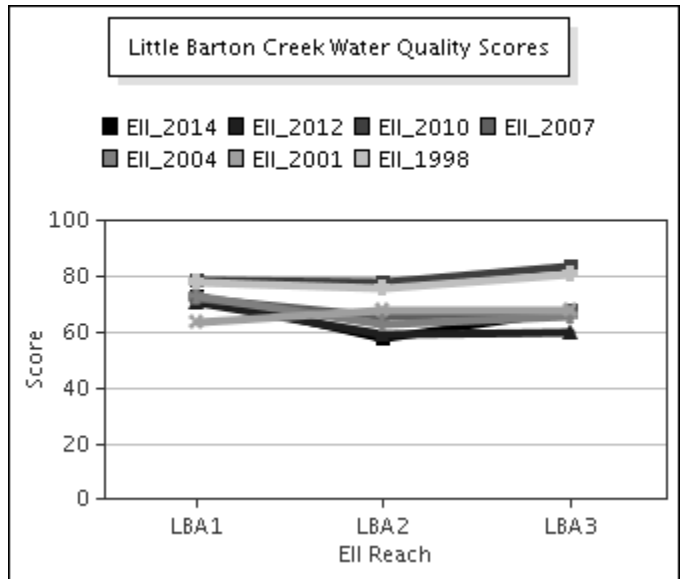
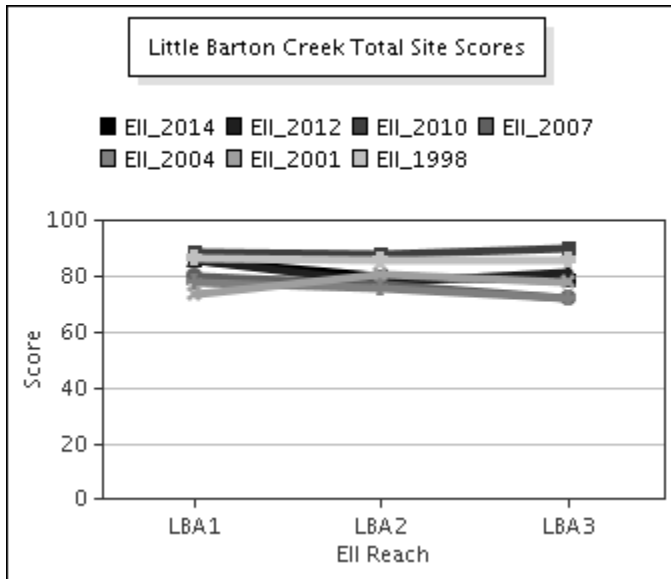
Data Summary Graphs – *E.coli* (Downstream to Upstream by Year)

Parameter= E COLI BACTERIA Unit= MPN/100mL Watershed= Little Barton



# Little Barton Creek Watershed

## Score Summary – Reach scores for each sample year



# Little Barton Creek Watershed

## Benthic Macroinvertebrates – Taxa List, Pollution Tolerance Index & Functional Feeding Group for 2014 Sample Sites (Downstream to Upstream)

Benthic Macroinvertebrate ID	PTI	FFG	Little Barton @ Barton Creek (Site 77)	Little Barton @ Great Divide Dr (Site 1114)	Little Barton @ Hmltn Pool Rd (Site 1115)
<i>Perlesta</i> sp.	0	P		21	
<i>Chimarra</i> sp.	2	FC	12	5	
<i>Farrodes texanus</i>	2	SC,CG	1		
<i>Helicopsyche</i> sp.	2	SC	2	1	
<i>Hydroptila</i> sp.	2	SC,PI	5	2	
<i>Microcylloepus pusillus</i>	2	SC,CG	9	3	
<i>Isonychia</i> sp.	3	FC	3		
<i>Polycentropus</i> sp. / <i>Cernotina</i> sp.	3	P,FC	3		
<i>Callibaetis</i> sp.	4	CG			438
<i>Chaoborus</i> sp.	4				4
Copepoda	4	SC			23
<i>Fallceon quilleri</i>	4	SC,CG	51	220	
<i>Hydrometra</i> sp.	4	P			1
<i>Maratrichia</i> sp.	4	SC	1		
Ostracoda	4	FC,CG	13	15	1
<i>Smicridea</i> sp.	4	FC	2		
<i>Vacupernius packeri</i>	4	CG	2		
<i>Agabus</i> sp.	5	P		1	
<i>Ambrysus</i> sp.	5	P		1	
<i>Anax junius</i>	5	P			8
<i>Buena</i> sp.	5	P			4
Gerridae	5	P		1	3
<i>Lutrochus</i> sp.	5	CG	1		
<i>Notonecta</i> sp.	5	P			48
<i>Thermonectus</i> sp.	5	P			2
<i>Tricorythodes</i> sp.	5	CG	66		
<i>Archilestes</i> sp.	6	P			37
<i>Argia</i> sp.	6	P	5	27	
<i>Brechmorhoga mendax</i>	6	P	1		
<i>Cheumatopsyche</i> sp.	6	FC	77	43	
Chironomidae	6	P,FC	20	40	10
<i>Enallagma</i> sp.	6	P			6
<i>Fossaria</i> sp.	6	SC			1
Hydracarina	6		1	8	5
<i>Microvelia</i> sp.	6	P	2	11	7
<i>Rhagovelia</i> sp.	6	P	5	10	
<i>Stenonema femoratum</i>	6	SC,CG		3	8
Tanypodinae	6	P	10	34	10
<i>Bezzia</i> sp. / <i>Palpomyia</i> sp.	7	P,CG		4	
<i>Caenis</i> sp.	7	SC,CG		1	1
<i>Gyraulus</i> sp.	7	SC	1		
<i>Helisoma anceps</i>	7	SC		1	
<i>Helisoma trivolvis</i>	7	SC			15
<i>Stenelmis</i> sp.	7	SC,CG		17	
<i>Anopheles</i> sp.	8	FC		3	1
Cladocera	8	FC			14
Hirudinea	8	P			13
<i>Hyalella</i> sp.	8	SH,CG		7	3
<i>Nasiaeschna pentacantha</i>	8	P		1	
Oligochaeta	8	CG			1
<i>Physella</i> sp.	9	SC		9	9
Collembola	10	CG	1	2	7
<i>Laccophilus</i> sp.	10	P			1
Cambaridae		CG			20
<i>Dugesia</i> sp.		P,CG	1	6	
<i>Miathyria marcella</i>		P			1

# Little Barton Creek Watershed

## Benthic Macroinvertebrates – Metric Summary for 2014 Sample Sites (Downstream to Upstream)

Scoring Metric	Little Barton @ Barton Creek (Site 77)	Little Barton @ Great Divide Dr (Site 1114)	Little Barton @ Hmltn Pool Rd (Site 1115)
Number of Taxa *	23	26	28
Hilsenhoff Biotic Index *	4.8	4.8	4.7
Number of Ephemeroptera Taxa *	5	3	3
Percent of Total as Chironomidae *	10	15	3
Number of EPT Taxa *	12	8	3
Percent of Total as EPT *	77	60	64
Percent of Total as Predator *	16	32	22
Number of Intolerant Taxa *	12	7	5
Percent Dominance (Top 3 Taxa) *	66	61	75
EPT / EPT + Chironomidae	1	1	1
Number of Diptera Taxa	1	3	3
Number of Non-Insect Taxa	4	6	11
Number of Organisms	294	495	695
Percent Dominance (Top 1 Taxa)	26	44	63
Percent of Total as Collector / Gatherer	49	56	68
Percent of Total as Dominant Guild (FFG)	49	56	68
Percent of Total as Elmidae	3	4	0
Percent of Total as Filterers	48	28	5
Percent of Total as Grazers (PI & SC)	24	52	8
Percent of Total as Tolerant Organisms	0	2	1
Percent of Trichoptera as Hydropsychidae	77	84	0
Ratio of Intolerant : Tolerant Organisms	1.40	1.23	3.74
TCEQ Qualitative Aquatic Life Use Score	30	26	26
TCEQ Quantitative Aquatic Life Use Score	39	31	23

\* **EII scoring parameter: Nine metric parameters are used in the calculation of the EII Benthic Subindex score. Other metrics are shown to supplement evaluation.**

1. # of Taxa: Higher diversity (number of taxa) correlates with greater biological integrity. The average number of taxa per site for 2013/2014 samples was 15; the lowest value was 5 and the highest value was 30.
2. Hilsenhoff Biotic Index (HBI): HBI values range from 0 to 10. Low HBI values reflect a higher abundance of taxa that are sensitive to organic (nutrient) pollution, thus a lower level of this type of pollution. The average HBI per site for 2013/2014 samples was 5.4; the lowest value was 3.7 and the highest value was 8.1.
3. # of Ephemeroptera taxa: A higher number of Ephemeroptera (mayfly) taxa correlates with greater biological integrity. The average number of taxa per site for 2013/2014 samples was 2; the lowest value was 0 and the highest value was 7.
4. % of total as Chironomidae: The percentage of the sample represented by the Dipteran family Chironomidae will increase with a decrease in biological integrity. The average percent Chironomidae per site for 2013/2014 samples was 16%; the lowest value was 0% and the highest value was 77%.
5. # of EPT Taxa: A higher number of Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly) taxa correlates with greater biological integrity. The average number of EPT taxa per site for 2013/2014 samples was 4; the lowest value was 0 and the highest value was 12.
6. % of total as EPT: The percentage of the sample represented by the insect orders Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly) will decrease with a decrease in biological integrity. The average percent EPT taxa per site for 2013/2014 samples was 46%; the lowest value was 0% and the highest value was 89%.
7. % of total as Predator: The percentage of the sample represented by predators is variable with regard to biological integrity. The average percent predator per site for 2013/2014 samples was 31%; the lowest value was 3% and the highest value was 82%.
8. # of Intolerant Taxa: A higher number of pollution intolerant taxa correlates with greater biological integrity. The average number of intolerant taxa per site for 2013/2014 samples was 5; the lowest value was 0 and the highest value was 15.
9. % Dominance (top 3 taxa): The percentage of the sample represented by the three most abundant taxa will increase with a decrease in biological integrity. The average percent of sample dominated by the top three taxa per site for 2013/2014 samples was 72%; the lowest value was 39% and the highest value was 96%.

# Little Barton Creek Watershed

## Diatoms – Taxa List & Pollution Tolerance Index for 2014 Sample Sites (Downstream to Upstream)

Diatom Species Name	PTI	Little Barton @ Barton Creek (Site 77)	Little Barton @ Great Divide Dr (Site 1114)	Little Barton @ Hmltn Pool Rd (Site 1115)
<i>Amphora inariensis</i>	4	4	12	
<i>Brachysira neoexilis</i> (serians)	4	2		
<i>Cymbella cymbiformis</i>	4		1	
<i>Diploneis oblongella</i>	4		6	9
<i>Eucocconeis flexella</i>	4	1		
<i>Eunotia arcus</i>	4	2		
<i>Platessa hustedtii</i>	4			1
<i>Frustulia spicula</i>	3.5			5
<i>Rhopalodia parallela</i>	3.2		2	2
<i>Achnanthyidium altergracillimum</i>	3	6	28	
<i>Achnanthyidium minutissimum</i>	3	219	185	8
<i>Achnanthyidium pyrenaicum</i>	3	30		
<i>Amphora ovalis</i>	3			11
<i>Amphora pediculus</i>	3	15		
<i>Brachysira vitrea</i>	3	2		
<i>Caloneis alpestris</i>	3			2
<i>Caloneis bacillum</i>	3			10
<i>Caloneis schumanniana</i>	3		2	3
<i>Caloneis ventricosa</i>	3			10
<i>Cocconeis pediculus</i>	3	32	160	1
<i>Cymatopleura elliptica</i>	3			1
<i>Cymbella laevis</i>	3	2	1	59
<i>Cymbella neocistula</i>	3	2		
<i>Denticula kuetzingii</i>	3	19		20
<i>Diploneis parma</i>	3		2	10
<i>Diploneis puella</i>	3			73
<i>Encyonema evergladianum</i>	3	37		2
<i>Encyonema silesiacum</i>	3	1	2	21
<i>Encyonopsis microcephala</i>	3	56	2	14
<i>Eunotia bilunaris</i>	3			1
<i>Fragilaria delicatissima</i>	3		2	
<i>Frustulia vulgaris</i>	3			13
<i>Geisslera decussis</i>	3			2
<i>Gomphonema affine</i>	3			3
<i>Gomphonema clavatum</i>	3			4
<i>Gomphonema intricatum</i> var. <i>vibrio</i>	3			2
<i>Gomphonema minutum</i>	3			4
<i>Gomphonema truncatum</i>	3		2	
<i>Navicula cryptotenella</i>	3	12	1	6
<i>Navicula kotschy</i>	3	2		4
<i>Navicula radiosa</i>	3	8	6	
<i>Navicula reichardtiana</i>	3			2
<i>Nitzschia dissipata</i>	3	1		
<i>Pinnularia viridis</i>	3			2
<i>Placoneis placentula</i>	3			5
<i>Rhopalodia gibba</i>	3		2	4
<i>Tryblionella angustata</i>	3			48
<i>Fallacia pygmaea</i>	2			2
<i>Gomphonema angustatum</i>	2		43	4
<i>Luticola goeppertiana</i>	2			1
<i>Navicula recens</i>	2			2

----- This table is continued on the following page -----

# Little Barton Creek Watershed

## Diatoms – Taxa List & Pollution Tolerance Index for 2014 Sample Sites (Downstream to Upstream)

----- This table is continued from the previous page -----

Diatom Species Name	PTI	Little Barton @ Barton Creek (Site 77)	Little Barton @ Great Divide Dr (Site 1114)	Little Barton @ Hmltn Pool Rd (Site 1115)
<i>Navicula trivialis</i>	2			8
<i>Navicula veneta</i>	2			2
<i>Nitzschia amphibia</i>	2	3		67
<i>Nitzschia microcephala</i>	2		2	
<i>Tryblionella apiculata</i>	2			1
<i>Gomphonema parvulum</i>	1	2	6	
<i>Amphora copulata</i>				25
<i>Cocconeis placentula</i> var. <i>euglypta</i>			21	
<i>Cymbella cistula</i>				4
<i>Cymbella excisa</i>		4		
<i>Delicata delicatula</i>		12		
<i>Encyonema semilanceolatum</i>		2		
<i>Gomphonema lateripunctatum</i>				2
<i>Navicula antonii</i>			4	
<i>Navicula cryptotenelloides</i>		11		
<i>Navicula lanceolata</i>				8
<i>Sellaphora stroemii</i>		8		4
<i>Ulnaria acus</i>		1		
<i>Ulnaria ulna</i>		4	8	8

## Diatoms – Metric Summary for 2014 Sample Sites (Downstream to Upstream)

Scoring Metric	Little Barton @ Barton Creek (Site 77)	Little Barton @ Great Divide Dr (Site 1114)	Little Barton @ Hmltn Pool Rd (Site 1115)
<i>Cymbella</i> Richness	6	4	4
Number of organisms	500	500	500
Number of taxa	29	23	47
Percent motile taxa	5	3	29
Percent similarity to reference condition	42	36	24
Pollution tolerance index	3.00	2.92	2.83

\* **EII scoring parameter:** Four metric parameters are used in the calculation of the EII Diatom Subindex score: *Cymbella* richness, percent motile taxa, percent similarity to reference condition and pollution tolerance index. Number of taxa is non-scoring, but is shown to supplement evaluation. The number of organisms is typically a sample of 500, but occasionally differs due to sample conditions.

- Cymbella* Richness: The Cymbelloid taxa include species in the genus *Cymbella*, in addition to some species belonging to the genera *Cymbellopsis*, *Cymbopleura*, *Encyonema*, *Encyonemopsis*, *Navicymbula* and *Reimeria*. Their presence highlights the presence of sensitive species, especially with regard to impervious cover, and this value increases with an increase in overall water quality. The average number of Cymbelloid taxa per site for 2013/2014 samples was 3; the lowest value was 0 and the highest value was 7.
- % Motile Taxa: This is a siltation index showing the relative abundance of genera that are able to move towards the surface if covered by silt. A higher percentage is indicative of a degraded condition caused by increased silt pollution. The average percent motile taxa per site for 2013/2014 samples was 16%; the lowest value was 0% and the highest value was 77%.
- % similarity to reference condition: This percentage compares a site to reference sites that are selected based on having low percent impervious cover. A higher percentage reflects greater biological integrity. The average percent similarity per site for 2013/2014 samples was 31%; the lowest value was 6% and the highest value was 57%.
- Pollution Tolerance Index (PTI): This is a total value for a sample, which is a function of the abundance of each taxon (usually species) in a sample and the individual PTI's for each of those taxa. Individual PTI's for each taxon range from 1 (most pollution tolerant) to 4 (most pollution sensitive), thus higher total PTI's for a site reflect greater biological integrity. The average PTI per site for 2013/2014 samples was 2.76; the lowest value was 1.70 and the highest value was 3.45.

# Little Barton Creek Watershed

## Site Photographs



1115\_00-us-05\_24\_2010



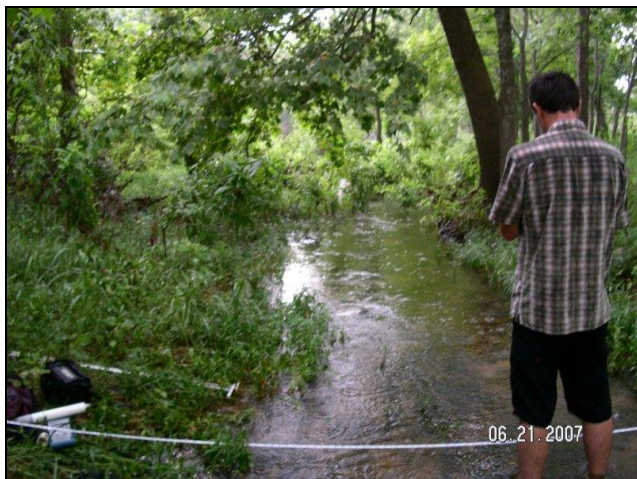
1115\_00-ds-05\_24\_2010



1115\_ds\_06\_21\_2007



1114\_t00-ur-05\_19\_2004



1114\_us\_06\_21\_2007



1114\_00-ur-05\_24\_2010



# Little Barton Creek Watershed

## Site Photographs



77-panC-03\_04\_2010



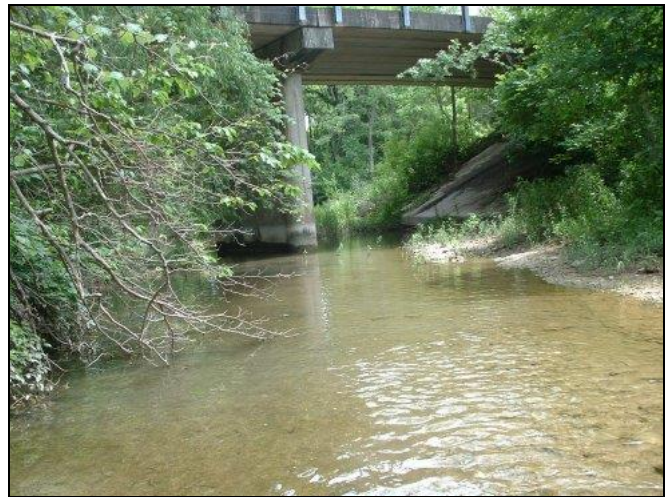
77\_00-us-05\_24\_2010



77\_00-ds-05\_24\_2010



77\_t00-us-05\_19\_2004



77\_t00-ds-05\_19\_2004

This page left intentionally blank