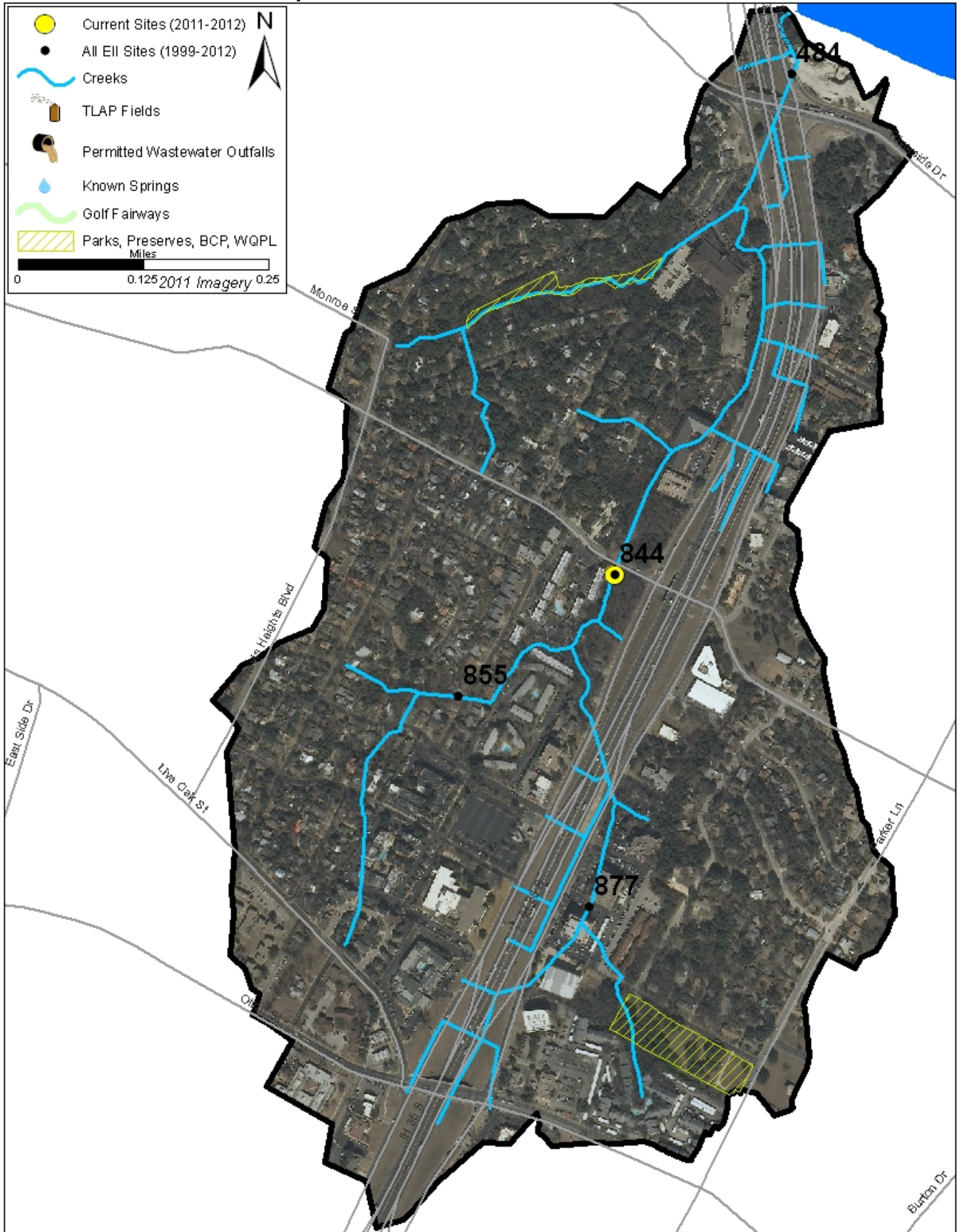


Harpers Branch Watershed

Aerial Map



Harper's Branch Watershed

Water Quality Data – Temperature, Conductivity, pH, Dissolved Oxygen & *E. coli* for 2015 Sample Sites (Downstream to Upstream)

Qualifiers to the left of the value	>	Greater than	Qualifiers to the right of the value	(blank)	Useable
	<	Less than		S	Exceeds standard range
	<J	Less than detected limit		R	Rejected, failed QC
	J	Estimated			

Watershed	Site	E.I.I. Reach	Date	Temp. <small>flag</small>	Cond. <small>flag</small>	pH <small>flag</small>	D.O. <small>flag</small>	E. Coll <small>flag</small>
Harper's Branch	844	HRP1	01/14/2015	12.7	788	7.49	6.1	166.4
Harper's Branch	844	HRP1	04/15/2015	18.0	876	7.48	3.6	648.8
Harper's Branch	844	HRP1	05/05/2015	20.2	846	7.36	2.5	
Harper's Branch	844	HRP1	07/14/2015	24.0	883	7.46	4.3	> 2419.6
Harper's Branch	844	HRP1	09/09/2015	24.8	886	7.28	2.5	816.4
HRP1 Mean				19.8	856	7.41	3.8	1012.8
Harper's Branch				19.8	856	7.41	3.8	1012.8

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

Summary Statistics for all 2015-2016 E.I.I. Sites Combined

Parameter	2015-2016 Average	2015-2016 Minimum	2015-2016 Maximum	1 Standard Deviation Above	1 Standard Deviation Below
Temperature (C°)	20.7	5.8	34.2	27.5	
Conductivity (uS/cm)	722	160	3549	955	
pH (Standard units)	7.86	5.85	10.25	8.24	7.47
D.O. (mg/l)	7.9	0.1	18.7	10.4	5.5
<i>E. Coli</i> (col/100ml)	316.1	1.0	2420.0	883.7	

Harpers Branch Watershed

Water Quality Data – Ammonia, Nitrate / Nitrite, Ortho-Phosphorus, Total Suspended Solids & Turbidity for 2015 Sample Sites (Downstream to Upstream)

Qualifiers to the left of the value	>	Greater than	Qualifiers to the right of the value	(blank)	Useable
	<	Less than		S	Exceeds standard range
	<J	Less than detected limit		R	Rejected, failed QC
	J	Estimated			

Watershed	Site	EII Reach	Date	NH3-N		NO3/NO2		Ortho-P		T.S.S		Turb.			
				<	flag	<>	flag	<>	flag	<>	flag				
Harper's Branch	844	HRP1	01/14/2015	<J	0.008		1.72		0.031	R		1.1		1.3	R
Harper's Branch	844	HRP1	04/15/2015		0.033		2.12		0.037			1.5		1.4	
Harper's Branch	844	HRP1	05/05/2015												
Harper's Branch	844	HRP1	07/14/2015	<J	0.008		3.52		0.020		<J	1.0		2.2	R
Harper's Branch	844	HRP1	09/09/2015	<J	0.008		1.53		<J	0.004	<J	1.0		1.3	R
HRP1 Mean					0.014		2.22		0.023			1.2		1.5	
Harper's Branch					0.014		2.22		0.023			1.2		1.5	

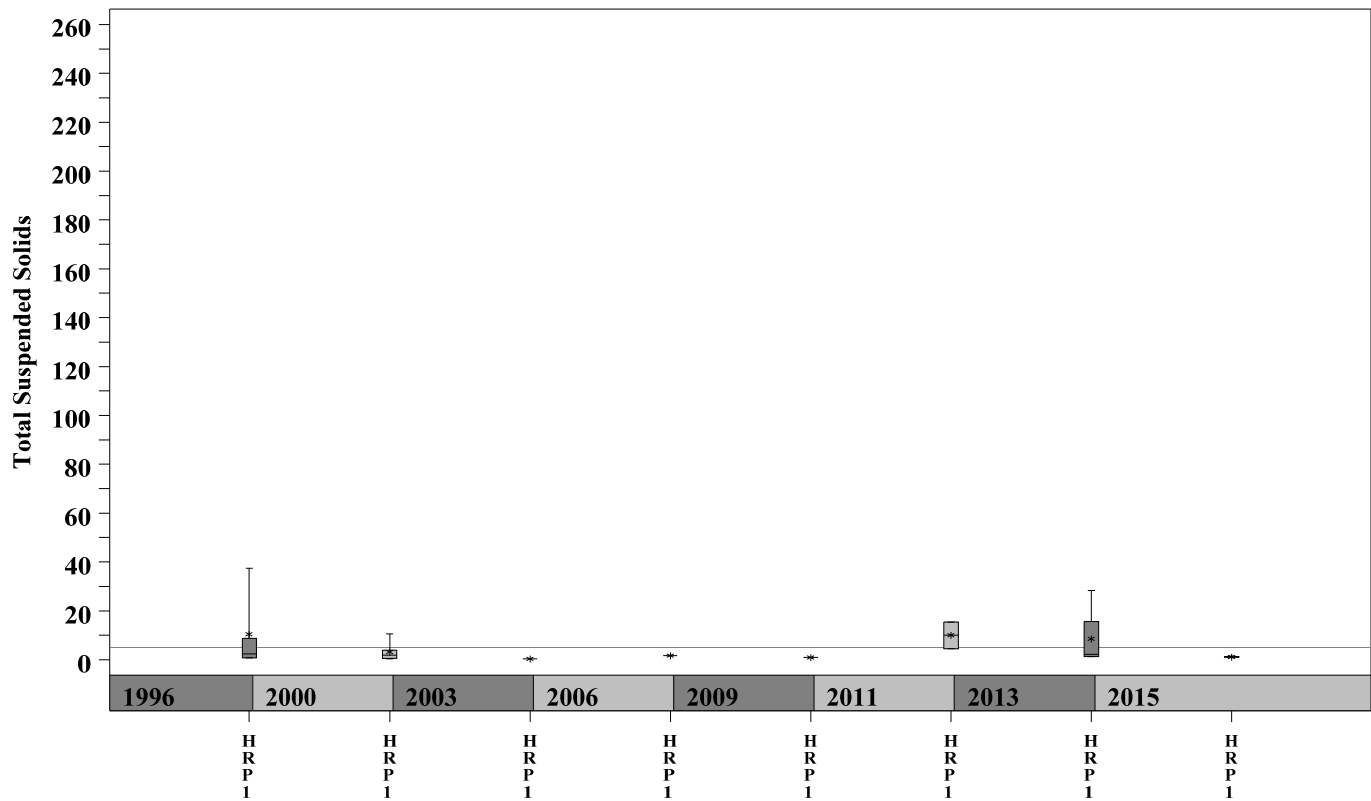
Gray highlighting indicates that the value exceeds one standard deviation from the mean of all E.I.I. sites combined.

Summary Statistics for all 2015-2016 E.I.I. Sites Combined				
Parameter	2015-2016 Average	2015-2016 Minimum	2015-2016 Maximum	1 Standard Deviation Above
NH3-N (mg/l)	0.018	0.008	0.881	0.085
NO3-N (mg/l)	1.14	0.01	12.0	3.16
Ortho-P (mg/l)	0.016	0.004	0.661	0.08
T.S.S. (mg/l)	3.7	1.0	58.2	9.7
Turbidity (NTU)	4.4	0.2	98.6	11.7

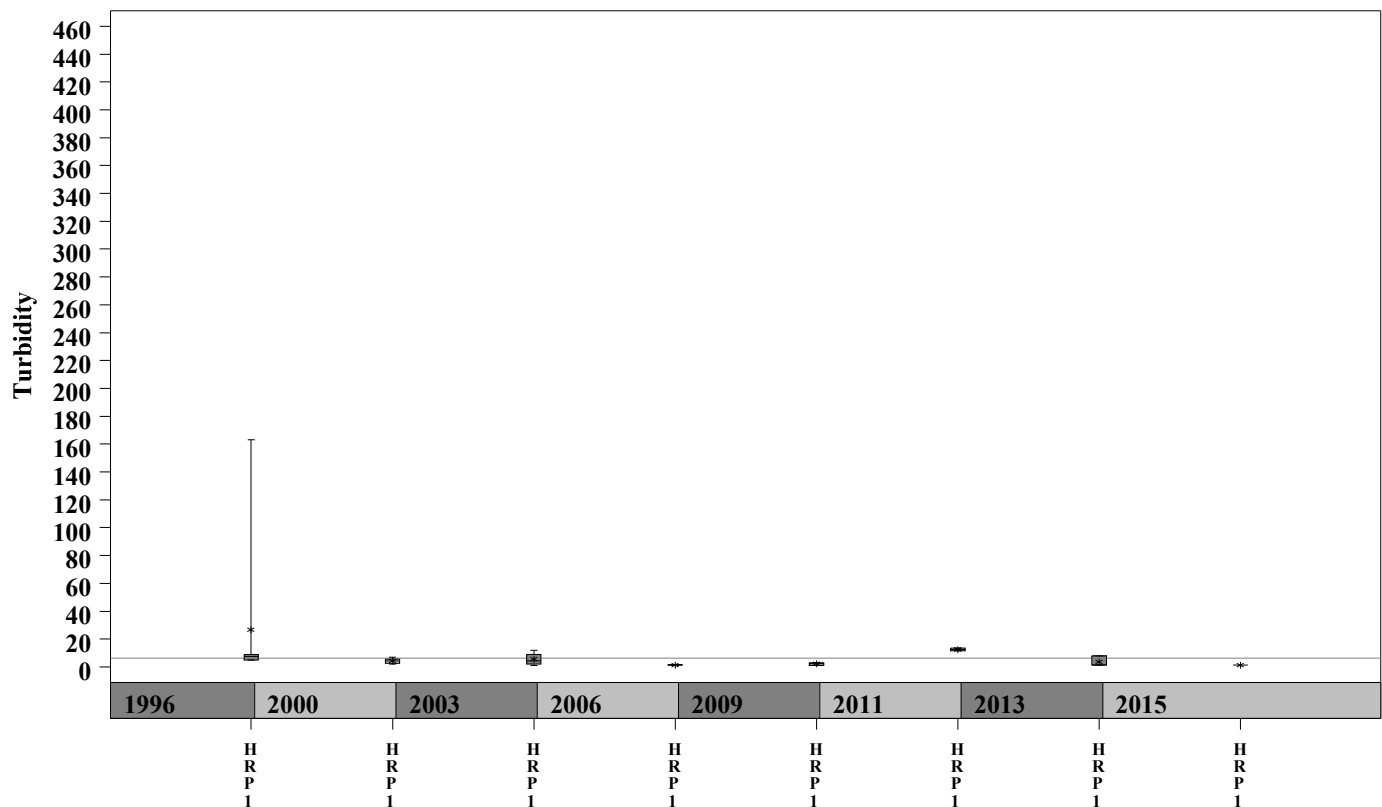
Harpers Branch Watershed

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

Parameter = **TOTAL SUSPENDEDED SOLIDS** Unit = **mg/L** Watershed = **Harpers Branch**



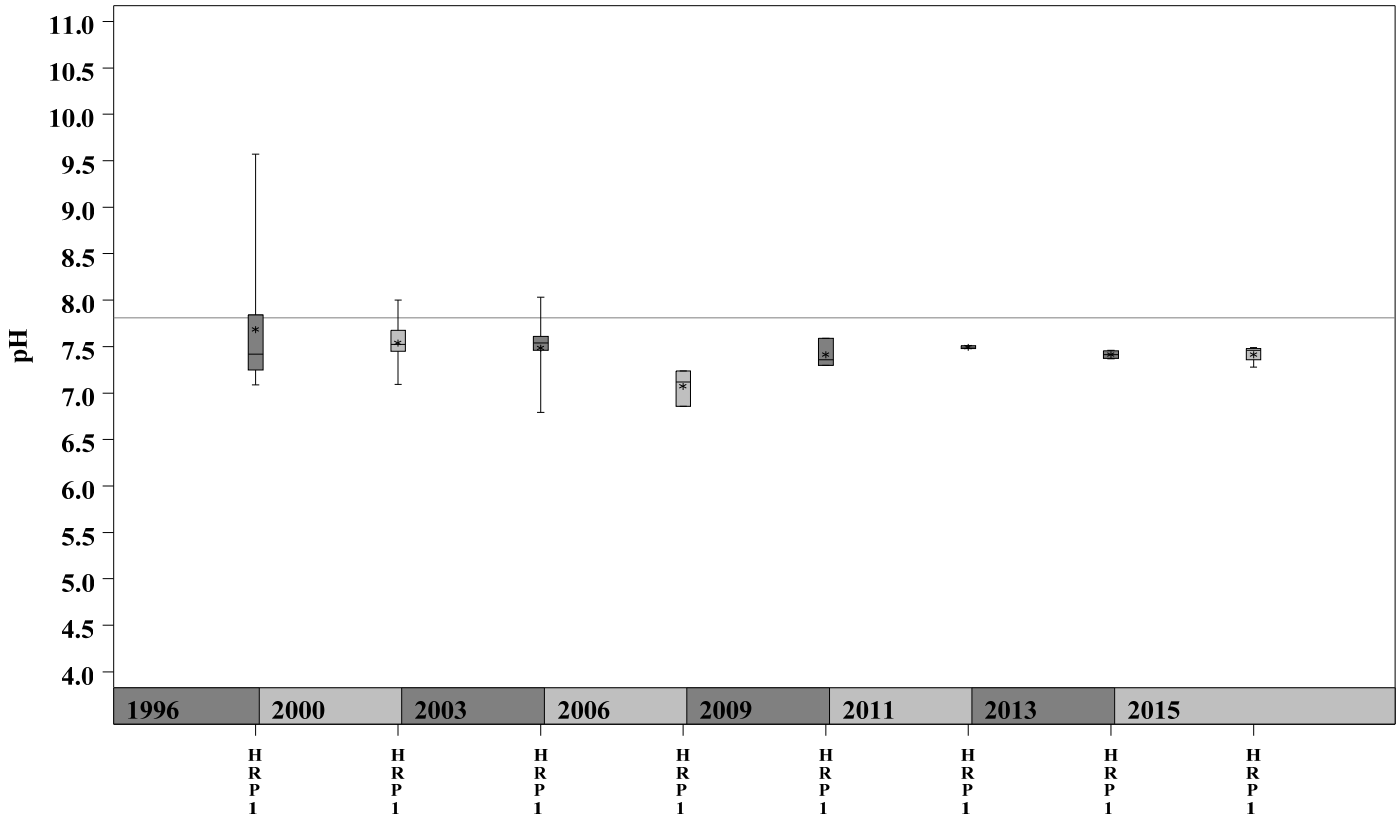
Parameter = **TURBIDITY** Unit = **NTU** Watershed = **Harpers Branch**



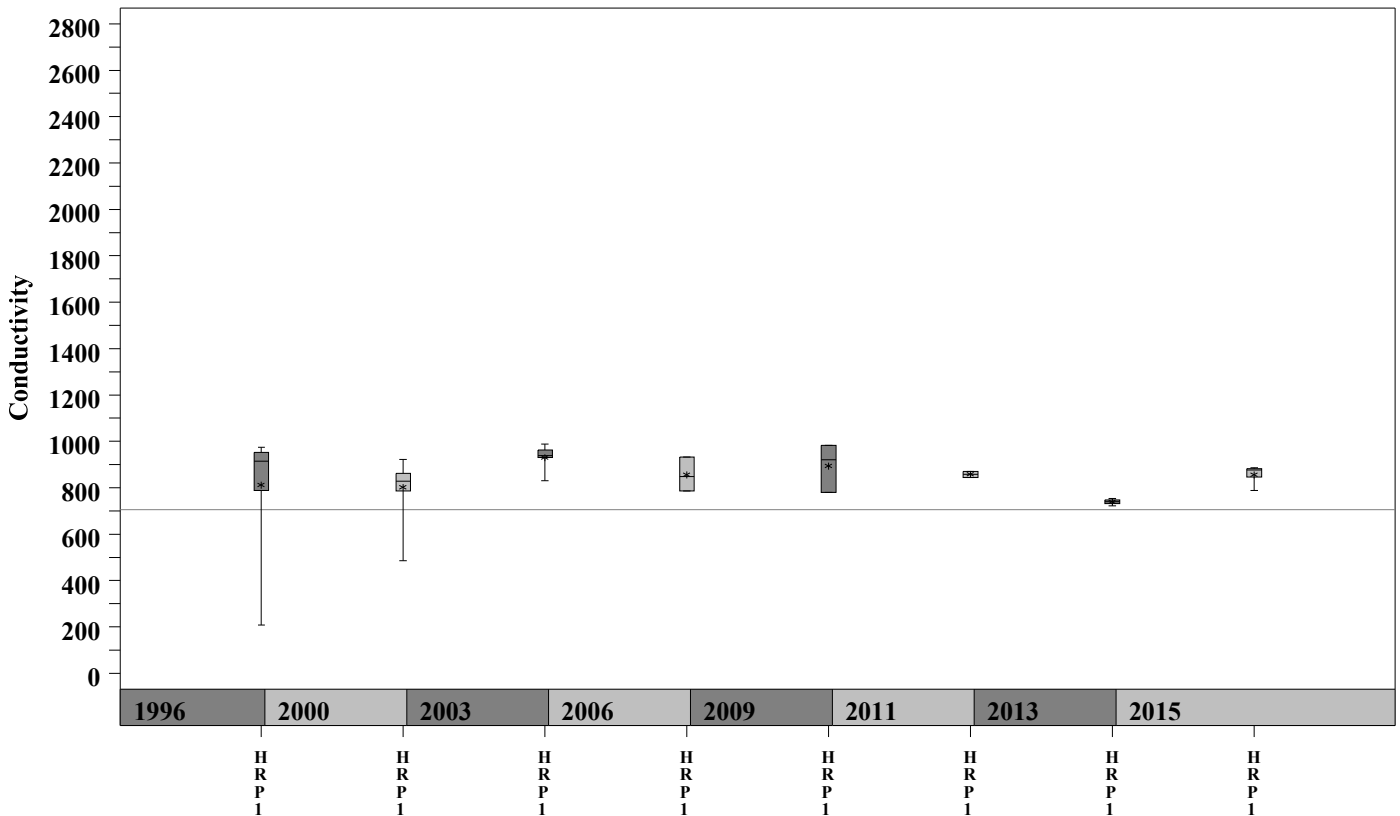
Harpers Branch Watershed

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

Parameter = pH Unit = Standard Units Watershed = Harpers Branch



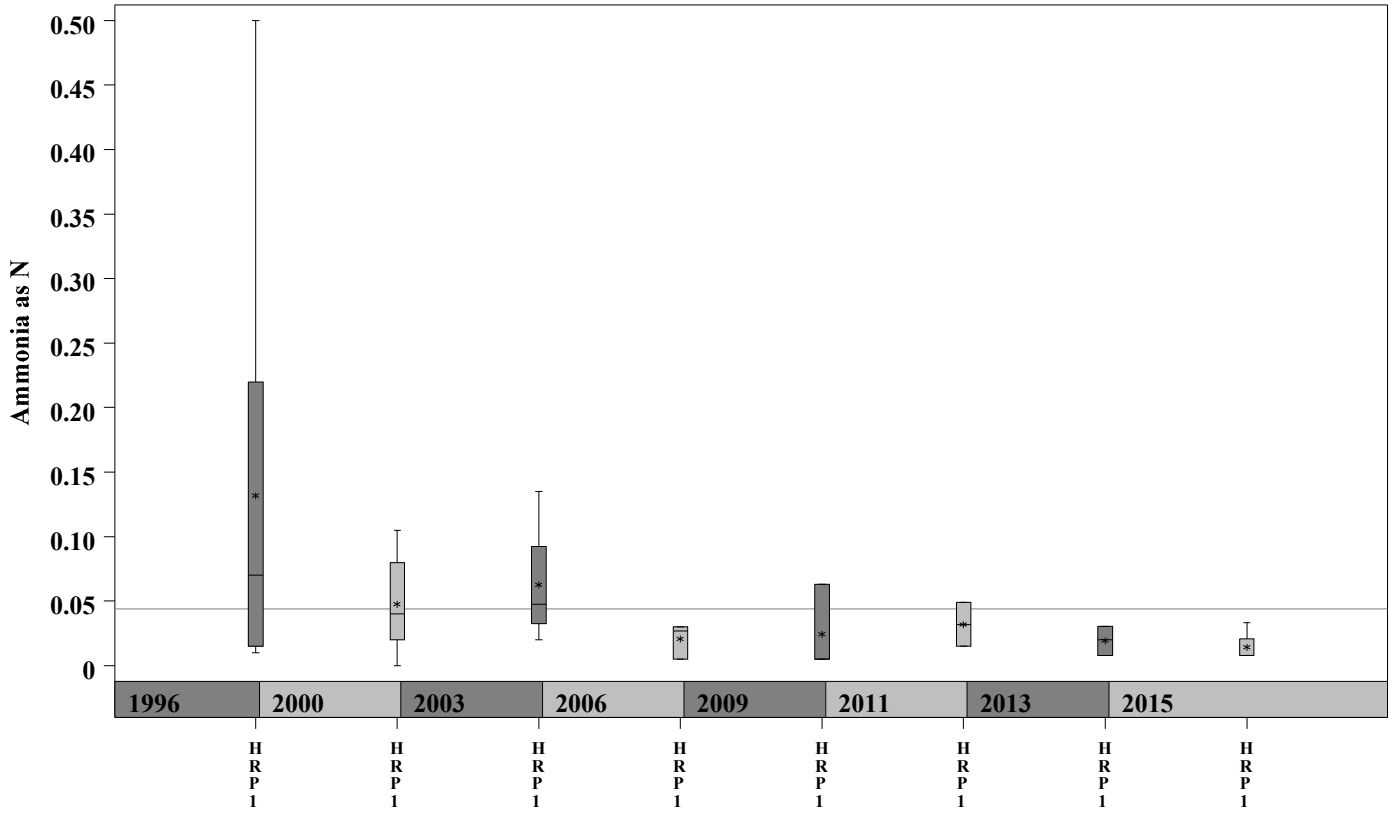
Parameter = CONDUCTIVITY Unit = uS/cm Watershed = Harpers Branch



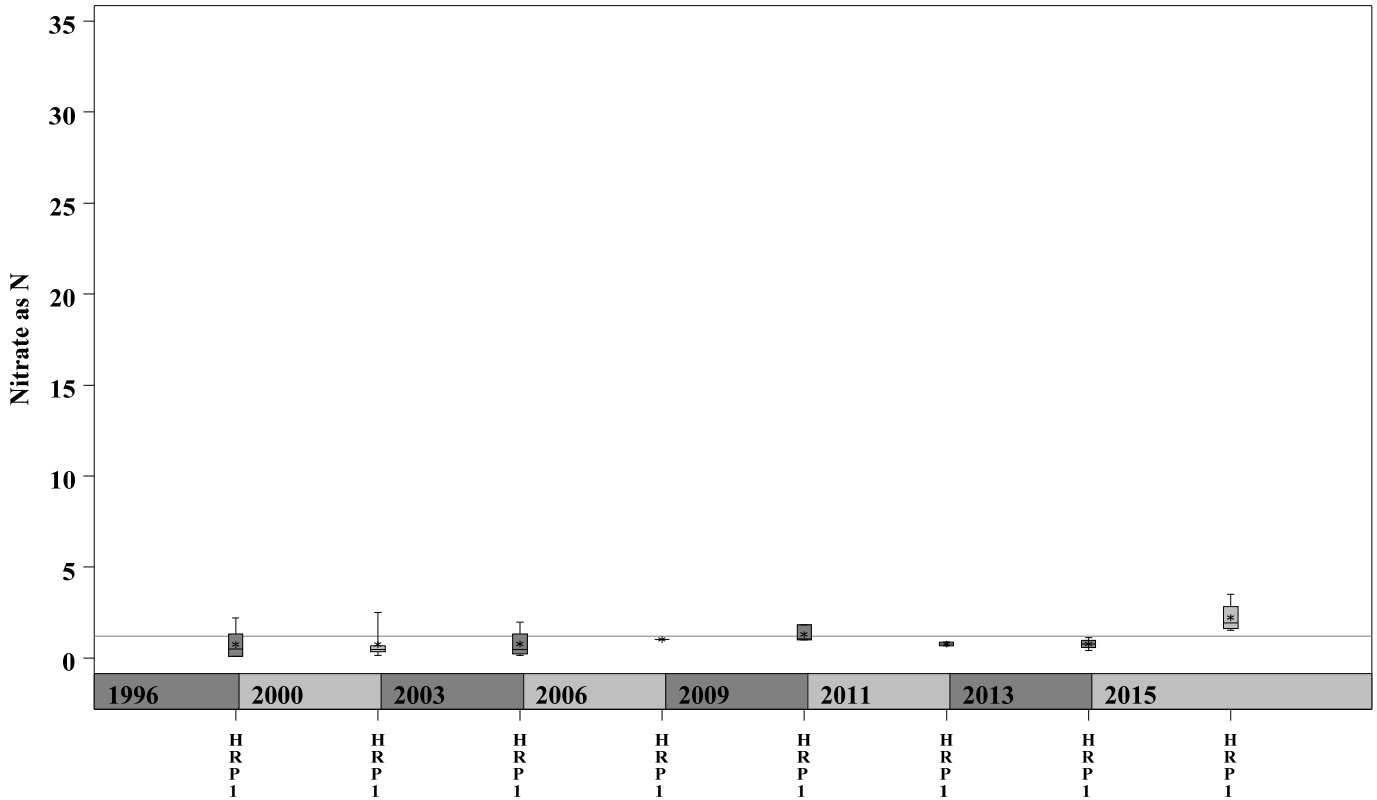
Harpers Branch Watershed

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

Parameter = AMMONIA AS N Unit = mg/L Watershed = Harpers Branch



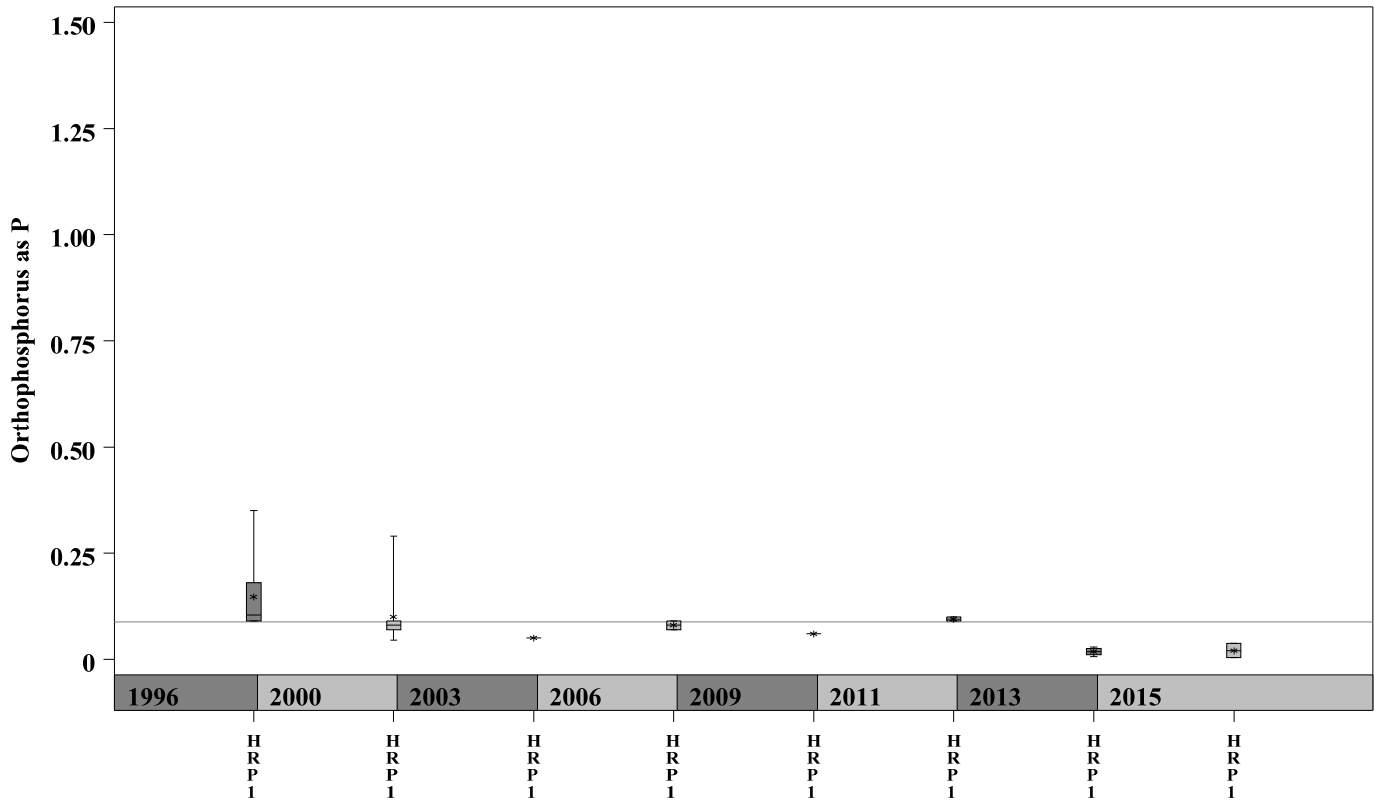
Parameter = NITRATE AS N Unit = mg/L Watershed = Harpers Branch



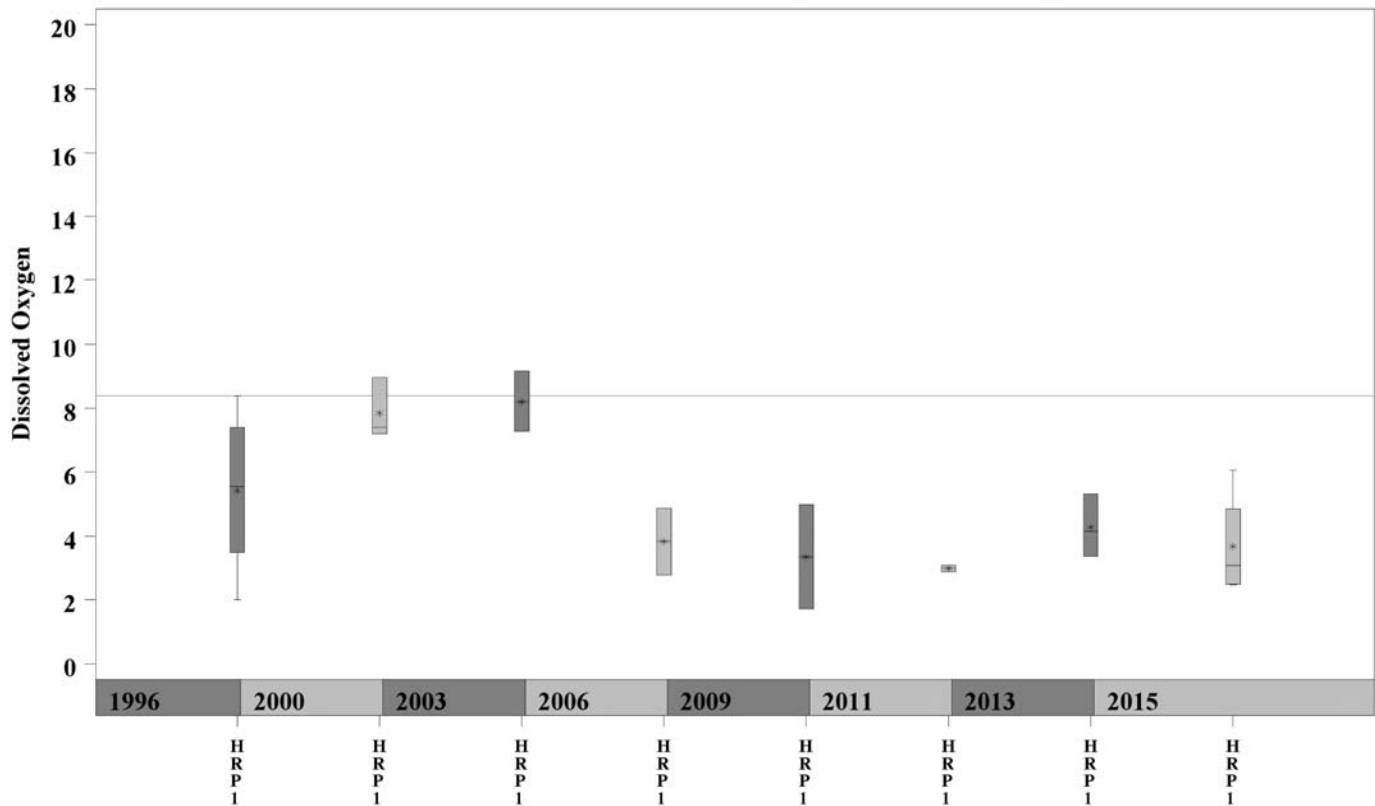
Harpers Branch Watershed

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

Parameter = ORTHOPHOSPHORUS AS P Unit = mg/L Watershed = Harpers Branch



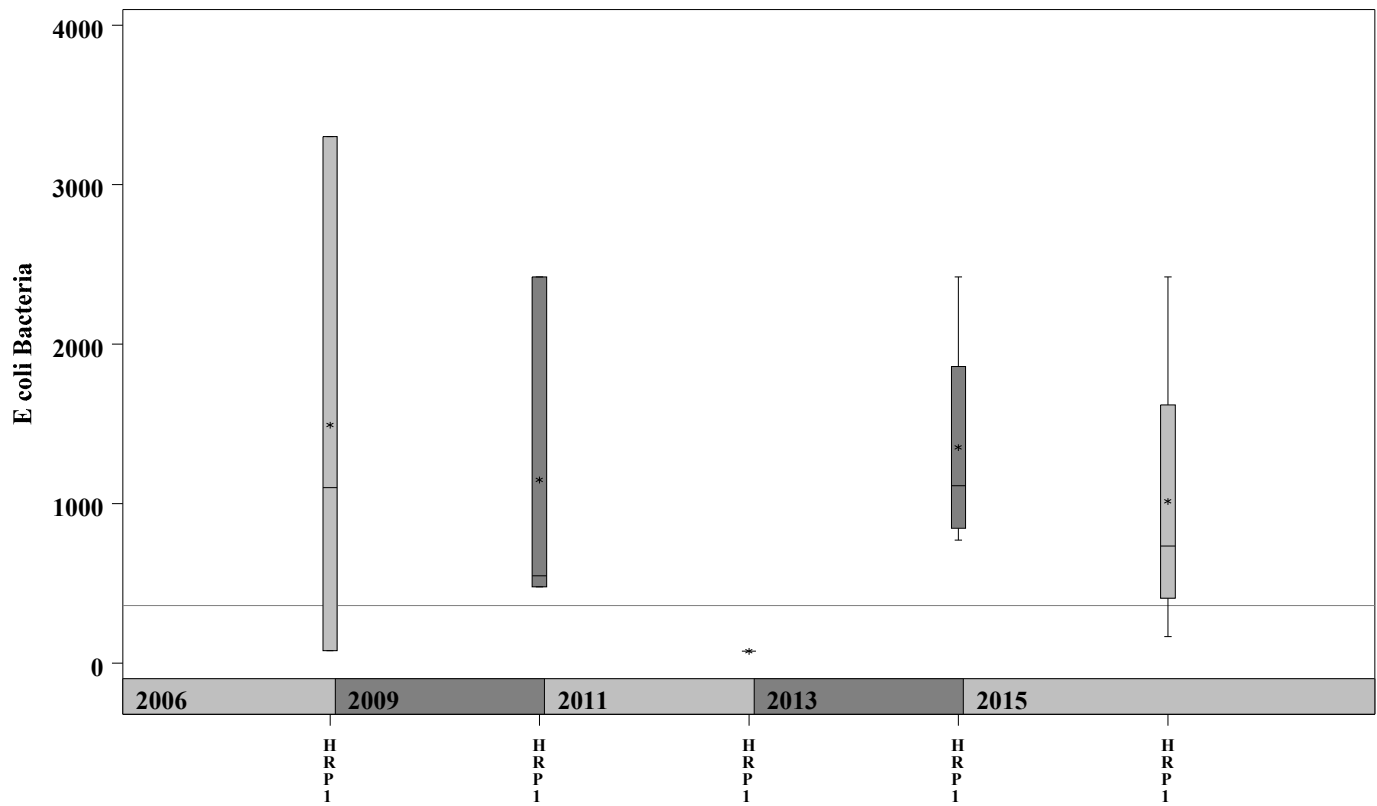
Parameter = DISSOLVED OXYGEN Unit = mg/L Watershed = Harpers Branch



Harpers Branch Watershed

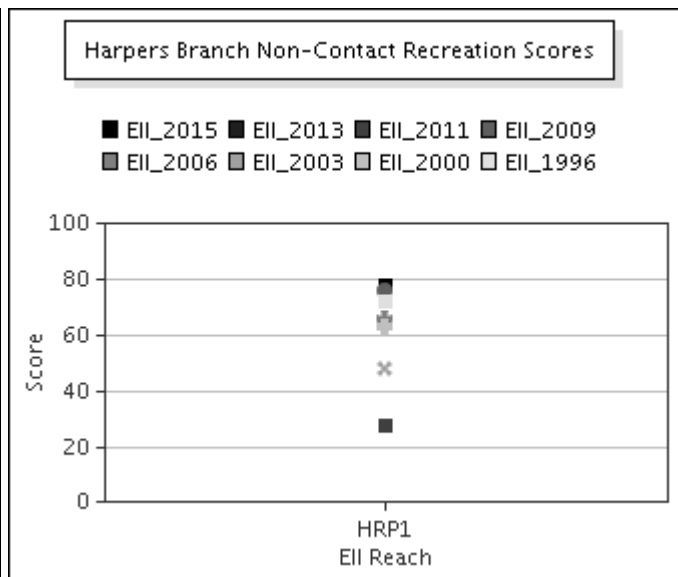
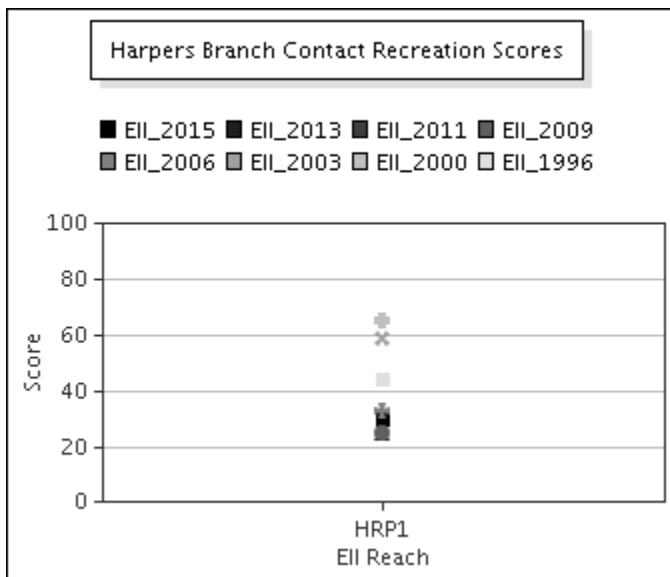
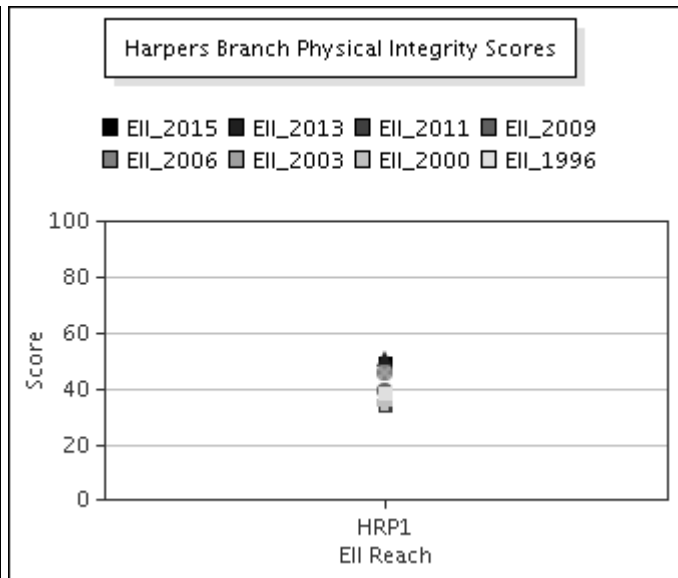
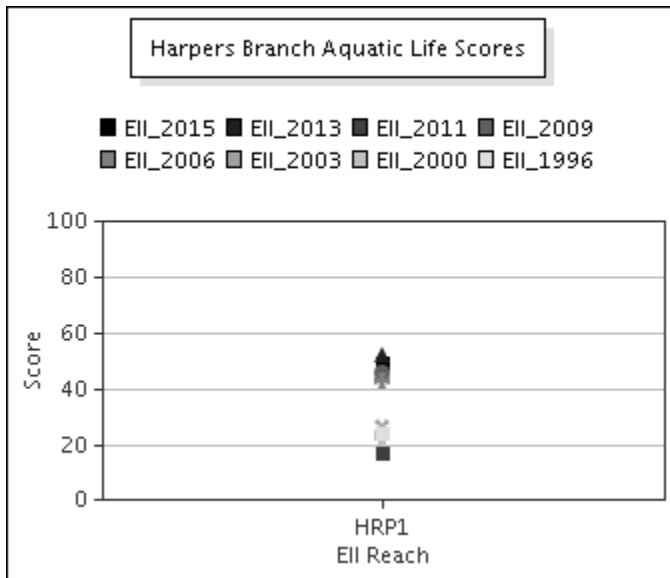
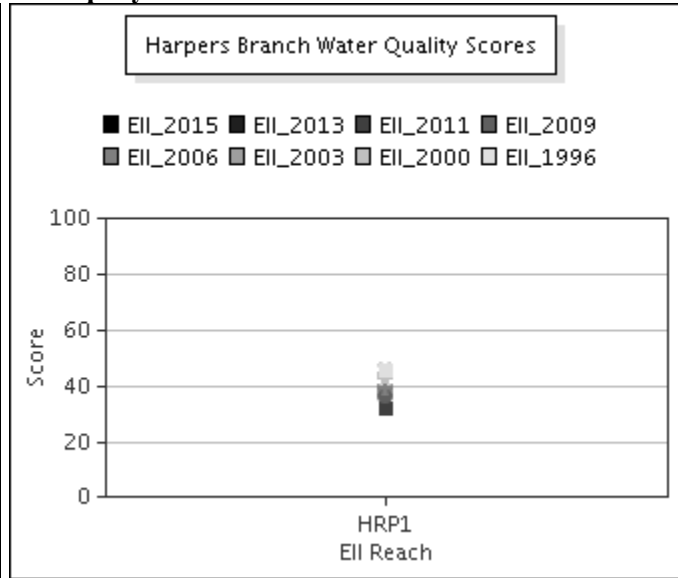
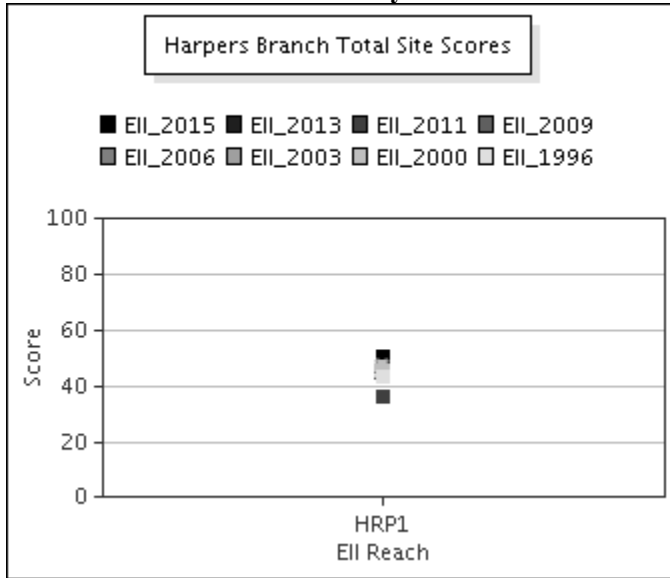
Data Summary Graphs – *E.coli* (Downstream to Upstream by Year)

Parameter = E COLI BACTERIA Unit = MPN/100mL Watershed = Harpers Branch



Harpers Branch Watershed

Score Summary – Reach scores for each sample year



Harpers Branch Watershed

Benthic Macroinvertebrates – Taxa List, Pollution Tolerance Index & Functional Feeding Group for 2015 Sample Sites (Downstream to Upstream)

Benthic Macroinvertebrates - Harper's Branch			HRP @ Woodland (844) 05/05/2015 (WRE)
Benthic Macroinvertebrate ID	PTI	FFG	
Fallceon	4	CG,SC	5
Gerridae	5	P	2
Argia	6	P	1
Cheumatopsyche	6	FC	11
Chironomidae	6	FC,P	46
Tanypodinae	6	P	1
Hirudinea	8	P	5
Hyaella	8	CG,SH	16
Oligochaeta	8	CG	74
Physella	9	SC	37

Harpers Branch Watershed

Site Photographs



844_t00-us-02_16_2001



844_t00-ds-02_16_2001



844_t00-ds-03_11_2003



844_t00-us-03_11_2003



844_t00-us-07_12_2006



844_t00-us1-07_12_2006

Harpers Branch Watershed

Site Photographs



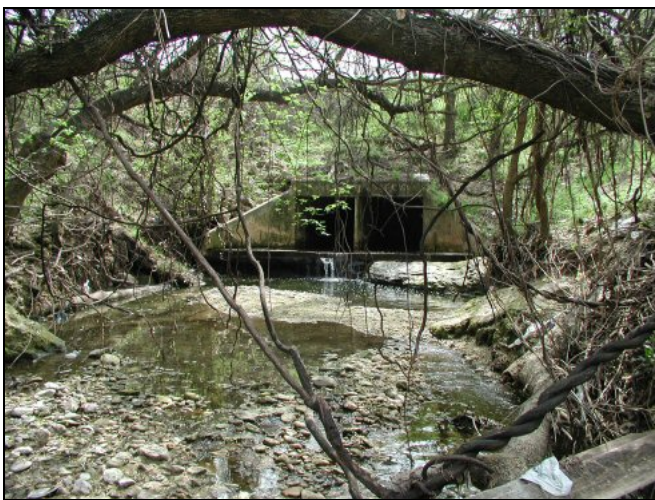
844-t00-us-05-29-2009



844-t00-ds-05-29-2009



484_t00-ur-03_13_2003



484_t00-us-03_13_2003



484_t00-ds-03_13_2003