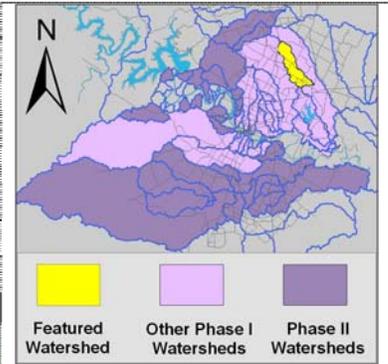


Harris Branch Watershed

Summary Sheet

Catchment	Total area	11 sq. miles			
	Area in recharge	0			
	Creek length	11 miles			
Demographics	Receiving water	Gilleland Creek			
	2000 population	10,173			
	2030 projected population	23,867			
Land Use	30 year projected % increase	235 %			
	Impervious cover (2003 estimate)	7.96 %			
Overall EII Scores	1999	2002	2005	2008	2009
	59	61	58	62	62



Flow Regime* for Sample Sites on Harris Branch

Site # upstream to downstream	Site Name	2002					2005					2008					2009				
		Feb WQ	Feb Bio	May WQ	Aug WQ	Nov WQ	Mar WQ	Jun WQ	Jun Bio	Sep WQ	Dec WQ	Feb WQ	May WQ	Jun Bio	Sep WQ	Dec WQ	Feb WQ	Jun WQ	Jun-Bio	Oct WQ	Dec WQ
1199	Harris Br at Crystal Bnd	B	B	B	B	B	B	B	B	B	S	B	B	B	B	B	B	B	B	B	B
888	Harris Br at Cameron	B	B	B	B	B	B	B	B	n	B										
1201	Harris Br at Boyce Ln	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 grey = Samples were not taken blank = not visited

Summary of 2009 Data for Harris Branch

2009 Summary	Parameter	Mean	Max	Min	Discussion
Physicochemical	D.O. mg/l	8.1	9.6	6.8	Within normal range, no apparent spatial or temporal trends
	pH st.units	7.9	8.0	7.7	Within normal range, no apparent spatial or temporal trends
	Cond uS/cm	596	719	490	Within normal range, higher than average, but no apparent trends
Nutrients	NH ₃ mg/l	0.11	0.66	0.005	Elevated nutrients, especially in the lower reach (mouth sites)
	NO ₃ mg/l	3.63	6.3	1.18	Elevated nutrients, especially in the lower reach (mouth sites)
	Ortho P mg/l	0.24	0.53	0.02	Elevated nutrients, especially in the lower reach (mouth sites)
Sediment Load	TSS mg/l	8.5	36.2	0.5	Within normal range, higher than average, but no apparent trends
	Turbidity ntu	5.3	17.8	0.7	Within normal range, higher than average, but no apparent trends
Biology	E.Coli /100ml	618	1986	70	Chronically high bacteria, especially in the upper reach (site 1199)
	Benthic Macs	Generally average metric values with good diversity and community of pollution-intolerant taxa			
	Diatoms	Generally good, however both sites have low Cymbella richness and site 1199 has low diversity			

Index scores* for Harris Branch 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 EII Score
HRS1	888	Harris Branch Creek @ Cameron Rd	2002	36	84	89	58	65	59	75	42	65
HRS1	1201	Harris Branch Creek @ Boyce Ln	2002	34	84	78	68	67	48	65	30	63
HRS2	1199	Harris Branch Creek @ Crystal Bend	2002	31	84	79	40	50	47	70	23	55
HRS1	888	Harris Branch Creek @ Cameron Rd	2005	38	87	34	53	54	82	82		58
HRS1	1201	Harris Branch Creek @ Boyce Ln	2005	32	87	53	58	58	66	94	37	59
HRS2	1199	Harris Branch Creek @ Crystal Bend	2005	34	87	33	67	53	69	74	64	57
HRS1	1201	Harris Branch Creek @ Boyce Ln	2008	31	82	63	71	63	80	97	63	65
HRS2	1199	Harris Branch Creek @ Crystal Bend	2008	36	82	25	68	58	80	82	77	58
HRS1	1201	Harris Branch Creek @ Boyce Ln	2009	34	80	35	63	70	90	93	87	62
HRS2	1199	Harris Branch Creek @ Crystal Bend	2009	47	80	32	72	57	84	90	77	62

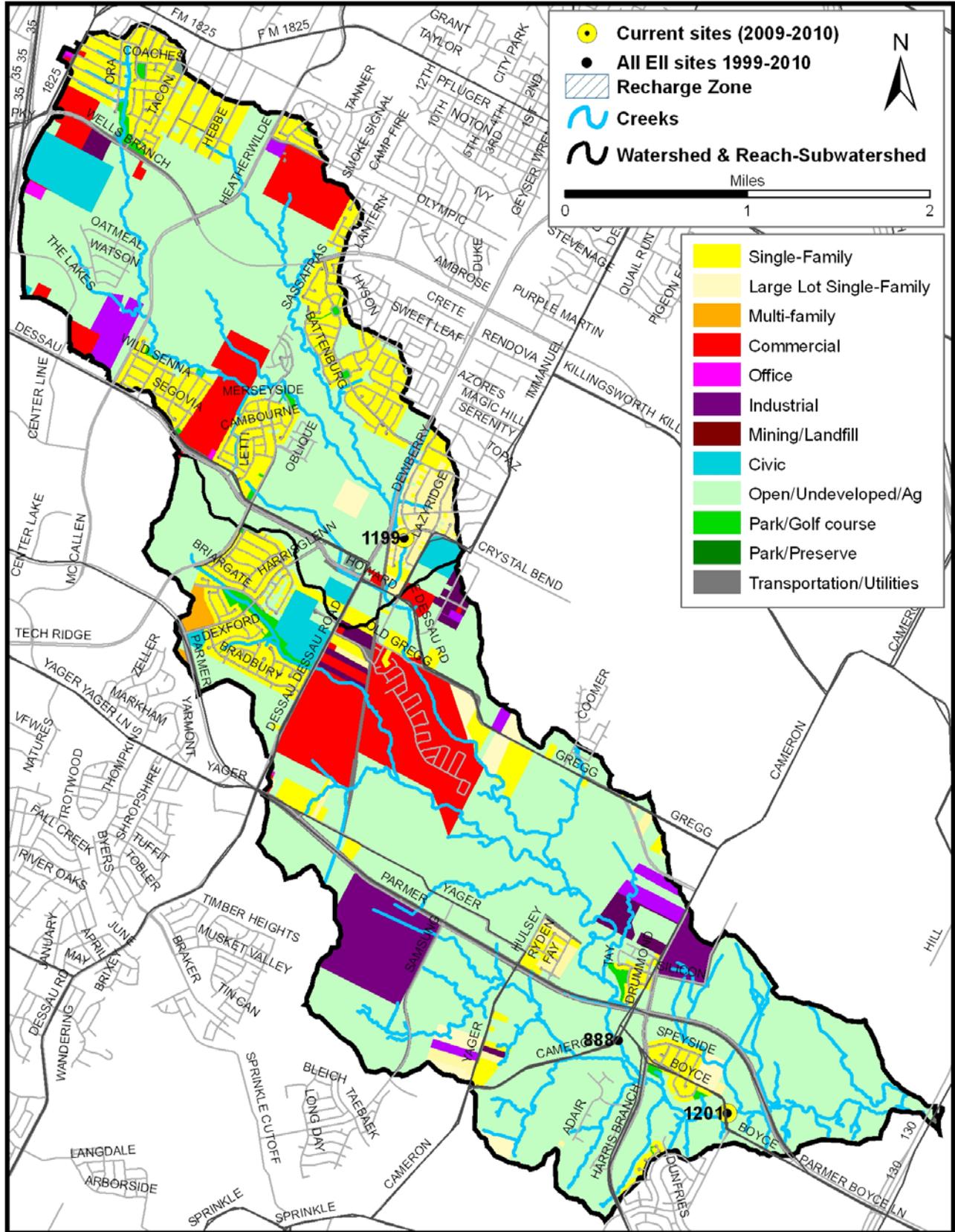
* blank cells indicate parameter was not collected, blank row indicate site was dropped

**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

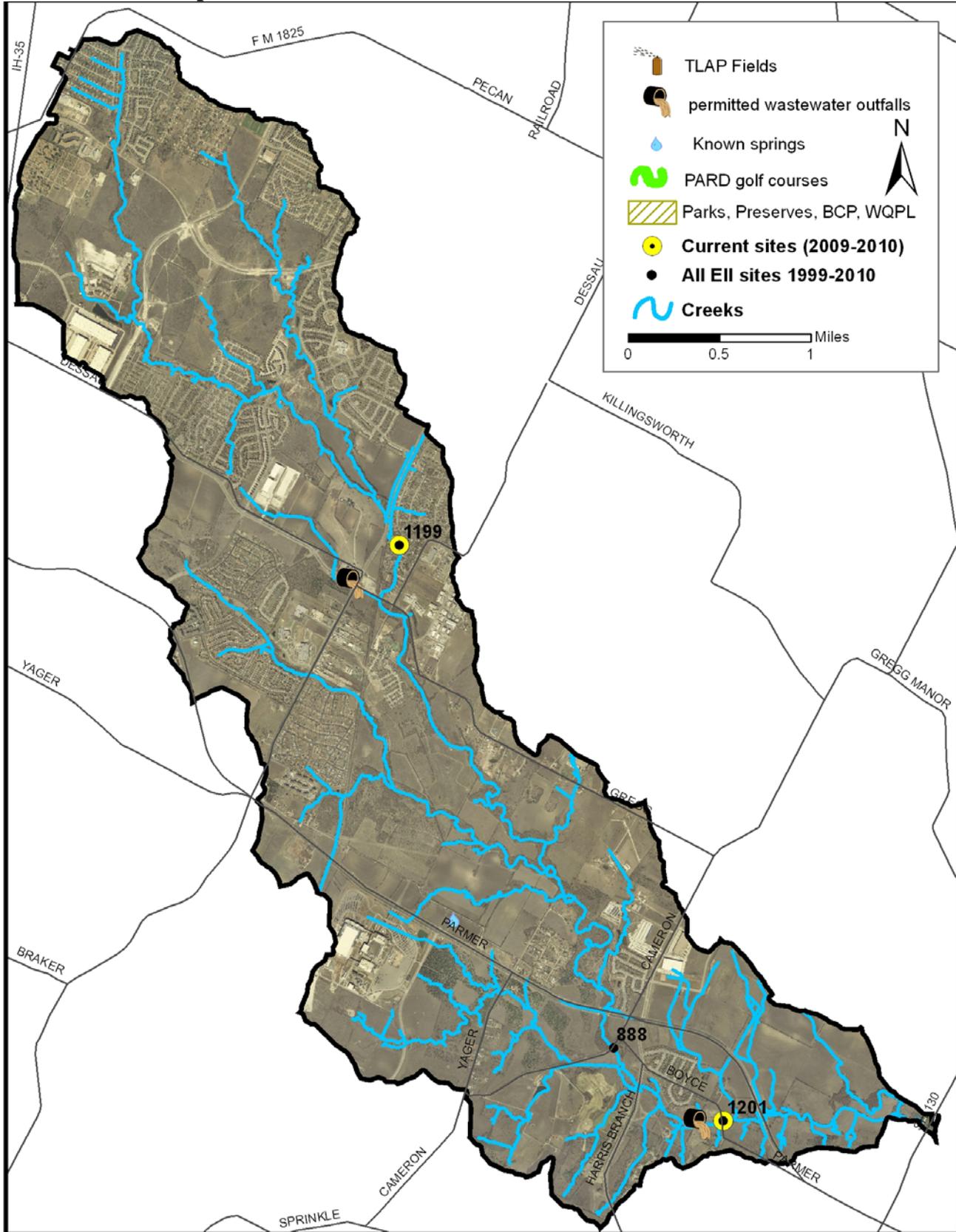
Harris Branch Watershed

Land Use Map



Harris Branch Watershed

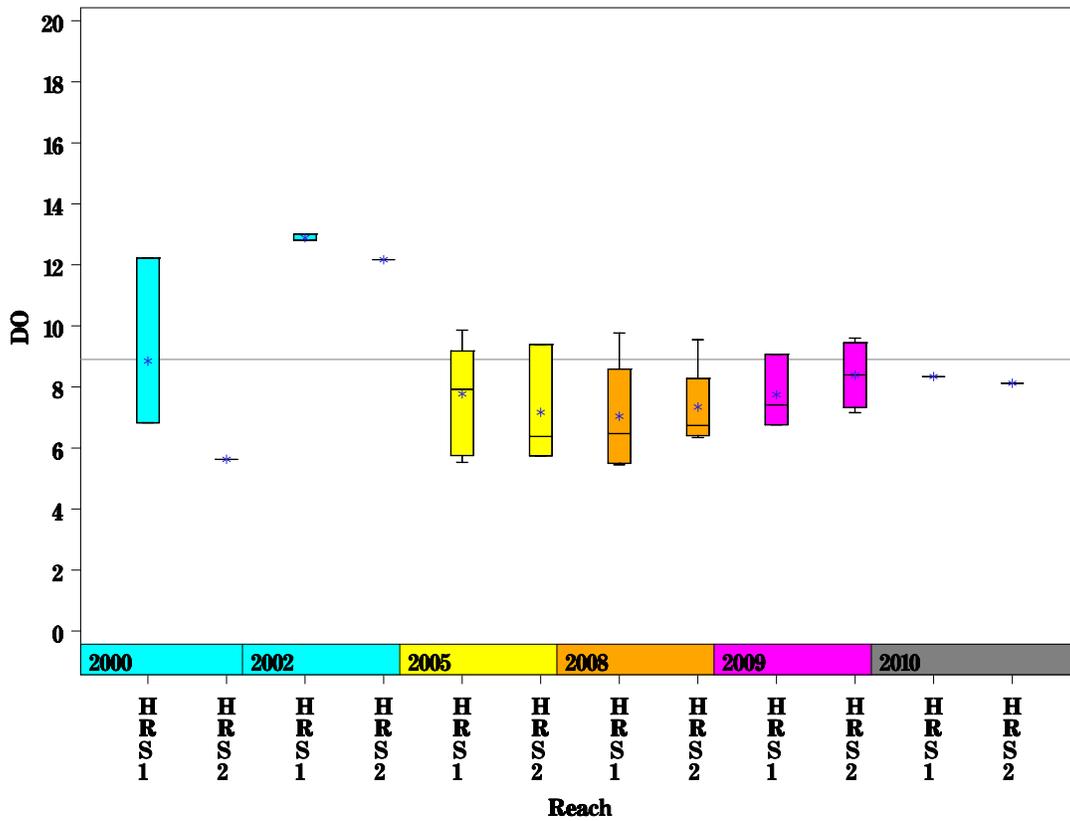
Aerial Map



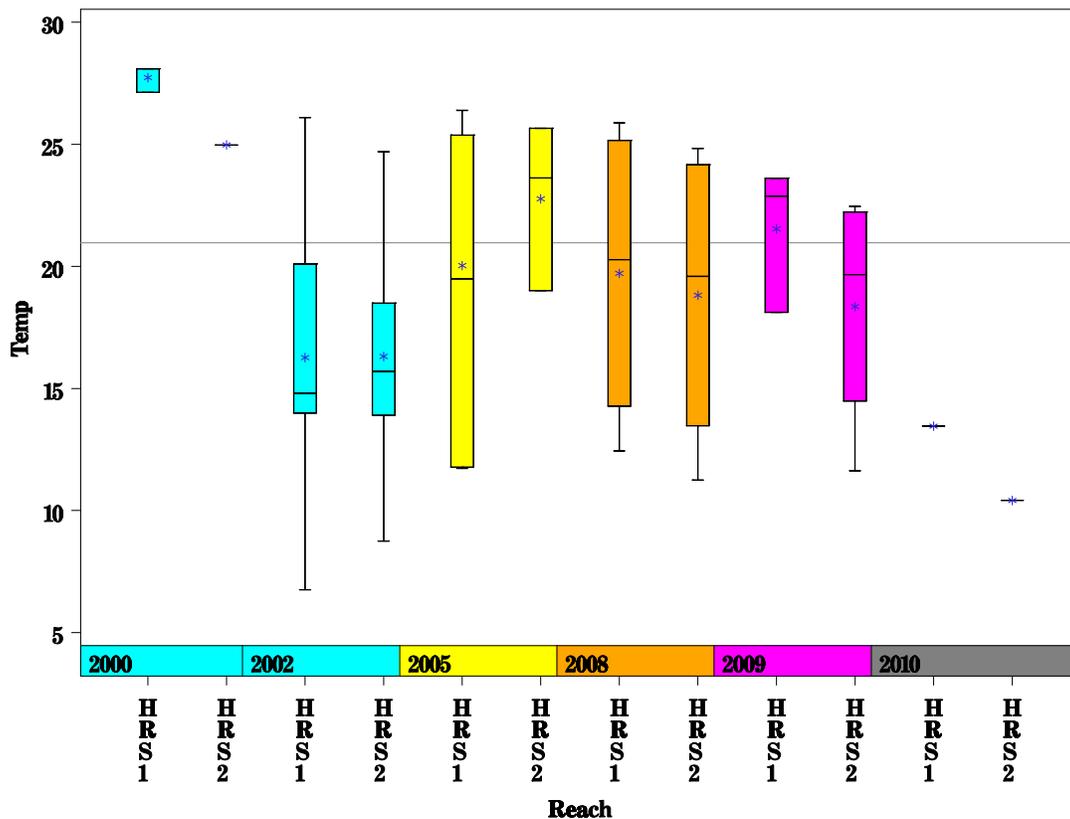
Harris Branch Watershed

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

Parameter=DISSOLVED OXYGEN Unit=MG/L Watershed=Harris Branch



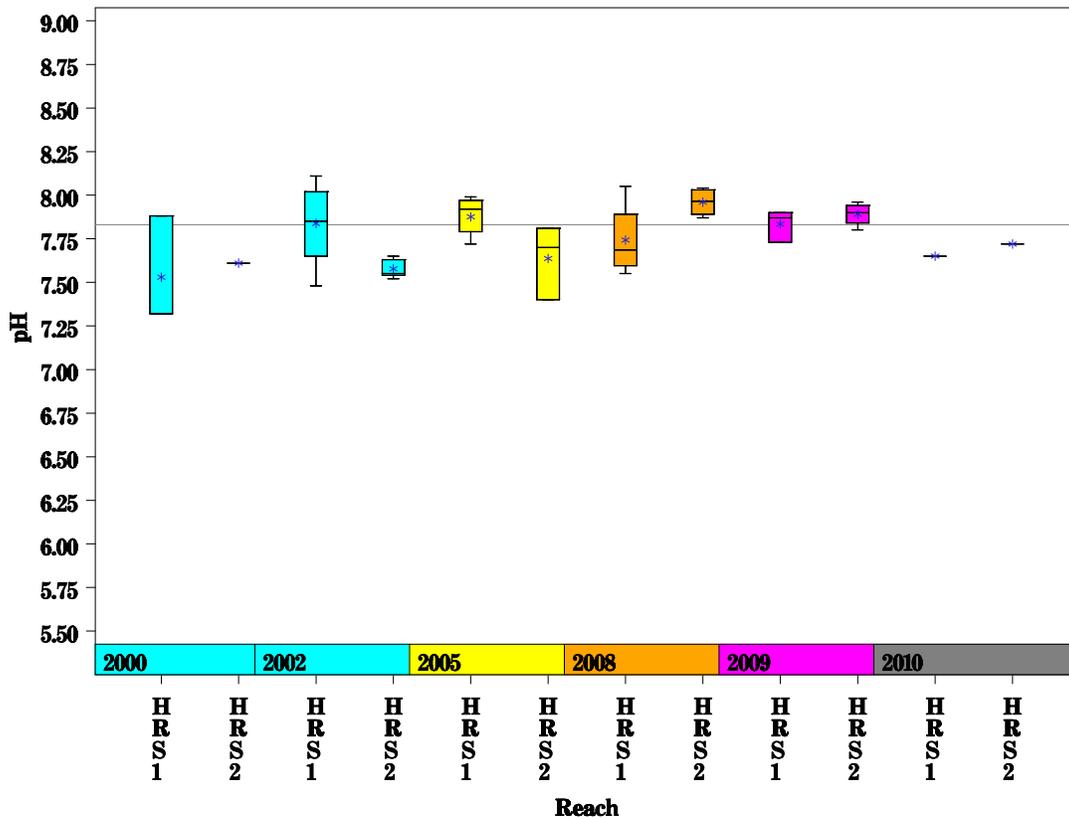
Parameter=WATER TEMPERATURE Unit=Deg C Watershed=Harris Branch



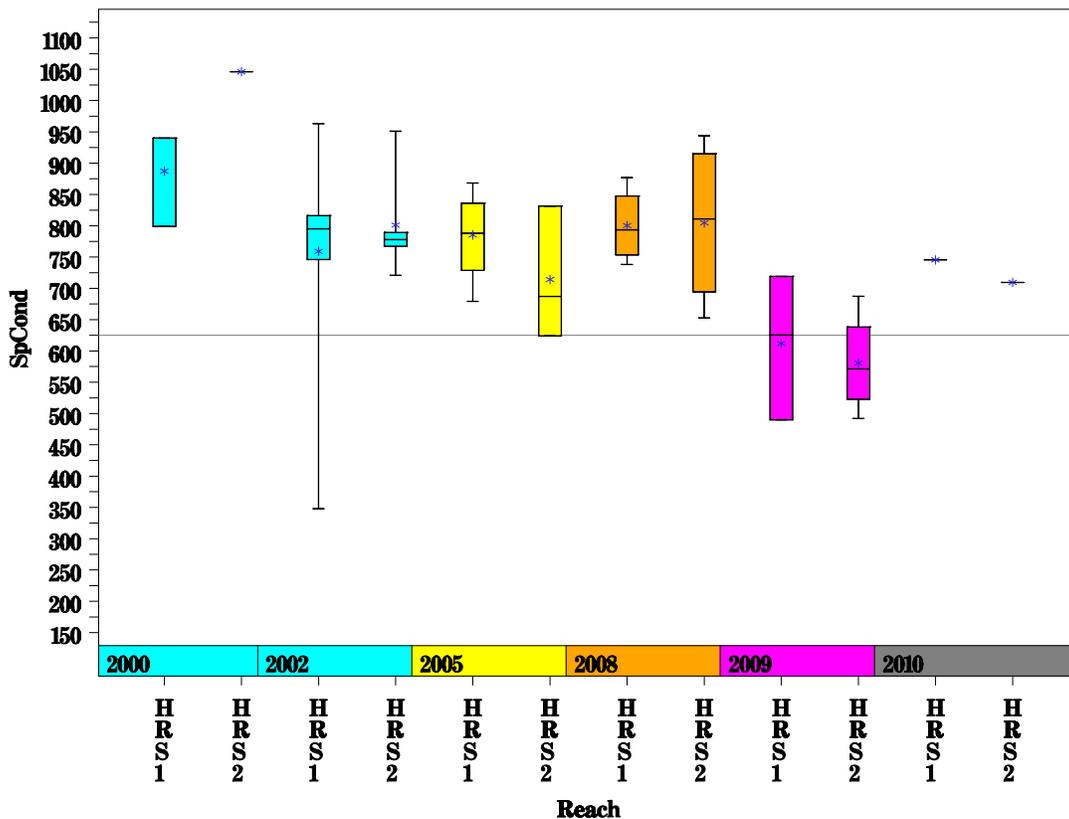
Harris Branch Watershed

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

Parameter=PH Unit=Standard units Watershed=Harris Branch



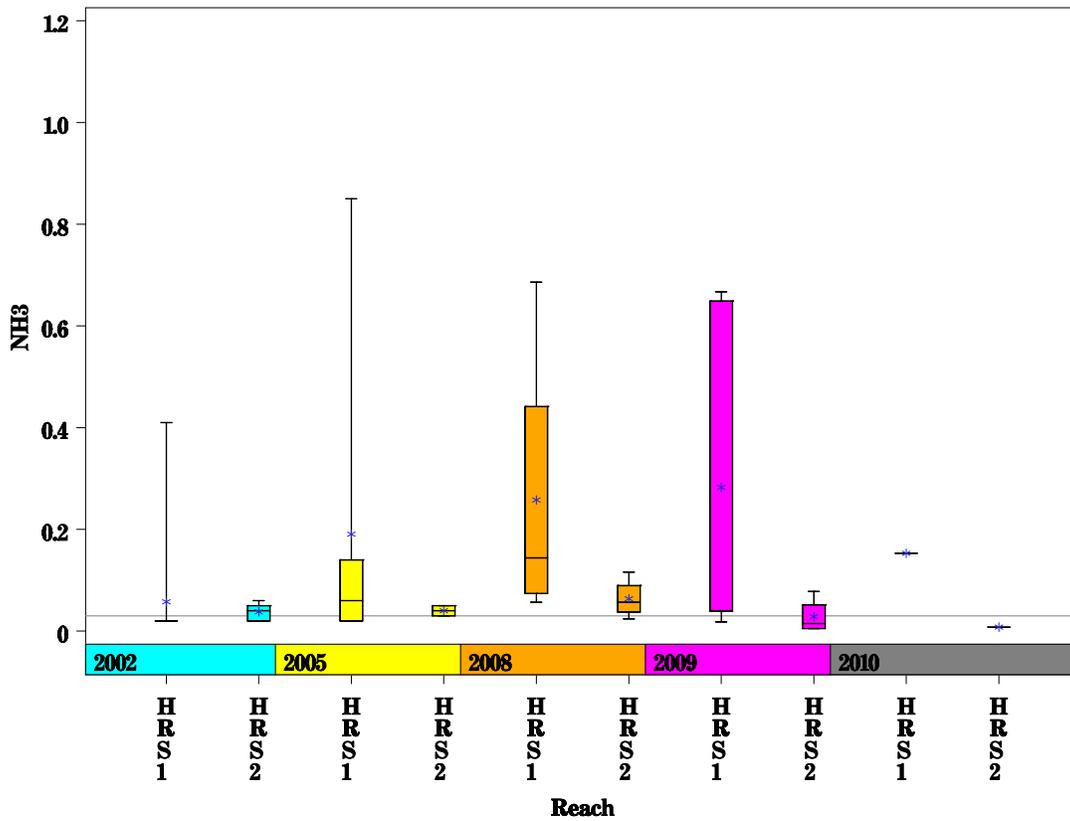
Parameter=CONDUCTIVITY Unit=uS/cm Watershed=Harris Branch



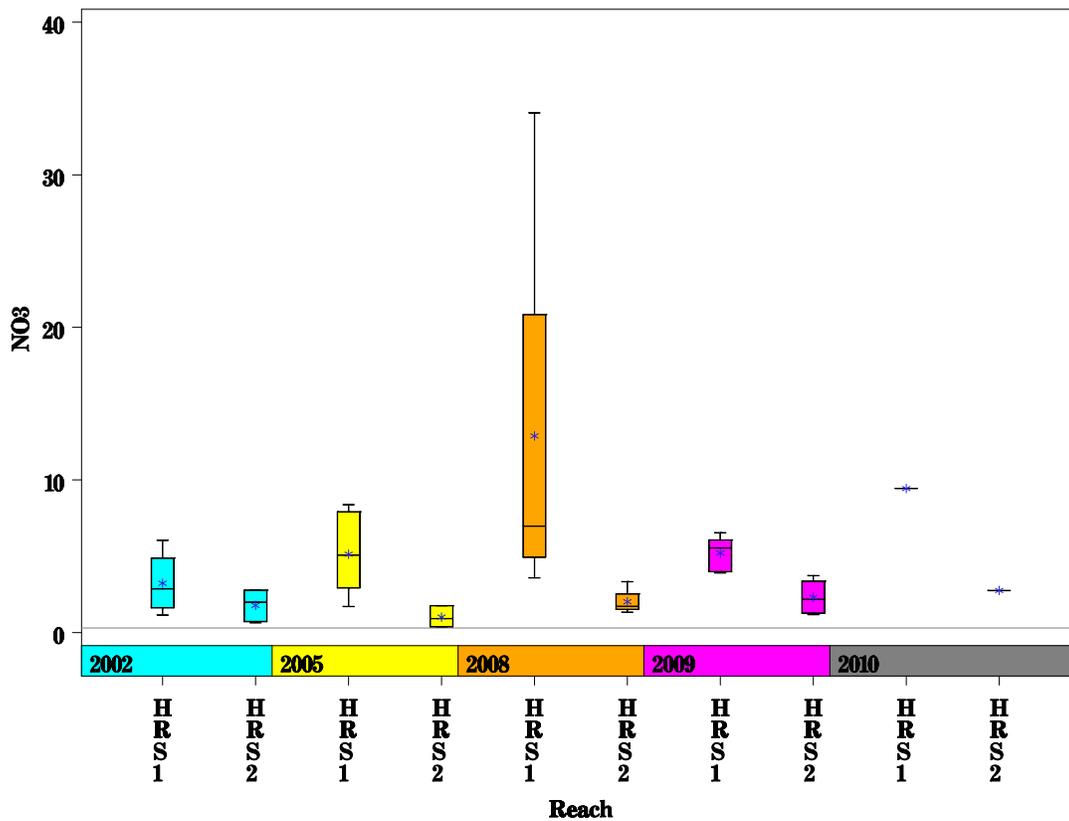
Harris Branch Watershed

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

Parameter=AMMONIA AS N Unit=MG/L Watershed=Harris Branch



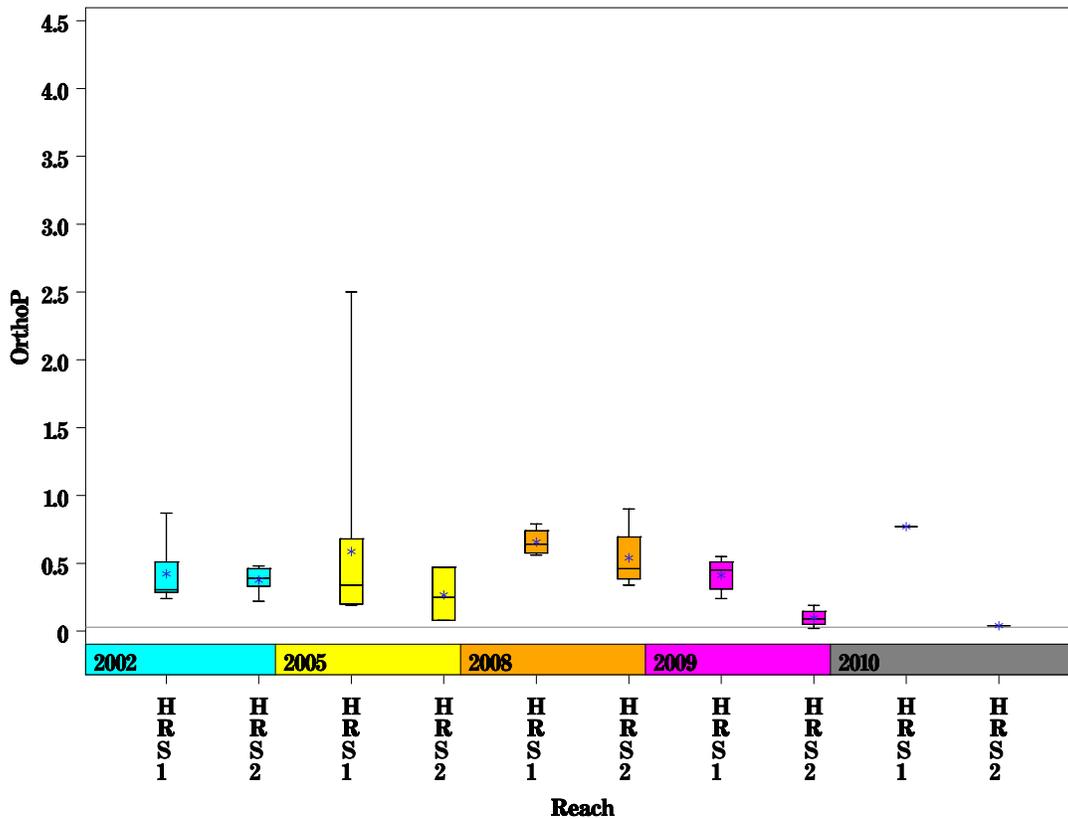
Parameter=NITRATE AS N Unit=MG/L Watershed=Harris Branch



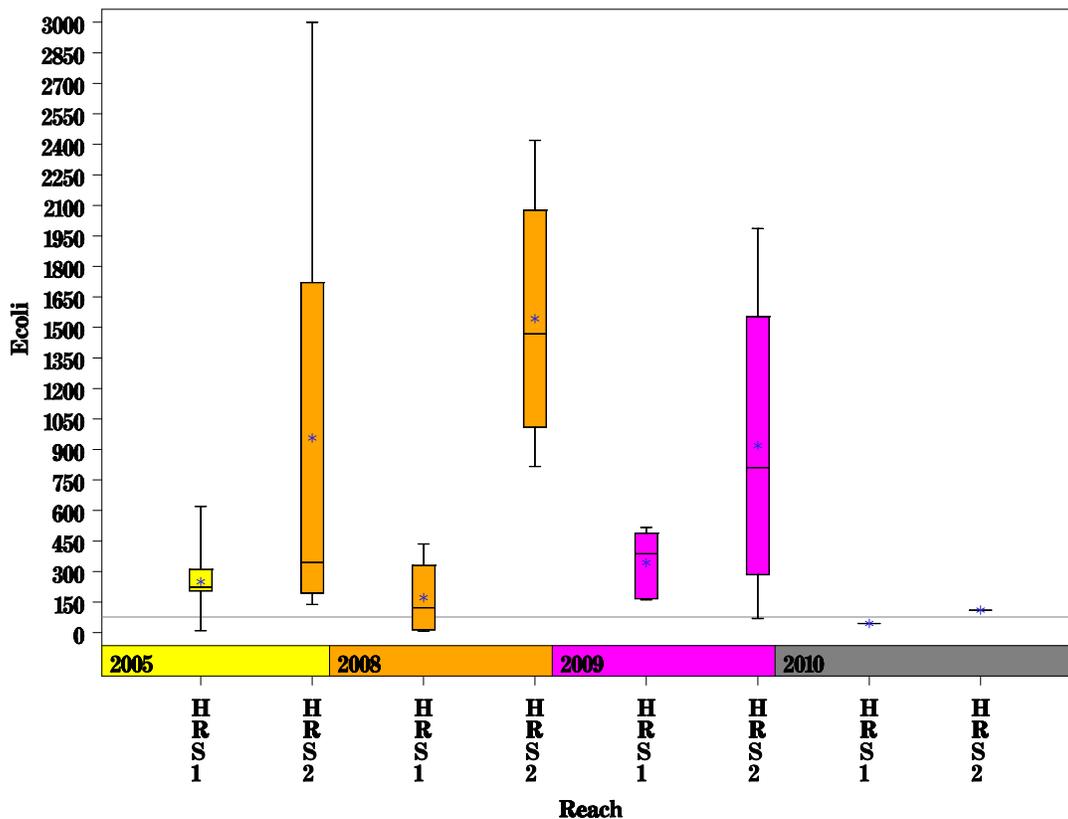
Harris Branch Watershed

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

Parameter = ORTHOPHOSPHORUS AS P Unit = MG/L Watershed = Harris Branch



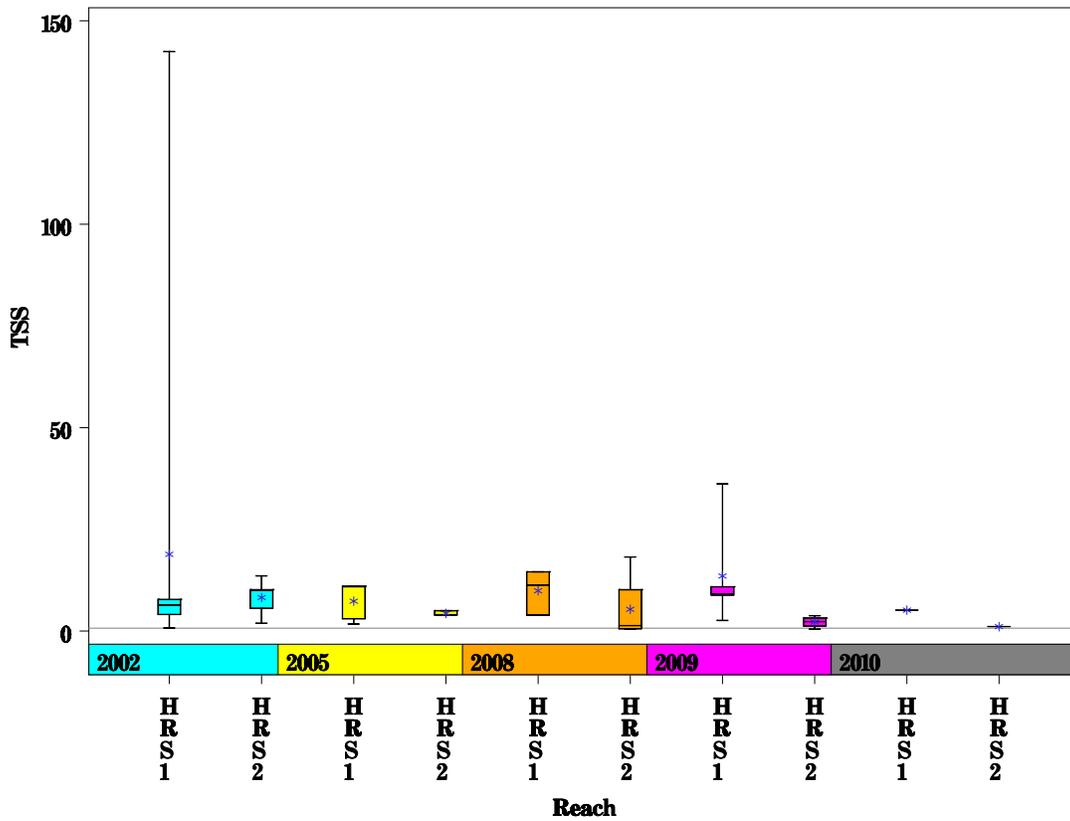
Parameter = E COLI BACTERIA Unit = MPN/dL Watershed = Harris Branch



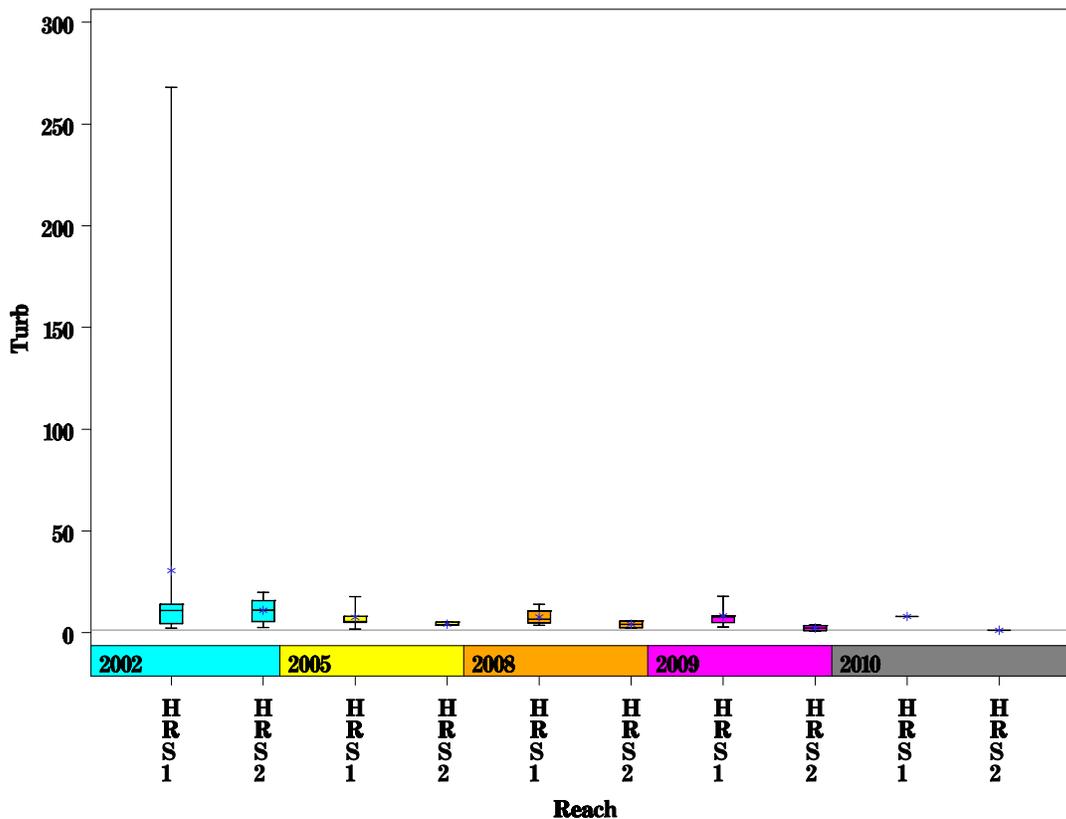
Harris Branch Watershed

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

Parameter = TOTAL SUSPENDED SOLIDS Unit = MG/L Watershed = Harris Branch

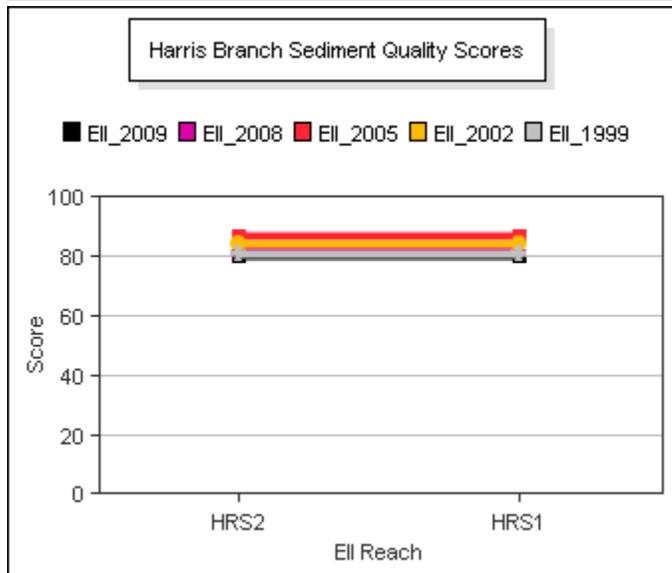
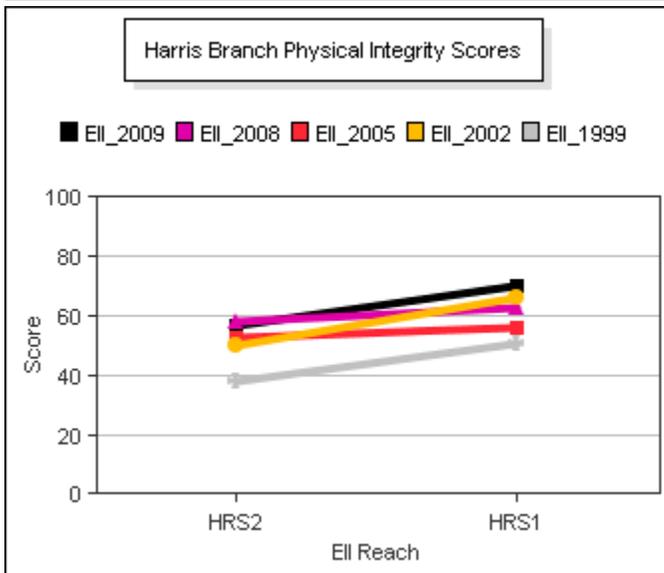
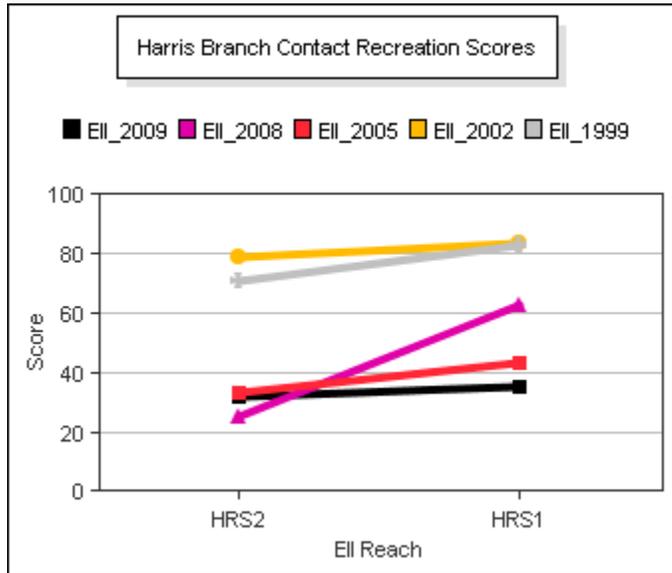
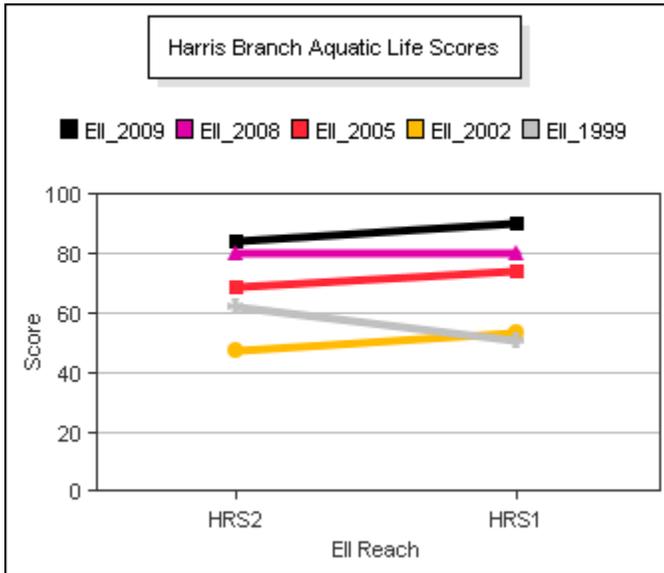
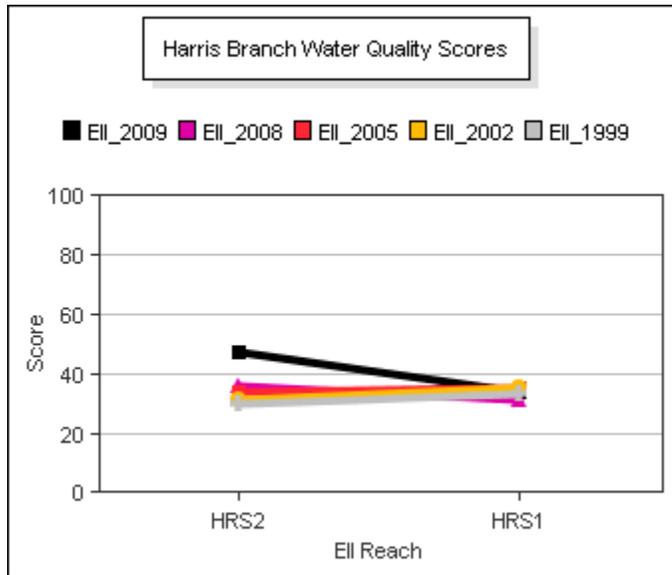
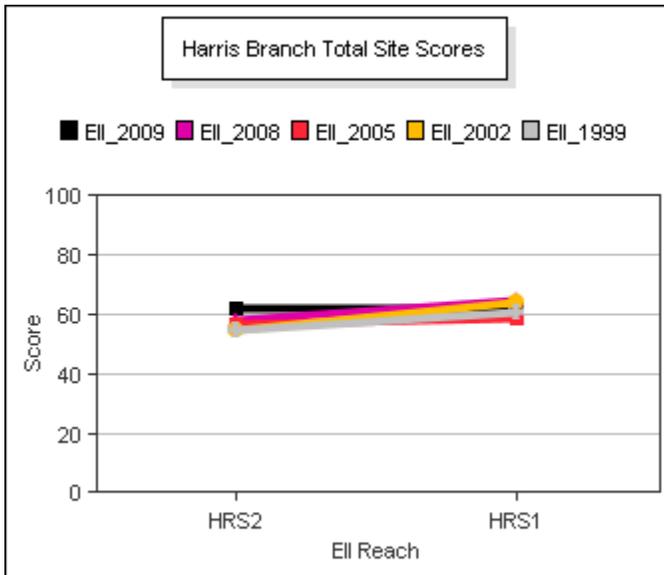


Parameter = TURBIDITY Unit = NTU Watershed = Harris Branch



Harris Branch Watershed

Score Summary – Reach scores for each sample year



Harris Branch Watershed

Site Photographs



1199_t00-us-03_27_2002



1199_t00-ds-03_27_2002



1199_t00-us-06_16_2008



888_t00-us-02_28_2002



888_t00-ur-02_28_2002

Harris Branch Watershed

Site Photographs



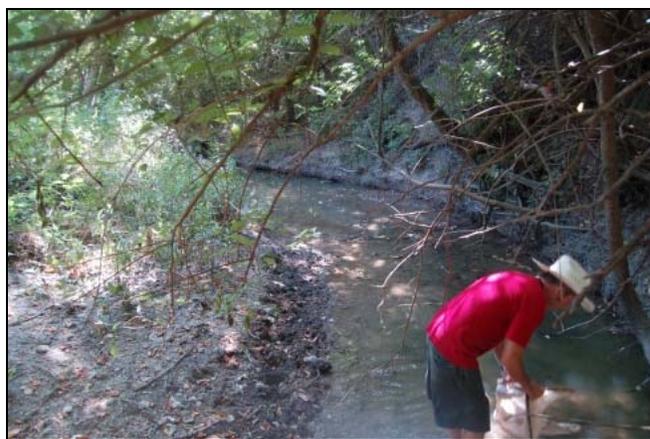
1201_t00-ur-06_17_2005



1201_t00-ds-06_17_2005



1201_t00-us-06_17_2008



1201_t00-ds-06_17_2008



1201_t00-us-05_28_2009



1201_t00-ds-05_28_2009

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