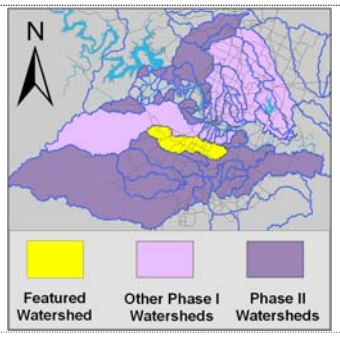
Williamson Creek Watershed

Summary Sheet

Catchment	Total area	30 square miles		
	Area in recharge	8 square miles		
	Creek length	19 miles		
	Receiving water	Onion Creek		
Demographics	2000 population	92,922		
	2030 projected population	129,514		
	30 year projected % increase	39 %		
Land Use	Impervious cover (2003 estimate)	17.89 %		
Overall EII Scores	2000	2003	2006	2009
	70	69	67	62



Flow Regime* for Sample Sites on Williamson Creek Upstream to Downstream

Site # upstream to downstream	Site Name	2003					2006					2009				
		Feb WQ	Mar Bio	May WQ	Sep WQ	Dec WQ	Feb WQ	May WQ	Jul Bio	Aug WQ	Nov WQ	Feb WQ	Jun WQ	Jun Bio	Jun-July WQ	Dec WQ
490	Williamson at Hwy 71	B	B	n	n	n	n	B	B	n	n	n	n	n	B	B
491	Williamson at IH35	B	B	n	B	n	n	n	B	n	B	n	B	n	B	B
492	Williamson at Pleasant Valley	B	B	B	B	B										
223	Williamson at McKinney Falls	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 = site not visited

Summary of 2009 Data for Williamson Creek

2009 Summary	Parameter	Mean	Max	Min	Discussion
Physicochemical	**D.O.** mg/l	7.4	14.6	1.1	Wide range of high and low values, no apparent trends
	pH st.units	7.5	8.1	7.1	Generally within normal range
	Cond uS/cm	665	911	378	Generally within normal range with higher values in the headwater site
Nutrients	**NH_3** mg/l	0.01	0.005	0.005	Generally low or within normal range
	NO_3 mg/l	0.21	0.73	0.004	Generally within normal range, with a few above average values
	Ortho P mg/l	0.04	0.06	0.02	Generally low or within normal range
Sediment Load	**TSS** mg/l	1.6	13.6	0.1	Generally low or within normal range
	Turbidity ntu	0.8	1.2	0.5	Generally low or within normal range
Biology	**E.Coli** /100ml	467	2420	22	Chronically high in 2009, especially at site 223. Higher than previous yrs
	Benthic Macs	Site 490 score low due to lack of reliable baseflow, bringing average watershed score down.			
	Diatoms	Above average metrics values with high diversity at site 223, no flow at upstream reaches			

Index scores* for Williamson Creek Sites by Year

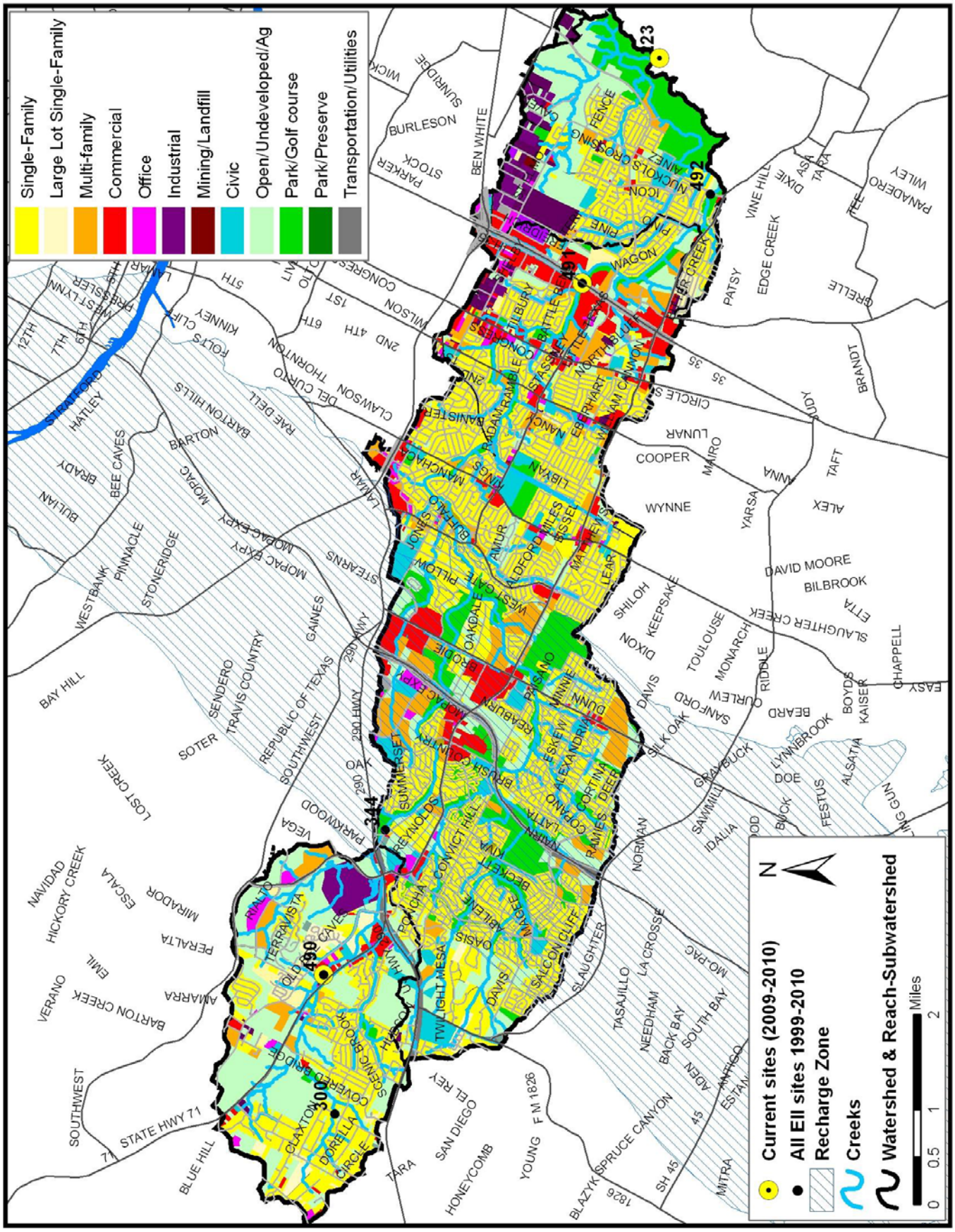
Reach	Site	Site Name	Year	Water Quality	Sediment**	Contact Recreation	Non-Contact Recreation	Physical Integrity	Aquatic Life	Benthic subindex	Diatom subindex	Total EII Score
WMS1	223	Williamson Cr @ McKinney Falls	2000	69	92	95	84	47	50	44	55	73
WMS1	492	Williamson Cr @ Pleasant Valley	2000	75	92	88	73	46	51	75	27	71
WMS2	344	Williamson Cr d/s Joe Tanner	2000	64	92	94	53	60	62	85	39	71
WMS2	491	Williamson Cr @ IH35	2000	76	92	88	73	43	42	29	55	69
WMS3	300	Williamson Cr @ Mowinkle Drive	2000	68	92	93	88	49	62	65	59	75
WMS3	490	Williamson Cr @ Hwy 71	2000	62	92	96	38	35	54	40	68	63
WMS1	223	Williamson Cr @ McKinney Falls	2003	60	80	89	88	69	33	20	46	70
WMS1	492	Williamson Cr @ Pleasant Valley	2003	63	80	84	70	57	46	42	49	67
WMS2	491	Williamson Cr @ IH35	2003	66	80	99	65	61	35	26	44	68
WMS3	490	Williamson Cr @ Hwy 71	2003	61	80	85	69	76	56	46	66	71
WMS1	223	Williamson Cr @ McKinney Falls	2006	66	76	53	85	76	77	74	80	72
WMS2	491	Williamson Cr @ IH35	2006	86	76	80	63	57	43	33	53	68
WMS3	490	Williamson Cr @ Hwy 71	2006	67	76	76	71	43	25	25		60
WMS1	223	Williamson Cr @ McKinney Falls	2009	67	79	43	82	69	79	64	94	70
WMS2	491	Williamson Cr @ IH35	2009	77	79	46	58	55	58	58		62
WMS3	490	Williamson Cr @ Hwy 71	2009	64	79	48	36	65	23	23		53

* 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

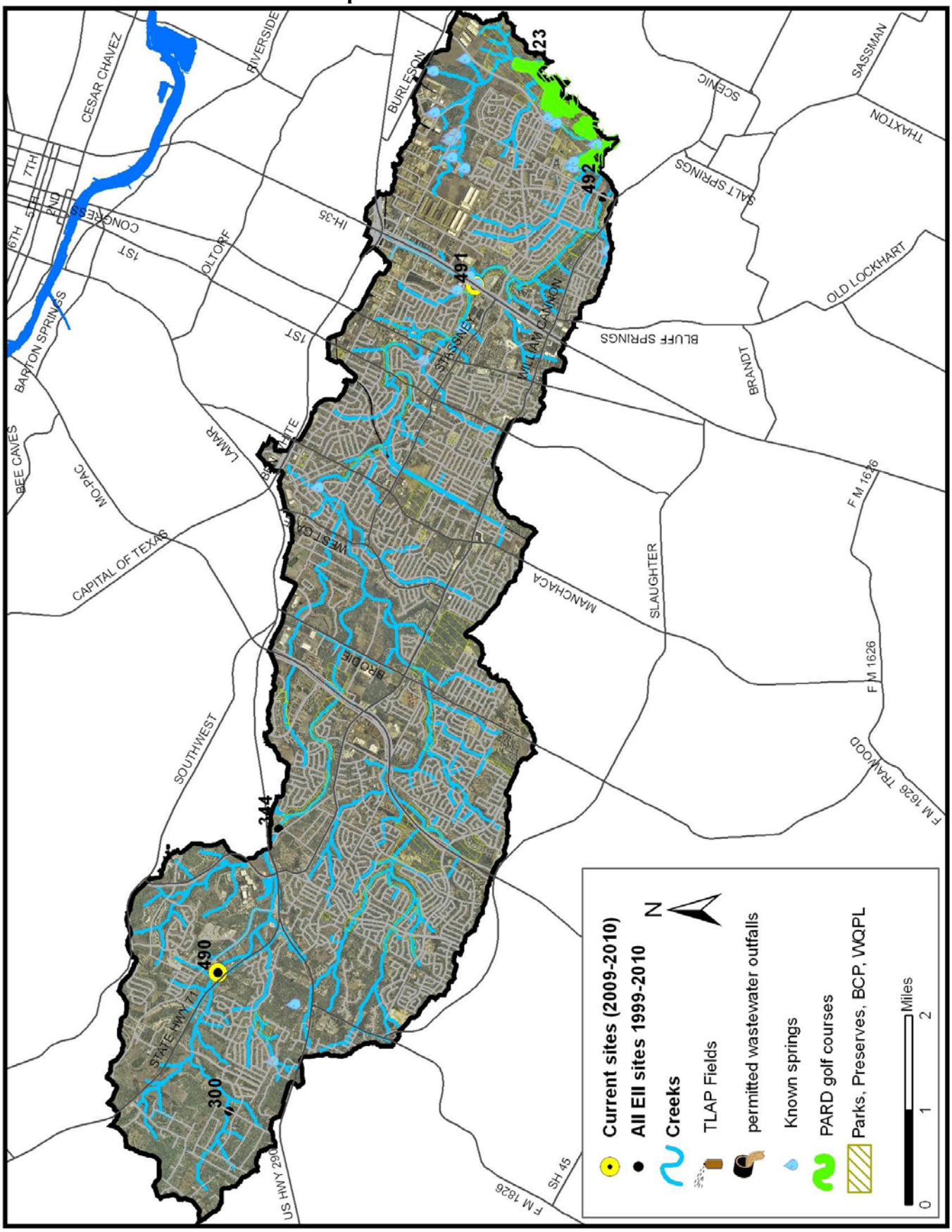
Williamson Creek Watershed

Land Use Map



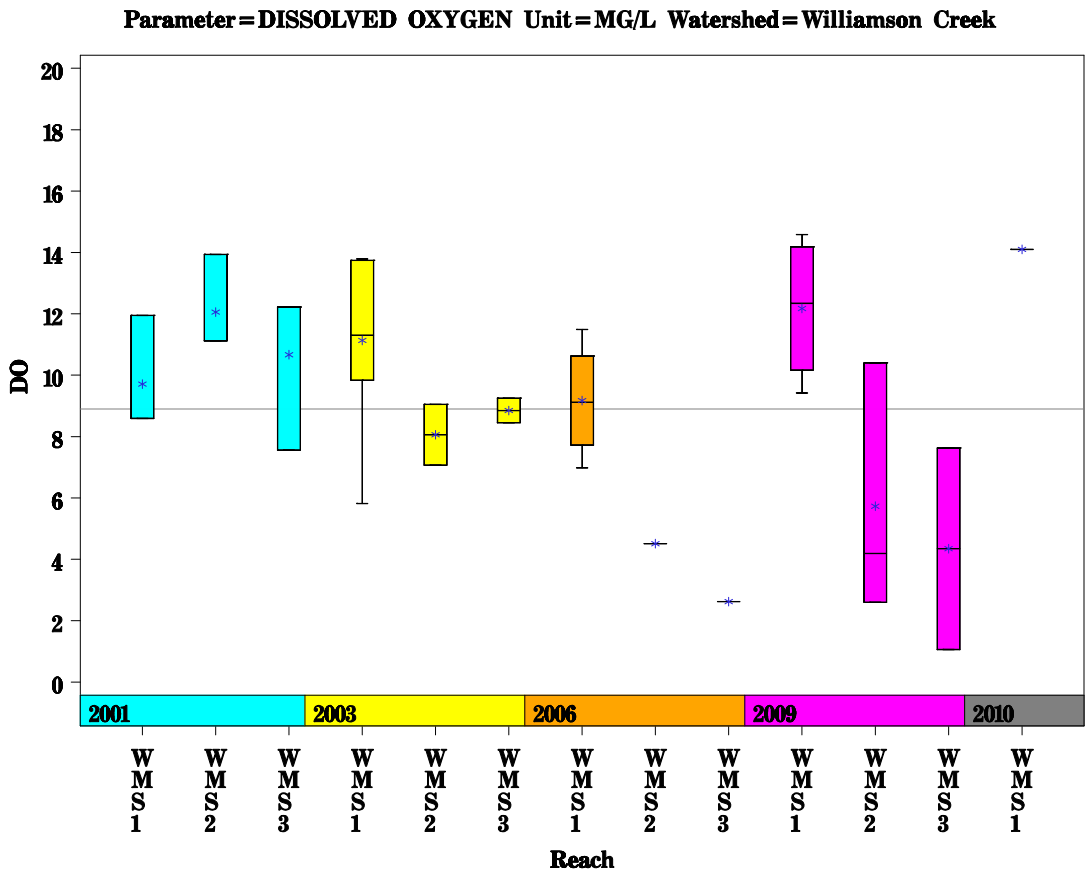
Williamson Creek Watershed

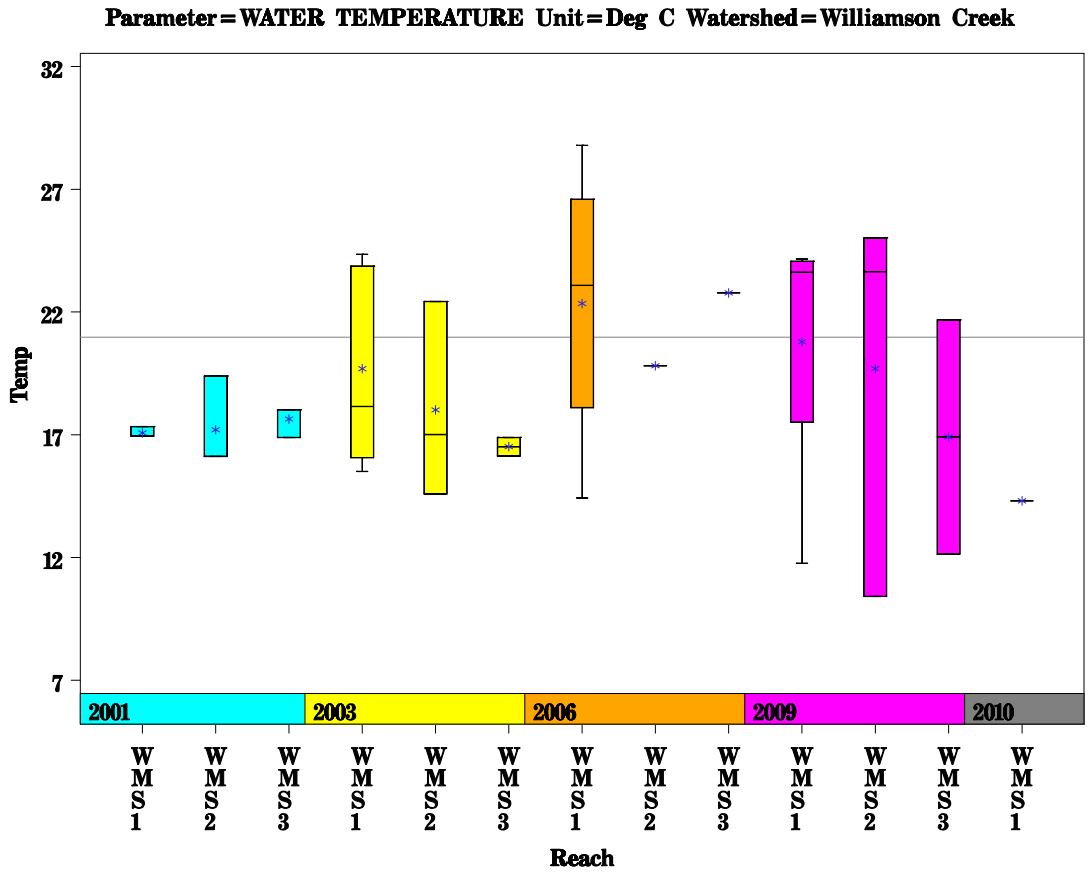
Aerial Map



Williamson Creek Watershed

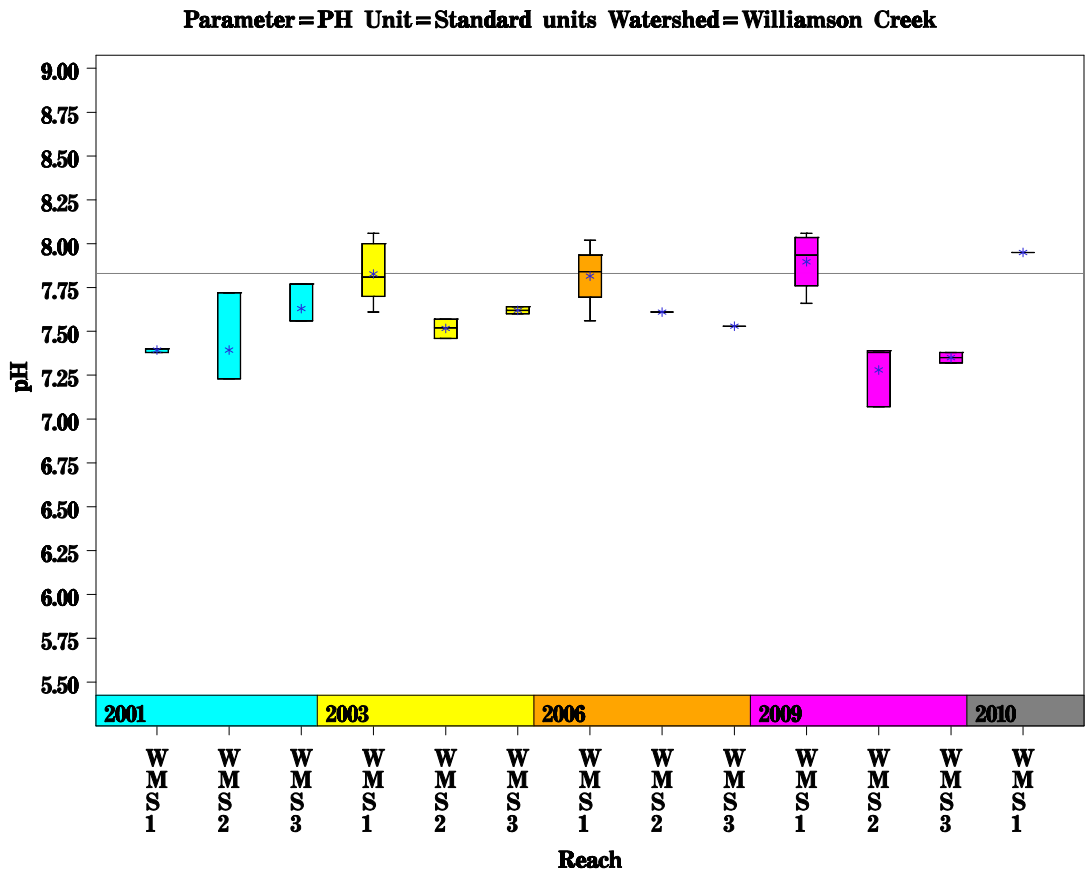
Data Summary Graphs – Dissolved Oxygen and Temperature (Downstream to Upstream by Year)

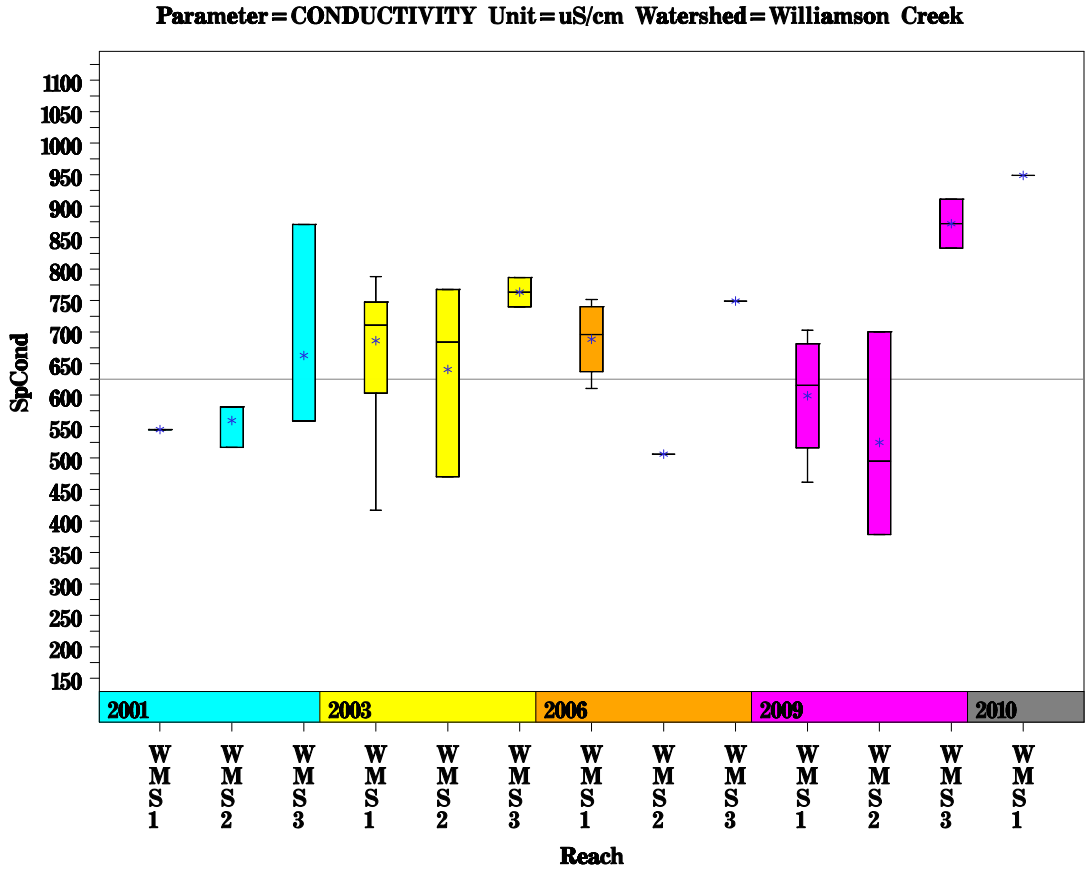




Williamson Creek Watershed

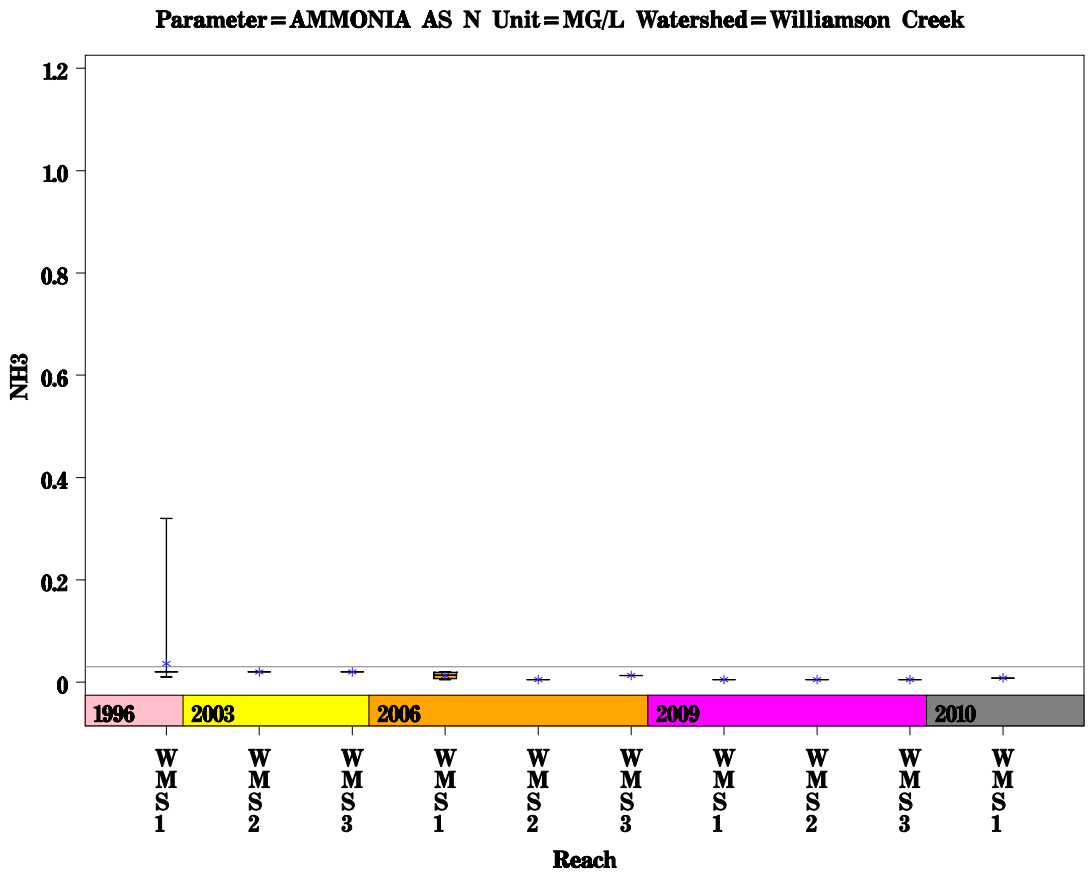
Data Summary Graphs – pH and Conductivity (Downstream to Upstream by Year)

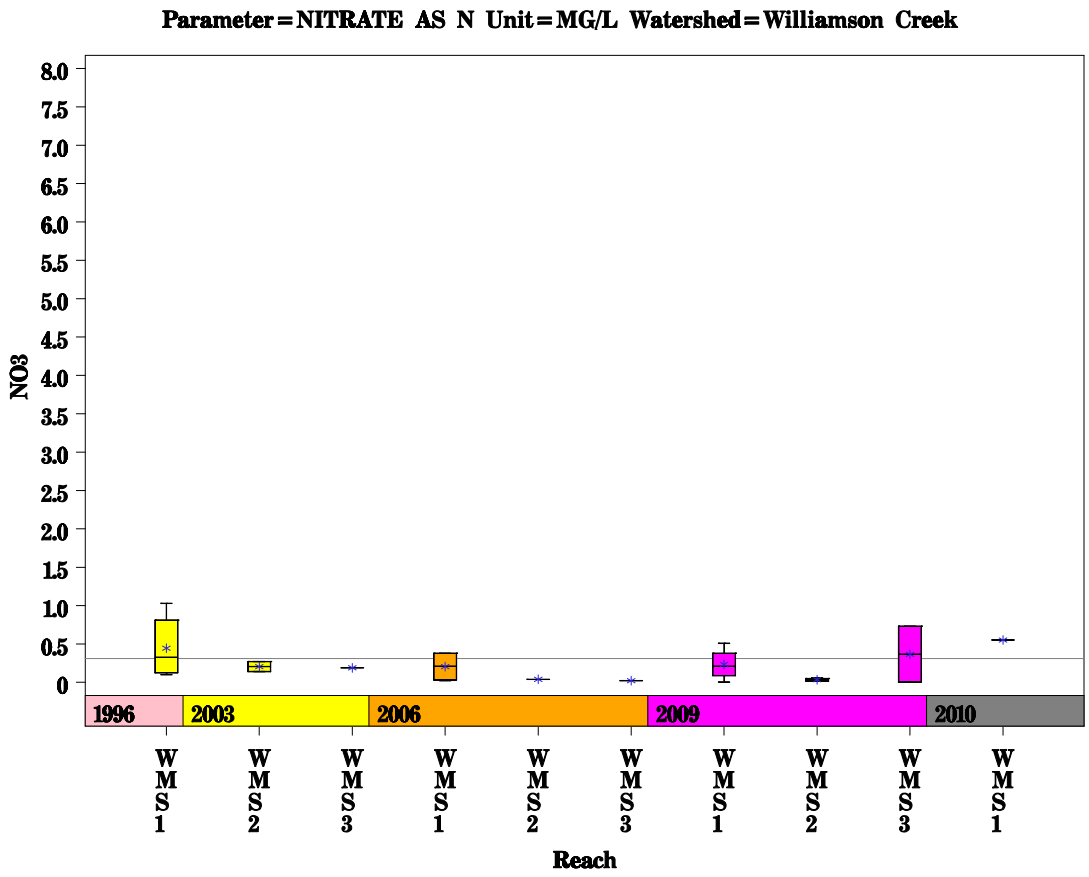




Williamson Creek Watershed

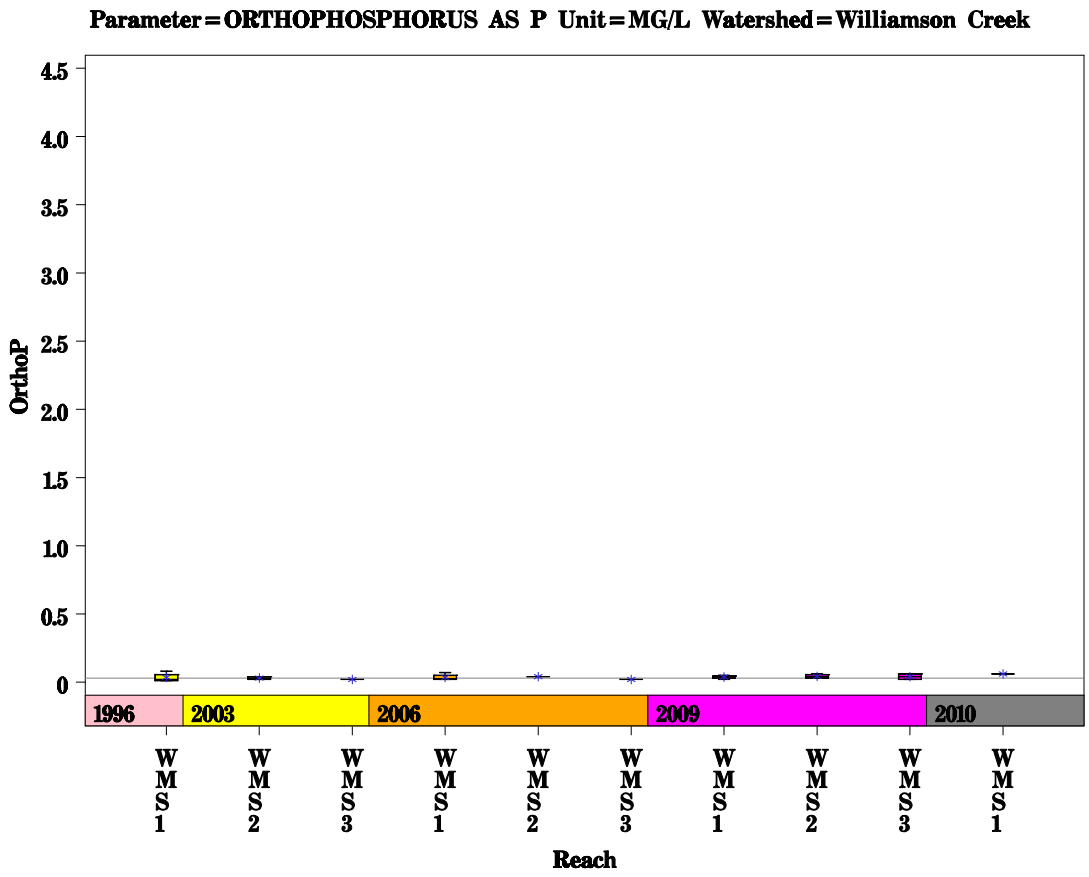
Data Summary Graphs – Ammonia and Nitrate/Nitrite (Downstream to Upstream by Year)

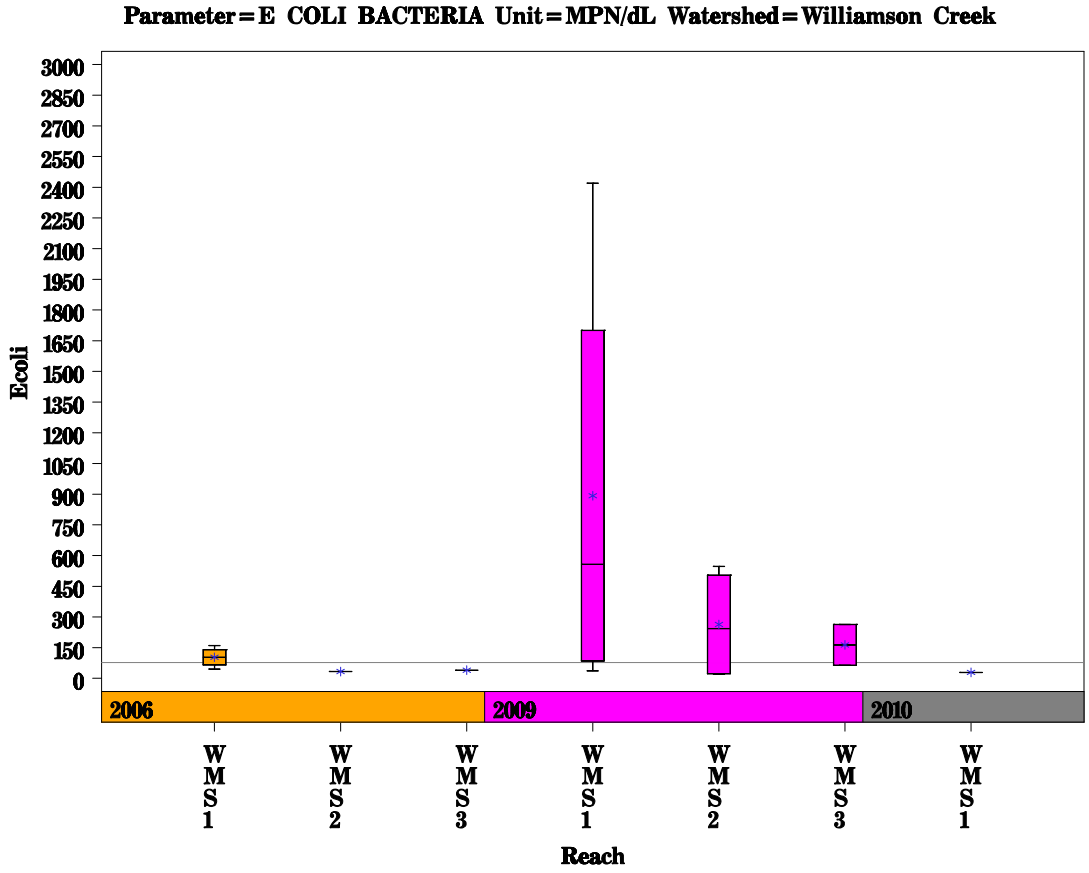




Williamson Creek Watershed

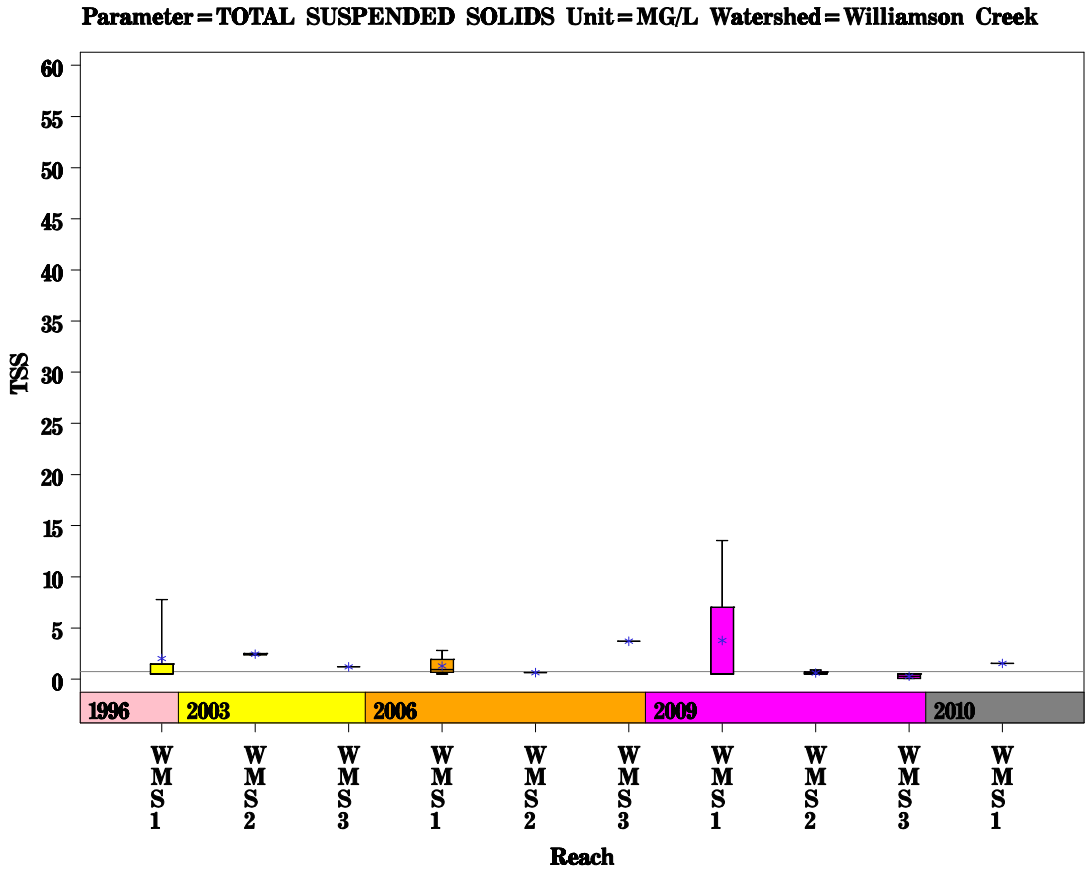
Data Summary Graphs – Orthophosphate and *E.coli* (Downstream to Upstream by Year)

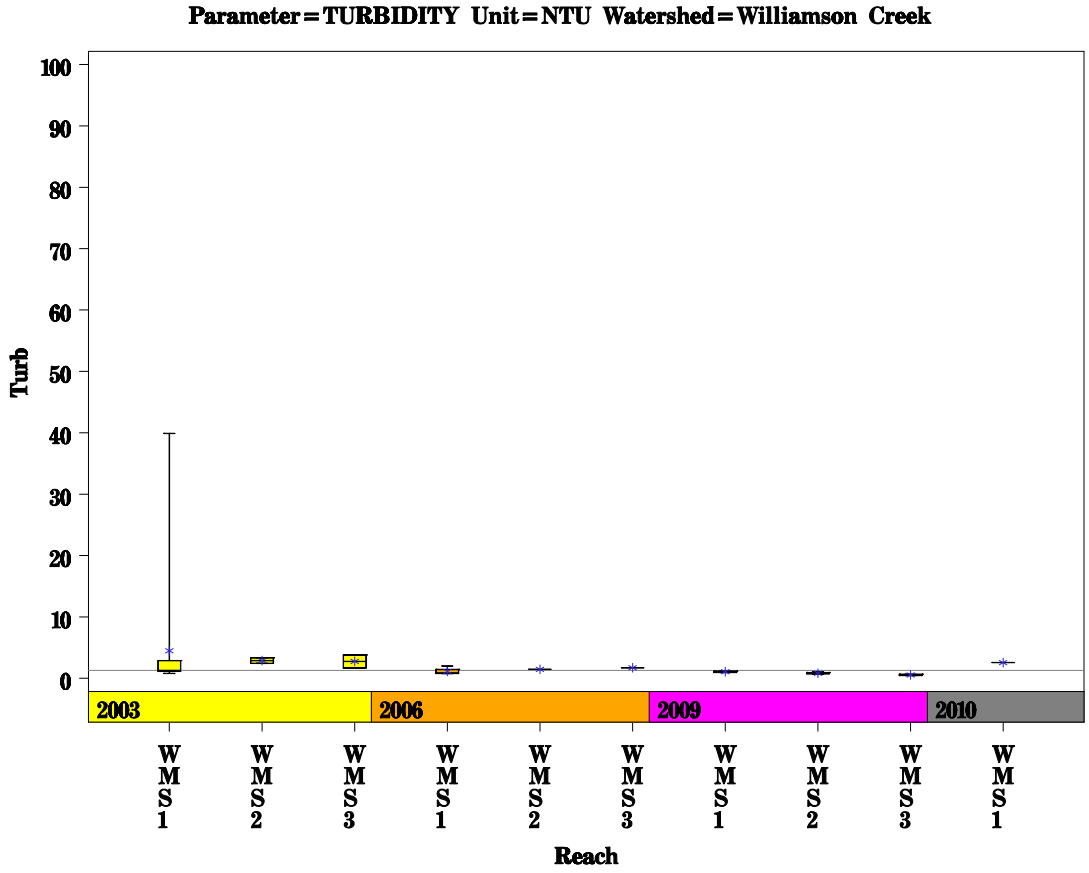




Williamson Creek Watershed

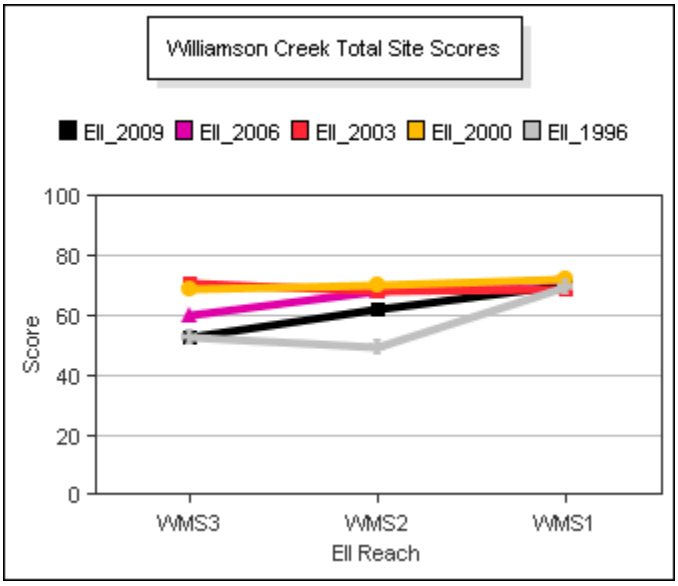
Data Summary Graphs – Total Suspended Solids and Turbidity (Downstream to Upstream by Year)

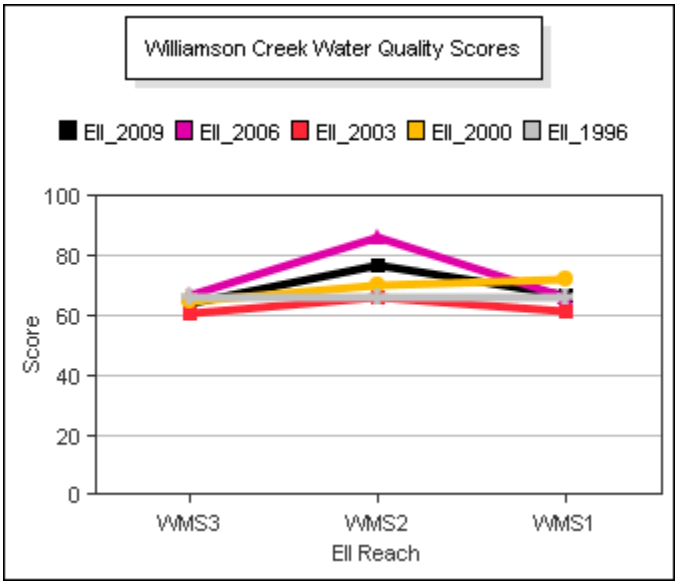


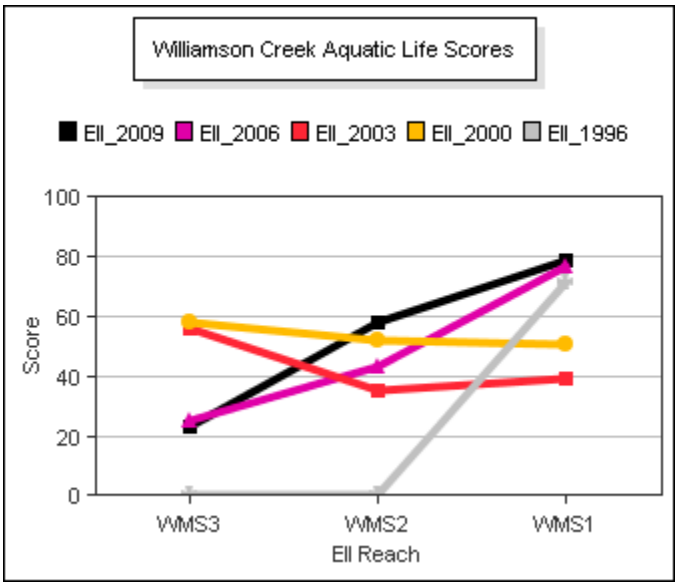


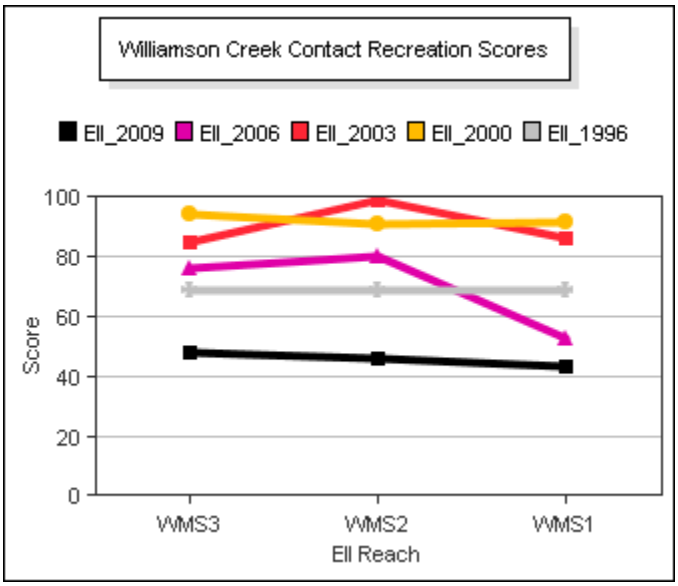
Williamson Creek Watershed

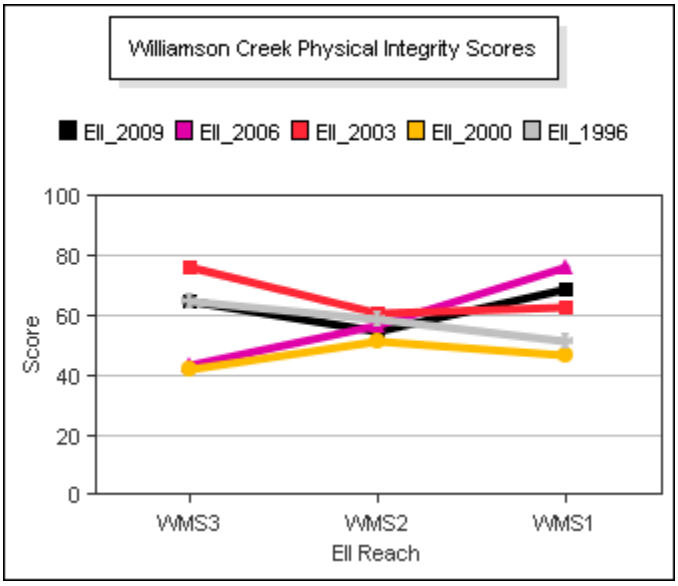
Score Summary – Reach scores for each sample year

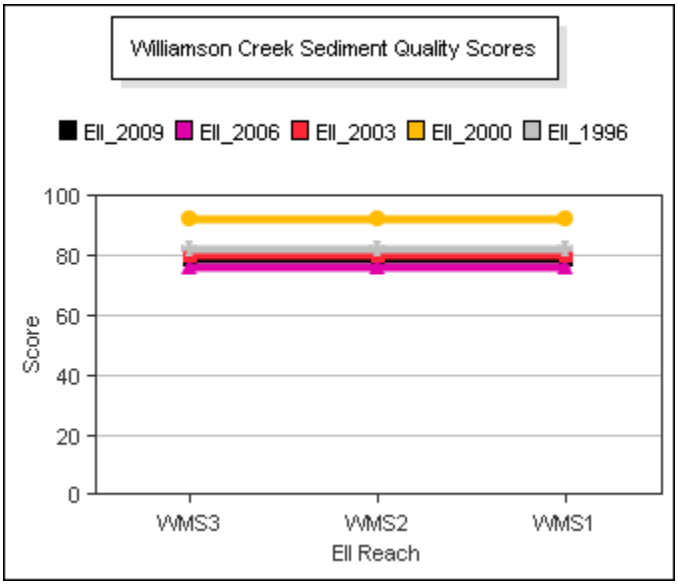












Williamson Creek Watershed

Site Photographs

490_t00-us-06_02_2009

490_t00-ds-06_02_2009

300_t00-us-12_07_2000

300_t00-ds-02_15_2001

491_t00-ds-03_12_2003

491_t00-ds-06_02_2009

Williamson Creek Watershed

Site Photographs

344_t00-us-02_14_2001

344_t00-ds-12_07_2000

492_t00-us-03_12_2003

492_t00-ds-03_12_2003

223_t00-ur-02_14_2001

223_t00-ds-05_29_2009

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