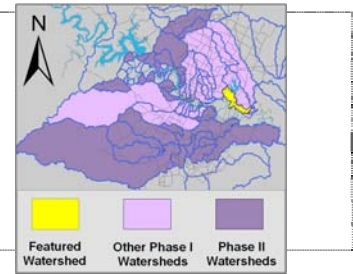


Gilleland Creek Watershed

Catchment	Total area	39 sq. miles				
	Area in recharge	0				
	Creek length	62 miles				
	Receiving water	Colorado River				
Demographics	2000 population	26,586				
	2030 projected population	61,664				
	30 year projected % increase	232 %				
Land Use	Impervious cover (2003 estimate)	7.05 %				
Overall EII Scores	1999	2002	2005	2008	2009	2011
	68	70	62	64	67	62



Flow Regime* for Sample Sites on Gilleland Creek

Site #	Site Name	2005					2008					2009					2010-2011				
		Mar	Jun	Jun	Sep	Dec	Feb	May	Jun	Sep	Dec	Feb	May	May	Oct	Dec	Dec	Mar	Jun	Jun	Sep
		WQ	WQ	Bio	WQ	WQ	WQ	WQ	Bio	WQ	WQ	WQ	WQ	Bio	WQ	WQ	WQ	WQ	WQ	Bio	WQ
1193	Railroad	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1914	Cameron	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1194	W GIL @Cameron	B	B	n	n	S	B	B	n	B	n	B	B	B	B	B	B	n	B	n	n
1191	W.Parsons	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1192	FM973	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
886	FM969	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 grey = Samples were not taken blank = not visited

Summary	Parameter	Mean	Max	Min	Discussion
Physicochemical	D.O. mg/l	7.7	9.1	5.7	Within normal range, no apparent trends.
	pH st.units	8.08	8.34	7.78	Mostly within normal range, some high values.
	Cond uS/cm	1316	1530	495	Chronically high levels throughout watershed.
Nutrients	NH ₃ mg/l	0.037	0.146	0.008	Above average but within normal range, some high values at site 1191.
	NO ₃ mg/l	10.263	19.80	0.016	Consistently extremely high readings at most sites DS of headwaters.
	Ortho P mg/l	0.186	0.320	0.050	Generally above average, high readings at most sites DS of headwaters.
Sediment Load	TSS mg/l	14.6	69.0	0.6	Several very high readings DS of headwaters.
	Turbidity ntu	14.071	53.26	1.41	Generally above average, several very high readings DS of headwaters.
Biology	E.Coli /100ml	166	613	17	Within normal range with some above average values.
	Benthic Macroinvertebrates and Diatoms: evaluations are provided in the introduction of this report				

Index scores* for Gilleland Creek Sites by Year

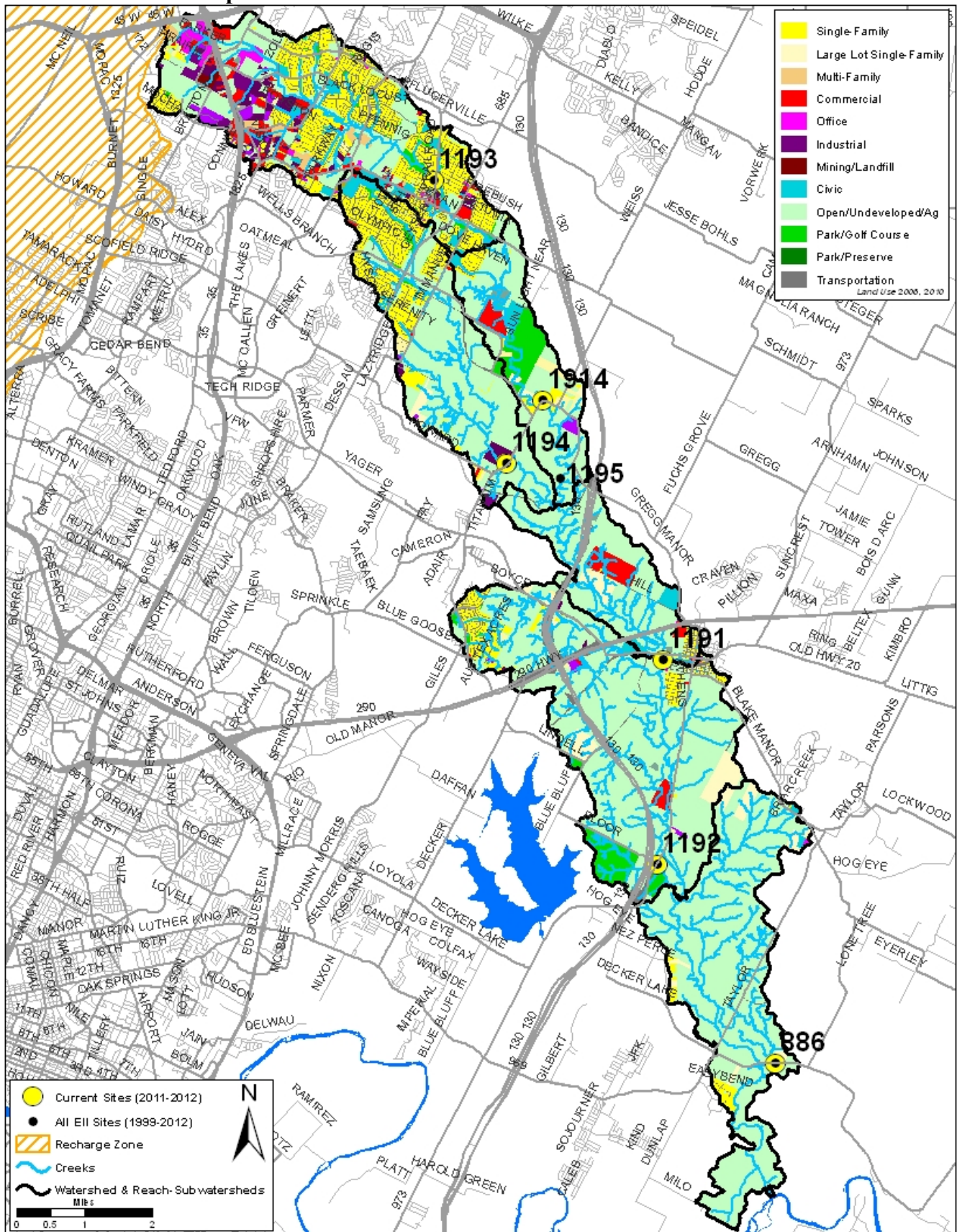
Reach	Site	Site Name	Year	Water Quality	Sediment **	Contact Rec.	Non-Contact Rec.	Physical Integrity	Aquatic Life	Benthic subindex	Diatom subindex	Total EII Score
GIL1	886	Gilleland Creek @ FM 969	2002	34	87	92	78	62	68	92	44	70
GIL2	1192	Gilleland Creek @ FM 973	2002	32	87	89	78	77	86	79	92	75
GIL3	1191	Gilleland Creek @ W Parsons St	2002	30	87	87	95	73	54	71	57	71
GIL4	1194	W Gilleland Creek @ Cameron Rd	2002	51	87	87	55	49	72	59	85	67
GIL5	1914	Gilleland Creek @ Cameron Rd.	2002	34	87	91	71	68	62	66	57	69
GIL6	1193	Gilleland Creek @ South RR Ave	2002	35	87	80	77	61	50	61	39	65
GIL1	886	Gilleland Creek @ FM 969	2005	32	88	41	78	77	72	95	48	65
GIL2	1192	Gilleland Creek @ FM 973	2005	33	88	53	68	59	69	99	39	62
GIL3	1191	Gilleland Creek @ WParsons St	2005	29	88	40	63	61	78	98	57	60
GIL4	1194	W Gilleland Creek @ Cameron Rd	2005	52	88	48	48	45				47
GIL5	1914	Gilleland Creek @ Cameron Rd.	2005	27	88	44	68	49	76	95	56	59
GIL6	1193	Gilleland Creek @ South RR Ave	2005	40	88	50	83	69	68	66	70	66
GIL1	886	Gilleland Creek @ FM 969	2008	27	78	48	79	66	86	100	72	64
GIL2	1192	Gilleland Creek @ FM 973	2008	29	78	54	88	71	86	100	71	68
GIL3	1191	Gilleland Creek @ W Parsons St	2008	32	78	57	83	71	84	100	67	68
GIL4	1194	W Gilleland Creek @ Cameron Rd	2008	60	78	59	54	32	35	35		53
GIL5	1914	Gilleland Creek @ Cameron Rd.	2008	28	78	45	84	76	84	100	68	66
GIL6	1193	Gilleland Creek @ South RR Ave	2008	35	78	41	86	72	75	97	53	65
GIL1	886	Gilleland Creek @ FM 969	2009	40	82	53	68	80	92	100	84	69
GIL2	1192	Gilleland Creek @ FM 973	2009	33	82	39	64	74	100	100	100	65
GIL3	1191	Gilleland Creek @ W Parsons St	2009	39	82	52	78	77	100	100		71
GIL4	1194	WGilleland Creek @ Cameron Rd	2009	52	82	45	68	47	60	45	74	59
GIL5	1914	Gilleland Creek @ Cameron Rd.	2009	35	82	41	77	71	90	100	80	66
GIL6	1193	Gilleland Creek @ South RR Ave	2009	40	82	39	78	68	98	96	100	68
GIL1	886	Gilleland Creek @ FM 969	2011	30	82	45	65	64	77	100	53	61
GIL2	1192	Gilleland Creek @ FM 973	2011	32	82	73	73	76	83	100	65	70
GIL3	1191	Gilleland Creek @ W Parsons St	2011	29	82	45	60	61	83	100	66	60
GIL4	1194	W Gilleland Creek @ Cameron Rd	2011	62	82	27	67	52				48
GIL5	1914	Gilleland Creek @ Cameron Rd.	2011	30	82	42	67	77	82	100	64	63
GIL6	1193	Gilleland Creek @ South RR Ave	2011	35	82	37	87	77	95	100	89	69

* 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

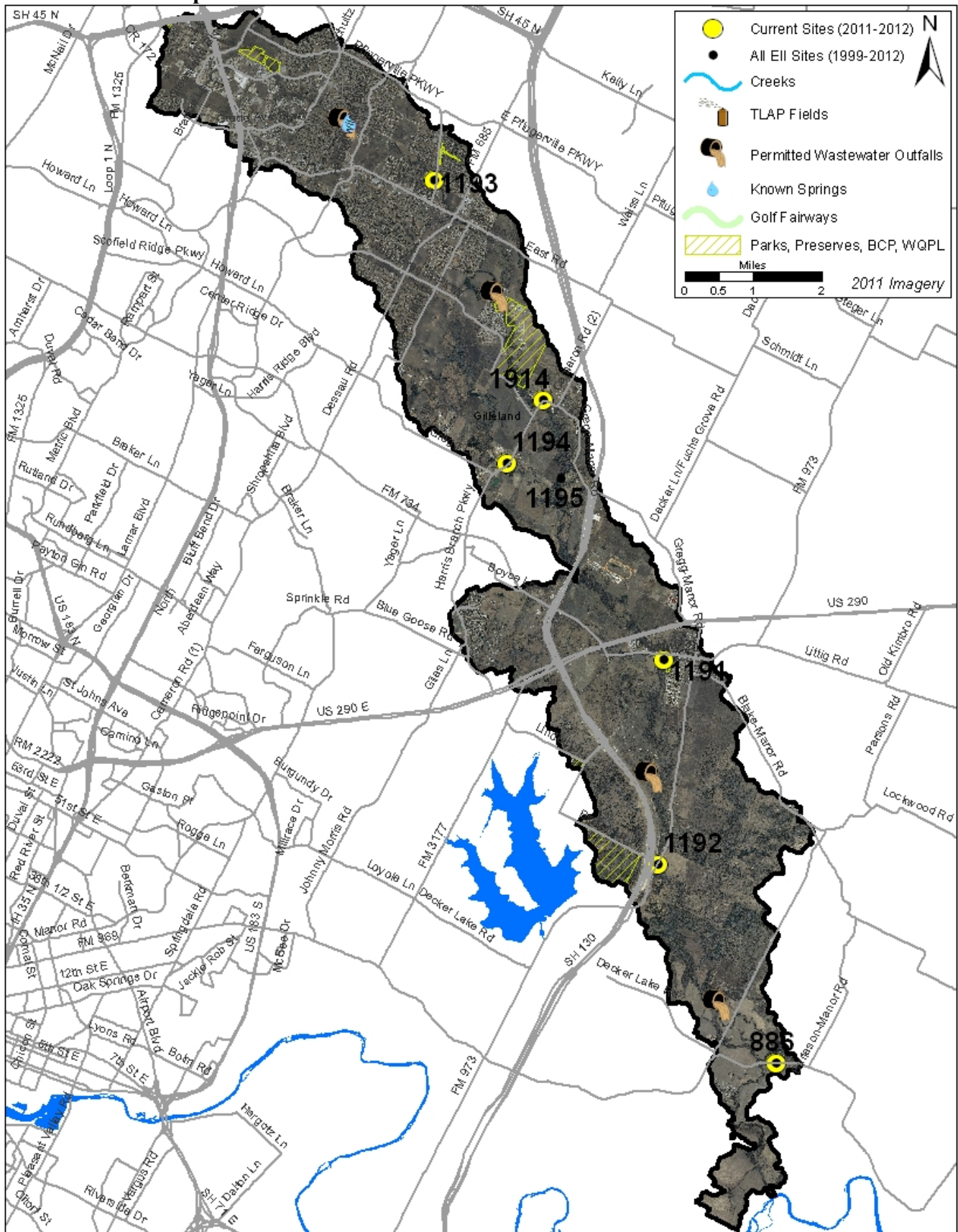
Gilleland Creek Watershed

Land Use Map



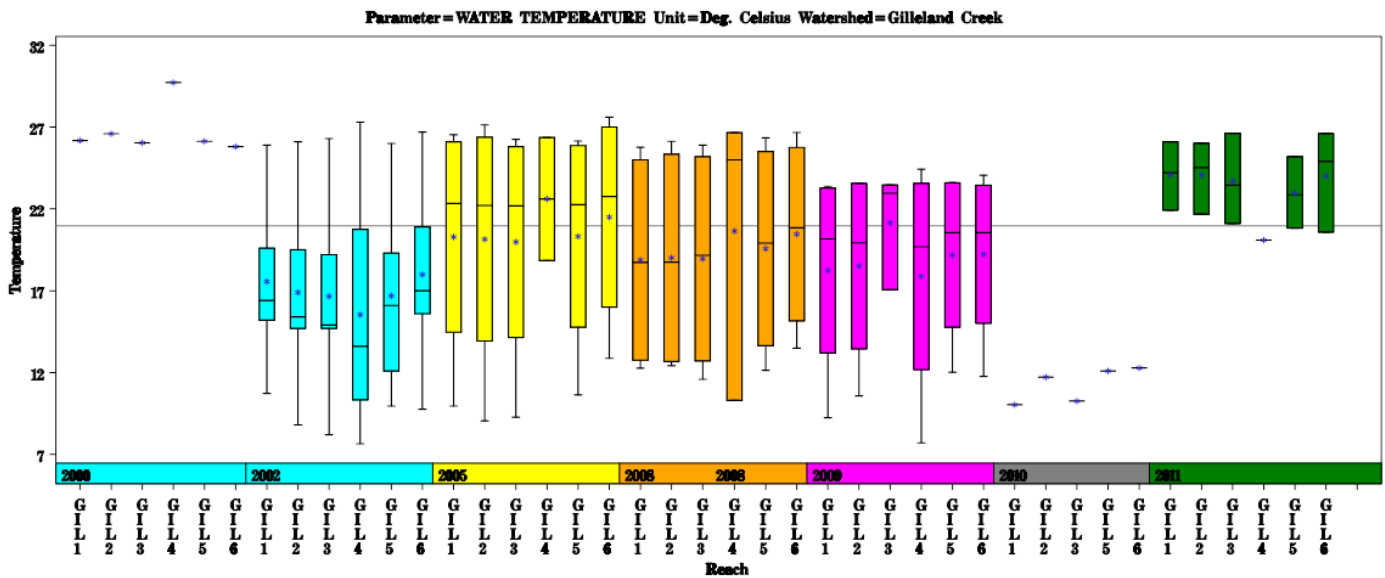
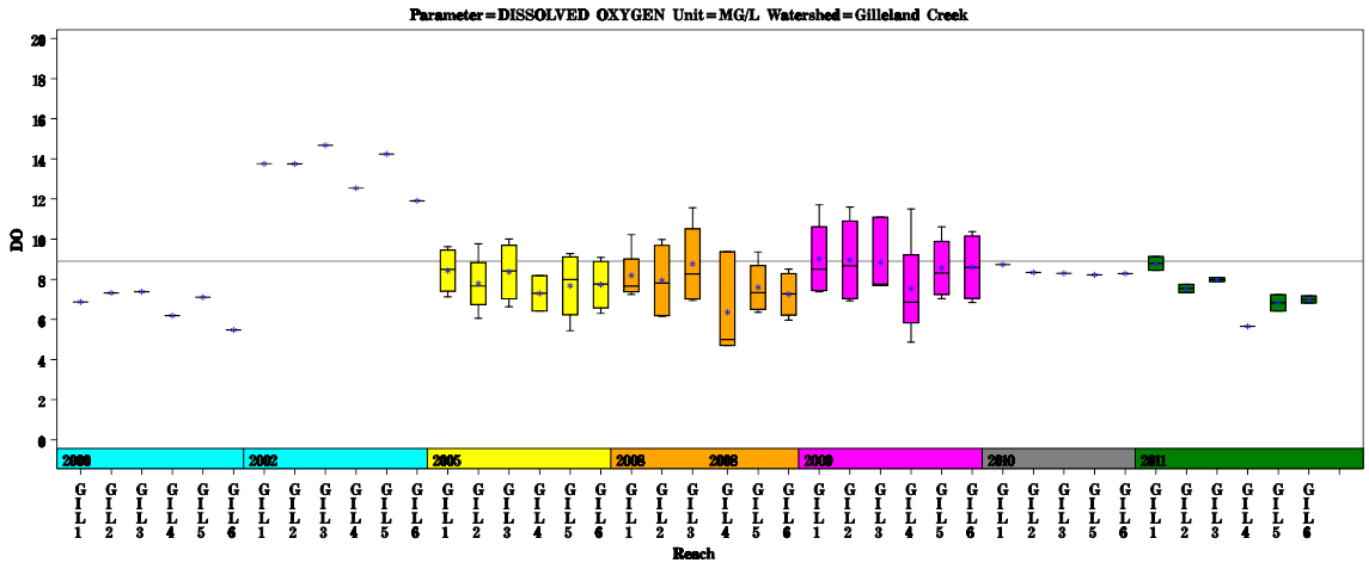
Gilleland Creek Watershed

Aerial Map



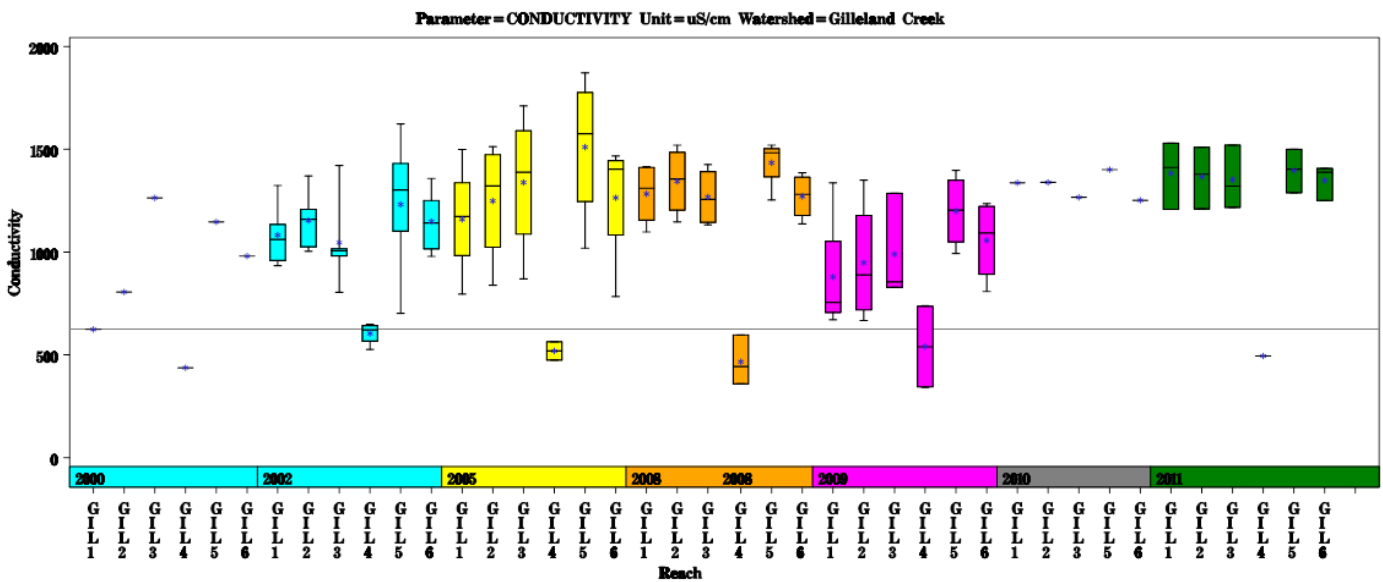
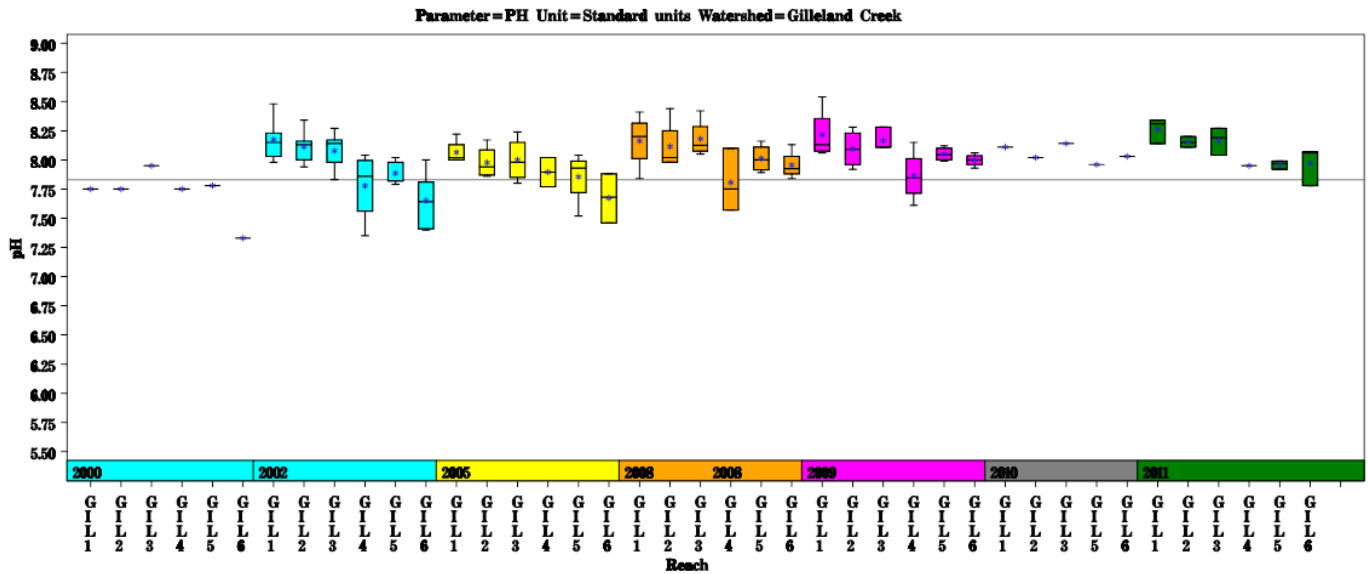
Gilleland Creek Watershed

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



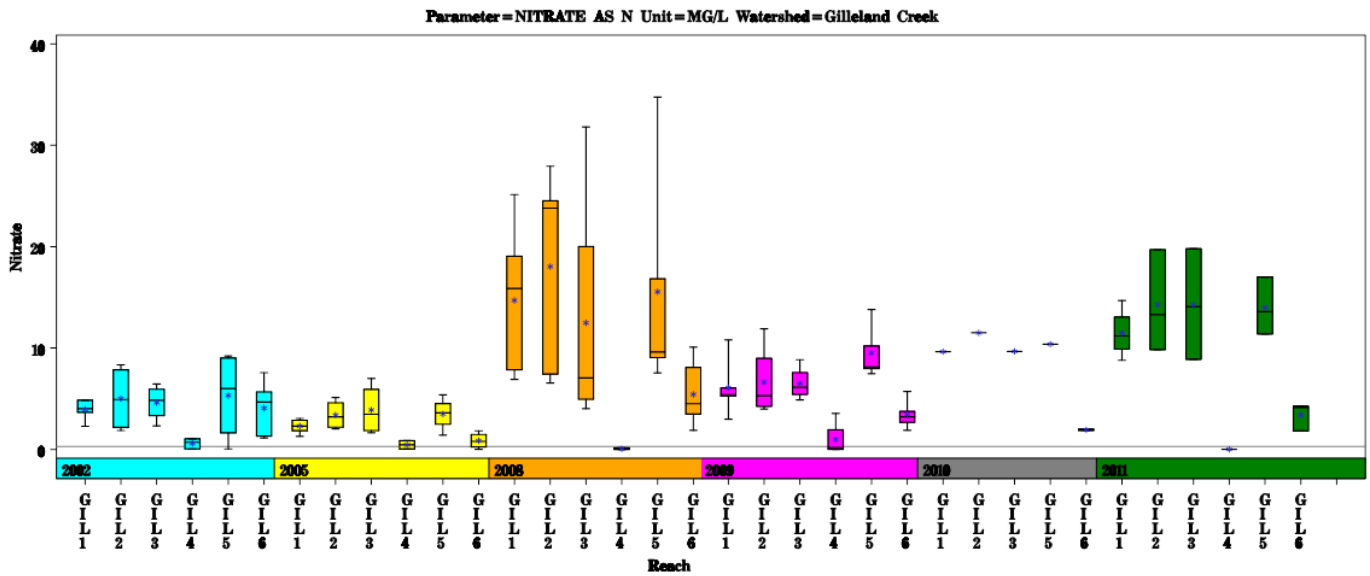
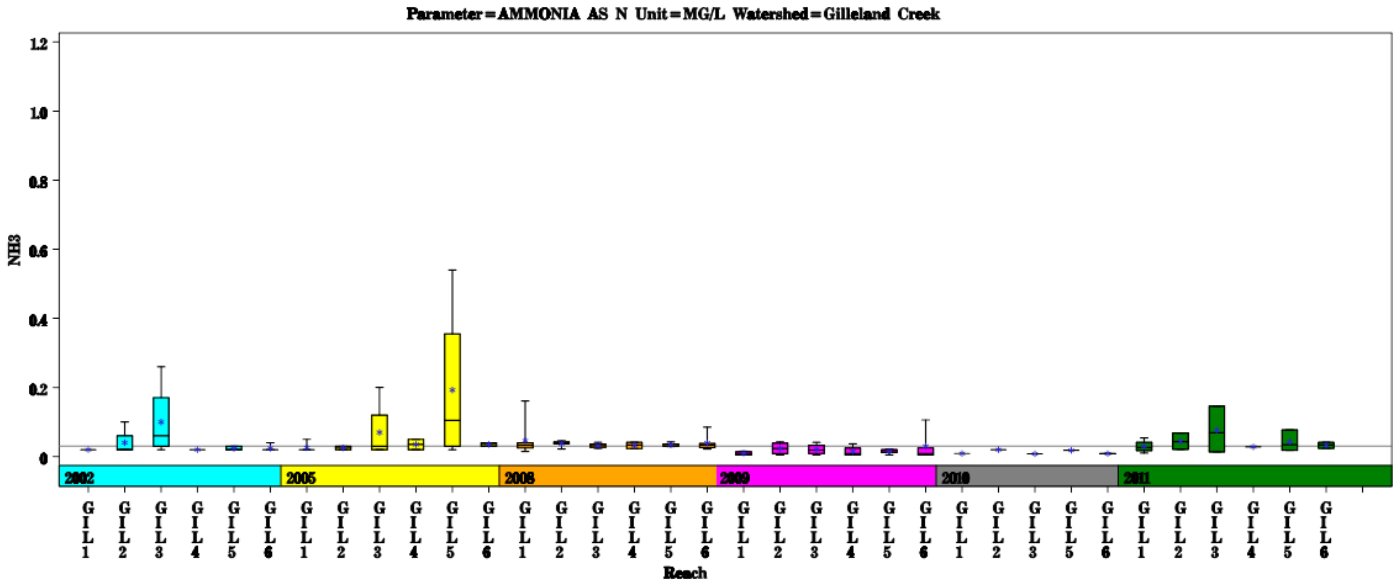
Gilleland Creek Watershed

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



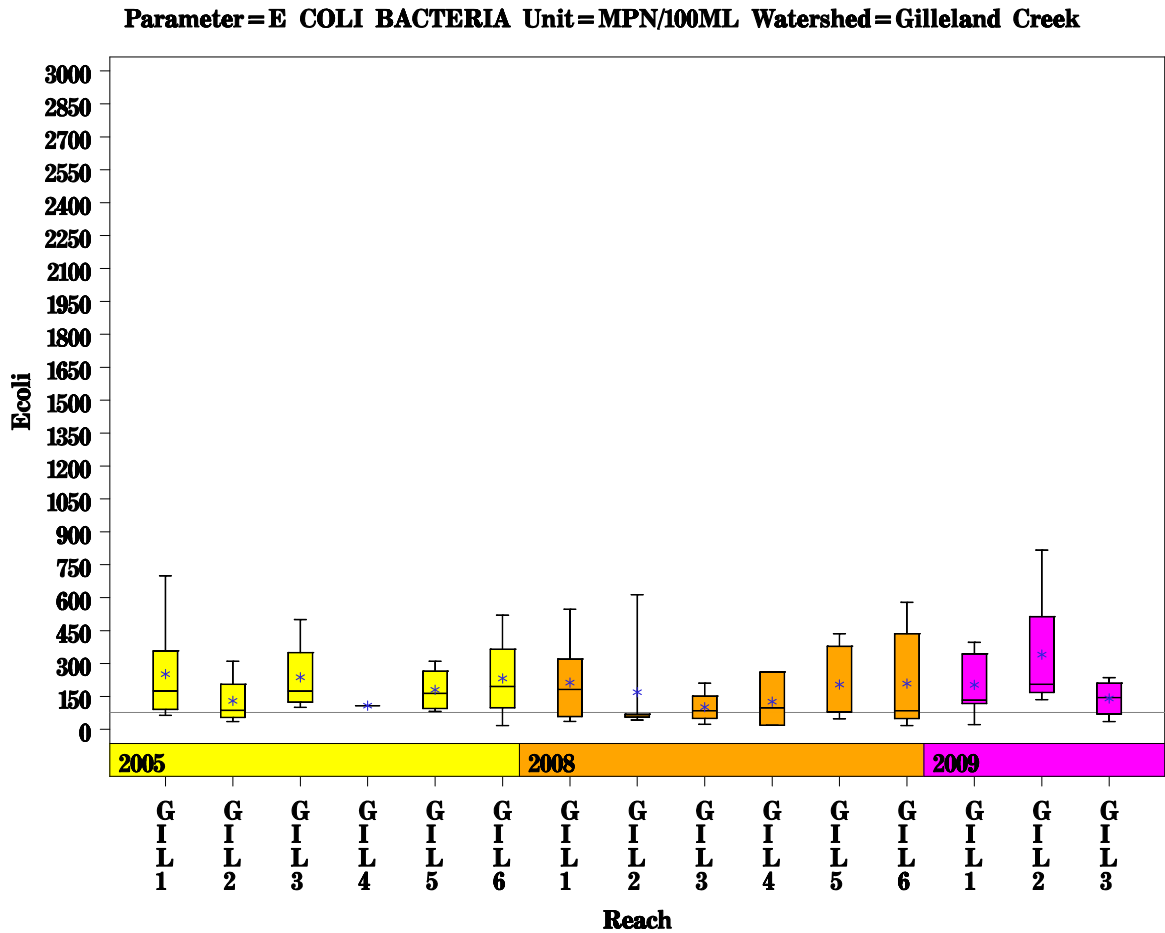
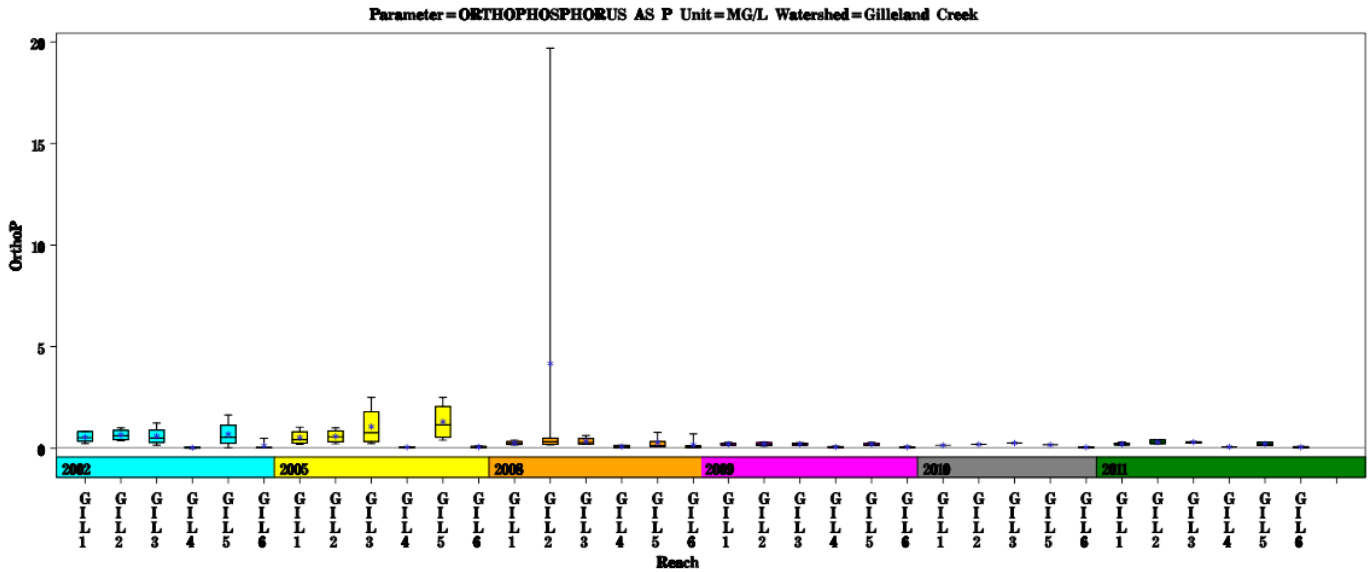
Gilleland Creek Watershed

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



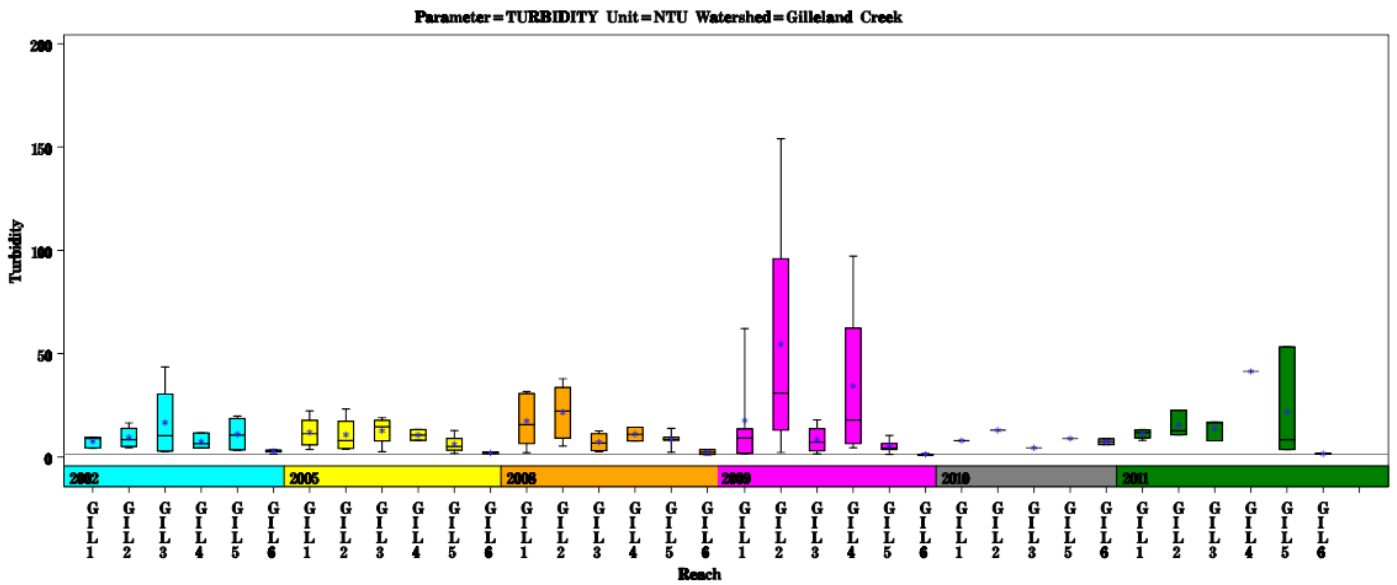
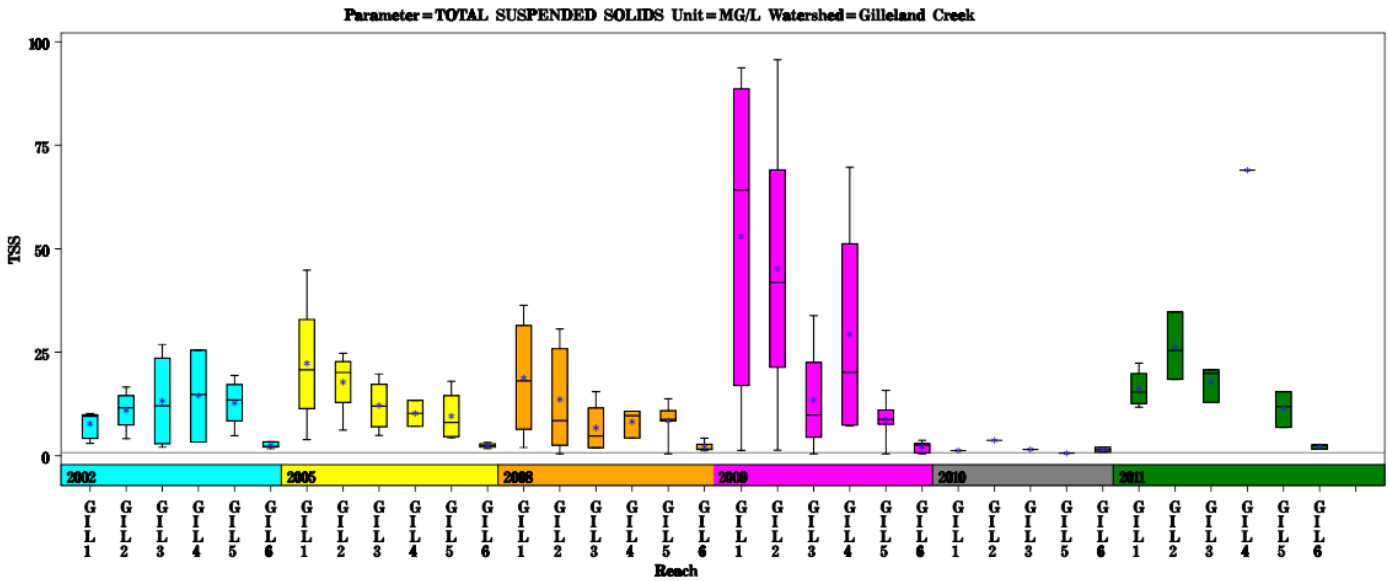
Gilleland Creek Watershed

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



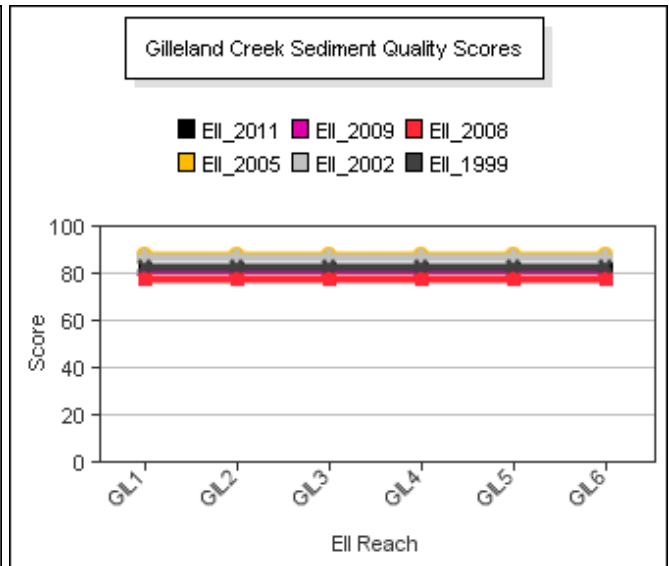
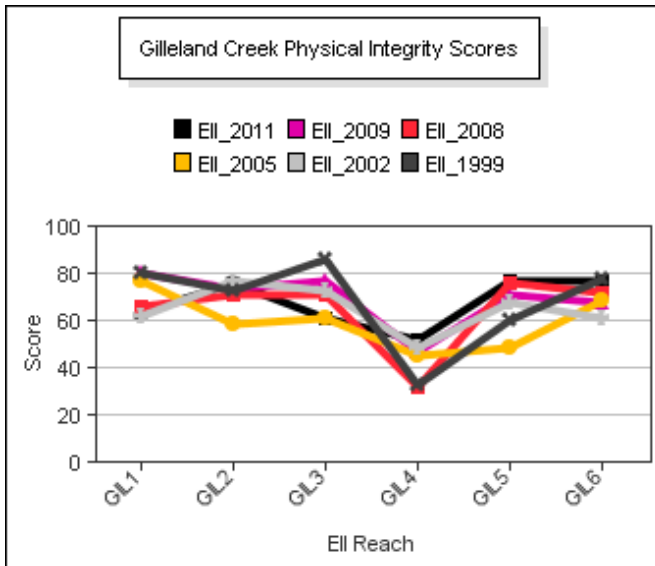
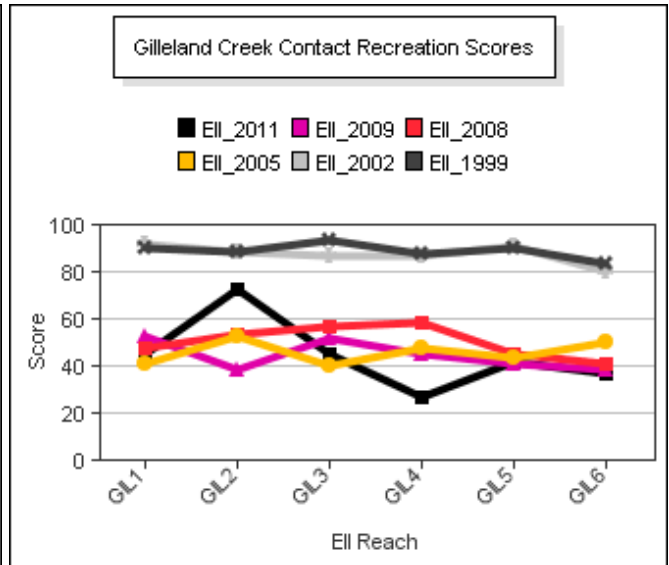
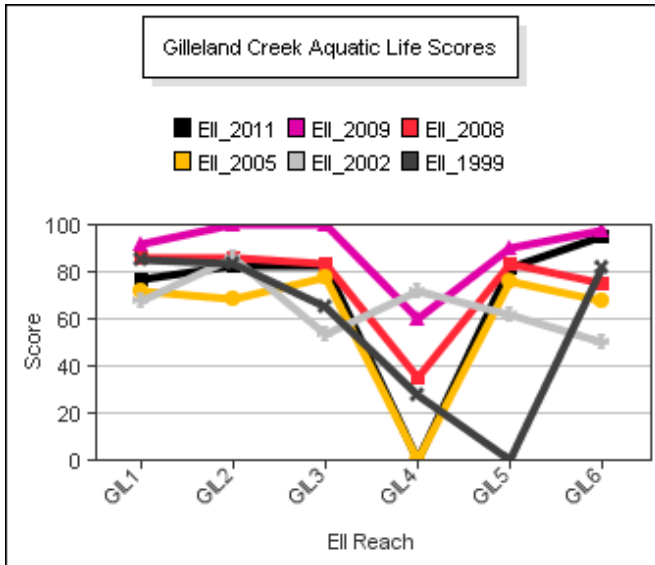
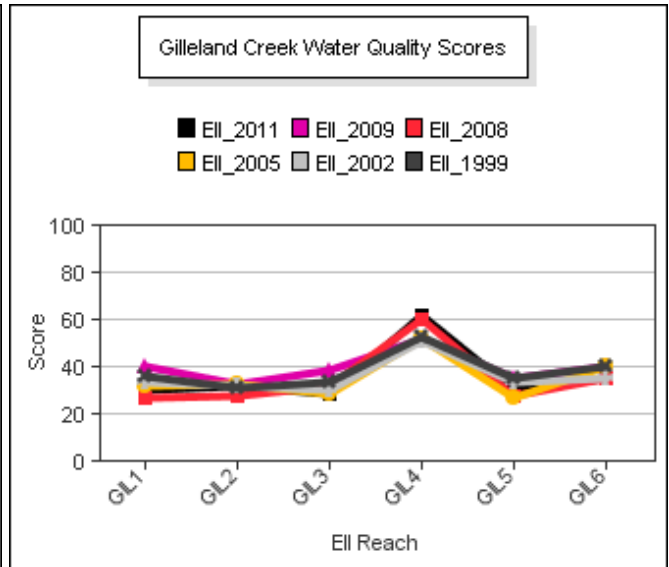
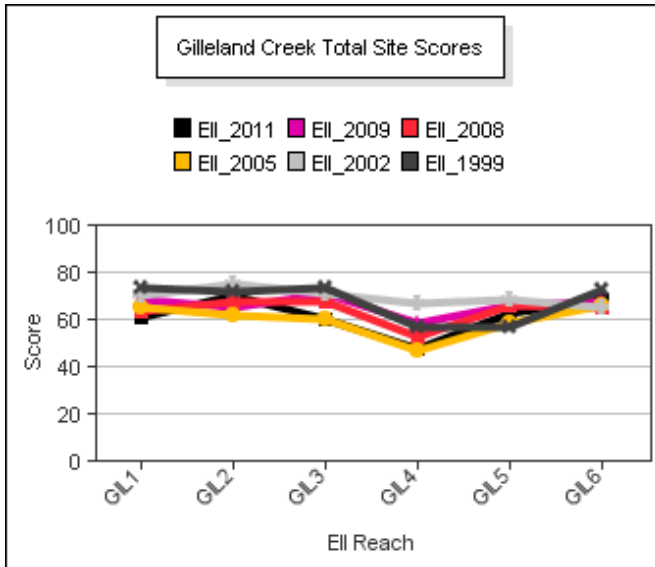
Gilleland Creek Watershed

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



Gilleland Creek Watershed

Score Summary – Reach scores for each sample year



Gilleland Creek Watershed

Site Photographs



1193_t00-us-03_27_2002



1193_t00-ur-06_16_2008



1914_t00-us-06_16_2008



1914_t00-ds-05_27_2009



1194_t00-us-03_27_2002



1194_t00-us-06_17_2008

Gilleland Creek Watershed

Site Photographs



1191_t00-ds-06_16_2008



1191_t00-us-06_17_2005



1192_t00-us-05_28_2009



1192_t00-ds-05_28_2009



886_t00-us-05_28_2009



886_t00-ds-03_27_2002

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