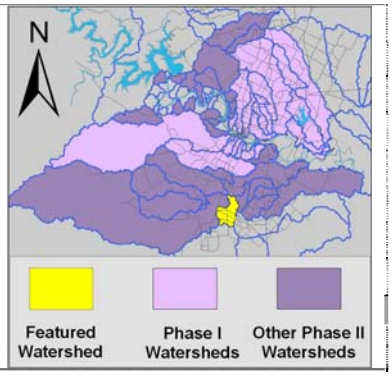
Rinard Creek Watershed

Summary Sheet

Catchment	Total area	8 sq. miles				
	Area in recharge	0				
	Creek length	7 miles				
	Receiving water	Onion Creek				
Demographics	2000 population	284				
	2030 projected population	6,940				
	30 year projected % increase	2,344 %				
Land Use	Impervious cover (2003 estimate)	2.8 %				
Overall EII Scores	1999	2002	2005	2008	2010	
	63	70	66	65	70	



Flow Regime* for Sample Sites on Rinard

Site # upstream to downstream	Site Name	2002					2005					2008					2010			
		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	Mar WQ	May WQ	May Bio	Oct WQ
1220	Rinard Cr at FM 1327	B	B	n	n	B	B	B	n	n	n	n	n	n	n	n	B	n	B	n
1219	Rinard Cr at FM 1327 & Bradshaw	B	B	B	B	B	B	B	B	B	n	B	n	n	n	n	B	n	No access	n
233	Rinard Cr at Bradshaw Rd	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

* B = baseflow n = no flow storm = storm flow blue = Samples were taken grey = Samples were not taken blank = site not visited

Summary of 2009 Data for Rinard Creek

2010 Summary	Parameter	Mean	Max	Min	Discussion
Physicochemical	**D.O.** mg/l	10.2	12.0	9.2	Generally within normal range
	pH st.units	8.0	8.2	7.8	Generally within normal range, increasing trend over the past 10 years
	Cond uS/cm	603	726	455	Generally within normal range, site 1219 typically lower than other sites
Nutrients	**NH_3** mg/l	0.01	0.01	0.01	Consistently low to average concentrations
	NO_3 mg/l	0.04	0.11	0.00	Consistently low to average concentrations
	Ortho P mg/l	0.03	0.04	0.02	Consistently low to average concentrations
Sediment Load	**TSS** mg/l	6.7	14.1	2.1	Typically above average concentrations, highest in upper watershed
	Turbidity ntu	12.4	22.8	3.1	Typically above average concentrations, highest in upper watershed
Biology	**E.Coli** /100ml	18	25	10	Average to low concentrations
	Benthic Macs	Average or below average metrics, with good community structure. Unreliable baseflow at upstream sites			
	Diatoms	Average or below average metrics at site 1220, however good diversity and similarity to reference at 233			

Index Scores* for Rinard Watershed Sites by Year

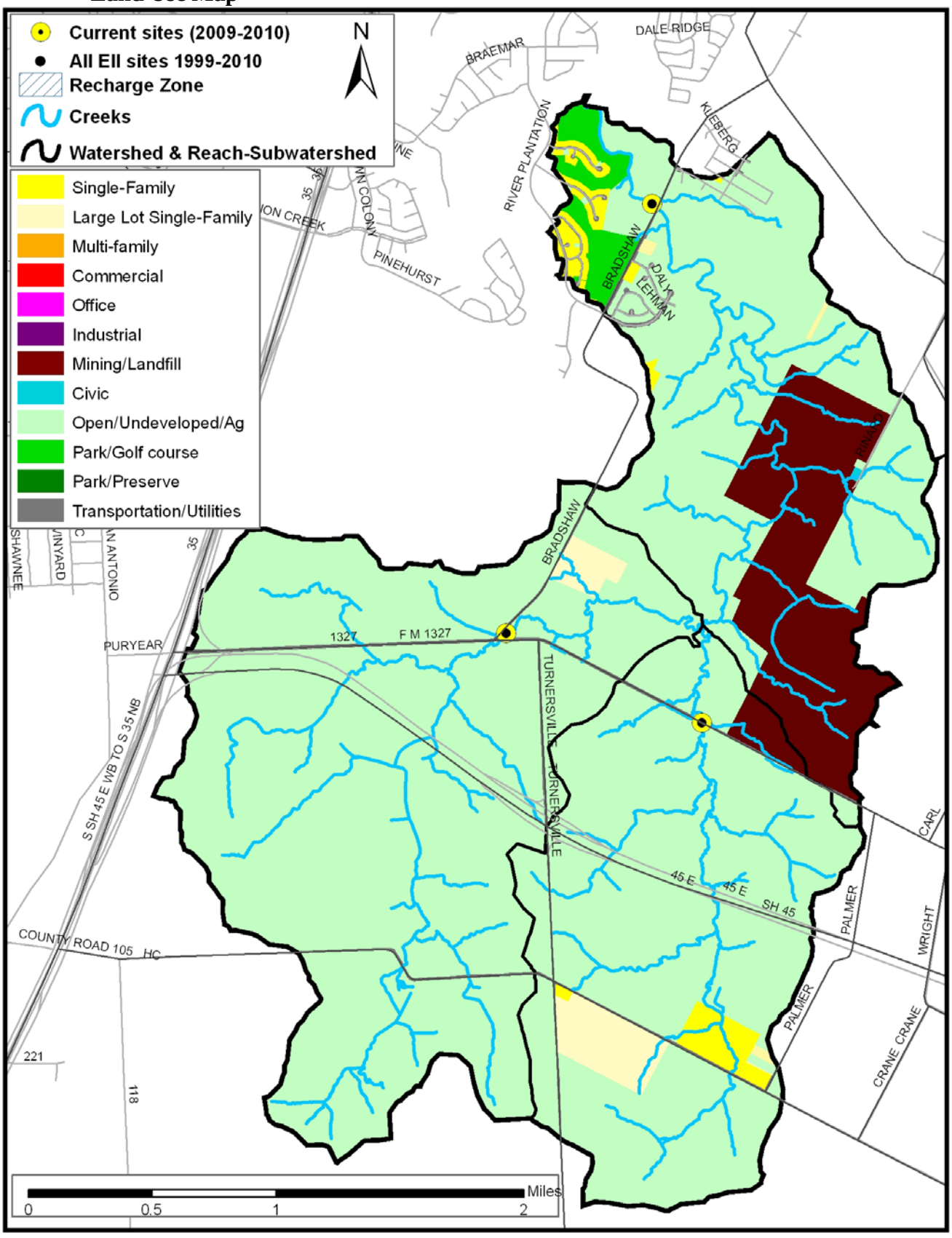
Reach	Site	Site Name	Year	Water Quality	Sediment**	Contact Recreation	Non Contact Recreation	Physical Integrity	Aquatic Life	Benthic subindex	Diatom subindex	**Total Site Score**
RIN1	233	Rinard Cr @ Bradshaw Road	1999	60	80	93	73	54	56	73	39	69
RIN2	1219	Rinard Cr @ FM1327 and Bradshaw	1999	72	80	98	70	66				64
RIN3	1220	Rinard Cr @ FM1327	1999	64	80	97	63	39				57
RIN1	233	Rinard Cr @ Bradshaw Road	2002	59	81	93	73	63	61	45	76	72
RIN2	1219	Rinard Cr @ FM1327 and Bradshaw	2002	66	81	95	80	29	65	49	80	69
RIN3	1220	Rinard Cr @ FM1327	2002	69	81	99	70	27	59	40	77	68
RIN1	233	Rinard Cr @ Bradshaw Road	2005	69	76	64	73	69	81	68	93	72
RIN2	1219	Rinard Cr @ FM1327 and Bradshaw	2005	69	76	81	79	65	74	80	68	74
RIN3	1220	Rinard Cr @ FM1327	2005	61	76	58	63	48				51
RIN1	233	Rinard Cr @ Bradshaw Road	2008	64	82	72	71	72	52	47	56	69
RIN2	1219	Rinard Cr @ FM1327 and Bradshaw	2008	73	82	98	70	49				62
RIN3	1220	Rinard Cr @ FM1327	2008		82		54	52	41	41		57
RIN1	233	Rinard Cr @ Bradshaw Road	2010	71	82	89	83	71	87	79	94	81
RIN2	1219	Rinard Cr @ FM1327 and Bradshaw	2010	75	82	95						63
RIN3	1220	Rinard Cr @ FM1327	2010	72	82	85	68	26	56	41	70	65

* 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

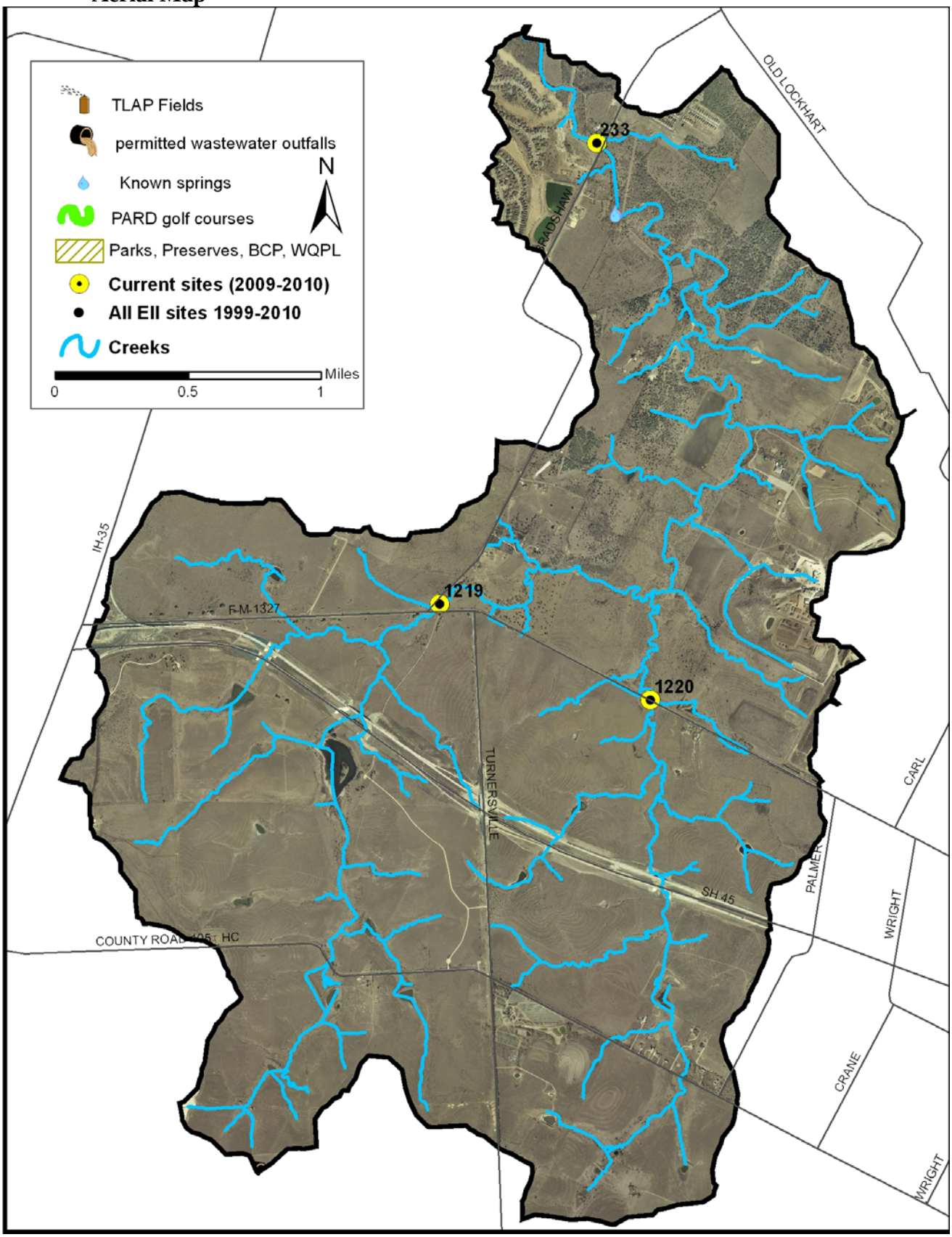
Rinard Creek Watershed

Land Use Map



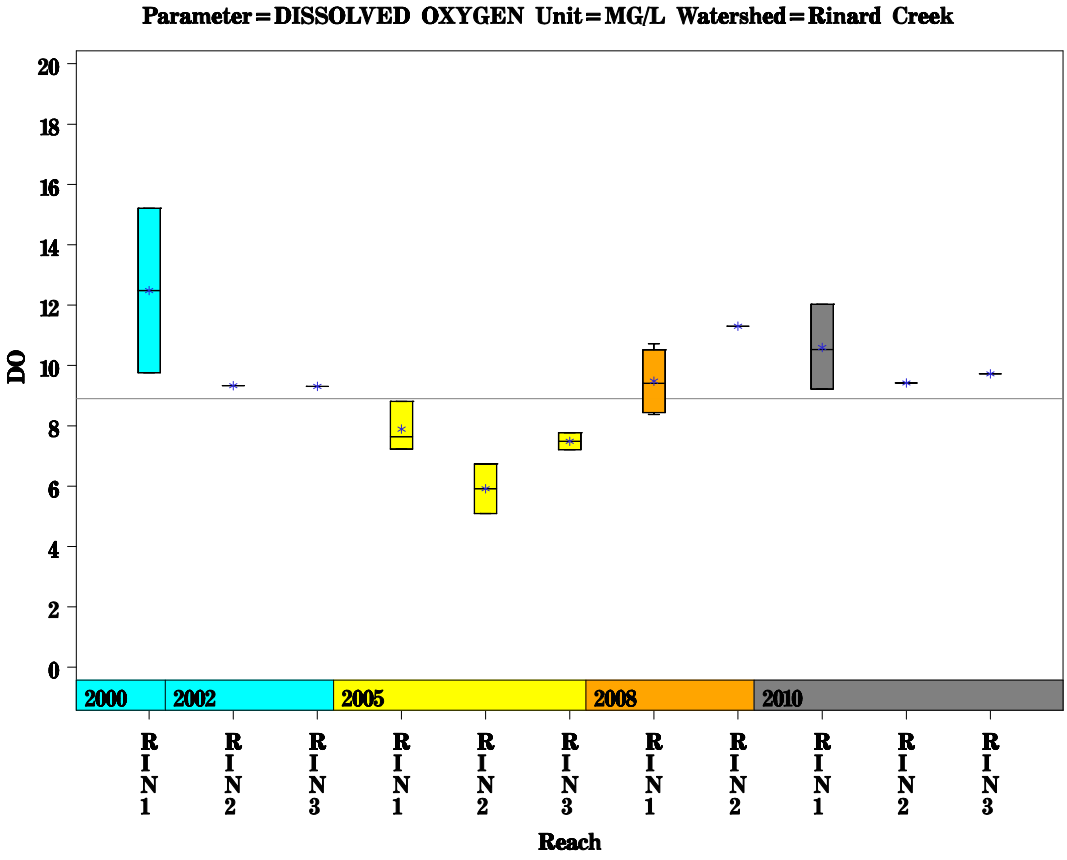
Rinard Creek Watershed

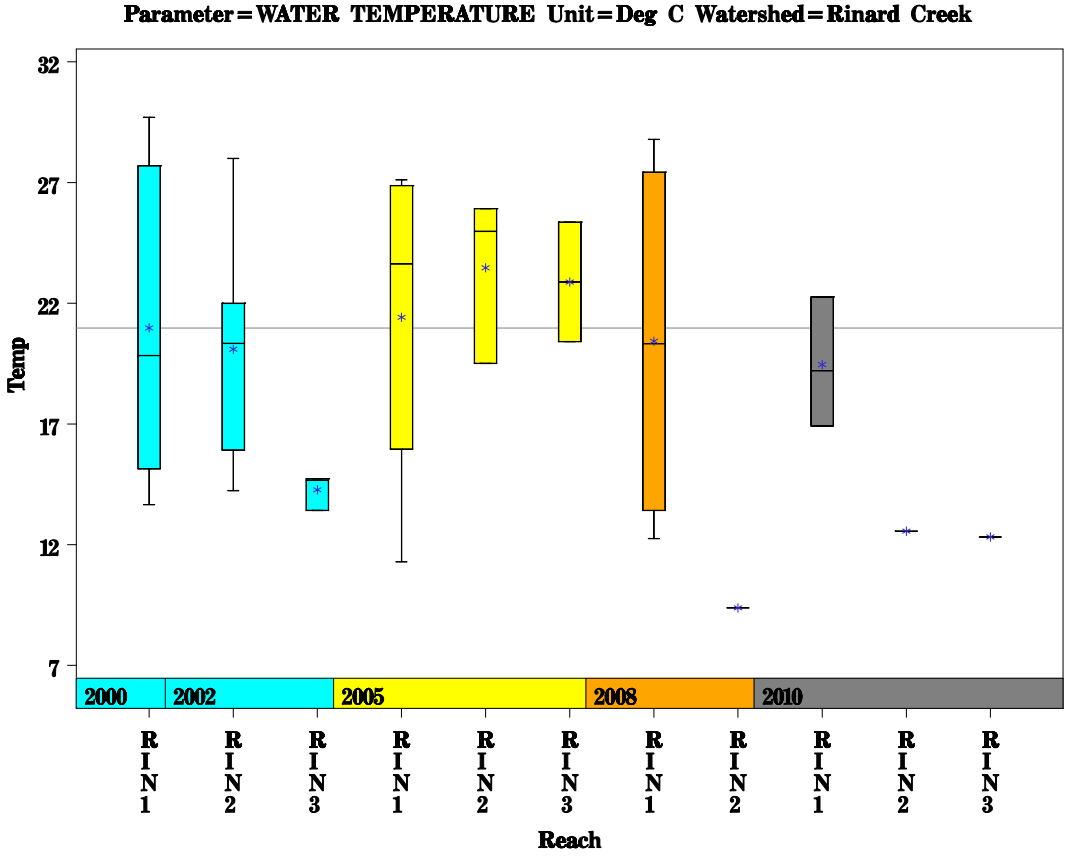
Aerial Map



Rinard Creek Watershed

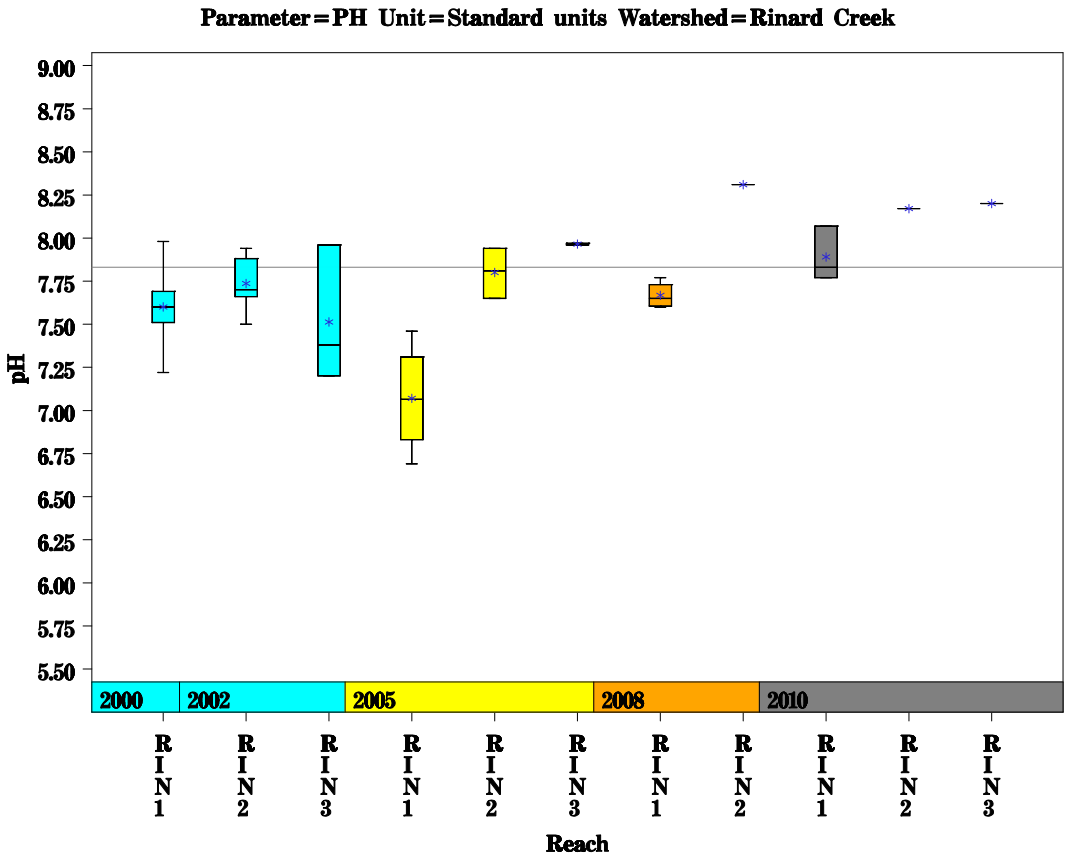
Data Summary Graphs – Dissolved Oxygen and Temperature (Downstream to Upstream by Year)

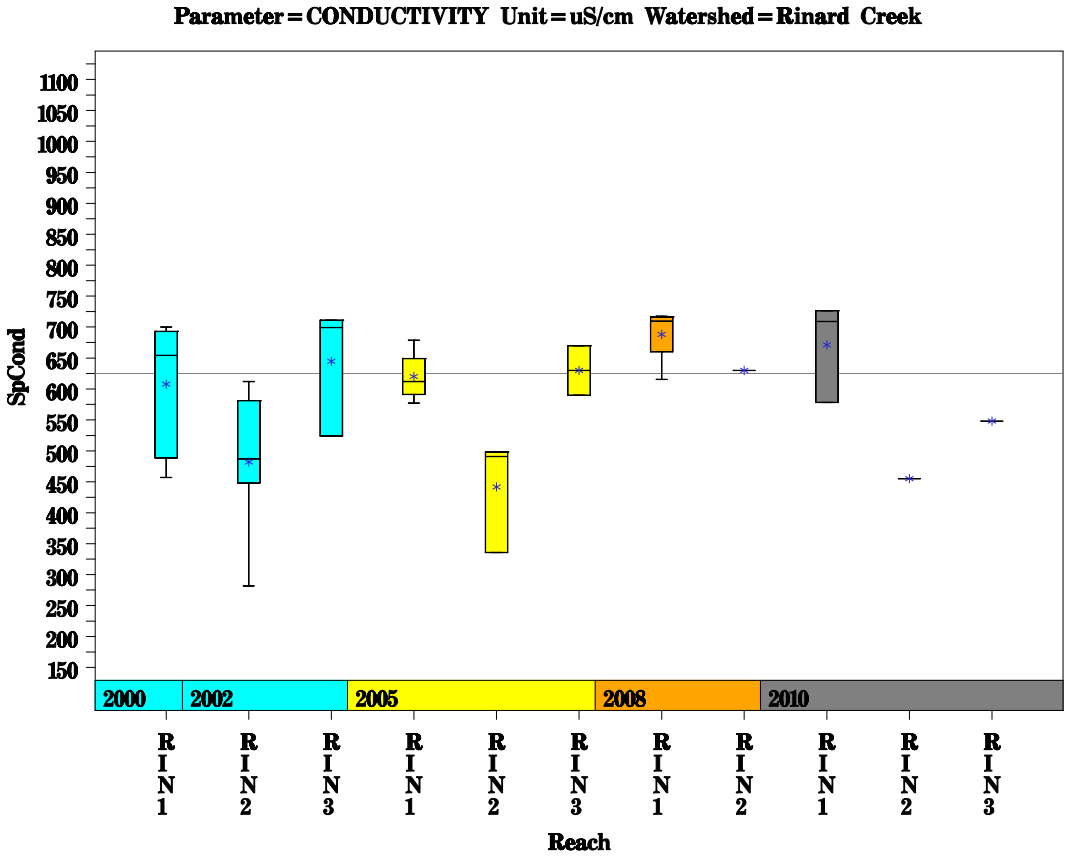




Rinard Creek Watershed

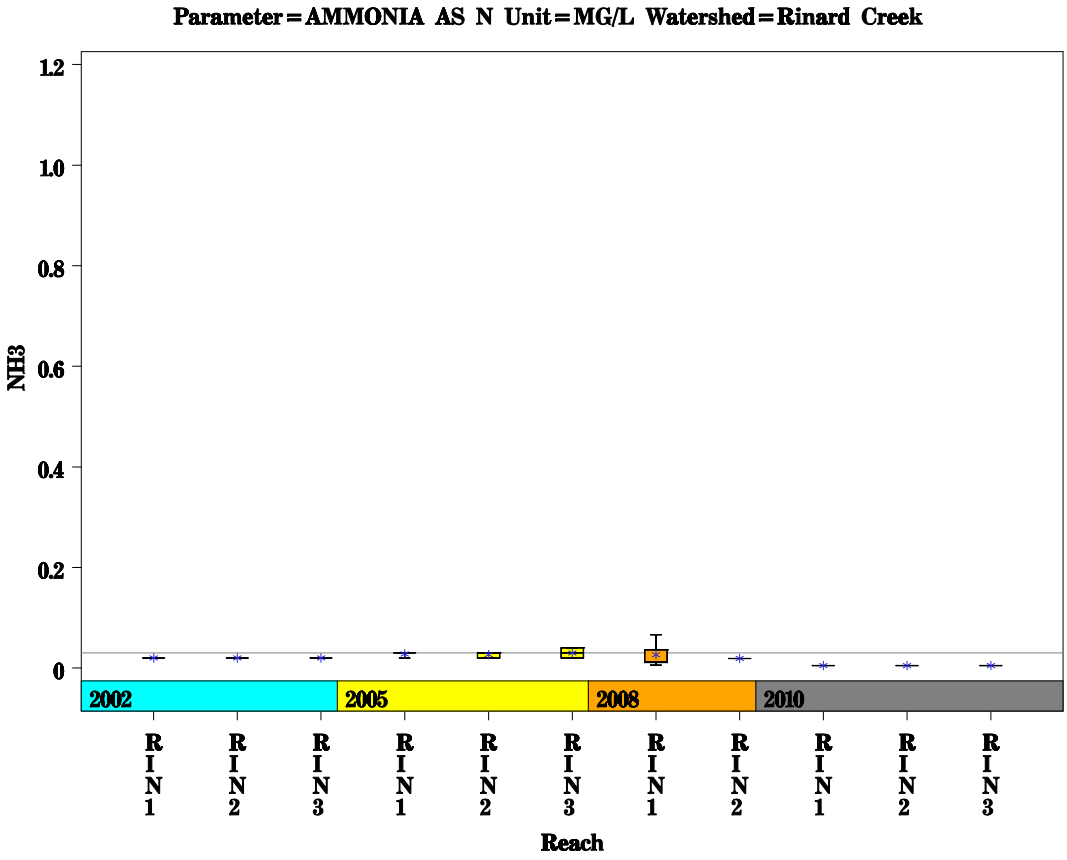
Data Summary Graphs – pH and Conductivity (Downstream to Upstream by Year)

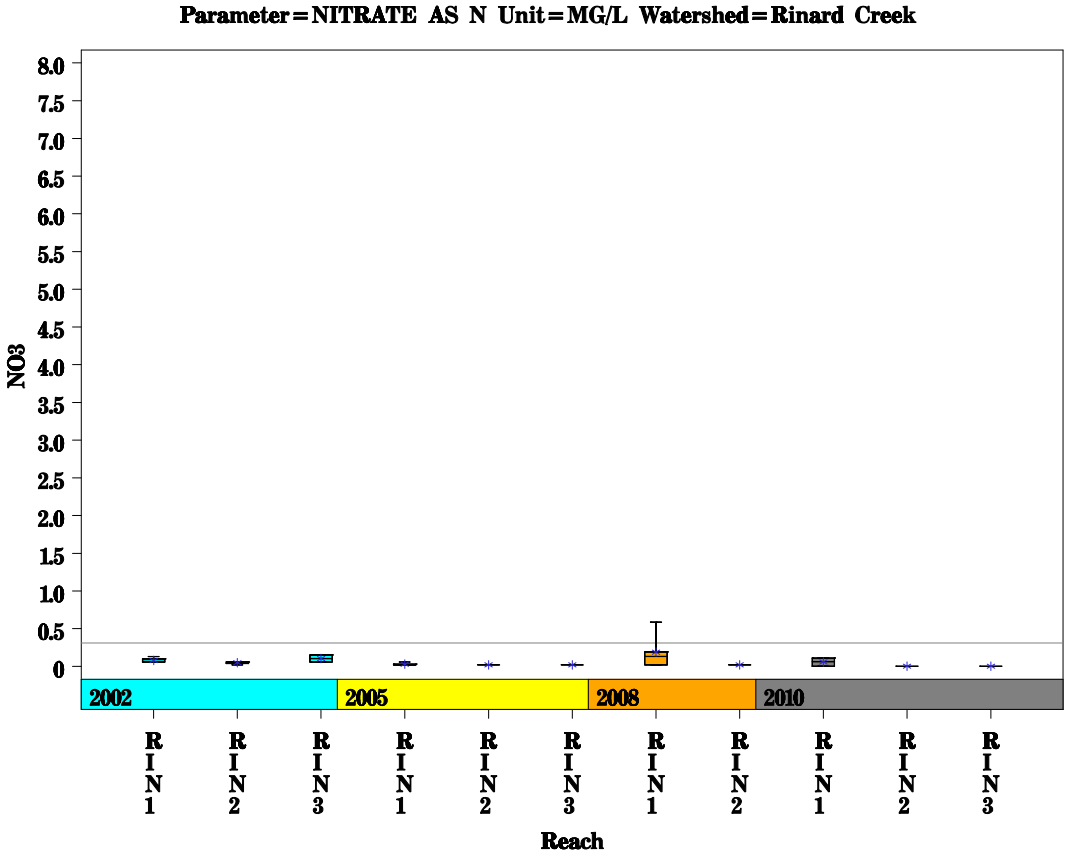




Rinard Creek Watershed

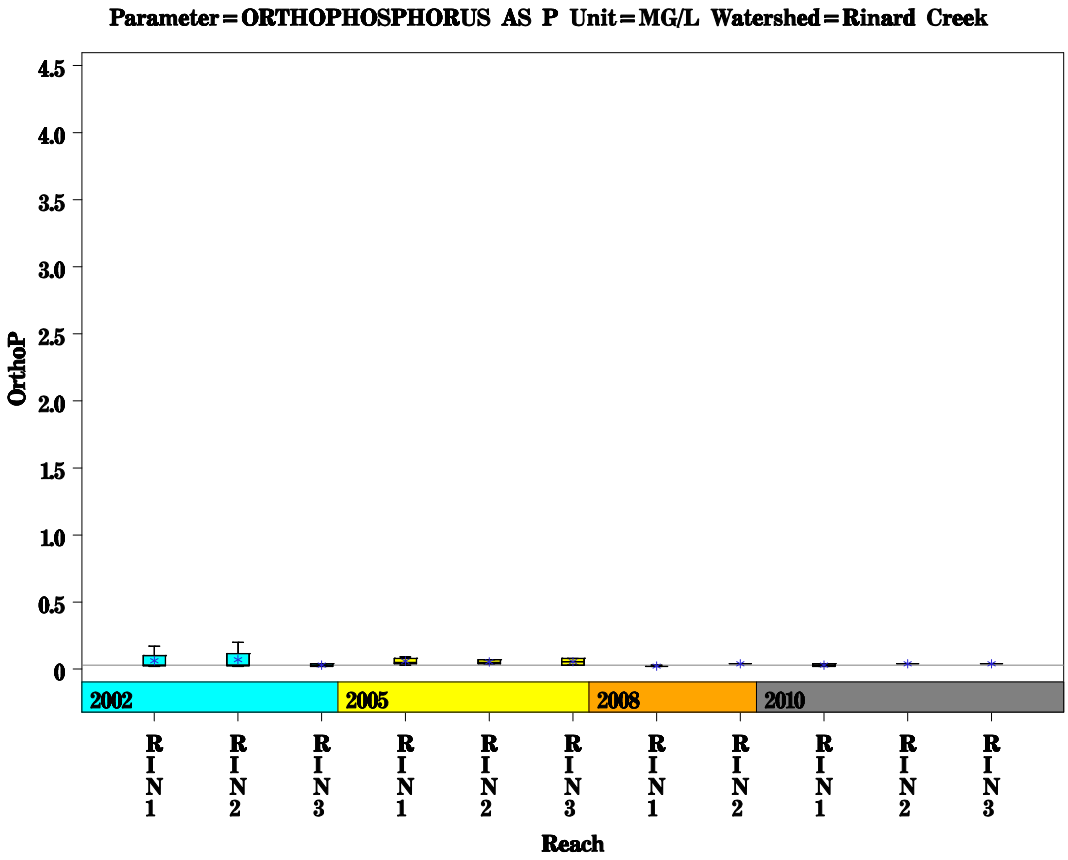
Data Summary Graphs – Ammonia and Nitrate/Nitrite (Downstream to Upstream by Year)

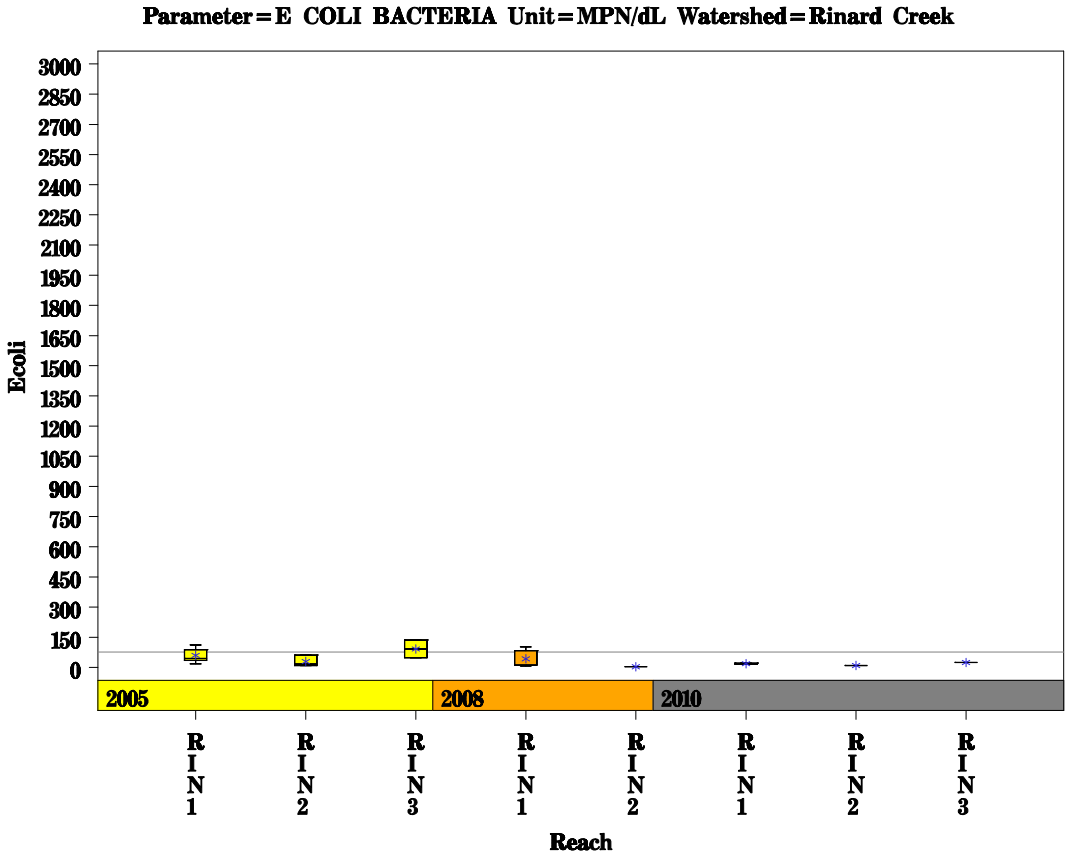




Rinard Creek Watershed

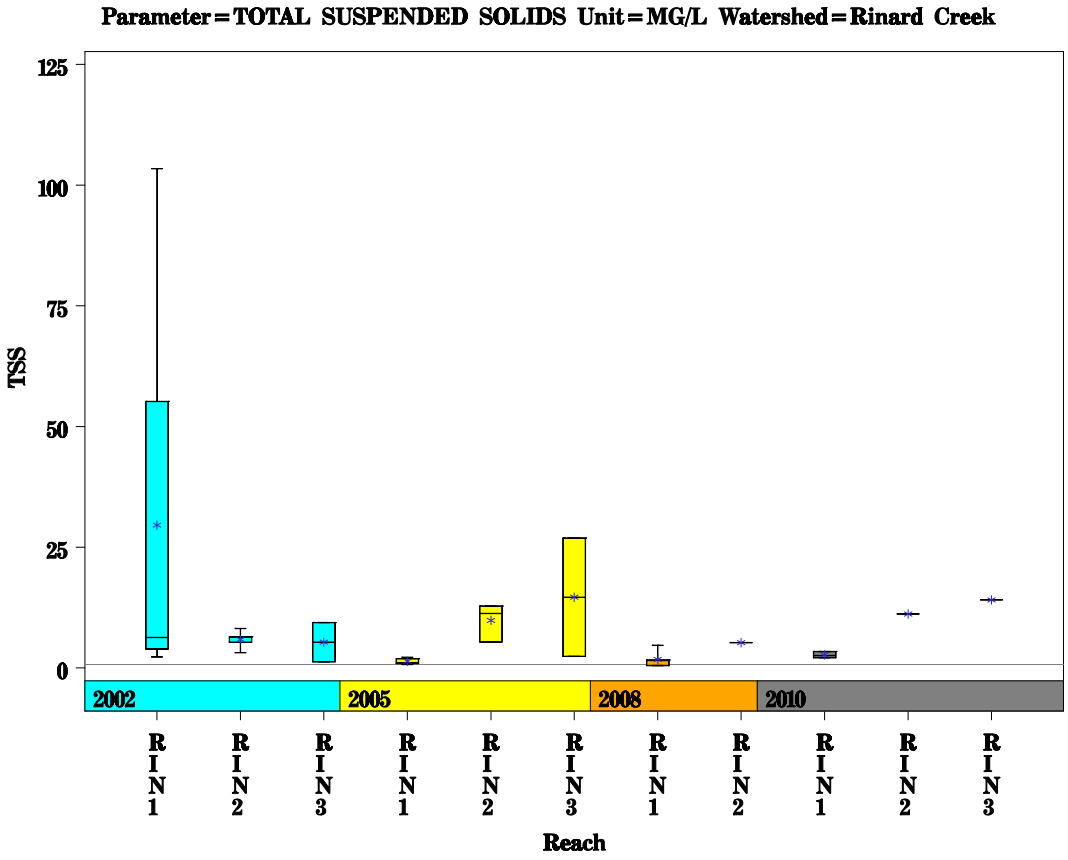
Data Summary Graphs – Orthophosphate and *E.coli* (Downstream to Upstream by Year)

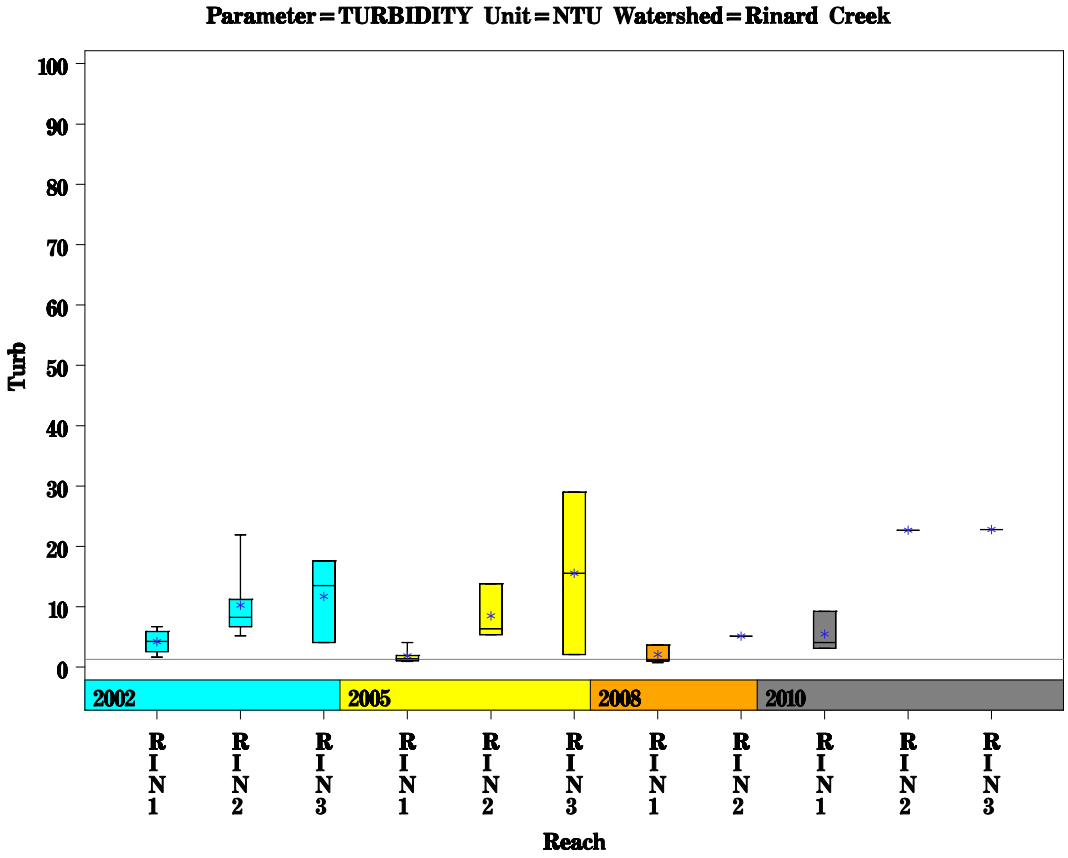




Rinard Creek Watershed

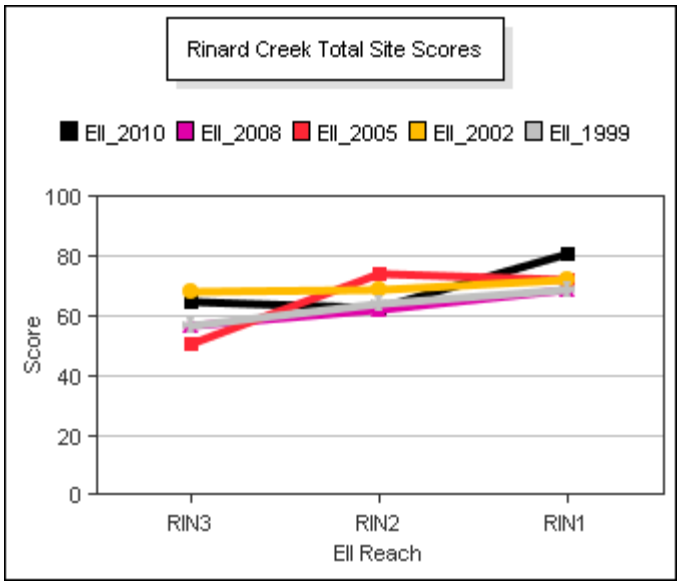
Data Summary Graphs – Total Suspended Solids and Turbidity (Downstream to Upstream by Year)

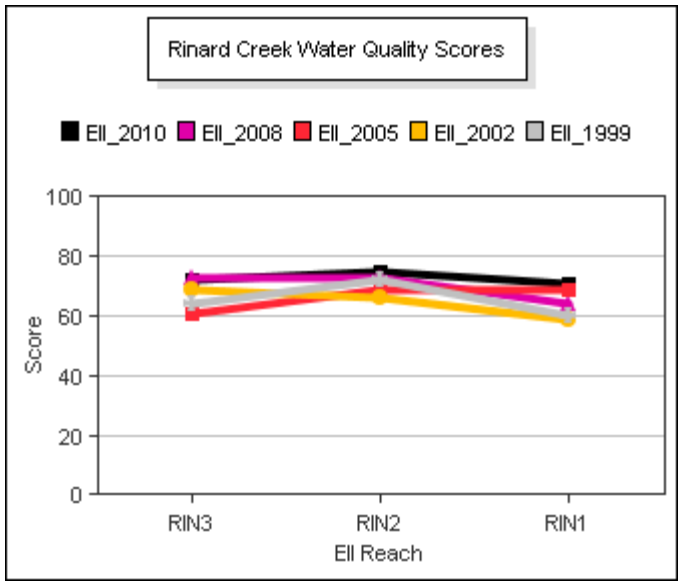


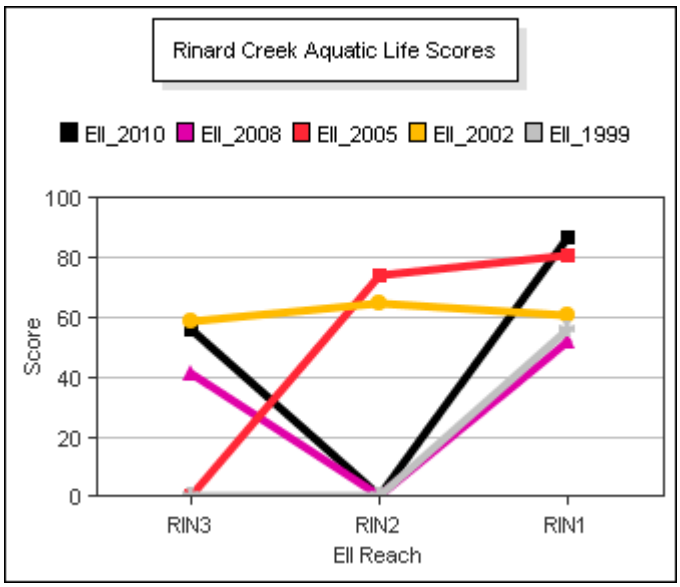


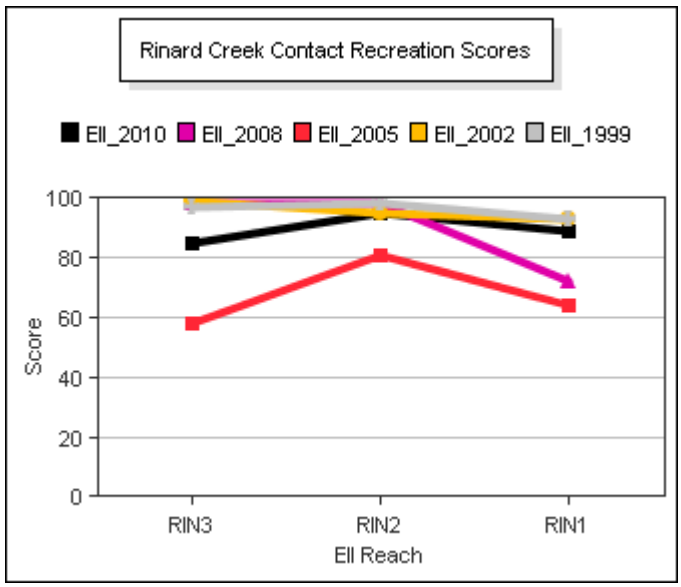
Rinard Creek Watershed

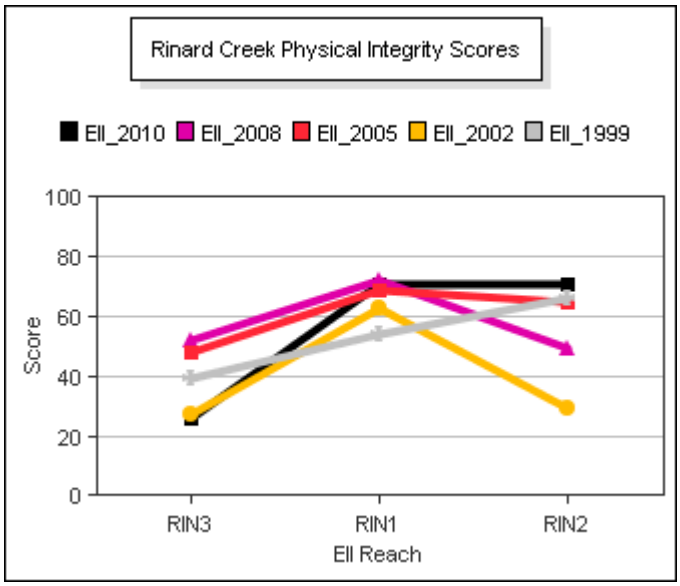
Score Summary – Reach scores for each sample year

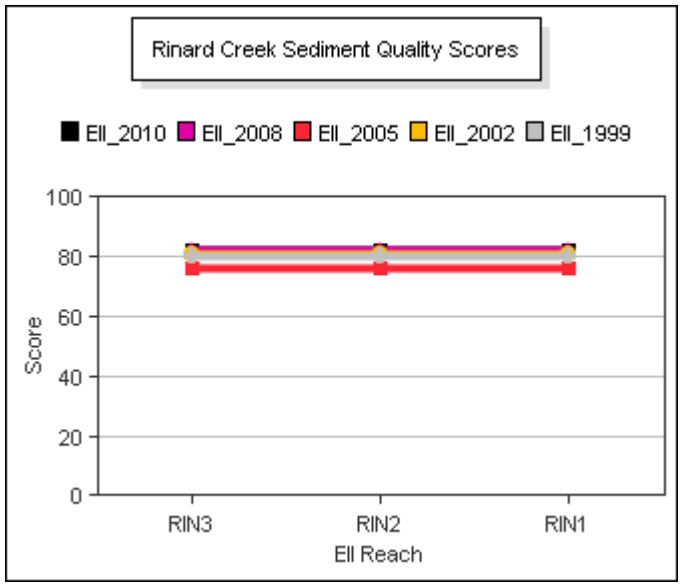












Rinard Creek Watershed

Site Photographs

233_t00-ds-06_20_2000

233_t00-us-03_28_2002

233_t00-ds-06_15_2005

233_t0-na-06_16_2008

233_00-ds-05_19_2010

233_00-us-05_19_2010

Rinard Creek Watershed

Site Photographs

1219_00-us-05_19_2010

1219_00-ds-05_19_2010

1219_t00-ur-06_15_2005

1220_t00-ur-06_15_2005

1220_00-us-05_19_2010

1220_00-ds-05_19_2010

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