

Taylor Slough South Watershed

Summary Sheet

Catchment	Total area	0.56 sq. miles				
	Area in recharge	0.56 sq. miles				
	Creek length	1 miles				
Demographics	Receiving water	Lake Austin				
	2000 population	1,653				
	2030 projected population	2,521				
Land Use	30 year projected % increase	153 %				
	Impervious cover (2003 estimate)	29.2 %				
	Impervious cover (2013 estimate)	41.5 %				
Overall EII Scores	2001	2004	2007	2010	2012	2014
	60	56	60	60	59	57

Flow Regime* for Sample Sites on Taylor Slough South

Site	Site Name	1999	2001	2004					2007					2010				2012				2014							
		Jan WQ	Jan Bio	Mar Bio	Mar WQ	May WQ	May Bio	Jun WQ	Oct WQ	Dec WQ	Feb WQ	May WQ	Jun Bio	Sep WQ	Dec WQ	Mar WQ	May WQ	May Bio	Oct WQ	Dec WQ	Mar WQ	Apr Bio	Jul WQ	Sep WQ	Jan WQ	Apr Bio	May WQ	Jul Bio	Sep WQ
318	Reed Pk	B	B	B	B	B	B	B	B	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 light blue = Samples were not taken blank = not visited

Index scores* for Taylor Slough South 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
TYS1	318	Taylor Slough South @ Reed Park (TSS)	1998	43	57	64	78	42	37	56	18	54
TYS1	318	Taylor Slough South @ Reed Park (TSS)	2001	55	66	55	80	64	37	42	32	57
TYS1	318	Taylor Slough South @ Reed Park (TSS)	2004	43	68	44	82	56	40	32	48	56
TYS1	318	Taylor Slough South @ Reed Park (TSS)	2007	55	60	52	81	62	50	49	51	60
TYS1	318	Taylor Slough South @ Reed Park (TSS)	2010	51	68	25	88	63	64	54	74	60
TYS1	318	Taylor Slough South @ Reed Park (TSS)	2012	51	65	34	78	57	68	69	67	59
TYS1	318	Taylor Slough South @ Reed Park (TSS)	2014	41	62	31	69	68	68	62	73	57

* 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

Taylor Slough South Watershed

Aerial Map



Taylor Slough South Watershed

Water Quality Data – Temperature, Conductivity, pH, Dissolved Oxygen & E. coli for 2014 Sample Sites (Downstream to Upstream)

Qualifiers to the left of value:	>	greater than	Qualifiers to the right of value:	(blank)	Useable
	<	less than		S	Exceeds standard range
	< J	less than detection limit		R	Rejected, failed QC
	J	Estimated			

Site Name	Site #	Reach	Date	Temp.		Cond.		pH		D.O.		E.coli	
				<> Value	flag								
Taylor Slough South @ Reed Park	318	TYS1	01/15/2014	13.2		814		8.15		15.3		313.0	
Taylor Slough South @ Reed Park	318	TYS1	04/17/2014	16.6		839		8.01		8.2		235.9	
Taylor Slough South @ Reed Park	318	TYS1	05/09/2014	24.6		796		7.89		9.7			
Taylor Slough South @ Reed Park	318	TYS1	07/02/2014	28.2		748		7.91		8.4		1203.3	
Taylor Slough South @ Reed Park	318	TYS1	09/10/2014									517.2	
Site 318 Mean				20.6		799		7.99		10.4		567.4	
Watershed Mean				20.6		799		7.99		10.4		567.4	

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

Summary Statistics for all 2013 – 2014 E.I.I. Sites Combined.					
Parameter	2013-2014 Average	2013-2014 Minimum	2013-2014 Maximum	1 Standard Deviation Above	1 Standard Deviation Below
Temperature (C°)	19.6	8.6	34.0	25.8	
Conductivity (uS/cm)	711	107	1783	942	
pH (Standard units)	7.86	6.96	8.97	8.19	7.52
D.O. (mg/l)	8.1	1.2	30.5	11.4	4.8
E.coli. (col/100ml)	435	1	4840	1127	

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Water Quality Data – Ammonia, Nitrate / Nitrite, Ortho-Phosphorus, Total Suspended Solids & Turbidity for 2014 Sample Sites (Downstream to Upstream)

Qualifiers to the left of value:	>	greater than	Qualifiers to the right of value:	(blank)	Useable
	<	less than		S	Exceeds standard range
	< J	less than detection limit		R	Rejected, failed QC
	J	Estimated			

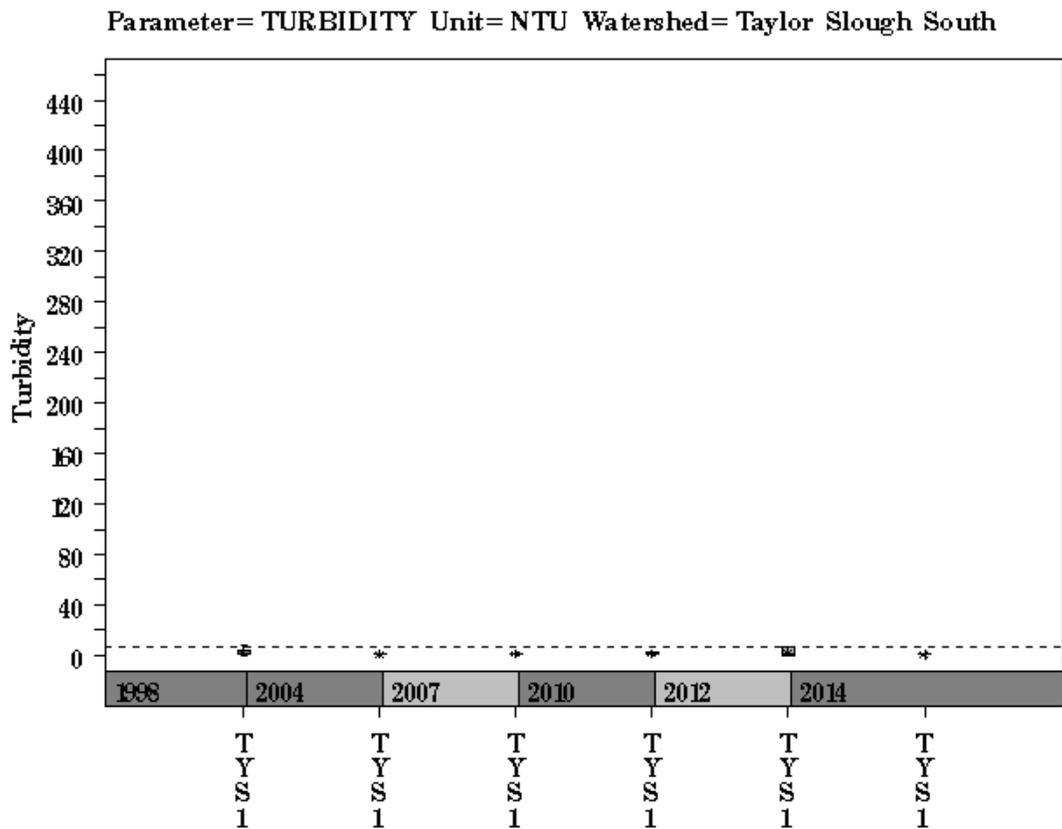
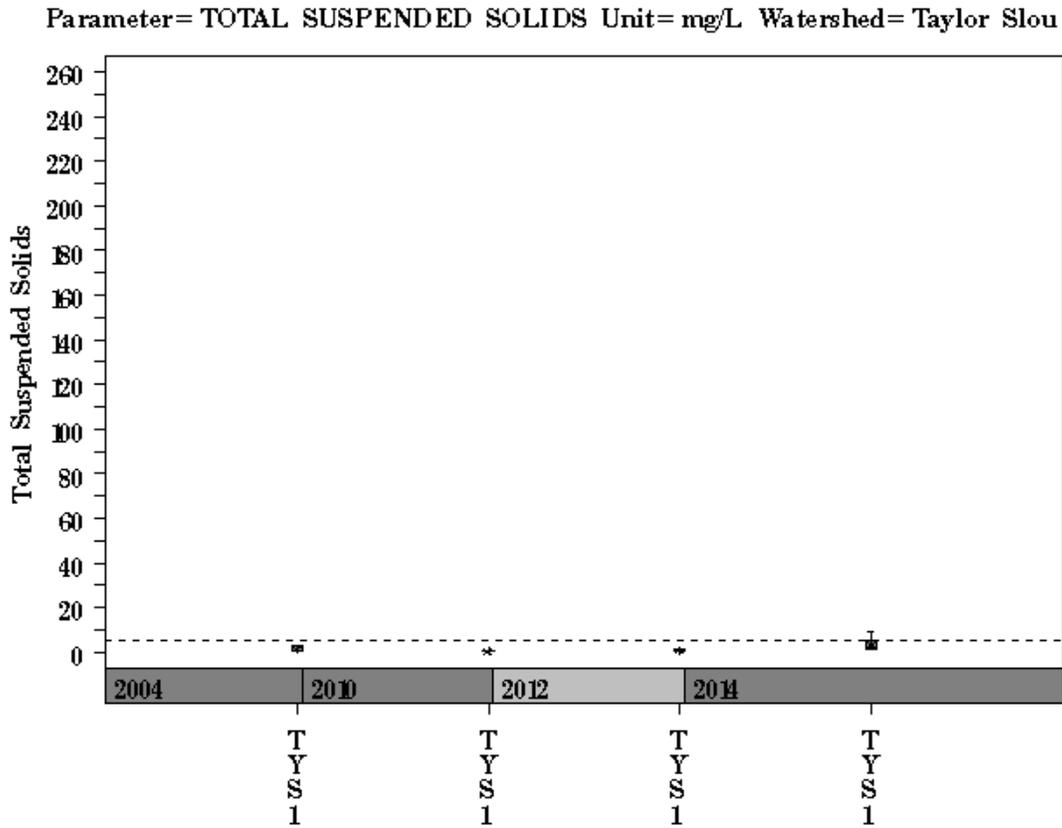
Site Name	Site #	Reach	Date	NH3-N		NO3/NO2		Ortho-P		T.S.S.		Turb.	
				<> Value	flag	<> Value	flag	<> Value	flag	<> Value	flag		
Taylor Slough South @ Reed Park	318	TYS1	01/15/2014	<J	0.008		3.87	<J	0.004	<J	1.12	0.8	R
Taylor Slough South @ Reed Park	318	TYS1	04/17/2014		0.032		5.17		0.022	R	9.04	2.4	R
Taylor Slough South @ Reed Park	318	TYS1	05/09/2014										
Taylor Slough South @ Reed Park	318	TYS1	07/02/2014	<J	0.008		5.69		0.010		2.16	0.9	
Taylor Slough South @ Reed Park	318	TYS1	09/10/2014		0.060		4.14		0.021		2.02	1.7	R
Site 318 Mean					0.027		4.72		0.014		3.59	1.5	
Watershed Mean					0.027		4.72		0.014		3.59	1.5	

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

Summary Statistics for all 2013 – 2014 E.I.I. Sites Combined.				
Parameter	2013-2014 Mean	2013-2014 Minimum	2013-2014 Maximum	1 Standard Deviation Above
NH3-M (mg/l)	0.031	0.008	2.250	0.150
NO3-N (mg/l)	1.16	0.01	16.30	4.02
Ortho-P (mg/l)	0.041	0.004	1.360	0.164
TSS (mg/l)	5.6	1.0	70.0	15.3
Turbidity (NTU)	4.5	0.0	97.1	13.2

Taylor Slough South Watershed

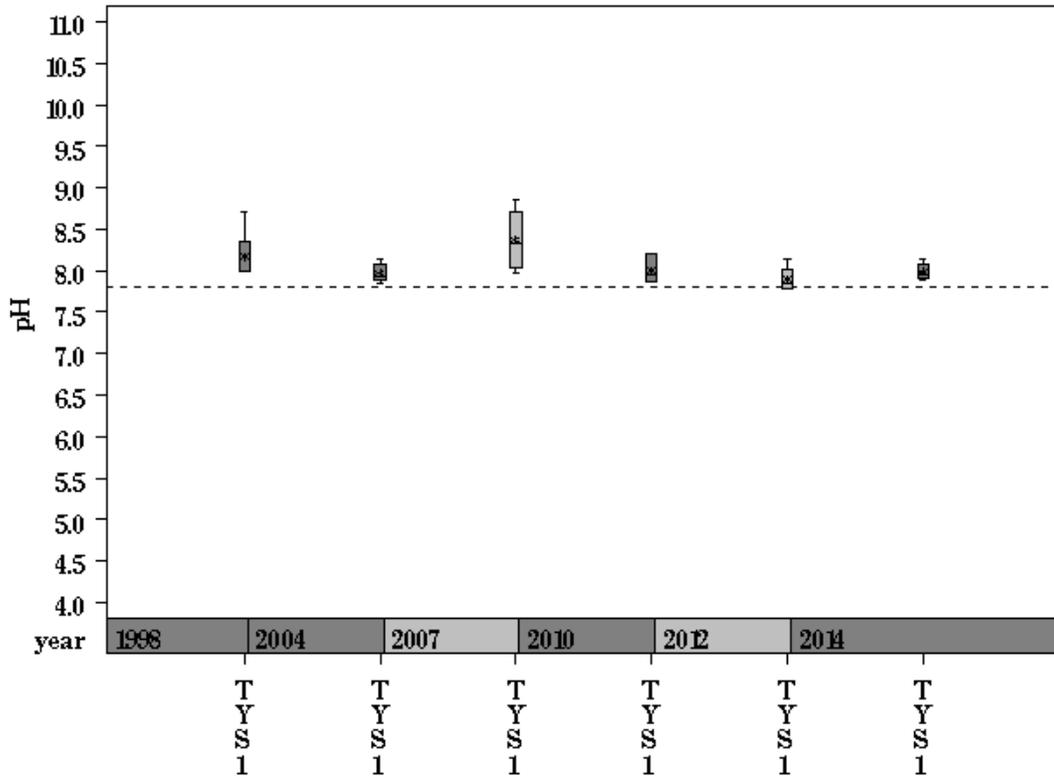
Data Summary Graphs – Total Suspended Solids and Turbidity (Downstream to Upstream by Year)



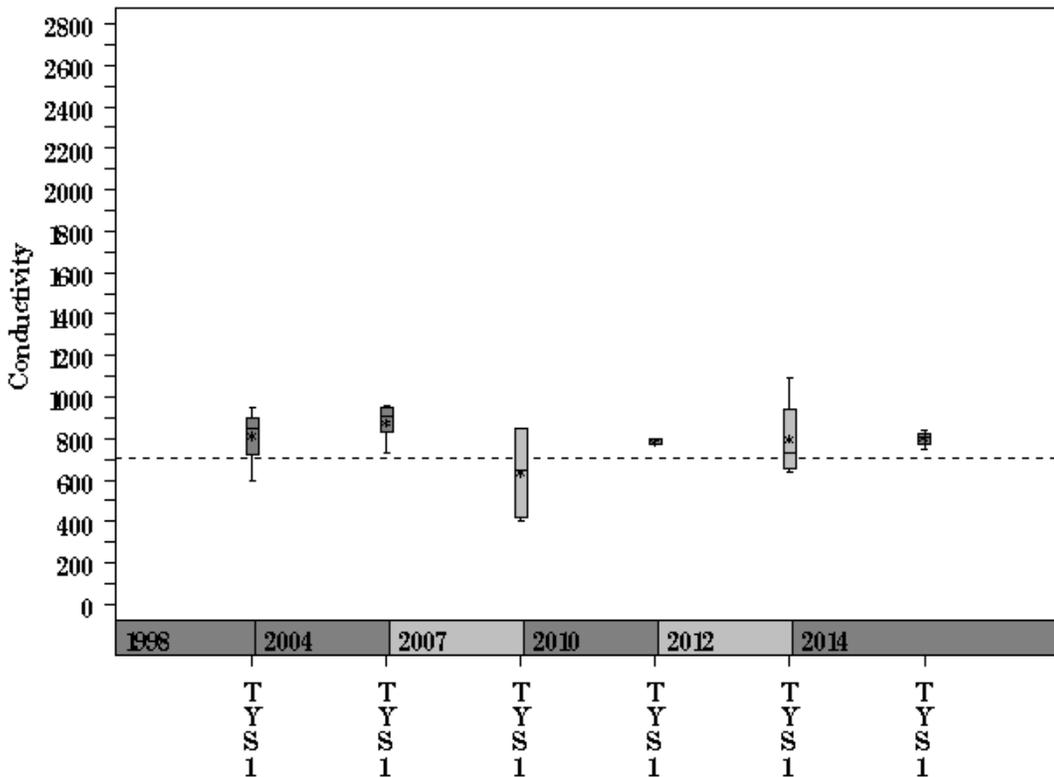
Taylor Slough South Watershed

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

Parameter= PH Unit= Standard units Watershed= Taylor Slough South



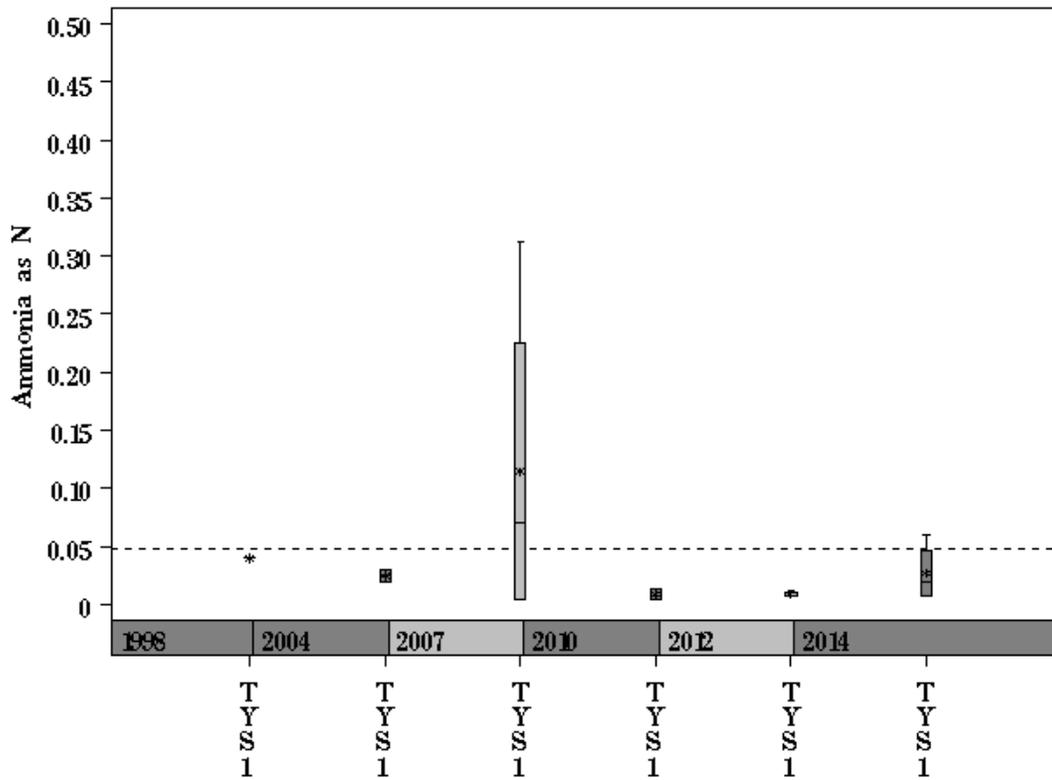
Parameter= CONDUCTIVITY Unit= uS/cm Watershed= Taylor Slough South



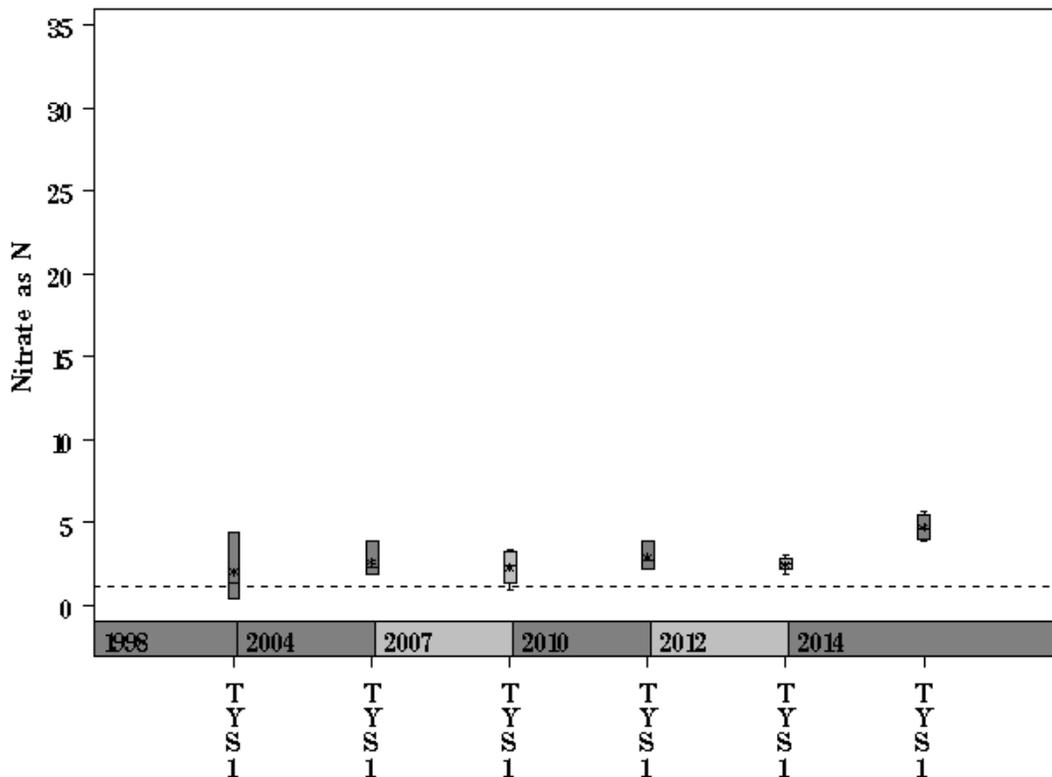
Taylor Slough South Watershed

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

Parameter= AMMONIA AS N Unit= mg/L Watershed= Taylor Slough South



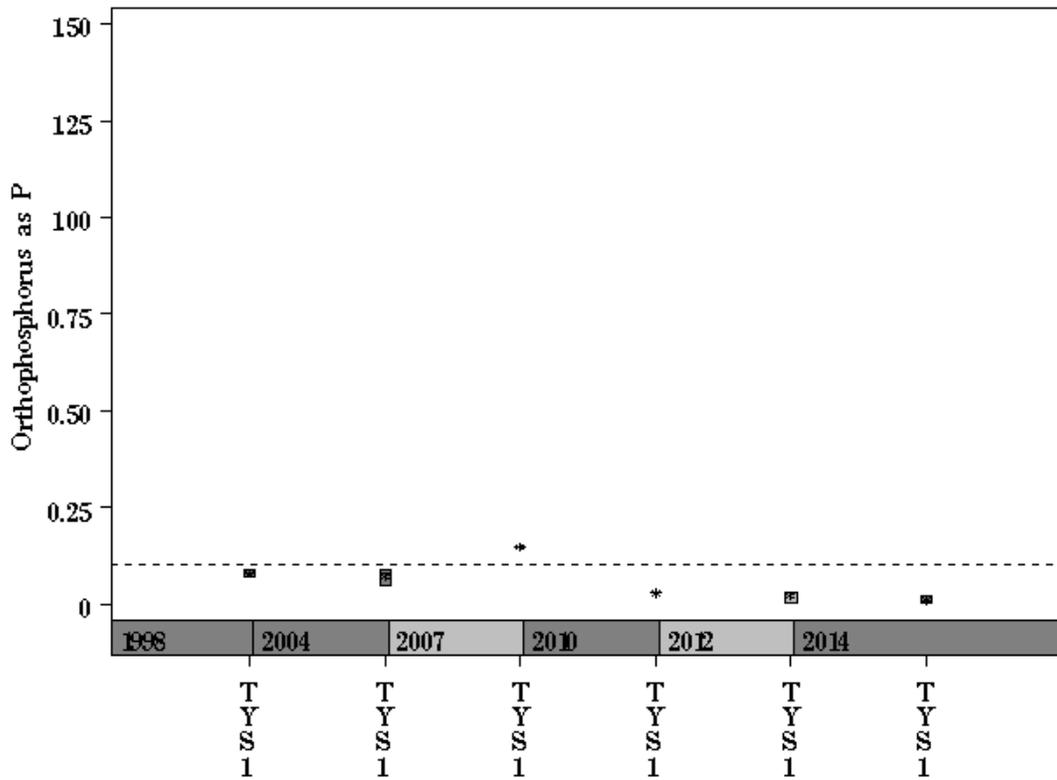
Parameter= NITRATE AS N Unit= mg/L Watershed= Taylor Slough South



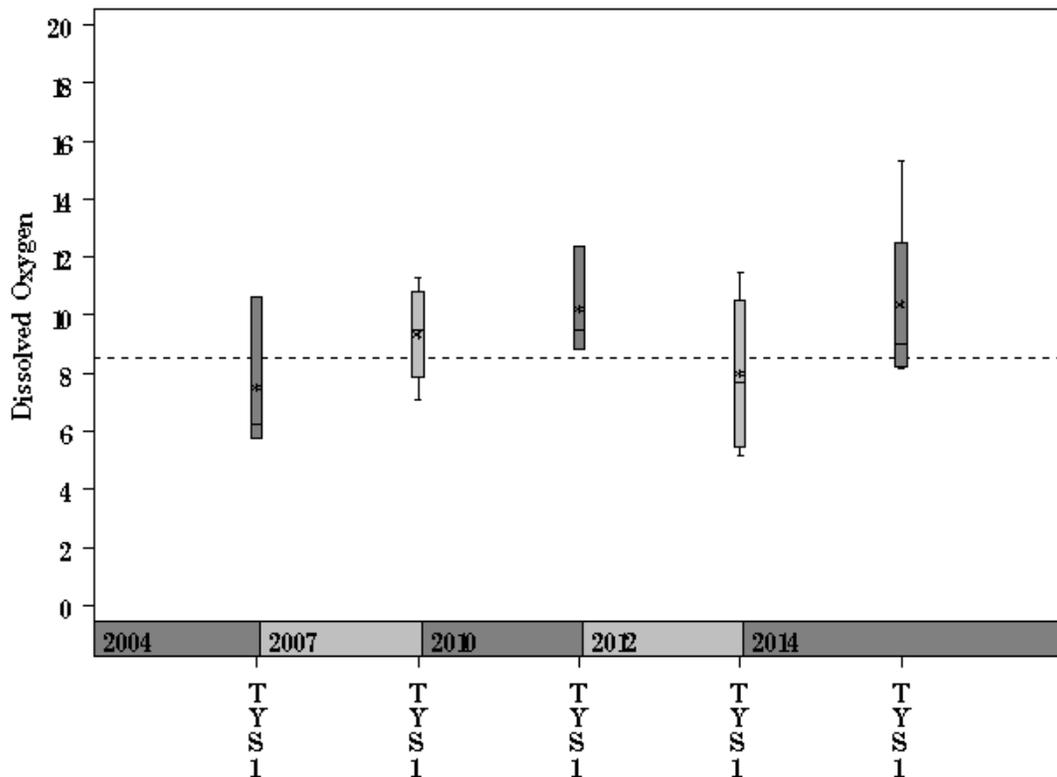
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Data Summary Graphs – Orthophosphate and Dissolved Oxygen (Downstream to Upstream by Year)

Parameter= ORTHOPHOSPHORUS AS P Unit= mg/L Watershed= Taylor Slough

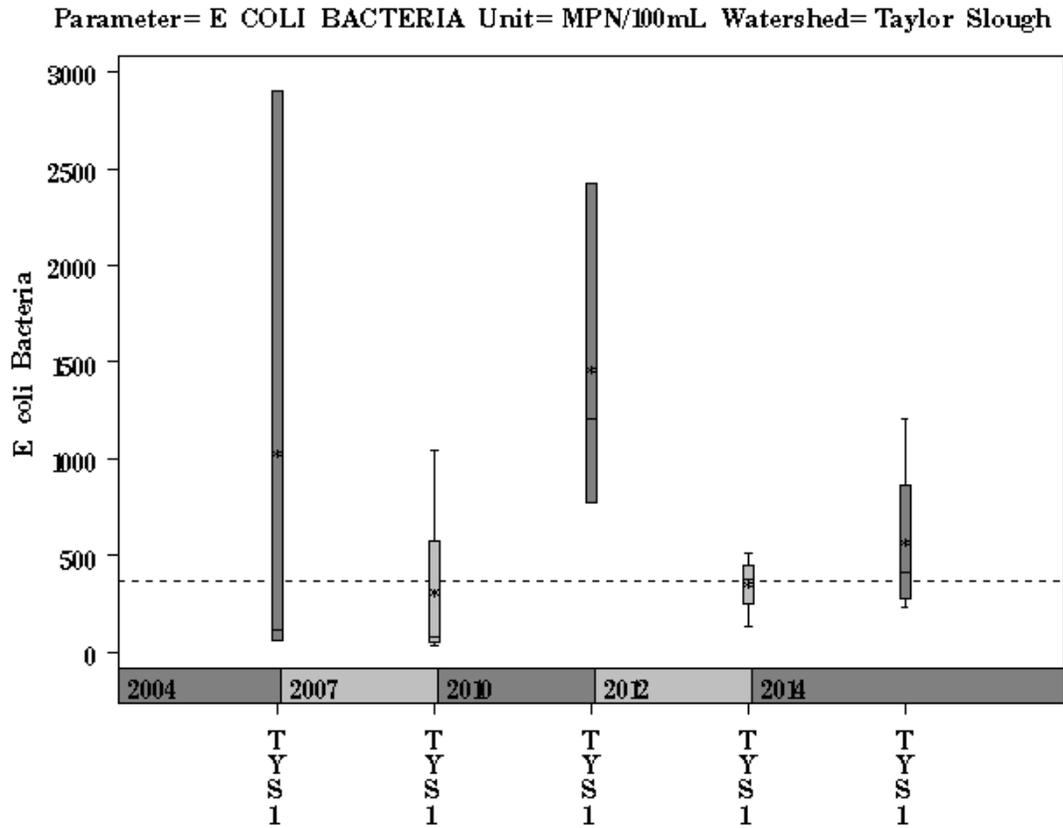


Parameter= DISSOLVED OXYGEN Unit= mg/L Watershed= Taylor Slough Sou



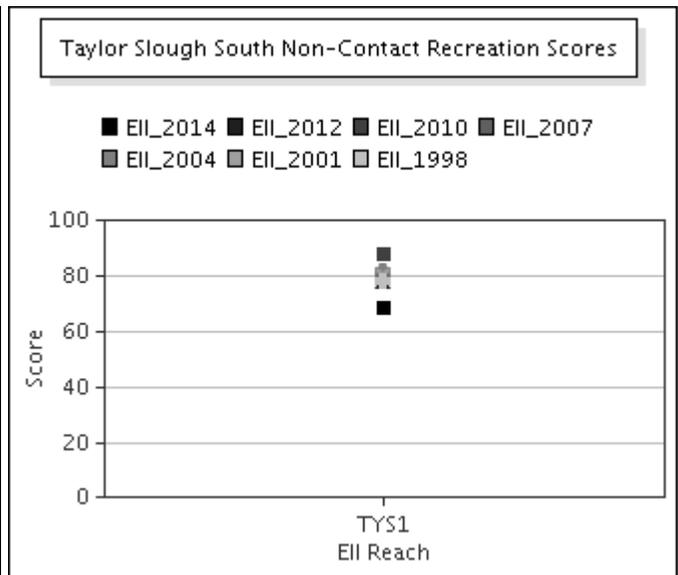
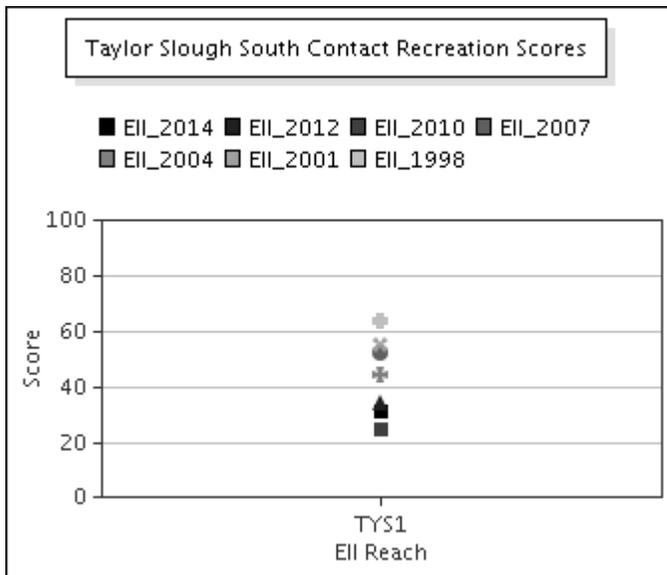
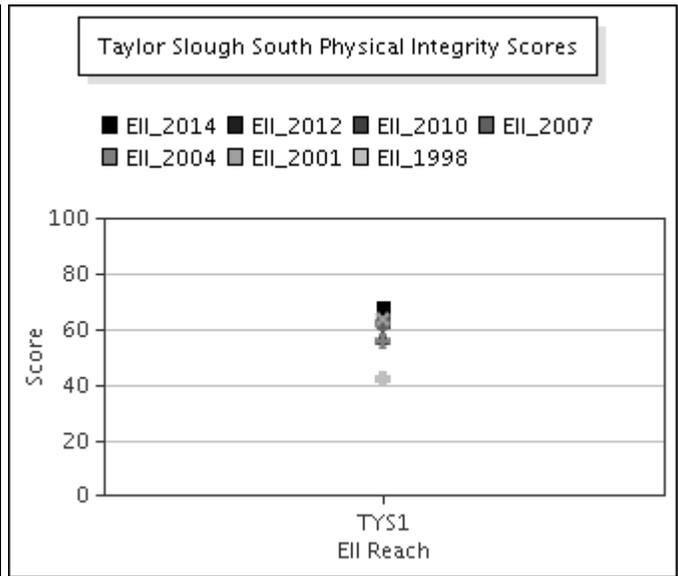
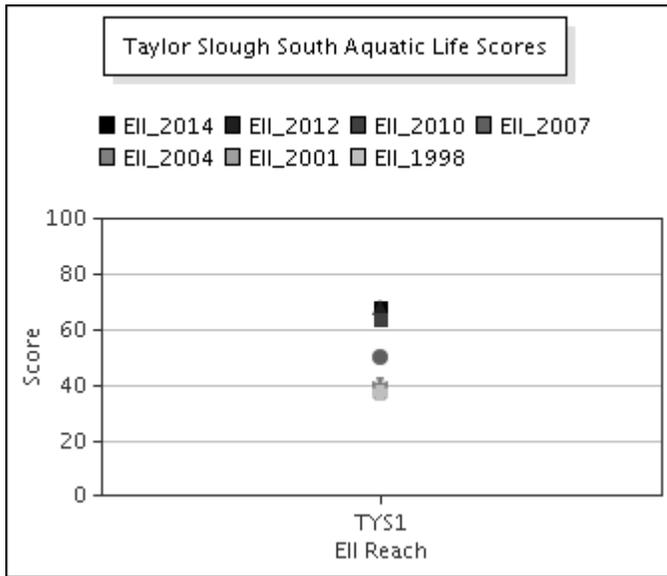
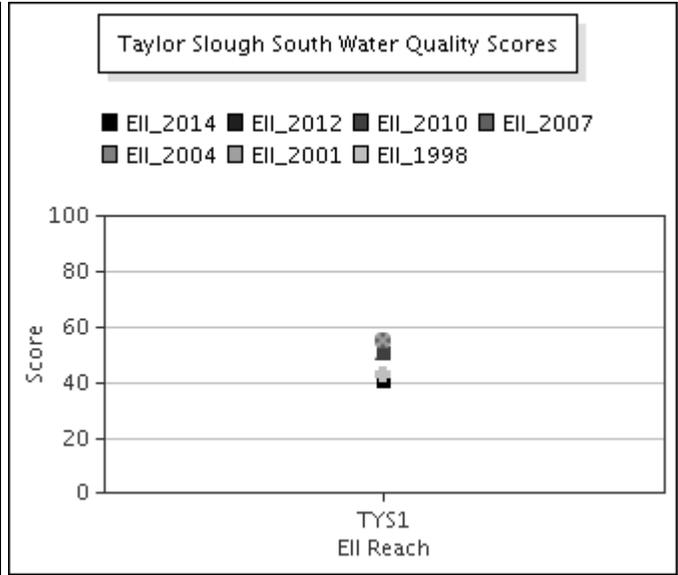
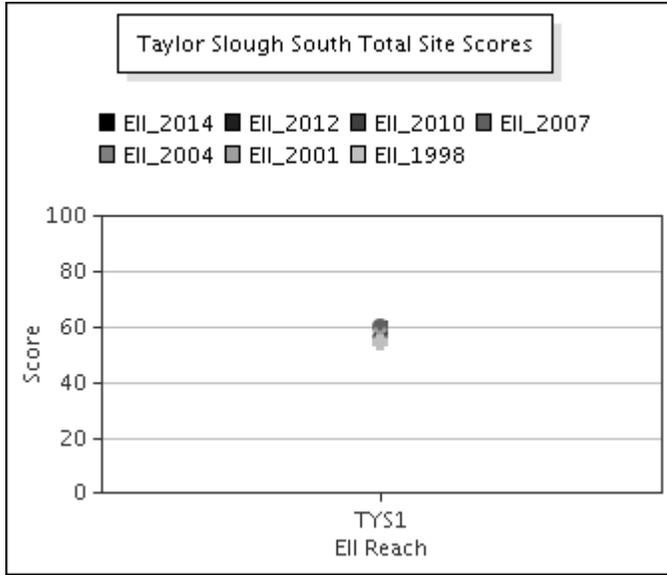
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Data Summary Graphs – *E.coli* (Downstream to Upstream by Year)



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Score Summary – Reach scores for each sample year



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Benthic Macroinvertebrates – Taxa List, Pollution Tolerance Index & Functional Feeding Group for 2014 Sample Sites (Downstream to Upstream)

Benthic Macroinvertebrate ID	PTI	FFG	Taylor Slough South @ Reed Park (Site 318)
<i>Falceon quilleri</i>	4	SC,CG	47
<i>Simulium</i> sp.	4	FC	1
<i>Argia</i> sp.	6	P	1
<i>Cheumatopsyche</i> sp.	6	FC	1
Chironomidae	6	P,FC	11
<i>Microvelia</i> sp.	6	P	1
Tanypodinae	6	P	6
Oligochaeta	8	CG	1
<i>Physella</i> sp.	9	SC	6
<i>Pericoma</i> sp. / <i>Telmatoscopus</i> sp.	10	CG	1

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Benthic Macroinvertebrates – Metric Summary for 2014 Sample Sites (Downstream to Upstream)

Scoring Metric	Taylor Slough South @ Reed Park (Site 318)
Number of Taxa *	9
Hilsenhoff Biotic Index *	5.1
Number of Ephemeroptera Taxa *	1
Percent of Total as Chironomidae *	22
Number of EPT Taxa *	2
Percent of Total as EPT *	63
Percent of Total as Predator *	25
Number of Intolerant Taxa *	2
Percent Dominance (Top 3 Taxa) *	84
EPT / EPT + Chironomidae	1
Number of Diptera Taxa	3
Number of Non-Insect Taxa	2
Number of Organisms	76
Percent Dominance (Top 1 Taxa)	62
Percent of Total as Collector / Gatherer	64
Percent of Total as Dominant Guild (FFG)	70
Percent of Total as Elmidae	0
Percent of Total as Filterers	25
Percent of Total as Grazers (PI & SC)	70
Percent of Total as Tolerant Organisms	9
Percent of Trichoptera as Hydropsychidae	100
Ratio of Intolerant : Tolerant Organisms	1.71
TCEQ Qualitative Aquatic Life Use Score	18
TCEQ Quantitative Aquatic Life Use Score	27

* **EII scoring parameter: Nine metric parameters are used in the calculation of the EII Benthic Subindex score. Other metrics are shown to supplement evaluation.**

1. # of Taxa: Higher diversity (number of taxa) correlates with greater biological integrity. The average number of taxa per site for 2013/2014 samples was 15; the lowest value was 5 and the highest value was 30.
2. Hilsenhoff Biotic Index (HBI): HBI values range from 0 to 10. Low HBI values reflect a higher abundance of taxa that are sensitive to organic (nutrient) pollution, thus a lower level of this type of pollution. The average HBI per site for 2013/2014 samples was 5.4; the lowest value was 3.7 and the highest value was 8.1.
3. # of Ephemeroptera taxa: A higher number of Ephemeroptera (mayfly) taxa correlates with greater biological integrity. The average number of taxa per site for 2013/2014 samples was 2; the lowest value was 0 and the highest value was 7.
4. % of total as Chironomidae: The percentage of the sample represented by the Dipteran family Chironomidae will increase with a decrease in biological integrity. The average percent Chironomidae per site for 2013/2014 samples was 16%; the lowest value was 0% and the highest value was 77%.
5. # of EPT Taxa: A higher number of Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly) taxa correlates with greater biological integrity. The average number of EPT taxa per site for 2013/2014 samples was 4; the lowest value was 0 and the highest value was 12.
6. % of total as EPT: The percentage of the sample represented by the insect orders Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly) will decrease with a decrease in biological integrity. The average percent EPT taxa per site for 2013/2014 samples was 46%; the lowest value was 0% and the highest value was 89%.
7. % of total as Predator: The percentage of the sample represented by predators is variable with regard to biological integrity. The average percent predator per site for 2013/2014 samples was 31%; the lowest value was 3% and the highest value was 82%.
8. # of Intolerant Taxa: A higher number of pollution intolerant taxa correlates with greater biological integrity. The average number of intolerant taxa per site for 2013/2014 samples was 5; the lowest value was 0 and the highest value was 15.
9. % Dominance (top 3 taxa): The percentage of the sample represented by the three most abundant taxa will increase with a decrease in biological integrity. The average percent of sample dominated by the top three taxa per site for 2013/2014 samples was 72%; the lowest value was 39% and the highest value was 96%.

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Diatoms – Taxa List & Pollution Tolerance Index for 2014 Sample Sites (Downstream to Upstream)

Diatom Species Name	PTI	Taylor Slough South @ Reed Park (Site 318)
<i>Amphora inariensis</i>	4	25
<i>Pinnularia acrosphaeria</i>	4	1
<i>Pinnularia interrupta</i>	4	2
<i>Platessa hustedtii</i>	4	3
<i>Achnantheidium minutissimum</i>	3	2
<i>Amphora ovalis</i>	3	11
<i>Amphora pediculus</i>	3	291
<i>Denticula kuetzingii</i>	3	28
<i>Denticula subtilis</i>	3	2
<i>Gomphonema acuminatum</i>	3	3
<i>Gomphonema affine</i>	3	10
<i>Gomphonema clavatum</i>	3	4
<i>Gomphonema truncatum</i>	3	4
<i>Navicula kotschyi</i>	3	2
<i>Navicula reichardtiana</i>	3	4
<i>Nitzschia linearis</i>	3	1
<i>Nitzschia sinuata</i> var. <i>delognei</i>	3	1
<i>Rhoicosphenia abbreviata</i>	3	18
<i>Achnantheiopsis lanceolata</i>	2	10
<i>Craticula buderi</i>	2	2
<i>Cyclotella meneghiniana</i>	2	4
<i>Fallacia pygmaea</i>	2	1
<i>Navicula menisculus</i>	2	2
<i>Navicula veneta</i>	2	2
<i>Nitzschia amphibia</i>	2	4
<i>Gomphonema parvulum</i>	1	4
<i>Nitzschia palea</i>	1	2
<i>Amphora copulata</i>		4
<i>Cocconeis placentula</i> var. <i>euglypta</i>		11
<i>Eolimna minima</i>		22
<i>Gomphonema lagenula</i>		1
<i>Navicula lanceolata</i>		6
<i>Ulnaria ulna</i>		13

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Diatoms – Metric Summary for 2014 Sample Sites (Downstream to Upstream)

Scoring Metric	Taylor Slough South @ Reed Park (Site 318)
<i>Cymbella</i> Richness	0
Number of organisms	500
Number of taxa	33
Percent motile taxa	4
Percent similarity to reference condition	17
Pollution tolerance index	2.99

- * **EII scoring parameter: Four metric parameters are used in the calculation of the EII Diatom Subindex score: *Cymbella* richness, percent motile taxa, percent similarity to reference condition and pollution tolerance index. Number of taxa is non-scoring, but is shown to supplement evaluation. The number of organisms is typically a sample of 500, but occasionally differs due to sample conditions.**
1. *Cymbella* Richness: The Cymbelloid taxa include species in the genus *Cymbella*, in addition to some species belonging to the genera *Cymbellopsis*, *Cymbopleura*, *Encyonema*, *Encyonemopsis*, *Navicymbula* and *Reimeria*. Their presence highlights the presence of sensitive species, especially with regard to impervious cover, and this value increases with an increase in overall water quality. The average number of Cymbelloid taxa per site for 2013/2014 samples was 3; the lowest value was 0 and the highest value was 7.
 2. % Motile Taxa: This is a siltation index showing the relative abundance of genera that are able to move towards the surface if covered by silt. A higher percentage is indicative of a degraded condition caused by increased silt pollution. The average percent motile taxa per site for 2013/2014 samples was 16%; the lowest value was 0% and the highest value was 77%.
 3. % similarity to reference condition: This percentage compares a site to reference sites that are selected based on having low percent impervious cover. A higher percentage reflects greater biological integrity. The average percent similarity per site for 2013/2014 samples was 31%; the lowest value was 6% and the highest value was 57%.
 4. Pollution Tolerance Index (PTI): This is a total value for a sample, which is a function of the abundance of each taxon (usually species) in a sample and the individual PTI's for each of those taxa. Individual PTI's for each taxon range from 1 (most pollution tolerant) to 4 (most pollution sensitive), thus higher total PTI's for a site reflect greater biological integrity. The average PTI per site for 2013/2014 samples was 2.76; the lowest value was 1.70 and the highest value was 3.45.

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Site Photographs



318_t00-ds-05_17_2004



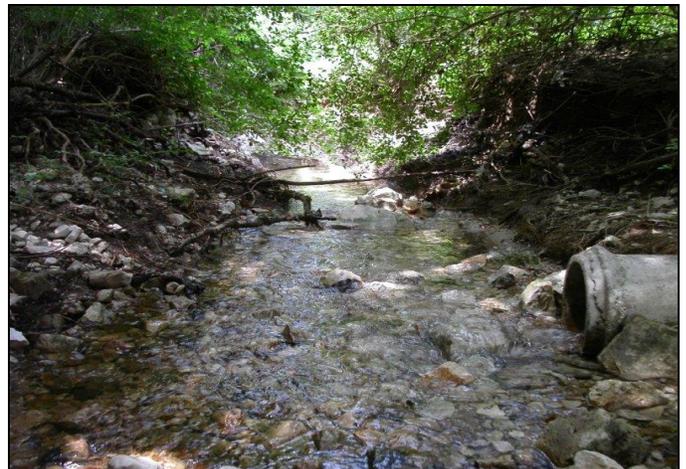
318_t00-ur-05_17_2004



318_t00-us-05_17_2004



318_us_06_18_2007



318_ur_06_18_2007

Taylor Slough South Watershed

Site Photographs



318_00-us-05_27_2010



318_00-ur-05_27_2010



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