

## Tables

Table 1

Sampling site information.

Project Name	Site #	Sampling Location	RM (SR)	RM upstrm. from RM=0	RM downstrm. from SRWTP	site type	Latitude	Longitude
Dugdale	I80	SR @ I-80 Bridge	62.6		-16.6	mainstem	38.600	-121.553
Foe, Dugdale	Site 1, TOW	SR @ Tower Bridge	59.0		-13.0	mainstem	38.580	-121.508
Dugdale	OAK	SR @ Oak Hall Bend	53.5		-7.5	mainstem	38.518	-121.529
Foe, Dugdale	Site 2, GRC	SR @ Garcia Bend	49.4		-3.4	mainstem	38.478	-121.544
Dugdale	RM44	SR @ River Mile 44	43.8		2.3	mainstem	38.435	-121.524
Foe, Dugdale	Site 3, HOD	SR @ Hood	38.3		7.7	mainstem	38.378	-121.525
Slough	SL-CTL	SR @ Courtland	34.0		12.0	mainstem	38.327	-121.576
Slough	Site 25, SL-25	SR @ Steamboat Slough	32.4		13.6	mainstem	38.305	-121.573
Dugdale	KEN	SR @ Kenady Landing	31.3		14.7	mainstem	38.292	-121.562
Dugdale	CRS	SR @ Delta Cross Channel	27.0		19.0	mainstem	38.264	-121.511
Foe, Slough	Site 5, SL-5	SR @ Walnut Grove	26.8		19.2	mainstem	38.243	-121.514
Dugdale, Slough	L37, SL-L37	SR @ L37	20.7		25.3	mainstem	38.194	-121.564
Foe, Dugdale, Slough	Site 6, ISL, SL-6	SR @ Isleton	16.6		29.4	mainstem	38.163	-121.610
Slough	SL-31	Miner Sl. @ Hwy 84 Bridge	14.1	10.3	17.9	distributary	38.291	-121.629
Slough	SL-30	Steamboat Sl. @ Ryer Bridge	14.1	6.4	19.2	distributary	38.238	-121.603
Foe, Slough	Site 27, SL-27	Miner Slough near mouth	14.1	5.0	23.2	distributary	38.234	-121.667
Foe, Slough	Site 26, SL-26	Steamboat Slough near mouth	14.1	1.3	24.3	distributary	38.184	-121.650
Foe	Site 8, SL-8	Cache Slough @ DWSC	14.1	4.7	36.6	slough	38.237	-121.673
Foe, Slough	Site 9, SL-9	Liberty Island	14.1	6.1	38.0	slough	38.257	-121.680
Slough	SL-721	Cache Slough @ pumphouse	14.1	7.3	39.2	slough	38.269	-121.702
Foe, Slough	Site 10, SL-10	Lindsey Slough	14.1	8.2	40.1	slough	38.258	-121.726
Foe, Slough	Site 11, SL-11	Toe Drain @ Dredger	14.1	13.1	44.9	slough	38.354	-121.643
Dugdale	HAS	Cache Slough @ Hastings Br.	14.1		38.2	slough	38.247	-121.702
Dugdale	CCR	Cache Slough @ Ryer Island	14.1		38.0	slough	38.217	-121.670

**Table 1.** continued.

Project Name	Site #	Sampling Location	RM (SR)	RM upstrm. from RM=0	RM downstrm. from SRWTP	site type	Latitude	Longitude
Foe, Dugdale	Site 7, US 657	SR @ Rio Vista	12.0		34.0	mainstem	38.157	-121.685
Dugdale	US 655	USGS 655	9.8		36.2	mainstem	38.122	-121.701
Foe	Site 13	SR @ Three Mile Slough	9.4		36.6	mainstem	38.106	-121.700
Dugdale	US 653	USGS 653	8.4		37.6	mainstem	38.106	-121.720
Dugdale	US 649	Sacramento River	3.0		43.0	mainstem	38.045	-121.799
Dugdale	US 2	SR @ Chain Island	0.0		46.0	mainstem	38.063	-121.855
Foe	Site 14	SR @ Pt. Sacramento	-0.3		46.3	mainstem	38.062	-121.857
Dugdale	US 3	Pittsburg	-1.5		47.5	mainstem	38.055	-121.875
Foe	Site 15	Chipps Island	-3.9		49.9	mainstem	38.046	-121.919
Dugdale	US 4	Simmons Point	-4.7		50.7	mainstem	38.049	-121.930
Dugdale	US 5	Middle Ground	-7.3		53.3	mainstem	38.060	-121.979
Dugdale	US 6	Roe Island	-10.3		56.3	mainstem	38.065	-122.040
Dugdale	US 7	Avon Pier	-14.0		60.0	mainstem	38.032	-122.098
Dugdale	US 13	North of Pinole Point	-30.5		76.5	mainstem	38.029	-122.369
Dugdale	Site 25	Paradise Cay	-35.7		81.7	mainstem	37.934	-122.459

Table 2

Interpretive value of different isotope tracer types.

Tracer type	Interpretive value
<b>Particulate organic matter (POM)</b> $\delta^{15}\text{N}$ , $\delta^{13}\text{C}$ , $\delta^{34}\text{S}$ , and C:N	Information about the source of the C, N, and S - and the biogeochemical reactions that cycle the elements - even after incorporation into algal biomass; quantify algal vs. terrestrial contributions to biomass.
<b>Nitrate</b> $\delta^{18}\text{O}$ , $\delta^{15}\text{N}$ , and $\Delta^{17}\text{O}$	Quantify nitrate from different sources (fertilizer, wastewater, wetlands, atmosphere, etc), role in the productions of algae, and the degree of recycling, evidence for denitrification or assimilation
<b>Ammonium</b> $\delta^{15}\text{N}$	Quantify ammonium from different sources (fertilizer, wastewater, wetlands, etc), role in the production of algae, and degree of recycling, evidence for nitrification or assimilation.
<b>Water</b> $\delta^{18}\text{O}$ and $\delta^2\text{H}$	Ideal conservative tracer of water sources and mixing; useful for quantifying flow contributions from different tributaries and groundwater.
<b>Dissolved organic matter (DOM)</b> $\delta^{15}\text{N}$ , $\delta^{13}\text{C}$ , $\delta^{34}\text{S}$ , and C:N	Information about the source of the C, N, and S - and the biogeochemical reactions that cycle the elements - even after incorporation into algal biomass; quantify algal vs. terrestrial contributions to biomass.
<b>Dissolved inorganic carbon (DIC)</b> $\delta^{13}\text{C}$	Information on sources of DIC, evidence for <i>in situ</i> algal productivity, evidence for degradation of organic matter, degree of gas exchange with atmosphere, nitrification.

Table 3

Average isotopic data by site. Site type codes: m = mainstem; s = slough; d = distributary.

Sampling Location	RM (SR)	RM downstr. of SRWTP	site type	# samples	POM $\delta^{13}\text{C}$	POM $\delta^{15}\text{N}$	POM C:N (at.)	POM $\delta^{34}\text{S}$	POM C:S (at.)	DOC $\delta^{13}\text{C}$	$\text{NO}_3$ $\delta^{15}\text{N}$	$\text{NO}_3$ $\delta^{18}\text{O}$	$\text{NH}_4$ $\delta^{15}\text{N}$	$\text{H}_2\text{O}$ $\delta^{18}\text{O}$	$\text{H}_2\text{O}$ $\delta^2\text{H}$
SR @ I-80 Bridge	62.6	-16.6	m	2	-27.7	5.5	7.5	4.4		-25.4	7.5	3.4		-10.9	-79.5
SR @ Tower Bridge	59.0	-13.0	m	13	-27.0	4.4	8.3	1.2	84	-25.4	6.8	1.3	6.1	-11.3	-79.4
SR @ Oak Hall Bend	53.5	-7.5	m	2	-27.5	5.2	7.6	3.1		-25.1	6.0	6.2		-11.0	-79.3
SR @ Garcia Bend	49.4	-3.4	m	13	-27.4	2.9	8.5	2.2	89	-24.6	6.6	1.6	4.1	-10.9	-79.6
SR @ River Mile 44	43.8	2.3	m	2	-26.9	3.0	7.7	2.1		-24.5	7.0	2.5	7.0	-11.2	-79.5
SR @ Hood	38.3	7.7	m	13	-26.6	2.3	8.5	0.8	105	-24.4	6.0	0.2	8.5	-11.2	-79.6
SR @ Courtland	34.0	12.0	m	10	-27.8	3.9	8.6	1.7	101		7.5	-1.4	8.7		
SR @ Steamboat Slough	32.4	13.6	m	12	-27.5	4.4	8.7	1.0	105		6.6	0.9	9.1		
SR @ Kenady Landing	31.3	14.7	m	2	-26.7	2.5	8.2	0.7		-24.1	5.2	-3.1	7.6	-10.8	-79.0
SR @ Delta Cross Channel	27.0	19.0	m	2	-26.6	2.6	8.1	2.2		-23.8	5.8	-2.8	8.4	-10.9	-78.4
SR @ Walnut Grove	26.8	19.2	m	21	-27.3	2.4	8.9	1.1	104		5.6	-1.5	9.6		
SR @ L37	20.7	25.3	m	12	-27.7	2.7	8.7	2.1	111	-23.7	6.1	0.5	9.5	-10.8	-77.8
SR @ Isleton	16.6	29.4	m	23	-27.3	2.7	8.6	1.4	90	-24.8	5.0	-2.6	10.2	-10.8	-78.1
Miner Slough @ Hwy 84 Br.	14.1	17.9	d	10	-28.1	2.8	9.0	0.9	115		6.2	-2.6	9.7		
Steamboat Slough @ Ryer Br.	14.1	19.2	d	10	-28.0	4.2	8.7	0.9	111		6.1	-2.2	10.3		
Miner Slough near mouth	14.1	23.2	d	12	-28.1	3.7	8.8	0.5	109		5.8	-2.0	10.4		
Steamboat Sl. near mouth	14.1	24.3	d	13	-27.7	3.1	9.2	1.1	105		5.9	-3.1	10.2		
Cache Slough @ DWSC	14.1	36.6	s	21	-29.0	3.8	8.4	0.9	114	-25.4	5.5	-3.6	11.8	-9.8	-76.0
Liberty Island	14.1	38.0	s	17	-29.0	3.7	8.1	0.7	111	-26.2	5.7	-4.5	11.9	-9.6	-75.9
Cache Slough @ Ryer Island	14.1	38.0	s	2	-29.6	6.2	7.6	-0.9		-24.6	6.2	0.2	10.3	-8.9	-65.6
Cache Slough @ Hastings Br.	14.1	38.2	s	2	-28.9	4.5	8.3	-1.0		-26.9	6.5	0.3	12.1	-9.2	-67.2
Cache Slough @ pumphouse	14.1	39.2	s	5	-29.0	3.7	8.1	-0.5	111	-26.2	5.7	-4.5	11.9	-9.6	-75.9
Lindsey Slough	14.1	40.1	s	21	-29.9	6.4	7.7	2.0	125	-25.9	6.0	-2.6	11.3	-9.4	-73.4
Toe Drain @ Dredger	14.1	44.9	s	21	-29.5	6.0	7.5	-0.4	102	-25.7	7.8	1.6	8.1	-7.5	-65.3

**Table 3.** continued.

Sampling Location	RM (SR)	RM downstr. of SRWTP	site type	# samples	POM $\delta^{13}\text{C}$	POM $\delta^{15}\text{N}$	POM C:N Ratio (at.)	POM $\delta^{34}\text{S}$	POM C:S Ratio (at.)	DOC $\delta^{13}\text{C}$	$\text{NO}_3$ $\delta^{15}\text{N}$	$\text{NO}_3$ $\delta^{18}\text{O}$	$\text{NH}_4$ $\delta^{15}\text{N}$	$\text{H}_2\text{O}$ $\delta^{18}\text{O}$	$\text{H}_2\text{O}$ $\delta^2\text{H}$
SR @ Rio Vista	12.0	34.0	m	15	-27.4	2.6	8.8	-0.3	99	-25.8	4.9	-3.8	12.0	-10.3	-75.2
USGS 655	9.8	36.2	m	3	-27.5	2.9	9.6	2.3		-26.3	4.5	-2.8	11.3	-10.3	-74.2
SR @ Three Mile Slough	9.4	36.6	m	11	-27.7	4.1	8.8	3.7	100		5.7	-4.2	12.5		
USGS 653	8.4	37.6	m	2	-26.7	3.5	9.3	0.6		-25.5	4.5	-3.7	11.7	-10.2	-74.9
Sacramento River	3.0	43.0	m	2	-27.1	5.2	8.6	4.3		-24.7	4.4	-1.6	12.4	-9.9	-73.8
SR @ Chain Island	0.0	46.0	m	2	-27.2	4.1	8.8	4.9		-25.0	5.2	-0.2	13.1	-9.8	-72.5
SR @ Pt. Sacramento	-0.3	46.3	m	11	-26.8	4.0	9.4	7.2	51		6.0	-4.1	13.8		
Pittsburg	-1.5	47.5	m	2	-27.2	4.1	8.6	5.6		-25.7	5.4	-3.1	14.2	-9.6	-72.6
Chipps Island	-3.9	49.9	m	11	-26.5	4.6	9.5	8.5	34		6.2	-3.8	14.2		
Simmons Point	-4.7	50.7	m	2	-27.4	4.5	8.9	6.0		-25.0	5.1	-2.7	14.4	-9.7	-71.9
Middle Ground	-7.3	53.3	m	2	-26.9	4.5	8.7	7.6		-25.0	5.5	-1.1	14.2	-9.6	-70.0
Roe Island	-10.3	56.3	m	2	-26.7	5.1	8.5	7.9		-24.5	5.4	-0.1	15.6	-9.3	-67.5
Avon Pier	-14.0	60.0	m	2	-26.6	5.2	8.2	9.6		-24.5	4.8	-0.7	15.2	-8.1	-60.4
North of Pinole Point	-30.5	76.5	m	2	-25.8	5.1	7.2	13.6		-23.7	6.2	4.2	16.3	-3.6	-26.4
Paradise Cay	-35.7	81.7	m	1	-27.9	3.9	8.1	21.2		-25.3	7.2	11.7	10.6	-2.8	-21.7

Table 4a

Unpaired t-tests for Isleton vs all Cache Slough “tributary” sites. NS= non-significant differences. For significant differences, T>R or T<R indicate whether the T (tributary) is significantly higher or lower than the R (river) value.

Parameter	# River	# Trib	P value	River vs. Trib
$\delta^{15}\text{N-NO}_3$	18	79	1.8E-03	T>R
$\delta^{18}\text{O-NO}_3$	18	79	6.2E-01	NS
$\delta^{15}\text{N-NH}_4$	21	66	1.7E-01	NS
POM-C:N (at)	21	85	2.4E-03	T<R
$\delta^{13}\text{C-POM}$	20	85	1.3E-11	T<R
$\delta^{15}\text{N-POM}$	20	84	7.6E-05	T>R
$\delta^{34}\text{S-POM}$	16	76	1.2E-01	NS
DOC	21	85	9.8E-05	T>R
DON	10	41	1.6E-03	T>R
$\text{NO}_3+\text{NO}_2$	21	85	9.4E-09	T>R
$\text{NO}_2$	21	85	4.8E-02	T>R
$\text{PO}_4$	21	85	7.2E-10	T>R
$\text{NH}_4$	21	85	5.8E-07	T<R
Chl a	21	85	2.8E-11	T>R
Sp. Cond	17	69	7.1E-08	T>R

Table 4b

Date-paired t-tests for Isleton vs all Cache Slough “tributary” sites.

Parameter	# River	# Trib.	# Pairs	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	79	79	1.8E-03	T>R
$\delta^{18}\text{O-NO}_3$	18	79	79	6.2E-01	NS
$\delta^{15}\text{N-NH}_4$	21	66	66	1.7E-01	NS
POM-C:N (at)	21	85	85	2.4E-03	T<R
$\delta^{13}\text{C-POM}$	20	85	85	1.3E-11	T<R
$\delta^{15}\text{N-POM}$	20	84	84	7.6E-05	T>R
$\delta^{34}\text{S-POM}$	16	76	16	6.4E-03	T<R
DOC	21	85	85	9.8E-05	T>R
DON	10	41	41	1.6E-03	T>R
$\text{NO}_3+\text{NO}_2$	21	85	85	9.4E-09	T>R
$\text{NO}_2$	21	85	85	4.8E-02	T>R
$\text{PO}_4$	21	85	85	7.2E-10	T>R
$\text{NH}_4$	21	85	85	5.8E-07	T<R
Chl a	21	85	85	2.8E-11	T>R
Sp. Cond	17	69	69	7.1E-08	T>R

Table 5a

Date-paired t-tests for Isleton vs. Liberty Island site.

Parameter	# River	# Trib.	# Pairs	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	14	15	14	3.9E-04	T>R
$\delta^{18}\text{O-NO}_3$	14	15	14	1.3E-01	NS
$\delta^{15}\text{N-NH}_4$	17	15	15	2.7E-02	T>R
POM-C:N (at)	17	17	17	2.9E-01	NS
$\delta^{13}\text{C-POM}$	16	17	16	4.9E-05	T<R
$\delta^{15}\text{N-POM}$	16	17	16	1.9E-02	T>R
$\delta^{34}\text{S-POM}$	12	15	12	5.4E-01	NS
DOC	17	17	17	7.0E-02	NS
DON	6	6	6	1.0E-01	NS
$\text{NO}_3+\text{NO}_2$	17	17	17	1.4E-03	T>R
$\text{NO}_2$	17	17	17	2.3E-01	NS
$\text{PO}_4$	17	17	17	3.4E-02	T>R
$\text{NH}_4$	17	17	17	2.3E-05	T<R
Chl a	17	17	17	2.5E-02	T>R
Sp. Cond	16	15	15	3.2E-06	T>R

Table 5b

Date-paired t-tests for Isleton vs. Cache Slough @ DWSC site.

Parameter	# River	# Trib.	# Pairs	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	20	18	1.8E-01	NS
$\delta^{18}\text{O-NO}_3$	18	20	18	1.9E-01	NS
$\delta^{15}\text{N-NH}_4$	21	20	20	1.3E-05	T>R
POM-C:N (at)	21	21	21	4.2E-01	NS
$\delta^{13}\text{C-POM}$	20	21	20	2.3E-03	T<R
$\delta^{15}\text{N-POM}$	20	21	20	6.3E-02	NS
$\delta^{34}\text{S-POM}$	16	19	16	5.1E-01	NS
DOC	21	21	21	9.6E-04	T>R
DON	10	10	10	3.2E-01	NS
$\text{NO}_3+\text{NO}_2$	21	21	21	4.5E-07	T>R
$\text{NO}_2$	21	21	21	4.0E-07	T>R
$\text{PO}_4$	21	21	21	5.0E-05	T>R
$\text{NH}_4$	21	21	21	4.9E-06	T<R
Chl a	21	21	21	1.8E-02	T>R
Sp. Cond	17	17	17	5.1E-06	T>R

Table 5c

Date-paired t-tests for Isleton vs. Lindsey Slough site.

Parameter	# River	# Trib.	# Pairs	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	18	18	7.4E-05	T>R
$\delta^{18}\text{O-NO}_3$	18	18	18	7.6E-01	NS
$\delta^{15}\text{N-NH}_4$	21	14	14	2.7E-01	NS
POM-C:N (at)	21	21	21	1.3E-02	T<R
$\delta^{13}\text{C-POM}$	20	21	20	3.2E-07	T<R
$\delta^{15}\text{N-POM}$	20	20	20	9.8E-07	T>R
$\delta^{34}\text{S-POM}$	16	18	16	7.8E-01	NS
DOC	21	21	21	3.3E-05	T>R
DON	10	10	10	3.1E-03	T>R
$\text{NO}_3+\text{NO}_2$	21	21	21	2.7E-05	T>R
$\text{NO}_2$	21	21	21	8.3E-04	T>R
$\text{PO}_4$	21	21	21	5.4E-05	T>R
$\text{NH}_4$	21	21	21	2.6E-08	T<R
Chl a	21	21	21	9.8E-06	T>R
Sp. Cond	17	17	17	1.1E-07	T>R

Table 5d

Date-paired t-tests for Isleton vs. Toe Drain site.

Parameter	# River	# Trib.	# Pairs	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	21	18	5.2E-06	T>R
$\delta^{18}\text{O-NO}_3$	18	21	18	4.7E-03	T>R
$\delta^{15}\text{N-NH}_4$	21	15	15	3.0E-02	T<R
POM-C:N (at)	21	21	21	2.0E-03	T<R
$\delta^{13}\text{C-POM}$	20	21	20	5.6E-08	T<R
$\delta^{15}\text{N-POM}$	20	21	20	2.4E-05	T>R
$\delta^{34}\text{S-POM}$	16	19	16	5.8E-03	T<R
DOC	21	21	21	1.1E-06	T>R
DON	10	10	10	5.2E-06	T>R
$\text{NO}_3+\text{NO}_2$	21	21	21	3.0E-04	T>R
$\text{NO}_2$	21	21	21	2.6E-01	NS
$\text{PO}_4$	21	21	21	1.6E-10	T>R
$\text{NH}_4$	21	21	21	3.7E-08	T<R
Chl a	21	21	21	5.9E-06	T>R
Sp. Cond	17	16	16	3.2E-05	T>R



Table 6a

T-tests for both Miner Slough vs. both Steamboat Slough sites.

Parameter	# River	# Trib.	P value	Miner vs. Steamboat
$\delta^{15}\text{N-NO}_3$	16	18	0.98	NS
$\delta^{18}\text{O-NO}_3$	16	18	0.74	NS
$\delta^{15}\text{N-NH}_4$	22	23	0.72	NS
POM-C:N (at)	22	22	0.79	NS
$\delta^{13}\text{C-POM}$	21	20	0.41	NS
$\delta^{15}\text{N-POM}$	21	20	0.60	NS
$\delta^{34}\text{S-POM}$	19	22	0.42	NS
DOC	22	23	0.51	NS
DON	20	21	0.95	NS
$\text{NO}_3+\text{NO}_2$	22	23	0.52	NS
$\text{NO}_2$	22	23	0.67	NS
$\text{PO}_4$	22	23	0.39	NS
$\text{NH}_4$	22	23	0.89	NS
Chl a	22	23	0.24	NS
Sp. Cond	14	14	0.34	NS

Table 6b

T-tests for lower Miner Slough vs. lower Steamboat Slough sites.

Parameter	# River	# Trib.	P value	Miner vs. Steamboat
$\delta^{15}\text{N-NO}_3$	9	10	0.89	NS
$\delta^{18}\text{O-NO}_3$	9	10	0.59	NS
$\delta^{15}\text{N-NH}_4$	12	13	0.66	NS
POM-C:N (at)	12	12	0.33	NS
$\delta^{13}\text{C-POM}$	11	12	0.41	NS
$\delta^{15}\text{N-POM}$	11	12	0.51	NS
$\delta^{34}\text{S-POM}$	12	11	0.35	NS
DOC	12	13	0.87	NS
DON	10	11	0.89	NS
$\text{NO}_3+\text{NO}_2$	12	13	0.62	NS
$\text{NO}_2$	12	13	0.57	NS
$\text{PO}_4$	12	13	0.43	NS
$\text{NH}_4$	12	13	0.89	NS
Chl a	12	13	0.22	NS
Sp. Cond	8	8	0.92	NS

Table 7a

T-tests for Isleton vs. both Steamboat Slough sites.

Parameter	# River	# Trib.	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	18	0.07	NS
$\delta^{18}\text{O-NO}_3$	18	18	0.89	NS
$\delta^{15}\text{N-NH}_4$	21	23	0.66	NS
POM-C:N (at)	21	22	0.41	NS
$\delta^{13}\text{C-POM}$	20	20	0.19	NS
$\delta^{15}\text{N-POM}$	20	20	0.25	NS
$\delta^{34}\text{S-POM}$	16	22	0.67	NS
DOC	21	23	0.40	NS
DON	10	21	0.99	NS
$\text{NO}_3+\text{NO}_2$	21	23	0.51	NS
$\text{NO}_2$	21	23	0.14	NS
$\text{PO}_4$	21	23	0.02	T<R
$\text{NH}_4$	21	23	0.02	T<R
Chl a	21	23	0.93	NS
Sp. Cond	17	14	0.36	NS

Table 7b

T-tests for Isleton vs. both Miner Slough sites.

Parameter	# River	# Trib.	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	16	0.06	NS
$\delta^{18}\text{O-NO}_3$	18	16	0.84	NS
$\delta^{15}\text{N-NH}_4$	21	22	0.40	NS
POM-C:N (at)	21	22	0.54	NS
$\delta^{13}\text{C-POM}$	20	21	0.01	T<R
$\delta^{15}\text{N-POM}$	20	21	0.53	NS
$\delta^{34}\text{S-POM}$	16	19	0.24	NS
DOC	21	22	0.79	NS
DON	10	20	0.96	NS
$\text{NO}_3+\text{NO}_2$	21	22	0.22	NS
$\text{NO}_2$	21	22	0.07	NS
$\text{PO}_4$	21	22	0.00	T<R
$\text{NH}_4$	21	22	0.03	T<R
Chl a	21	22	0.35	NS
Sp. Cond	17	14	0.76	NS

Table 7c

T-tests for Isleton vs. lower Steamboat Slough site.

Parameter	# River	# Trib.	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	10	0.19	NS
$\delta^{18}\text{O-NO}_3$	18	10	0.72	NS
$\delta^{15}\text{N-NH}_4$	21	13	0.66	NS
POM-C:N (at)	21	12	0.15	NS
$\delta^{13}\text{C-POM}$	20	12	0.46	NS
$\delta^{15}\text{N-POM}$	20	12	0.73	NS
$\delta^{34}\text{S-POM}$	16	12	0.84	NS
DOC	21	13	0.48	NS
DON	10	11	0.85	NS
$\text{NO}_3+\text{NO}_2$	21	13	0.74	NS
$\text{NO}_2$	21	13	0.51	NS
$\text{PO}_4$	21	13	0.09	NS
$\text{NH}_4$	21	13	0.02	T<R
Chl a	21	13	0.94	NS
Sp. Cond	17	8	0.89	NS

Table 7d

T-tests for Isleton vs. lower Miner Slough site.

Parameter	# River	# Trib.	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	18	9	0.24	NS
$\delta^{18}\text{O-NO}_3$	18	9	0.77	NS
$\delta^{15}\text{N-NH}_4$	21	12	0.91	NS
POM-C:N (at)	21	12	0.76	NS
$\delta^{13}\text{C-POM}$	20	11	0.07	NS
$\delta^{15}\text{N-POM}$	20	11	0.31	NS
$\delta^{34}\text{S-POM}$	16	11	0.22	NS
DOC	21	12	0.45	NS
DON	10	10	0.77	NS
$\text{NO}_3+\text{NO}_2$	21	12	0.81	NS
$\text{NO}_2$	21	12	0.21	NS
$\text{PO}_4$	21	12	0.02	T<R
$\text{NH}_4$	21	12	0.06	NS
Chl a	21	12	0.31	NS
Sp. Cond	17	8	0.81	NS

Table 8a

Date-paired t-tests for Isleton vs. lower Steamboat Slough site.

Parameter	# River	# Trib	# Pairs	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	10	10	10	0.28	NS
$\delta^{18}\text{O-NO}_3$	10	10	10	0.44	NS
$\delta^{15}\text{N-NH}_4$	12	12	12	0.74	NS
POM-C:N (at)	12	12	12	0.16	NS
$\delta^{13}\text{C-POM}$	11	11	11	1.00	NS
$\delta^{15}\text{N-POM}$	11	11	11	0.95	NS
$\delta^{34}\text{S-POM}$	11	12	11	0.91	NS
DOC	12	12	12	0.66	NS
DON	10	10	10	0.72	NS
$\text{NO}_3+\text{NO}_2$	12	12	12	0.03	T>R
$\text{NO}_2$	12	12	12	0.10	NS
$\text{PO}_4$	12	12	12	0.98	NS
$\text{NH}_4$	12	12	12	0.04	T<R
Chl a	12	12	12	0.05	T<R
Sp. Cond	8	8	8	0.03	T>R

Table 8b

Date-paired t-tests for Isleton vs. lower Miner Slough site.

Parameter	# River	# Trib	# Pairs	P value	River vs. Trib.
$\delta^{15}\text{N-NO}_3$	7	7	7	0.85	NS
$\delta^{18}\text{O-NO}_3$	7	7	7	0.13	NS
$\delta^{15}\text{N-NH}_4$	10	10	10	0.22	NS
POM-C:N (at)	10	10	10	0.28	NS
$\delta^{13}\text{C-POM}$	10	10	10	0.002	T<R
$\delta^{15}\text{N-POM}$	10	10	10	0.61	NS
$\delta^{34}\text{S-POM}$	8	8	8	0.22	NS
DOC	10	10	10	0.33	NS
DON	10	10	10	0.43	NS
$\text{NO}_3+\text{NO}_2$	10	10	10	0.01	T>R
$\text{NO}_2$	10	10	10	0.003	T>R
$\text{PO}_4$	10	10	10	0.46	NS
$\text{NH}_4$	10	10	10	0.97	NS
Chl a	10	10	10	0.10	NS
Sp. Cond	6	6	6	0.06	NS