APPENDICES TO:

MULTI-YEAR NUTRIENT BUDGET DYNAMICS FOR IRON GATE AND COPCO RESERVOIRS, CALIFORNIA

PREPARED FOR THE

KARUK TRIBE, DEPARTMENT OF NATURAL RESOURCES

BY

ELI ASARIAN
RIVERBEND SCIENCES AND **KIER ASSOCIATES**
EUREKA, CALIFORNIA

JACOB KANN, PH.D.
AQUATIC ECOSYSTEM SCIENCES LLC
ASHLAND, OREGON

WILLIAM W. WALKER, PH.D.
ENVIRONMENTAL ENGINEER
CONCORD, MASSACHUSETTS

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APPENDICES

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APPENDIX A1

Temperature, dissolved oxygen (D.O.), nutrient depth profiles for primary sites in Iron Gate and Copco Reservoirs

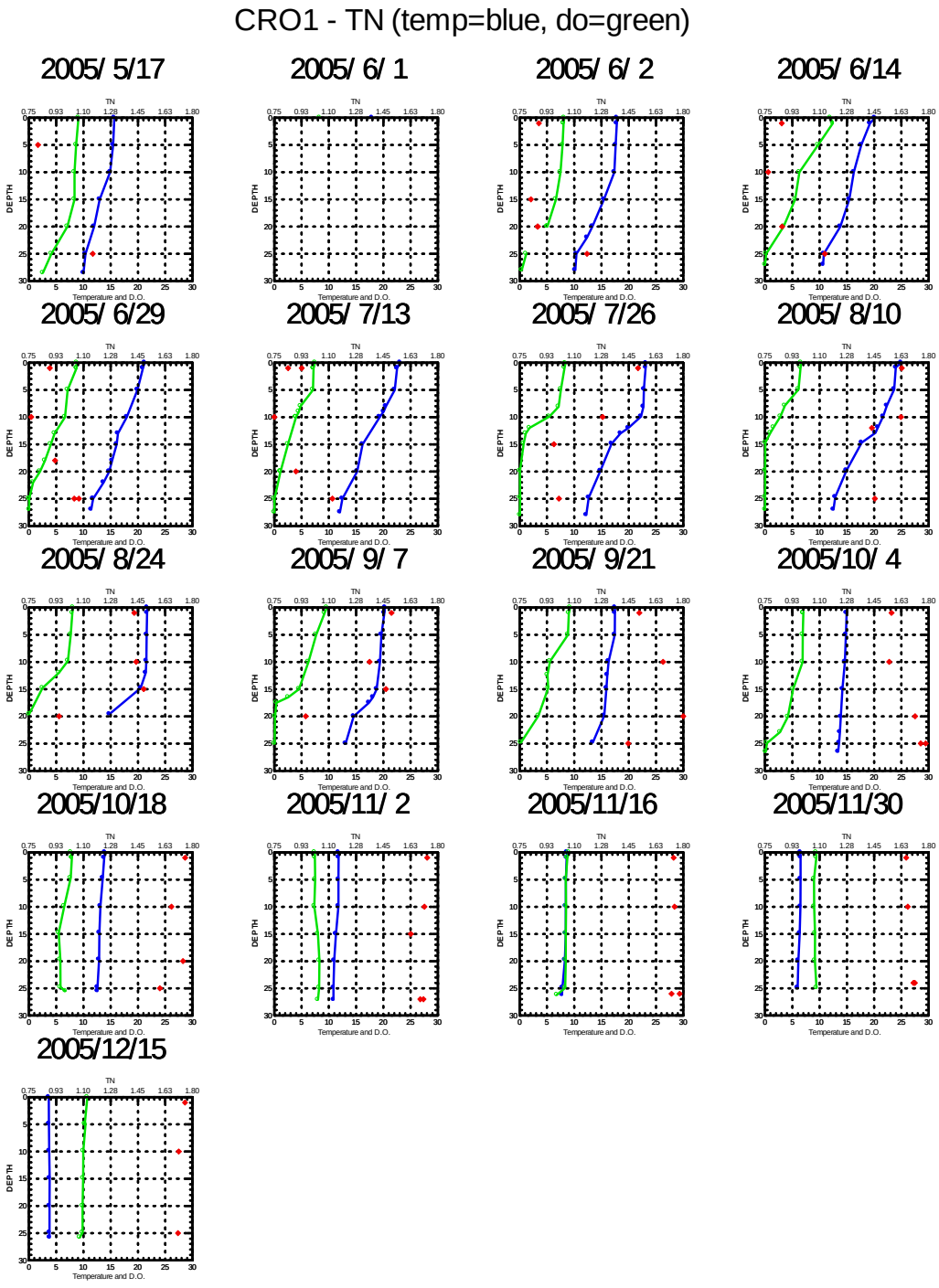


Fig. A1-1. Depth profiles of total nitrogen, temperature, and D.O. at Copco Reservoir site CR01 in 2005.

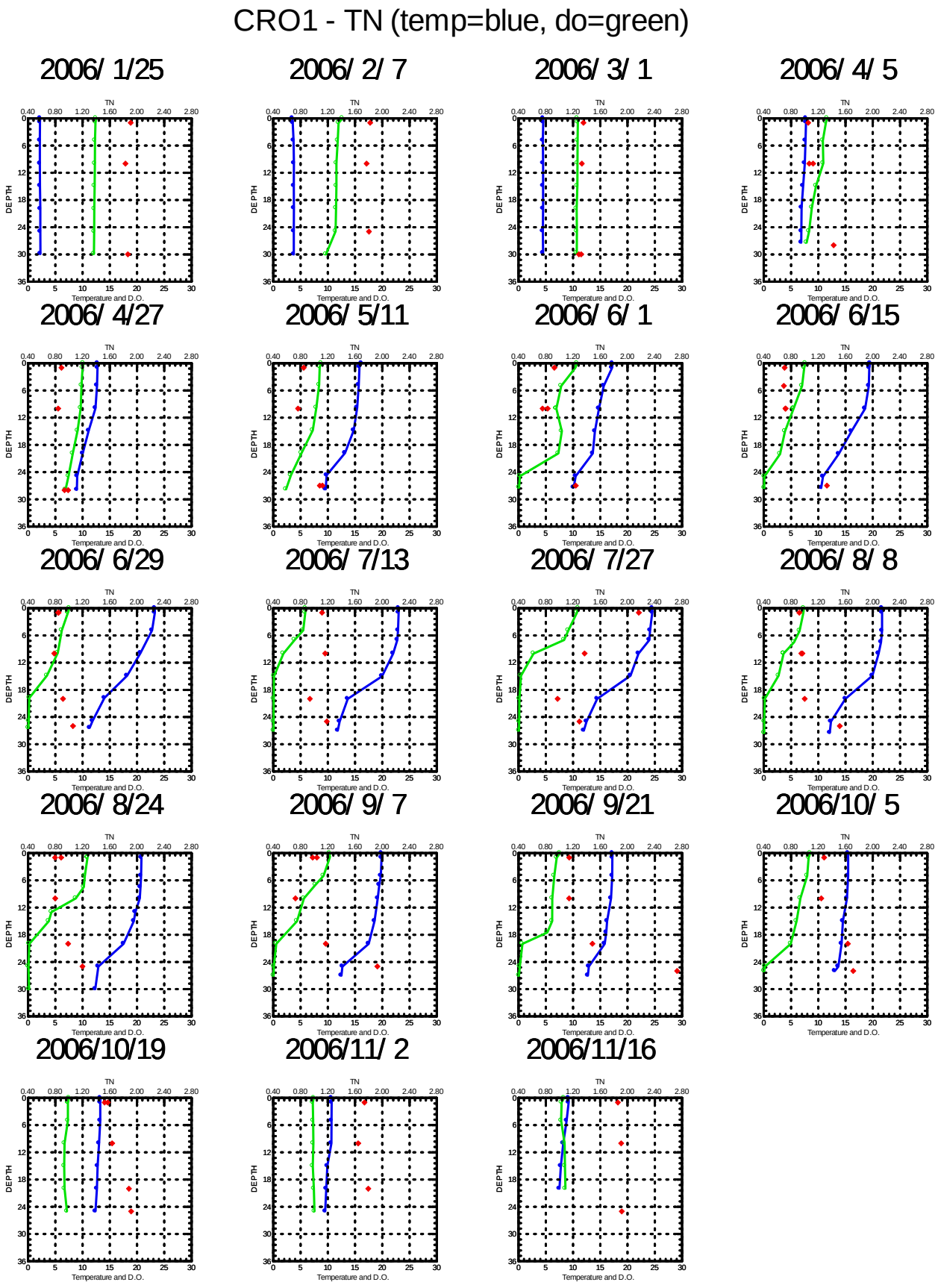


Fig. A1-2. Depth profiles of total nitrogen, temperature, and D.O. at Copco Reservoir site CR01 in 2006.

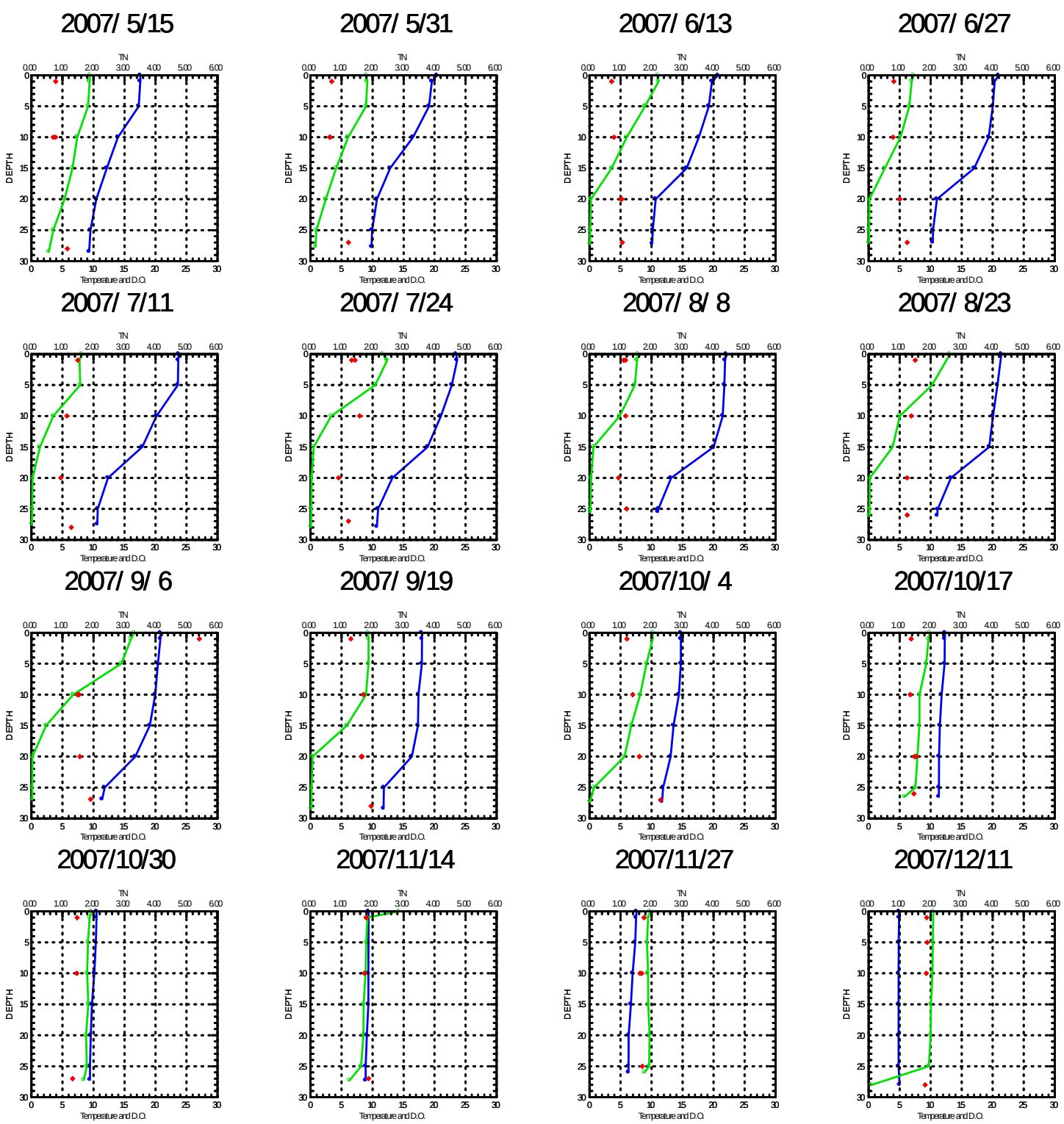


Fig. A1-3. Depth profiles of total nitrogen, temperature, and D.O. at Copco Reservoir site CR01 in 2007.

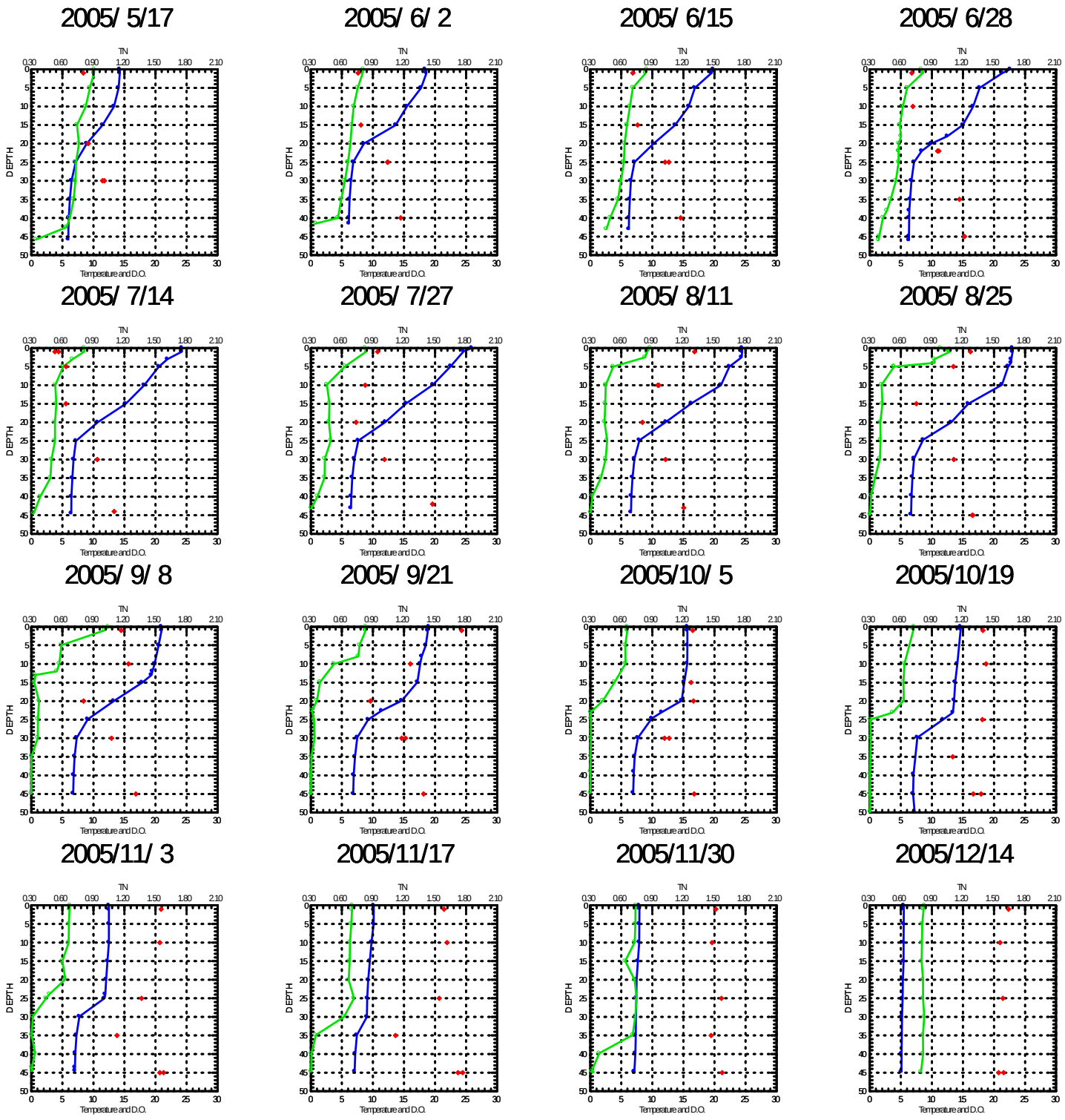


Fig. A1-4. Depth profiles of total nitrogen, temperature, and D.O. at Iron Gate Reservoir site IR01 in 2005.

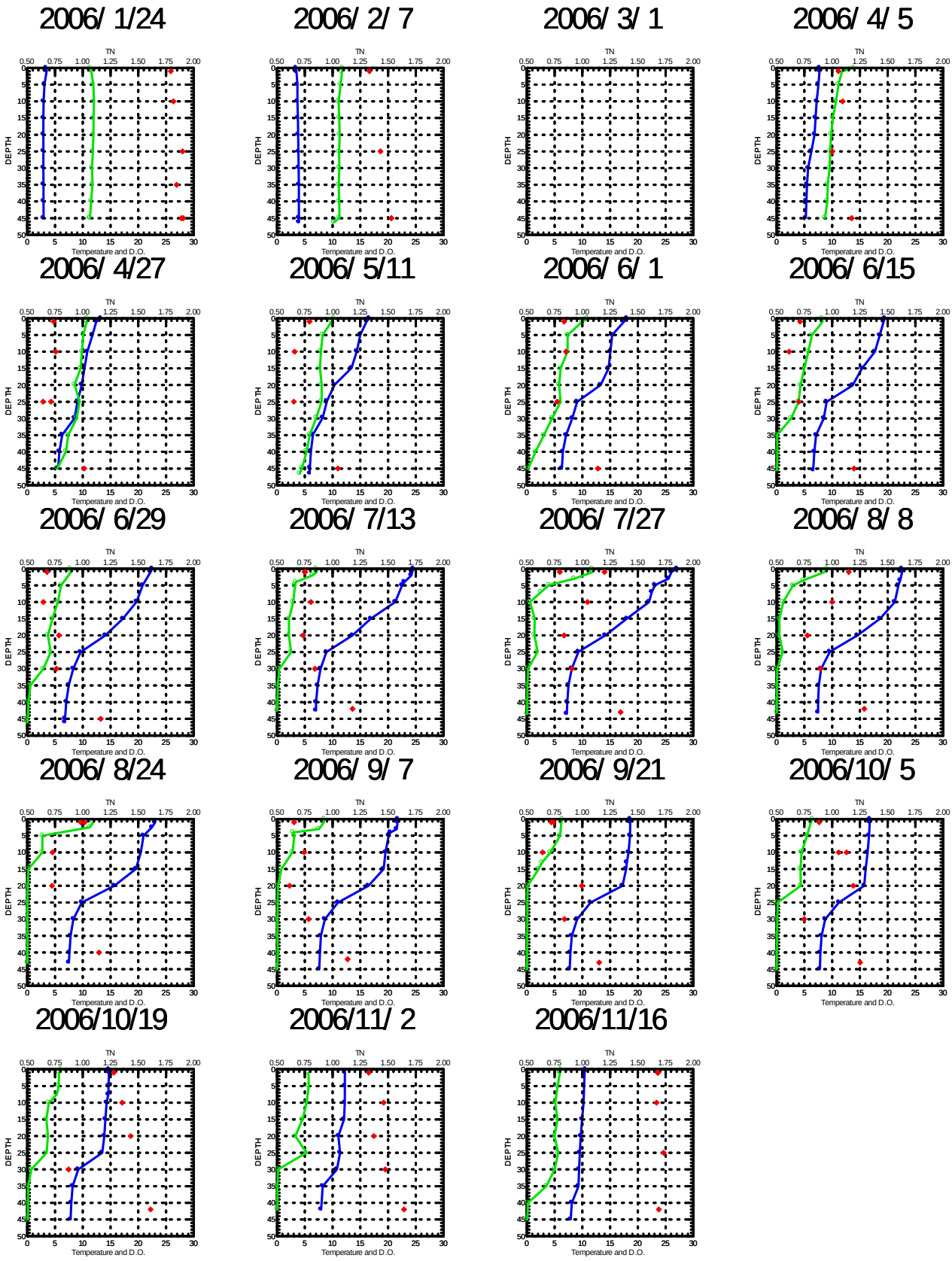


Fig. A1-5. Depth profiles of total nitrogen, temperature, and D.O. at Iron Gate Reservoir site IR01 in 2006.

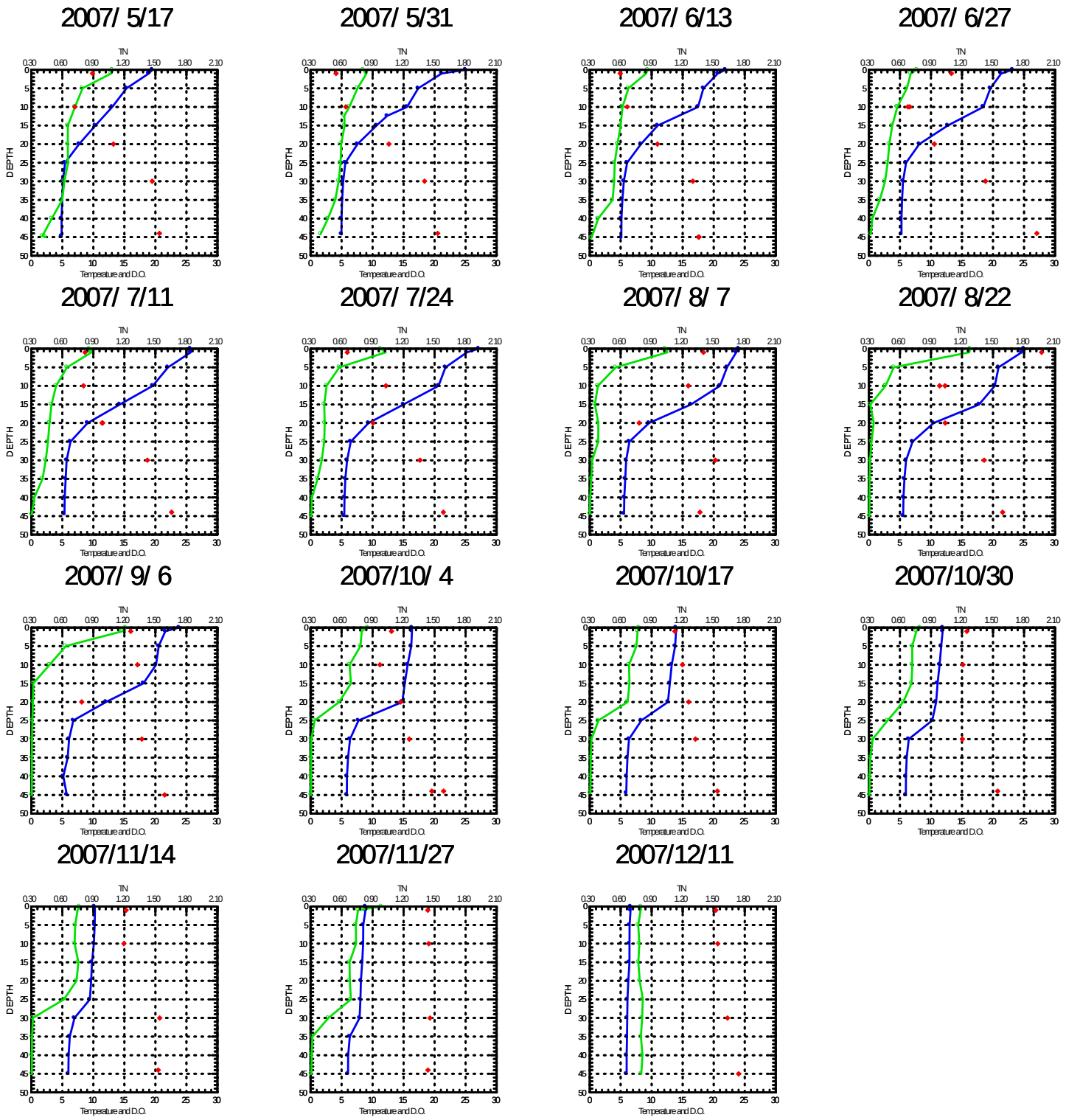


Fig. A1-6. Depth profiles of total nitrogen, temperature, and D.O. at Iron Gate Reservoir site IR01 in 2007.

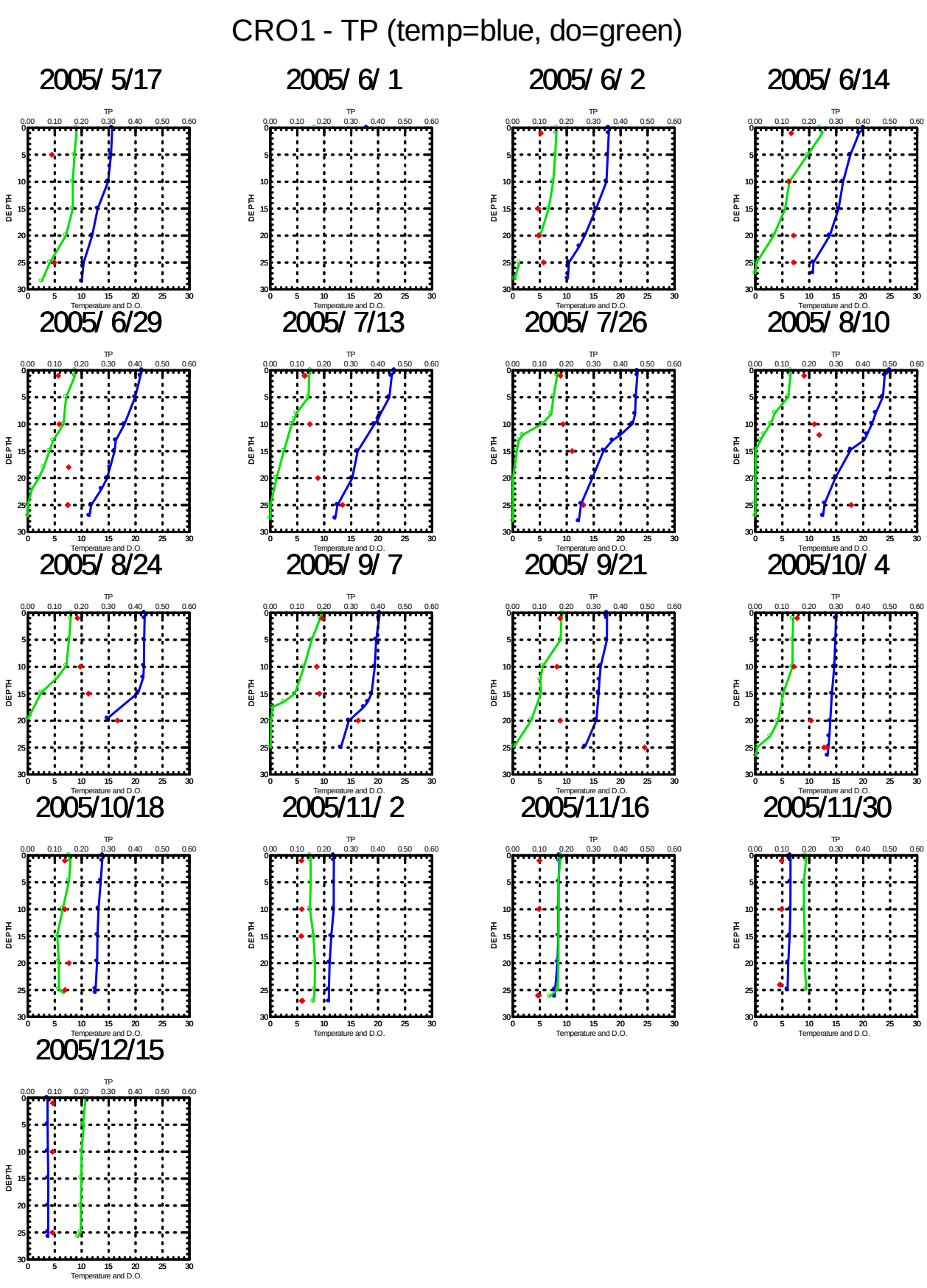


Fig. A1-7. Depth profiles of total phosphorus, temperature, and D.O. at Copco Reservoir site CR01 in 2005.

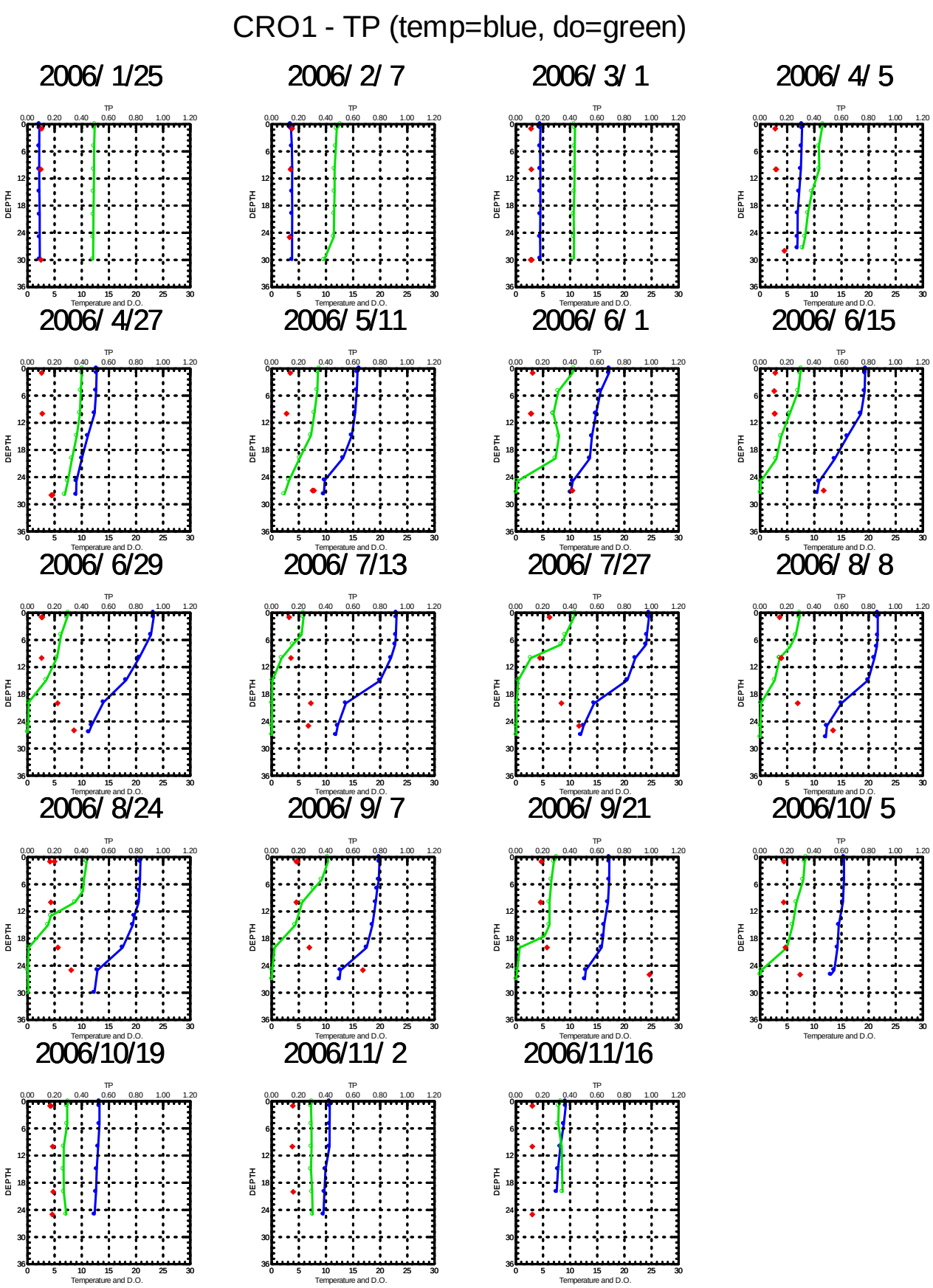


Fig. A1-8. Depth profiles of total phosphorus, temperature, and D.O. at Copco Reservoir site CR01 in 2006.

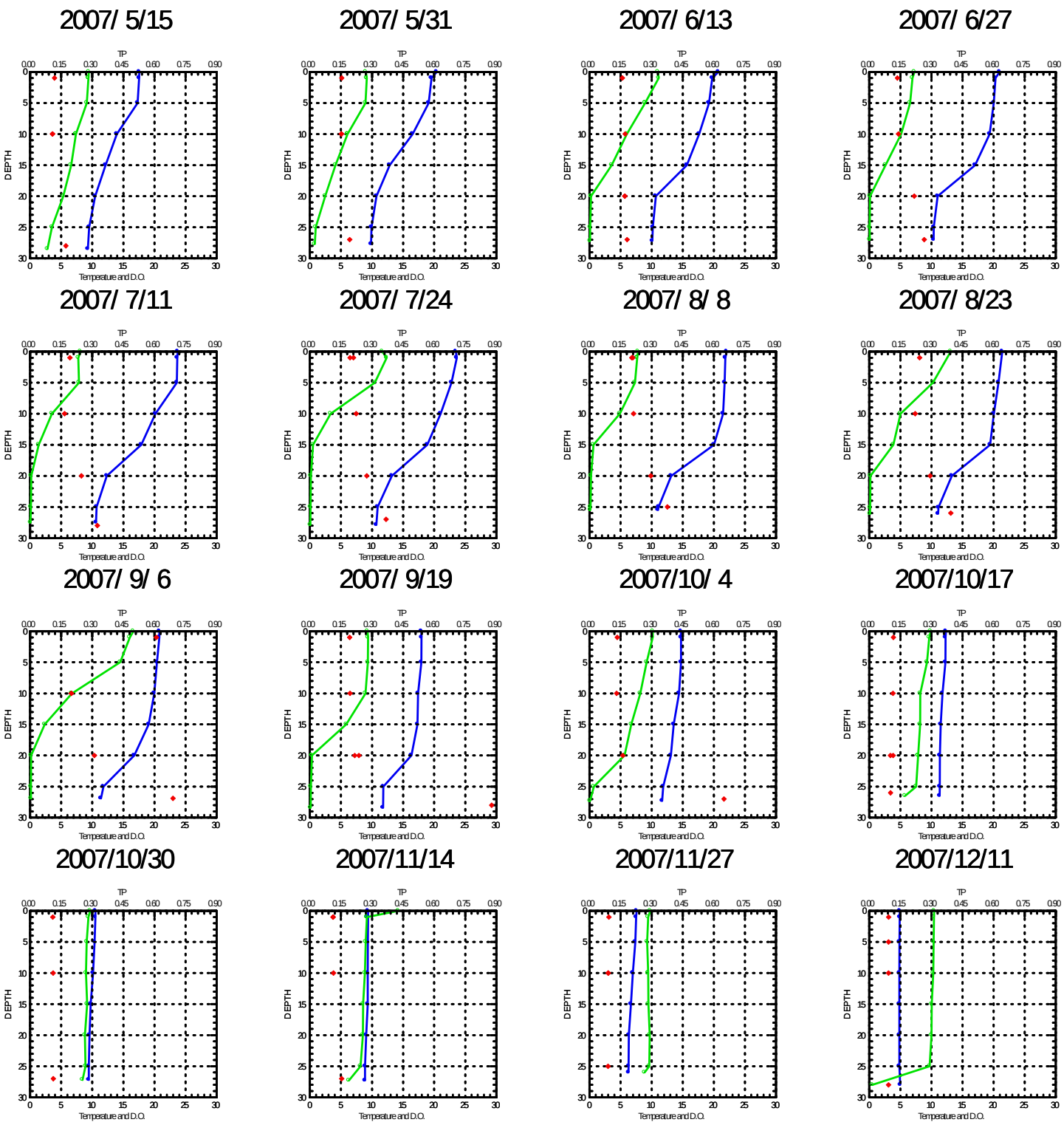


Fig. A1-9. Depth profiles of total phosphorus, temperature, and D.O. at Copco Reservoir site CR01 in 2007.

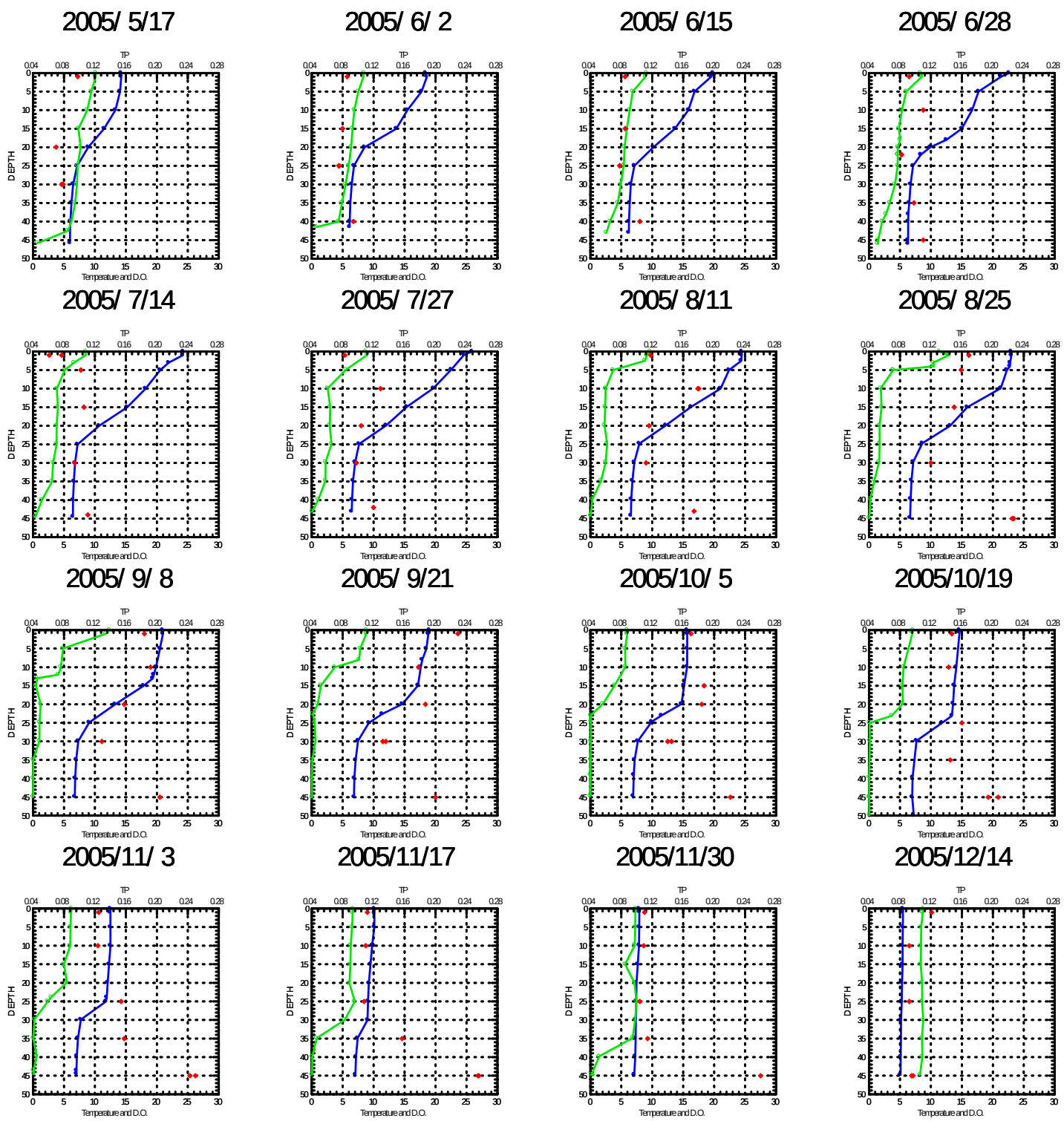


Fig. A1-10. Depth profiles of total phosphorus, temperature, and D.O. at Iron Gate Reservoir IR01 in 2005.

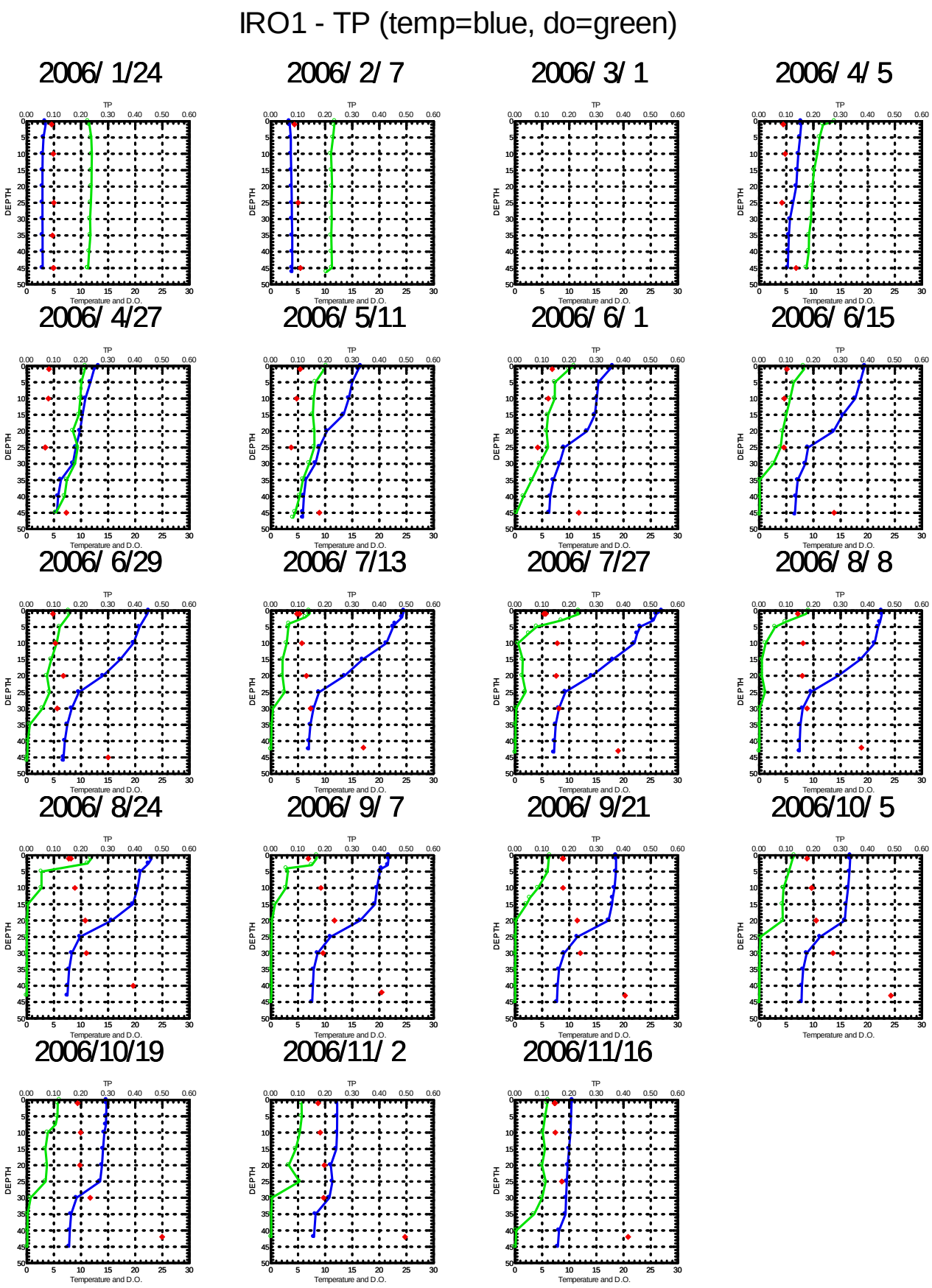


Fig. A1-11. Depth profiles of total phosphorus, temperature, and D.O. at Iron Gate Reservoir IR01 in 2006.

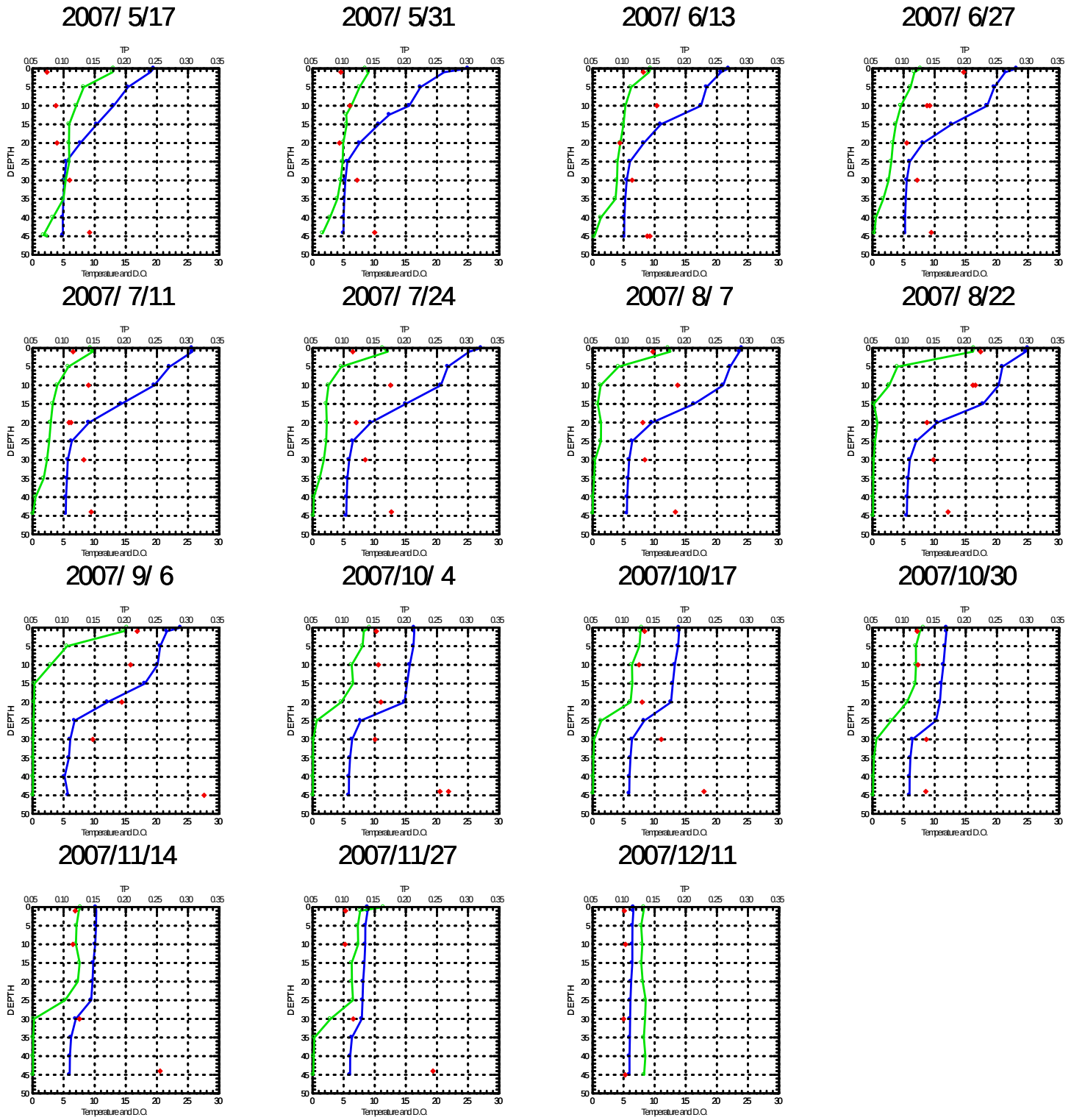


Fig. A1-12. Depth profiles of total phosphorus, temperature, and D.O. at Iron Gate Reservoir IR01 in 2007.

APPENDIX A2

Assessing and correcting for diel variations in nutrient concentrations in the Klamath River above Copco Reservoir (Station KRAC)

Introduction

Nutrient data collected for stations within the J.C. Boyle Peaking Reach are impacted by hydropower peaking operations. For example, during hydropower peaking operations, which typically occur in mid-afternoon, 1500 (one turbine) to 3000 (two turbines) cubic feet per second (cfs) of water is diverted from J.C. Boyle Dam to a powerhouse 4.3 miles downstream from the dam (PacifiCorp 2004). Typical releases from J.C. Boyle Dam are approximately 100 cfs, with approximately 225 cfs of spring water entering the river between the dam and the downstream powerhouse where the peaking reach begins. During non-peaking periods, no water is released from the powerhouse, resulting in approximately 325 cfs of water through the peaking reach and below. Nutrient concentrations in the springs are generally much lower than the Klamath River, so the hydropower peaking operations cause substantial diel variations in nutrient concentrations in the Peaking Reach. Because the station used to determine mainstem nutrient influx to Copco Reservoir (KRAC) is influenced by peaking operations, it is important to determine the relationship between time of day that samples were collected and the flow-weighted daily mean concentration.

First, it should be noted that peaking does not occur on all days, particularly when flows are sufficient (~3000 cfs and greater) to run both turbines constantly. Over the entire study period of May 2005-December 2007 peaking occurred nearly every day from May-November 2005, and occurred over many days in the following periods: December 2005, July 2006 to mid-February 2007, and early April 2007 through the end of the study in December 2007 (Fig. A2-1). Peaking also occurred sporadically at a few other times during the study. A sample collected during a day when peaking does not occur would adequately represent that day's volume-weighted mean, and therefore could be used without adjustment.

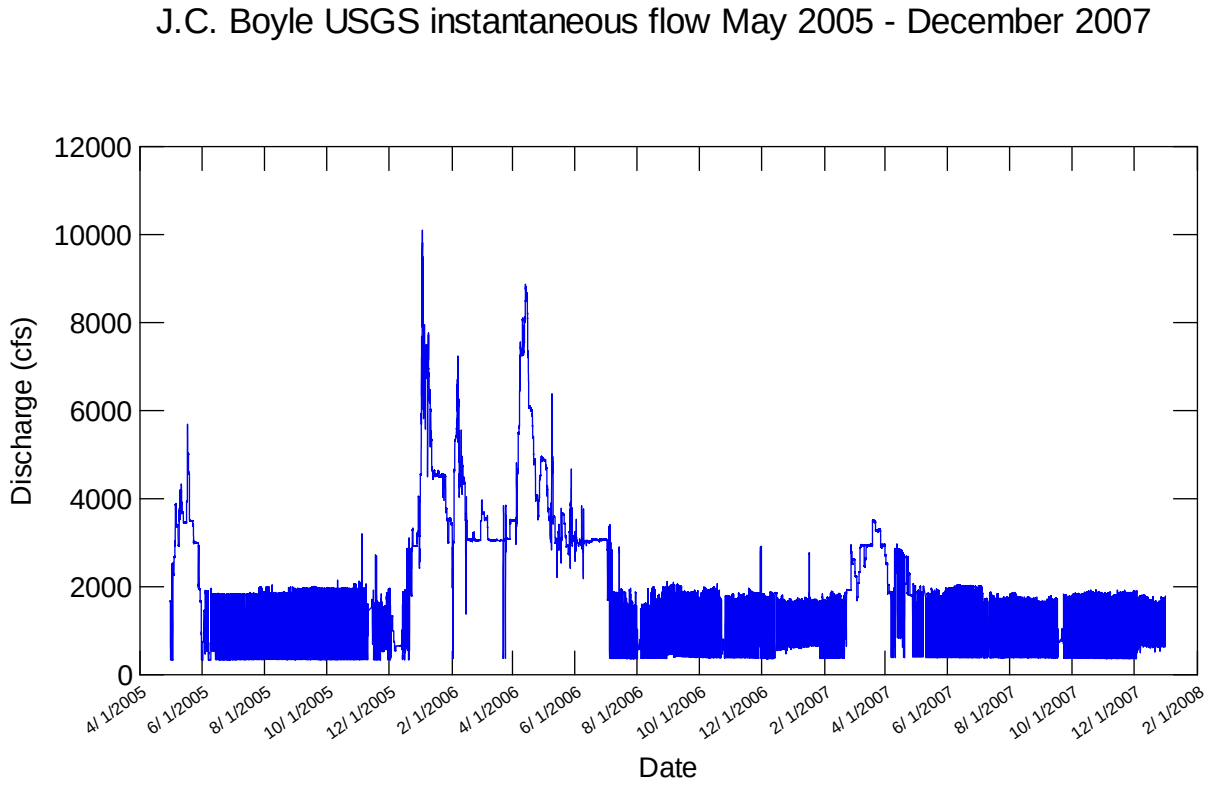


Figure A2-1. Instantaneous (sub-hourly) flow at the USGS gage below J.C. Boyle Powerhouse, approximately ~16 miles upstream from KRAC.

Treatment of peaking effects on concentration in previous studies

In the Kann and Asarian (2007) study, all May 2005 – May 2006 KRAC samples except one were deemed representative of flow-weighted daily averages and hence were not adjusted. As described in Appendix A2 of the Kann and Asarian (2007) report, this decision was based on an assessment of the information available at the time: PacifiCorp water quality model outputs, multiple nutrient samples per day at KRAC during six different days from mid-June though early November 2006 by the Karuk Tribe DNR, and conductivity data collected with automated probe by the U.S. Fish and Wildlife Service in summer 2002.

In examining the entire 2005-2007 KRAC dataset, it became clear (because of abnormally low TN and TP concentrations, and based on comparison of sampling time and upstream flow releases) that many KRAC samples did not represent flow-weighted daily average concentrations, and that these samples would need to be adjusted prior to use in the nutrient budgets. Thus, high-frequency studies were conducted to collect the intensive data needed to understand the timing, magnitude, and causes of the diel fluctuations in TN and TP concentrations at KRAC so that daily flow-weighted average concentrations could be estimated for each sampled day.

Special studies to determine mechanism and timing of diel variation

With funding from the U.S. Environmental Protection Agency, Graham Mathews and Associates (GMA) conducted a 48-hour intensive study at KRAC. The study spanned 48 hours from October 9-11, 2007 and consisted of a temporary flow gage set up to measure discharge, collection of water samples every 2 hours (analyzed for TN and TP only), and continuous measurement of temperature, dissolved oxygen, pH, and specific conductance with a multi-parameter probe.

A comparison of the USGS gage below J.C. Boyle Powerhouse with the temporary KRAC gage show that the hydrographs have slightly different shapes (Fig A2-2). At KRAC, the ascending limb of the hydrograph shortens, the plateau has reduced magnitude, and the descending limb lengthens a little. In the figure, key inflection points (corners) in the hydrograph are denoted with arrows.

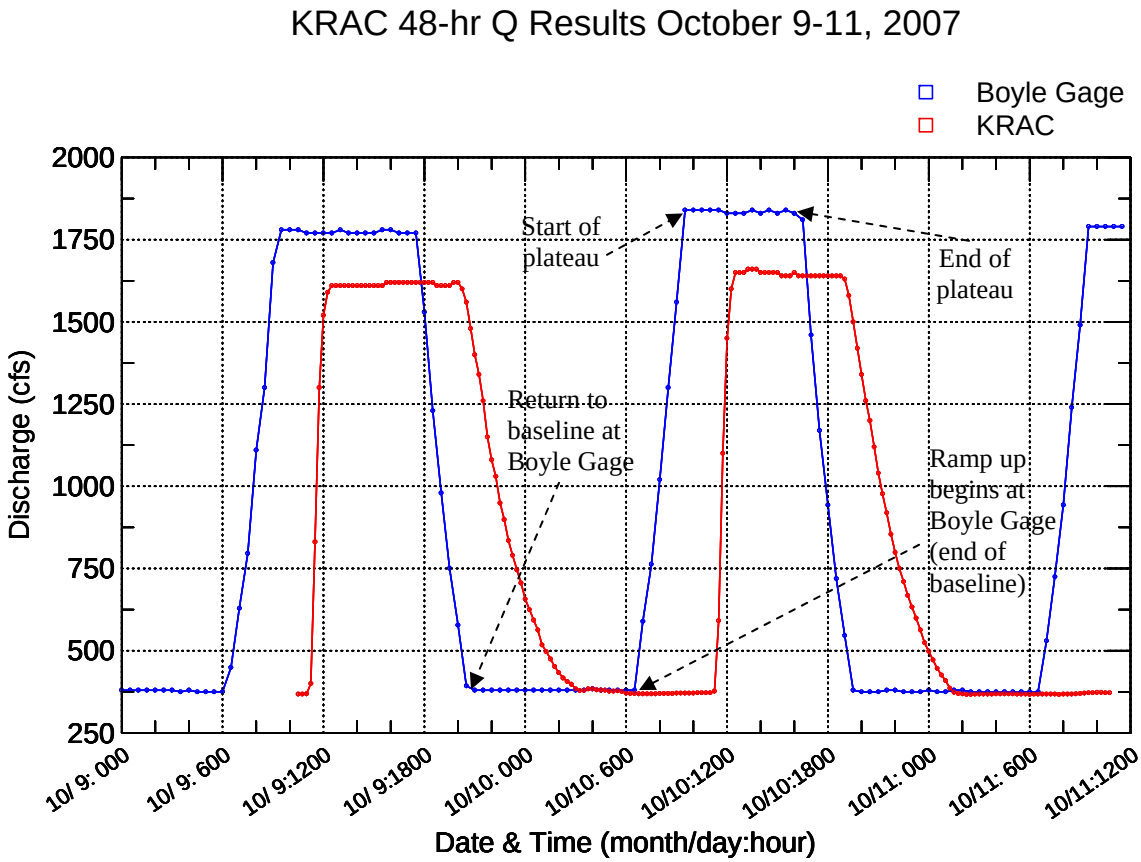


Figure A2-2. Flow at the J.C. Boyle USGS gage and KRAC, ~16 miles downstream, for October 9-11, 2007. KRAC data are from GMA 48-hr KRAC study, and Boyle gage data are from USGS.

The 48-hr study showed some interesting patterns at KRAC (Figure A2-3):

- Nutrient concentrations remain high through the entire descending limb of the hydrograph, and do not begin to decline until flow has been at baseline levels for five hours, indicating that the river is not behaving as a purely "plug flow" (i.e. a pipe) system. It takes some time (hours), for the nutrient-rich river water (i.e. from above Boyle Dam) to flush downstream and be replaced by the

lower-nutrient spring-dominated water, perhaps because water may linger in channel margins or eddies and slowly spiral downstream.
- The arrival of the peaking wave appears to drive nutrient concentrations lower by pushing a wall of clean (spring-dominated) water in front of it as it moves downstream (see graphs below for more info).
- Within a single day (but not between days or across an entire season), there is an excellent correspondence between nutrient concentration (particularly TN) and specific conductance. Specific conductance is a measure of dissolved ions, and thus provides a signature of the source waters (i.e. showing the ratio of nutrient- and ion-rich upstream river water to the relatively nutrient- and ion-poor spring water). Moreover, because conductance data can be collected with automated continuous probes, they provide an inexpensive means to determine patterns at a frequent time-scale (as opposed to expensive nutrient samples requiring laboratory analysis). A conductivity sensor was deployed at KRAC in 2007 to assist in assessing the timing of diel variation.

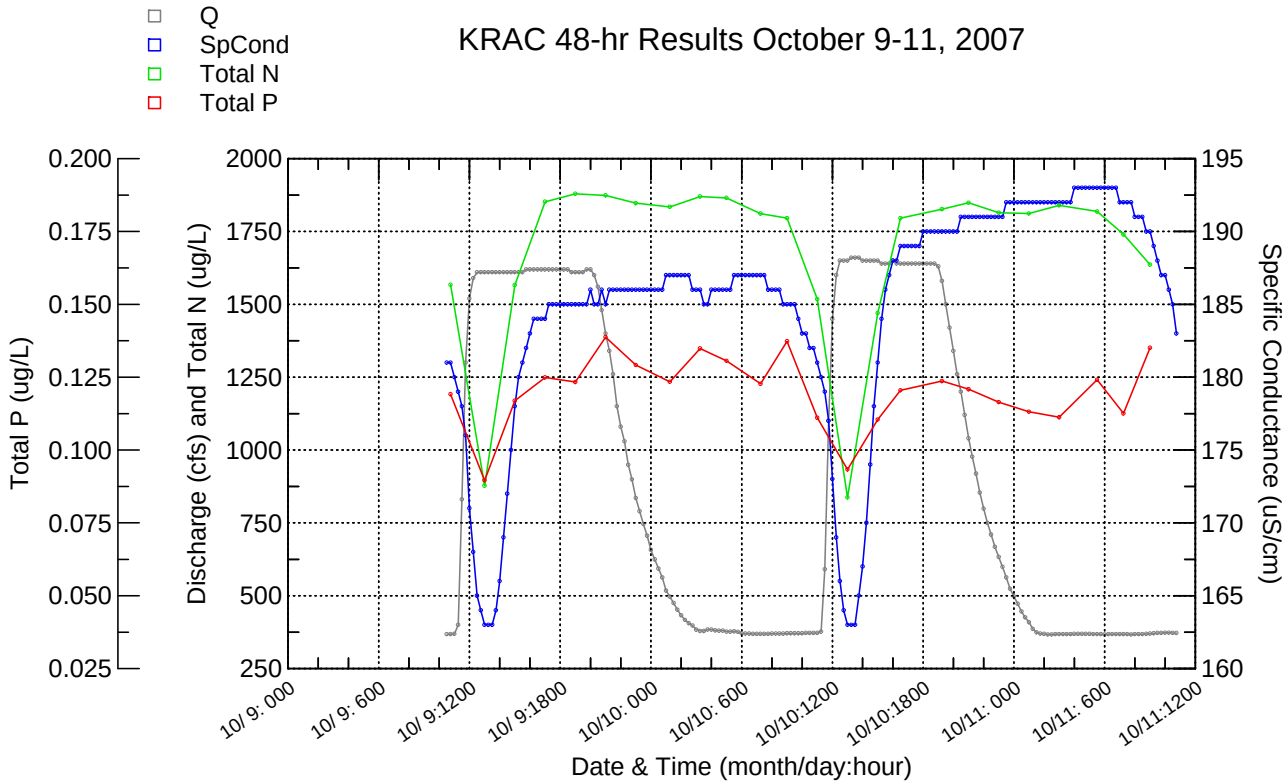


Figure A2-3. Summary of the 48-hr GMA study from October 2007. (Q=flow).

Measured flow and concentration data were combined to calculate flow-weighted mean nutrient concentrations for each of the two adjacent 24-hour periods. Each nutrient sample was then expressed as a percent of the daily flow-weighted mean and plotted on a graph with the X-axis depicting the number of hours since flow returned to baseline at Boyle gage, a measure of each sample's position along the descending limb of the hydrograph (Figures A2-4 and A2-5)(see Figure A2-2 for explanation of return to baseline). The following patterns were observed:
- TN concentrations remained high and very stable for a span of ~14 hours (hours -3 to 11), and

were approximately 110-115% of the daily flow-weighted average. Concentrations then begin to drop, decreasing rapidly with the arrival of the peaking wave (at ~14 hours), and continuing downward to 50-55% of the daily flow-weighted average.
- TP concentrations remained high (but were less stable than TN) for approximately 15 hours, and were approximately 100-115% of the daily flow-weighted average. Concentrations then drop, decreasing rapidly with the arrival of the peaking wave (at ~14 hours) continuing downward to 75-80% of the daily flow-weighted average. Minimum observed TP concentrations were higher relative to the daily flow-weighted mean than was TN, likely because upstream springs have TN concentrations ~10% of the Boyle Dam releases (mainstem Klamath water), but have phosphorus concentrations ~50% of Boyle Dam releases.

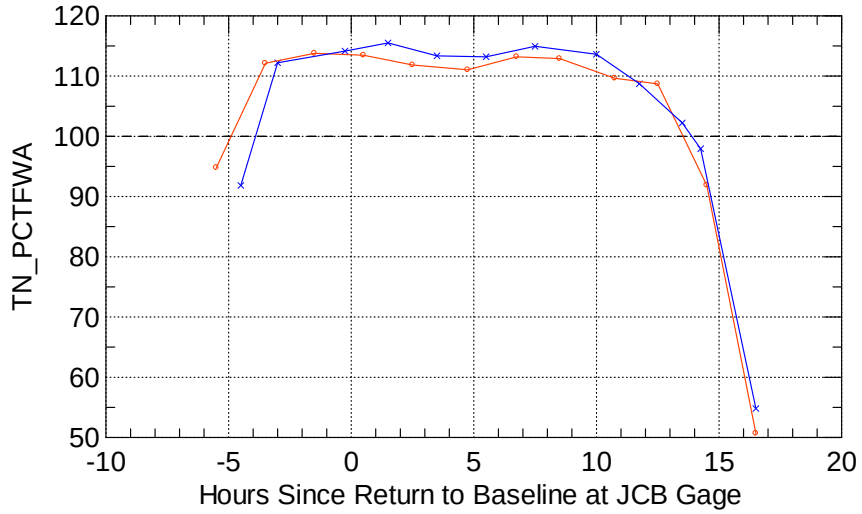


Figure A2-4. TN as a percent of the daily flow-weighted average. The X-axis is the number of hours that have elapsed since flow returned to baseline at the J.C. Boyle gage upstream. Data from the October 2007 48-hr GMA study.

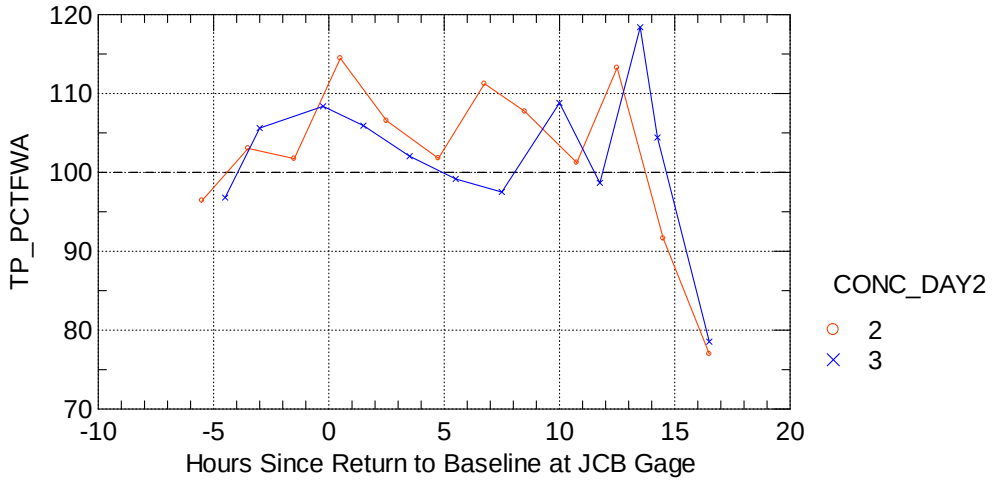


Figure A2-5. TP as a percent of the daily flow-weighted average. The X-axis is the number of hours that have elapsed since flow returned to baseline at the J.C. Boyle gage upstream. Data from the October 2007 48-hr

GMA study.
Using flow data from the 48-hr GMA study (11/9/2007-11/11/2007), a set of rules was developed to estimate KRAC flows based on Boyle Gage data. Four inflection points (corners) on the JCB hydrograph were chosen (Figure A2-2), and the KRAC hydrograph was examined to determine the amount of time it took for that point to reach KRAC:
a. start of ramp up (end of baseline): 5 hrs
b. start of plateau: 3 hrs
c. end of plateau (start up ramp down): 3 hrs
d. return to baseline: 6 hrs

Plateau height (maximum flow) at KRAC was set to 90% of JC Boyle plateau height. To reflect the non-linearity of the descending limb, a second point was added on the descending limb (3 hours previous to the return to baseline, with a flow 300 cfs greater than baseline). Using these rules, a KRAC flow record was automatically generated from the JCB flow record for each day when one-turbine (e.g. ramp from 400 to 1500/2000 cfs) peaking occurred. The resulting KRAC hydrograph provided an excellent fit to the 11/9/2007-11/11/2007 data (Figure A2-6) and this method was then used to generate a synthesized flow record for other days with similar one-turbine peaking hydrographs (e.g. ramp from 400 to 1500/2000 cfs) that commonly occur at KRAC.

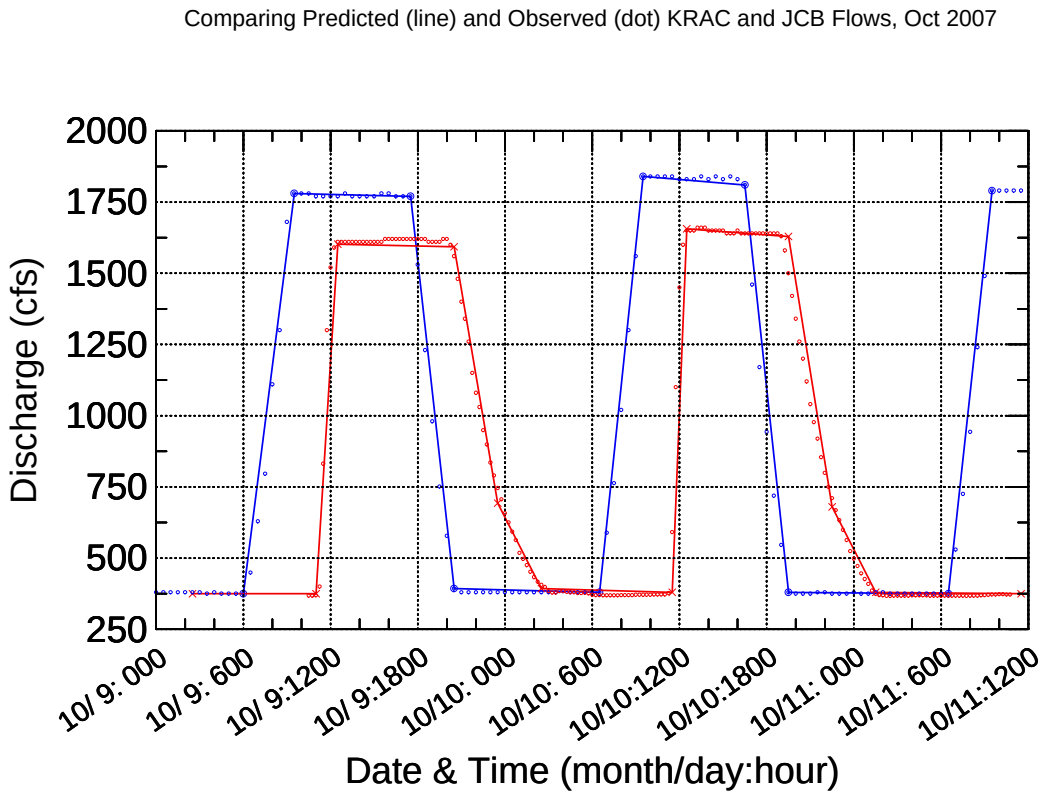


Figure A2-6. Comparison of observed and synthesized KRAC hydrograph during the October 2007 GMA special study.

For days in which there were enough nutrient samples collected over the course of a day to adequately characterize the entire day's conditions, the nutrient data was combined with the flow data (direct measurements in October 2007 and synthesized KRAC flow record for other days). This resulted in the calculation of flow-weighted daily average TN and TP concentrations for four 24-hour periods:
- 11/1/2006 (6 samples in 6 hr period), expanded to 24 hours
- 7/16/1/2008 (8 samples in 12 hr period), expanded to 24 hours
- 10/9/2007-11/10/2007 (24 samples in 48 hrs)

On two occasions (11/1/2006 and 7/16/2008) concentration data were not available for a full 24-hour period, so the 6 or 8 available samples, including some on both sides of the concentration plateau as well as one or more samples in the concentration trough, were interpolated to obtain a record of 30-minute concentrations (the temporal resolution of the flow data). To extrapolate the data on these two days to cover a full 24-hour period, the first sample was extended backward and the last sample was extended forward (Figures A2-7 and A2-10). This is a reasonable assumption because data from other days shows that the concentrations are relatively flat over the entire duration of the concentration plateau (i.e. see Figure A2-3)

For each of the four 24-hour periods, each sample was compared to the daily flow-weighted mean (for both TN and TP) and plots were constructed (separate plot for each day) with a y-axis of "sample as % of daily flow-weighted average" and an x-axis of time (three different plots: one of normal calendar time, another of hours since peaking began at Boyle, and another of hours since return to baseline at Boyle). Figures A2-7 to A2-9 show 11/1/2006 and Figures A2-10 to A2-12 show 7/16/2008.

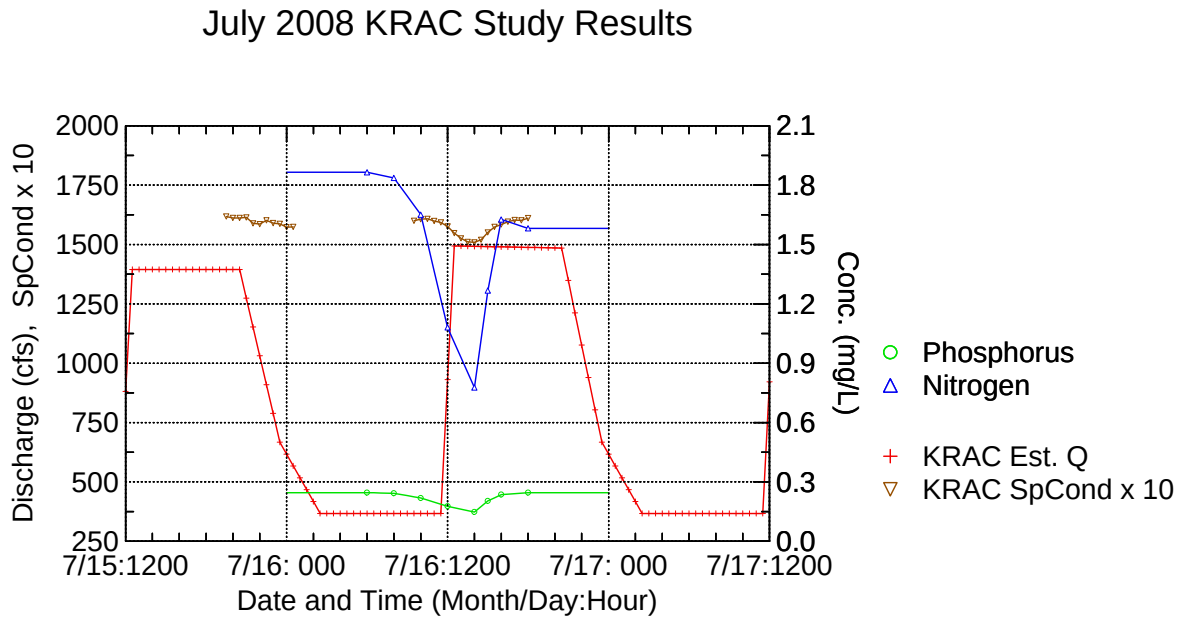


Figure A2-7. Time series of TN, TP, discharge, specific conductance, and estimated discharge for KRAC on 7/16/2008. X-axis is normal calendar time.

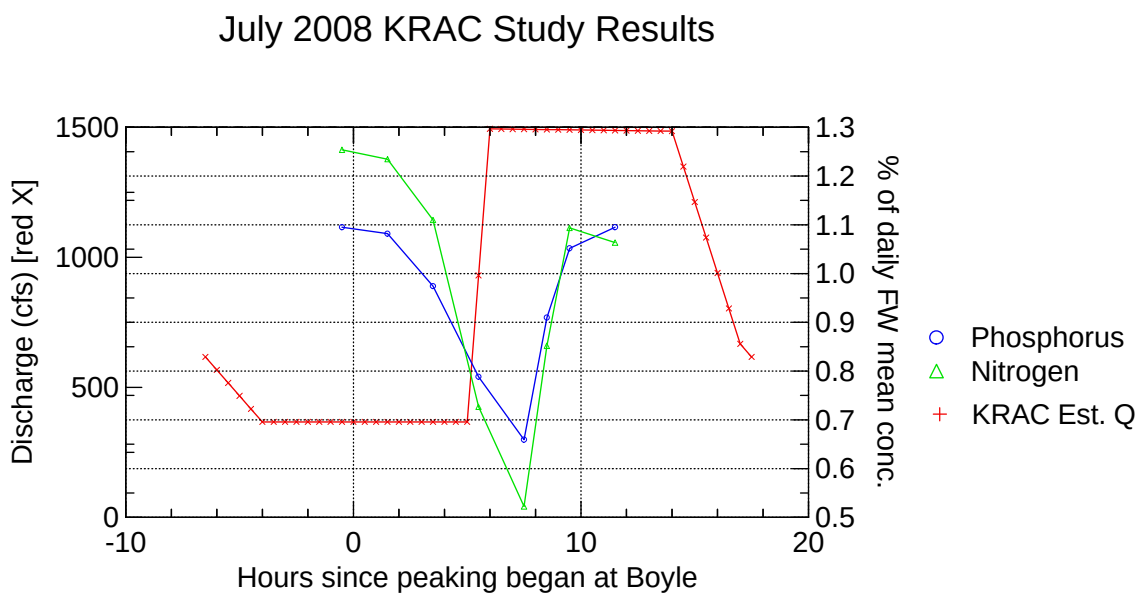


Figure A2-8. TN and TP as a percent of the daily flow-weighted average and estimated discharge (Q) at KRAC on 7/16/2008. The X-axis is the number of hours that have elapsed since peaking began at Boyle gage upstream.

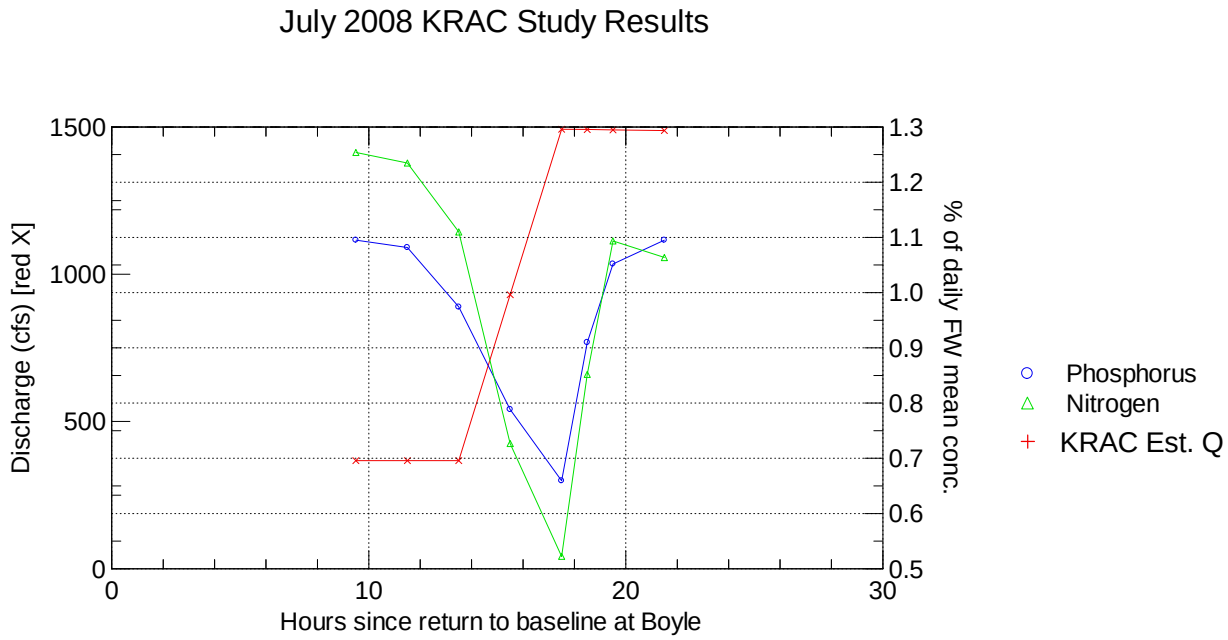


Figure A2-9. TN and TP as a percent of the daily flow-weighted average and estimated discharge (Q) at KRAC on 7/16/2008. The X-axis is the number of hours that have elapsed since flow returned to baseline at Boyle gage upstream.

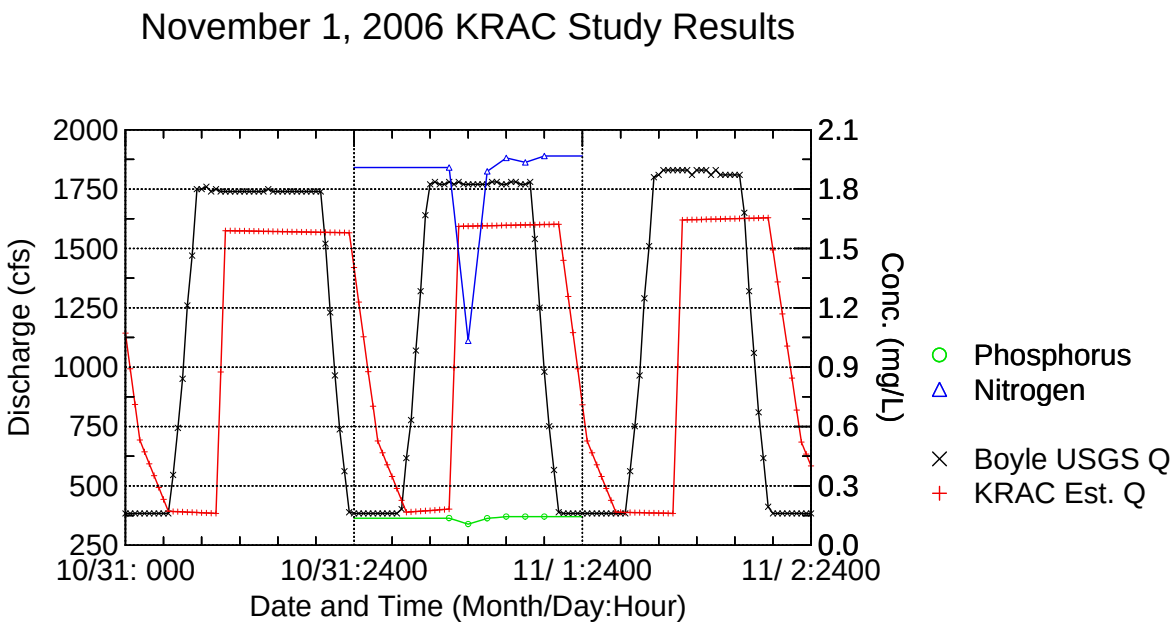


Figure A2-10. Time series of TN, TP, discharge, and estimated discharge for KRAC (and discharge at Boyle Gage upstream) on 11/1/2006. X-axis is normal calendar time.

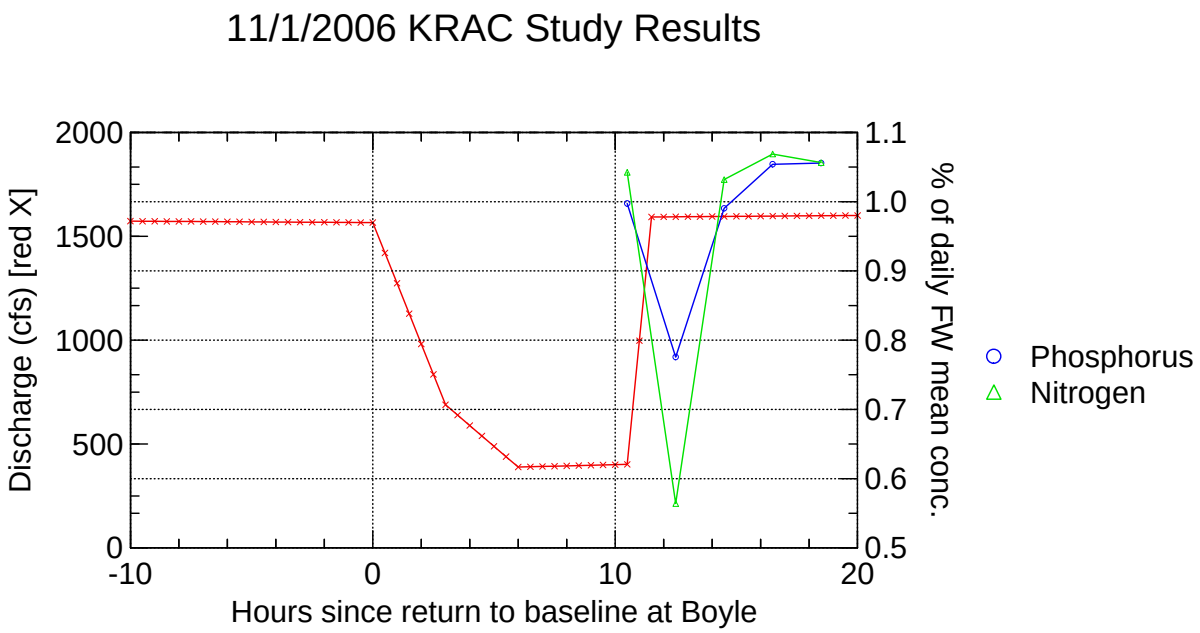


Figure A2-11. TN and TP as a percent of the daily flow-weighted average and estimated discharge (Q) at KRAC on 11/1/2006. The X-axis is the number of hours that have elapsed since flow returned to baseline at Boyle gage upstream

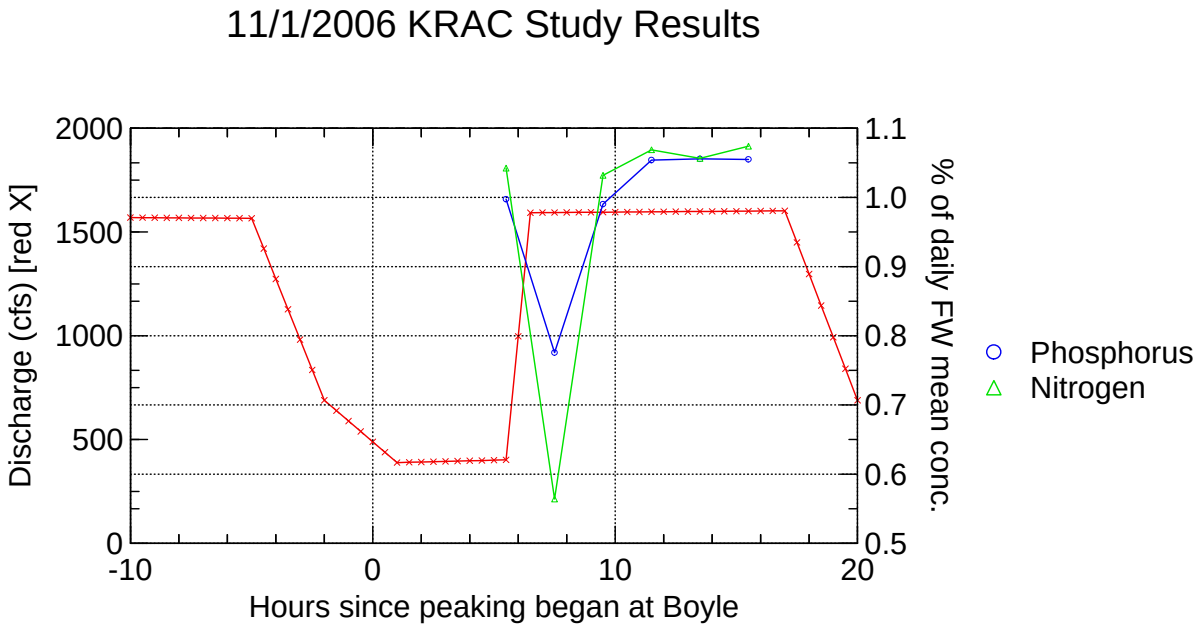


Figure A2-12. TN and TP as a percent of the daily flow-weighted average and estimated discharge (Q) at KRAC on 11/1/2006. The X-axis is the number of hours that have elapsed since peaking began at the J.C. Boyle gage upstream.

Final calculation of flow-weighted daily average concentration

The primary metrics used to assess each sample's position in the hydrograph were the number of hours since return to baseline at the Boyle USGS gage and the number of hours since ramp up began at Boyle Gage. The plots of the four 24-hour high-frequency sampling periods (Figures A2-4, A2-5, A2-8, A2-9, A2-11, and A2-12), the data used to construct them, and some additional information (such as other diel nutrient sampling at KRAC in 2006 and 2007 specific conductance data) were used to derive a set of rules (see "Recommendations for future KRAC sampling") for determining whether samples represented a daily maximum, minimum, or intermediate concentration. Based on those rules and the data cited above, a quantitative adjustment factor was assigned to each sample. The adjustment factor was then applied to each 2005-2007 KRAC sample to result in calculation of a flow-weighted daily concentration for each sampled day.

Adjustment factors for samples collected during times of expected minimum and maximum concentrations are shown in Table A2-1. Table A2-2 shows detailed information about each KRAC sample including the original sample value, adjustment factor, final value, and rationale for adjustment.

Table A2-1. Adjustment factors used to calculated flow-weighted daily average concentrations.

Concentration Type	Parameter	Sample as % of daily flow-weighted average
Maximum	TN	110%
Maximum	TP	105%
Minimum	TN	55%
Minimum	TP	75%
All others (intermediate)	TN and TP	Varies by sample. See table A2-2

Table A2-2. Documentation of the methods used to calculate daily flow-weighted average from each KRAC sample. Final concentration value is calculated by dividing the measured value by the adjustment factor.

Date & Time	Hours since return to baseline at Boyle	Hours since ramp up began at Boyle	Measured TN (mg/L)	Measured TP (mg/L)	TN adjustment factor	TP adjustment factor	TN final value used in budget (mg/L)	TP final value used in budget (mg/L)	**Concentration type and action** (adjustment factor applied refers to columns 6 and 7)
5/17/05 9:00			0.944	0.109			0.944	0.109	no peaking, no adjustment needed
6/1/05 8:46	25.27	-7.23	0.582	0.090			0.582	0.090	no peaking, no adjustment needed
6/14/05 9:30	10.50	3.00	1.022	0.143	1.10	1.05	0.929	0.136	max: adjustment factor applied
6/29/05 8:18	10.80	0.80	1.091	0.114	1.10	1.05	0.992	0.109	max: adjustment factor applied
7/13/05 8:30	9.50		1.568	0.279	1.10	1.05	1.425	0.266	max: adjustment factor applied
7/26/05 9:30	10.50	-4.00	1.896	0.255	1.10	1.05	1.724	0.243	max: adjustment factor applied
8/10/05 8:30	9.50	-4.00	2.039	0.211	1.10	1.05	1.854	0.201	max: adjustment factor applied
8/24/05 8:30	10.00	-3.00	1.818	0.191	1.10	1.05	1.653	0.182	max: adjustment factor applied
9/7/05 8:15	9.75	-0.25	1.750	0.141	1.10	1.05	1.591	0.134	max: adjustment factor applied
9/20/05 8:45	10.25	1.75	2.250	0.163	1.10	1.05	2.045	0.155	max: adjustment factor applied
10/4/05 9:30	7.50	3.00	2.203	0.177	1.10	1.05	2.003	0.169	max: adjustment factor applied
10/18/05 9:30	11.00	2.50	1.668	0.120	1.10	1.05	1.516	0.114	max: adjustment factor applied
10/26/05 9:45	7.25	2.25	1.875	0.144	1.10	1.05	1.705	0.137	max: adjustment factor applied
11/2/05 9:30	10.00	4.00	1.848	0.099	1.10	1.05	1.680	0.094	max: adjustment factor applied
11/16/05 10:30			1.469	0.075	1.10	1.05	1.335	0.071	max: adjustment factor applied
11/29/05 13:40			1.771	0.084	1.00	1.00	1.771	0.084	mean: close to average
12/14/05 8:40		0.17	1.778	0.105	1.00	1.00	1.778	0.105	mean: close to average
1/4/06 11:00			2.284	0.187			2.284	0.187	no peaking: no adjustment needed
1/24/06 14:45			1.897	0.106			1.897	0.106	no peaking: no adjustment needed
2/6/06 17:00			2.036	0.189			2.036	0.189	no peaking: no adjustment needed
2/28/06 15:40			1.448	0.141			1.448	0.141	no peaking: no adjustment needed
3/23/06 9:40	10.67		1.577	0.161	1.00	1.00	1.577	0.161	mean: close to average
4/4/06			1.315	0.141			1.315	0.141	no peaking: no adjustment needed
4/26/06 17:00			0.767	0.107			0.767	0.107	no peaking: no adjustment needed
5/10/06 16:20			0.906	0.175			0.906	0.175	no peaking: no adjustment needed
5/31/06 13:30			0.786	0.091			0.786	0.091	no peaking: no adjustment needed
6/14/06 12:05			0.875	0.108	1.00	1.00	0.878	0.109	no peaking: no adjustment needed (used mean of 3 samples)
6/14/06 17:15			0.871	0.106					
6/14/06 20:45			0.887	0.111					
6/28/06 16:00			0.962	0.118			0.962	0.118	no peaking: no adjustment needed
7/12/06 13:45	14.75	3.25	1.231	0.165					skip, other samples available this day
7/12/06 17:00	18.00	6.50	0.789	0.129					skip, other samples available this day
7/12/06 20:20	21.33	9.83	1.548	0.190	1.10	1.05	1.407	0.181	max: adjustment factor applied
7/26/06 16:00	18.50	4.50	0.712	0.135	0.55	0.75	1.295	0.180	min: adjustment factor applied
8/7/06			0.695	0.120	0.55	0.75	1.264	0.160	min: adjustment factor applied
8/23/06 15:45	21.25	8.25	0.893	0.193	0.80	0.90	1.116	0.215	near min: adjustment factor applied
9/6/06 12:40	16.17	2.17	0.887	0.154					skip, other samples available this day
9/6/06 17:00	20.50	6.50	0.713	0.148	0.55	0.75	1.538	0.210	min: combine two adjacent samples, then adjust
9/6/06 18:00	21.50	7.50	0.979	0.167					
9/20/06 13:50	16.33	6.33	1.111	0.144					skip, other samples available this day
9/20/06 16:55	19.42	9.42	1.971	0.212					skip, other samples available this day
9/20/06 18:00	20.50	10.50	2.339	0.224	1.10	1.05	2.126	0.214	max: adjustment factor applied

Date & Time	Hours since return to baseline at Boyle	Hours since ramp up began at Boyle	Measured TN (mg/L)	Measured TP (mg/L)	TN adjustment factor	TP adjustment factor	TN value used in budget (mg/L)	TP value used in budget (mg/L)	Concentration type and action
10/4/06 15:50	19.83	11.33	1.802	0.197	1.10	1.05	1.764	0.192	max: combine 3 adjacent samples, then adjust
10/4/06 18:10	22.17	13.67	2.172	0.226					
10/5/06 8:00	9.50	-0.50	1.846	0.181					
10/5/06 12:00	13.50	3.50	1.715	0.176					skip, other samples available this day
10/18/06 15:35	16.58	10.58	2.118	0.188	1.10	1.05	1.925	0.179	max: adjustment factor applied
11/1/06 10:00	10.50	5.00	1.909	0.137			1.831	0.137	direct calculation from Q and all samples
11/1/06 12:00	12.50	7.00	1.033	0.106					
11/1/06 14:00	14.50	9.00	1.890	0.136					
11/1/06 16:00	16.50	11.00	1.958	0.145					
11/1/06 18:00	18.50	13.00	1.935	0.145					
11/1/06 20:00	20.50	15.00	1.967	0.145					
11/15/06 15:30	16.50	11.00	1.934	0.120	1.10	1.05	1.758	0.114	max: adjustment factor applied
12/5/06 10:00	14.50	5.50	1.758	0.092	0.95	0.98	1.850	0.094	below mean: adjustment factor applied
5/14/07 15:30	15.50	10.00	0.817	0.147	1.10	1.05	0.743	0.140	max: adjustment factor applied
5/31/07 9:10	7.67	4.67	1.032	0.198	1.10	1.05	0.938	0.188	max: adjustment factor applied
6/13/07 8:40	7.67	3.67	0.750	0.112	1.10	1.05	0.681	0.107	max: adjustment factor applied
6/27/07 8:30	8.50	4.00	1.245	0.145	1.10	1.05	1.132	0.138	max: adjustment factor applied
7/11/07 8:30	15.00		1.958	0.229	1.10	1.05	1.780	0.218	max: adjustment factor applied
7/24/07 8:30	12.00	1.00	2.189	0.250	1.10	1.05	1.990	0.239	max: adjustment factor applied
8/8/07 8:36	13.10	1.10	1.889	0.245	1.05	1.02	1.799	0.240	near max: adjustment factor applied
8/22/07 9:00	13.00	2.50	1.969	0.273	1.05	1.02	1.875	0.268	near max: adjustment factor applied
9/6/07 8:40	13.17	2.17	2.176	0.238	1.05	1.02	2.073	0.233	near max: adjustment factor applied
9/19/07 8:45			1.817	0.197			1.817	0.197	no peaking: no adjustment needed
10/4/07 8:30	12.00	2.00	1.945	0.150	1.10	1.05	1.768	0.143	max: adjustment factor applied
10/17/07 8:30	10.50	4.00	1.853	0.107	1.10	1.05	1.685	0.102	max: adjustment factor applied
10/30/07 8:15	6.25	3.75	1.813	0.122	1.10	1.05	1.648	0.116	max: adjustment factor applied
11/14/07 8:15	10.75	3.75	1.909	0.115	1.10	1.05	1.736	0.109	max: adjustment factor applied
11/27/07 8:30	10.50	4.00	1.879	0.086	1.10	1.05	1.708	0.082	max: adjustment factor applied
12/12/07 8:30	11.50	3.00	1.868	0.080	1.10	1.05	1.698	0.076	max: adjustment factor applied

Recommendations for future KRAC sampling:
Timing sampling to occur when daily flow-weighted mean nutrient concentration is achieved would be difficult because the sub-daily transitions between high concentration and low concentration occur relatively rapidly (particularly on days with a short baseline period between hydropower peaks). However, because the high concentration period occurs over a relatively long period of time (e.g., see Figure A2-3 above), the recommended approach would be to collect samples during the high-concentration period, and then adjust data downward to the daily flow-weighted average concentration.

There are typically two windows each day to do this: one in the morning and one in the evening (length varies from day-to-day). The following is a list of rules for when to collect samples during the windows of maximum concentration:

1. EARLY PART OF DAY:
Collect samples prior to (inclusive) 12 hrs since return to baseline at Boyle gage, or prior to (inclusive) 5 hrs since ramp up begins at Boyle Gage, whichever is earlier.

2. LATE PART OF DAY:
Collect samples a0fter (inclusive) 11 hrs since ramp up begins at Boyle Gage.

The hydrographs change from day to day, month-to-month, and season-to-season, so ideally flows should be checked before every sample trip to make sure samples will be collected at the right time.

PacifiCorp posts their flow schedule online three days in advance for rafters, so it is possible to look it up:
http://www.pacificorp.com/hydro_hiws/JCBoyleEstFlow.html
http://www.pacificorp.com/Article/Article45605.html

The past 60 days of sub-hourly USGS flow data are available at:
http://waterdata.usgs.gov/usa/nwis/uv?site_no=11510700

APPENDIX A3

Table A3-1. Flow and nutrient mass-balance for Copco Reservoir, May 2005 - December 2007, summarized by sampling interval.

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
Entire Period 5/18/2005 - 12/11/2007	938	Klamath abv. Copco	4274	3465	1862	96.8	618.4	6266.1	98.7	99.4	0.145	1.466
		Shovel Creek	52	42	23	1.2	2.9	9.0	0.5	0.1	0.057	0.175
		Other Copco Tribs	88	71	38	2.0	5.0	15.4	0.8	0.2	0.057	0.176
		Trib. inflow	4413	3578	1923	99.9	626.3	6290.5	100.0	99.8	0.142	1.425
		Precipitation	4	3	2	0.1	0.2	10.9	0.0	0.2		
		Total inflow	4417	3581	1925	100.0	626.5	6301.4	100.0	100.0	0.142	1.427
		Evaporation	11	9	5							
		Net inflow	4428	3590	1929		626.5	6301.4				
		Copco outflow	4389	3558	1912		594.2	5830.5			0.135	1.329
		Change in storage	-3	-2	-1		-0.2	39.6				
		Retention					32.5	431.4	5.2	6.8		
Interval 1: 5/18/2005 - 6/ 2/2005	16	Klamath abv. Copco	108	88	2761	96.5	9.6	100.1	98.4	99.0	0.089	0.926
		Shovel Creek	1	1	36	1.3	0.1	0.3	0.6	0.3	0.042	0.210
		Other Copco Tribs	2	2	61	2.1	0.1	0.5	1.0	0.5	0.040	0.213
		Trib. inflow	112	91	2859	99.9	9.8	100.9	100.0	99.8	0.087	0.902
		Precipitation	0	0	2	0.1	0.0	0.2	0.0	0.2		
		Total inflow	112	91	2861	100.0	9.8	101.1	100.0	100.0	0.087	0.903
		Evaporation	0	0	7							
		Net inflow	112	91	2868		9.8	101.1				
		Copco outflow	113	91	2881		10.5	101.5			0.093	0.900
		Change in storage	-1	-1	-34		0.3	-1.4				
		Retention					-1.0	0.9	-10.1	0.9		
Interval 2: 6/ 3/2005 - 6/15/2005	13	Klamath abv. Copco	39	32	1229	96.9	4.1	35.1	98.7	99.0	0.105	0.898
		Shovel Creek	0	0	15	1.2	0.0	0.1	0.5	0.2	0.043	0.173
		Other Copco Tribs	1	1	25	2.0	0.0	0.1	0.8	0.4	0.040	0.165
		Trib. inflow	40	33	1269	100.0	4.1	35.3	99.9	99.6	0.103	0.875
		Precipitation	0	0	0	0.0	0.0	0.2	0.1	0.4		
		Total inflow	40	33	1269	100.0	4.1	35.5	100.0	100.0	0.103	0.879
		Evaporation	0	0	8							
		Net inflow	41	33	1278		4.1	35.5				
		Copco outflow	41	34	1303		4.5	32.9			0.110	0.794
		Change in storage	-2	-1	-52		1.1	-2.8				
		Retention					-1.5	5.4	-35.5	15.2		
Interval 3: 6/16/2005 - 6/28/2005	13	Klamath abv. Copco	35	28	1094	97.0	4.3	33.4	98.9	99.1	0.122	0.960
		Shovel Creek	0	0	12	1.1	0.0	0.1	0.4	0.2	0.045	0.155
		Other Copco Tribs	1	1	21	1.8	0.0	0.1	0.6	0.3	0.042	0.147

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Trib. inflow	36	29	1126	99.9	4.3	33.5	99.9	99.5	0.120	0.936
		Precipitation	0	0	1	0.1	0.0	0.2	0.1	0.5		
		Total inflow	36	29	1127	100.0	4.3	33.7	100.0	100.0	0.120	0.940
		Evaporation	0	0	9							
		Net inflow	36	29	1136		4.3	33.7				
		Copco outflow	32	26	994		3.9	25.0			0.125	0.791
		Change in storage	4	3	121		0.2	3.6				
		Retention					0.1	5.0	3.3	14.9		
Interval 4: 6/29/2005 - 7/14/2005	16	Klamath abv. Copco	33	27	838	96.7	4.8	36.7	98.9	99.0	0.146	1.118
		Shovel Creek	0	0	7	0.8	0.0	0.0	0.3	0.1	0.046	0.155
		Other Copco Tribs	1	1	21	2.5	0.0	0.1	0.8	0.3	0.046	0.150
		Trib. inflow	34	27	866	100.0	4.9	36.8	99.9	99.5	0.143	1.086
		Precipitation	0	0	0	0.0	0.0	0.2	0.1	0.5		
		Total inflow	34	27	866	100.0	4.9	37.0	100.0	100.0	0.143	1.092
		Evaporation	0	0	10							
		Net inflow	34	28	876		4.9	37.0				
		Copco outflow	33	27	851		4.7	28.9			0.142	0.868
		Change in storage	0	0	3		1.8	1.0				
		Retention					-1.7	7.1	-34.4	19.1		
Interval 5: 7/15/2005 - 7/27/2005	13	Klamath abv. Copco	28	23	888	97.6	5.6	41.5	99.3	99.3	0.198	1.471
		Shovel Creek	0	0	6	0.6	0.0	0.0	0.2	0.1	0.050	0.176
		Other Copco Tribs	1	0	16	1.8	0.0	0.1	0.4	0.2	0.050	0.174
		Trib. inflow	29	23	910	100.0	5.6	41.7	100.0	99.6	0.194	1.440
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	29	23	910	100.0	5.6	41.8	100.0	100.0	0.194	1.445
		Evaporation	0	0	10							
		Net inflow	29	24	920		5.6	41.8				
		Copco outflow	29	23	903		4.9	35.1			0.169	1.222
		Change in storage	0	0	-4		1.6	22.2				
		Retention					-0.8	-15.5	-14.2	-37.0		
Interval 6: 7/28/2005 - 8/11/2005	15	Klamath abv. Copco	33	26	887	97.7	6.1	56.0	99.3	99.5	0.189	1.721
		Shovel Creek	0	0	6	0.6	0.0	0.0	0.2	0.1	0.051	0.156
		Other Copco Tribs	1	0	15	1.6	0.0	0.1	0.5	0.2	0.051	0.157
		Trib. inflow	33	27	908	100.0	6.2	56.2	100.0	99.7	0.186	1.686
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	33	27	908	100.0	6.2	56.3	100.0	100.0	0.186	1.691
		Evaporation	0	0	9							
		Net inflow	34	27	917		6.2	56.3				
		Copco outflow	34	27	924		6.3	50.8			0.187	1.499
		Change in storage	-1	-1	-27		1.1	7.1				

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Retention					-1.3	-1.6	-20.7	-2.9		
Interval 7:	14	Klamath abv. Copco	32	26	939	97.6	5.7	55.0	99.2	99.5	0.178	1.710
8/12/2005 -		Shovel Creek	0	0	7	0.8	0.0	0.0	0.2	0.1	0.057	0.136
8/25/2005		Other Copco Tribs	1	0	16	1.6	0.0	0.1	0.5	0.1	0.056	0.134
		Trib. inflow	33	27	962	100.0	5.8	55.1	100.0	99.7	0.175	1.673
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	33	27	962	100.0	5.8	55.3	100.0	100.0	0.175	1.678
		Evaporation	0	0	9							
		Net inflow	33	27	971		5.8	55.3				
		Copco outflow	32	26	935		6.2	46.8			0.193	1.463
		Change in storage	0	0	14		-0.4	-7.7				
		Retention					0.0	16.1	-0.8	29.2		
Interval 8:	14	Klamath abv. Copco	35	29	1036	98.2	5.6	58.2	99.3	99.6	0.156	1.640
8/26/2005 -		Shovel Creek	0	0	6	0.5	0.0	0.0	0.2	0.0	0.057	0.136
9/ 8/2005		Other Copco Tribs	0	0	13	1.2	0.0	0.1	0.5	0.1	0.057	0.135
		Trib. inflow	36	29	1055	100.0	5.6	58.3	100.0	99.7	0.155	1.613
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	36	29	1055	100.0	5.6	58.5	100.0	100.0	0.155	1.618
		Evaporation	0	0	7							
		Net inflow	36	29	1062		5.6	58.5				
		Copco outflow	36	29	1058		7.0	51.3			0.193	1.415
		Change in storage	0	0	-11		-0.5	0.3				
		Retention					-0.9	6.9	-15.4	11.8		
Interval 9:	13	Klamath abv. Copco	34	28	1073	97.9	5.4	64.8	99.2	99.6	0.157	1.899
9/ 9/2005 -		Shovel Creek	0	0	6	0.6	0.0	0.0	0.2	0.0	0.057	0.145
9/21/2005		Other Copco Tribs	1	0	17	1.6	0.0	0.1	0.6	0.1	0.058	0.144
		Trib. inflow	35	28	1096	100.0	5.4	64.9	100.0	99.8	0.155	1.862
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	35	28	1096	100.0	5.4	65.1	100.0	100.0	0.155	1.866
		Evaporation	0	0	6							
		Net inflow	35	28	1102		5.4	65.1				
		Copco outflow	37	30	1154		6.6	55.7			0.180	1.517
		Change in storage	-2	-2	-64		0.0	6.7				
		Retention					-1.2	2.7	-21.9	4.1		
Interval 10:	14	Klamath abv. Copco	38	31	1114	98.2	6.4	77.0	99.4	99.7	0.169	2.019
9/22/2005 -		Shovel Creek	0	0	9	0.8	0.0	0.0	0.3	0.1	0.056	0.154
10/ 5/2005		Other Copco Tribs	0	0	12	1.0	0.0	0.1	0.3	0.1	0.055	0.149
		Trib. inflow	39	31	1134	100.0	6.5	77.1	100.0	99.8	0.167	1.985
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	39	32	1134	100.0	6.5	77.3	100.0	100.0	0.167	1.989

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Evaporation	0	0	5							
		Net inflow	39	32	1140		6.5	77.3				
		Copco outflow	39	31	1130		5.9	60.7			0.151	1.568
		Change in storage	0	0	-7		-2.1	0.2				
		Retention					2.8	16.5	42.7	21.3		
Interval 11:	14	Klamath abv. Copco	41	33	1189	98.0	5.4	68.6	99.1	99.6	0.132	1.684
10/ 6/2005 -		Shovel Creek	0	0	9	0.8	0.0	0.1	0.3	0.1	0.053	0.164
10/19/2005		Other Copco Tribs	1	0	15	1.2	0.0	0.1	0.5	0.1	0.053	0.164
		Trib. inflow	42	34	1213	100.0	5.4	68.7	100.0	99.8	0.131	1.654
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	42	34	1213	100.0	5.4	68.9	100.0	100.0	0.131	1.658
		Evaporation	0	0	4							
		Net inflow	42	34	1217		5.4	68.9				
		Copco outflow	45	37	1315		6.6	70.9			0.147	1.574
		Change in storage	-4	-3	-108		-1.8	-2.5				
		Retention					0.7	0.5	12.5	0.7		
Interval 12:	15	Klamath abv. Copco	48	39	1299	98.1	5.3	77.3	99.1	99.6	0.111	1.623
10/20/2005 -		Shovel Creek	0	0	10	0.8	0.0	0.1	0.4	0.1	0.053	0.149
11/ 3/2005		Other Copco Tribs	0	0	12	0.9	0.0	0.1	0.4	0.1	0.053	0.149
		Trib. inflow	48	39	1321	99.8	5.3	77.5	99.9	99.8	0.110	1.597
		Precipitation	0	0	3	0.2	0.0	0.2	0.1	0.2		
		Total inflow	49	39	1324	100.0	5.3	77.6	100.0	100.0	0.110	1.598
		Evaporation	0	0	3							
		Net inflow	49	39	1327		5.3	77.6				
		Copco outflow	45	37	1235		5.5	75.2			0.121	1.658
		Change in storage	3	2	81		-0.5	5.5				
		Retention					0.4	-3.0	7.7	-3.9		
Interval 13:	14	Klamath abv. Copco	37	30	1088	92.8	2.9	54.2	95.3	98.8	0.079	1.454
11/ 4/2005 -		Shovel Creek	1	1	27	2.3	0.1	0.2	1.6	0.3	0.054	0.198
11/17/2005		Other Copco Tribs	2	1	49	4.1	0.1	0.3	3.0	0.6	0.055	0.202
		Trib. inflow	40	32	1163	99.2	3.1	54.7	99.9	99.7	0.077	1.372
		Precipitation	0	0	9	0.8	0.0	0.2	0.1	0.3		
		Total inflow	40	33	1173	100.0	3.1	54.8	100.0	100.0	0.077	1.365
		Evaporation	0	0	0							
		Net inflow	40	33	1173		3.1	54.8				
		Copco outflow	41	34	1208		4.3	69.6			0.103	1.682
		Change in storage	-2	-1	-44		-0.9	-1.4				
		Retention					-0.3	-13.4	-8.6	-24.4		
Interval 14:	13	Klamath abv. Copco	41	33	1277	95.5	3.1	64.0	96.9	99.1	0.076	1.576
11/18/2005 -		Shovel Creek	1	1	21	1.6	0.0	0.2	1.1	0.2	0.052	0.239
11/30/2005		Other Copco Tribs	1	1	35	2.6	0.1	0.3	1.9	0.4	0.053	0.239

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Trib. inflow	42	34	1334	99.8	3.2	64.4	99.9	99.8	0.075	1.519
		Precipitation	0	0	3	0.2	0.0	0.1	0.1	0.2		
		Total inflow	43	34	1337	100.0	3.2	64.6	100.0	100.0	0.075	1.519
		Evaporation	0	0	0							
		Net inflow	43	34	1337		3.2	64.6				
		Copco outflow	40	32	1247		3.6	68.2			0.092	1.720
		Change in storage	2	2	66		0.2	0.8				
		Retention					-0.6	-4.5	-19.7	-6.9		
Interval 15: 12/ 1/2005 - 12/14/2005	14	Klamath abv. Copco	31	25	893	89.3	3.5	57.1	94.8	98.4	0.116	1.865
		Shovel Creek	1	1	39	3.9	0.1	0.3	1.9	0.5	0.053	0.209
		Other Copco Tribs	2	2	65	6.5	0.1	0.5	3.2	0.8	0.054	0.217
		Trib. inflow	34	28	997	99.7	3.7	57.8	99.9	99.7	0.109	1.693
		Precipitation	0	0	3	0.3	0.0	0.2	0.1	0.3		
		Total inflow	34	28	1000	100.0	3.7	58.0	100.0	100.0	0.109	1.692
		Evaporation	0	0	1							
		Net inflow	34	28	1001		3.7	58.0				
		Copco outflow	41	33	1184		3.6	68.7			0.089	1.695
		Change in storage	-6	-5	-178		-0.7	-8.2				
		Retention					0.8	-2.5	22.7	-4.4		
Interval 16: 12/15/2005 - 1/ 4/2006	21	Klamath abv. Copco	184	150	3589	88.8	23.4	372.5	95.0	98.8	0.127	2.020
		Shovel Creek	8	7	165	4.1	0.5	1.6	1.8	0.4	0.054	0.185
		Other Copco Tribs	14	11	276	6.8	0.8	2.6	3.1	0.7	0.054	0.183
		Trib. inflow	207	168	4030	99.7	24.6	376.7	100.0	99.9	0.119	1.819
		Precipitation	1	0	11	0.3	0.0	0.2	0.0	0.1		
		Total inflow	208	168	4041	100.0	24.6	376.9	100.0	100.0	0.118	1.815
		Evaporation	0	0	1							
		Net inflow	208	168	4042		24.6	376.9				
		Copco outflow	199	161	3871		25.6	366.8			0.129	1.844
		Change in storage	6	5	117		4.9	20.4				
		Retention					-5.9	-10.3	-24.2	-2.7		
Interval 17: 1/ 5/2006 - 1/24/2006	20	Klamath abv. Copco	267	216	5455	94.5	34.8	548.0	97.5	99.4	0.130	2.053
		Shovel Creek	6	5	116	2.0	0.3	1.1	0.9	0.2	0.058	0.187
		Other Copco Tribs	10	8	195	3.4	0.6	1.8	1.6	0.3	0.058	0.187
		Trib. inflow	282	229	5766	99.9	35.7	550.8	100.0	100.0	0.126	1.952
		Precipitation	0	0	5	0.1	0.0	0.2	0.0	0.0		
		Total inflow	282	229	5771	100.0	35.7	551.1	100.0	100.0	0.126	1.951
		Evaporation	0	0	1							
		Net inflow	282	229	5772		35.7	551.1				
		Copco outflow	281	228	5745		36.4	536.6			0.130	1.909
		Change in storage	-1	-1	-14		-3.9	-5.1				

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Retention					3.2	19.6	8.9	3.6		
Interval 18:	14	Klamath abv. Copco	151	123	4415	92.3	20.0	288.3	96.4	99.2	0.132	1.907
1/25/2006 -		Shovel Creek	5	4	135	2.8	0.3	0.8	1.4	0.3	0.061	0.169
2/ 7/2006		Other Copco Tribs	8	6	226	4.7	0.5	1.3	2.3	0.4	0.061	0.167
		Trib. inflow	164	133	4776	99.9	20.7	290.4	100.0	99.9	0.127	1.775
		Precipitation	0	0	5	0.1	0.0	0.2	0.0	0.1		
		Total inflow	164	133	4781	100.0	20.7	290.6	100.0	100.0	0.127	1.774
		Evaporation	0	0	1							
		Net inflow	164	133	4782		20.7	290.6				
		Copco outflow	165	134	4808		18.5	300.4			0.113	1.824
		Change in storage	-3	-2	-77		1.2	-7.9				
		Retention					1.0	-1.9	4.8	-0.7		
Interval 19:	22	Klamath abv. Copco	192	156	3564	96.1	26.5	319.9	97.8	99.4	0.138	1.668
2/ 8/2006 -		Shovel Creek	3	2	54	1.5	0.2	0.6	0.8	0.2	0.077	0.199
3/ 1/2006		Other Copco Tribs	5	4	90	2.4	0.4	1.0	1.4	0.3	0.077	0.203
		Trib. inflow	200	162	3708	99.9	27.1	321.5	100.0	99.9	0.136	1.611
		Precipitation	0	0	2	0.1	0.0	0.2	0.0	0.1		
		Total inflow	200	162	3710	100.0	27.1	321.7	100.0	100.0	0.136	1.611
		Evaporation	0	0	1							
		Net inflow	200	162	3712		27.1	321.7				
		Copco outflow	193	157	3592		19.9	301.4			0.103	1.559
		Change in storage	5	4	102		-0.5	-11.5				
		Retention					7.7	31.8	28.6	9.9		
Interval 20:	22	Klamath abv. Copco	176	142	3263	96.7	27.5	269.9	98.4	99.5	0.157	1.537
3/ 2/2006 -		Shovel Creek	2	2	42	1.2	0.2	0.4	0.6	0.2	0.073	0.186
3/23/2006		Other Copco Tribs	4	3	70	2.1	0.3	0.7	1.0	0.3	0.073	0.192
		Trib. inflow	182	147	3374	100.0	28.0	271.1	100.0	99.9	0.154	1.493
		Precipitation	0	0	0	0.0	0.0	0.3	0.0	0.1		
		Total inflow	182	147	3375	100.0	28.0	271.3	100.0	100.0	0.154	1.494
		Evaporation	0	0	3							
		Net inflow	182	147	3377		28.0	271.3				
		Copco outflow	182	147	3375		20.9	235.8			0.115	1.298
		Change in storage	-1	-1	-16		-0.1	-4.8				
		Retention					7.2	40.4	25.7	14.9		
Interval 21:	13	Klamath abv. Copco	108	88	3411	98.2	16.2	153.1	99.4	99.7	0.149	1.411
3/24/2006 -		Shovel Creek	1	1	22	0.6	0.0	0.1	0.2	0.1	0.053	0.173
4/ 5/2006		Other Copco Tribs	1	1	37	1.1	0.1	0.2	0.4	0.1	0.054	0.176
		Trib. inflow	110	89	3471	100.0	16.3	153.4	100.0	99.9	0.147	1.390
		Precipitation	0	0	2	0.0	0.0	0.2	0.0	0.1		
		Total inflow	110	90	3472	100.0	16.3	153.6	100.0	100.0	0.147	1.391

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Evaporation	0	0	3							
		Net inflow	111	90	3476		16.3	153.6				
		Copco outflow	109	89	3438		12.2	129.7			0.112	1.187
		Change in storage	0	0	15		0.6	-4.1				
		Retention					3.4	27.9	21.0	18.2		
Interval 22:	22	Klamath abv. Copco	335	272	6226	97.5	67.0	371.7	99.4	99.5	0.200	1.109
4/ 6/2006 -		Shovel Creek	3	3	59	0.9	0.2	0.5	0.2	0.1	0.051	0.170
4/27/2006		Other Copco Tribs	5	4	99	1.5	0.3	0.9	0.4	0.2	0.051	0.174
		Trib. inflow	344	279	6384	100.0	67.5	373.2	100.0	99.9	0.196	1.086
		Precipitation	0	0	1	0.0	0.0	0.3	0.0	0.1		
		Total inflow	344	279	6385	100.0	67.5	373.5	100.0	100.0	0.196	1.087
		Evaporation	0	0	4							
		Net inflow	344	279	6389		67.5	373.5				
		Copco outflow	344	279	6384		65.0	345.5			0.189	1.006
		Change in storage	-1	-1	-27		-0.6	-13.4				
		Retention					3.1	41.3	4.6	11.1		
Interval 23:	14	Klamath abv. Copco	149	121	4364	99.4	21.9	125.9	99.8	99.8	0.146	0.842
4/28/2006 -		Shovel Creek	0	0	11	0.2	0.0	0.1	0.1	0.0	0.042	0.138
5/11/2006		Other Copco Tribs	1	0	18	0.4	0.0	0.1	0.1	0.1	0.042	0.140
		Trib. inflow	150	122	4392	100.0	21.9	126.0	100.0	99.9	0.146	0.837
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.1		
		Total inflow	150	122	4392	100.0	21.9	126.2	100.0	100.0	0.146	0.839
		Evaporation	0	0	6							
		Net inflow	151	122	4399		21.9	126.2				
		Copco outflow	148	120	4319		17.0	116.9			0.115	0.790
		Change in storage	2	2	60		1.7	0.0				
		Retention					3.2	9.3	14.8	7.4		
Interval 24:	21	Klamath abv. Copco	167	135	3249	99.0	19.1	135.7	99.7	99.7	0.114	0.813
5/12/2006 -		Shovel Creek	1	0	12	0.4	0.0	0.1	0.1	0.0	0.035	0.093
6/ 1/2006		Other Copco Tribs	1	1	20	0.6	0.0	0.1	0.2	0.1	0.035	0.095
		Trib. inflow	169	137	3280	100.0	19.2	135.9	100.0	99.8	0.114	0.806
		Precipitation	0	0	1	0.0	0.0	0.2	0.0	0.2		
		Total inflow	169	137	3281	100.0	19.2	136.1	100.0	100.0	0.114	0.808
		Evaporation	0	0	7							
		Net inflow	169	137	3288		19.2	136.1				
		Copco outflow	170	138	3301		19.3	133.7			0.114	0.788
		Change in storage	-1	-1	-26		0.8	1.6				
		Retention					-0.9	0.9	-4.7	0.6		
Interval 25:	14	Klamath abv. Copco	104	84	3025	99.6	10.4	86.6	99.8	99.8	0.101	0.836
6/ 2/2006 -		Shovel Creek	0	0	5	0.2	0.0	0.0	0.1	0.0	0.033	0.080
6/15/2006		Other Copco Tribs	0	0	8	0.3	0.0	0.0	0.1	0.0	0.033	0.079

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Trib. inflow	104	84	3038	100.0	10.5	86.7	100.0	99.8	0.100	0.833
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	104	84	3038	100.0	10.5	86.8	100.0	100.0	0.100	0.834
		Evaporation	0	0	8							
		Net inflow	104	85	3046		10.5	86.8				
		Copco outflow	104	84	3041		12.0	81.6			0.115	0.783
		Change in storage	-1	-1	-21		-0.4	-5.0				
		Retention					-1.2	10.3	-11.3	11.8		
Interval 26: 6/16/2006 - 6/29/2006	14	Klamath abv. Copco	105	85	3062	99.9	11.9	97.1	100.0	99.8	0.114	0.926
		Shovel Creek	0	0	0	0.0	0.0	0.0	0.0	0.0	0.044	0.077
		Other Copco Tribs	0	0	1	0.0	0.0	0.0	0.0	0.0	0.043	0.079
		Trib. inflow	105	85	3063	100.0	11.9	97.1	100.0	99.8	0.114	0.926
		Precipitation	0	0	1	0.0	0.0	0.2	0.0	0.2		
		Total inflow	105	85	3064	100.0	11.9	97.3	100.0	100.0	0.114	0.927
		Evaporation	0	0	8							
		Net inflow	105	85	3072		11.9	97.3				
		Copco outflow	104	85	3049		11.4	80.9			0.109	0.775
		Change in storage	0	0	-10		-0.7	2.1				
		Retention					1.2	14.3	10.0	14.7		
Interval 27: 6/30/2006 - 7/13/2006	14	Klamath abv. Copco	62	50	1798	99.4	8.4	70.5	99.8	99.7	0.136	1.145
		Shovel Creek	0	0	4	0.2	0.0	0.0	0.1	0.0	0.045	0.083
		Other Copco Tribs	0	0	7	0.4	0.0	0.0	0.1	0.0	0.045	0.083
		Trib. inflow	62	50	1808	100.0	8.4	70.5	100.0	99.8	0.136	1.139
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	62	50	1808	100.0	8.4	70.7	100.0	100.0	0.136	1.141
		Evaporation	0	0	9							
		Net inflow	62	50	1818		8.4	70.7				
		Copco outflow	61	49	1775		7.1	55.5			0.117	0.913
		Change in storage	1	1	21		1.0	12.5				
		Retention					0.3	2.7	3.3	3.8		
Interval 28: 7/14/2006 - 7/27/2006	14	Klamath abv. Copco	36	29	1037	97.5	5.8	45.8	99.2	99.5	0.163	1.290
		Shovel Creek	0	0	10	0.9	0.0	0.0	0.3	0.1	0.051	0.087
		Other Copco Tribs	1	0	17	1.6	0.0	0.0	0.5	0.1	0.050	0.087
		Trib. inflow	36	30	1063	100.0	5.8	45.9	100.0	99.6	0.160	1.260
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	36	30	1063	100.0	5.8	46.1	100.0	100.0	0.160	1.265
		Evaporation	0	0	10							
		Net inflow	37	30	1073		5.8	46.1				
		Copco outflow	34	28	992		4.9	35.9			0.143	1.056
		Change in storage	2	2	60		4.2	16.6				

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Retention					-3.3	-6.4	-55.8	-14.0		
Interval 29:	12	Klamath abv. Copco	26	21	895	96.6	4.5	33.2	98.9	99.4	0.170	1.265
7/28/2006 -		Shovel Creek	0	0	11	1.1	0.0	0.0	0.4	0.1	0.056	0.077
8/ 8/2006		Other Copco Tribs	1	0	18	1.9	0.0	0.0	0.6	0.1	0.056	0.077
		Trib. inflow	27	22	923	99.6	4.5	33.3	99.9	99.6	0.166	1.228
		Precipitation	0	0	3	0.4	0.0	0.1	0.1	0.4		
		Total inflow	27	22	926	100.0	4.5	33.4	100.0	100.0	0.166	1.229
		Evaporation	0	0	9							
		Net inflow	27	22	936		4.5	33.4				
		Copco outflow	26	21	896		4.5	26.6			0.170	1.011
		Change in storage	1	0	21		-1.5	-18.1				
		Retention					1.5	24.9	33.4	74.5		
Interval 30:	16	Klamath abv. Copco	38	30	958	97.4	7.3	44.7	99.1	99.4	0.194	1.190
8/ 9/2006 -		Shovel Creek	0	0	10	1.0	0.0	0.0	0.3	0.1	0.061	0.062
8/24/2006		Other Copco Tribs	1	1	16	1.6	0.0	0.0	0.5	0.1	0.061	0.063
		Trib. inflow	39	31	984	100.0	7.3	44.7	100.0	99.6	0.190	1.161
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	39	31	984	100.0	7.3	44.9	100.0	100.0	0.190	1.166
		Evaporation	0	0	9							
		Net inflow	39	32	993		7.3	44.9				
		Copco outflow	39	31	990		7.6	36.5			0.196	0.942
		Change in storage	-1	-1	-19		-1.2	-8.0				
		Retention					0.9	16.4	12.4	36.6		
Interval 31:	14	Klamath abv. Copco	30	25	890	98.3	6.6	42.1	99.5	99.5	0.217	1.380
8/25/2006 -		Shovel Creek	0	0	6	0.6	0.0	0.0	0.2	0.0	0.057	0.087
9/ 7/2006		Other Copco Tribs	0	0	10	1.1	0.0	0.0	0.3	0.1	0.058	0.087
		Trib. inflow	31	25	905	100.0	6.7	42.1	100.0	99.6	0.215	1.358
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	31	25	905	100.0	6.7	42.3	100.0	100.0	0.215	1.364
		Evaporation	0	0	7							
		Net inflow	31	25	912		6.7	42.3				
		Copco outflow	31	25	898		5.8	26.8			0.190	0.872
		Change in storage	0	0	-4		3.0	7.3				
		Retention					-2.2	8.1	-32.3	19.1		
Interval 32:	14	Klamath abv. Copco	36	29	1059	99.2	7.7	68.6	99.8	99.7	0.213	1.890
9/ 8/2006 -		Shovel Creek	0	0	3	0.3	0.0	0.0	0.1	0.0	0.057	0.086
9/21/2006		Other Copco Tribs	0	0	5	0.5	0.0	0.0	0.1	0.0	0.058	0.084
		Trib. inflow	37	30	1067	100.0	7.7	68.6	100.0	99.8	0.212	1.876
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	37	30	1067	100.0	7.7	68.7	100.0	100.0	0.212	1.881

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Evaporation	0	0	6							
		Net inflow	37	30	1073		7.7	68.7				
		Copco outflow	36	29	1044		6.9	37.5			0.193	1.048
		Change in storage	0	0	7		1.9	17.3				
		Retention					-1.1	14.0	-13.9	20.3		
Interval 33:	14	Klamath abv. Copco	36	29	1047	99.2	7.9	70.0	99.8	99.7	0.221	1.953
9/22/2006 -		Shovel Creek	0	0	3	0.2	0.0	0.0	0.1	0.0	0.055	0.098
10/ 5/2006		Other Copco Tribs	0	0	4	0.4	0.0	0.0	0.1	0.0	0.056	0.095
		Trib. inflow	36	29	1054	99.9	7.9	70.1	100.0	99.8	0.220	1.941
		Precipitation	0	0	1	0.1	0.0	0.2	0.0	0.2		
		Total inflow	36	29	1055	100.0	7.9	70.2	100.0	100.0	0.220	1.943
		Evaporation	0	0	5							
		Net inflow	36	29	1060		7.9	70.2				
		Copco outflow	36	29	1047		6.9	47.0			0.192	1.312
		Change in storage	0	0	4		-5.0	-1.4				
		Retention					6.1	24.6	76.5	35.0		
Interval 34:	14	Klamath abv. Copco	44	36	1298	99.6	8.3	83.2	99.9	99.8	0.187	1.870
10/ 6/2006 -		Shovel Creek	0	0	2	0.1	0.0	0.0	0.0	0.0	0.053	0.108
10/19/2006		Other Copco Tribs	0	0	3	0.2	0.0	0.0	0.1	0.0	0.054	0.106
		Trib. inflow	45	36	1303	100.0	8.3	83.2	100.0	99.8	0.186	1.864
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	45	36	1303	100.0	8.3	83.4	100.0	100.0	0.186	1.868
		Evaporation	0	0	4							
		Net inflow	45	36	1307		8.3	83.4				
		Copco outflow	43	35	1268		8.0	69.7			0.184	1.604
		Change in storage	1	0	18		-0.6	14.7				
		Retention					0.9	-1.0	10.5	-1.2		
Interval 35:	14	Klamath abv. Copco	38	31	1109	99.5	5.8	70.1	99.8	99.7	0.153	1.845
10/20/2006 -		Shovel Creek	0	0	2	0.2	0.0	0.0	0.1	0.0	0.051	0.147
11/ 2/2006		Other Copco Tribs	0	0	3	0.3	0.0	0.0	0.1	0.0	0.052	0.142
		Trib. inflow	38	31	1114	100.0	5.8	70.1	100.0	99.8	0.152	1.837
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	38	31	1114	100.0	5.8	70.3	100.0	100.0	0.152	1.841
		Evaporation	0	0	3							
		Net inflow	38	31	1118		5.8	70.3				
		Copco outflow	42	34	1231		7.0	73.3			0.167	1.738
		Change in storage	-4	-3	-126		-1.8	-4.8				
		Retention					0.6	1.8	9.5	2.5		
Interval 36:	14	Klamath abv. Copco	42	34	1233	98.7	5.0	74.4	99.6	99.7	0.119	1.762
11/ 3/2006 -		Shovel Creek	0	0	4	0.3	0.0	0.0	0.1	0.0	0.049	0.190
11/16/2006		Other Copco Tribs	0	0	7	0.6	0.0	0.0	0.2	0.1	0.049	0.187

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Trib. inflow	43	35	1245	99.6	5.0	74.5	99.9	99.8	0.118	1.748
		Precipitation	0	0	5	0.4	0.0	0.2	0.1	0.2		
		Total inflow	43	35	1249	100.0	5.1	74.7	100.0	100.0	0.118	1.745
		Evaporation	0	0	0							
		Net inflow	43	35	1249		5.1	74.7				
		Copco outflow	43	35	1244		6.0	78.3			0.141	1.837
		Change in storage	0	0	3		-1.5	7.7				
		Retention					0.5	-11.3	9.8	-15.1		
Interval 37: 11/17/2006 - 12/ 5/2006	19	Klamath abv. Copco	59	47	1259	98.9	5.9	105.8	99.4	99.7	0.101	1.808
		Shovel Creek	0	0	5	0.4	0.0	0.0	0.2	0.0	0.048	0.160
		Other Copco Tribs	0	0	8	0.7	0.0	0.1	0.3	0.1	0.049	0.158
		Trib. inflow	59	48	1272	100.0	5.9	105.8	99.9	99.8	0.101	1.790
		Precipitation	0	0	1	0.0	0.0	0.2	0.1	0.2		
		Total inflow	59	48	1273	100.0	6.0	106.1	100.0	100.0	0.101	1.793
		Evaporation	0	0	0							
		Net inflow	59	48	1273		6.0	106.1				
		Copco outflow	57	46	1231		6.5	109.5			0.114	1.913
		Change in storage	2	1	36		-0.5	2.5				
		Retention					0.0	-6.0	-0.3	-5.6		
Interval 38: 12/ 6/2006 - 5/17/2007	163	Klamath abv. Copco	688	558	1726	96.7	97.0	1005.3	98.5	99.4	0.141	1.460
		Shovel Creek	9	7	21	1.2	0.5	1.5	0.5	0.1	0.061	0.174
		Other Copco Tribs	14	12	36	2.0	0.9	2.6	0.9	0.3	0.062	0.179
		Trib. inflow	711	577	1784	99.9	98.4	1009.4	100.0	99.8	0.138	1.419
		Precipitation	1	1	2	0.1	0.0	1.9	0.0	0.2		
		Total inflow	712	577	1786	100.0	98.5	1011.3	100.0	100.0	0.138	1.420
		Evaporation	1	1	3							
		Net inflow	713	578	1788		98.5	1011.3				
		Copco outflow	706	573	1771		83.8	955.6			0.119	1.353
		Change in storage	2	1	4		1.3	-46.6				
		Retention					13.4	102.3	13.6	10.1		
Interval 39: 5/18/2007 - 5/31/2007	14	Klamath abv. Copco	44	36	1279	97.8	6.9	36.5	99.4	99.2	0.158	0.832
		Shovel Creek	0	0	11	0.8	0.0	0.0	0.2	0.1	0.039	0.128
		Other Copco Tribs	1	0	18	1.4	0.0	0.1	0.3	0.2	0.039	0.130
		Trib. inflow	45	36	1307	100.0	7.0	36.6	100.0	99.6	0.155	0.817
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	45	36	1307	100.0	7.0	36.7	100.0	100.0	0.156	0.821
		Evaporation	0	0	7							
		Net inflow	45	36	1314		7.0	36.7				
		Copco outflow	45	37	1320		6.7	30.9			0.148	0.683
		Change in storage	-1	-1	-32		1.3	-3.3				

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Retention					-1.1	9.2	-15.3	25.0		
Interval 40:	13	Klamath abv. Copco	47	38	1463	98.6	6.0	35.6	99.6	99.4	0.128	0.766
6/ 1/2007 -		Shovel Creek	0	0	7	0.5	0.0	0.0	0.2	0.1	0.040	0.116
6/13/2007		Other Copco Tribs	0	0	12	0.8	0.0	0.0	0.3	0.1	0.040	0.116
		Trib. inflow	47	38	1482	99.9	6.0	35.7	100.0	99.6	0.127	0.757
		Precipitation	0	0	1	0.1	0.0	0.2	0.0	0.4		
		Total inflow	47	38	1483	100.0	6.0	35.8	100.0	100.0	0.127	0.760
		Evaporation	0	0	8							
		Net inflow	47	38	1491		6.0	35.8				
		Copco outflow	48	39	1499		8.0	35.2			0.168	0.738
		Change in storage	-1	-1	-23		0.2	2.7				
		Retention					-2.3	-2.1	-37.7	-5.8		
Interval 41:	14	Klamath abv. Copco	50	41	1463	98.9	5.9	44.6	99.6	99.5	0.119	0.889
6/14/2007 -		Shovel Creek	0	0	6	0.4	0.0	0.0	0.1	0.0	0.042	0.104
6/27/2007		Other Copco Tribs	0	0	10	0.7	0.0	0.0	0.2	0.1	0.042	0.103
		Trib. inflow	51	41	1479	100.0	6.0	44.6	100.0	99.6	0.118	0.881
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	51	41	1479	100.0	6.0	44.8	100.0	100.0	0.118	0.884
		Evaporation	0	0	8							
		Net inflow	51	41	1488		6.0	44.8				
		Copco outflow	51	41	1479		7.9	39.5			0.156	0.780
		Change in storage	-1	0	-17		-0.3	2.1				
		Retention					-1.7	3.2	-27.8	7.2		
Interval 42:	14	Klamath abv. Copco	41	33	1188	98.3	7.0	57.8	99.5	99.6	0.173	1.422
6/28/2007 -		Shovel Creek	0	0	7	0.6	0.0	0.0	0.2	0.1	0.047	0.116
7/11/2007		Other Copco Tribs	0	0	13	1.0	0.0	0.0	0.3	0.1	0.047	0.116
		Trib. inflow	41	34	1208	100.0	7.1	57.9	100.0	99.7	0.171	1.400
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	41	34	1208	100.0	7.1	58.1	100.0	100.0	0.171	1.404
		Evaporation	0	0	9							
		Net inflow	42	34	1217		7.1	58.1				
		Copco outflow	40	33	1182		6.6	42.2			0.163	1.041
		Change in storage	1	1	24		2.0	18.1				
		Retention					-1.6	-2.1	-22.1	-3.7		
Interval 43:	13	Klamath abv. Copco	32	26	995	97.8	6.9	59.1	99.5	99.6	0.218	1.866
7/12/2007 -		Shovel Creek	0	0	8	0.8	0.0	0.0	0.2	0.1	0.050	0.125
7/24/2007		Other Copco Tribs	0	0	14	1.4	0.0	0.1	0.3	0.1	0.050	0.125
		Trib. inflow	32	26	1017	100.0	7.0	59.2	100.0	99.7	0.215	1.828
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	32	26	1017	100.0	7.0	59.3	100.0	100.0	0.215	1.833

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Evaporation	0	0	10							
		Net inflow	33	26	1027		7.0	59.3				
		Copco outflow	30	25	955		5.8	39.8			0.191	1.310
		Change in storage	1	1	46		1.8	6.4				
		Retention					-0.6	13.1	-9.2	22.1		
Interval 44:	14	Klamath abv. Copco	34	28	1006	98.4	7.8	64.4	99.6	99.6	0.227	1.870
7/25/2007 -		Shovel Creek	0	0	6	0.6	0.0	0.0	0.1	0.0	0.051	0.132
8/ 7/2007		Other Copco Tribs	0	0	10	1.0	0.0	0.0	0.2	0.1	0.051	0.132
		Trib. inflow	35	28	1023	100.0	7.9	64.5	100.0	99.7	0.225	1.842
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	35	28	1023	100.0	7.9	64.7	100.0	100.0	0.225	1.847
		Evaporation	0	0	9							
		Net inflow	35	29	1032		7.9	64.7				
		Copco outflow	34	28	998		7.3	48.7			0.213	1.424
		Change in storage	0	0	7		0.2	-10.4				
		Retention					0.4	26.4	5.2	40.8		
Interval 45:	15	Klamath abv. Copco	37	30	1003	98.3	9.0	67.3	99.6	99.6	0.245	1.826
8/ 8/2007 -		Shovel Creek	0	0	6	0.6	0.0	0.0	0.1	0.0	0.055	0.111
8/22/2007		Other Copco Tribs	0	0	11	1.0	0.0	0.0	0.2	0.1	0.055	0.111
		Trib. inflow	37	30	1020	100.0	9.1	67.3	100.0	99.7	0.242	1.798
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	37	30	1021	100.0	9.1	67.5	100.0	100.0	0.242	1.802
		Evaporation	0	0	9							
		Net inflow	38	31	1029		9.1	67.5				
		Copco outflow	37	30	995		7.8	53.0			0.215	1.451
		Change in storage	1	0	17		1.0	11.7				
		Retention					0.2	2.8	2.1	4.2		
Interval 46:	15	Klamath abv. Copco	36	29	974	98.0	8.8	70.6	99.5	99.6	0.246	1.976
8/23/2007 -		Shovel Creek	0	0	7	0.7	0.0	0.0	0.2	0.0	0.055	0.113
9/ 6/2007		Other Copco Tribs	0	0	12	1.2	0.0	0.1	0.3	0.1	0.055	0.113
		Trib. inflow	36	30	993	100.0	8.8	70.7	100.0	99.7	0.243	1.940
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	36	30	993	100.0	8.8	70.9	100.0	100.0	0.243	1.945
		Evaporation	0	0	8							
		Net inflow	37	30	1001		8.8	70.9				
		Copco outflow	36	29	978		8.4	61.3			0.234	1.707
		Change in storage	0	0	3		4.4	38.1				
		Retention					-4.0	-28.5	-45.0	-40.3		
Interval 47:	13	Klamath abv. Copco	30	24	946	97.8	6.5	59.8	99.4	99.6	0.215	1.988
9/ 7/2007 -		Shovel Creek	0	0	8	0.8	0.0	0.0	0.2	0.1	0.058	0.125
9/19/2007		Other Copco Tribs	0	0	13	1.4	0.0	0.1	0.4	0.1	0.058	0.125

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Trib. inflow	31	25	966	100.0	6.5	59.9	100.0	99.7	0.211	1.947
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	31	25	967	100.0	6.5	60.0	100.0	100.0	0.211	1.952
		Evaporation	0	0	6							
		Net inflow	31	25	973		6.5	60.0				
		Copco outflow	32	26	992		7.7	55.3			0.244	1.752
		Change in storage	-1	-1	-31		-3.3	-29.3				
		Retention					2.1	34.1	32.3	56.8		
Interval 48: 9/20/2007 - 10/ 4/2007	15	Klamath abv. Copco	37	30	1006	97.8	6.0	67.2	99.2	99.6	0.163	1.820
		Shovel Creek	0	0	8	0.8	0.0	0.0	0.3	0.1	0.055	0.136
		Other Copco Tribs	0	0	13	1.3	0.0	0.1	0.5	0.1	0.055	0.136
		Trib. inflow	38	31	1027	99.9	6.1	67.3	100.0	99.7	0.161	1.785
		Precipitation	0	0	1	0.1	0.0	0.2	0.0	0.3		
		Total inflow	38	31	1029	100.0	6.1	67.5	100.0	100.0	0.161	1.787
		Evaporation	0	0	6							
		Net inflow	38	31	1034		6.1	67.5				
		Copco outflow	39	32	1071		7.3	61.9			0.186	1.576
		Change in storage	-2	-2	-56		-4.3	-8.5				
		Retention					3.1	14.0	50.3	20.8		
Interval 49: 10/ 5/2007 - 10/17/2007	13	Klamath abv. Copco	36	29	1118	97.5	4.3	61.2	99.0	99.5	0.120	1.721
		Shovel Creek	0	0	10	0.8	0.0	0.0	0.4	0.1	0.051	0.162
		Other Copco Tribs	1	0	16	1.4	0.0	0.1	0.6	0.1	0.051	0.164
		Trib. inflow	36	30	1144	99.8	4.3	61.3	99.9	99.8	0.119	1.686
		Precipitation	0	0	3	0.2	0.0	0.1	0.1	0.2		
		Total inflow	36	30	1147	100.0	4.3	61.5	100.0	100.0	0.118	1.686
		Evaporation	0	0	4							
		Net inflow	37	30	1151		4.3	61.5				
		Copco outflow	38	31	1207		5.5	58.9			0.143	1.534
		Change in storage	-2	-2	-70		-4.4	-6.8				
		Retention					3.2	9.4	74.7	15.3		
Interval 50: 10/18/2007 - 10/30/2007	13	Klamath abv. Copco	40	32	1256	97.1	4.3	66.3	98.8	99.5	0.109	1.660
		Shovel Creek	0	0	12	0.9	0.0	0.1	0.4	0.1	0.052	0.185
		Other Copco Tribs	1	0	19	1.5	0.0	0.1	0.7	0.2	0.052	0.190
		Trib. inflow	41	33	1287	99.5	4.4	66.5	99.9	99.8	0.107	1.624
		Precipitation	0	0	7	0.5	0.0	0.1	0.1	0.2		
		Total inflow	41	33	1294	100.0	4.4	66.6	100.0	100.0	0.107	1.620
		Evaporation	0	0	4							
		Net inflow	41	33	1298		4.4	66.6				
		Copco outflow	39	32	1238		4.8	61.2			0.123	1.555
		Change in storage	2	1	51		0.1	4.9				

Sample Interval	Term	Days	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Retention					-0.6	0.5	-13.1	0.7		
Interval 51: 10/31/2007 - 11/14/2007	15	Klamath abv. Copco	44	36	1203	97.8	5.1	75.0	99.0	99.5	0.114	1.699
		Shovel Creek	0	0	10	0.8	0.0	0.1	0.4	0.1	0.050	0.218
		Other Copco Tribs	1	0	17	1.3	0.0	0.1	0.6	0.2	0.050	0.219
		Trib. inflow	45	37	1230	99.9	5.1	75.2	99.9	99.8	0.113	1.667
		Precipitation	0	0	1	0.1	0.0	0.2	0.1	0.2		
		Total inflow	45	37	1230	100.0	5.1	75.4	100.0	100.0	0.113	1.670
		Evaporation	0	0	0							
		Net inflow	45	37	1231		5.1	75.4				
		Copco outflow	47	38	1280		5.4	79.8			0.114	1.699
		Change in storage	-2	-2	-54		0.2	11.2				
		Retention					-0.4	-15.7	-8.3	-20.8		
Interval 52: 11/15/2007 - 11/27/2007	13	Klamath abv. Copco	39	32	1229	97.1	3.7	67.7	98.5	99.4	0.096	1.732
		Shovel Creek	0	0	13	1.0	0.0	0.1	0.5	0.1	0.050	0.221
		Other Copco Tribs	1	1	22	1.7	0.0	0.2	0.9	0.2	0.050	0.224
		Trib. inflow	40	33	1264	99.8	3.8	67.9	99.9	99.8	0.095	1.690
		Precipitation	0	0	2	0.2	0.0	0.1	0.1	0.2		
		Total inflow	40	33	1266	100.0	3.8	68.1	100.0	100.0	0.095	1.691
		Evaporation	0	0	0							
		Net inflow	40	33	1266		3.8	68.1				
		Copco outflow	39	32	1232		3.8	65.5			0.098	1.671
		Change in storage	1	1	29		-1.1	-2.4				
		Retention					1.1	5.0	29.0	7.3		
Interval 53: 11/28/2007 - 12/11/2007	14	Klamath abv. Copco	42	34	1238	96.4	3.2	71.5	97.5	99.2	0.076	1.686
		Shovel Creek	1	0	17	1.3	0.0	0.2	0.9	0.2	0.053	0.266
		Other Copco Tribs	1	1	28	2.2	0.1	0.3	1.5	0.4	0.053	0.271
		Trib. inflow	44	36	1282	99.8	3.3	71.9	99.9	99.8	0.076	1.637
		Precipitation	0	0	2	0.2	0.0	0.2	0.1	0.2		
		Total inflow	44	36	1285	100.0	3.3	72.0	100.0	100.0	0.075	1.637
		Evaporation	0	0	0							
		Net inflow	44	36	1285		3.3	72.0				
		Copco outflow	43	35	1251		3.9	74.6			0.090	1.742
		Change in storage	1	1	27		0.2	9.4				
		Retention					-0.7	-12.0	-21.1	-16.6		

Table A3-2. Flow and nutrient mass-balance for Iron Gate Reservoir, May 2005 - May 2006, summarized by sampling interval.

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
Entire Period 5/18/2005 - 12/11/2007	938	Copco outflow	4389	3558	1912	91.6	594.2	5830.5	98.1	98.6	0.135	1.329
		Fall Creek	81	66	35	1.7	2.6	13.4	0.4	0.2	0.032	0.166
		Jenny Creek	259	210	113	5.4	7.1	47.1	1.2	0.8	0.027	0.182
		Other IG tribs	56	46	25	1.2	1.7	11.1	0.3	0.2	0.030	0.198
		Trib. inflow	4785	3879	2085	99.9	605.6	5902.2	100.0	99.8	0.127	1.234
		Precipitation	4	3	2	0.1	0.2	10.7	0.0	0.2		
		Total inflow	4789	3882	2087	100.0	605.8	5912.8	100.0	100.0	0.127	1.235
		Evaporation	11	9	5							
		Net inflow	4799	3891	2091		605.8	5912.8				
		Klam. bel. IG Dam	4796	3888	2090		577.0	5455.7			0.120	1.138
		Change in storage	-3	-3	-1		0.9	43.2				
		Retention					28.0	413.9	4.6	7.0		
Interval 1: 5/18/2005 - 6/ 2/2005	16	Copco outflow	113	91	2881	94.8	10.5	101.5	98.3	98.5	0.093	0.900
		Fall Creek	1	1	34	1.1	0.1	0.2	0.5	0.2	0.041	0.139
		Jenny Creek	3	3	84	2.8	0.1	0.8	0.7	0.7	0.024	0.235
		Other IG tribs	2	1	39	1.3	0.1	0.4	0.5	0.4	0.033	0.240
		Trib. inflow	119	96	3038	99.9	10.7	102.9	100.0	99.8	0.090	0.865
		Precipitation	0	0	2	0.1	0.0	0.2	0.0	0.2		
		Total inflow	119	96	3040	100.0	10.7	103.0	100.0	100.0	0.090	0.866
		Evaporation	0	0	7							
		Net inflow	119	97	3047		10.7	103.0				
		Klam. bel. IG Dam	125	101	3184		11.7	86.2			0.094	0.692
		Change in storage	-5	-4	-133		-0.5	-4.4				
		Retention					-0.6	21.2	-5.3	20.6		
Interval 2: 6/ 3/2005 - 6/15/2005	13	Copco outflow	41	34	1303	94.6	4.5	32.9	98.0	98.2	0.110	0.794
		Fall Creek	1	1	30	2.2	0.0	0.1	1.0	0.4	0.046	0.126
		Jenny Creek	1	1	29	2.1	0.0	0.2	0.6	0.7	0.030	0.243
		Other IG tribs	1	0	16	1.2	0.0	0.1	0.4	0.4	0.032	0.230
		Trib. inflow	44	36	1378	100.0	4.6	33.4	99.9	99.6	0.106	0.762
		Precipitation	0	0	0	0.0	0.0	0.1	0.1	0.4		
		Total inflow	44	36	1378	100.0	4.6	33.5	100.0	100.0	0.106	0.765
		Evaporation	0	0	8							
		Net inflow	44	36	1386		4.6	33.5				
		Klam. bel. IG Dam	42	34	1323		3.6	30.3			0.086	0.719
		Change in storage	1	1	47		0.2	-0.8				
		Retention					0.8	4.1	16.9	12.2		
Interval 3: 6/16/2005 - 6/28/2005	13	Copco outflow	32	26	994	93.9	3.9	25.0	98.0	98.0	0.125	0.791
		Fall Creek	1	1	30	2.8	0.0	0.1	1.1	0.5	0.047	0.123
		Jenny Creek	1	1	20	1.9	0.0	0.2	0.5	0.6	0.033	0.236

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Other IG tribs	0	0	13	1.2	0.0	0.1	0.3	0.4	0.032	0.219
		Trib. inflow	34	27	1057	99.9	4.0	25.4	99.9	99.4	0.119	0.755
		Precipitation	0	0	1	0.1	0.0	0.1	0.1	0.6		
		Total inflow	34	27	1058	100.0	4.0	25.5	100.0	100.0	0.119	0.759
		Evaporation	0	0	8							
		Net inflow	34	27	1066		4.0	25.5				
		Klam. bel. IG Dam	34	28	1080		3.2	23.7			0.093	0.691
		Change in storage	-1	-1	-25		0.8	1.6				
		Retention					0.1	0.2	2.0	0.7		
Interval 4: 6/29/2005 - 7/14/2005	16	Copco outflow	33	27	851	93.7	4.7	28.9	98.1	98.2	0.142	0.868
		Fall Creek	1	1	30	3.3	0.1	0.1	1.2	0.4	0.048	0.101
		Jenny Creek	1	0	14	1.5	0.0	0.1	0.4	0.4	0.034	0.221
		Other IG tribs	1	0	14	1.5	0.0	0.1	0.4	0.4	0.032	0.209
		Trib. inflow	36	29	908	100.0	4.8	29.3	99.9	99.4	0.136	0.824
		Precipitation	0	0	0	0.0	0.0	0.2	0.1	0.6		
		Total inflow	36	29	908	100.0	4.8	29.5	100.0	100.0	0.136	0.829
		Evaporation	0	0	9							
		Net inflow	36	29	917		4.8	29.5				
		Klam. bel. IG Dam	36	29	923		3.5	21.0			0.096	0.581
		Change in storage	-1	-1	-18		0.7	-10.7				
		Retention					0.7	19.2	13.5	65.2		
Interval 5: 7/15/2005 - 7/27/2005	13	Copco outflow	29	23	903	95.1	4.9	35.1	98.9	98.9	0.169	1.222
		Fall Creek	1	1	25	2.6	0.0	0.1	0.6	0.3	0.039	0.125
		Jenny Creek	0	0	12	1.2	0.0	0.1	0.3	0.2	0.034	0.219
		Other IG tribs	0	0	10	1.1	0.0	0.1	0.2	0.2	0.033	0.216
		Trib. inflow	30	24	950	100.0	4.9	35.4	100.0	99.6	0.163	1.170
		Precipitation	0	0	0	0.0	0.0	0.1	0.0	0.4		
		Total inflow	30	24	950	100.0	4.9	35.5	100.0	100.0	0.163	1.175
		Evaporation	0	0	9							
		Net inflow	31	25	959		4.9	35.5				
		Klam. bel. IG Dam	29	24	914		3.2	19.8			0.110	0.681
		Change in storage	1	1	32		0.8	15.6				
		Retention					1.0	0.1	19.6	0.3		
Interval 6: 7/28/2005 - 8/11/2005	15	Copco outflow	34	27	924	95.5	6.3	50.8	99.2	99.1	0.187	1.499
		Fall Creek	1	1	23	2.4	0.0	0.2	0.4	0.3	0.030	0.197
		Jenny Creek	0	0	11	1.1	0.0	0.1	0.2	0.2	0.031	0.194
		Other IG tribs	0	0	9	1.0	0.0	0.1	0.2	0.1	0.031	0.195
		Trib. inflow	35	29	967	100.0	6.4	51.1	100.0	99.7	0.180	1.441
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	36	29	967	100.0	6.4	51.3	100.0	100.0	0.180	1.445

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Evaporation	0	0	9							
		Net inflow	36	29	976		6.4	51.3				
		Klam. bel. IG Dam	36	29	979		4.7	33.3			0.131	0.927
		Change in storage	-1	0	-16		2.4	7.0				
		Retention					-0.8	11.0	-12.1	21.5		
Interval 7:	14	Copco outflow	32	26	935	95.3	6.2	46.8	99.1	99.2	0.193	1.463
8/12/2005 -		Fall Creek	1	1	25	2.6	0.0	0.1	0.6	0.3	0.040	0.139
8/25/2005		Jenny Creek	0	0	11	1.1	0.0	0.1	0.2	0.1	0.027	0.155
		Other IG tribs	0	0	10	1.0	0.0	0.1	0.1	0.1	0.027	0.151
		Trib. inflow	34	27	981	100.0	6.2	47.1	100.0	99.7	0.185	1.401
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	34	27	981	100.0	6.2	47.2	100.0	100.0	0.185	1.406
		Evaporation	0	0	8							
		Net inflow	34	27	989		6.2	47.2				
		Klam. bel. IG Dam	34	27	985		5.3	36.4			0.156	1.079
		Change in storage	0	0	-10		0.9	-0.9				
		Retention					0.1	11.7	0.9	24.8		
Interval 8:	14	Copco outflow	36	29	1058	95.6	7.0	51.3	99.1	99.3	0.193	1.415
8/26/2005 -		Fall Creek	1	1	29	2.6	0.0	0.1	0.6	0.2	0.045	0.116
9/ 8/2005		Jenny Creek	0	0	11	1.0	0.0	0.1	0.1	0.1	0.025	0.146
		Other IG tribs	0	0	8	0.8	0.0	0.0	0.1	0.1	0.026	0.142
		Trib. inflow	38	31	1107	100.0	7.0	51.5	100.0	99.7	0.186	1.358
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	38	31	1107	100.0	7.0	51.6	100.0	100.0	0.186	1.362
		Evaporation	0	0	7							
		Net inflow	38	31	1113		7.0	51.6				
		Klam. bel. IG Dam	37	30	1091		6.7	43.5			0.179	1.163
		Change in storage	0	0	13		1.5	5.8				
		Retention					-1.1	2.4	-16.0	4.6		
Interval 9:	13	Copco outflow	37	30	1154	95.4	6.6	55.7	99.0	99.3	0.180	1.517
9/ 9/2005 -		Fall Creek	1	1	32	2.7	0.0	0.1	0.6	0.2	0.041	0.125
9/21/2005		Jenny Creek	0	0	13	1.1	0.0	0.1	0.1	0.1	0.025	0.144
		Other IG tribs	0	0	11	0.9	0.0	0.1	0.1	0.1	0.026	0.147
		Trib. inflow	38	31	1210	100.0	6.7	55.9	100.0	99.7	0.173	1.453
		Precipitation	0	0	0	0.0	0.0	0.1	0.0	0.3		
		Total inflow	38	31	1210	100.0	6.7	56.1	100.0	100.0	0.173	1.457
		Evaporation	0	0	6							
		Net inflow	39	31	1216		6.7	56.1				
		Klam. bel. IG Dam	37	30	1167		6.5	43.1			0.174	1.161
		Change in storage	1	1	44		1.3	10.3				
		Retention					-1.0	2.7	-15.7	4.8		

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
Interval 10: 9/22/2005 - 10/ 5/2005	14	Copco outflow	39	31	1130	95.2	5.9	60.7	98.9	99.3	0.151	1.568
		Fall Creek	1	1	36	3.0	0.0	0.2	0.7	0.3	0.036	0.146
		Jenny Creek	0	0	14	1.2	0.0	0.1	0.2	0.1	0.024	0.148
		Other IG tribs	0	0	7	0.6	0.0	0.0	0.1	0.1	0.025	0.147
		Trib. inflow	41	33	1187	100.0	5.9	61.0	100.0	99.7	0.146	1.500
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	41	33	1187	100.0	5.9	61.1	100.0	100.0	0.146	1.503
		Evaporation	0	0	5							
		Net inflow	41	33	1192		5.9	61.1				
		Klam. bel. IG Dam	42	34	1234		7.1	51.2			0.167	1.211
		Change in storage	-2	-1	-54		-1.9	-2.6				
		Retention					0.8	12.5	12.9	20.5		
Interval 11: 10/ 6/2005 - 10/19/2005	14	Copco outflow	45	37	1315	95.4	6.6	70.9	99.0	99.3	0.147	1.574
		Fall Creek	1	1	40	2.9	0.0	0.2	0.6	0.3	0.032	0.171
		Jenny Creek	0	0	15	1.1	0.0	0.1	0.2	0.1	0.025	0.158
		Other IG tribs	0	0	10	0.7	0.0	0.1	0.1	0.1	0.026	0.165
		Trib. inflow	47	38	1378	100.0	6.7	71.3	100.0	99.8	0.141	1.509
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	47	38	1378	100.0	6.7	71.4	100.0	100.0	0.141	1.513
		Evaporation	0	0	4							
		Net inflow	47	38	1382		6.7	71.4				
		Klam. bel. IG Dam	46	37	1348		7.3	61.7			0.158	1.337
		Change in storage	1	1	30		-1.8	9.1				
		Retention					1.2	0.6	17.3	0.8		
Interval 12: 10/20/2005 - 11/ 3/2005	15	Copco outflow	45	37	1235	94.7	5.5	75.2	98.6	99.2	0.121	1.658
		Fall Creek	2	1	43	3.3	0.1	0.3	0.9	0.4	0.033	0.199
		Jenny Creek	1	0	16	1.2	0.0	0.1	0.3	0.1	0.025	0.145
		Other IG tribs	0	0	8	0.6	0.0	0.0	0.1	0.1	0.025	0.138
		Trib. inflow	48	39	1302	99.8	5.6	75.6	100.0	99.8	0.116	1.582
		Precipitation	0	0	2	0.2	0.0	0.2	0.0	0.2		
		Total inflow	48	39	1305	100.0	5.6	75.8	100.0	100.0	0.116	1.583
		Evaporation	0	0	3							
		Net inflow	48	39	1308		5.6	75.8				
		Klam. bel. IG Dam	49	40	1347		6.8	75.9			0.138	1.535
		Change in storage	-2	-1	-44		-1.9	4.7				
		Retention					0.7	-4.8	12.2	-6.3		
Interval 13: 11/ 4/2005 - 11/17/2005	14	Copco outflow	41	34	1208	90.9	4.3	69.6	97.4	98.8	0.103	1.682
		Fall Creek	2	1	47	3.6	0.0	0.3	1.1	0.4	0.030	0.177
		Jenny Creek	1	1	33	2.5	0.0	0.2	0.7	0.3	0.026	0.187
		Other IG tribs	1	1	31	2.3	0.0	0.2	0.8	0.3	0.031	0.206
		Trib. inflow	45	37	1319	99.3	4.4	70.3	99.9	99.8	0.097	1.556

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Precipitation	0	0	9	0.7	0.0	0.2	0.1	0.2		
		Total inflow	46	37	1328	100.0	4.4	70.5	100.0	100.0	0.096	1.549
		Evaporation	0	0	0							
		Net inflow	46	37	1328		4.4	70.5				
		Klam. bel. IG Dam	45	37	1321		5.5	71.6			0.123	1.583
		Change in storage	1	0	17		-0.9	6.2				
		Retention					-0.3	-7.3	-6.3	-10.4		
Interval 14: 11/18/2005 - 11/30/2005	13	Copco outflow	40	32	1247	93.8	3.6	68.2	97.9	99.0	0.092	1.720
		Fall Creek	1	1	35	2.6	0.0	0.2	0.9	0.3	0.030	0.161
		Jenny Creek	1	1	21	1.6	0.0	0.2	0.5	0.2	0.028	0.225
		Other IG tribs	1	1	23	1.7	0.0	0.2	0.7	0.3	0.034	0.259
		Trib. inflow	42	34	1326	99.8	3.7	68.7	99.9	99.8	0.088	1.630
		Precipitation	0	0	3	0.2	0.0	0.1	0.1	0.2		
		Total inflow	42	34	1329	100.0	3.7	68.9	100.0	100.0	0.088	1.629
		Evaporation	0	0	0							
		Net inflow	42	34	1329		3.7	68.9				
		Klam. bel. IG Dam	42	34	1315		4.9	65.1			0.116	1.557
		Change in storage	0	0	4		-0.2	-4.0				
		Retention					-1.0	7.8	-26.3	11.3		
Interval 15: 12/ 1/2005 - 12/14/2005	14	Copco outflow	41	33	1184	85.5	3.6	68.7	94.5	97.7	0.089	1.695
		Fall Creek	1	1	40	2.9	0.0	0.2	1.0	0.3	0.028	0.174
		Jenny Creek	4	3	115	8.3	0.1	0.9	3.1	1.3	0.030	0.228
		Other IG tribs	1	1	42	3.0	0.1	0.4	1.3	0.5	0.035	0.246
		Trib. inflow	47	38	1381	99.8	3.8	70.2	99.9	99.8	0.080	1.485
		Precipitation	0	0	3	0.2	0.0	0.2	0.1	0.2		
		Total inflow	47	38	1384	100.0	3.8	70.4	100.0	100.0	0.080	1.484
		Evaporation	0	0	1							
		Net inflow	47	38	1385		3.8	70.4				
		Klam. bel. IG Dam	48	39	1410		5.0	76.3			0.103	1.580
		Change in storage	0	0	3		-0.8	4.7				
		Retention					-0.3	-10.6	-9.0	-15.0		
Interval 16: 12/15/2005 - 1/ 4/2006	21	Copco outflow	199	161	3871	81.7	25.6	366.8	93.6	97.0	0.129	1.844
		Fall Creek	2	2	41	0.9	0.1	0.5	0.3	0.1	0.034	0.262
		Jenny Creek	33	27	639	13.5	1.3	8.2	4.8	2.2	0.040	0.251
		Other IG tribs	9	7	177	3.7	0.4	2.3	1.3	0.6	0.040	0.257
		Trib. inflow	243	197	4728	99.8	27.3	378.0	100.0	99.9	0.113	1.556
		Precipitation	1	0	11	0.2	0.0	0.2	0.0	0.1		
		Total inflow	243	197	4739	100.0	27.3	378.2	100.0	100.0	0.112	1.553
		Evaporation	0	0	1							
		Net inflow	244	197	4740		27.3	378.2				

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Klam. bel. IG Dam	240	195	4676		36.5	389.2			0.152	1.620
		Change in storage	6	5	111		6.9	-5.7				
		Retention					-16.1	-5.3	-58.7	-1.4		
Interval 17:	20	Copco outflow	281	228	5745	91.0	36.4	536.6	97.8	98.8	0.130	1.909
1/ 5/2006 -		Fall Creek	2	2	44	0.7	0.1	0.6	0.2	0.1	0.031	0.259
1/24/2006		Jenny Creek	19	16	395	6.3	0.6	4.2	1.5	0.8	0.029	0.219
		Other IG tribs	6	5	125	2.0	0.2	1.4	0.5	0.3	0.030	0.233
		Trib. inflow	309	250	6309	99.9	37.2	542.8	100.0	100.0	0.121	1.758
		Precipitation	0	0	5	0.1	0.0	0.2	0.0	0.0		
		Total inflow	309	250	6314	100.0	37.2	543.0	100.0	100.0	0.121	1.758
		Evaporation	0	0	1							
		Net inflow	309	251	6315		37.2	543.0				
		Klam. bel. IG Dam	312	253	6367		40.6	511.0			0.130	1.640
		Change in storage	-1	-1	-20		-6.6	30.1				
		Retention					3.3	1.9	8.9	0.4		
Interval 18:	14	Copco outflow	165	134	4808	87.7	18.5	300.4	96.4	98.6	0.113	1.824
1/25/2006 -		Fall Creek	2	1	46	0.8	0.1	0.3	0.3	0.1	0.040	0.186
2/ 7/2006		Jenny Creek	16	13	479	8.7	0.5	2.9	2.7	0.9	0.031	0.176
		Other IG tribs	5	4	145	2.6	0.1	0.8	0.6	0.3	0.025	0.157
		Trib. inflow	188	152	5478	99.9	19.2	304.4	100.0	99.9	0.103	1.622
		Precipitation	0	0	6	0.1	0.0	0.2	0.0	0.1		
		Total inflow	188	152	5483	100.0	19.2	304.5	100.0	100.0	0.102	1.621
		Evaporation	0	0	1							
		Net inflow	188	152	5485		19.2	304.5				
		Klam. bel. IG Dam	188	153	5503		17.2	313.8			0.091	1.665
		Change in storage	0	0	14		-0.1	-28.8				
		Retention					2.1	19.5	10.8	6.4		
Interval 19:	22	Copco outflow	193	157	3592	89.9	19.9	301.4	97.1	98.9	0.103	1.559
2/ 8/2006 -		Fall Creek	3	2	48	1.2	0.1	0.5	0.6	0.2	0.044	0.195
3/ 1/2006		Jenny Creek	16	13	297	7.4	0.4	2.1	1.9	0.7	0.024	0.129
		Other IG tribs	3	3	58	1.5	0.1	0.5	0.4	0.2	0.028	0.149
		Trib. inflow	215	174	3995	100.0	20.5	304.4	100.0	99.9	0.095	1.416
		Precipitation	0	0	2	0.0	0.0	0.3	0.0	0.1		
		Total inflow	215	174	3997	100.0	20.5	304.7	100.0	100.0	0.095	1.416
		Evaporation	0	0	1							
		Net inflow	215	174	3998		20.5	304.7				
		Klam. bel. IG Dam	217	176	4027		17.5	302.7			0.081	1.397
		Change in storage	-1	0	-11		0.1	-12.6				
		Retention					2.9	14.6	14.4	4.8		
Interval 20:	22	Copco outflow	182	147	3375	91.2	20.9	235.8	98.1	98.8	0.115	1.298
3/ 2/2006 -		Fall Creek	3	2	47	1.3	0.1	0.5	0.3	0.2	0.028	0.191

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
3/23/2006		Jenny Creek	13	10	232	6.3	0.3	1.6	1.2	0.7	0.021	0.130
		Other IG tribs	2	2	45	1.2	0.1	0.4	0.3	0.2	0.027	0.156
		Trib. inflow	199	161	3698	100.0	21.3	238.3	100.0	99.9	0.107	1.197
		Precipitation	0	0	0	0.0	0.0	0.3	0.0	0.1		
		Total inflow	199	161	3699	100.0	21.3	238.5	100.0	100.0	0.107	1.198
		Evaporation	0	0	3							
		Net inflow	199	162	3701		21.3	238.5				
		Klam. bel. IG Dam	200	162	3715		18.2	221.1			0.091	1.106
		Change in storage	0	0	-5		-0.8	-13.5				
		Retention					3.8	30.9	18.0	13.0		
Interval 21: 3/24/2006 - 4/ 5/2006	13	Copco outflow	109	89	3438	89.3	12.2	129.7	97.9	98.0	0.112	1.187
		Fall Creek	1	1	45	1.2	0.0	0.3	0.3	0.2	0.025	0.186
		Jenny Creek	11	9	342	8.9	0.2	2.1	1.7	1.6	0.019	0.192
		Other IG tribs	1	1	24	0.6	0.0	0.1	0.1	0.1	0.020	0.195
		Trib. inflow	122	99	3848	100.0	12.5	132.2	100.0	99.9	0.102	1.080
		Precipitation	0	0	2	0.0	0.0	0.2	0.0	0.1		
		Total inflow	122	99	3850	100.0	12.5	132.4	100.0	100.0	0.102	1.081
		Evaporation	0	0	3							
		Net inflow	123	99	3853		12.5	132.4				
		Klam. bel. IG Dam	122	99	3831		11.3	123.8			0.093	1.016
		Change in storage	0	0	15		0.7	3.8				
		Retention					0.5	4.8	4.0	3.6		
Interval 22: 4/ 6/2006 - 4/27/2006	22	Copco outflow	344	279	6384	91.2	65.0	345.5	98.5	97.8	0.189	1.006
		Fall Creek	2	2	42	0.6	0.1	0.4	0.1	0.1	0.026	0.176
		Jenny Creek	28	22	512	7.3	0.8	6.1	1.2	1.7	0.028	0.222
		Other IG tribs	3	3	63	0.9	0.1	0.9	0.2	0.2	0.034	0.252
		Trib. inflow	377	306	7001	100.0	65.9	352.9	100.0	99.9	0.175	0.936
		Precipitation	0	0	1	0.0	0.0	0.3	0.0	0.1		
		Total inflow	377	306	7002	100.0	65.9	353.1	100.0	100.0	0.175	0.937
		Evaporation	0	0	5							
		Net inflow	377	306	7007		65.9	353.1				
		Klam. bel. IG Dam	378	306	7019		52.9	279.6			0.140	0.740
		Change in storage	0	0	-5		-0.7	-20.4				
		Retention					13.8	93.9	20.9	26.6		
Interval 23: 4/28/2006 - 5/11/2006	14	Copco outflow	148	120	4319	87.6	17.0	116.9	95.9	96.5	0.115	0.790
		Fall Creek	1	1	35	0.7	0.0	0.2	0.2	0.2	0.035	0.154
		Jenny Creek	19	16	566	11.5	0.7	3.9	3.8	3.2	0.035	0.199
		Other IG tribs	0	0	11	0.2	0.0	0.1	0.1	0.1	0.031	0.186
		Trib. inflow	169	137	4931	100.0	17.8	121.0	100.0	99.9	0.105	0.716
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.1		
		Total inflow	169	137	4931	100.0	17.8	121.1	100.0	100.0	0.105	0.717

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Evaporation	0	0	6							
		Net inflow	169	137	4937		17.8	121.1				
		Klam. bel. IG Dam	169	137	4927		16.7	114.3			0.099	0.677
		Change in storage	0	0	0		1.2	-2.4				
		Retention					-0.2	9.2	-1.0	7.6		
Interval 24:	21	Copco outflow	170	138	3301	93.7	19.3	133.7	98.5	98.5	0.114	0.788
5/12/2006 -		Fall Creek	2	1	33	0.9	0.1	0.3	0.3	0.2	0.037	0.191
6/ 1/2006		Jenny Creek	9	7	177	5.0	0.2	1.3	1.1	1.0	0.023	0.147
		Other IG tribs	1	1	13	0.4	0.0	0.1	0.1	0.1	0.026	0.156
		Trib. inflow	181	147	3524	100.0	19.6	135.4	100.0	99.8	0.108	0.748
		Precipitation	0	0	1	0.0	0.0	0.2	0.0	0.2		
		Total inflow	181	147	3524	100.0	19.6	135.7	100.0	100.0	0.108	0.749
		Evaporation	0	0	7							
		Net inflow	181	147	3531		19.6	135.7				
		Klam. bel. IG Dam	182	147	3535		20.3	133.7			0.112	0.736
		Change in storage	0	0	-7		1.7	8.2				
		Retention					-2.5	-6.2	-12.9	-4.6		
Interval 25:	14	Copco outflow	104	84	3041	97.3	12.0	81.6	99.2	99.3	0.115	0.783
6/ 2/2006 -		Fall Creek	1	1	29	0.9	0.0	0.2	0.3	0.2	0.036	0.170
6/15/2006		Jenny Creek	2	1	50	1.6	0.0	0.3	0.4	0.3	0.029	0.148
		Other IG tribs	0	0	5	0.2	0.0	0.0	0.0	0.0	0.028	0.149
		Trib. inflow	107	87	3125	100.0	12.1	82.0	100.0	99.8	0.113	0.766
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	107	87	3126	100.0	12.1	82.2	100.0	100.0	0.113	0.768
		Evaporation	0	0	8							
		Net inflow	107	87	3134		12.1	82.2				
		Klam. bel. IG Dam	107	86	3113		11.7	76.9			0.109	0.722
		Change in storage	0	0	0		-0.9	-9.2				
		Retention					1.4	14.5	11.4	17.6		
Interval 26:	14	Copco outflow	104	85	3049	98.1	11.4	80.9	99.4	99.5	0.109	0.775
6/16/2006 -		Fall Creek	1	1	29	0.9	0.0	0.1	0.3	0.2	0.035	0.132
6/29/2006		Jenny Creek	1	1	28	0.9	0.0	0.1	0.3	0.2	0.032	0.147
		Other IG tribs	0	0	0	0.0	0.0	0.0	0.0	0.0	0.029	0.126
		Trib. inflow	106	86	3106	100.0	11.5	81.2	100.0	99.8	0.108	0.763
		Precipitation	0	0	1	0.0	0.0	0.2	0.0	0.2		
		Total inflow	106	86	3107	100.0	11.5	81.3	100.0	100.0	0.108	0.764
		Evaporation	0	0	8							
		Net inflow	107	87	3116		11.5	81.3				
		Klam. bel. IG Dam	106	86	3084		11.4	73.4			0.108	0.695
		Change in storage	0	0	0		0.9	1.5				

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Retention					-0.9	6.5	-7.8	8.0		
Interval 27: 6/30/2006 - 7/13/2006	14	Copco outflow	61	49	1775	97.1	7.1	55.5	99.1	99.3	0.117	0.913
		Fall Creek	1	1	27	1.5	0.0	0.1	0.4	0.2	0.033	0.130
		Jenny Creek	1	1	22	1.2	0.0	0.1	0.3	0.2	0.032	0.149
		Other IG tribs	0	0	4	0.2	0.0	0.0	0.1	0.0	0.032	0.162
		Trib. inflow	63	51	1829	100.0	7.2	55.8	100.0	99.7	0.114	0.890
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	63	51	1829	100.0	7.2	55.9	100.0	100.0	0.114	0.893
		Evaporation	0	0	9							
		Net inflow	63	51	1838		7.2	55.9				
		Klam. bel. IG Dam	67	54	1954		7.1	49.9			0.106	0.746
		Change in storage	-5	-4	-134		1.1	1.2				
		Retention					-1.0	4.8	-14.6	8.5		
Interval 28: 7/14/2006 - 7/27/2006	14	Copco outflow	34	28	992	94.7	4.9	35.9	98.7	98.7	0.143	1.056
		Fall Creek	1	1	27	2.5	0.0	0.1	0.6	0.4	0.033	0.146
		Jenny Creek	1	1	19	1.8	0.0	0.1	0.4	0.3	0.031	0.163
		Other IG tribs	0	0	11	1.0	0.0	0.1	0.2	0.2	0.031	0.171
		Trib. inflow	36	29	1048	100.0	4.9	36.2	99.9	99.6	0.137	1.008
		Precipitation	0	0	0	0.0	0.0	0.2	0.1	0.4		
		Total inflow	36	29	1048	100.0	4.9	36.3	100.0	100.0	0.138	1.012
		Evaporation	0	0	9							
		Net inflow	36	29	1057		4.9	36.3				
		Klam. bel. IG Dam	34	28	1003		4.5	33.2			0.131	0.967
		Change in storage	1	1	40		2.1	9.8				
		Retention					-1.7	-6.7	-33.7	-18.3		
Interval 29: 7/28/2006 - 8/ 8/2006	12	Copco outflow	26	21	896	93.7	4.5	26.6	98.8	98.7	0.170	1.011
		Fall Creek	1	1	27	2.8	0.0	0.1	0.6	0.4	0.034	0.129
		Jenny Creek	1	0	18	1.9	0.0	0.1	0.4	0.3	0.030	0.146
		Other IG tribs	0	0	11	1.2	0.0	0.0	0.2	0.2	0.030	0.146
		Trib. inflow	28	23	952	99.7	4.5	26.8	100.0	99.5	0.162	0.959
		Precipitation	0	0	3	0.3	0.0	0.1	0.0	0.5		
		Total inflow	28	23	955	100.0	4.5	26.9	100.0	100.0	0.161	0.961
		Evaporation	0	0	9							
		Net inflow	28	23	964		4.5	26.9				
		Klam. bel. IG Dam	29	24	996		4.3	29.1			0.147	0.997
		Change in storage	-1	-1	-43		0.7	2.4				
		Retention					-0.5	-4.6	-11.0	-17.0		
Interval 30: 8/ 9/2006 - 8/24/2006	16	Copco outflow	39	31	990	94.7	7.6	36.5	99.1	98.9	0.196	0.942
		Fall Creek	1	1	27	2.6	0.0	0.1	0.5	0.3	0.033	0.091
		Jenny Creek	1	1	18	1.7	0.0	0.1	0.3	0.2	0.029	0.108
		Other IG tribs	0	0	10	1.0	0.0	0.0	0.2	0.1	0.029	0.109

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Trib. inflow	41	33	1045	100.0	7.7	36.7	100.0	99.5	0.188	0.898
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.5		
		Total inflow	41	33	1045	100.0	7.7	36.9	100.0	100.0	0.188	0.902
		Evaporation	0	0	8							
		Net inflow	41	33	1053		7.7	36.9				
		Klam. bel. IG Dam	38	31	982		5.9	34.1			0.153	0.887
		Change in storage	2	2	56		2.5	-7.8				
		Retention					-0.7	10.6	-9.7	28.8		
Interval 31: 8/25/2006 - 9/ 7/2006	14	Copco outflow	31	25	898	94.5	5.8	26.8	99.1	98.8	0.190	0.872
		Fall Creek	1	1	28	2.9	0.0	0.1	0.5	0.3	0.033	0.095
		Jenny Creek	1	1	19	2.0	0.0	0.1	0.3	0.2	0.026	0.094
		Other IG tribs	0	0	6	0.7	0.0	0.0	0.1	0.1	0.026	0.093
		Trib. inflow	33	26	950	100.0	5.9	27.0	100.0	99.4	0.181	0.829
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.6		
		Total inflow	33	26	950	100.0	5.9	27.2	100.0	100.0	0.181	0.834
		Evaporation	0	0	7							
		Net inflow	33	27	958		5.9	27.2				
		Klam. bel. IG Dam	33	27	972		5.4	22.1			0.162	0.665
		Change in storage	-1	-1	-27		-0.4	-8.3				
		Retention					0.9	13.3	15.5	49.0		
Interval 32: 9/ 8/2006 - 9/21/2006	14	Copco outflow	36	29	1044	95.5	6.9	37.5	99.3	99.1	0.193	1.048
		Fall Creek	1	1	28	2.6	0.0	0.1	0.4	0.3	0.032	0.134
		Jenny Creek	1	1	18	1.7	0.0	0.1	0.2	0.2	0.022	0.098
		Other IG tribs	0	0	3	0.3	0.0	0.0	0.0	0.0	0.022	0.097
		Trib. inflow	37	30	1094	100.0	7.0	37.7	100.0	99.6	0.186	1.006
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	37	30	1094	100.0	7.0	37.8	100.0	100.0	0.186	1.010
		Evaporation	0	0	6							
		Net inflow	38	31	1099		7.0	37.8				
		Klam. bel. IG Dam	37	30	1074		6.3	24.5			0.172	0.667
		Change in storage	0	0	7		0.8	4.2				
		Retention					-0.2	9.2	-2.5	24.2		
Interval 33: 9/22/2006 - 10/ 5/2006	14	Copco outflow	36	29	1047	95.5	6.9	47.0	99.3	99.2	0.192	1.312
		Fall Creek	1	1	29	2.7	0.0	0.1	0.5	0.3	0.031	0.146
		Jenny Creek	1	0	16	1.5	0.0	0.1	0.2	0.1	0.021	0.099
		Other IG tribs	0	0	3	0.3	0.0	0.0	0.0	0.0	0.022	0.106
		Trib. inflow	38	30	1095	99.9	6.9	47.3	100.0	99.7	0.185	1.260
		Precipitation	0	0	1	0.1	0.0	0.2	0.0	0.3		
		Total inflow	38	30	1096	100.0	6.9	47.4	100.0	100.0	0.185	1.263
		Evaporation	0	0	5							

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet $\times 10^3$	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Net inflow	38	31	1102		6.9	47.4				
		Klam. bel. IG Dam	38	31	1115		7.1	31.6			0.186	0.828
		Change in storage	-1	-1	-20		-0.3	13.5				
		Retention					0.1	2.3	1.7	4.8		
Interval 34:	14	Copco outflow	43	35	1268	96.2	8.0	69.7	99.4	99.5	0.184	1.604
10/ 6/2006 -		Fall Creek	1	1	31	2.4	0.0	0.1	0.4	0.2	0.031	0.134
10/19/2006		Jenny Creek	1	0	17	1.3	0.0	0.1	0.2	0.1	0.021	0.100
		Other IG tribs	0	0	2	0.1	0.0	0.0	0.0	0.0	0.022	0.112
		Trib. inflow	45	37	1318	100.0	8.1	69.9	100.0	99.8	0.178	1.548
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	45	37	1319	100.0	8.1	70.1	100.0	100.0	0.178	1.551
		Evaporation	0	0	4							
		Net inflow	45	37	1322		8.1	70.1				
		Klam. bel. IG Dam	44	35	1270		8.4	47.8			0.192	1.099
		Change in storage	1	1	34		0.3	20.5				
		Retention					-0.6	1.7	-7.7	2.5		
Interval 35:	14	Copco outflow	42	34	1231	96.0	7.0	73.3	99.2	99.4	0.167	1.738
10/20/2006 -		Fall Creek	1	1	32	2.5	0.0	0.2	0.5	0.2	0.032	0.150
11/ 2/2006		Jenny Creek	1	0	18	1.4	0.0	0.1	0.2	0.1	0.024	0.135
		Other IG tribs	0	0	2	0.2	0.0	0.0	0.0	0.0	0.026	0.155
		Trib. inflow	44	36	1283	100.0	7.1	73.5	100.0	99.8	0.162	1.674
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.2		
		Total inflow	44	36	1283	100.0	7.1	73.7	100.0	100.0	0.162	1.677
		Evaporation	0	0	3							
		Net inflow	44	36	1287		7.1	73.7				
		Klam. bel. IG Dam	44	36	1290		8.0	59.3			0.181	1.342
		Change in storage	0	0	-14		-2.8	5.7				
		Retention					1.9	8.6	27.0	11.7		
Interval 36:	14	Copco outflow	43	35	1244	94.8	6.0	78.3	98.9	99.2	0.141	1.837
11/ 3/2006 -		Fall Creek	1	1	34	2.6	0.0	0.2	0.6	0.3	0.033	0.201
11/16/2006		Jenny Creek	1	1	24	1.8	0.0	0.2	0.4	0.2	0.029	0.215
		Other IG tribs	0	0	5	0.3	0.0	0.0	0.1	0.0	0.030	0.223
		Trib. inflow	45	36	1307	99.6	6.1	78.7	100.0	99.8	0.136	1.758
		Precipitation	0	0	5	0.4	0.0	0.2	0.0	0.2		
		Total inflow	45	36	1311	100.0	6.1	78.9	100.0	100.0	0.136	1.756
		Evaporation	0	0	0							
		Net inflow	45	36	1311		6.1	78.9				
		Klam. bel. IG Dam	45	36	1313		7.4	72.2			0.164	1.605
		Change in storage	0	0	0		-1.9	16.5				
		Retention					0.6	-9.8	9.5	-12.4		
Interval 37:	19	Copco outflow	57	46	1231	95.0	6.5	109.5	98.7	99.3	0.114	1.913

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
11/17/2006 - 12/ 5/2006		Fall Creek	2	1	36	2.8	0.0	0.3	0.7	0.3	0.029	0.204
		Jenny Creek	1	1	23	1.8	0.0	0.2	0.4	0.2	0.027	0.167
		Other IG tribs	0	0	5	0.4	0.0	0.0	0.1	0.0	0.027	0.183
		Trib. inflow	60	49	1295	100.0	6.6	110.1	99.9	99.8	0.109	1.828
		Precipitation	0	0	1	0.0	0.0	0.2	0.1	0.2		
		Total inflow	60	49	1296	100.0	6.6	110.3	100.0	100.0	0.109	1.831
		Evaporation	0	0	0							
		Net inflow	60	49	1296		6.6	110.3				
		Klam. bel. IG Dam	61	49	1309		8.4	102.9			0.137	1.691
		Change in storage	-1	-1	-15		-3.1	-3.3				
		Retention					1.3	10.7	20.2	9.7		
Interval 38: 12/ 6/2006 - 5/17/2007	163	Copco outflow	706	573	1771	88.9	83.8	955.6	97.7	98.4	0.119	1.353
		Fall Creek	17	14	43	2.2	0.5	3.3	0.6	0.3	0.028	0.193
		Jenny Creek	61	49	152	7.6	1.3	8.8	1.5	0.9	0.021	0.145
		Other IG tribs	9	7	23	1.2	0.2	1.6	0.3	0.2	0.024	0.172
		Trib. inflow	793	643	1990	99.9	85.8	969.3	100.0	99.8	0.108	1.221
		Precipitation	1	1	2	0.1	0.0	1.9	0.0	0.2		
		Total inflow	794	644	1992	100.0	85.8	971.1	100.0	100.0	0.108	1.223
		Evaporation	1	1	2							
		Net inflow	795	645	1994		85.8	971.1				
		Klam. bel. IG Dam	796	645	1995		73.8	1003.4			0.093	1.261
		Change in storage	0	0	1		-2.0	-40.9				
		Retention					14.0	8.6	16.3	0.9		
Interval 39: 5/18/2007 - 5/31/2007	14	Copco outflow	45	37	1320	94.8	6.7	30.9	99.0	98.3	0.148	0.683
		Fall Creek	1	1	33	2.4	0.0	0.2	0.5	0.5	0.029	0.140
		Jenny Creek	1	1	28	2.0	0.0	0.2	0.4	0.5	0.025	0.163
		Other IG tribs	0	0	11	0.8	0.0	0.1	0.2	0.2	0.028	0.176
		Trib. inflow	48	39	1393	100.0	6.8	31.3	100.0	99.5	0.142	0.656
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.5		
		Total inflow	48	39	1393	100.0	6.8	31.4	100.0	100.0	0.142	0.659
		Evaporation	0	0	6							
		Net inflow	48	39	1399		6.8	31.4				
		Klam. bel. IG Dam	48	39	1411		4.8	30.5			0.100	0.631
		Change in storage	-1	-1	-30		0.9	-9.3				
		Retention					1.0	10.2	14.9	32.4		
Interval 40: 6/ 1/2007 - 6/13/2007	13	Copco outflow	48	39	1499	96.1	8.0	35.2	99.4	98.9	0.168	0.738
		Fall Creek	1	1	29	1.9	0.0	0.1	0.3	0.3	0.027	0.116
		Jenny Creek	1	1	23	1.5	0.0	0.1	0.2	0.3	0.025	0.139
		Other IG tribs	0	0	8	0.5	0.0	0.0	0.1	0.1	0.025	0.142
		Trib. inflow	50	40	1559	99.9	8.1	35.4	100.0	99.6	0.162	0.715
		Precipitation	0	0	1	0.1	0.0	0.1	0.0	0.4		

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Total inflow	50	40	1560	100.0	8.1	35.6	100.0	100.0	0.162	0.717
		Evaporation	0	0	8							
		Net inflow	50	40	1568		8.1	35.6				
		Klam. bel. IG Dam	49	40	1545		6.2	34.2			0.126	0.697
		Change in storage	0	0	14		1.5	-1.4				
		Retention					0.4	2.8	5.3	7.8		
Interval 41: 6/14/2007 - 6/27/2007	14	Copco outflow	51	41	1479	96.5	7.9	39.5	99.3	99.0	0.156	0.780
		Fall Creek	1	1	29	1.9	0.0	0.1	0.4	0.3	0.028	0.119
		Jenny Creek	1	0	18	1.2	0.0	0.1	0.2	0.2	0.027	0.149
		Other IG tribs	0	0	7	0.4	0.0	0.0	0.1	0.1	0.027	0.149
		Trib. inflow	52	43	1532	100.0	7.9	39.7	100.0	99.6	0.151	0.757
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	52	43	1532	100.0	7.9	39.9	100.0	100.0	0.151	0.760
		Evaporation	0	0	8							
		Net inflow	53	43	1541		7.9	39.9				
		Klam. bel. IG Dam	53	43	1533		7.1	42.1			0.135	0.802
		Change in storage	0	0	-13		0.9	12.6				
		Retention					0.0	-14.9	-0.1	-37.3		
Interval 42: 6/28/2007 - 7/11/2007	14	Copco outflow	40	33	1182	95.9	6.6	42.2	99.1	99.0	0.163	1.041
		Fall Creek	1	1	27	2.2	0.0	0.1	0.4	0.3	0.031	0.123
		Jenny Creek	1	0	15	1.2	0.0	0.1	0.3	0.2	0.033	0.192
		Other IG tribs	0	0	8	0.7	0.0	0.1	0.1	0.1	0.033	0.193
		Trib. inflow	42	34	1233	100.0	6.6	42.4	100.0	99.6	0.157	1.005
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.4		
		Total inflow	42	34	1233	100.0	6.6	42.6	100.0	100.0	0.157	1.009
		Evaporation	0	0	9							
		Net inflow	43	34	1241		6.6	42.6				
		Klam. bel. IG Dam	41	33	1196		5.5	34.4			0.134	0.841
		Change in storage	1	1	40		0.0	-1.8				
		Retention					1.1	9.9	16.3	23.3		
Interval 43: 7/12/2007 - 7/24/2007	13	Copco outflow	30	25	955	94.9	5.8	39.8	99.0	99.0	0.191	1.310
		Fall Creek	1	1	27	2.7	0.0	0.1	0.5	0.3	0.034	0.129
		Jenny Creek	0	0	16	1.6	0.0	0.1	0.3	0.2	0.031	0.175
		Other IG tribs	0	0	9	0.9	0.0	0.1	0.2	0.1	0.031	0.179
		Trib. inflow	32	26	1007	100.0	5.8	40.0	100.0	99.6	0.183	1.251
		Precipitation	0	0	0	0.0	0.0	0.1	0.0	0.4		
		Total inflow	32	26	1007	100.0	5.9	40.2	100.0	100.0	0.183	1.256
		Evaporation	0	0	9							
		Net inflow	32	26	1016		5.9	40.2				
		Klam. bel. IG Dam	32	26	1018		4.8	28.2			0.150	0.872

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Change in storage	-1	-1	-22		1.1	-0.5				
		Retention					-0.1	12.4	-1.8	30.9		
Interval 44:	14	Copco outflow	34	28	998	95.5	7.3	48.7	99.3	99.2	0.213	1.424
7/25/2007 -		Fall Creek	1	1	27	2.6	0.0	0.1	0.5	0.3	0.037	0.136
8/ 7/2007		Jenny Creek	0	0	14	1.3	0.0	0.1	0.2	0.1	0.026	0.127
		Other IG tribs	0	0	7	0.6	0.0	0.0	0.1	0.1	0.026	0.128
		Trib. inflow	36	29	1045	100.0	7.3	48.9	100.0	99.7	0.205	1.366
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	36	29	1045	100.0	7.3	49.0	100.0	100.0	0.205	1.370
		Evaporation	0	0	9							
		Net inflow	36	29	1054		7.3	49.0				
		Klam. bel. IG Dam	35	28	1022		5.9	32.6			0.168	0.930
		Change in storage	0	0	10		1.1	15.4				
		Retention					0.4	1.1	4.8	2.3		
Interval 45:	15	Copco outflow	37	30	995	95.4	7.8	53.0	99.3	99.3	0.215	1.451
8/ 8/2007 -		Fall Creek	1	1	26	2.5	0.0	0.1	0.4	0.2	0.033	0.114
8/22/2007		Jenny Creek	1	0	15	1.4	0.0	0.1	0.2	0.1	0.024	0.119
		Other IG tribs	0	0	7	0.7	0.0	0.0	0.1	0.1	0.024	0.118
		Trib. inflow	38	31	1043	100.0	7.9	53.2	100.0	99.7	0.206	1.390
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	38	31	1043	100.0	7.9	53.4	100.0	100.0	0.206	1.394
		Evaporation	0	0	8							
		Net inflow	39	31	1051		7.9	53.4				
		Klam. bel. IG Dam	38	30	1024		6.8	41.3			0.181	1.100
		Change in storage	1	0	16		2.2	9.5				
		Retention					-1.1	2.6	-14.2	4.8		
Interval 46:	15	Copco outflow	36	29	978	95.2	8.4	61.3	99.4	99.4	0.234	1.707
8/23/2007 -		Fall Creek	1	1	27	2.7	0.0	0.1	0.4	0.2	0.033	0.113
9/ 6/2007		Jenny Creek	1	0	15	1.4	0.0	0.1	0.1	0.1	0.021	0.120
		Other IG tribs	0	0	8	0.8	0.0	0.0	0.1	0.1	0.021	0.122
		Trib. inflow	38	31	1028	100.0	8.5	61.5	100.0	99.7	0.224	1.631
		Precipitation	0	0	0	0.0	0.0	0.2	0.0	0.3		
		Total inflow	38	31	1028	100.0	8.5	61.7	100.0	100.0	0.224	1.635
		Evaporation	0	0	7							
		Net inflow	38	31	1035		8.5	61.7				
		Klam. bel. IG Dam	38	31	1028		7.5	48.6			0.199	1.289
		Change in storage	0	0	-6		1.7	-9.1				
		Retention					-0.7	22.1	-8.4	35.9		
Interval 47:	13	Copco outflow	32	26	992	95.0	7.7	55.3	99.4	99.4	0.244	1.752
9/ 7/2007 -		Fall Creek	1	1	29	2.7	0.0	0.1	0.4	0.2	0.032	0.100
9/19/2007		Jenny Creek	0	0	15	1.4	0.0	0.1	0.1	0.1	0.021	0.113

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Other IG tribs	0	0	8	0.8	0.0	0.0	0.1	0.1	0.022	0.115
		Trib. inflow	33	27	1044	100.0	7.7	55.5	100.0	99.7	0.233	1.670
		Precipitation	0	0	0	0.0	0.0	0.1	0.0	0.3		
		Total inflow	33	27	1044	100.0	7.7	55.6	100.0	100.0	0.233	1.675
		Evaporation	0	0	6							
		Net inflow	33	27	1050		7.7	55.6				
		Klam. bel. IG Dam	33	27	1037		7.9	44.6			0.240	1.353
		Change in storage	0	0	7		-1.8	-3.1				
		Retention					1.7	14.1	21.5	25.4		
Interval 48: 9/20/2007 - 10/ 4/2007	15	Copco outflow	39	32	1071	95.1	7.3	61.9	99.3	99.4	0.186	1.576
		Fall Creek	1	1	30	2.6	0.0	0.1	0.4	0.2	0.030	0.101
		Jenny Creek	1	0	16	1.4	0.0	0.1	0.2	0.1	0.021	0.121
		Other IG tribs	0	0	9	0.8	0.0	0.0	0.1	0.1	0.022	0.123
		Trib. inflow	41	33	1125	99.9	7.4	62.2	100.0	99.7	0.178	1.505
		Precipitation	0	0	1	0.1	0.0	0.2	0.0	0.3		
		Total inflow	41	34	1126	100.0	7.4	62.3	100.0	100.0	0.178	1.508
		Evaporation	0	0	5							
		Net inflow	42	34	1132		7.4	62.3				
		Klam. bel. IG Dam	41	33	1109		8.1	48.0			0.200	1.178
		Change in storage	0	0	10		-2.1	-3.6				
		Retention					1.4	17.9	18.5	28.8		
Interval 49: 10/ 5/2007 - 10/17/2007	13	Copco outflow	38	31	1207	95.1	5.5	58.9	99.1	99.4	0.143	1.534
		Fall Creek	1	1	32	2.6	0.0	0.1	0.5	0.2	0.027	0.103
		Jenny Creek	1	0	16	1.3	0.0	0.1	0.2	0.1	0.022	0.120
		Other IG tribs	0	0	10	0.8	0.0	0.0	0.1	0.1	0.023	0.124
		Trib. inflow	40	33	1266	99.8	5.5	59.1	100.0	99.8	0.137	1.467
		Precipitation	0	0	3	0.2	0.0	0.1	0.0	0.2		
		Total inflow	40	33	1269	100.0	5.5	59.2	100.0	100.0	0.137	1.468
		Evaporation	0	0	4							
		Net inflow	40	33	1273		5.5	59.2				
		Klam. bel. IG Dam	42	34	1316		6.2	46.6			0.147	1.113
		Change in storage	-2	-1	-51		-1.9	5.5				
		Retention					1.2	7.1	22.5	12.0		
Interval 50: 10/18/2007 - 10/30/2007	13	Copco outflow	39	32	1238	94.3	4.8	61.2	98.8	99.3	0.123	1.555
		Fall Creek	1	1	32	2.5	0.0	0.1	0.6	0.2	0.029	0.118
		Jenny Creek	1	1	23	1.8	0.0	0.1	0.3	0.2	0.020	0.137
		Other IG tribs	0	0	12	0.9	0.0	0.1	0.2	0.1	0.024	0.145
		Trib. inflow	42	34	1306	99.5	4.9	61.5	100.0	99.8	0.118	1.481
		Precipitation	0	0	7	0.5	0.0	0.1	0.0	0.2		
		Total inflow	42	34	1312	100.0	4.9	61.6	100.0	100.0	0.117	1.477

Sample Interval	Days	Term	DISCHARGE				LOADS				CONC.	
							Metric Tons		%		mg/L	
			$m^3 \times 10^6$	acre-feet x 10^3	mean cfs	% Total	TP	TN	TP	TN	TP	TN
		Evaporation	0	0	4							
		Net inflow	42	34	1316		4.9	61.6				
		Klam. bel. IG Dam	42	34	1319		5.4	50.9			0.129	1.214
		Change in storage	0	0	-4		-1.1	0.9				
		Retention					0.5	9.9	11.0	16.0		
Interval 51: 10/31/2007 - 11/14/2007	15	Copco outflow	47	38	1280	95.3	5.4	79.8	98.9	99.4	0.114	1.699
		Fall Creek	1	1	35	2.6	0.0	0.2	0.6	0.2	0.027	0.136
		Jenny Creek	1	0	16	1.2	0.0	0.1	0.2	0.1	0.022	0.150
		Other IG tribs	0	0	11	0.8	0.0	0.1	0.2	0.1	0.024	0.154
		Trib. inflow	49	40	1342	100.0	5.4	80.1	99.9	99.8	0.110	1.628
		Precipitation	0	0	1	0.0	0.0	0.2	0.1	0.2		
		Total inflow	49	40	1342	100.0	5.4	80.3	100.0	100.0	0.110	1.630
		Evaporation	0	0	0							
		Net inflow	49	40	1342		5.4	80.3				
		Klam. bel. IG Dam	48	39	1319		6.0	59.1			0.123	1.220
		Change in storage	1	1	25		-0.6	4.1				
		Retention					0.0	17.1	0.5	21.3		
Interval 52: 11/15/2007 - 11/27/2007	13	Copco outflow	39	32	1232	94.5	3.8	65.5	98.5	99.3	0.098	1.671
		Fall Creek	1	1	35	2.7	0.0	0.2	0.8	0.2	0.028	0.138
		Jenny Creek	1	1	20	1.5	0.0	0.1	0.4	0.1	0.023	0.151
		Other IG tribs	0	0	14	1.1	0.0	0.1	0.3	0.1	0.024	0.157
		Trib. inflow	41	34	1302	99.8	3.9	65.8	99.9	99.8	0.094	1.590
		Precipitation	0	0	2	0.2	0.0	0.1	0.1	0.2		
		Total inflow	41	34	1304	100.0	3.9	66.0	100.0	100.0	0.094	1.591
		Evaporation	0	0	0							
		Net inflow	41	34	1304		3.9	66.0				
		Klam. bel. IG Dam	42	34	1319		4.6	55.6			0.109	1.326
		Change in storage	0	0	-11		-0.8	8.6				
		Retention					0.1	1.8	2.7	2.7		
Interval 53: 11/28/2007 - 12/11/2007	14	Copco outflow	43	35	1251	93.4	3.9	74.6	98.1	99.1	0.090	1.742
		Fall Creek	1	1	40	3.0	0.0	0.2	0.9	0.3	0.027	0.170
		Jenny Creek	1	1	28	2.1	0.0	0.2	0.5	0.2	0.022	0.179
		Other IG tribs	1	0	18	1.3	0.0	0.1	0.4	0.2	0.024	0.194
		Trib. inflow	46	37	1336	99.8	3.9	75.1	99.9	99.8	0.086	1.642
		Precipitation	0	0	2	0.2	0.0	0.2	0.1	0.2		
		Total inflow	46	37	1338	100.0	3.9	75.3	100.0	100.0	0.086	1.643
		Evaporation	0	0	0							
		Net inflow	46	37	1339		3.9	75.3				
		Klam. bel. IG Dam	45	37	1315		4.5	70.0			0.101	1.553
		Change in storage	1	1	27		-0.4	9.6				
		Retention					-0.2	-4.3	-4.7	-5.7		

APPENDIX A4

Tables summarizing retention and inflow loading by sampling interval

Table A4-1. Total phosphorus inflow and retention for Copco and Iron Gate Reservoirs, May 2005 - December 2007, summarized by sampling interval.

				Total Phosphorus Inputs (total metric tons)			Total Phosphorus Retention (total metric tons)			(metric tons per day)			(percent of inflow)		
Sample Interval	Interval Start	Interval End	Days in Interval	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco
1	5/18/05	6/2/05	16	9.79	10.66	9.98	-0.99	-0.57	-1.56	-0.062	-0.036	-0.098	-10	-5	-16
2	6/3/05	6/15/05	13	4.15	4.63	4.24	-1.47	0.78	-0.69	-0.113	0.060	-0.053	-35	17	-16
3	6/16/05	6/28/05	13	4.30	4.02	4.39	0.14	0.08	0.22	0.011	0.006	0.017	3	2	5
4	6/29/05	7/14/05	16	4.86	4.83	4.95	-1.67	0.65	-1.02	-0.104	0.041	-0.064	-34	13	-21
5	7/15/05	7/27/05	13	5.62	4.92	5.67	-0.80	0.97	0.17	-0.061	0.074	0.013	-14	20	3
6	7/28/05	8/11/05	15	6.19	6.38	6.24	-1.28	-0.77	-2.05	-0.085	-0.051	-0.137	-21	-12	-33
7	8/12/05	8/25/05	14	5.76	6.23	5.82	-0.05	0.06	0.01	-0.003	0.004	0.001	-1	1	0
8	8/26/05	9/8/05	14	5.59	7.05	5.66	-0.86	-1.13	-1.99	-0.062	-0.081	-0.142	-15	-16	-35
9	9/9/05	9/21/05	13	5.41	6.66	5.47	-1.18	-1.04	-2.23	-0.091	-0.080	-0.171	-22	-16	-41
10	9/22/05	10/5/05	14	6.49	5.92	6.55	2.77	0.77	3.53	0.198	0.055	0.252	43	13	54
11	10/6/05	10/19/05	14	5.44	6.67	5.50	0.68	1.15	1.83	0.048	0.082	0.131	12	17	33
12	10/20/05	11/3/05	15	5.35	5.56	5.43	0.41	0.68	1.09	0.028	0.045	0.073	8	12	20
13	11/4/05	11/17/05	14	3.07	4.39	3.19	-0.26	-0.28	-0.54	-0.019	-0.020	-0.039	-9	-6	-17
14	11/18/05	11/30/05	13	3.18	3.71	3.26	-0.63	-0.98	-1.60	-0.048	-0.075	-0.123	-20	-26	-49
15	12/1/05	12/14/05	14	3.74	3.81	3.94	0.85	-0.34	0.51	0.061	-0.024	0.036	23	-9	13
16	12/15/05	1/4/06	21	24.58	27.34	26.35	-5.94	-16.06	-22.00	-0.283	-0.765	-1.048	-24	-59	-83
17	1/5/06	1/24/06	20	35.66	37.23	36.47	3.17	3.30	6.47	0.159	0.165	0.324	9	9	18
18	1/25/06	2/7/06	14	20.75	19.24	21.45	0.99	2.08	3.07	0.070	0.149	0.219	5	11	14
19	2/8/06	3/1/06	22	27.12	20.47	27.71	7.75	2.94	10.69	0.352	0.134	0.486	29	14	39
20	3/2/06	3/23/06	22	27.97	21.27	28.37	7.19	3.82	11.01	0.327	0.174	0.501	26	18	39
21	3/24/06	4/5/06	13	16.27	12.50	16.53	3.42	0.50	3.92	0.263	0.039	0.301	21	4	24
22	4/6/06	4/27/06	22	67.48	65.94	68.45	3.12	13.76	16.88	0.142	0.625	0.767	5	21	25
23	4/28/06	5/11/06	14	21.93	17.76	22.65	3.24	-0.17	3.07	0.232	-0.012	0.220	15	-1	14
24	5/12/06	6/1/06	21	19.17	19.56	19.46	-0.91	-2.51	-3.42	-0.043	-0.120	-0.163	-5	-13	-18

25	6/2/06	6/15/06	14	10.45	12.11	10.55	-1.18	1.38	0.20	-0.084	0.098	0.014	-11	11	2
26	6/16/06	6/29/06	14	11.92	11.49	11.99	1.19	-0.90	0.30	0.085	-0.064	0.021	10	-8	2
27	6/30/06	7/13/06	14	8.41	7.16	8.48	0.28	-1.04	-0.77	0.020	-0.075	-0.055	3	-15	-9
28	7/14/06	7/27/06	14	5.83	4.93	5.90	-3.26	-1.66	-4.92	-0.233	-0.119	-0.351	-56	-34	-83
29	7/28/06	8/8/06	12	4.50	4.52	4.56	1.50	-0.50	1.00	0.125	-0.041	0.084	33	-11	22
30	8/9/06	8/24/06	16	7.34	7.67	7.41	0.91	-0.74	0.17	0.057	-0.046	0.011	12	-10	2
31	8/25/06	9/7/06	14	6.66	5.88	6.72	-2.15	0.91	-1.24	-0.154	0.065	-0.088	-32	16	-18
32	9/8/06	9/21/06	14	7.75	6.96	7.80	-1.08	-0.17	-1.25	-0.077	-0.012	-0.089	-14	-2	-16
33	9/22/06	10/5/06	14	7.94	6.94	7.99	6.07	0.12	6.19	0.434	0.008	0.442	76	2	77
34	10/6/06	10/19/06	14	8.31	8.06	8.36	0.87	-0.62	0.25	0.062	-0.044	0.018	10	-8	3
35	10/20/06	11/2/06	14	5.81	7.10	5.86	0.55	1.92	2.47	0.039	0.137	0.176	9	27	42
36	11/3/06	11/16/06	14	5.05	6.09	5.12	0.49	0.58	1.07	0.035	0.041	0.077	10	9	21
37	11/17/06	12/5/06	19	5.95	6.59	6.04	-0.02	1.33	1.31	-0.001	0.070	0.069	0	20	22
38	12/6/06	5/17/07	163	98.47	85.83	100.47	13.39	14.00	27.40	0.082	0.086	0.168	14	16	27
39	5/18/07	5/31/07	14	6.96	6.76	7.03	-1.06	1.01	-0.05	-0.076	0.072	-0.004	-15	15	-1
40	6/1/07	6/13/07	13	5.98	8.06	6.03	-2.25	0.42	-1.83	-0.173	0.033	-0.141	-38	5	-30
41	6/14/07	6/27/07	14	5.96	7.95	6.02	-1.66	-0.01	-1.66	-0.118	-0.001	-0.119	-28	0	-28
42	6/28/07	7/11/07	14	7.06	6.64	7.12	-1.56	1.08	-0.47	-0.111	0.077	-0.034	-22	16	-7
43	7/12/07	7/24/07	13	6.95	5.85	7.01	-0.64	-0.11	-0.74	-0.049	-0.008	-0.057	-9	-2	-11
44	7/25/07	8/7/07	14	7.87	7.34	7.92	0.41	0.35	0.76	0.029	0.025	0.054	5	5	10
45	8/8/07	8/22/07	15	9.07	7.90	9.12	0.19	-1.12	-0.93	0.013	-0.075	-0.062	2	-14	-10
46	8/23/07	9/6/07	15	8.84	8.46	8.90	-3.98	-0.71	-4.69	-0.265	-0.047	-0.313	-45	-8	-53
47	9/7/07	9/19/07	13	6.50	7.74	6.55	2.10	1.66	3.76	0.161	0.128	0.289	32	21	57
48	9/20/07	10/4/07	15	6.08	7.36	6.13	3.06	1.36	4.42	0.204	0.091	0.295	50	19	72
49	10/5/07	10/17/07	13	4.32	5.53	4.37	3.22	1.25	4.47	0.248	0.096	0.344	75	23	102
50	10/18/07	10/30/07	13	4.39	4.89	4.45	-0.58	0.54	-0.04	-0.044	0.041	-0.003	-13	11	-1
51	10/31/07	11/14/07	15	5.11	5.42	5.17	-0.43	0.03	-0.40	-0.028	0.002	-0.027	-8	1	-8
52	11/15/07	11/27/07	13	3.81	3.89	3.87	1.10	0.11	1.21	0.085	0.008	0.093	29	3	31
53	11/28/07	12/11/07	14	3.32	3.95	3.40	-0.70	-0.19	-0.89	-0.050	-0.013	-0.063	-21	-5	-26
Entire Study	5/17/05	12/11/07	939	626.5	605.8	638.1	32.50	27.96	60.46	0.035	0.030	0.064	5	5	9

Table A4-2. Total nitrogen inflow and retention for Copco and Iron Gate Reservoirs, May 2005 - December 2007, summarized by sampling interval.

				Total Nitrogen Inputs (total metric tons)			Total Nitrogen Retention (total metric tons)			(metric tons per day)			(percent of inflow)		
Sample Interval	Interval Start	Interval End	Days in Interval	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco
1	5/18/05	6/2/05	16	101.1	103.0	102.6	0.9	21.2	22.2	0.06	1.33	1.39	1	21	22
2	6/3/05	6/15/05	13	35.5	33.5	36.1	5.4	4.1	9.5	0.42	0.31	0.73	15	12	26
3	6/16/05	6/28/05	13	33.7	25.5	34.2	5.0	0.2	5.2	0.39	0.01	0.40	15	1	15
4	6/29/05	7/14/05	16	37.0	29.5	37.6	7.1	19.2	26.3	0.44	1.20	1.64	19	65	70
5	7/15/05	7/27/05	13	41.8	35.5	42.2	-15.5	0.1	-15.4	-1.19	0.01	-1.18	-37	0	-36
6	7/28/05	8/11/05	15	56.3	51.3	56.8	-1.6	11.0	9.4	-0.11	0.74	0.63	-3	22	17
7	8/12/05	8/25/05	14	55.3	47.2	55.7	16.1	11.7	27.8	1.15	0.84	1.99	29	25	50
8	8/26/05	9/8/05	14	58.5	51.6	58.8	6.9	2.4	9.2	0.49	0.17	0.66	12	5	16
9	9/9/05	9/21/05	13	65.1	56.1	65.5	2.7	2.7	5.4	0.21	0.21	0.42	4	5	8
10	9/22/05	10/5/05	14	77.3	61.1	77.7	16.5	12.5	29.0	1.18	0.89	2.07	21	20	37
11	10/6/05	10/19/05	14	68.9	71.4	69.4	0.5	0.6	1.1	0.03	0.04	0.08	1	1	2
12	10/20/05	11/3/05	15	77.6	75.8	78.2	-3.0	-4.8	-7.8	-0.20	-0.32	-0.52	-4	-6	-10
13	11/4/05	11/17/05	14	54.8	70.5	55.7	-13.4	-7.3	-20.7	-0.96	-0.52	-1.48	-24	-10	-37
14	11/18/05	11/30/05	13	64.6	68.9	65.2	-4.5	7.8	3.3	-0.34	0.60	0.25	-7	11	5
15	12/1/05	12/14/05	14	58.0	70.4	59.6	-2.5	-10.6	-13.1	-0.18	-0.75	-0.93	-4	-15	-22
16	12/15/05	1/4/06	21	376.9	378.2	388.3	-10.3	-5.3	-15.7	-0.49	-0.25	-0.75	-3	-1	-4
17	1/5/06	1/24/06	20	551.1	543.0	557.5	19.6	1.9	21.5	0.98	0.10	1.08	4	0	4
18	1/25/06	2/7/06	14	290.6	304.5	294.7	-1.9	19.5	17.6	-0.14	1.39	1.26	-1	6	6
19	2/8/06	3/1/06	22	321.7	304.7	325.0	31.8	14.6	46.4	1.45	0.66	2.11	10	5	14
20	3/2/06	3/23/06	22	271.3	238.5	274.1	40.4	30.9	71.3	1.83	1.41	3.24	15	13	26
21	3/24/06	4/5/06	13	153.6	132.4	156.3	27.9	4.8	32.7	2.15	0.37	2.51	18	4	21
22	4/6/06	4/27/06	22	373.5	353.1	381.1	41.3	93.9	135.3	1.88	4.27	6.15	11	27	35
23	4/28/06	5/11/06	14	126.2	121.1	130.4	9.3	9.2	18.5	0.66	0.66	1.32	7	8	14
24	5/12/06	6/1/06	21	136.1	135.7	138.1	0.9	-6.2	-5.4	0.04	-0.30	-0.26	1	-5	-4
25	6/2/06	6/15/06	14	86.8	82.2	87.4	10.3	14.5	24.7	0.73	1.03	1.77	12	18	28
26	6/16/06	6/29/06	14	97.3	81.3	97.7	14.3	6.5	20.8	1.02	0.46	1.48	15	8	21
27	6/30/06	7/13/06	14	70.7	55.9	71.1	2.7	4.8	7.4	0.19	0.34	0.53	4	9	10
28	7/14/06	7/27/06	14	46.1	36.3	46.5	-6.4	-6.7	-13.1	-0.46	-0.48	-0.94	-14	-18	-28
29	7/28/06	8/8/06	12	33.4	26.9	33.8	24.9	-4.6	20.3	2.08	-0.38	1.69	74	-17	60
30	8/9/06	8/24/06	16	44.9	36.9	45.3	16.4	10.6	27.1	1.03	0.66	1.69	37	29	60

Sample Interval	Interval Start	Interval End	Days in Interval	Total Nitrogen Inputs (total metric tons)			Total Nitrogen Retention (total metric tons)			Total Nitrogen Retention (metric tons per day)			Total Nitrogen Retention (percent of inflow)		
				Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco	Copco	Iron Gate	IG & Copco
31	8/25/06	9/7/06	14	42.3	27.2	42.6	8.1	13.3	21.4	0.58	0.95	1.53	19	49	50
32	9/8/06	9/21/06	14	68.7	37.8	69.1	14.0	9.2	23.1	1.00	0.65	1.65	20	24	33
33	9/22/06	10/5/06	14	70.2	47.4	70.6	24.6	2.3	26.9	1.76	0.16	1.92	35	5	38
34	10/6/06	10/19/06	14	83.4	70.1	83.7	-1.0	1.7	0.7	-0.07	0.12	0.05	-1	2	1
35	10/20/06	11/2/06	14	70.3	73.7	70.7	1.8	8.6	10.4	0.13	0.62	0.74	3	12	15
36	11/3/06	11/16/06	14	74.7	78.9	75.3	-11.3	-9.8	-21.1	-0.81	-0.70	-1.51	-15	-12	-28
37	11/17/06	12/5/06	19	106.1	110.3	106.8	-6.0	10.7	4.7	-0.31	0.56	0.25	-6	10	4
38	12/6/06	5/17/07	163	1011.3	971.1	1026.9	102.3	8.6	110.9	0.63	0.05	0.68	10	1	11
39	5/18/07	5/31/07	14	36.7	31.4	37.3	9.2	10.2	19.4	0.66	0.73	1.38	25	32	52
40	6/1/07	6/13/07	13	35.8	35.6	36.2	-2.1	2.8	0.7	-0.16	0.21	0.05	-6	8	2
41	6/14/07	6/27/07	14	44.8	39.9	45.2	3.2	-14.9	-11.6	0.23	-1.06	-0.83	7	-37	-26
42	6/28/07	7/11/07	14	58.1	42.6	58.5	-2.1	9.9	7.8	-0.15	0.71	0.56	-4	23	13
43	7/12/07	7/24/07	13	59.3	40.2	59.7	13.1	12.4	25.5	1.01	0.96	1.96	22	31	43
44	7/25/07	8/7/07	14	64.7	49.0	65.0	26.4	1.1	27.5	1.89	0.08	1.97	41	2	42
45	8/8/07	8/22/07	15	67.5	53.4	67.9	2.8	2.6	5.4	0.19	0.17	0.36	4	5	8
46	8/23/07	9/6/07	15	70.9	61.7	71.3	-28.5	22.1	-6.4	-1.90	1.48	-0.43	-40	36	-9
47	9/7/07	9/19/07	13	60.0	55.6	60.3	34.1	14.1	48.2	2.62	1.09	3.71	57	25	80
48	9/20/07	10/4/07	15	67.5	62.3	67.8	14.0	17.9	31.9	0.93	1.20	2.13	21	29	47
49	10/5/07	10/17/07	13	61.5	59.2	61.8	9.4	7.1	16.5	0.72	0.55	1.27	15	12	27
50	10/18/07	10/30/07	13	66.6	61.6	67.1	0.5	9.9	10.4	0.04	0.76	0.80	1	16	15
51	10/31/07	11/14/07	15	75.4	80.3	75.9	-15.7	17.1	1.5	-1.04	1.14	0.10	-21	21	2
52	11/15/07	11/27/07	13	68.1	66.0	68.5	5.0	1.8	6.8	0.38	0.14	0.52	7	3	10
53	11/28/07	12/11/07	14	72.0	75.3	72.7	-12.0	-4.3	-16.2	-0.85	-0.31	-1.16	-17	-6	-22
Entire Study	5/17/05	12/11/07	939	6301.4	5912.8	6383.8	431.4	413.9	845.3	0.46	0.44	0.90	7	7	13

APPENDIX A5

Charts summarizing the hydrologic and nutrient budgets by seasonal and annual periods

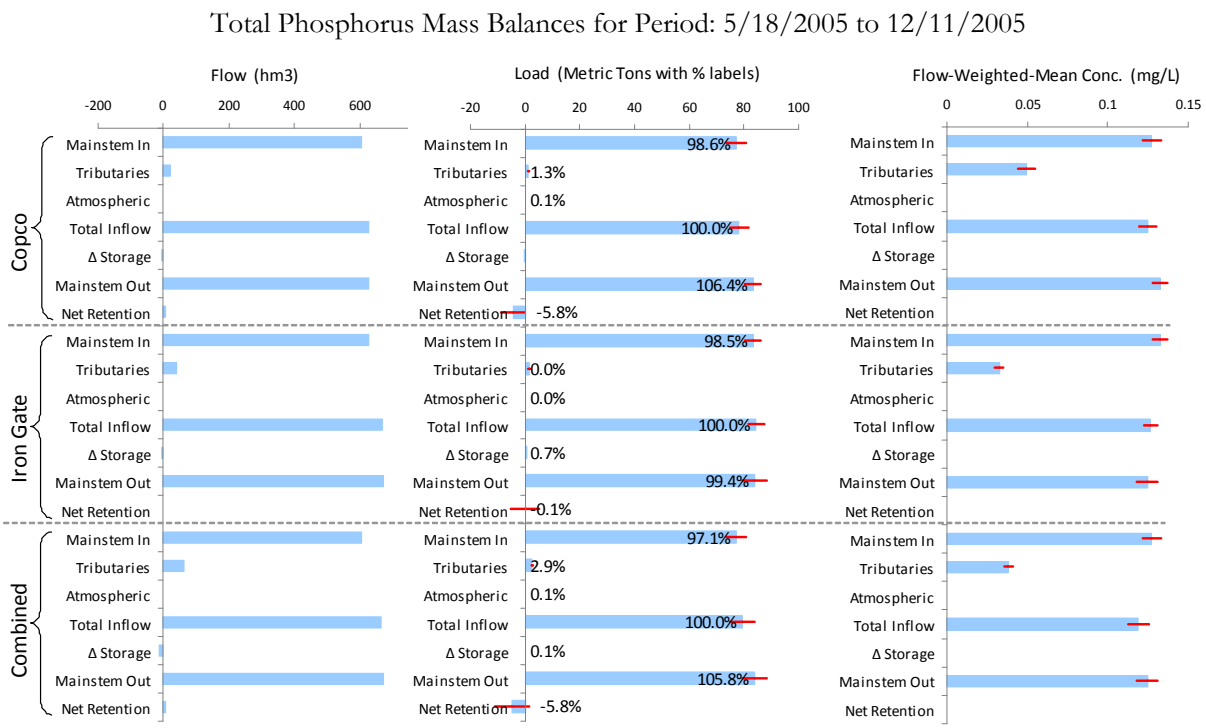


Figure A5-1. Summary of phosphorus mass-balances for the period 5/18/2005 to 12/11/2005 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load). Flow units of hm3 are 1 million cubic meters.

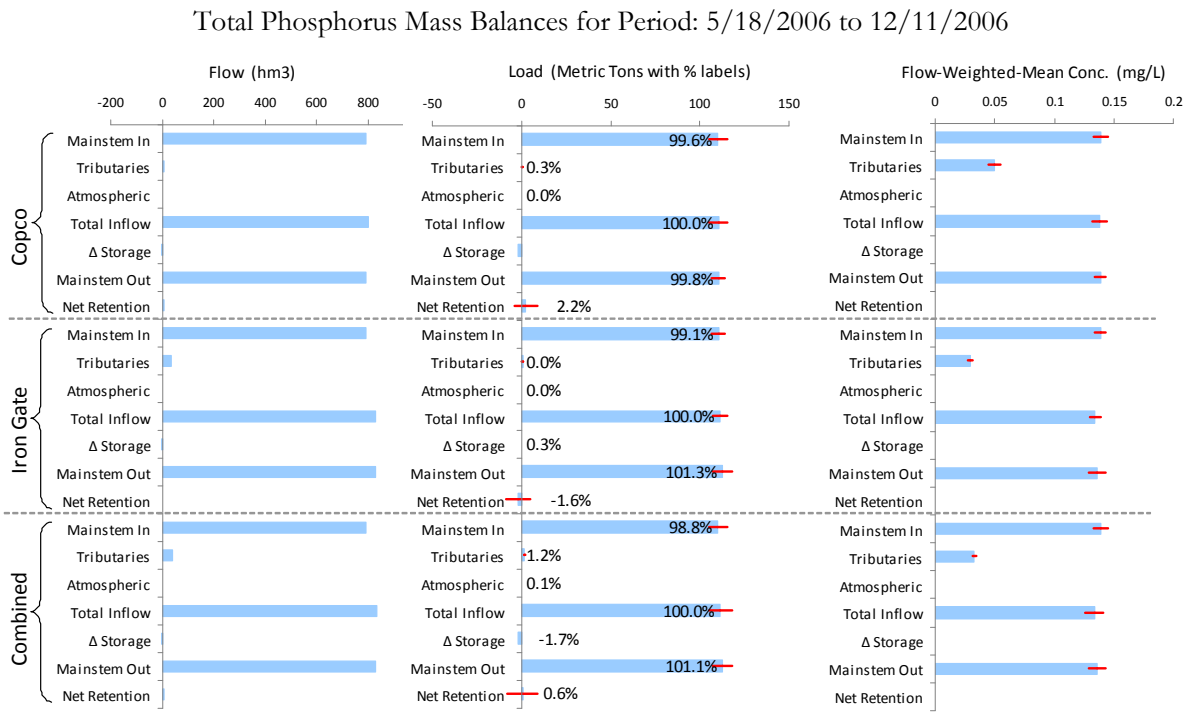


Figure A5-2. Summary of phosphorus mass-balances for the period 5/18/2006 to 12/11/2006 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

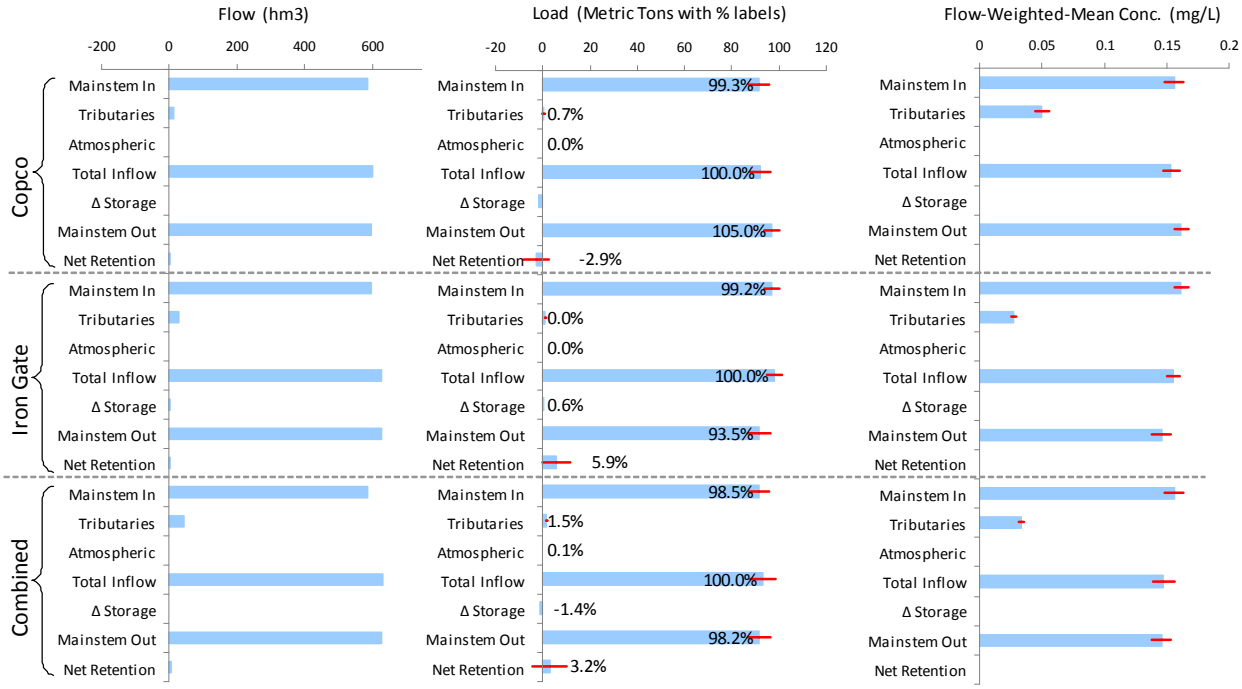


Figure A5-3. Summary of phosphorus mass-balances for the period 5/18/2007 to 12/11/2007 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

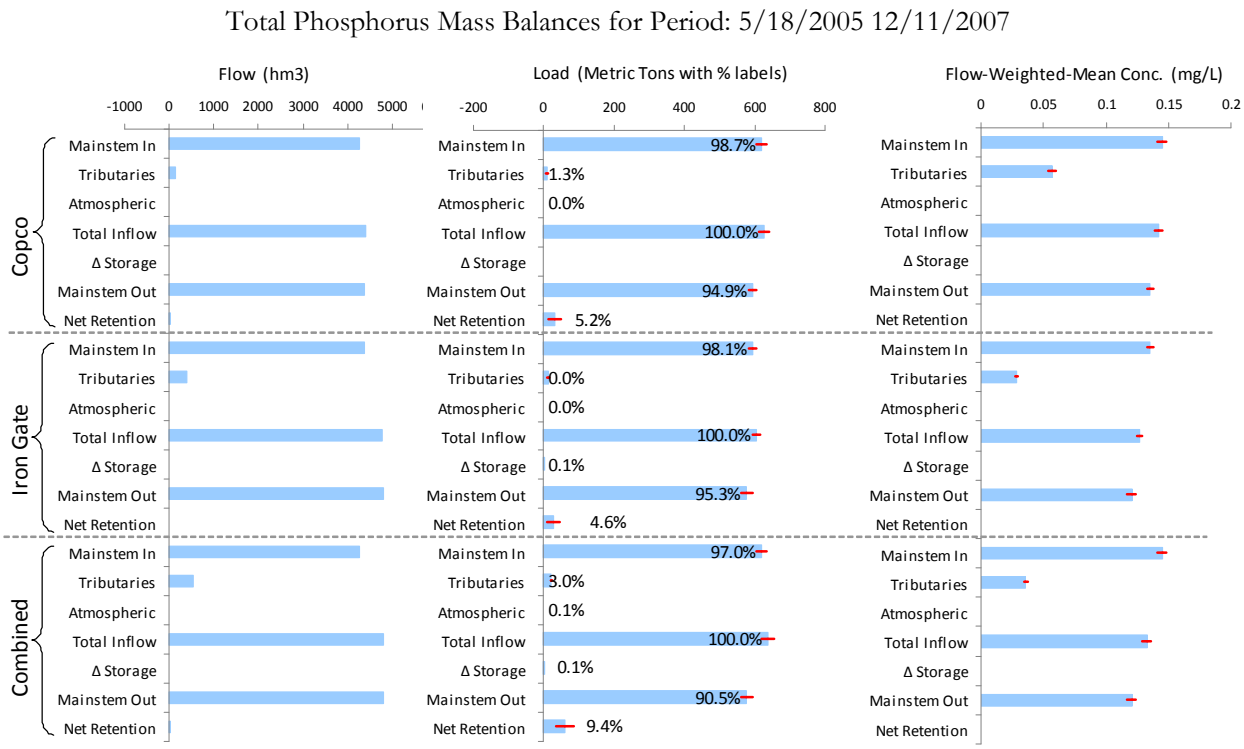


Figure A5-4. Summary of phosphorus mass-balances for the period 5/18/2005 to 12/11/2007 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

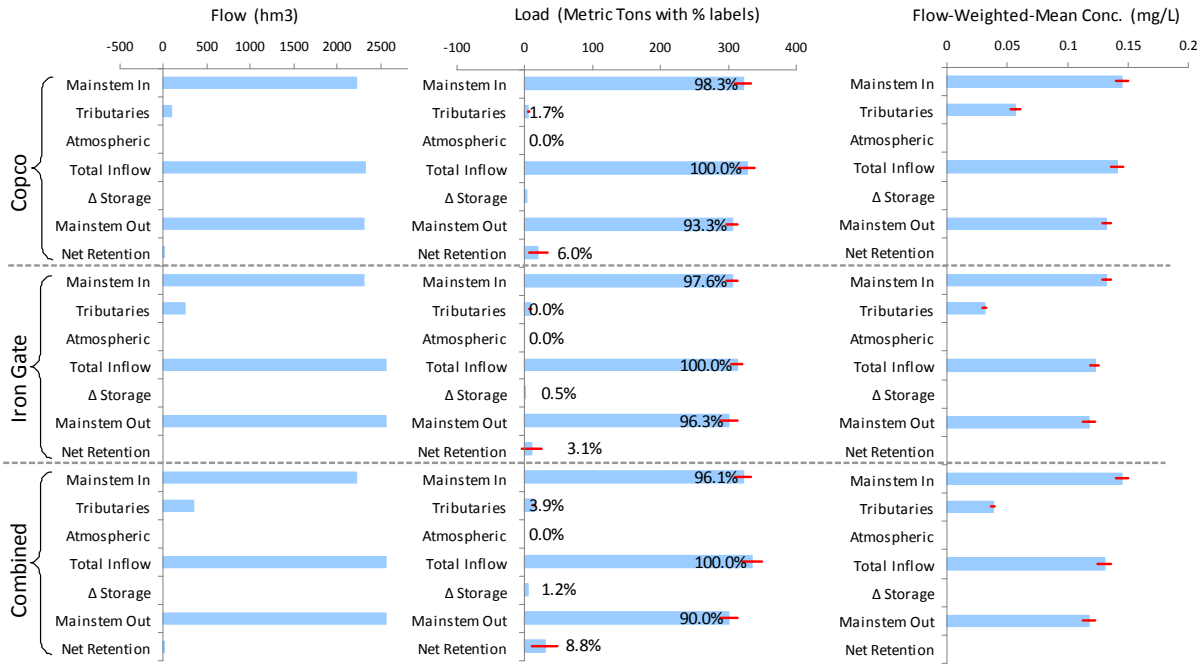


Figure A5-5. Summary of phosphorus mass-balances for the period 5/18/2005 to 5/17/2006 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

Total Phosphorus Mass Balances for Period: 5/18/2006 - 5/17/2007

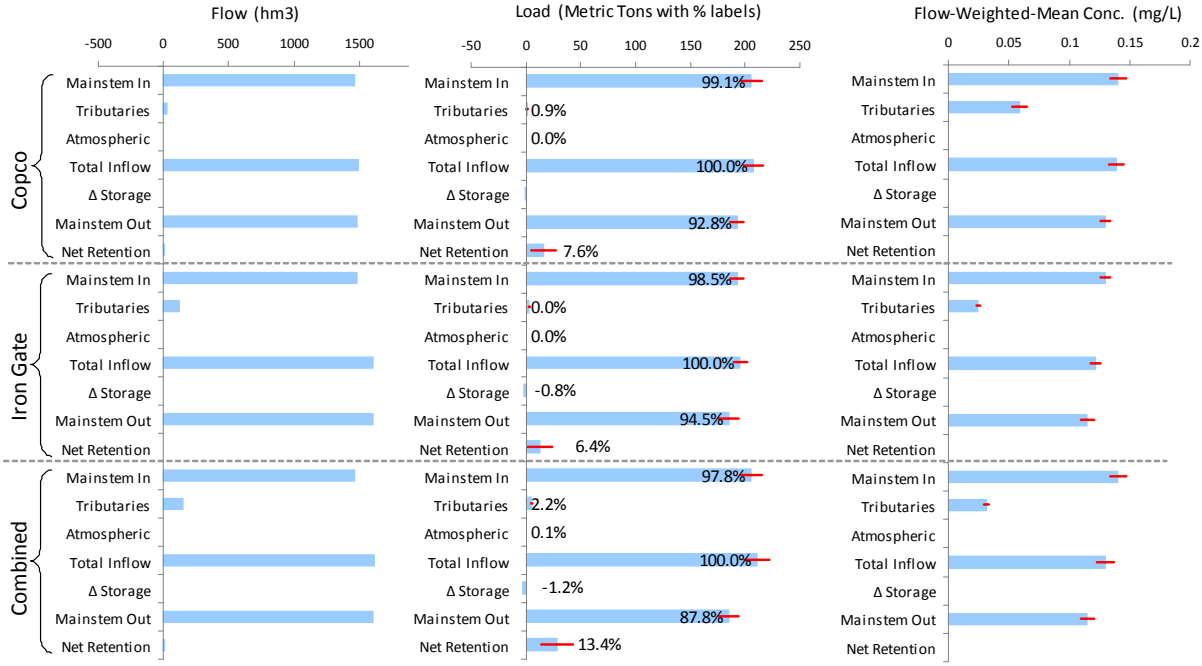


Figure A5-6. Summary of phosphorus mass-balances for the period 5/18/2006 to 5/17/2007 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

Total Nitrogen Mass Balances for Period: 5/18/2005 to 12/11/2005

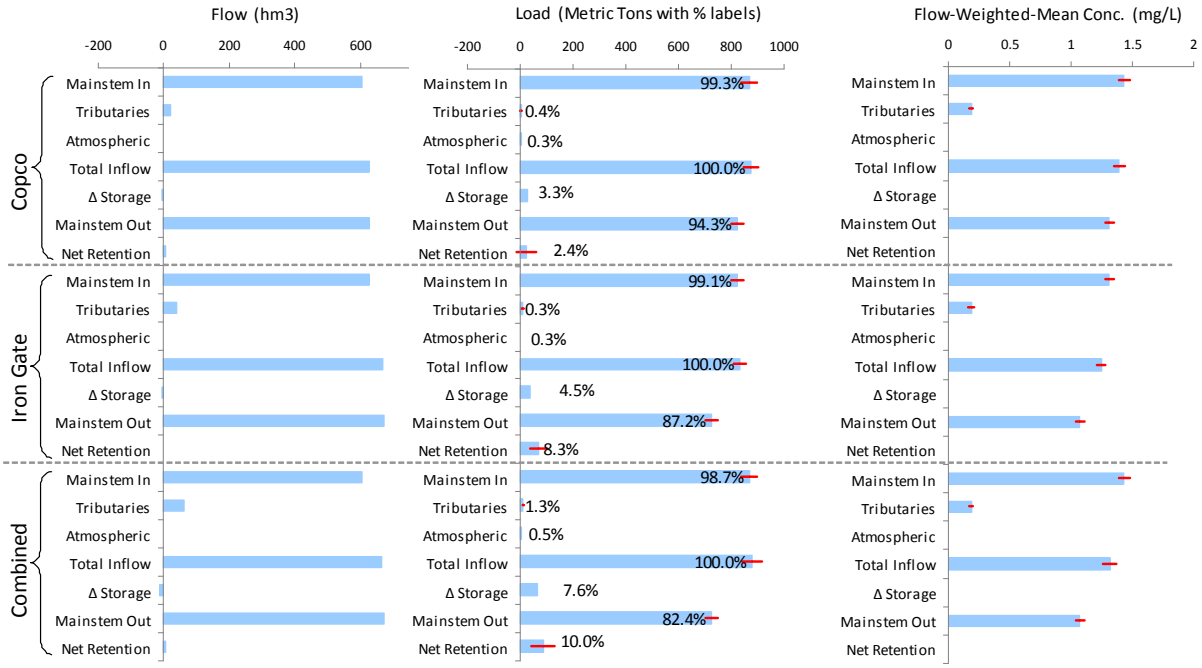


Figure A5-7. Summary of nitrogen mass-balances for the period 5/18/2005 to 12/11/2005 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

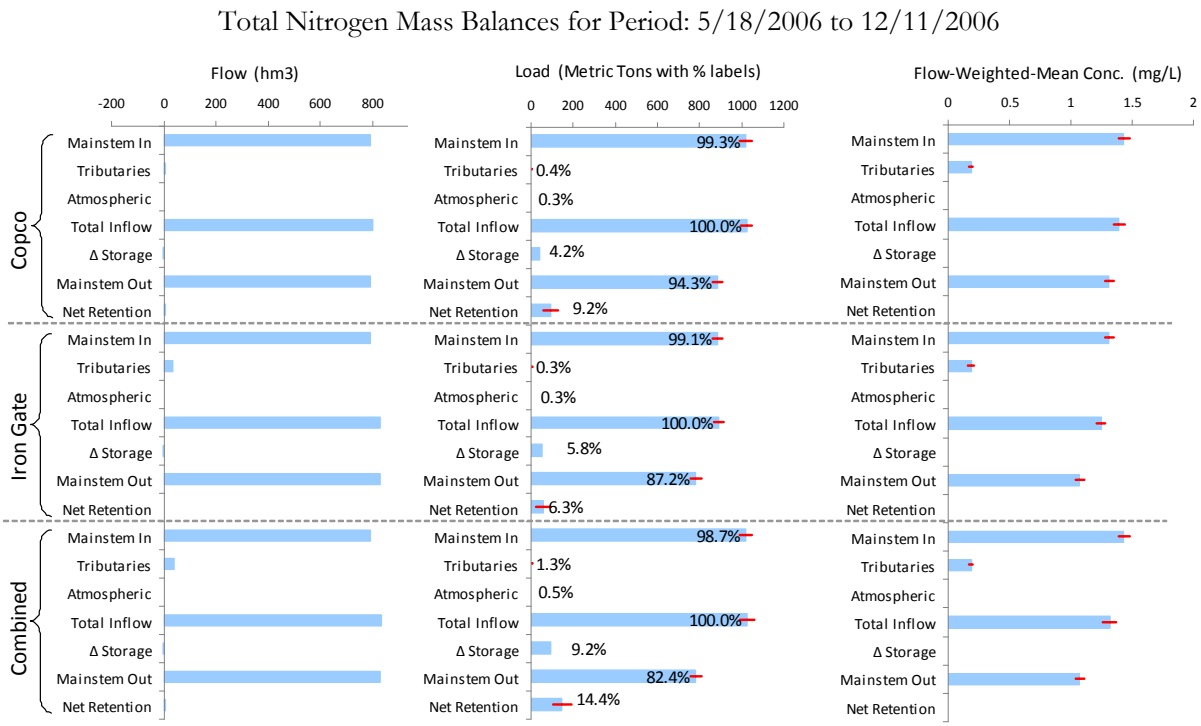


Figure A5-8. Summary of nitrogen mass-balances for the period 5/18/2006 to 12/11/2006 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

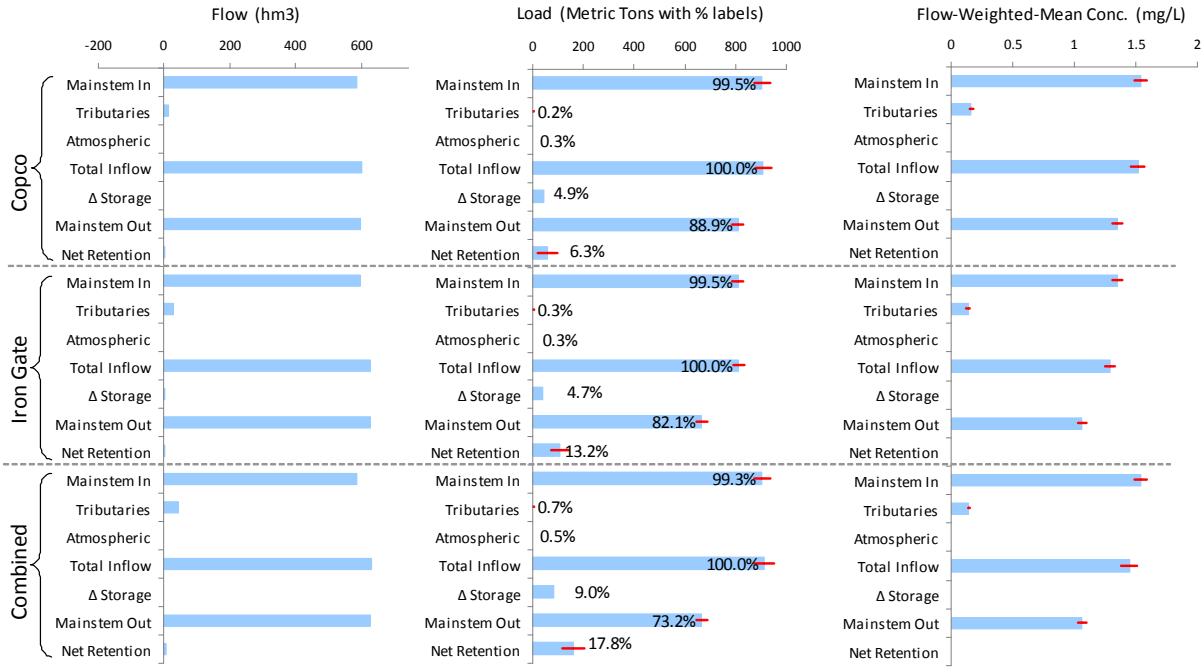


Figure A5-9. Summary of nitrogen mass-balances for the period 5/18/2007 to 12/11/2007 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

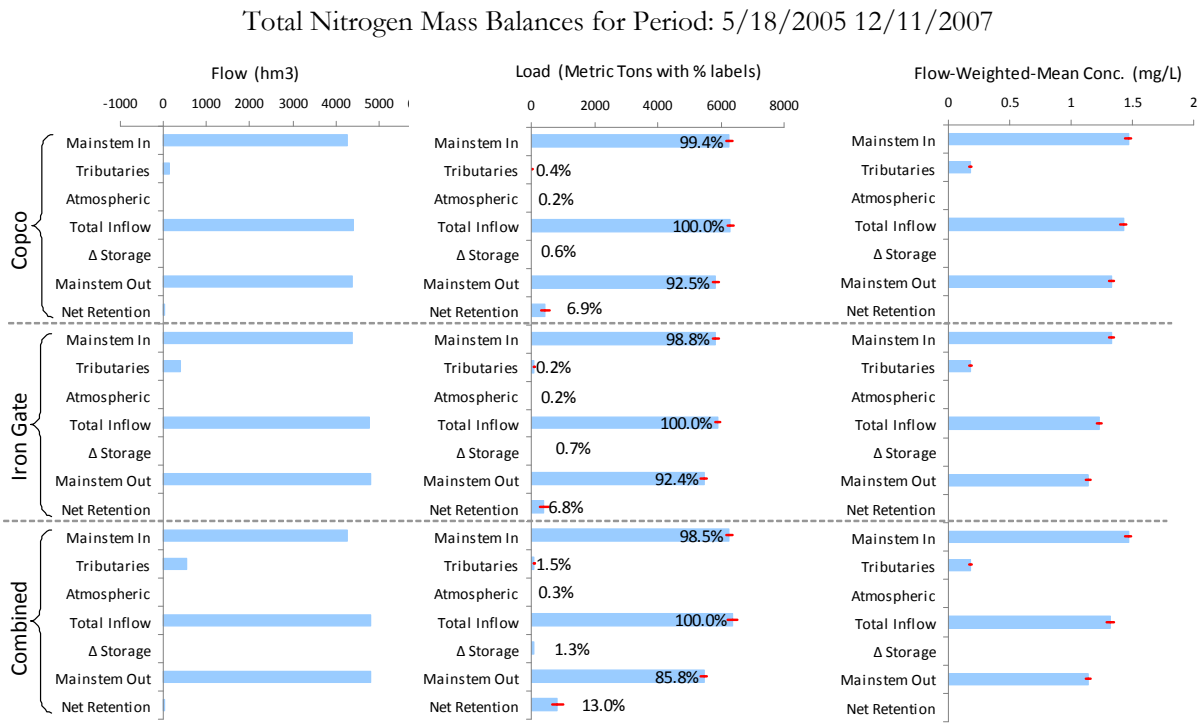


Figure A5-10. Summary of nitrogen mass-balances for the period 5/18/2005 to 12/11/2007 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

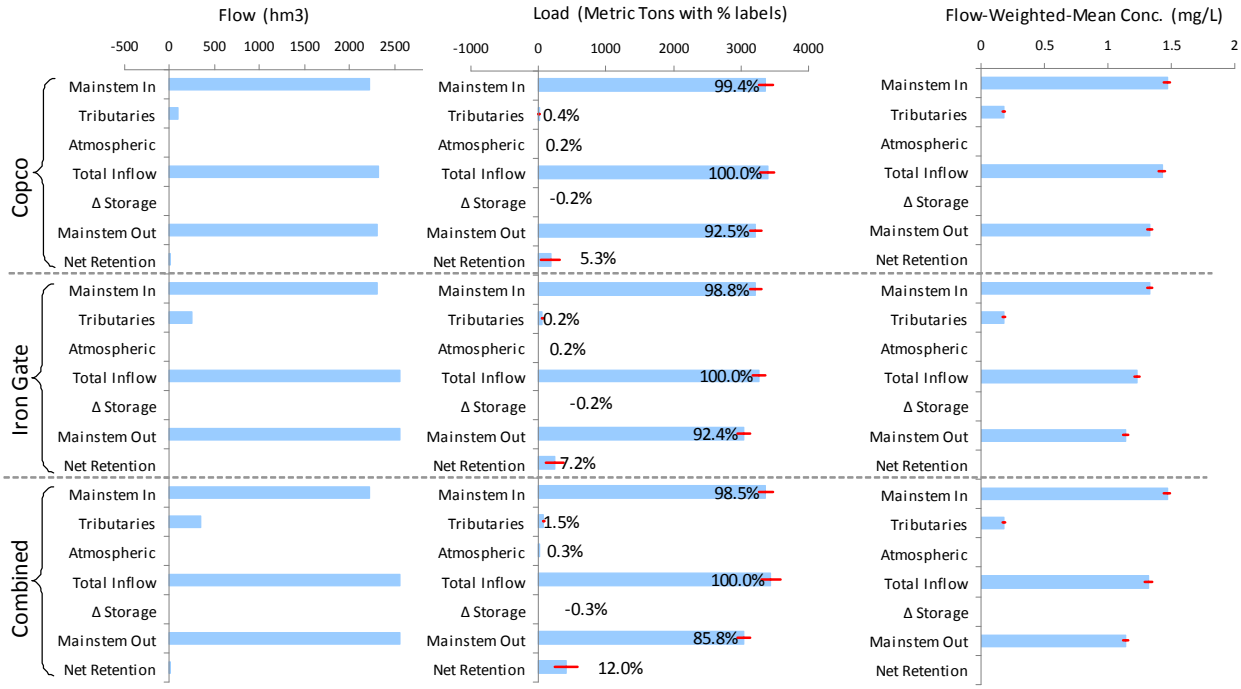


Figure A5-11. Summary of nitrogen mass-balances for the period 5/18/2005 to 5/17/2006 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

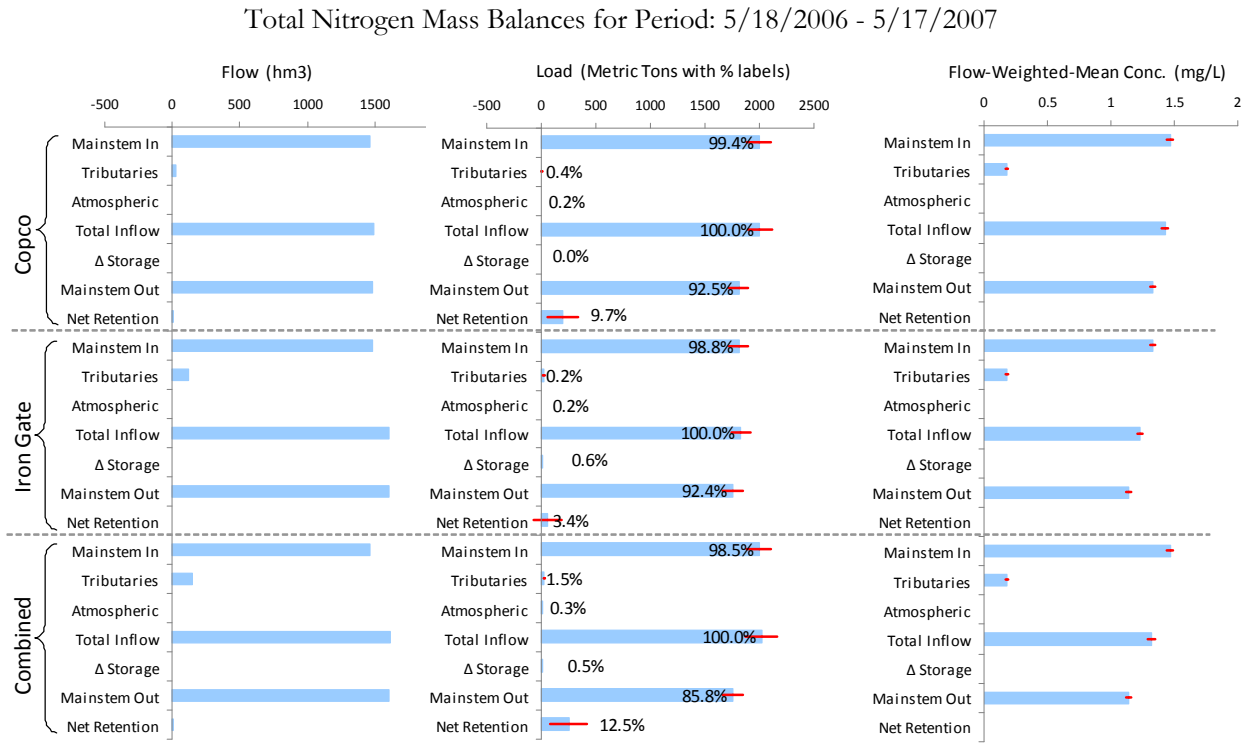


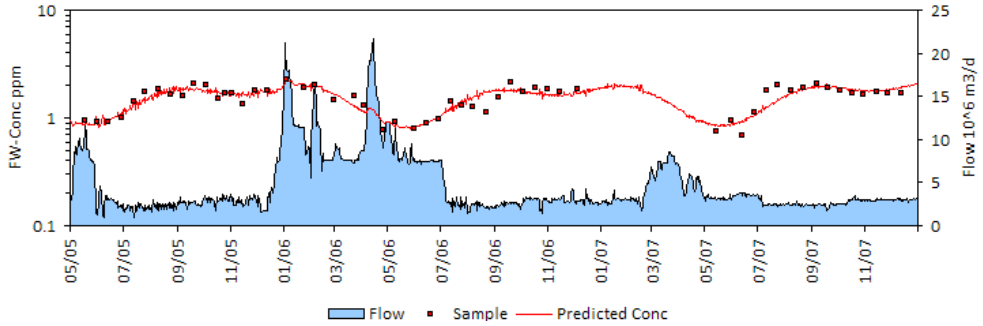
Figure A5-12. Summary of nitrogen mass-balances for the period 5/18/2006 to 5/17/2007 for Iron Gate, Copco, and the two reservoirs combined. Atmospheric is wetfall and dryfall (included only for load).

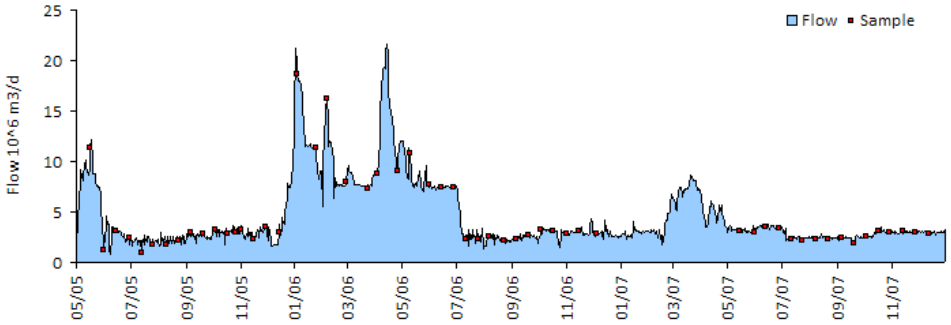
APPENDIX A6

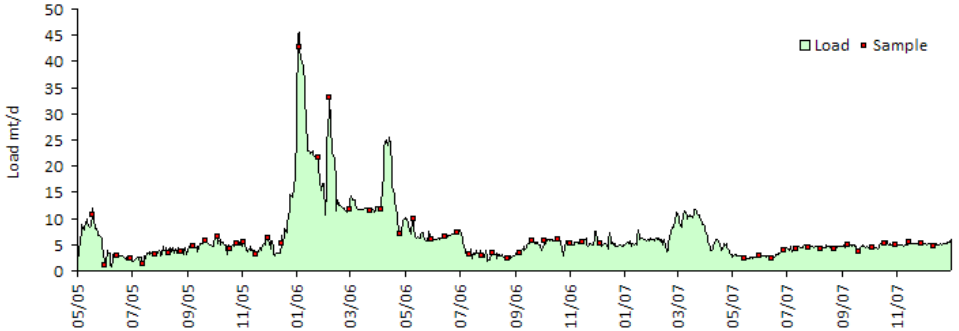
Charts of daily time series and summaries of outputs from multiple regression model used to predict concentrations for each station

Site: KR_AbvCR Klamath R. above Copco Res. TN Dates: 05/01/2005 - 12/31/2007

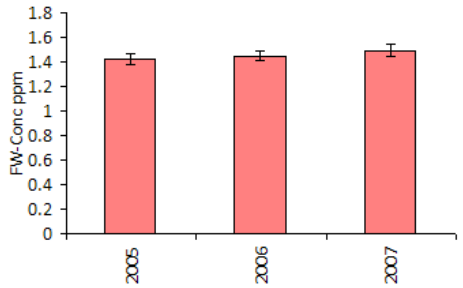
Daily Time Series:

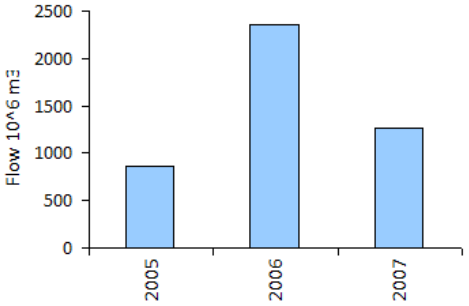


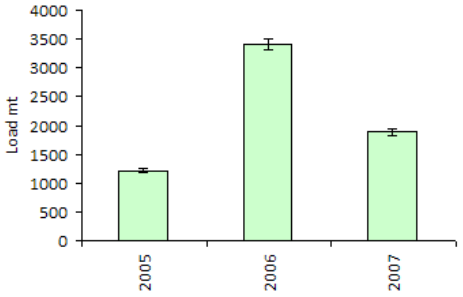




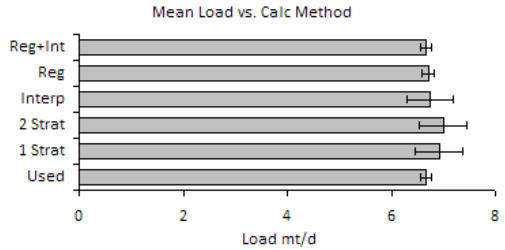
Yearly Time Series:





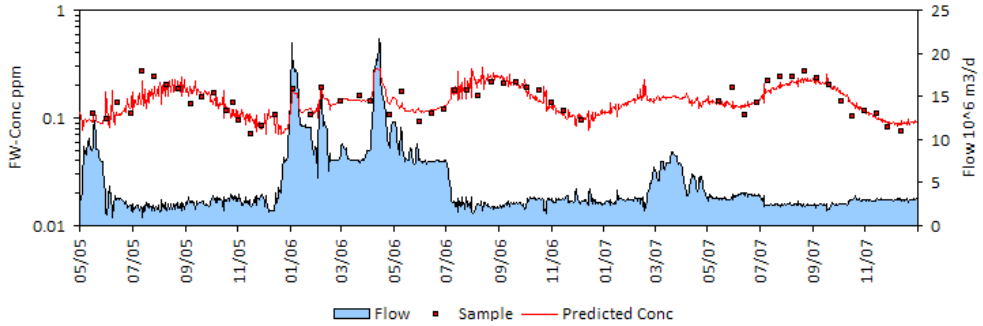


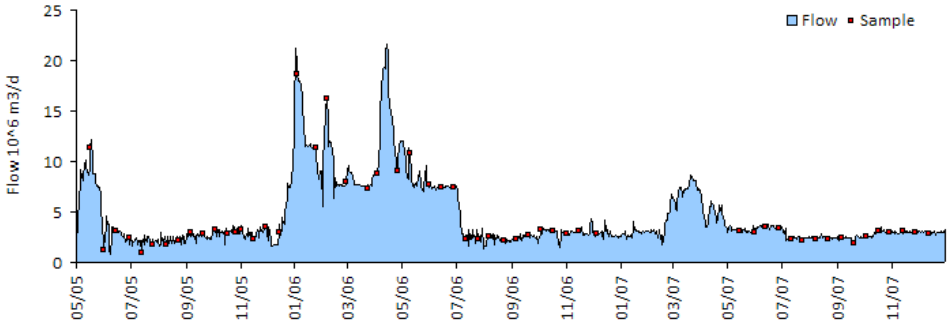
Site:	KR_AbvCR	Klamath R. above Copco Res.	Variable:	TN	
Output Period	05/01/05	12/31/07	Mean Daily Flow	4.583	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	7	mt/day
Sample Dates	05/17/05	12/12/07	Flow-Wtd Conc	1	ppm
Samples	55		Relative Std Error	1.7%	
Method: 5 - Regression + Interpolation			Regression R2	81%	
			Regression SE	0.15	

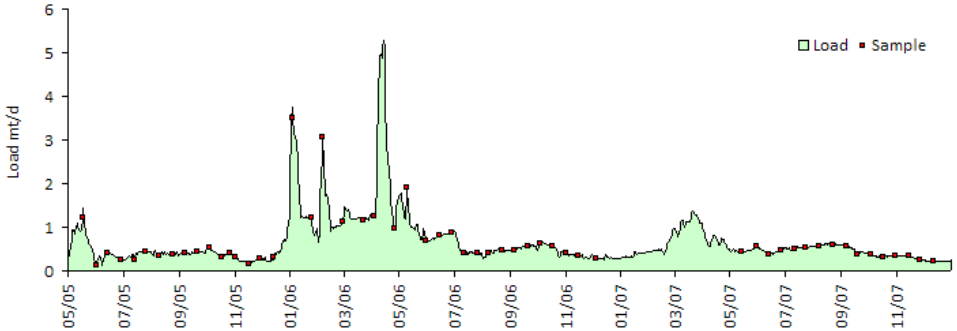


Site: KR_AbvCR Klamath R. above Copco Res. TP Dates: 05/01/2005 - 12/31/2007

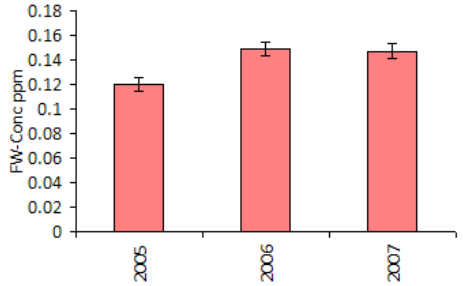
Daily Time Series:

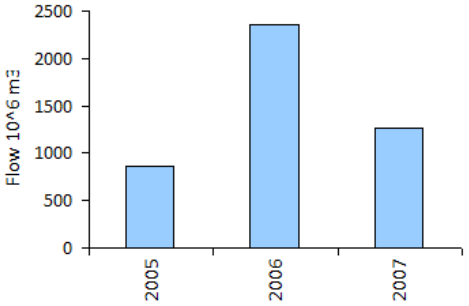


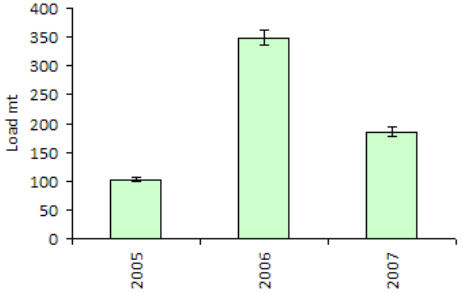




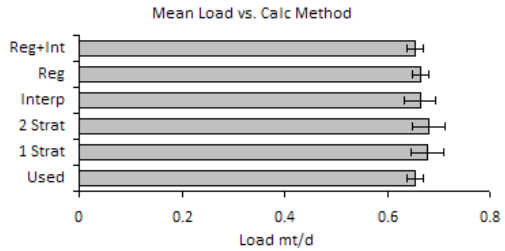
Yearly Time Series:





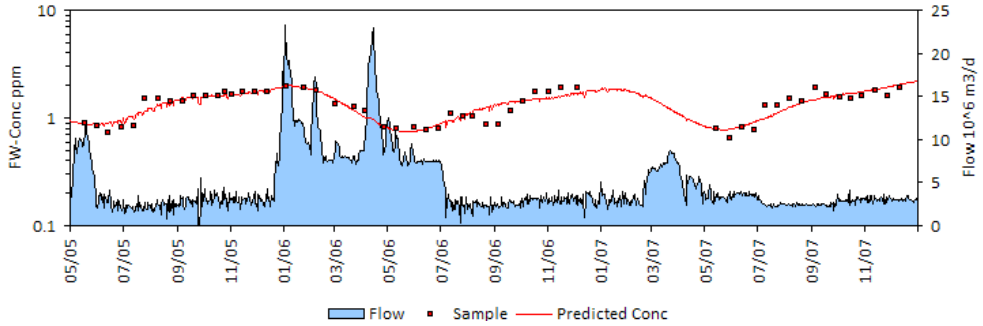


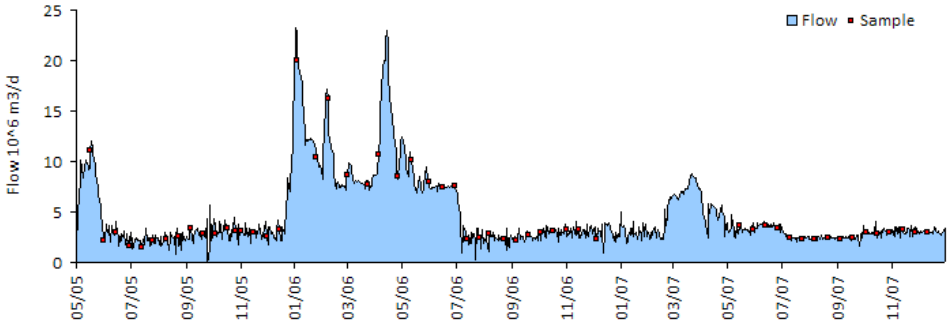
Site:	KR_AbvCR	Klamath R. above Copco Res.	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	4.583	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	1	mt/day
Sample Dates	05/17/05	12/12/07	Flow-Wtd Conc	0	ppm
Samples	55		Relative Std Error	2.3%	
Method:	5 - Regression + Interpolation		Regression R2	76%	
			Regression SE	0.19	

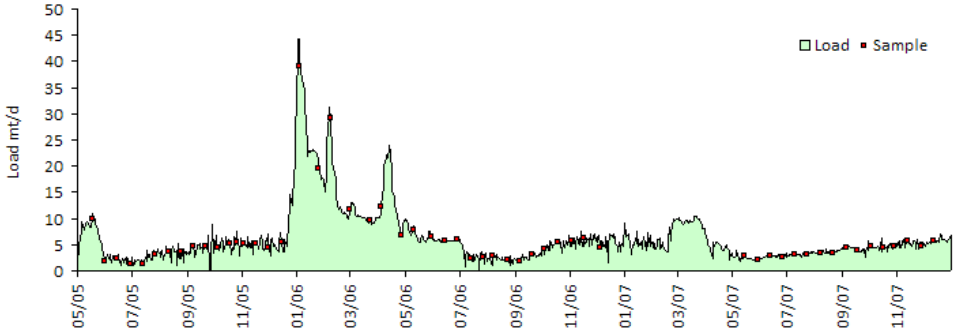


Site: KR_AbvIG Klamath R. above Iron Gate Res. TN Dates: 05/01/2005 - 12/31/2007

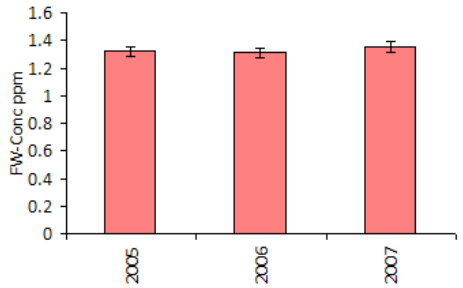
Daily Time Series:

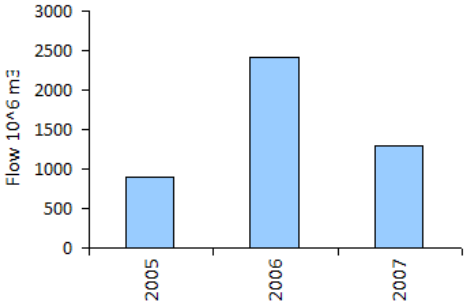


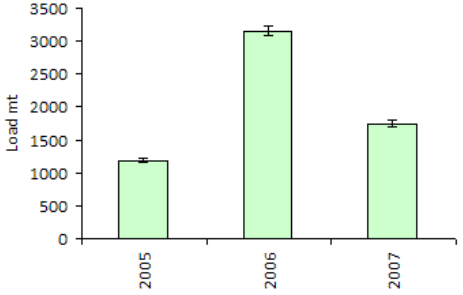




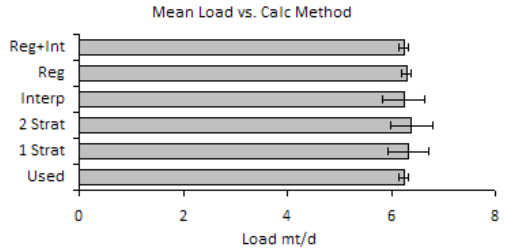
Yearly Time Series:





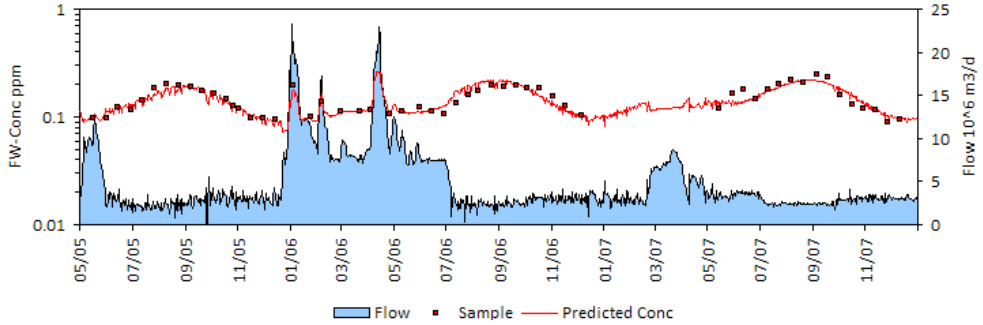


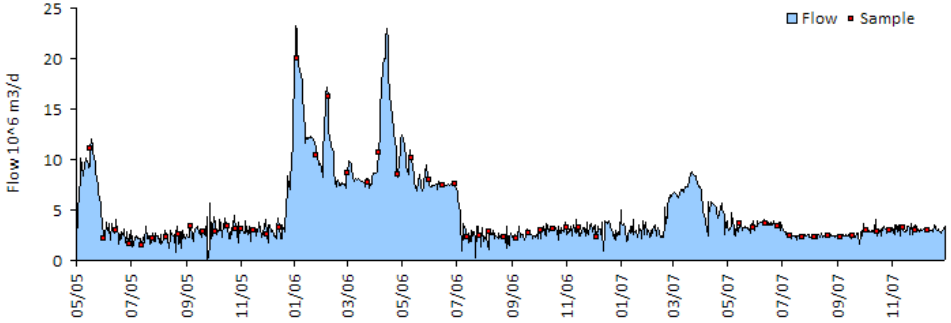
Site:	KR_AbvIG	Klamath R. above Iron Gate Re	Variable:	TN	
Output Period	05/01/05	12/31/07	Mean Daily Flow	4.712	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	6	mt/day
Sample Dates	05/17/05	12/11/07	Flow-Wtd Conc	1	ppm
Samples	55		Relative Std Error	1.5%	
Method:	5 - Regression + Interpolation		Regression R2	83%	
			Regression SE	0.15	

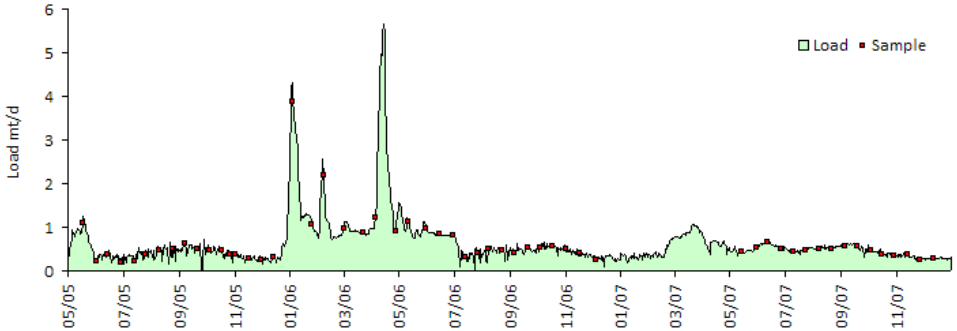


Site: KR_AbvIG Klamath R. above Iron Gate Res. TP Dates: 05/01/2005 - 12/31/2007

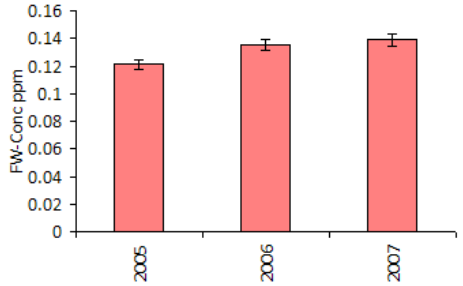
Daily Time Series:

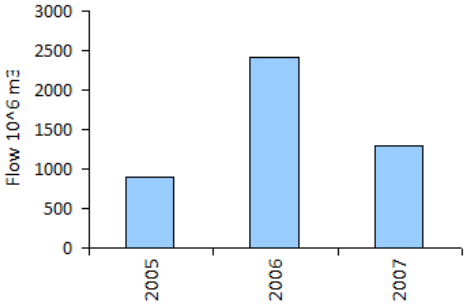


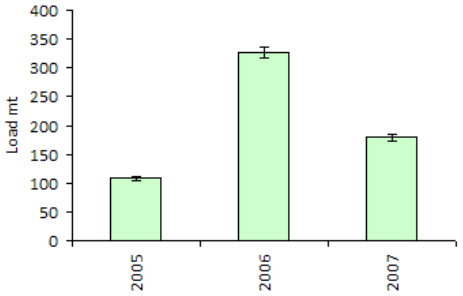




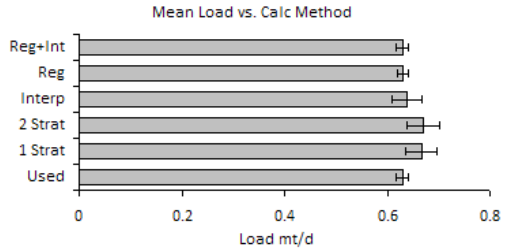
Yearly Time Series:





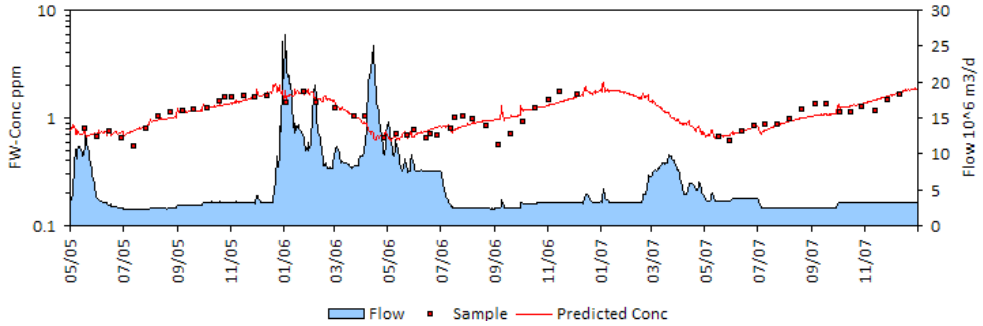


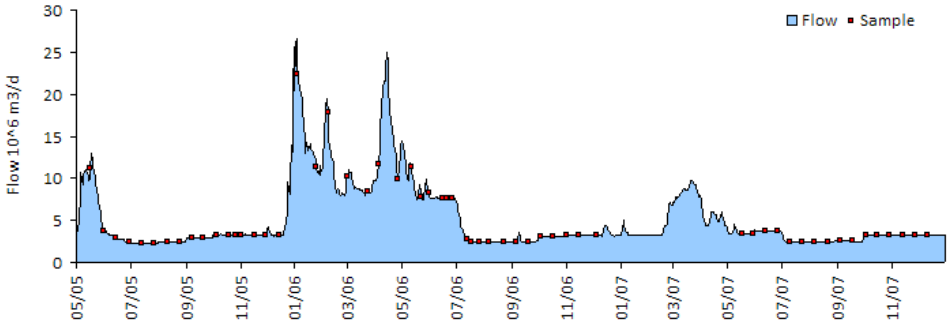
Site:	KR_AbvIG	Klamath R. above Iron Gate Re	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	4.712	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	1	mt/day
Sample Dates	05/17/05	12/11/07	Flow-Wtd Conc	0	ppm
Samples	55		Relative Std Error	1.7%	
Method:	5 - Regression + Interpolation		Regression R2	86%	
			Regression SE	0.12	

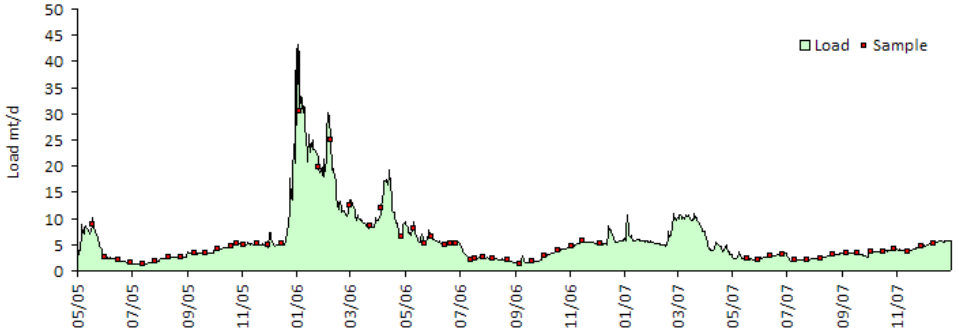


Site: KR_BellG Klamath R. below Iron Gate Res TN Dates: 05/01/2005 - 12/31/2007

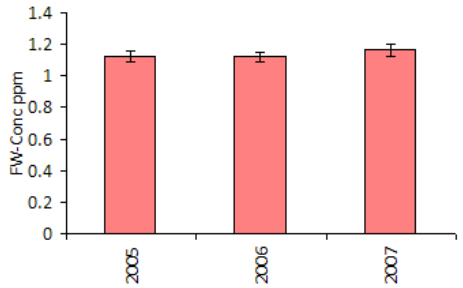
Daily Time Series:

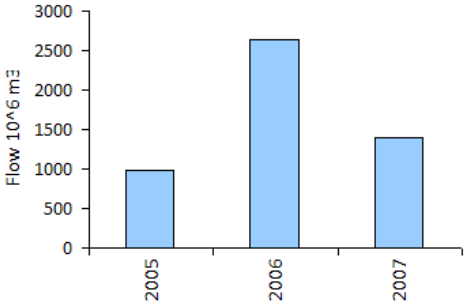


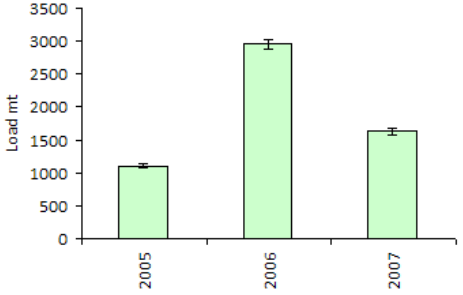




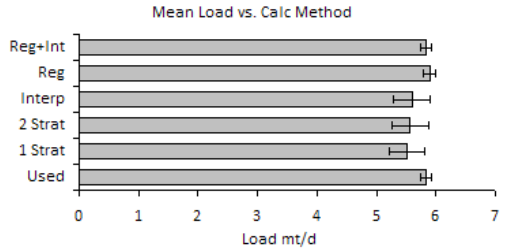
Yearly Time Series:





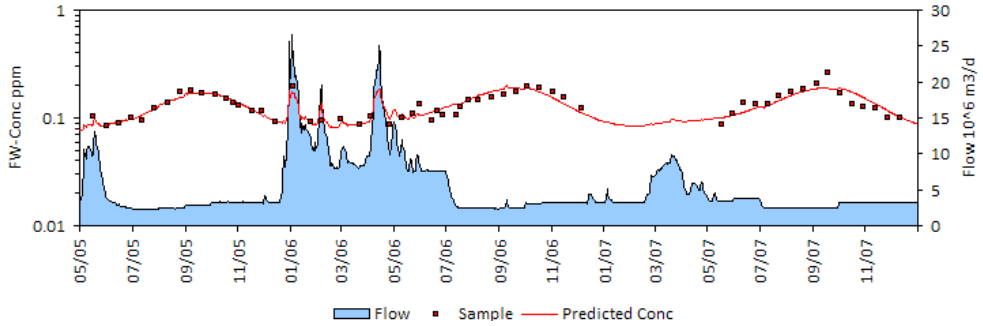


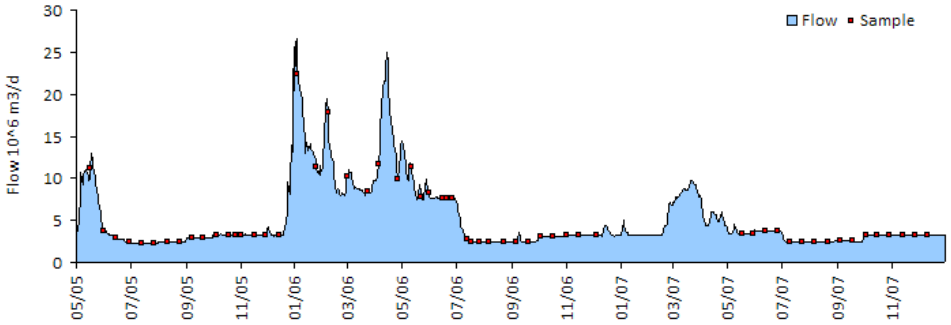
Site:	KR_BellG	Klamath R. below Iron Gate Res	Variable:	TN	
Output Period	05/01/05	12/31/07	Mean Daily Flow	5.142	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	6	mt/day
Sample Dates	05/17/05	12/11/07	Flow-Wtd Conc	1	ppm
Samples	58		Relative Std Error	1.7%	
Method:	5 - Regression + Interpolation		Regression R2	79%	
			Regression SE	0.17	

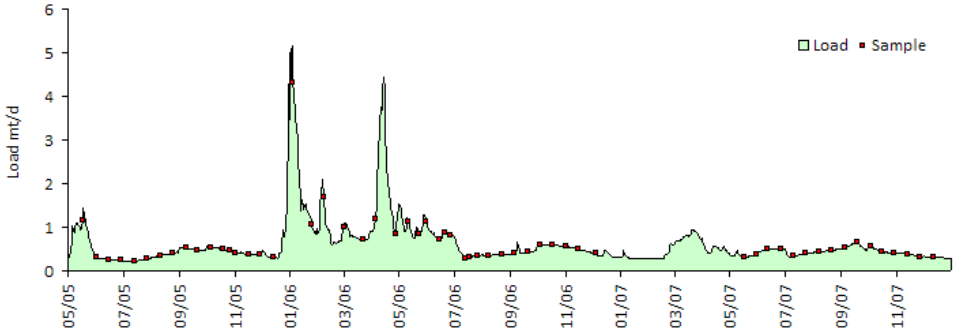


Site: KR_BellG Klamath R. below Iron Gate Res TP Dates: 05/01/2005 - 12/31/2007

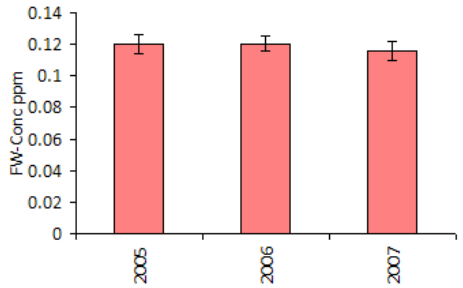
Daily Time Series:

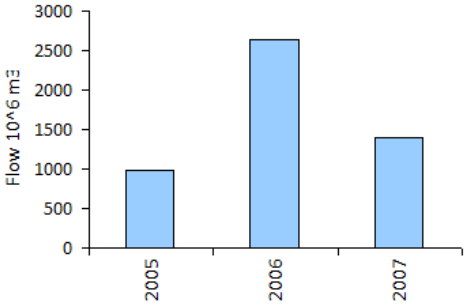


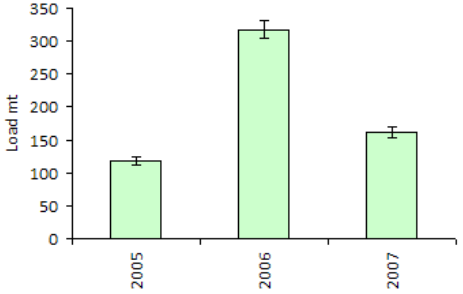




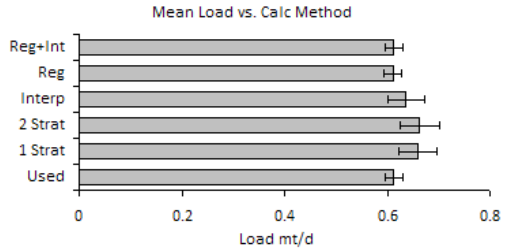
Yearly Time Series:





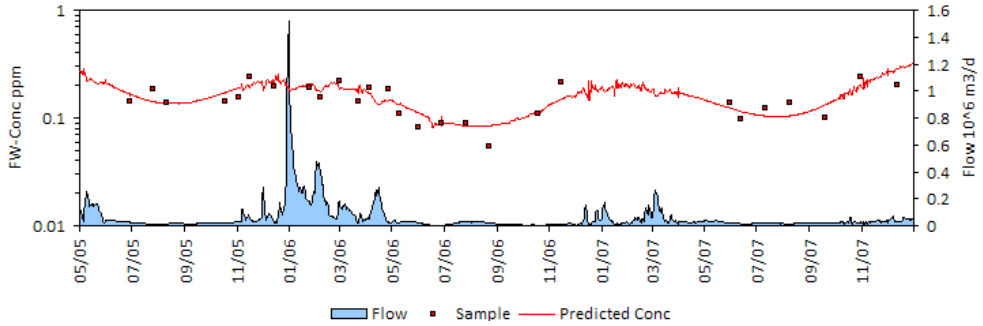


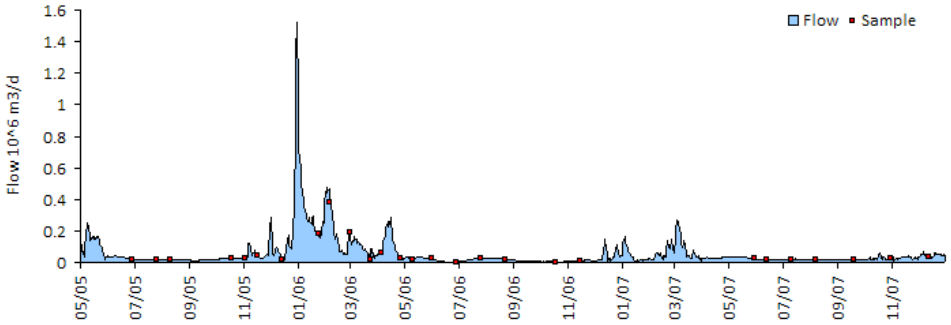
Site:	KR_BellG	Klamath R. below Iron Gate Res	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	5.142	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	1	mt/day
Sample Dates	05/17/05	12/11/07	Flow-Wtd Conc	0	ppm
Samples	58		Relative Std Error	2.7%	
Method:	5 - Regression + Interpolation		Regression R2	80%	
			Regression SE	0.13	

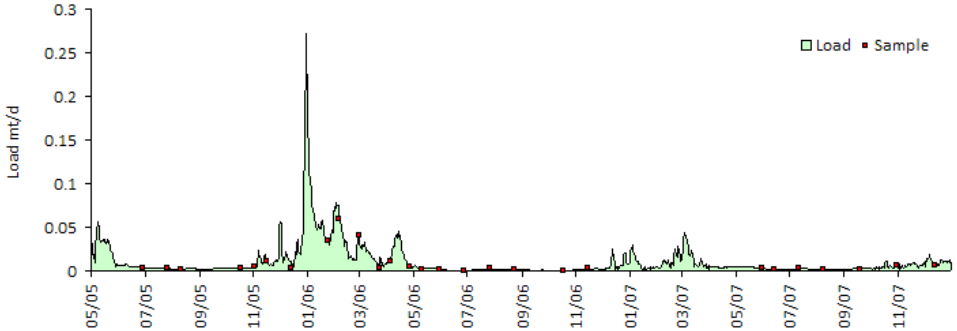


Site: Shovel Ck Shovel Creek TN Dates: 05/01/2005 - 12/31/2007

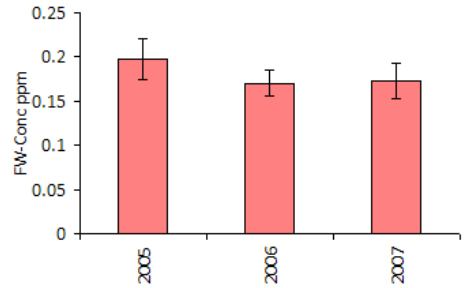
Daily Time Series:

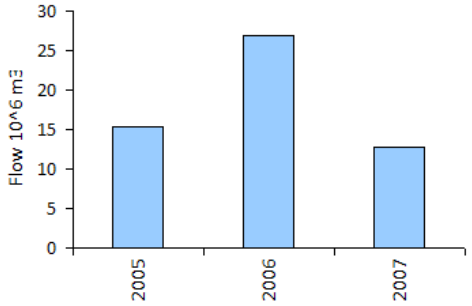


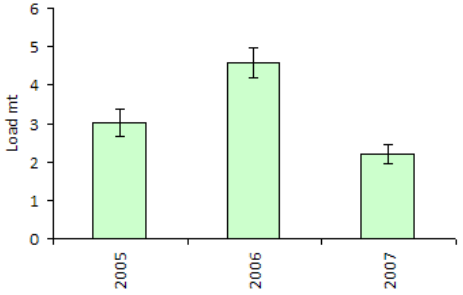




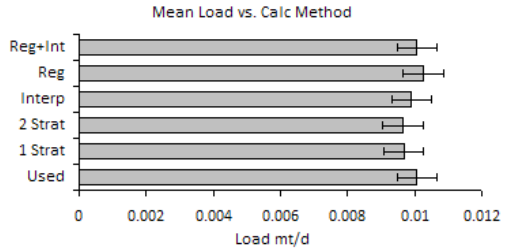
Yearly Time Series:





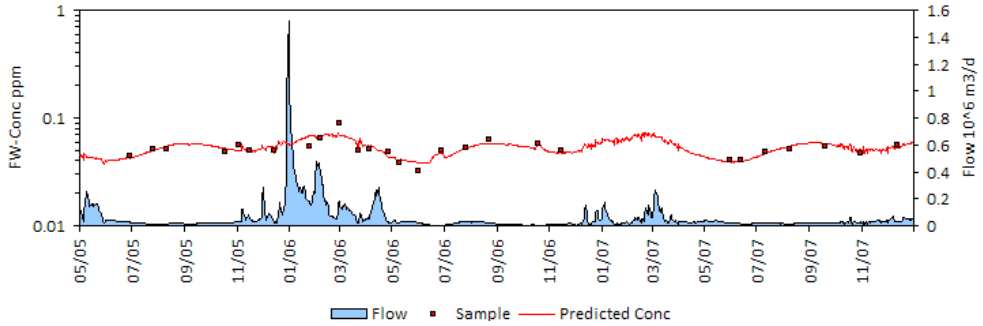


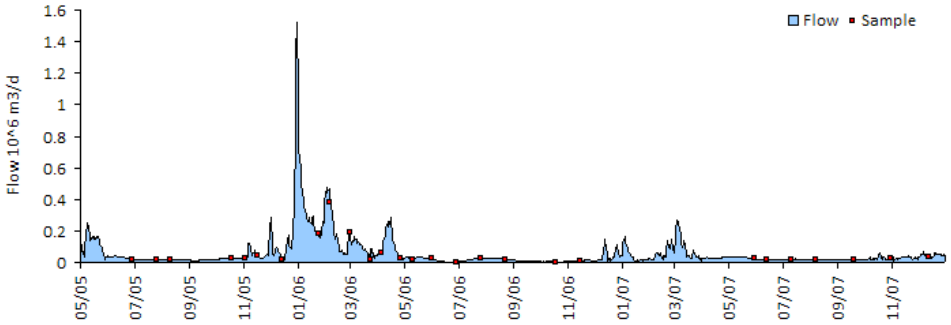
Site:	Shovel Ck	Shovel Creek	Variable:	TN	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.056	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	06/29/05	12/12/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	5.9%	
Method:	5 - Regression + Interpolation		Regression R2	65%	
			Regression SE	0.28	

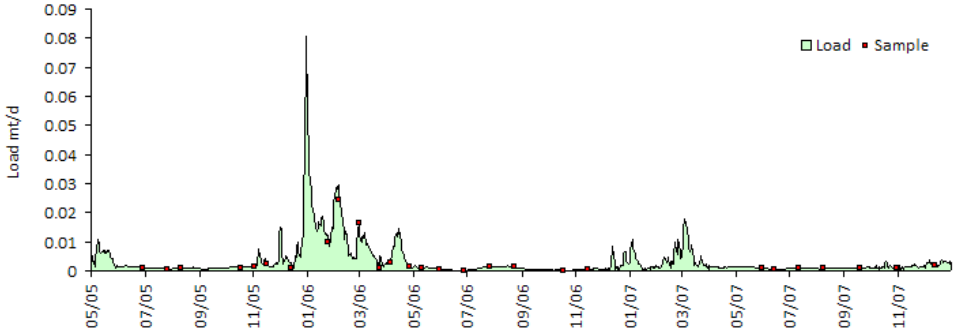


Site: Shovel Ck Shovel Creek TP Dates: 05/01/2005 - 12/31/2007

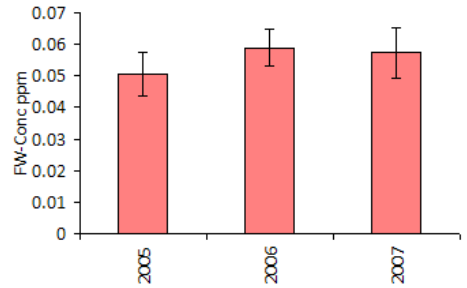
Daily Time Series:

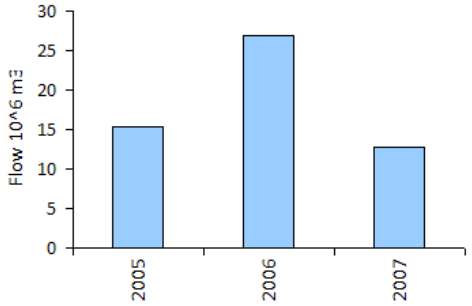


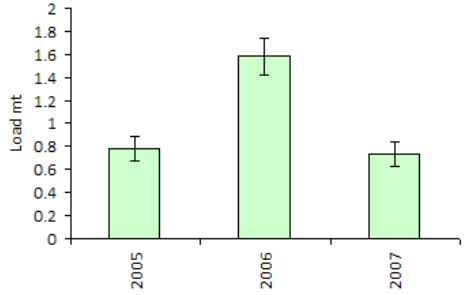




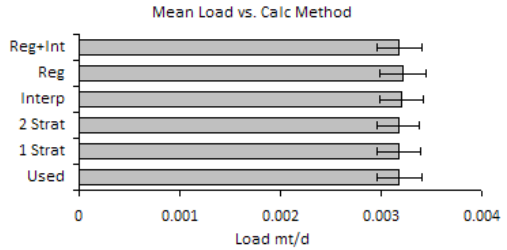
Yearly Time Series:





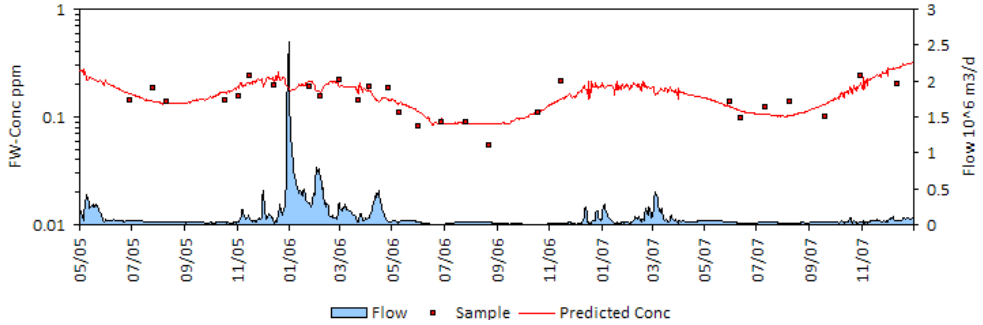


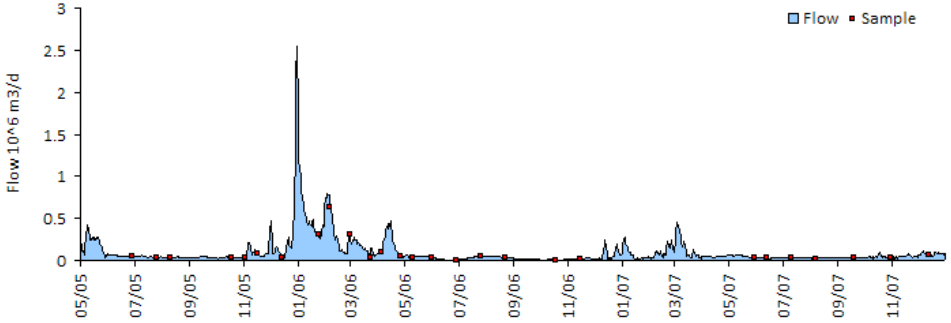
Site:	Shovel Ck	Shovel Creek	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.056	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	06/29/05	12/12/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	7.0%	
Method:	5 - Regression + Interpolation		Regression R2	74%	
			Regression SE	0.12	

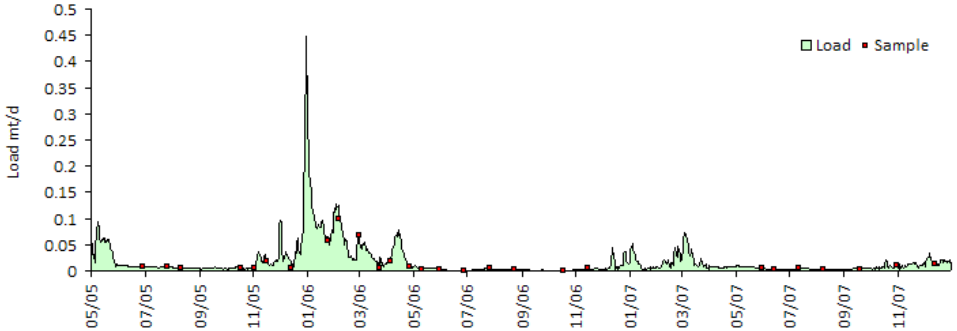


Site: Ungauged_CR Untauged Area - Copco TN Dates: 05/01/2005 - 12/31/2007

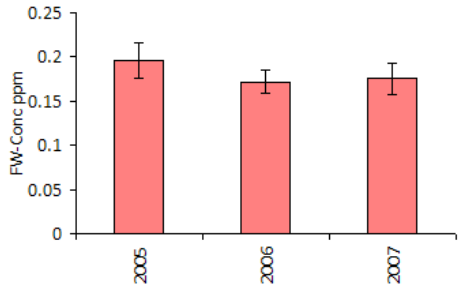
Daily Time Series:

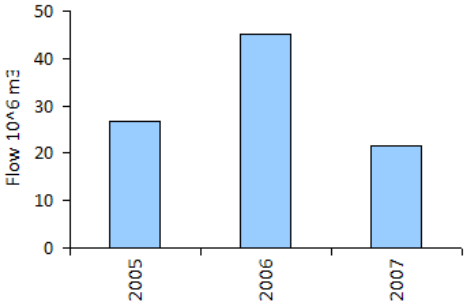


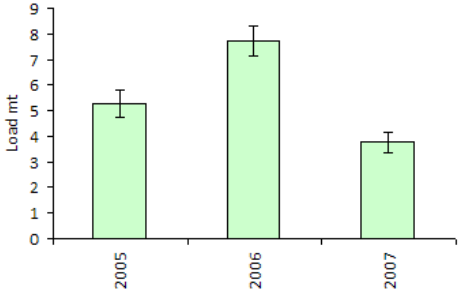




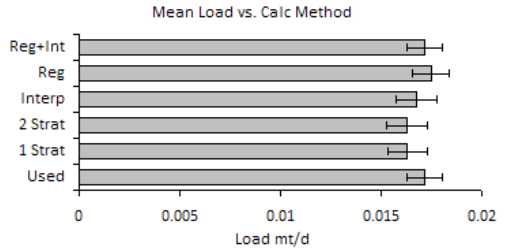
Yearly Time Series:





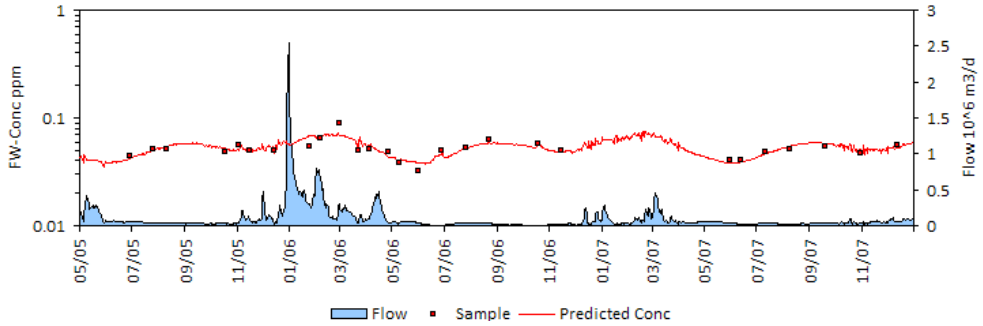


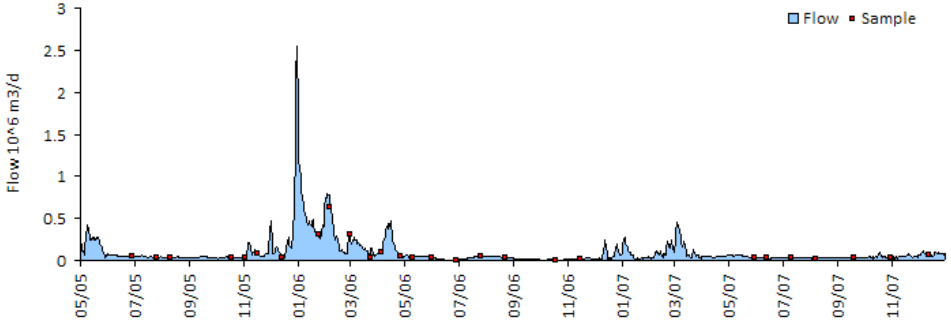
Site:	Ungauged_CR	Untauged Area - Copco	Variable:	TN	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.096	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	06/29/05	12/12/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	5.2%	
Method:	5 - Regression + Interpolation		Regression R2	66%	
			Regression SE	0.28	

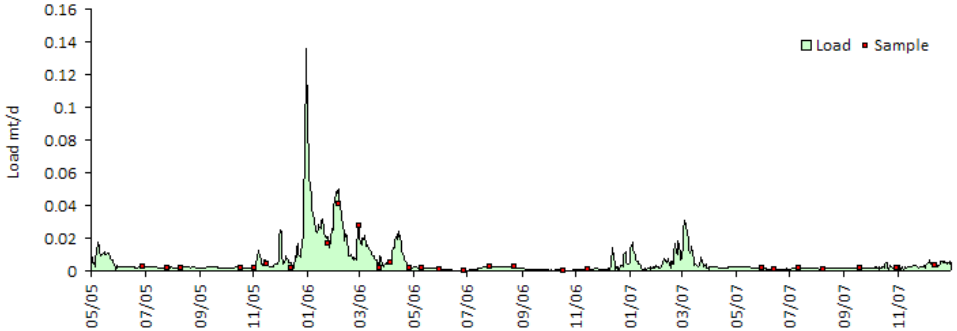


Site: Ungauged_CR Untauged Area - Copco TP Dates: 05/01/2005 - 12/31/2007

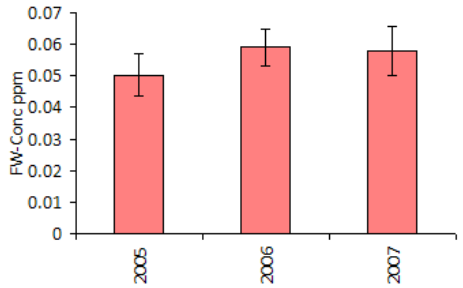
Daily Time Series:

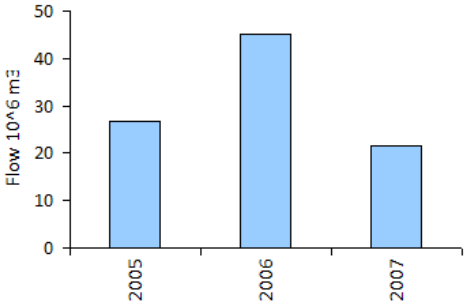


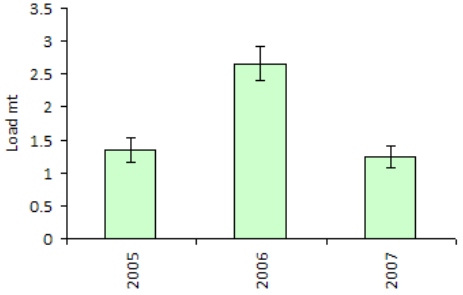




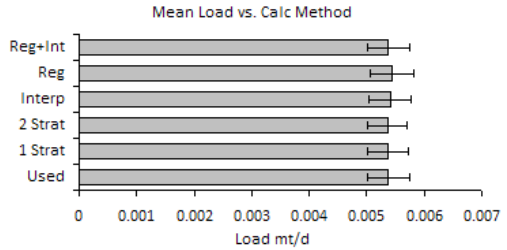
Yearly Time Series:





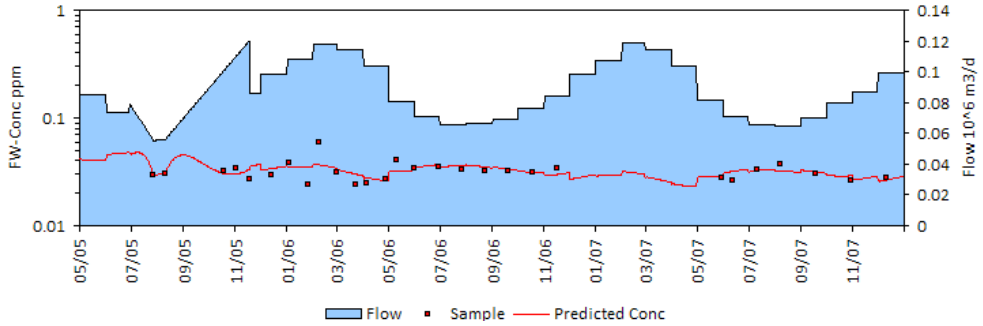


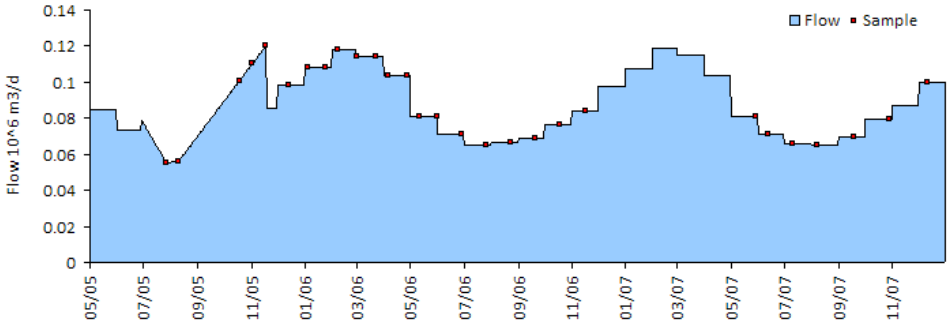
Site:	Ungauged_CR	Untauged Area - Copco	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.096	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	06/29/05	12/12/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	6.9%	
Method:	5 - Regression + Interpolation		Regression R2	75%	
			Regression SE	0.12	

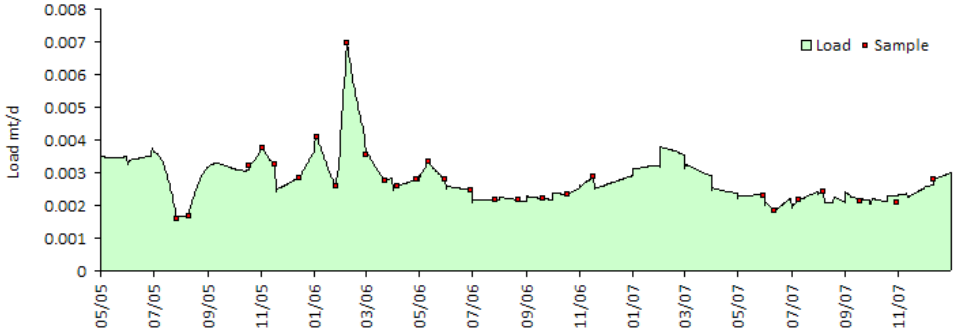


Site: Fall Ck Fall Creek TP Dates: 05/01/2005 - 12/31/2007

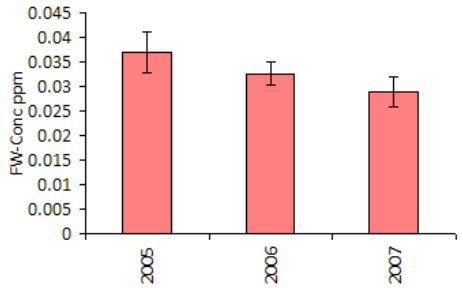
Daily Time Series:

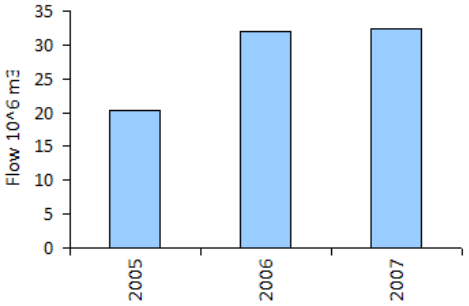


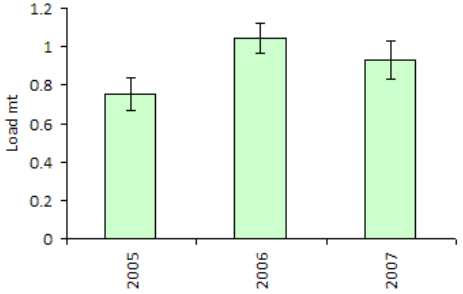




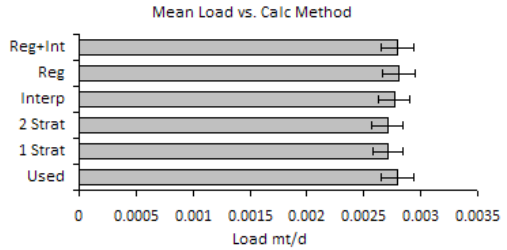
Yearly Time Series:





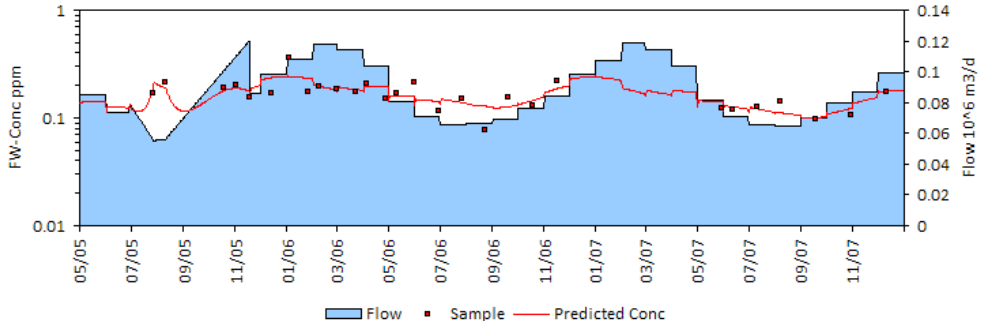


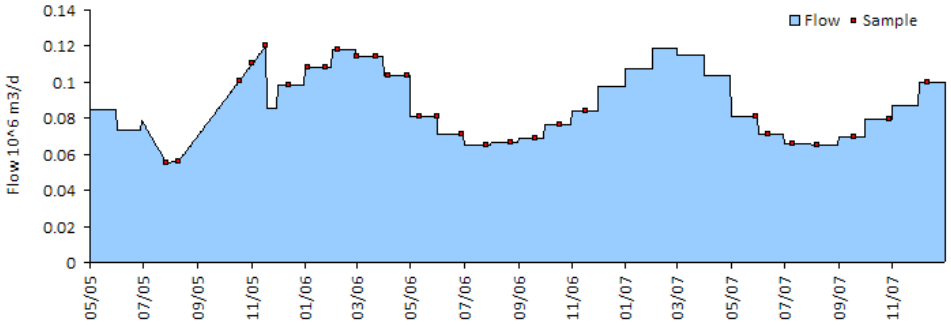
Site:	Fall Ck	Fall Creek	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.087	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	07/27/05	12/11/07	Flow-Wtd Conc	0	ppm
Samples	28		Relative Std Error	5.3%	
Method:	5 - Regression + Interpolation		Regression R2	24%	
			Regression SE	0.20	

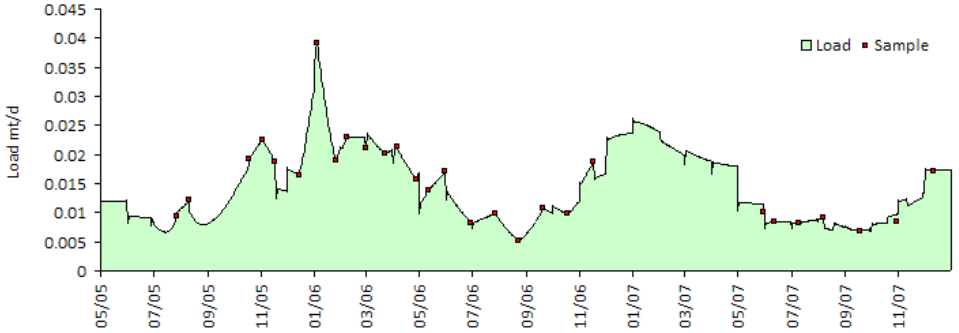


Site: Fall Ck Fall Creek TN Dates: 05/01/2005 - 12/31/2007

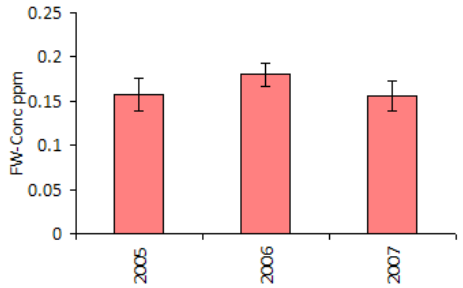
Daily Time Series:

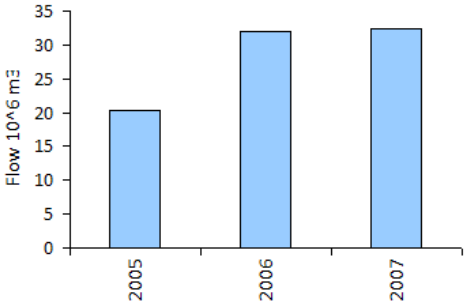


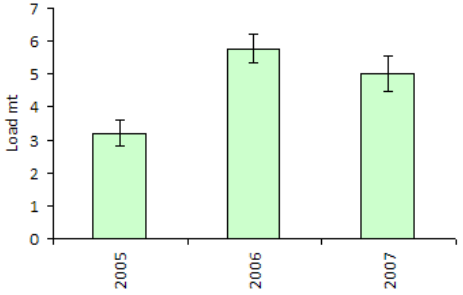




Yearly Time Series:

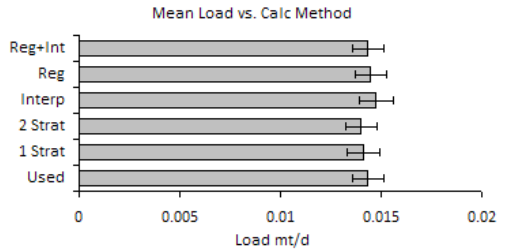






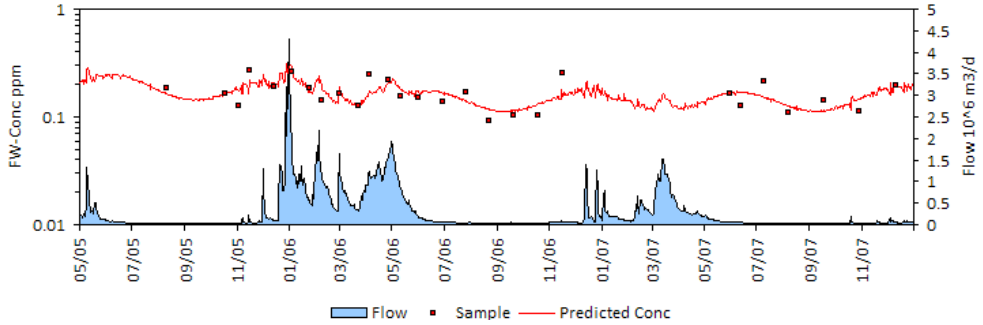
Site:	Fall Ck	Fall Creek	
Output Period	05/01/05	12/31/07	
Calibration Period	05/01/05	12/31/07	
Sample Dates	07/27/05	12/11/07	
Samples	28		
Method:	5 - Regression + Interpolation		

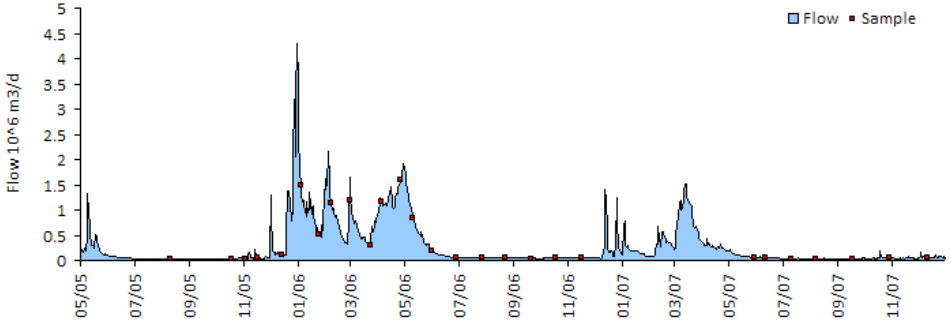
Variable:	TN	
Mean Daily Flow	0.087	10^6 m3/day
Mean Daily Load	0	mt/day
Flow-Wtd Conc	0	ppm
Relative Std Error	5.4%	
Regression R2	58%	
Regression SE	0.25	

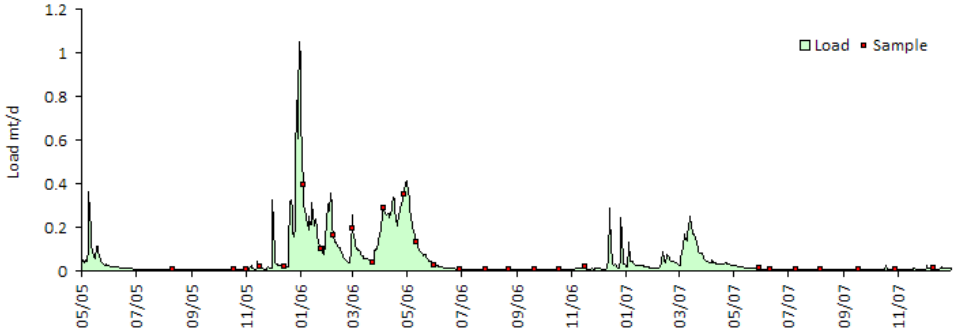


Site: Jenny Ck Jenny Creek TN Dates: 05/01/2005 - 12/31/2007

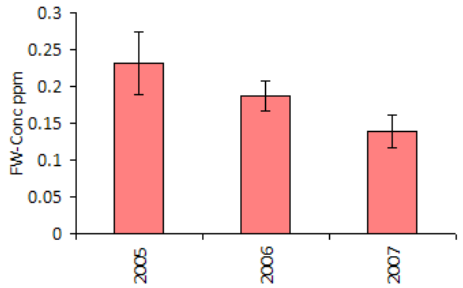
Daily Time Series:

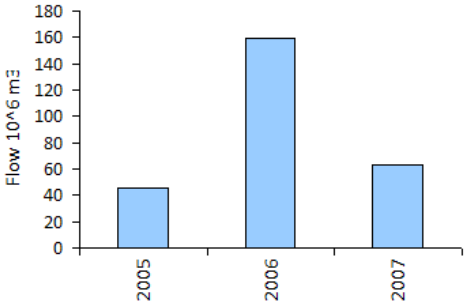


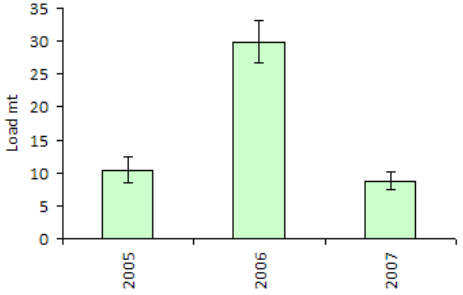




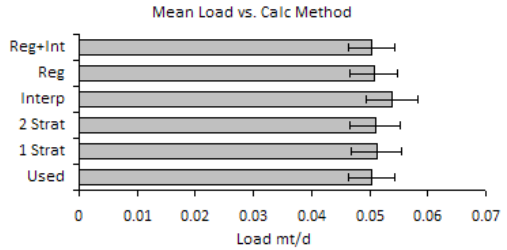
Yearly Time Series:





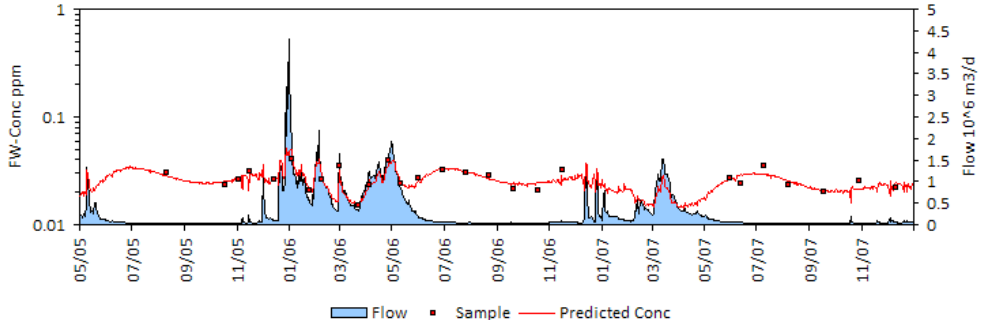


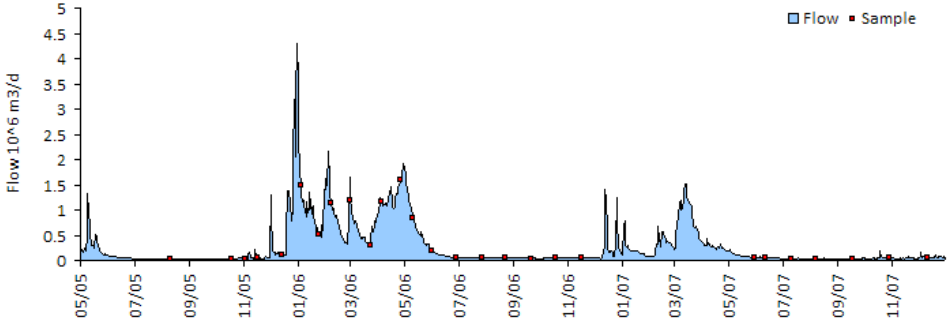
Site:	Jenny Ck	Jenny Creek	Variable:	TN	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.274	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	08/11/05	12/11/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	8.0%	
Method:	5 - Regression + Interpolation		Regression R2	48%	
			Regression SE	0.28	

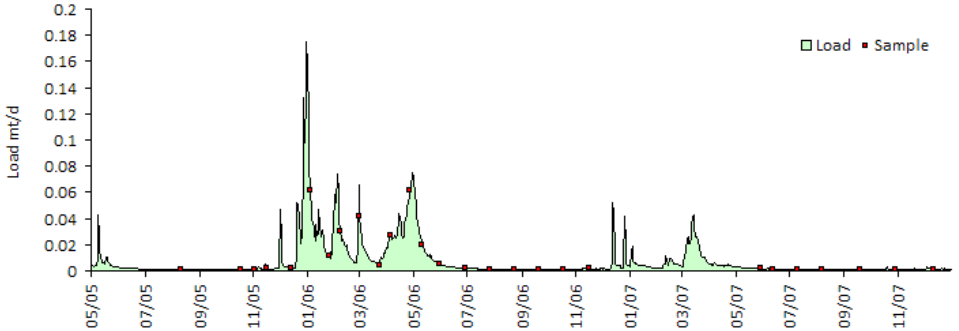


Site: Jenny Ck Jenny Creek TP Dates: 05/01/2005 - 12/31/2007

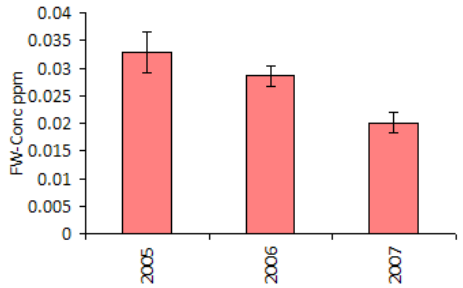
Daily Time Series:

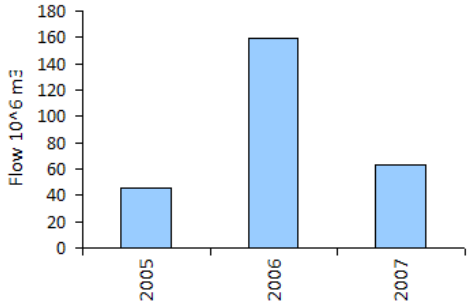


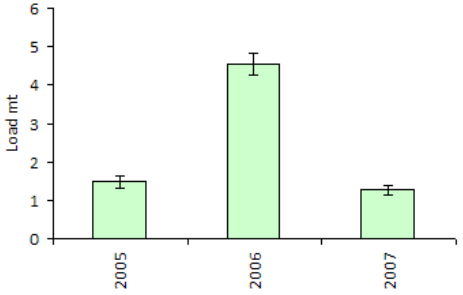




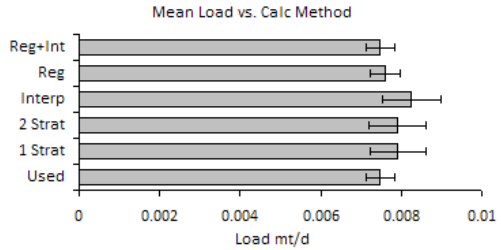
Yearly Time Series:





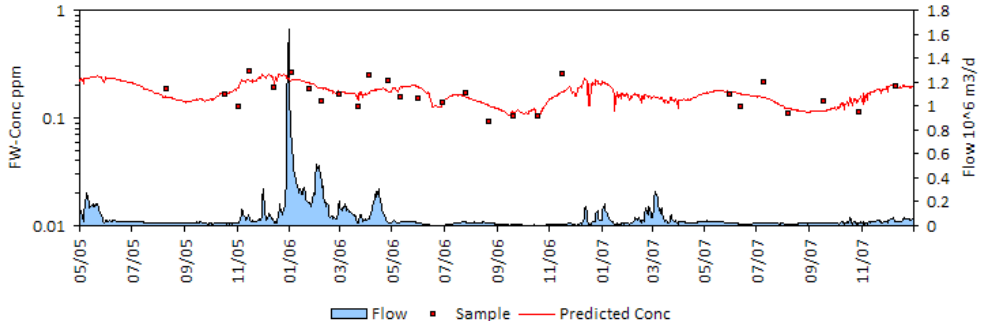


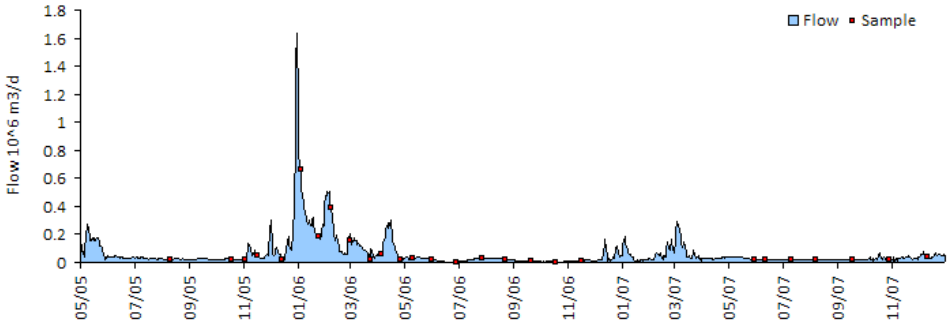
Site:	Jenny Ck	Jenny Creek	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.274	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	08/11/05	12/11/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	4.8%	
Method:	5 - Regression + Interpolation		Regression R2	76%	
			Regression SE	0.14	

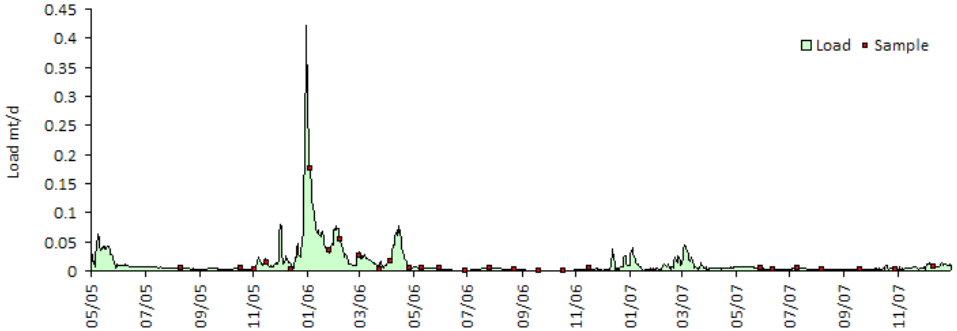


Site: Ungauged_IG Ungauged Area - Iron Gate TN Dates: 05/01/2005 - 12/31/2007

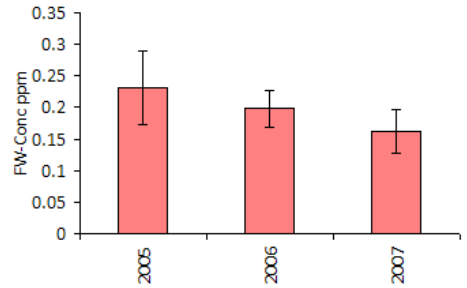
Daily Time Series:

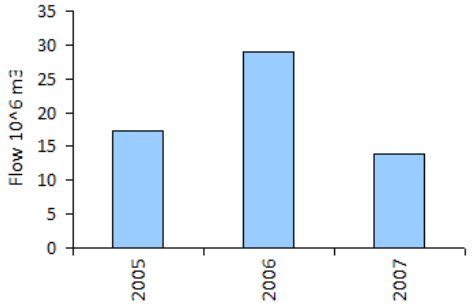


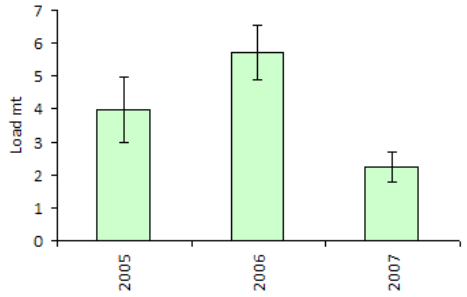




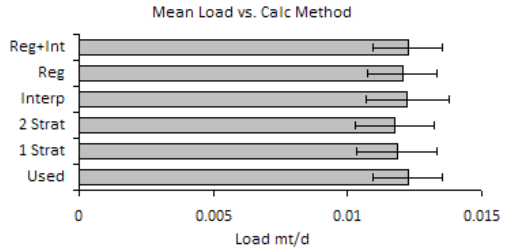
Yearly Time Series:





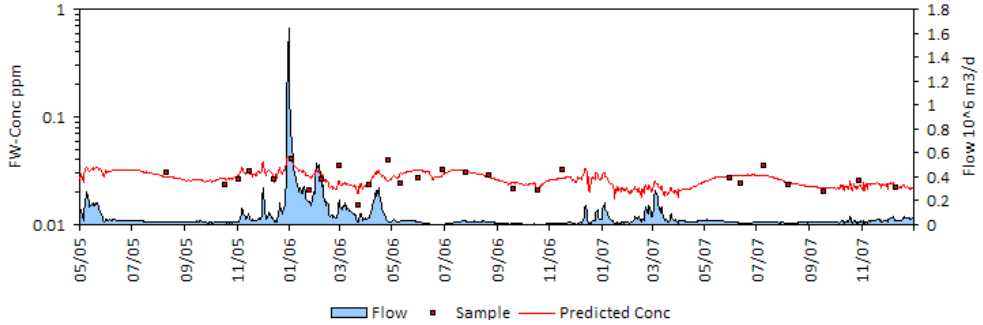


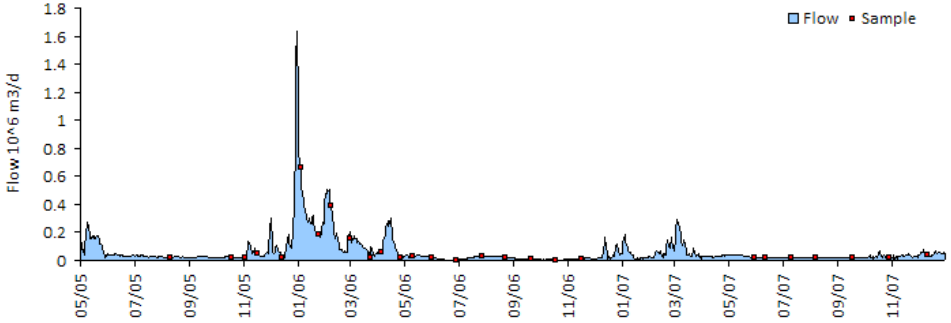
Site:	Ungauged_IG	Ungauged Area - Iron Gate	Variable:	TN	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.061	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	08/11/05	12/11/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	10.7%	
Method:	5 - Regression + Interpolation		Regression R2	46%	
			Regression SE	0.29	

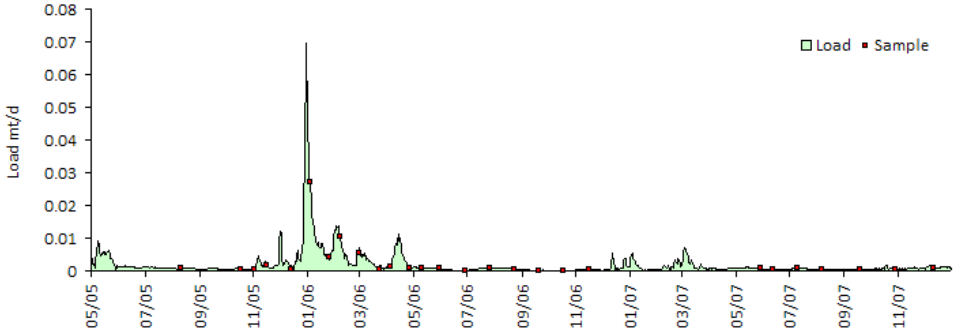


Site: Ungauged_IG Ungauged Area - Iron Gate TP Dates: 05/01/2005 - 12/31/2007

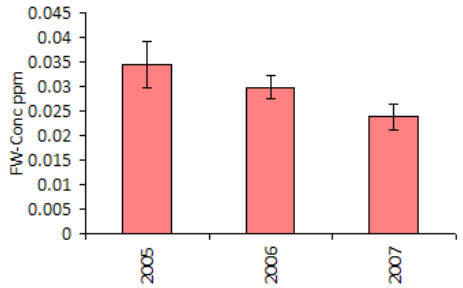
Daily Time Series:

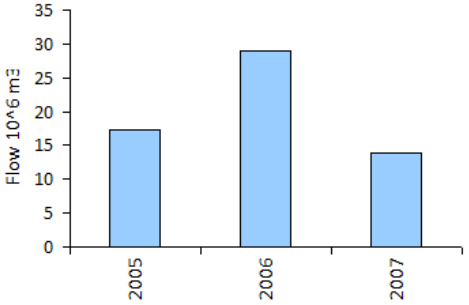


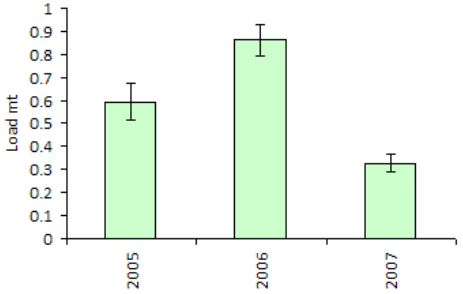




Yearly Time Series:







Site:	Ungauged_IG	Ungauged Area - Iron Gate	Variable:	TP	
Output Period	05/01/05	12/31/07	Mean Daily Flow	0.061	10^6 m3/day
Calibration Period	05/01/05	12/31/07	Mean Daily Load	0	mt/day
Sample Dates	08/11/05	12/11/07	Flow-Wtd Conc	0	ppm
Samples	27		Relative Std Error	5.7%	
Method:	5 - Regression + Interpolation		Regression R2	42%	
			Regression SE	0.21