SACRAMENTO URBAN RUNOFF DISCHARGE CHARACTERIZATION 2005

Prepared for:

The Sacramento Stormwater Quality Partnership

Prepared by:

Armand Ruby
Armand Ruby Consulting

in association with:

Larry Walker Associates Inc.

August, 2005

Table of Contents

List of Tables

List of Figures

Appendices

Introduction

Urban runoff from the greater Sacramento metropolitan area contributes to pollutant loadings in the region's receiving waters, during both wet and dry weather conditions. Discharges of runoff from the urban area are regulated by Waste Discharge Requirements as specified in National Pollutant Discharge Elimination System (NPDES) Permit No. CAS082597. The Sacramento Stormwater Quality Partnership (Partnership) is comprised of the County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt and Rancho Cordova.

The principal goal of this project is to provide the Partnership with an accurate, updated quantification of urban runoff pollutant loadings specific to the local receiving waters. The results of this project in turn will allow for comparisons to other pollutant sources, and assessments of the relative contributions of urban runoff to pollutant loadings within the region. The results also provide valuable information that can be used to assist the Partnership in planning urban runoff pollution control strategies.

Quantification of runoff loadings is problematic because wet weather discharges are intermittent and seasonal, and runoff quality is known to be highly variable. Better understanding of annual and seasonal patterns in pollutant discharges - and the factors that affect runoff quality - can help stormwater managers identify effective ways to reduce discharges of pollutants to the maximum extent practicable.

Pollutants build up in the urban watershed during dry periods, particularly during the lengthy extended dry season, and are washed off during rainfall events. This process is often referred to as a "seasonal first flush" effect. The patterns and mechanisms of build-up and wash-off are complex and may be different for the various pollutants of concern.

A statistically-based approach was developed to quantify urban runoff pollutant loadings for the Sacramento Stormwater Permittees in the 1990s (prior to formation of the current Partnership) by Larry Walker Associates (LWA). This approach, which incorporated probabilistic methods to account for build-up and wash-off effects, was first applied in the 1992 Discharge Characterization Project (DCP) report (LWA, 1992). The DCP was updated in 1996 using additional data generated by the Permittees' discharge monitoring program, and incorporating a refined statistical approach (LWA, 1996). The 1996 DCP update created what is considered to be a characterization of runoff pollutant loadings based on a five-year "baseline" of monitoring data (from 1990-1995).

This statistically-based analytical approach provides a more accurate means of calculating urban runoff mass loadings than the use of simple annual average concentrations and flows. This can be of significance in the context of total maximum daily load (TMDL) analyses, where comparisons of urban runoff are made to other pollutant sources. The results also can be used to prioritize control strategies, by identifying annual and seasonal patterns in pollutant discharges. The results also may provide information that can be used to assess the overall effectiveness of the stormwater management program.

The current project updates the Sacramento-area urban runoff loadings and the underlying data analysis, using monitoring data compiled from the 1999/2000 wet weather season through the 2003/04 wet weather season. Significant enhancements in the current project include the use of hourly rainfall data, and incorporation of runoff factors as predictors, in addition to rainfall parameters.

Overview of Approach

Urban runoff monitoring data from Sacramento, California were used to model pollutant build-up and wash-off from urban areas, through derivation of empirical regression equations relating rainfall/runoff characteristics to pollutant discharge concentrations. Wet weather mass loadings were then calculated for urban runoff from the Sacramento area, using a continuous simulation model. The historical rainfall record was used to generate a time series of representative hydrological conditions to provide the required input parameters for the continuous simulation, including runoff volumes. Dry weather loadings were also calculated and added to the wet weather results to produce annual mass loadings to receiving waters.

The regression equations were developed to describe the relationships of runoff water quality with hydrological factors that are significant predictors of runoff quality, such as cumulative annual precipitation to date, event rainfall amount, event rainfall duration, average runoff flow rate, and event runoff volume. Continuous simulation modeling was then used to predict wet weather mass loadings based on these relationships, using hydrological parameters generated by the historical rainfall time series.

The selected rainfall time series consists of 30 years of hourly rainfall observations from downtown Sacramento. This lengthy period of record is assumed to contain a representative range of weather conditions experienced within the Sacramento area. Continuous simulation is used because it can incorporate significant serial and cross correlations of model parameters, and can be used to reflect decreasing mass loads from watersheds as a wet season progresses, as well as pollutant build-up between storms.

The results are presented for the Sacramento urban area as a whole, as well as by major receiving water body destination, and by urban (sub)watershed (*i.e.*, local drainage area). The results are defined as overall (annual) mass loadings and also separately as annual wet and dry weather components. The current annual average results are then compared to those produced in the 1992 and 1996 DCP projects, and a preliminary evaluation of the trends over time is presented.

Due to the Partnership's requirements for inclusion of runoff quality controls in areas of new development, such areas are expected to exhibit improved runoff quality in comparison to older urban areas. A preliminary estimation is made of the loadings reductions attributable to new development.

The current urban area boundary, urban land uses within Sacramento County, and the locations of the urban runoff monitoring stations are shown in Figure 1.

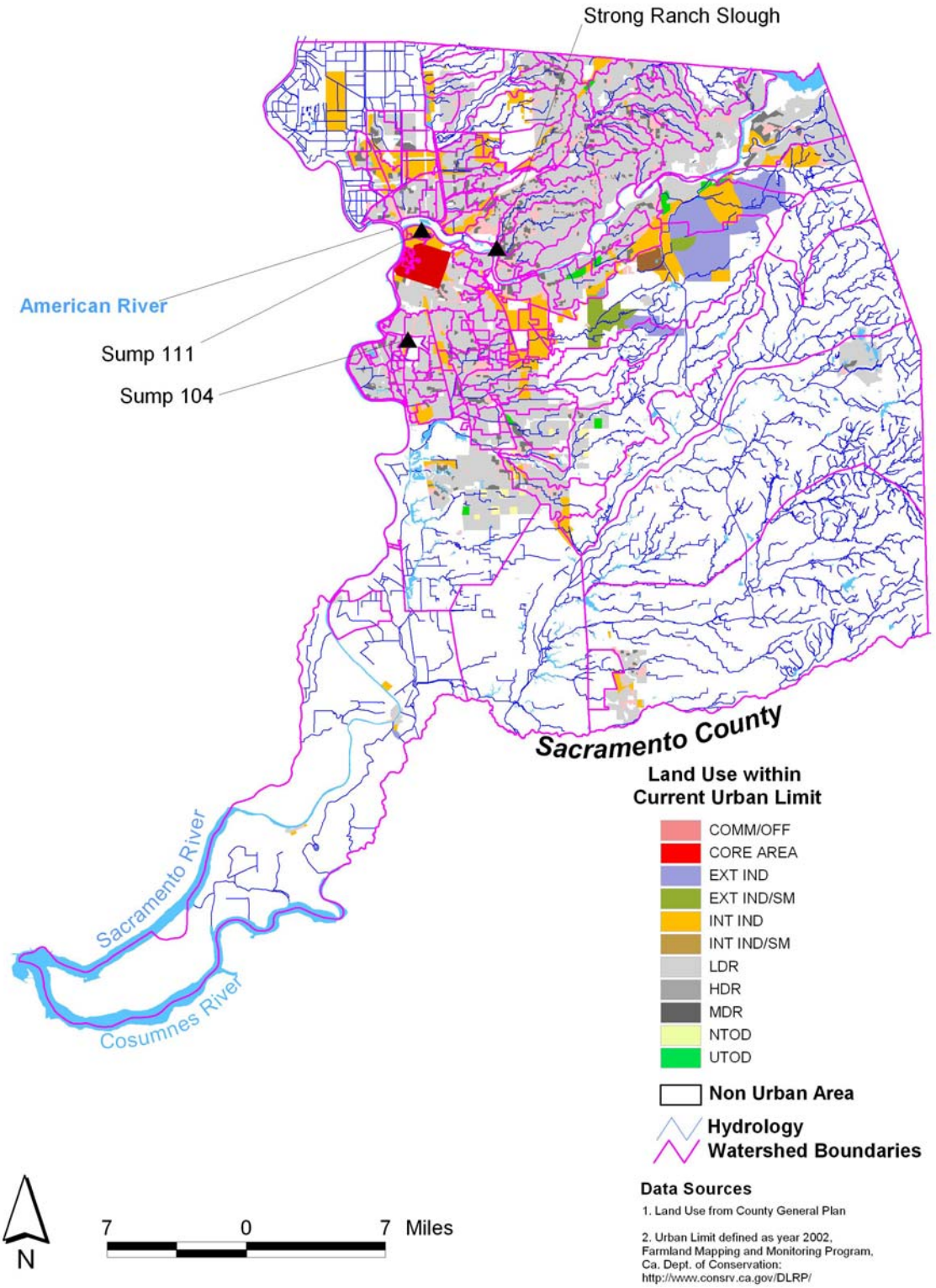


Figure 1. Sacramento Urban Land Uses and Monitoring Locations

Constituents

Constituents were selected for inclusion in the updated mass loading calculations based upon a review of the available data and consideration of the technical goals of the current project. Several criteria were used to select constituents for the analysis, as follows:

- Availability of sufficient data points (at least 10 wet weather events)
- Sufficient proportion of detected data (at least 30%)
- Compatibility with other relevant projects and reports:
    - Inclusion in the 1996 Discharge Characterization Project (DCP) Update
    - Inclusion on the Target Pollutant (TP) List (2002 Update)
    - Report of Water Quality Exceedances (per 2003/2004 Joint Program Annual Report)
- Constituents for which a TMDL is underway or planned
- Amenability to mass loadings modeling process

The Sacramento Stormwater Database was used to assess data quantity and detected percentages for individual constituents. Constituents for which TMDLs are planned or in place locally or regionally include diazinon, chlorpyrifos, and mercury. To be considered amenable for mass loading calculations and modeling, a constituent should not be subject to rapid or substantial changes in state, form or quantity during the period of transport from urban source to receiving water. The project was limited to 12 constituents.

The constituents included in the previous Discharge Characterization Projects, the Target Pollutant prioritization efforts, and the Report of Water Quality Exceedances are briefly summarized below.

1996 DCP Update

The 1996 DCP Update involved analysis of the empirical relationships between rainfall/runoff (hydrological) parameters and urban runoff quality, and included use of continuous simulation to model mass loadings discharged from the Sacramento urban area. This innovative approach and the results of this project were presented at international, national, and state conferences and meetings, including the California Stormwater Quality Task Force (now CASQA). The 1996 DCP Update project is the predecessor to and forms the essential basis for the current project, and provides a template for the approach that will be used to update the mass loadings calculations.

The 1996 DCP Update focused on constituents commonly addressed in urban stormwater programs, including the Nationwide Urban Runoff Program (NURP; USEPA, 1983), and those for which sufficient detected data were available in the Sacramento data set at that time. The 1996 DCP was therefore heavily oriented towards metals, nutrients and conventional pollutants, including the following constituents:

- Metals: Cd, Cr, Cu, Pb, Zn
- Nutrients: NH_4, NO_3, P (total)
- Conventionals: BOD, Hardness, TDS, TSS, Oil and Grease

Target Pollutant Identification/Prioritization

Members of the Sacramento Stormwater Quality Partnership have been actively involved in the identification and prioritization of Target Pollutants (TPs) since the early 1990's, when they were known as "Constituents of Concern". The process involves assessing a broad array of factors to gauge the relative impacts of stormwater pollutants on receiving waters within the Partnership's jurisdiction. A formalized scoring and ranking process is used to combine all of the compiled information into a ranked list of TPs. The most recent update of the list occurred in 2002.

Organized by constituent type, the top 12 ranked TPs are as follows:

- Metals: Cd, Cu, Hg, Pb, Zn
- Conventionals: TDS, TSS (surrogate for sediment)
- Bacteria Indicators: Fecal Coliform, Total Coliform
- Pesticides: Diazinon, Chlorpyrifos
- Other/Organic: Bis(2ethylhexyl)phthalate

The 2002 revised Target Pollutant List is shown in Appendix A.

Water Quality Exceedances 2003-04

The Partnership is required to submit a Notice of Water Quality Exceedance (NWQE) when receiving water monitoring of the American or Sacramento Rivers or their tributary creeks reveals that one or more receiving water quality objectives (WQOs) have been exceeded. By October 1st of each year the Partnership must prepare a Report of Water Quality Exceedance (RWQE) for any constituent for which discharges under their jurisdiction are deemed to have caused or contributed to the noted WQO exceedances during the previous year.

In the 2003 RWQE the following constituents were addressed, organized by constituent category:

- Metal: Cu
- Conventionals: TDS, (Turbidity – since removed per Water Board)
- Bacteria Indicators: Coliform/Pathogen (Fecal Coliform and *E. coli*)
- Pesticide: Diazinon

In the 2004 RWQE the following additional constituents were addressed:

- Polycyclic Aromatic Hydrocarbons (PAHs)
- Pesticide: DDT

Certain additional receiving water constituents found to be in exceedance of WQOs were not included because the Partnership determined that they did not meet the applicable criteria for inclusion within the RWQE.

Constituent Selection

For the current mass loadings characterization, a high priority was placed on inclusion of highly-ranked Target Pollutants, with a focus on the top 12 TPs. It was also considered important to include the constituents addressed within the 2003 and 2004 RWQEs, to the extent feasible. Finally, for analysis of trends, to provide a check against previous calculations, and to provide some measure of consistency with the previous mass loadings estimations, it was considered important to include several of the constituents modeled in the 1996 DCP Update.

Based on these priority considerations, and considering the criteria pertaining to data quantity and suitability for modeling, the following 12 constituents were selected for the current mass loadings characterization:

- Metals: Cd, Cu, Pb, Hg, Zn
- Conventionals: TDS, TSS
- Bacteria Indicators: *E. coli*
- Pesticides: Diazinon, Chlorpyrifos, DDT
- PAHs: Chrysene

Table 1 summarizes correspondence of the selected constituents with the previous projects and reports discussed above. A more detailed matrix showing additional considerations for constituent selection is included in Appendix A.

Notes on Selected Constituents

The selected constituent list addresses 11 of the 12 top-ranked Target Pollutants, six constituents that correspond to the 1996 DCP Update, and all constituents currently covered under a RWQE. All listed metals except mercury are shown on the TP List as dissolved; the current project therefore addresses all metals except mercury as the dissolved fraction.

Certain constituents, including chlorpyrifos, chrysene and DDT, may not meet the desired 30% detection rate in all data sub-sets, but are considered worthy of inclusion due to their TP List rank, correspondence with the 1996 DCP, and/or inclusion on the 2003 or 2004 RWQE. Chrysene is the highest-ranked PAH on the TP List.

Table 1. Selected Mass Loading Constituents and Correspondence with Previous Sacramento Stormwater Activities

Constituent	TP List	1996 DCP	RWQE
Metals*:			
Cadmium	#11	Y	
Copper	#4	Y	Y
Lead	#9	Y	
Mercury	#3		
Zinc	#5	Y	
Conventionals:			
TDS	#8	Y	Y
TSS	#12	Y	
Bacteria Indicators:			
E. coli	(#6,7)**		Y
Pesticides:			
Diazinon	#1		Y
Chlorpyrifos	#2		
DDT			Y
PAHs:			
Chrysene	#16		Y

* Dissolved fraction for all metal constituents except mercury.
** *E. coli* substitutes for Fecal Coliform (#6) and Total Coliform (#7)
TP = Target Pollutant
DCP = Discharge Characterization Project
RWQE = Report of Water Quality Exceedance

Because bacteria are difficult to quantify with precision, and are subject to substantial fluctuations due to reproduction and die-off, bacteria indicators are considered to be less suitable for the planned numerical characterization than specific chemical constituents. However, because bacteria indicators occupy highly-ranked places on the TP List (#6 and #7 for fecal and total coliform, respectively), and because both fecal coliform and *E. coli* have appeared in NWQEs, it was considered prudent to include one such constituent in the mass loading modeling effort. *E. coli* was selected because it is the most current constituent used to assess receiving water quality per recent Basin Plan amendment, and because it is considered to be more reliably measurable and subject to relatively less fluctuation and variation than fecal or total coliform.

The only constituent ranked among the top 12 TPs that was not selected for mass loading characterization is bis(2ethylhexyl)phthalate (also known as di(2-ethylhexyl)phthalate, or DEHP). Although it is a pollutant commonly found in urban runoff, DEHP is also a contaminant that is ubiquitous at low levels in the environment and in analysis of laboratory blank water. As a result, a relatively high proportion of the DEHP analytical results are qualified due to QA/QC contamination issues. This constituent also was not characterized in the 1996 DCP, and is not cited in the RWQEs, and so was not included on the list for mass loading characterization.

Time Period

The following time periods were considered for the current mass loading analysis:

- 1990 – 2004; covering the entire period of record
- 1996 – 2004; covering the period since the most recent DCP Update
- 1999 (or 2000) – 2004; covering the most recent five-year period

The 1996 DCP provides characterization of what can be considered "baseline" conditions for Sacramento urban runoff mass loadings. The 1996 DCP covered the data period of 1990-1995. The intent has been to update the mass loadings characterization roughly once during every five-year permit term, as conditions change in the urban area, and to permit comparison of the baseline mass loading estimations with estimations from subsequent periods.

Inclusion of data from all years since 1990 was considered to confound the baseline period with subsequent periods, during which stormwater management program measures have been implemented, new development has occurred, urban facilities have aged, and new pollutants have risen to prominence. Because eight years have elapsed since the previous DCP Update, the middle option (1996-2004) is considered to be in some degree subject to similar issues. For trends analysis, a priority is placed on characterization of the urban runoff discharges under recent conditions.

In addition, the laboratory analytical reporting limits (RLs) tended to be higher in earlier years, leading to greater proportions of non-detected data in comparison to later years, when RLs were improved (lowered). Some constituents (especially pesticides and *E. coli*) have much more data available from recent years as well.

For these reasons it was therefore determined that the 1999/2000 – 2003/2004 option was the preferred alternative, provided that sufficient data are available to statistically characterize the discharges during that period. The stormwater database includes 12 wet weather monitoring events from January 2000 to April 2004 (the most recent wet weather event available), and eight dry weather events from 2000-2004. This is considered to be a sufficient number of events with which to characterize the modern period.

Rainfall/Runoff Information

Rainfall Data

Historical rainfall data are used to supply a representative hydrological regime from which to calculate runoff volumes and provide the other parameters necessary as inputs to the continuous simulation model. The 30 year period from July 1, 1970 through June 30, 2000 was selected as representative of modern climatological conditions, including a full range of annual scenarios from drought to wet years.

The National Weather Service (NWS) "downtown" rain gauging station at the US Post Office in downtown Sacramento was selected to supply the model rainfall data. The hourly rainfall data set from this station is relatively complete for the 30 year period, and has been subject to careful quality control. This gauge is located reasonably centrally with respect to the urban area as a whole, as well as to the Partnership's long term urban runoff quality monitoring stations.

Where the NWS downtown data set was found to have missing values, data were substituted from the corresponding period of hourly rainfall measurements from the NWS rain gauging station at Sacramento Executive Airport. In the few instances where hourly data were not available from either source, the measurements were replicated from the corresponding dates in the following year at the NWS downtown station.

For this project a storm event is defined as a rainfall episode with a minimum of 0.1 inches of rainfall over a six hour period. This is the same definition used by Caltrans for its recent, statistically-based analysis of stormwater monitoring data (Caltrans, 2002). The end of the rainfall event is triggered by a minimum of six consecutive hours of rainfall in which less than 0.1 inch of rainfall accumulates.

For use in the continuous simulation model, each qualified storm event is characterized by the total event rainfall (inches), the event duration (hours), the average rainfall intensity (inches/hour), and the cumulative rainfall to date (inches) as measured at the start of each event.

A summary of annual rainfall statistics as generated by the continuous simulation model is presented in Table 2 for the 30-year period, 1970 – 2000. For each Rain Year, the statistics of interest include the number of qualified rainfall events, total annual rainfall, average event rainfall (for qualified events), and minimum and maximum event rainfall (for qualified events). For this analysis, a "Rain Year" begins on July 1 of the stated year. For example, the 1970 Rain Year begins on July 1, 1970 and ends on June 30, 1971.

A total of 1,064 qualified rainfall events occurred during the 30-year period analyzed. The average event rainfall was 0.50 inch. Average annual rainfall was 19.6 inches, with an annual low of 7.25 inches, and annual maximum of 37.76 inches.

Table 2. Summary Of Annual Rainfall Characteristics

Rain Year	# of Events	Annual Rainfall, inches	Event Rainfall, inches		
			Avg	Min	Max
1970	36	17.21	0.43	0.11	2.45
1971	25	10.34	0.36	0.10	1.51
1972	48	27.15	0.52	0.10	2.03
1973	51	22.5	0.40	0.10	1.49
1974	33	18.5	0.50	0.10	1.85
1975	13	7.25	0.48	0.14	0.88
1976	19	7.4	0.34	0.10	1.03
1977	41	25.33	0.57	0.11	2.65
1978	38	19.58	0.48	0.10	1.74
1979	44	23.09	0.50	0.10	1.52
1980	23	12.67	0.50	0.10	1.77
1981	38	25.52	0.63	0.10	4.00
1982	62	37.76	0.57	0.10	1.98
1983	39	17.4	0.40	0.10	3.22
1984	32	14.87	0.43	0.10	1.62
1985	41	29.75	0.68	0.10	5.05
1986	27	12.55	0.43	0.10	1.88
1987	26	15.37	0.54	0.17	1.25
1988	36	15.13	0.39	0.11	1.20
1989	32	19.23	0.57	0.10	2.53
1990	24	14.73	0.58	0.10	1.54
1991	29	16.68	0.52	0.11	1.53
1992	48	27.7	0.55	0.10	3.51
1993	21	10.86	0.48	0.10	1.45
1994	46	31.77	0.62	0.10	4.51
1995	28	19.15	0.63	0.10	3.21
1996	35	17.52	0.46	0.10	2.17
1997	61	31.83	0.47	0.10	1.66
1998	35	15.31	0.40	0.10	1.74
1999	33	23.74	0.69	0.11	4.24
Total:	1064				
Mean:	35.5	19.6	0.50	0.11	2.24
Median:	35.0	18.0	0.50	0.10	1.81

Notes for Table 2:
"Rain Year" corresponds to start of hydrologic year on July 1st of listed year.
Rainfall "Events" are as defined in the text, consisting of a minimum of 0.1 inch of rain within a contiguous six hour period.

Wet Season Runoff

Wet season runoff calculations were performed for each rainfall event in the 30-year period of record for 187 individual watersheds in the Sacramento area, and for the Sacramento urban watershed as a whole. For the individual watersheds, runoff coefficients were calculated from percent impervious area information provided by the Partnership. The composite percent impervious area was used to calculate runoff coefficient for the urbanized areas of each given watershed according to the following formula (LWA, 1992):

$$\text{Runoff Coefficient} = 0.05 + 0.90 \cdot (\text{Percent Impervious Area})/100 \qquad (1)$$

A summary of the individual watershed acreages, percent impervious areas, and calculated runoff coefficients is presented in Appendix B. For a given rainfall event, the runoff coefficient (C) is used to calculate the runoff from a given watershed according to the following standard formula:

$$V = 3.63 \cdot C \cdot R \cdot A \qquad (2)$$

where V is the runoff volume in thousands of cubic feet (KCF), R is the event rainfall in inches, A is the watershed area in acres, and 3.63 is the appropriate unit conversion factor.

For this analysis, the Sacramento urban watershed is assumed to consist of approximately 160,000 acres (249 square miles) of urbanized area, as defined by the Farmland Mapping Program (CA Dept. of Conservation, 2005). In developing runoff flows for the Sacramento urban watershed, the following runoff equation from the 1996 DCP (LWA, 1996) analysis is used:

$$V = 1109 \cdot R^{1.236} \cdot A^{0.94} \qquad (3)$$

where V is the runoff volume in thousands of cubic feet (KCF), R is the event rainfall in inches, A is the watershed area in square miles, and 1109 is an empirical coefficient/unit conversion factor.

Dry Season Runoff

Dry weather runoff typically occurs during non-rainfall periods, i.e., throughout the dry season and also during wet season, inter-storm periods. Both types of dry weather flows are accounted for in the model. For the purpose of assigning dry weather flow rates, the dry season is assumed to extend from May 1 through September 30. Dry season runoff calculations exclude any dry season rainfall events, which rarely occur (all qualifying rainfall events are included in the wet weather analysis regardless of when they occur). Inter-storm periods include all times from the period of October 1 through April 30 when a rainfall event is not in progress. Dry season and inter-storm runoff flow rates per unit area were based on the 1996 DCP analysis: 21.4 KCF per square mile per day for the dry season and 25.4 KCF per square mile per day for the inter-storm period (LWA, 1996).

A summary of annual wet and dry weather runoff characteristics for the entire urban area, as generated by the continuous simulation model, is presented in Table 3.

Table 3. Summary of Annual Runoff Characteristics, Entire Urban Area

	-- Storm Event Runoff, MCF --				Inter-Storm Runoff, MCF	Dry Season Runoff, MCF	Total Annual Runoff, MCF
Year	Avg	Min	Max	Total			
1970	78	13.0	600	2,800	1,260	808	4,870
1971	63	11.5	330	1,600	1,290	811	3,660
1972	96	11.5	480	4,600	1,220	810	6,650
1973	69	11.5	320	3,500	1,220	812	5,540
1974	92	11.5	420	3,000	1,250	810	5,110
1975	82	17.5	170	1,100	1,300	812	3,180
1976	56	11.5	210	1,100	1,310	804	3,170
1977	108	13.0	660	4,400	1,220	812	6,470
1978	88	11.5	390	3,300	1,250	812	5,400
1979	93	11.5	330	4,100	1,250	810	6,140
1980	95	11.5	400	2,200	1,270	814	4,280
1981	131	11.5	1,100	5,000	1,230	812	7,010
1982	106	11.5	460	6,600	1,180	806	8,540
1983	74	11.5	840	2,900	1,250	811	4,970
1984	77	11.5	360	2,500	1,270	812	4,540
1985	142	11.5	1,470	5,800	1,220	810	7,870
1986	78	11.5	430	2,100	1,280	810	4,190
1987	96	22.2	260	2,500	1,270	808	4,580
1988	66	13.0	250	2,400	1,250	813	4,460
1989	112	11.5	620	3,600	1,290	793	5,660
1990	107	11.5	340	2,600	1,270	811	4,640
1991	94	13.0	340	2,700	1,270	813	4,810
1992	105	11.5	940	5,000	1,230	806	7,070
1993	87	11.5	310	1,800	1,290	808	3,920
1994	126	11.5	1,280	5,800	1,200	805	7,790
1995	126	11.5	840	3,500	1,260	813	5,590
1996	85	11.5	520	3,000	1,270	811	5,070
1997	85	11.5	370	5,200	1,210	797	7,220
1998	69	11.5	390	2,400	1,260	811	4,490
1999	139	13.0	1,180	4,600	1,260	808	6,660

Notes for Table 3:
Runoff volumes are shown in million cubic feet (MCF)
Storm event runoff volumes were calculated for each qualifying rainfall event (see text).
Annual statistics for storm events include average storm event runoff volume, annual minimum and maximum runoff event volumes, and total storm-based runoff for each year.
Inter-storm period is October 1 – April 30, during dry weather conditions.
Dry season period is May 1 – September 30, during dry weather conditions.

Runoff Quality Data

The available wet weather and dry weather discharge characterization data were compiled from the period spanning the 1999/2000 and 2003/04 wet seasons from the three long-term urban runoff monitoring stations: Sump 104, Sump 111, and Strong Ranch Slough. Monitoring data are available from twelve storm events and eight dry weather monitoring events during the 1999/2000 – 2003/04 period. The locations of the long term monitoring stations are shown in Figure 1.

For each pollutant, the data were characterized using the following information:

- Frequency of detection
- Basic descriptive statistics (mean, standard deviation, minimum, maximum, etc.) – when there were sufficient numbers of detected data (generally 30%), non-detect data were incorporated into the analysis through a probabilistic technique known as "Regression on Order Statistics"
- Assessment of data distribution through probability distribution plots with probabilities adjusted to account for non-detect data

The basic descriptive statistics for the wet weather data are shown in Table 4. The complete wet weather data set and additional descriptive statistics for the wet weather data are provided in Appendix C.

Summary statistics for the dry weather data are shown in Table 5. The complete dry weather data set and additional statistics are shown by constituent in Appendix D.

Evaluation of Data Normality/Lognormality

Statistical tests generally are based on the assumption that the data are "normally distributed" – that is, that the frequency distribution of the data will conform reasonably well to a normal probability curve. Environmental data tend to better fit the normal distribution pattern after the data have been log-transformed; such data are considered to be "lognormally" distributed.

For each constituent, assessment of normality/lognormality of the wet weather runoff quality data was performed by comparing linear regression of the reported data and the log-transformed data with normal probability distributions. Goodness-of-fit was evaluated using the correlation coefficients (*r*-values) obtained from the distribution regression equations. The distribution type (normal or lognormal) which provided the better representation of the data set was utilized in subsequent analyses related to development of the rainfall/runoff regression models.

For all constituents except TSS, the log-transformed data were better correlated with the normal probability distribution than the untransformed data. The TSS data were further analyzed in the regression analysis without transformation; all other constituents were analyzed as log-transformed values. The comparative (normal vs. lognormal) frequency distribution plots are shown in Appendix C.

Table 4. Descriptive Statistics for Wet Weather Data

Constituent	n	Percent Detected	Units	Mean	Std. Dev.	Minimum Detected Value	Maximum Detected Value	Minimum Reporting Limit
Cd Dissolved	34	94.1%	µg/L	**0.044**	**0.030**	0.013	0.146	0.001
Cu Dissolved	34	100.0%	µg/L	4.53	2.70	1.98	14.6	0.01
Pb Dissolved	34	100.0%	µg/L	0.648	0.504	0.139	2.53	0.001
Zn Dissolved	34	97.1%	µg/L	**31.7**	**15.7**	16.1	73.3	0.01
Hg Total	34	100.0%	ng/L	67.7	147.4	10.1	609	0.01
TDS	30	96.7%	mg/L	**58.7**	**37.6**	21	190	20
TSS	33	100.0%	mg/L	86.0	34.3	23	160	3
E. coli	26	100.0%	MPN/ 100ml	19500	30600	750	130,000	NA
Chlorpyrifos	34	17.6%	µg/L			0.023	0.06	0.01
Diazinon	34	82.4%	µg/L	**0.292**	**0.181**	0.09	0.81	0.05
DDT	34	14.7%	µg/L			0.02	0.03	0.01
Chrysene	30	100.0%	µg/L	0.108	0.123	0.009	0.602	0.001

Notes for Table 4: Bolded values are estimated using regression on ordered statistics (ROS). Where there are less than 20% detected data only general summary statistics are provided.

Table 5. Descriptive Statistics for Dry Weather Data

Constituent	n	Percent Detected	Units	Mean	Std. Dev.	Minimum Detected Value	Maximum Detected Value	Minimum Reporting Limit
Cd Dissolved	23	96%	µg/L	**0.055**	**0.041**	0.019	0.19	0.01
Cu Dissolved	24	100%	µg/L	4.29	2.17	1.55	9.01	0.03
Pb Dissolved	24	100%	µg/L	0.39	0.36	0.017	1.45	0.001
Zn Dissolved	24	100%	µg/L	22.1	30.2	4.28	133	0.03
Hg Total	24	100%	ng/L	9.89	16.8	1.61	84	0.04
TDS	24	100%	mg/L	287	189	60	960	20
TSS	23	96%	mg/L	**7.2**	**3.4**	4	14	2
E. coli	16	100%	MPN/ 100ml	7490	10900	300	30000	NA
Chlorpyrifos	24	0%	µg/L					0.012
Diazinon	24	58%	µg/L	**0.1**	**0.064**	0.05	0.26	0.018
DDT	24	4%	µg/L			0.03	0.03	0.01
Chrysene	23	9%	µg/L			0.0059	0.0086	0.001

Notes for Table 5: Bolded values are estimated using regression on ordered statistics (ROS). Where there are less than 20% detected data only general summary statistics are provided.

Non-detect values in the concentration data sets were substituted using a probabilistic technique based on an assumed lognormal distribution of the data, for constituent data sets containing at least 20% detected values. Where there were less than 20% detected values, a value of one half the laboratory analytical reporting limit was substituted.

Modeling Methods

Overview

Regression equations were empirically derived to predict concentrations of selected pollutants in stormwater runoff discharges from the Sacramento urban area, based on statistically significant hydrological predictor parameters.

The historical rainfall record was analyzed for the period 1970-2000, and storm events were identified for each year based on pre-defined criteria. This rainfall record was used to simulate representative hydrological conditions for the Sacramento urban area.

A continuous simulation model was developed to calculate runoff pollutant concentrations for each defined rainfall event, based on the applicable hydrological predictor parameters from the constituent-specific regression equations.

For pollutants for which a hydrologically-based regression equation could not be derived, the continuous simulation model generates runoff concentrations using Monte Carlo simulation. The Monte Carlo routine selects a value for each storm event based on the probability distribution of detected values for the constituent.

Runoff flows were computed for each rainfall event and multiplied by the corresponding concentration derived from the continuous simulation for each event to produce event mass loadings. The wet weather event loadings were summed to produce an annual weather loadings for each of the 30 years in the rainfall record.

Dry weather loadings were calculated annually both for dry season conditions (defined as hours with no rainfall during the period May 1 – September 30) and for dry weather flows during wet season inter-storm periods (October 1 – April 30). Dry weather concentrations were assigned for the modeled pollutants based on mean dry weather concentrations from the Partnership's 1999-2004 data set. Annual dry weather flow volumes were computed from the observed number of hours in each dry period for each year and the average dry weather flow rates specified in the 1996 DCP. Annual loadings were then calculated for each dry weather period from the average concentration times the annual flow volume.

The wet and dry weather loadings were summed to produce annual loadings for each of the 30 years modeled. A statistical characterization of modern runoff quality was derived from analysis of the results of the continuous simulation model.

A schematic overview of the analytical/modeling process is shown in Figure 2. Sample calculations and model formulas are provided in Appendix E.

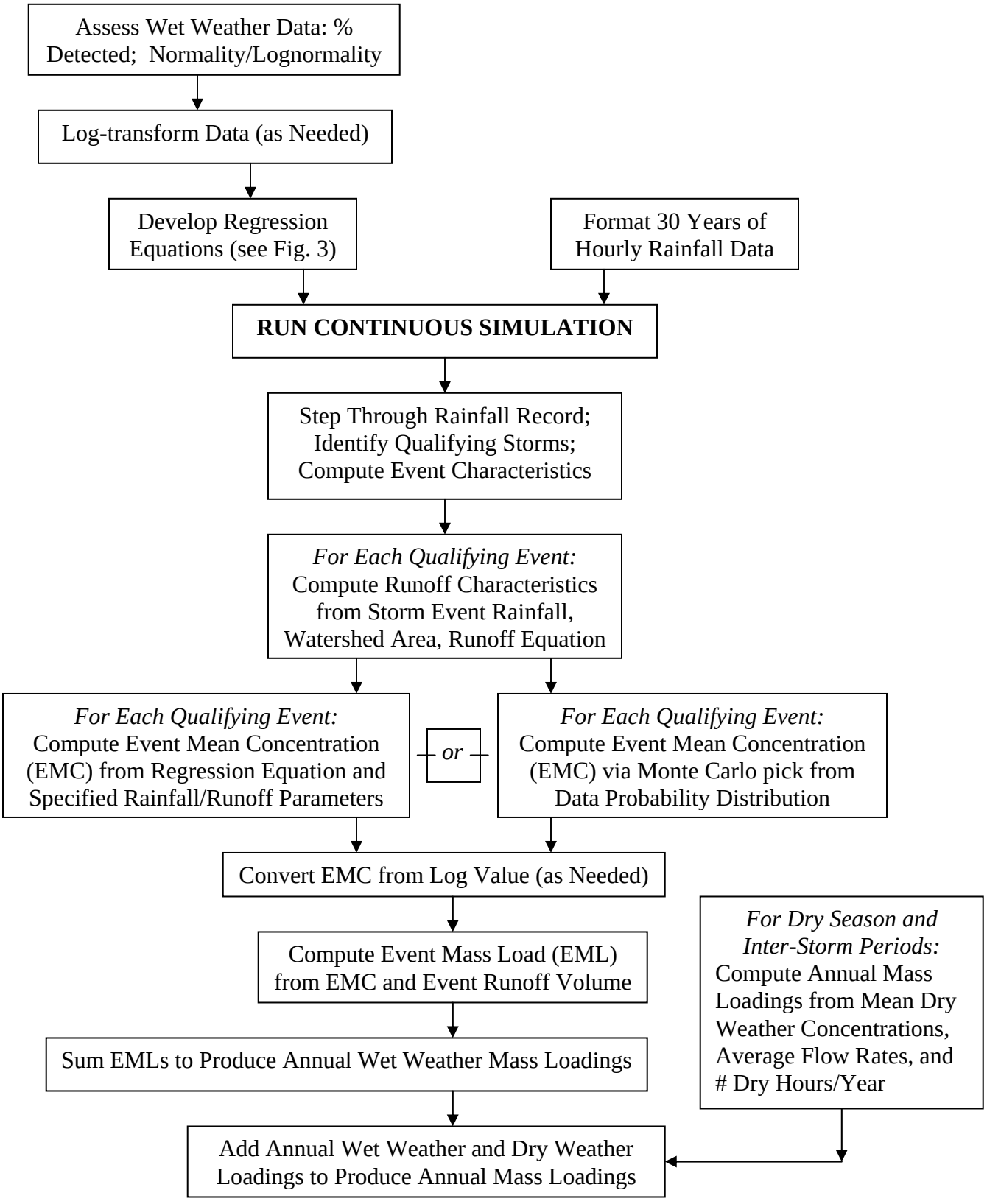


Figure 2. Schematic of Modeling Process

Regression Analysis

A stepwise process was used to identify statistically significant ($p(F) < 0.05$) multivariate linear regression equations relating runoff quality to environmental parameters for each pollutant meeting the requirements for sufficient detected data. Those constituents for which a multiple linear regression (MLR) could be derived with an overall correlation value (r^2) of 0.2 or higher were advanced for continuous simulation modeling. An overview of the analytical approach used to develop the regression models is presented schematically in Figure 3.

Initially, it was assumed that data from the three long-term urban runoff monitoring sites would be combined in the regression analysis. This assumption was verified through analysis of covariance (ANCOVA) techniques to assess site-to-site differences in the runoff quality data. ANCOVA was also used to assess whether there is pseudo-replication among the data from the different sites; i.e., whether the data from different sites actually behave as replicates, rather than as independent data points. This was done by assessing the correlation among the residual errors from the ANCOVA for different sites.

Predictor (independent) variables (rainfall/runoff parameters) were incorporated in the MLR equations via a forwards (additive) stepwise process, including only predictor variables for which the correlation with the dependent variable (runoff quality) is statistically significant. ANCOVA analysis was then applied to test whether the model overall was significant (at $p(F) < 0.05$), whether the overall model correlation (r^2) was greater than 0.2, and whether the individual predictor terms were statistically significant (at $p < 0.05$).

Inspection of residual errors from the regression equation plots was used to assess compliance with the primary assumptions of equal variance (homoscedasticity) and normality, upon which multiple linear regression (MLR) analysis is based. Established statistical techniques were used to evaluate collinearity or co-dependence among the predictor variables. The model "residual errors" (residuals) for the regression equation are the differences between the observed data and the regression equation; the residuals were plotted against a normal probability distribution to determine if they are normally distributed. Normality of the residuals about the regression equation was evaluated using the Wilk-Shapiro test; significance was determined at $p \geq 0.05$. For instances where a lognormal distribution appeared inappropriate, a more appropriate model was evaluated, using a different form of data transformation.

The regression relationships meeting the selection criteria are listed in Table 6, along with a brief explanation of the significance of the predictor parameters.

Chlorpyrifos and DDT did not have sufficient numbers of detected data to undergo the regression analysis, and no statistically-significant regression models could be developed for diazinon or chrysene. These four constituents were modeled using Monte Carlo simulation based on the probability distributions of the detected data (see Helsel, 1990).

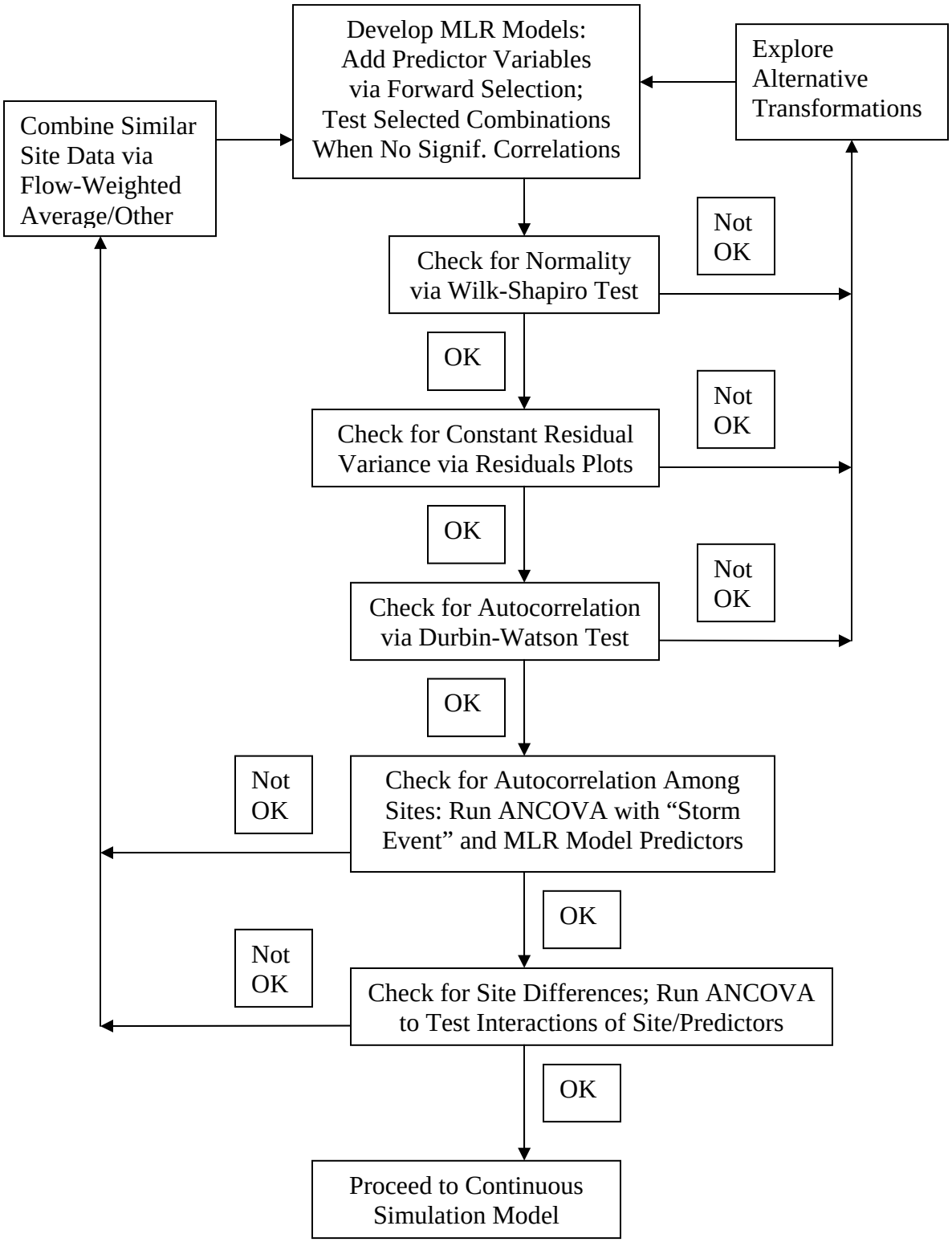


Figure 3. Schematic of Regression Model Development Approach

Table 6. Summary of Significant Regression Parameters

Constituent	Predictors	Relevance
Cadmium (dissolved)	Average event runoff flow (-)	Dilution effect at higher runoff flow rates
Copper (dissolved)	Event rainfall (-) Rain duration (+) Cumulative rainfall to date (-)	Dilution effect at higher rainfall amounts; Increased concentrations in longer events; Wash-off effect (lower concentrations) as season progresses
Lead (dissolved)	Event rainfall (-) Rain duration (+) Cumulative rainfall to date (-)	Dilution effect at higher rainfall amounts; Increased concentrations in longer events; Wash-off effect (lower concentrations) as season progresses
Zinc (dissolved)	Event rainfall (-) Rain duration (+) Average event runoff flow (-) Average rainfall intensity (+)	Dilution effect at higher rainfall amounts; Increased concentrations in longer events; Dilution effect at higher runoff flow rates; Increased concentrations in higher rainfall intensity
Mercury (total)	Event rainfall (-) Event runoff volume (+)	Dilution effect at higher rainfall amounts; Increased concentrations in larger runoff events (higher runoff volume compensates for dilution due to rainfall)
Total Dissolved Solids	Event rainfall (-) Cumulative rainfall to date (-)	Dilution effect at higher rainfall amounts; Wash-off effect (lower concentrations) as season progresses
Total Suspended Solids	Event rainfall (-)	Dilution effect at higher rainfall amounts
E. coli	Average event runoff flow (+) Cumulative rainfall to date (-)	More organisms at higher runoff flow rates; Wash-off effect (fewer organisms) as season progresses

Notes for Table 6:
Chlorpyrifos and DDT: insufficient numbers of detected data to undergo regression analysis.
Diazinon and Chrysene: no statistically-significant regression models could be developed.
These four constituents were modeled using Monte Carlo simulation, based on the probability distributions of the detected data.

Most constituents exhibited negative correlations with event rainfall, indicating a tendency towards dilution at higher rainfall amounts. The three heavy metals (dissolved copper, lead and zinc) also showed positive correlations with rain duration, indicating that concentrations tended to be higher in longer storms – at longer event durations this effect would tend to balance out the diluting effect of larger (higher rainfall) storms.

Two metals (dissolved cadmium, dissolved zinc) showed negative correlations with average event runoff flow, indicating a dilution effect at higher runoff flow rates, similar to the dilution effect observed with event rainfall. However, mercury was positively correlated with event runoff volume, and *E. coli* was positively correlated with average event runoff flow. It is entirely possible that mercury (measured as total mercury, including both the dissolved and particulate fractions) and E. coli (as # of organisms, which are particulate in nature) behave differently in response to increased runoff flow than do the dissolved metals, as higher runoff flows may mobilize more particulates.

The other two metals (dissolved copper and dissolved lead) were negatively correlated with cumulative rainfall, as was TDS. *E. coli* also exhibited lower levels in response to higher cumulative rainfall. This type of correlation indicates a wash-off effect as the wet season progresses.

Table 7 lists the final 2005 regression equations, along with the essential statistics for goodness-of-fit (r^2), probability of F (less than 0.05 indicates a statistically-significant relationship), and the standard deviation of the residuals (error term).

As shown in Table 7, the regression model for TSS produced an r^2 value of 0.18; while the r^2 value was below the 0.2 threshold, the model met the other criteria established for statistical significance. In consultation with professional staff of the Statistical Consulting Lab at University of California, Davis, this regression was allowed to continue into the continuous simulation.

The regression models for all constituents except TSS were constructed using the log-transformed data sets, based on the results of the normal/lognormal distribution tests. The use of lognormal distributions is a standard procedure accepted by USEPA and USGS and has the following advantages over the use of normal distributions:

1. Lognormal distributions typically fit low-level concentration data as well or better than normal distributions.
2. Lognormal distributions guarantee non-negative concentration values in the continuous simulation calculations for the entire range of data values (above and below the analytical detection limit).

The complete regression statistics and plots, including assessments of the probability distributions of the regression model residuals, are shown in Appendix F.

Table 7. Regression Equations for 2005 Discharge Characterization Update

log **Cd(dissolved)** = (-1.30) + (-0.000548 * Average Event Flow)
r^2 = 0.36; p(F) = 0.0002; sd(e) = 0.244

log **Cu(dissolved)** = 0.764 + (-0.218 * Event Rainfall) + (0.00966 * Rain Duration) + (-0.0165 * Cumulative Rain)
r^2 = 0.43; p(F) = 0.0006; sd(e) = 0.143

log **Pb(dissolved)** = (-0.0733) + (-0.354 * Event Rainfall) + (0.0194 * Rain Duration) + (-0.0273 * Cumulative Rain)
r^2 = 0.55; p(F) <0.0001; sd(e) = 0.186

log **Zn(dissolved)** = 1.37 + (-0.314 * Event Rainfall) + (0.0171 * Rain Duration) + (-0.000327 * Average Flow) + (2.84 * Average Intensity)
r^2 = 0.53; p(F) = 0.0002; sd(e) = 0.126

†log **Hg(total)** = 1.49 + (-0.300 * Event Rainfall) + (0.0000825 * Event Runoff Volume)
r^2 = 0.39; p(F) = 0.0005; sd(e) = 0.318

log **TDS** = 2.05 + (-0.219 * Event Rainfall) + (-0.0332 * Cumulative Rain)
r^2 = 0.45; p(F) = 0.0003; sd(e) = 0.196

TSS = 110.4 + (-33.9 * Event Rainfall)
r^2 = 0.18; p(F) = 0.0132; sd(e) = 30.8

log ***E. coli*** = 4.24 + (0.000540 * Average Event Flow) + (-0.0821 * Cumulative Rain)
r^2 = 0.33; p(F) = 0.0118; sd(e) = 0.466

Alternate Regression Equations:
Used for "Entire Urban Area" watershed only:
log Cd (dissolved) = (-1.22) + (-3.45 * Average Intensity)
r^2 = 0.147; p(F) = 0.0252; sd(e) = 0.282

Used for "Entire Urban Area" watershed only:
log Zn (dissolved) = 1.49 + (-0.246 * Event Rainfall) + (0.0122 * Rain Duration)
r^2 = 0.287; p(F) = 0.0062; sd(e) = 0.155

Used for "Entire Urban Area", and for watersheds with drainage area >20,000 acres:
log *E.coli* = 4.37 + (-0.0772 * Cumulative Rain)
r^2 = 0.210; p(F) = 0.0213; sd(e) = 0.507

†Not used for "Entire Urban Area" and where Watershed Coefficient > 15,000 (Monte Carlo simulation based on log-normal probability distribution was substituted).

Notes on Regression Models

Seasonal build-up and wash-off (which together include what is called the "first flush effect") are represented in the analysis by cumulative precipitation to date ("CPD") and the number of days since the last storm event ("DSL"). While CPD appears in the regression equations for half of the constituents modeled, DSL did not register as a significant predictor for any of the 2005 constituents. This is believed to be due to the relative lack of monitoring events in the 2000-2004 study period with lengthy inter-storm dry periods, including just one first flush event, which was preceded by a summer rainfall event. The increasingly common use of seasonal street sweeping and other BMPs may also moderate the influence of dry season pollutant build-up. In the 1992 DCP, CPD and DSL each were included in a minority of the equations, while most of the regressions included event rainfall. In the 1996 DCP, the metals constituents generally included DSL while the conventional/other constituents generally did not.

While the continuous simulation model accounts for all storm events throughout each year modeled, many monitoring programs prioritize the collection of earlier-season storms, often for practical/logistical reasons. This tends to lead to over-estimation of average annual concentrations and loads when average concentrations are derived directly from the monitoring data. A significant advantage of the continuous simulation model is inclusion of all events regardless of seasonal timing or event size. The CPD parameter is particularly effective in reflecting seasonal wash-off, and tends to produce lower annual average concentrations and loadings due to the inclusion of late-season storms. For this analysis, CPD is considered to adequately represent the seasonal/first flush phenomenon.

The regression analysis was based on data from the Partnership's three long-term urban runoff monitoring stations: Sump 104, Sump 111, and Strong Ranch Slough. The drainage areas of these three stations range from 439 acres (Sump 111) to 4446 acres (Strong Ranch Slough). For those constituents for which average event runoff flow or event runoff volume were significant predictors, adjustments had to be made to avoid the computation of out-of-range results from larger watersheds (including the "entire urban area calculations) during the continuous simulation. The adjustments were made by substituting alternate regression equations with non-runoff-based predictors (at lower r^2 levels), for basins with drainage areas significantly greater than about 10,000 acres (see Table 7 notes). In the case of mercury, for which no statistically significant substitution could be found, Monte Carlo-based simulation was used for higher event runoff volumes.

Continuous Simulation Model

In the continuous simulation routine, the regression equations are used to iteratively estimate runoff concentrations for each storm event over the 30 year period of hourly rainfall records, using the precipitation parameters derived from the historical record as input. During the 1970–2000 period, there were 1064 qualifying storm events.

First the model identifies qualified rainfall events from the hourly rainfall data set based on the project criteria ($\geq$ 0.1 inch of rainfall over six hours). The model then derives the event characteristics (rainfall amount, duration, average intensity, cumulative precipitation to date, etc.) of each qualified rainfall event. Runoff volume is calculated for each qualified event from the derived event rainfall amount and the rainfall/runoff equation for the watershed being modeled. The model then uses the event rainfall/runoff parameters as needed in calculating event runoff concentrations, based on the operative regression equation for each constituent.

For each qualified storm event, the continuous simulation model generates an "EMC" for each pollutant, which refers to the “event mean concentration” of that pollutant during the defined rainfall event. The EMC is calculated from the pollutant-specific regression equation, using the particular rainfall/runoff parameters in effect for each event (as derived from the historical rainfall record) as input. The continuous simulation model uses only the operative rainfall/runoff parameters called for by the regression equation for the specific pollutant (see Tables 6, 7) to calculate EMCs for that pollutant.

Note that for all constituents except TSS, the EMC calculations are performed from regression equations that compute the log (base 10) of the concentration, because the wet weather data for all constituents except TSS were determined to be log-normally distributed. The log EMCs are converted to anti-log values in the model.

To accommodate the residual error in the regression models, the continuous simulation model generates a random probability between zero and one for each event. This probability is then transformed into a Z-statistic, and multiplied by the standard deviation derived from the probability distribution regression for the regression model residuals. The concentration calculated from the regression equation is then modified by the calculated residual error term for each event.

For constituents for which there were no statistically-significant regression models, the continuous simulation model makes a “Monte Carlo pick” for EMC for each storm event, selecting a concentration based on the probability distribution of the detected data for that constituent, and including the error term, also from the probability distribution.

Once the EMCs are calculated, the model calculates event mass loads for each qualified event. The EMC is multiplied times the calculated runoff volume for that event to derive the event mass loading (EML). The EMCs and EMLs are recorded and used to compute annual summary statistics for each year in the 30 year period.

Dry weather loads are calculated separately using average annual concentrations and dry weather flows for each year.

The results generated by the model include the following statistics for annual concentrations and loadings: mean, standard deviation, coefficient of variation, and annual minimum and maximum mean. Mean annual loadings are provided for three flow categories: storm events, dry season flows, and inter-storm dry weather flows. A summary of total annual loadings and loading per acre is also produced for each pollutant.

For calculation of loadings from individual urban drainage areas, the basin designations, areas, and runoff coefficients are as shown in Appendix B. For calculation of the loadings from the entire urban area, the non-linear rainfall/runoff equation provided in the 1996 DCP (LWA, 1996) was used to generate runoff volumes (equation (3) in this report).

Wet Season EMCs and Loadings

Rainfall event mean concentrations (EMCs) were calculated for each qualifying rainfall event in the 30-year historical record, using ANCOVA-derived regression equations for each runoff constituent of interest, as described above. The calculated EMCs for each constituent are therefore a function of some combination of event rainfall statistics, event runoff statistics, and residual error (generated from the regression model error term and a randomly-selected z-statistic). As a result, the calculated EMCs for each constituent are unique to each rainfall event and each watershed. For constituents for which a valid regression model could not be derived, the continuous simulation generates a value via Monte Carlo simulation based on the probability distribution of the data.

Event mass runoff loadings (EMLs) for each constituent are calculated by simply multiplying the calculated event runoff volume for the given watershed by the calculated EMC value for each event, for each pollutant. The EMLs are then summed to produce an annual loading for each constituent, for each year of the 30 year rainfall record.

Dry Season and Inter-Storm Runoff and Loadings

During non-rainfall periods (dry season and wet season inter-storm periods), dry weather runoff occurs with associated runoff loadings of constituents of concern. Annual dry season and inter-storm loadings for each constituent were estimated by multiplying the mean dry weather constituent concentration times the estimated hourly dry weather runoff flow rate times the number of dry hours for each category (dry season and inter-storm) for each year. Through this approach, all dry weather flows are accounted for each year.

Dry season and inter-storm concentrations were derived from dry weather runoff monitoring conducted by the Partnership. For this analysis, mean dry weather constituent concentrations are assumed to be the same for the dry season and for inter-storm periods, as per the 1996 DCP analysis. However, different flow rates are used for the “dry season” and “inter-storm” dry weather periods (this is the principal reason for designating two dry weather flow categories), based on the flow rates provided in the 1996 DCP.

Model Results

Summary statistics from the continuous simulation model output for concentrations and annual mean loadings are presented for the entire Sacramento urban watershed for each modeled constituent in Table 8. The results include wet weather (storm event) EMCs and annual mass loadings, as well as dry season and inter-storm mean concentrations and annual mass loadings. Additional summary statistics for the modeled results for total annual loadings from the entire urban area are presented in Table 9.

Summary statistics for discharge concentrations and loadings from the results of the continuous simulation modeling for each individual drainage basin are presented in Appendix G.

Dry Weather vs. Wet Weather Loadings

Table 10 illustrates the differences in annual average concentrations and loadings between wet weather and dry weather runoff for the entire urban area (based on results culled from Table 8). For dry weather, both the inter-storm periods in the wet season (October 1 – April 30) and the dry season (May 1 – September 30) are represented.

In comparisons of wet and dry weather loadings, the only modeled constituent that exhibits higher dry weather loadings is total dissolved solids (TDS). Average TDS concentrations also are substantially higher during dry weather. This may reflect the dominance of municipal water supplies (as opposed to rain water) as the source of runoff flow during dry weather, due to irrigation. Municipal water sources are likely to be significantly higher in dissolved solids than rain water. Average concentrations are also slightly higher in dry weather runoff for dissolved cadmium and dissolved copper.

Average concentrations of chlorpyrifos and DDT are also slightly higher in dry weather than in wet weather. For chlorpyrifos, this may reflect seasonal patterns of use and application methods. For DDT, a legacy pollutant with no known current uses, the slightly higher average dry weather concentrations may be indicative of historical residues in areas subject to irrigation, or may simply reflect monitoring data variability.

Average concentrations and loadings of total mercury, TSS, and *E. coli* are all substantially higher in wet weather. This is likely related to the particulate nature of these constituents, making them amenable to mobilization and transport by rainfall/runoff. Diazinon concentrations and loadings also are higher in wet weather; this may relate to the seasonal use of diazinon as a preferred treatment for ant control and as a dormant spray for trees during the winter months.

Allowable uses of both chlorpyrifos and diazinon have been drastically limited by USEPA in recent years. This is expected to result in lower concentrations and loadings of these two organophosphate pesticides from urban sources in the near future.

Table 8. Results of Continuous Simulation for Entire Urban Area

STORMS

	EMCs*					Mass Loadings					
	EMC Units	Mean	StDev	CV	Min	Max	Loading Units	Annual Mean	StDev	CV	Min	Max
Cd-D	µg/L	0.0482	0.0045	0.09	0.0400	0.058	Kg	3.90	1.73	0.44	1.21	7.76
Cu-D	µg/L	4.14	0.64	0.16	2.89	5.65	Kg	330	95	0.29	134	539
Pb-D	µg/L	0.545	0.13	0.23	0.315	0.84	Kg	41.5	10.7	0.26	19.1	71.9
Zn-D	µg/L	32.0	1.8	0.06	29.1	35.6	Kg	2,600	1,040	0.40	847	5,160
Hg-T	ng/L	50.5	9.2	0.18	35.4	72.5	grams	5,100	3,020	0.59	846	12,800
TDS	mg/L	52.7	14.3	0.27	25.7	90.2	tonnes	3,660	869	0.24	1,760	6,422
TSS	mg/L	93.4	5.3	0.06	84.3	105	tonnes	7,020	2,810	0.40	2,220	14,100
E-coli	MPN/100ml	13,800	7,000	0.51	5,130	3.11E+04	MPN	1.14E+16	5.75E+15	0.50	4.39E+15	3.36E+16
Chlorpyrifos	µg/L	0.0149	0.0022	0.15	0.0114	0.0191	grams	1,451	801	0.55	317	3,520
Diazinon	µg/L	0.300	0.0348	0.12	0.242	0.370	grams	29,100	14,900	0.51	6,520	64,800
DDT	µg/L	0.0129	0.0010	0.08	0.0110	0.0151	grams	1,245	588	0.47	299	2,470
Chrysene	µg/L	0.110	0.0198	0.18	0.0787	0.150	grams	10,900	6,540	0.60	2,180	28,800

* EMC = Event Mean Concentration

DRY WEATHER

	Concentrations				Mass Loadings		
	Concentration Units	Annual Mean	StDev	CV	Loading Units	Inter-Storm (Annual Mean)	Dry Season (Annual Mean)
Cd-D	µg/L	0.0553	0.0415	0.75	Kg	1.96	1.27
Cu-D	µg/L	4.29	2.17	0.51	Kg	152	98
Pb-D	µg/L	0.392	0.362	0.92	Kg	13.9	9.0
Zn-D	µg/L	22.1	30.2	1.37	Kg	785	507
Hg-T	ng/L	9.89	16.8	1.70	grams	351	227
TDS	mg/L	287	189	0.66	tonnes	10,200	6,570
TSS	mg/L	7.21	3.39	0.47	tonnes	256	165
E-coli	MPN/100ml	7,490	10,900	1.45	MPN	2.66E+15	1.71E+15
Chlorpyrifos	µg/L	0.023	0.006	0.28	grams	803	518
Diazinon	µg/L	0.099	0.064	0.65	grams	3,510	2,270
DDT	µg/L	0.016	0.010	0.65	grams	569	368
Chrysene	µg/L	0.002	0.002	0.85	grams	77.0	49.7

ANNUAL TOTAL

	Loading Units	**Mass Loading** (Annual Mean)	**Mass Loading/ Acre** (Annual Mean)
Cd-D	Kg	7.12	0.00004
Cu-D	Kg	580	0.00364
Pb-D	Kg	64.4	0.00040
Zn-D	Kg	3,890	0.0244
Hg-T	grams	5,680	0.0356
TDS	tonnes	20,400	0.128
TSS	tonnes	7,440	0.0467
E-coli	MPN	1.58E+16	9.91E+10
Chlorpyrif.	grams	2,770	0.0174
Diazinon	grams	34,900	0.219
DDT	grams	2,180	0.0137
Chrysene	grams	11,000	0.0693

Table 9. Statistical Summary of Annual Loadings for Entire Urban Area

Constituent	Loading Units	Mean	Standard Deviation	Coeff. of Var.	95% Confid. Interval	Minimum	Maximum
Cd-D	Kg	7.12	1.69	0.24	0.60	4.52	10.9
Cu-D	Kg	580	92.1	0.16	33.0	391	786
Pb-D	Kg	64.4	10.4	0.16	3.73	42.5	94.4
Zn-D	Kg	3,890	1,020	0.26	366	2,170	6,410
Hg-T	grams	5,680	3,020	0.53	1,080	1,440	13,400
TDS	tonnes	20,400	703	0.03	252	18,900	22,900
TSS	tonnes	7,440	2,800	0.38	1,000	2,650	14,480
E-coli	MPN	1.58E+16	5.73E+15	0.36	2.05E+15	8.87E+15	3.79E+16
Chlorpyrifos	grams	2,770	785	0.28	281	1,670	4,820
Diazinon	grams	34,900	14,900	0.43	5,320	12,400	70,500
DDT	grams	2,180	575	0.26	206	1,260	3,400
Chrysene	grams	11,000	6,530	0.59	2,340	2,310	28,900

Note for Table 9:
Statistics apply to annual loadings computed by the continuous simulation model over a 30 year period, and include both wet weather (storm-based) and dry weather (inter-storm and dry season) discharges.

Table 10. Comparison of Storm Event and Dry Weather Concentrations and Loadings

	Concentrations			Annual Mass Loadings			
Constituent	Conc. units	Storm Events	Dry Weather	Loading units	Storm Events	Inter-Storm	Dry Season
Cd-D	µg/L	0.048	0.055	Kg	3.90	1.96	1.27
Cu-D	µg/L	4.14	4.29	Kg	330	152	98
Pb-D	µg/L	0.54	0.39	Kg	41.5	13.9	9.0
Zn-D	µg/L	32.0	22.1	Kg	2,600	785	507
Hg-T	ng/L	50.5	9.89	grams	5,100	351	227
TDS	mg/L	52	287	tonnes	3,660	10,200	6,570
TSS	mg/L	93	7.2	tonnes	7,020	256	165
E-coli	MPN/ 100ml	13,800	7,490	MPN	1.14E+16	2.66E+15	1.71E+15
Chlorpyrifos	µg/L	0.0149	0.023	grams	1,450	803	518
Diazinon	µg/L	0.300	0.099	grams	29,100	3,510	2,270
DDT	µg/L	0.0129	0.016	grams	1,240	569	368
Chrysene	µg/L	0.110	0.002	grams	10,900	77.0	49.7

Notes for Table 10:
Dry weather loadings are subdivided into inter-storm and dry season periods (see text).
Concentrations and loadings are means for annual values over the 30 year period as calculated by the continuous simulation model.

Storm events occur during approximately just 3% of the total number of hours annually, yet the annual flow volume generated during those brief periods is sufficient to produce more than half of the annual pollutant loadings for all modeled constituents except TDS.

Loadings to Major Receiving Waters

Separation of the overall urban area loadings by major receiving water destination was estimated based on the relative proportions of urban areas draining to the American, Sacramento and Cosumnes Rivers. The "Watershed Coefficient" factor, which combines the watershed acreage and runoff coefficient (see Appendix B), was used to make the apportionment, to account for the cumulative flow from the individual urban drainage basins to each river.

Based on this analysis, the American River receives about 62% of the urban runoff flow, the Sacramento River receives about 35% of the flow, and the remaining 3% of the urban runoff flow drains to the Cosumnes River. The annual average pollutant loadings derived from this apportionment are shown in Table 11.

The model results for total annual pollutant loadings discharged to the American River are roughly 77% greater than those discharged to the Sacramento River from the Sacramento urban area.

Table 11. Annual Loadings to Major Receiving Waters

Constituent	Loading Units	ANNUAL TOTAL	AMERICAN RIVER DRAINAGES	SACRAMENTO RIVER DRAINAGES	COSUMNES RIVER DRAINAGES
Cd-D	Kg	7.12	4.42	2.49	0.21
Cu-D	Kg	580	360	203	17
Pb-D	Kg	64.4	39.9	22.5	1.9
Zn-D	Kg	3,890	2,410	1,360	117
Hg-T	grams	5,680	3,520	1,990	170
TDS	tonnes	20,400	12,700	7,140	612
TSS	tonnes	7,440	4,610	2,600	223
E-coli	MPN	1.58E+16	9.79E+15	5.53E+15	4.74E+14
Chlorpyrifos	grams	2,770	1,720	970	83
Diazinon	grams	34,900	21,600	12,200	1,050
DDT	grams	2,180	1,350	764	65
Chrysene	grams	11,000	6,840	3,860	331

Note for Table 11:
Loadings are means of 30 annual loadings calculated by the continuous simulation model.

Model Variability and Sensitivity Analysis

Variability of model results was assessed and sensitivity analyses were conducted in several ways:

- Assessment of regression correlation coefficients
- Variability of results as shown by 95% confidence limits
- Assessment of variation of results in multiple model runs
- Comparisons of modeled average concentrations to empirical monitoring data
- Assessment of sensitivity of model results to variations in input parameters

The validity and predictive usefulness of the regression equations can be assessed through an evaluation of the relative goodness-of-fit as evidenced by the regression correlation coefficients. The r^2 values for the eight statistically significant regression models ranged from 0.18 to 0.55 (on a scale of 0 to 1), indicating generally moderate confidence in the predictive ability of the regression equations.

The 95% confidence intervals for the annual loadings results are included in Table 9, along with standard deviation and coefficient of variation statistics, providing additional information on the variability of the model results.

Model variability can be assessed by evaluation of the variation in results exhibited among multiple runs of the continuous simulation model. In a limited series of iterations, variation in average annual EMCs ranged from 2-4% for all constituents except *E. coli*, for which the variation in annual mean EMCs was approximately 14%. This indicates that the continuous simulation model, with over 1000 storm events simulated over a 30 year period, is sufficiently robust to accommodate the variability inherent in the regression equation error terms and Monte Carlo parameters, with results that are reproducible within fairly narrow ranges.

The model is further validated through comparisons of the modeled average wet weather discharge concentrations (see Table 8, 10) and the empirical monitoring data (see Table 4). All average concentrations produced by the model are within the range of observed monitoring data for the 2000-2004 period, and most model averages are within 10% absolute difference of the monitoring averages. Model results are lower than monitoring averages in all cases where the absolute difference exceeds 10%. In most such cases the parameter driving the regression equation is event rainfall, which is negatively correlated with EMC. The model efficiently accounts for dilution of those constituents at higher event rainfalls, with the historical record including a number of storm events that exceed the typical upper limit for field monitoring (generally about two inches).

The modeled average EMC deviates most from the monitoring average for *E. coli*, for which the dominant regression parameter is cumulative rainfall (also negatively correlated with EMC). In this case the model accounts for those difficult-to-catch late season storms, leading to lower annual averages.

Model sensitivity was assessed by varying individual input parameters and re-running the continuous simulation model for selected constituents to determine the effects on model results. The input parameters tested included:

- the EMC regression slope parameters for event rainfall amount, rainfall event duration, and cumulative rainfall to date;
- the EMC regression intercept parameter;
- the EMC regression residual error term; and
- runoff volume (as used in event mass loading calculations).

All tests were conducted by increasing the model input parameter by 5% and re-running the continuous simulation model for the entire urban area. In the vast majority of cases tested, the resultant absolute difference in annual average loadings was less than 5%. The only parameter for which some constituents exhibited a difference in annual average loadings greater than 5% is the regression model intercept. This occurs because the 5% change applies directly to a parameter (the intercept) that does not otherwise vary in the running of the model, in contrast to the slope and error terms, which are subject to statistical variation in the regression equations. For most constituents the regression equations are in log terms, leading to a direct, exponential increase in the calculated EMC when the intercept is increased. Nonetheless, the only constituent for which this caused an absolute change in annual loadings greater than 7% was *E. coli*, which has the highest intercept value of all constituents modeled, and for which the 5% intercept term increase produced a 47% increase in modeled annual loadings.

The results of the model sensitivity analysis are presented in Appendix H.

Overall, the results of the sensitivity analysis indicate that the model reliably produces results that are reproducible within acceptably narrow ranges for the constituents modeled, with the possible exception of *E. coli*. Because *E. coli* is a living organism whose presence and abundance are highly dependent on a range of environmental conditions that extend beyond rainfall and runoff, and because monitoring data for coliform bacteria are notoriously variable, this result is not unexpected. The model results for *E. coli* should therefore be considered to be rough approximations.

New Development

The preceding calculations are based on the Sacramento urban area without accounting for the effects of new development. It is assumed that discharge concentrations and loadings will be relatively lower in runoff from areas of newer development, due to the ongoing implementation of the municipal stormwater program beginning in the early 1990's. Through municipal stormwater program requirements that provide the basis for incorporating the design of stormwater quality controls into the development planning stage, new development areas have the benefit of more comprehensive stormwater BMP implementation than areas of pre-existing development. Older areas of urban development would require extensive retrofitting to meet the stormwater control standards of areas of newer development.

Based on the modeling results, a preliminary quantitative assessment was made of the loadings reductions that may be attributable to new development. Estimated loadings reductions were calculated based on a range of percent reductions of 15-30% for dissolved constituents and 30-50% for total constituents in new development areas. These percentages are based on literature values (ASCE, 2001; NRCS, 1999; WERF et al., 2005) and a review of the Brown Road Basin Comprehensive Study Report (LWA, 2002; see Table 6 in that report).

Much of the new development in the Sacramento area includes construction of detention basins for combined flow rate/volume mitigation and water quality control prior to discharge of runoff to receiving waters. The percentages selected include consideration of the reductions in discharge volume attributable to detention basins (which, due to infiltration and evaporation, lead to loadings reductions in greater proportion than the corresponding concentration reductions). New development constitutes approximately 12% of the Sacramento area, based on comparisons of Farmland Mapping Program data from 1992 – 2002 (CA Dept. Conservation, 2005).

Estimated reductions per acre and for the overall urban area are presented in Table 12 for the proportion of the Sacramento area associated with new development (assumed to constitute 12% of the urban area).

Table 12. Estimated Pollutant Reductions Due to New Development Controls

	Loading Units	Mass Loading / Acre	Estimated Reductions (Loadings/Acre)		Annual Mass Loading	Estimated Reductions (Annual Loadings)	
Dissolved Constituents			***At 15%***	***At 30%***		***At 15%***	***At 30%***
Cd-D	Kg	0.00004	0.00001	0.00001	7.12	0.13	0.26
Cu-D	Kg	0.00364	0.00055	0.00109	580	10	21
Pb-D	Kg	0.00040	0.00006	0.00012	64.4	1.2	2.3
Zn-D	Kg	0.0244	0.00366	0.00732	3,890	70	140
TDS	tonnes	0.128	0.0192	0.0384	20,400	367	735
Total Constituents			***At 30%***	***At 50%***		***At 30%***	***At 50%***
Hg-T	grams	0.0356	0.0107	0.0178	5,680	204	340
TSS	tonnes	0.0467	0.0140	0.0233	7,440	268	446
E.coli	MPN	9.9E+10	2.97E+10	4.96E+10	1.58E+16	5.69E+14	9.48E+14
Chlorpyrifos	grams	0.0174	0.0052	0.0087	2,770	100	166
Diazinon	grams	0.219	0.0656	0.109	34,900	1,260	2,090
DDT	grams	0.0137	0.0041	0.0068	2,180	79	131
Chrysene	grams	0.0693	0.0208	0.0346	11,000	397	662

Note for Table 12:
Loading reductions are calculated at the estimated average percent removals shown.

Historical Model Comparisons

The results of the 2005 discharge characterization modeling effort were compared in limited ways to results generated by the 1996 and 1992 DCP project models. Differences in the constituents modeled and the computational methods employed for the three DCP projects limit the feasible scope of the comparative analysis.

Dissolved metals were not modeled in 1992. For comparison purposes, dissolved metals loadings and concentrations have been estimated for the 1992 results based on calculated ratios of dissolved to total metals for data generated in the early 1990s (from Tables 9 and 10, 1996 DCP report; LWA, 1996).

In the 1992 report, loading results were generated in two ways: 1) loadings were calculated as "mass per impervious area" - which covers only the impervious surfaces, and would therefore tend to produce higher per acre loadings than results calculated for the urbanized areas, which contain a mix of impervious and pervious surfaces, and 2) loadings also were calculated for the entire urban area, then deemed to comprise 345,000 acres, which is more than twice as high as the 160,000 acre estimate derived from the Farmland Mapping Program and used in the current analysis, based on only the urbanized land uses within each drainage basin. In the second case, the 1992 urban area is assumed to include areas of the designated urban drainage basins that were not urbanized. This is confirmed when comparing the 1992 and 2005 basin characteristics for specific drainage basins: the 1992 basins are typically larger in area and have lower impervious percentages and lower runoff coefficients than the 2005 basins. The net effect is that the two ways of presenting the 1992 results will tend to bracket the results generated in 1996 and 2005, which are based on urban areas only.

Average annual wet weather (storm-event-based) loadings per acre derived from the continuous simulation modeling results for the entire urban watershed from the 1992, 1996 and 2005 DCP projects are presented in Table 13 for selected constituents. Average wet weather concentrations (EMCs) are also shown for the three periods. For the current project, the average measured and modeled concentrations are both shown in Table 13.

For the 1992 loadings per acre results two scenarios are shown in Table 13: 1) the modeled mass per impervious area (LWA, 1992; Table 22), and 2) the loadings for the entire urban area (LWA, 1992; Table 25) divided by the area modeled (345,000 acres). The 1992 total recoverable metals results were converted for this comparison to estimated dissolved metals concentrations based on the measured ratios of dissolved to total metals as taken from the 1996 DCP report (LWA, 1996; Table 9).

For the 1996 results in Table 13 the loadings per acre were derived from the results from the entire urban area (LWA, 1996; Table 15) divided by the total acreage modeled (approximately 193,000 acres). The average EMCs for the urban area were estimated from the mean EMCs for each of the three long term monitoring sites as reported in the 1996 DCP report (LWA, 1996; Tables 9, 10).

For the 1992 loadings per acre results, the first scenario, based on impervious areas only (Table 13 upper, first column), produced the highest results for all five constituents evaluated. However, these loading estimates are expected to be higher than for urban areas generally, which contain both impervious and pervious areas. As expected, the second scenario, based on the 1992 loadings for the entire urban area divided by the total modeled acreage (Table 13 upper, second column), generally produced the lowest loadings per acre, due to the inclusion of non-urban land uses within the urbanized basins.

When the alternative 1992 loadings per acre results (scenario two) are ignored, the lowest average loadings are from 2005 for the three metals and from 1996 for TDS and TSS. On the other hand, the average concentrations for all three metals are highest in 1996, and the highest average TSS concentration is from the 2005 data, so no clear pattern emerges.

While no clear trends are evident, the comparisons to the 1992 and 1996 results are useful in providing confirmation that the results of the current analysis are within reasonable ranges. The fairly close correspondence of the average measured and modeled concentrations for 2005 provide further confirmation of the validity of the model.

Table 13. Comparison of 1992, 1996 and 2005 Loadings and EMCs, Entire Urban Area

ANNUAL WET WEATHER LOADINGS PER ACRE

		1992*	Alt. 1992**	1996***	2005***
Constituent	**Units**	345,000 a.	345,000 a.	193,000 a.	160,000 a.
Copper (dissolved)	kg/acre/yr	0.0036	0.0007	0.0036	0.0021
Lead (dissolved)	kg/acre/yr	0.0022	0.0002	0.0010	0.0003
Zinc (dissolved)	kg/acre/yr	0.096	0.013	0.033	0.016
TDS	tonnes/acre/yr	0.111	0.011	0.013	0.023
TSS	tonnes/acre/yr	0.045	0.027	0.014	0.044

* Loadings based on average wet weather annual mass per impervious acre; dissolved metals estimated from total recoverable
** Loadings calculated based on total wet season loads divided by acreage modeled; dissolved metals estimated from total recoverable
*** Loadings calculated based on total wet season loads divided by acreage modeled

AVERAGE WET WEATHER EMCs

Constituent	**Units**	**1992***	**1996****	**2005****	**2005*** (Modeled)**
Copper (dissolved)	µg/L	5.70	8.00	4.53	4.14
Lead (dissolved)	µg/L	2.00	2.73	0.65	0.54
Zinc (dissolved)	µg/L	66.8	84.7	31.7	32.0
TDS	mg/L	113	57	59	53
TSS	mg/L	53.5	84	86	93

* Mean of monitored sites; dissolved metals values estimated from total recoverable
** Mean of monitored sites
*** Modeled mean

Summary/Conclusions

Updated mass loadings were calculated from the Sacramento urban area for 12 pollutants, using a continuous simulation model developed specifically for that purpose. Based on the Partnership's recent stormwater monitoring program data (1999/2000-2003/04), regression equations were developed to define the relationships of various hydrological (rainfall/runoff) factors to runoff quality for specific pollutants. The continuous simulation model calculates wet weather runoff quantity and quality for defined rainfall events, based on hydrological parameters from the historical rainfall record and the pollutant-specific regression equations. A 30 year record of hourly rainfall data (1970-2000) was used as input to the model to simulate a representative range of typical Sacramento weather conditions. Dry weather runoff quantity and quality also were computed and added to the wet weather results to produce annual mass loadings. The results provide a detailed, updated characterization of the quality of urban runoff from the Sacramento area.

Key Findings

Model results are provided for wet weather conditions, dry weather flows during the wet season, dry weather flows during the dry season, and average annual totals, for the entire Sacramento urban area and for each urbanized drainage basin.

TDS is the only constituent for which annual dry weather loadings (inter-storm and dry season combined) exceed annual wet weather (storm-based) loadings. For all other constituents modeled, average loadings are higher on an annual basis from storm events than from dry weather flows. Rainfall occurs during approximately just 3% of the year (based on average number of dry vs. wet hours annually), yet the annual flow volume generated during those brief periods is sufficient to produce more than half of the annual pollutant loadings for all modeled constituents except TDS.

TDS also has higher annual average concentrations in dry weather periods compared to wet weather. Dissolved solids are more likely to be present at higher concentrations in irrigation water, the principal source of dry weather runoff, than rain water, the principal source of wet weather runoff. Two dissolved metals (cadmium, copper) and two pesticides (chlorpyrifos, DDT) have slightly higher annual average dry weather concentrations, but annual loadings for those constituents are higher in wet weather.

Total mercury, TSS, and E. coli, which are particulate-based constituents, all exhibit substantially higher concentrations and loadings in wet weather. These constituents are presumably mobilized and transported by rainfall/runoff. Chrysene, a polynuclear aromatic hydrocarbon (PAH), also has steeply higher wet weather concentrations and loadings compared to dry weather. This may be due to wash-off of PAHs, which are petroleum byproducts, by rainfall/runoff from roadways and parking lots. Average annual diazinon concentrations and loadings also are substantially higher during wet weather conditions, probably due to seasonal patterns of application of this pesticide.

Due to recent federal limitations on urban uses of diazinon and chlorpyrifos, the concentrations and loadings of these two pesticides in urban runoff are expected to decrease notably in the near future.

The American River is the receiving water for approximately 62% of the annual average urban runoff loadings from the Sacramento urban area, while 35% of the loadings are discharged to the Sacramento River, and the remaining 3% to the Cosumnes River.

Areas of newer development are expected to exhibit improved runoff quality due to the implementation of BMPs under the direction of the agencies participating in the Sacramento Stormwater Quality Partnership, beginning in the early 1990s. According to data from the Farmland Mapping Program, approximately 12% of the Sacramento urban area was newly developed in the ten year period from 1992-2002. Preliminary estimates of the loadings reductions associated with new development are calculated and presented in this report. Additional information is needed to provide more reliable quantifications of runoff quality from new development.

Comparisons of the 2005 continuous simulation model results to those generated in 1992 and 1996 for trends analysis are problematic, due to differences in the modeling approaches and constituents modeled. The results of the three projects are compared in limited ways, with inconclusive results. The comparisons do provide some validation that the results of the current model are within reasonable ranges.

Recommendations

The accuracy of the model could be improved and its usefulness enhanced if watershed hydrology (rainfall/runoff) information is improved/updated for the individual drainage basins in the Sacramento urban area. This should include identification of areas of new development.

Information on runoff quality and quantity from areas of new development is needed to develop accurate estimates of mass loadings from such areas.

Information generated by the regression equations and the continuous simulation model could be further investigated to identify opportunities for seasonal or geographical targeting of BMPs.

The continuous simulation model could be applied in analyses of pollutant sources and load allocations for regional TMDLs.

References

ASCE, 2001. American Society of Civil Engineers: "Guide for Best Management Practice (BMP) Selection in Urban Developed Areas."

CA Dept. of Conservation, 2005. Farmland Mapping and Monitoring Program. (on-line) http://www.consrv.ca.gov/DLRP/

Caltrans, 2002. Caltrans Monitoring and Data Reporting Protocols - Master Guidance Manual. California Dept. of Transportation, CTSW-RT-02-053. Sept. 2002

Helsel, D.R. 1990. Less Than Obvious: Statistical Treatment of Data Below the Detection Limit. Environmental Science and Technology, Volume 24, No. 12, 1990.

Larry Walker Associates (LWA) 1990. Urban Runoff Controls Necessary to Achieve Water Quality Objectives Proposed in the Inland Surface Waters Plan. Prepared for the City of Sacramento and the County of Sacramento, February, 1990.

Larry Walker Associates (LWA) 1992. Final Discharge Characterization Report. Prepared for the Sacramento County Water Agency, the City of Sacramento, the City of Folsom, and the City of Galt, August, 1992.

Larry Walker Associates (LWA) 1996. 1996 DCP Update Report. Prepared for the County of Sacramento, the City of Sacramento, the City of Folsom, and the City of Galt, September, 1996.

Larry Walker Associates (LWA) 2002. Water Quality Detention Basin Study: 1997-2001 Comprehensive Report. Prepared for the County of Sacramento, the City of Sacramento, the City of Folsom, and the City of Galt, November, 2002.

NRCS, 1999. Natural Resource Conservation Service: "Planning and Design Manual for Control of Erosion, Sediment, and Stormwater." December, 1999

US EPA, 1983. *Results of the Nationwide Urban Runoff Program*, US EPA Water Planning Division, Washington, DC, December, 1983.

WERF et al., 2005. International Stormwater Best Management Practices (BMP) Database (on line): http://www.bmpdatabase.org/index.htm

APPENDIX A

Sacramento Target Pollutant List and Detailed Matrix for Constituent Selection

Sacramento Stormwater Monitoring Program
Target Pollutant Prioritization - Scored and Ranked Target Pollutants

Rank	Constituent	Target Pollutant Composite Ranking Value
1	Diazinon	67.9
2	Chlorpyrifos	59.8
3	Mercury, Total	43.1
4	Copper, Dissolved	14.0
5	Zinc, Dissolved	10.7
6	Coliform, Fecal	10.3
7	Coliform, Total	10.2
8	Solids, Total Dissolved	5.8
9	Lead, Dissolved	5.2
10	Bis(2ethylhexyl)phthalate	5.1
11	Cadmium, Dissolved	3.1
12	Solids, Total Suspended (surrogate for sediment)	3.0
13	Organic Carbon	3.0
14	Pentachlorophenol	2.2
15	Benzo(b)fluoranthene	1.4
16	Chrysene	1.1
17	Methyl Tertiary Butyl Ether	1.0
18	Trash	1.0
19	Malathion	0.8
20	Simazine	0.8
21	Benzo(k)fluoranthene	0.6
22	Iron, Dissolved	0.4
23	2,4-Dinitrotoluene	0.3
24	Benzo(a)anthracene	0.3

SACRAMENTO STORMWATER MASS LOADINGS - CONSTITUENT SELECTION SUMMARY

Constituent	TP List	RWQE	1992 DCP	1996 DCP	Rationale for inclusion (bolded constituents) or not in 2005 DCP
Metals					
Cadmium	#11		Y	Y	Commonly-detected pollutant; highly-ranked TP; continuity with previous DCPs
Copper	#4	Y	Y	Y	RWQE pollutant; commonly-detected; highly-ranked TP; continuity with previous DCPs
Lead	#9		Y	Y	Commonly-detected pollutant; highly-ranked TP; continuity with previous DCPs
Mercury	#3				Very highly-ranked TP; active 303(d) listing/TMDL
Zinc	#5		Y	Y	Commonly-detected pollutant; highly-ranked TP; continuity with previous DCPs
Arsenic			Y		Less commonly-detected than some other metals; not on TP List; not in 1996 DCP
Chromium			Y	Y	Less commonly-detected than some other metals; not on TP List
Nickel			Y		Less commonly-detected than some other metals; not on TP List; not in 1996 DCP
Iron	#22				Common soil component; not highly ranked on TP List; not included in previous DCPs
Conventionals					
TDS	#8	Y	Y	Y	RWQE pollutant (analog for turbidity); highly-ranked TP; continuity with previous DCPs
TSS	#12		Y	Y	Commonly-measured runoff constituent; top 12 TP; continuity with previous DCPs
BOD				Y	Not on TP List; not conservative
Nutrients					
Total Phosphorus			Y	Y	Not on TP List; nutrients generally not significant problems in NorCal rivers/creeks
Nitrate+Nitrite			Y		Not on TP List; nutrients generally not significant problems in NorCal rivers/creeks
Ammonia as N			Y	Y	Not on TP List; nutrients generally not significant problems in NorCal rivers/creeks
Nitrate				Y	Not on TP List; nutrients generally not significant problems in NorCal rivers/creeks
Bacteria Indicators					
E. coli	(#6,7)*	Y			RWQE pollutant; highly-ranked TP (as analog for Total/Fecal Coliform)
Total Coliform	#6				Ubiquitous and non-conservative; E. coli substituted
Fecal Coliform	#7	Y			Ubiquitous and non-conservative; E. coli substituted
Miscellaneous					
Oil & Grease			Y	Y	Unreliable measurement, not on TP List
Organic Carbon	#13				Not in previous DCPs
Hardness				Y	Not on TP List; supporting constituent for interpretation of metals WQOs compliance
Trash	#18				Urban runoff data lacking; not in previous DCPs
Pesticides					
Diazinon	#1	Y			RWQE pollutant; very highly-ranked TP; 303(d) Listings
Chlorpyrifos	#2				Very highly-ranked TP; 303(d) Listings
Malathion	#19				Not as highly-ranked on TP List as some other pesticides
Simazine	#20				Not as highly-ranked on TP List as some other pesticides
DDT		Y			RWQE constituent; ongoing significant legacy pollutant problem
PAHs					
Chrysene	#16	Y*			RWQE pollutant; on TP List
Benzo(b)fluoranthene	#15	Y*			Similar to chrysene; back-up PAH constituent
Benzo(k)fluoranthene	#21	Y*			Similar to chrysene; back-up PAH constituent
Benzo(a)anthracene	#24	Y*			Similar to chrysene; back-up PAH constituent
Other Organics					
Bis-2-Ethylhexyl-phthalate	#10				Ubiquitous in environment and as lab contaminant; QA/QC issues
Methyl Tertiary Butyl Ether	#17				Not commonly detected in urban runoff
2,4-Dinitrotoluene	#23				Not a highly-ranked TP; not commonly detected in urban runoff
Pentachlorophenol	#14				Not commonly detected in urban runoff

* RWQE was for PAHs; only one modeled

APPENDIX B

Sacramento Urban Area Watershed Characteristics As Used in the Continuous Simulation Model

Sacramento Urban Area Watershed Characteristics
As Used in the Continuous Simulation Model

Basin	River Basin	Drainage Area, acres	Impervious/ Total Area	Runoff Coefficient	Watershed Coefficient
Sump 1	Sacramento	389	0.35	0.36	510
Sump 10	American	630	0.51	0.51	1,174
Sump 100	Sacramento	1	0.50	0.50	2
Sump 1000	American	45	0.68	0.67	108
Sump 101	American	571	0.60	0.59	1,232
Sump 102	American	347	0.47	0.47	590
Sump 103	American	265	0.57	0.56	541
Sump 104	Sacramento	876	0.51	0.51	1,610
Sump 108	Sacramento	139	0.52	0.52	261
Sump 109	American	86	0.49	0.49	153
Sump 110	Sacramento	185	0.53	0.52	351
Sump 111	Sacramento	439	0.83	0.80	1,276
Sump 112	Sacramento	46	0.56	0.55	91
Sump 113	American	2	0.10	0.14	1
Sump 114	Sacramento	45	0.95	0.90	146
Sump 115	Sacramento	153	0.64	0.62	345
Sump 116	American	213	0.85	0.81	631
Sump 117	American	207	0.64	0.63	472
Sump 128	Sacramento	643	0.54	0.54	1,260
Sump 129	Sacramento	1397	0.51	0.51	2,597
Sump 130	Sacramento	458	0.73	0.71	1,175
Sump 132	Sacramento	2057	0.50	0.50	3,733
Sump 138	Sacramento	194	0.53	0.52	369
Sump 139	Sacramento	214	0.50	0.50	389
Sump 140	American	334	0.51	0.51	616
Sump 141	American	218	0.57	0.56	446
Sump 142	Sacramento	107	0.75	0.73	281
Sump 144	American	416	0.64	0.63	944
Sump 147	American	40	0.60	0.59	86
Sump 148	American	115	0.84	0.80	334
Sump 151	American	1012	0.73	0.71	2,598
Sump 152	American	1561	0.62	0.61	3,440
Sump 153	American	238	0.66	0.64	555
Sump 154	American	629	0.52	0.52	1,191
Sump 155	American	123	0.28	0.30	136
Sump 157	American	1693	0.61	0.60	3,703
Sump 158	American	401	0.52	0.51	748
Sump 159	American	581	0.60	0.59	1,242
Sump 19	American	88	0.83	0.80	253
Sump 2	Sacramento	14	0.64	0.62	32
Sump 20	Sacramento	210	0.54	0.53	407
Sump 22	Sacramento	466	0.49	0.49	827
Sump 24	Sacramento	329	0.40	0.41	488
Sump 25	Sacramento	68	0.52	0.52	128
Sump 26	Sacramento	1030	0.52	0.52	1,943

Basin	River Basin	Drainage Area, acres	Impervious/ Total Area	Runoff Coefficient	Watershed Coefficient
Sump 27	Sacramento	54	0.50	0.50	98
Sump 28	Sacramento	6	0.52	0.51	11
Sump 3	Sacramento	12	0.72	0.70	29
Sump 30	Sacramento	32	0.56	0.56	65
Sump 31	American	865	0.60	0.59	1,851
Sump 33	Sacramento	643	0.52	0.52	1,215
Sump 34	Sacramento	456	0.55	0.54	900
Sump 37	American	144	0.59	0.58	304
Sump 38	American	6	0.15	0.19	4
Sump 39	Sacramento	77	0.49	0.49	137
Sump 4	Sacramento	403	0.50	0.50	732
Sump 4.5	Sacramento	729	0.73	0.71	1,875
Sump 41	Sacramento	67	0.54	0.54	131
Sump 43	American	573	0.71	0.69	1,436
Sump 44	American	93	0.56	0.56	189
Sump 46	Sacramento	70	0.67	0.65	166
Sump 47	Sacramento	57	0.50	0.50	104
Sump 5	Sacramento	357	0.42	0.43	558
Sump 50	American	82	0.50	0.50	150
Sump 51	American	90	0.66	0.64	210
Sump 52	Sacramento	271	0.95	0.90	890
Sump 54	Sacramento	240	0.63	0.61	534
Sump 56	Sacramento	5	0.27	0.29	6
Sump 58	American	65	0.42	0.43	101
Sump 6	Sacramento	194	0.40	0.41	288
Sump 63	Sacramento	468	0.48	0.48	816
Sump 65	Sacramento	294	0.51	0.51	547
Sump 66	American	440	0.83	0.80	1,277
Sump 67	Sacramento	881	0.58	0.57	1,830
Sump 68	Sacramento	306	0.51	0.51	561
Sump 69	Sacramento	1005	0.42	0.43	1,572
Sump 70	Sacramento	213	0.50	0.50	387
Sump 71	Sacramento	228	0.57	0.56	467
Sump 73	Sacramento	2	0.95	0.91	5
Sump 7A	Sacramento	138	0.36	0.37	188
Sump 7B	Sacramento	86	0.07	0.12	36
Sump 8	American	242	0.53	0.53	463
Sump 83	American	11	0.19	0.22	9
Sump 89	Sacramento	255	0.42	0.43	400
Sump 8A	Sacramento	277	0.27	0.30	298
Sump 8B	Sacramento	33	0.59	0.59	70
Sump 8C	Sacramento	138	0.61	0.60	300
Sump 91	American	478	0.69	0.67	1,163
Sump 92	American	933	0.62	0.60	2,048
Sump 94	Sacramento	62	0.50	0.50	113
Sump 95	American	492	0.66	0.64	1,142
Sump 96	American	1056	0.50	0.50	1,920
Sump 97	Sacramento	393	0.59	0.58	826

Basin	River Basin	Drainage Area, acres	Impervious/ Total Area	Runoff Coefficient	Watershed Coefficient
Sump 98	American	624	0.43	0.44	987
Sump 99	American	407	0.55	0.55	808
ALDER CREEK	American	1284	0.73	0.71	3,307
AMERICAN RIVER	American	335	0.24	0.27	327
ANTELOPE CREEK	American	853	0.52	0.52	1,603
ARCADE CREEK	American	6298	0.53	0.53	12,144
ARCADE CREEK S BRANCH	American	1551	0.54	0.53	3,006
BEACH-STONE LAKE	Sacramento	1	0.50	0.50	2
BOYD CREEK	American	2100	0.73	0.70	5,362
BROOKTREE CREEK	American	1180	0.58	0.57	2,453
BUFFALO CREEK	American	2632	0.67	0.66	6,276
CARMICHAEL CREEK	American	2607	0.49	0.49	4,615
CHICKEN RANCH SLOUGH	American	3399	0.59	0.58	7,130
COMBINED	Sacramento	7495	0.67	0.65	17,740
COMBINED (LANDFILL)	American	79	0.01	0.06	17
CORDOVA/COLOMA STREAM	American	1505	0.54	0.54	2,939
COSUMNES RIVER	Cosumnes	1676	0.40	0.41	2,479
COUNTY	American	1765	0.60	0.59	3,805
COURTLAND	Sacramento	100	0.30	0.32	115
COYLE CREEK	American	996	0.54	0.54	1,942
COYOTE CREEK	Cosumnes	11	0.10	0.14	6
CRIPPLE CREEK	American	4244	0.50	0.50	7,690
DATE CREEK	American	601	0.67	0.65	1,420
DEADMAN'S GULCH	Cosumnes	2846	0.45	0.46	4,737
DEER CREEK	Cosumnes	834	0.36	0.37	1,122
DIABLO CREEK	American	935	0.53	0.53	1,795
DRY CREEK	American	2031	0.36	0.37	2,730
EAST ANTELOPE	American	667	0.64	0.63	1,514
EAST NATOMAS	Sacramento	616	0.57	0.56	1,260
ELDER CREEK	Sacramento	1395	0.60	0.59	2,983
ELK GROVE CREEK	Sacramento	2237	0.63	0.61	4,976
FAIR OAKS STREAM GROUP	American	5740	0.49	0.49	10,219
FLORIN CREEK	Sacramento	1752	0.65	0.63	4,033
G200	American	176	0.67	0.65	415
G201	American	2535	0.42	0.43	3,974
G203	Sacramento	297	0.47	0.47	509
G204	American	167	0.22	0.25	149
G205	American	5	0.50	0.50	10
G252	Sacramento	1224	0.59	0.58	2,593
G253	Sacramento	253	0.48	0.48	445
G254	Sacramento	323	0.21	0.24	276
G255	Sacramento	114	0.52	0.52	214
G256	Sacramento	85	0.58	0.57	176
G257	Sacramento	11	0.50	0.50	20
G258	American	553	0.53	0.52	1,052
G259	American	487	0.84	0.81	1,425
G260	American	80	0.72	0.70	203
G261	American	84	0.73	0.71	216

Basin	River Basin	Drainage Area, acres	Impervious/ Total Area	Runoff Coefficient	Watershed Coefficient
G262	American	91	0.84	0.80	264
G263	American	300	0.53	0.53	572
G264	American	43	0.85	0.82	127
G265	Sacramento	42	0.89	0.85	130
G266	Sacramento	39	0.90	0.86	122
G267	Sacramento	1	0.89	0.85	4
G268	Sacramento	16	0.53	0.52	31
G269	Sacramento	63	0.57	0.56	128
G270	Sacramento	778	0.49	0.49	1,375
G271	Sacramento	20	0.19	0.22	16
G272	American	129	0.85	0.81	382
GALT	Cosumnes	229	0.21	0.24	203
GERBER CREEK	Sacramento	187	0.11	0.15	101
HAGGINBOTTOM	American	2462	0.51	0.51	4,530
HEN CREEK	Cosumnes	512	0.42	0.43	803
HOOD	Sacramento	38	0.55	0.54	75
LAGUNA CREEK	Sacramento	2925	0.39	0.40	4,229
LINDA CREEK	American	1652	0.26	0.29	1,711
MAGPIE CREEK	American	3434	0.34	0.36	4,486
MANLOVE	American	1232	0.56	0.55	2,468
MARIPOSA CREEK	American	831	0.53	0.53	1,594
MAYHEW SLOUGH	American	2602	0.58	0.57	5,388
MINNESOTA CREEK	American	1133	0.53	0.53	2,183
MORRISON CREEK	Sacramento	10623	0.49	0.49	18,801
NATOMAS BASIN	Sacramento	1908	0.11	0.15	1,048
NEGRO SLOUGH	American	1	0.50	0.50	2
NEMDC	American	113	0.23	0.26	107
NEMDC TRIB 1	Sacramento	33	0.42	0.43	51
NEMDC TRIB 2	Sacramento	319	0.25	0.28	322
NEMDC TRIB 3	Sacramento	299	0.47	0.47	513
ROBLA CREEK	American	3118	0.47	0.47	5,357
SACRAMENTO RIVER	Sacramento	468	0.39	0.40	674
SAN JUAN CREEK	American	1333	0.64	0.62	3,014
SIERRA BRANCH	American	1098	0.59	0.58	2,319
SIERRA CREEK	American	1335	0.53	0.52	2,541
SRWTP	Sacramento	40	0.85	0.82	120
STATE	American	245	0.27	0.29	262
STRAWBERRY CREEK	Sacramento	2614	0.50	0.50	4,768
STRONG RANCH SLOUGH	American	4446	0.59	0.58	9,309
SUNRISE CREEK	American	612	0.50	0.50	1,111
UNIONHOUSE CREEK	Sacramento	1156	0.57	0.56	2,346
US	American	395	0.12	0.16	233
VERDE CRUZ CREEK	American	1263	0.54	0.54	2,458
WALNUT GROVE	Sacramento	1128	0.19	0.22	915
WHITEHOUSE CREEK	Sacramento	365	0.48	0.48	639
WILLOW CREEK	American	7331	0.52	0.52	13,705

APPENDIX C

Wet Weather Data, Descriptive Statistics, and Frequency Distribution Plots

WET WEATHER RUNOFF QUALITY DATA USED IN DISCHARGE CHARACTERIZATION ANALYSIS 2005

EVENT	SITE_ID	Cd (Dis.)	Cu (Dis.)	Pb (Dis.)	Zn (Dis.)	Hg (Tot.)	TDS	TSS	E. coli	Chlorpyrifos	Diazinon	DDT	Chrysene
WW22	S104	0.042	5.86	0.793	39.7	49.4	62	105		0.03	0.37	-0.1	
WW22	S111	0.146	8.7	1.01	73.3	25.8	24	91		-0.05	0.14	-0.1	
WW22	SRS	0.036	5.44	0.567	24.2	239	80	160		0.06	0.27	-0.1	
WW23	S104	0.033	2.91	0.276	-0.18	55.1	80	80		-0.05	0.24	-0.05	0.041
WW23	S111	0.066	2.27	0.234	34	36	21	58		-0.05	-0.05	-0.05	0.053
WW24	S104	0.043	4.15	0.653	46.6	18		31		-0.05	0.35	-0.05	0.028
WW24	S111	0.09	3.47	0.669	65.9	23.9		54		-0.05	0.09	-0.05	0.076
WW24	SRS	0.021	3.64	0.682	27.7	59.8		84		-0.05	0.54	-0.05	0.067
WW25	S104	0.086	10.4	2.53	67.7	23.3	190	84	130000	-0.05	0.68	-0.05	0.015
WW25	SRS	0.039	8.82	1.74	36.5	20.3	105	94	30000	-0.05	0.49	-0.05	0.067
WW26	S104	0.074	14.6	0.562	29.5	44.1	94	123	8000	-0.05	0.23	-0.05	0.255
WW26	S111	0.037	2.82	0.617	25.4	40.2	58	90	3000	-0.05	0.3	-0.05	0.233
WW26	SRS	0.058	3.31	0.571	19.4	578	42	101	13000	-0.05	0.43	-0.05	0.212
WW27	S104	0.056	4.98	0.637	44	41.9	57	80	3000	0.023	0.48	-0.05	0.089
WW27	S111	0.088	6.37	1.391	54.5	34.68	43	130	3000	-0.05	0.37	-0.05	0.145
WW27	SRS	0.047	5.69	0.614	38.6	44.7	67	110	3000	0.028	0.81	-0.05	0.139
WW28	S104	0.04	4.34	1.17	32.2	17.3	72	60	50000	-0.05	0.2	-0.05	0.0361
WW28	S111	0.06	4.04	0.769	42.1	22.7	37	50	8000	-0.05	0.17	-0.05	0.0477
WW28	SRS	0.029	3.91	1.1	27.7	30.8	45	23	3000	-0.05	0.28	-0.05	0.0597
WW29	S104	-0.016	3.38	0.255	19.6	10.1	58	49	22000	-0.05	0.27	-0.01	0.118
WW29	S111	0.067	4.37	0.498	36.9	18.8	33	60	3000	-0.05	0.31	-0.01	0.134
WW29	SRS	-0.016	3.13	0.418	19.8	27.4	26	92	50000	-0.05	0.28	-0.01	0.141
WW30	S104	0.017	3.28	0.259	17.2	15.3	29	81	70000	-0.05	0.16	-0.05	0.0936
WW30	S111	0.046	3.16	0.224	27.4	28.1			800	-0.05	0.56	-0.05	0.0543
WW30	SRS	0.017	4.28	0.356	22.9	30.1	29	82	6000	-0.05	0.19	-0.05	0.132
WW31	S104	0.017	2.83	0.686	20	24.4	110	140	23000	-0.05	-0.05	0.03	0.0735
WW31	S111	0.052	3.3	0.421	33.6	10.9	67	34	5000	-0.05	-0.05	0.03	0.009
WW31	SRS	0.013	3.18	0.583	16.9	17.5	100	72	17000	-0.05	0.16	0.02	
WW32	S104	0.018	2.97	0.352	18.5	18.7	72	140	17000	0.03	0.36	0.02	0.0817
WW32	S111	0.043	2.99	0.198	25	24.8	28	100	1300	0.04	0.38	0.02	0.602
WW32	SRS	0.02	3.4	0.402	22.3	24.1	35	150	11000	-0.05	0.25	-0.01	0.112
WW33	S104	0.019	2.92	0.361	18.5	24.3	30	63	5000	-0.01	-0.05	-0.01	0.0162
WW33	S111	0.033	1.98	0.139	23.2	12	-20	66	750	-0.01	-0.05	-0.01	0.0499
WW33	SRS	0.015	3.14	0.303	16.1	609	53	100	22000	-0.01	-0.05	-0.01	0.0455

Notes: Empty cells indicate missing data (generally means sample not collected/analyzed)
Negative values indicate sample was non-detect at an analytical reporting limit equal to the absolute value
Units are ug/L for Cd, Cu, Pb, Zn and organics, ng/L for Hg, mg/L for TDS and TSS, MPN/100mL for E.coli.

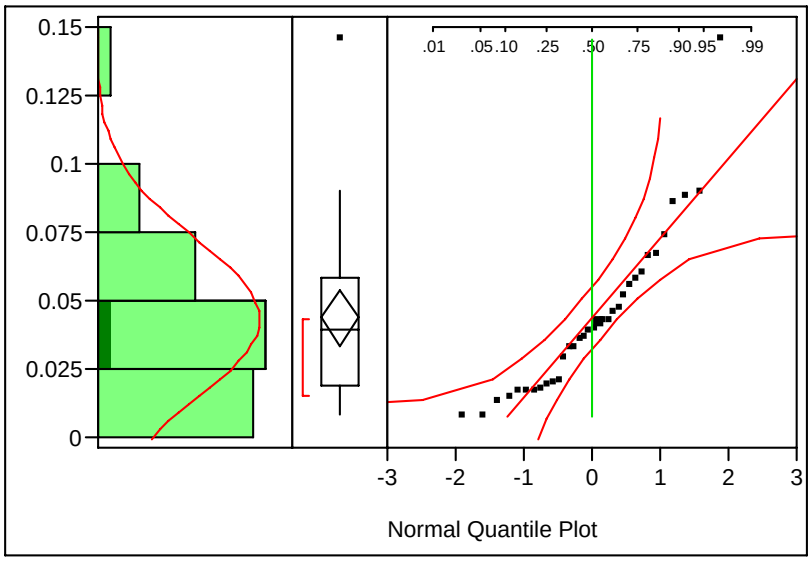
WET WEATHER DATA (1999/2000 - 2003/04) - DESCRIPTIVE STATISTICS

	Cd Dissolved	Cu Dissolved	Pb Dissolved	Zn Dissolved	Hg Total
n	**34**	**34**	**34**	**34**	**34**
Percent detected	**94.1%**	**100.0%**	**100.0%**	**97.1%**	**100.0%**
Mean	0.044	**4.53**	**0.65**	31.68	**67.66**
Standard Deviation	0.030	**2.70**	**0.50**	15.66	**147.44**
Coefficient of Variation	0.677	**0.60**	**0.78**	0.49	**2.18**
Lower 95% Confidence Limit about Me	0.034	**3.62**	**0.48**	26.41	**18.10**
Upper 95% Confidence Limit about Me	0.054	**5.44**	**0.82**	36.94	**117.22**
Lower Quartile (25th percentile)	**0.02**	**3.10**	**0.34**	**19.75**	**18.78**
Median (50th percentile)	**0.04**	**3.44**	**0.57**	**27.55**	**25.30**
Upper Quartile (75th percentile)	**0.06**	**5.10**	**0.71**	**38.88**	**42.45**
Inter Quartile Range	**0.04**	**2.00**	**0.37**	**19.13**	**23.68**
Minimum Detected Value	**0.01**	**1.98**	**0.14**	**16.10**	**10.10**
Maximum Detected Value	**0.15**	**14.60**	**2.53**	**73.30**	**609.00**
Minimum Reporting Limit	**0.016**			**0.18**	
Maximum Reporting Limit	**0.016**			**0.18**	
Regression Equation	ln(y) = -3.325 + 0.692*Z	ln(y) = 1.402 + 0.445*Z	ln(y) = -0.643 + 0.688*Z	ln(y) = 3.356 + 0.477*Z	ln(y) = 3.492 + 0.883*Z
Note:	Bolded values are exact calculations. Unbolded values are estimated using regression on ordered statistics (ROS).	All data reported as detected. Bolded values are exact calculations.	All data reported as detected. Bolded values are exact calculations.	Bolded values are exact calculations. Unbolded values are estimated using regression on ordered statistics (ROS).	All data reported as detected. Bolded values are exact calculations.

WET WEATHER DATA (1999/2000 - 2003/04) - DESCRIPTIVE STATISTICS

TDS	TSS	E. coli	Chlorpyrifos	Diazinon	DDT	Chrysene
30	**33**	**26**	**34**	**34**	**34**	**30**
96.7%	**100.0%**	**100.0%**	**17.6%**	**82.4%**	**14.7%**	**100.0%**
58.68	78.57	**93**	**107.92**	122.59	137.26	**151.94**
37.57	97.69	**116**	**134.10**	152.30	170.50	**188.71**
0.64	1.32	**1.44**	**1.57**	1.69	1.81	**1.93**
45.23	45.18	**54**	**62.06**	70.50	78.94	**87.38**
72.12	111.95	**133**	**153.77**	174.68	195.59	**216.50**
29.75	**60.00**	**3000**		**0.16**		**0.05**
55.00	**84.00**	**8000**		**0.27**		**0.07**
74.00	**103.00**	**22250**		**0.37**		**0.14**
44.25	**43.00**	**19250**		**0.22**		**0.09**
21.00	**23.00**	**750**	**0.02**	**0.09**	**0.02**	**0.01**
190.00	**160.00**	**130000**	**0.06**	**0.81**	**0.03**	**0.60**
20			**0.01**	**0.05**	**0.01**	
20			**0**	**0.05**	**0.05**	
ln(y) = 3.913 + 0.620*Z	ln(y) = 4.366 + 0.475*Z	ln(y) = 9.054 + 1.477*Z		ln(y) = -1.416 + 0.680*Z		ln(y) = -2.597 + 0.949*Z
Bolded values are exact calculations. Unbolded values are estimated using regression on ordered statistics (ROS).	All data reported as detected. Bolded values are exact calculations.	All data reported as detected. Bolded values are exact calculations.	Bolded values are exact calculations. Unbolded values are estimated using regression on ordered statistics (ROS). Less than 20% detected data. General summary statistics provided only.	Bolded values are exact calculations. Unbolded values are estimated using regression on ordered statistics (ROS).	Bolded values are exact calculations. Unbolded values are estimated using regression on ordered statistics (ROS). Less than 20% detected data. General summary statistics provided only.	All data reported as detected. Bolded values are exact calculations.

Distributions
Cd Dissolved



Normal(0.04365,0.02934)

Quantiles

100.0%	maximum	0.14600
99.5%		0.14600
97.5%		0.14600
90.0%		0.08700
75.0%	quartile	0.05850
50.0%	median	0.03950
25.0%	quartile	0.01875
10.0%		0.01400
2.5%		0.00800
0.5%		0.00800
0.0%	minimum	0.00800

Moments

Mean	0.0436471
Std Dev	0.0293442
Std Err Mean	0.0050325
upper 95% Mean	0.0538857
lower 95% Mean	0.0334084
N	34
Sum Wgt	34
Sum	1.484
Variance	0.0008611
Skewness	1.4449874
Kurtosis	3.1165705
CV	67.230713
N Missing	0

Fitted Normal
Parameter Estimates

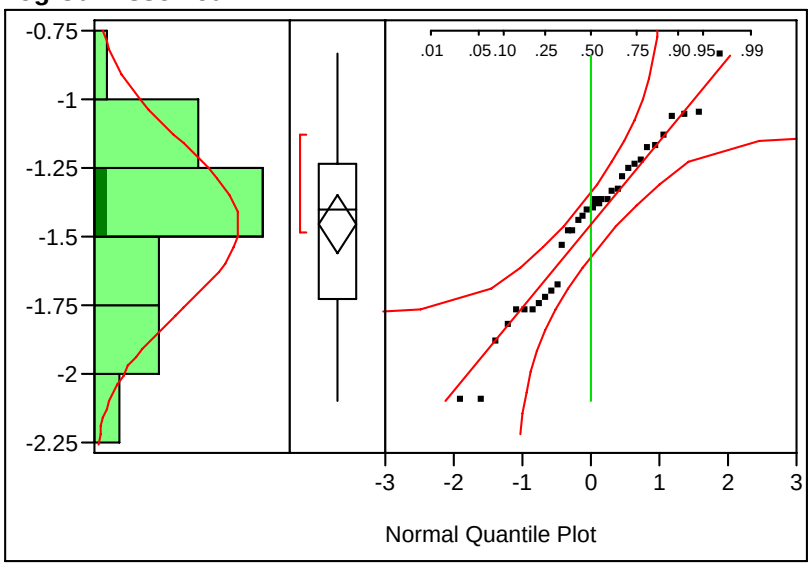
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	0.0436471	0.0334084	0.0538857
Dispersion	Sigma	0.0293442	0.0236684	0.0386252

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.886679	0.0021

Log Cd Dissolved



Normal(-1.4557,0.30488)

Quantiles

100.0%	maximum	-0.836
99.5%		-0.836
97.5%		-0.836
90.0%		-1.061
75.0%	quartile	-1.233
50.0%	median	-1.403
25.0%	quartile	-1.727
10.0%		-1.855
2.5%		-2.097
0.5%		-2.097
0.0%	minimum	-2.097

Moments

Mean	-1.455731
Std Dev	0.3048762
Std Err Mean	0.0522858
upper 95% Mean	-1.349355
lower 95% Mean	-1.562108
N	34
Sum Wgt	34
Sum	-49.49487
Variance	0.0929495
Skewness	-0.303387
Kurtosis	-0.371673
CV	-20.94316
N Missing	0

Fitted Normal

Parameter Estimates

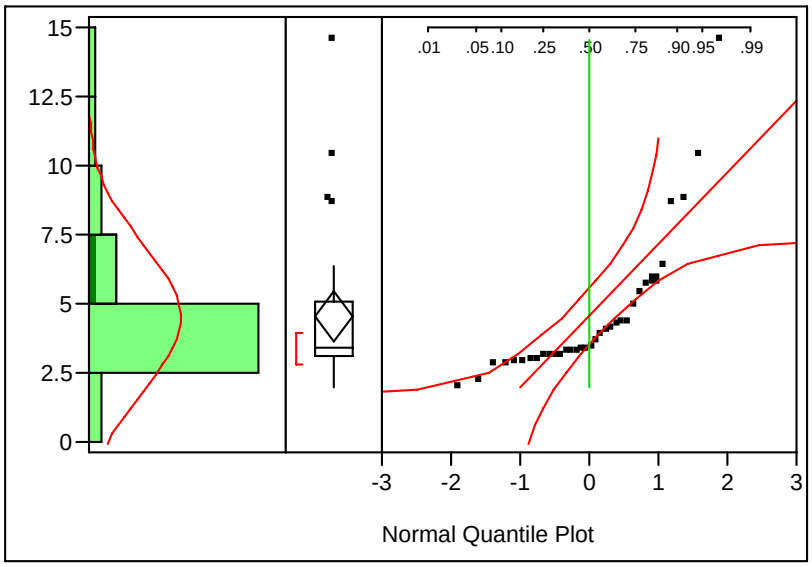
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-1.45573	-1.56211	-1.34936
Dispersion	Sigma	0.30488	0.24591	0.40130

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.971412	0.5015

Distributions
Cu Dissolved



Normal(4.53029,2.60649)

Quantiles

100.0%	maximum	14.600
99.5%		14.600
97.5%		14.600
90.0%		8.760
75.0%	quartile	5.095
50.0%	median	3.435
25.0%	quartile	3.095
10.0%		2.825
2.5%		1.980
0.5%		1.980
0.0%	minimum	1.980

Moments

Mean	4.5302941
Std Dev	2.606489
Std Err Mean	0.4470092
upper 95% Mean	5.4397411
lower 95% Mean	3.6208471
N	34
Sum Wgt	34
Sum	154.03
Variance	6.7937848
Skewness	2.3825366
Kurtosis	6.3657572
CV	57.534652
N Missing	0

Fitted Normal
Parameter Estimates

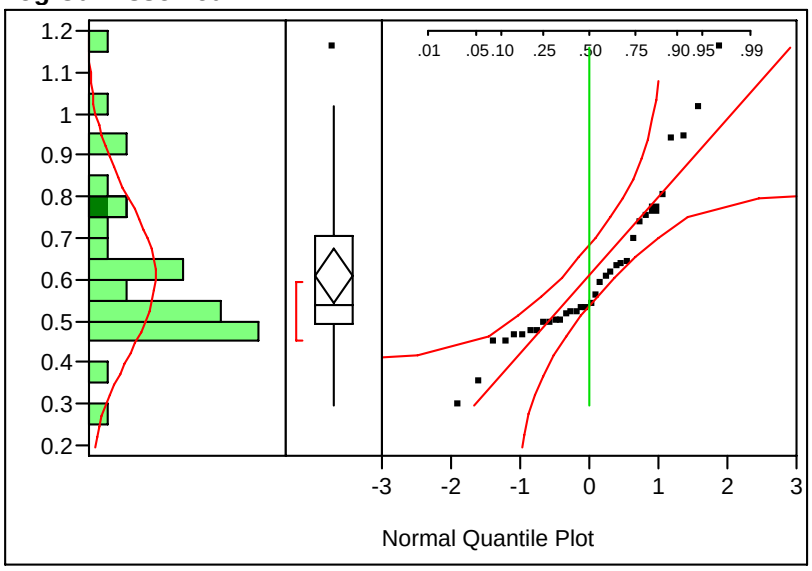
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	4.530294	3.620847	5.439741
Dispersion	Sigma	2.606489	2.102333	3.430863

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.717245	<.0001

Log Cu Dissolved



Normal(0.60869,0.18998)

Quantiles

100.0%	maximum	1.1644
99.5%		1.1644
97.5%		1.1644
90.0%		0.9425
75.0%	quartile	0.7068
50.0%	median	0.5359
25.0%	quartile	0.4906
10.0%		0.4510
2.5%		0.2967
0.5%		0.2967
0.0%	minimum	0.2967

Moments

Mean	0.6086892
Std Dev	0.1899758
Std Err Mean	0.0325806
upper 95% Mean	0.6749749
lower 95% Mean	0.5424035
N	34
Sum Wgt	34
Sum	20.695433
Variance	0.0360908
Skewness	1.2084732
Kurtosis	1.3970294
CV	31.210643
N Missing	0

Fitted Normal

Parameter Estimates

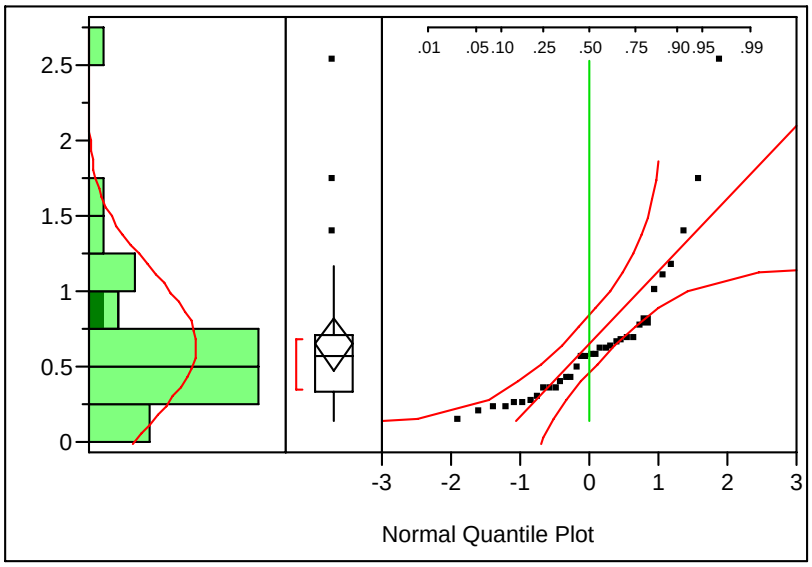
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	0.6086892	0.5424035	0.6749749
Dispersion	Sigma	0.1899758	0.1532300	0.2500609

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.893554	0.0031

Distributions
Pb Dissolved



Normal(0.64824,0.48549)

Quantiles

100.0%	maximum	2.5300
99.5%		2.5300
97.5%		2.5300
90.0%		1.2805
75.0%	quartile	0.7068
50.0%	median	0.5690
25.0%	quartile	0.3398
10.0%		0.2290
2.5%		0.1390
0.5%		0.1390
0.0%	minimum	0.1390

Moments

Mean	0.6482353
Std Dev	0.4854855
Std Err Mean	0.0832601
upper 95% Mean	0.8176292
lower 95% Mean	0.4788414
N	34
Sum Wgt	34
Sum	22.04
Variance	0.2356962
Skewness	2.2394237
Kurtosis	6.3124389
CV	74.89341
N Missing	0

Fitted Normal
Parameter Estimates

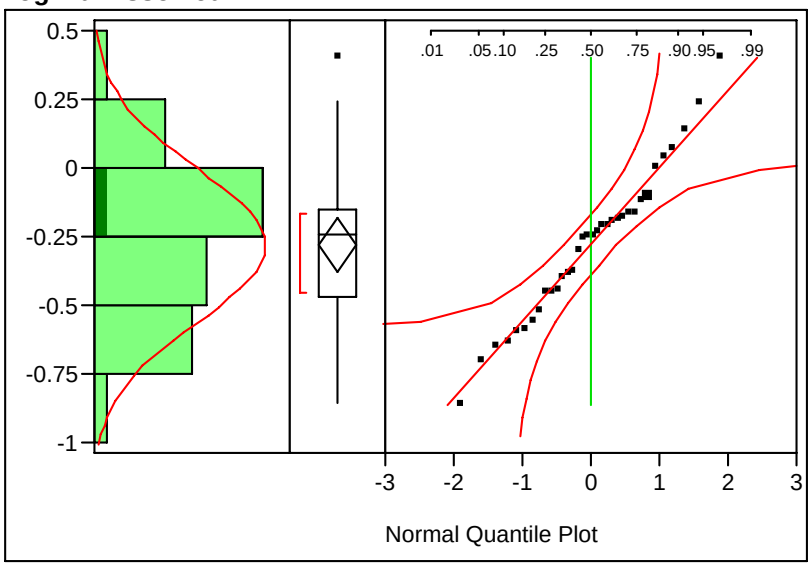
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	0.6482353	0.4788414	0.8176292
Dispersion	Sigma	0.4854855	0.3915812	0.6390338

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.780954	<.0001

Log Pb Dissolved



Normal(-0.2792,0.27892)

Quantiles

100.0%	maximum	0.4031
99.5%		0.4031
97.5%		0.4031
90.0%		0.1058
75.0%	quartile	-0.1513
50.0%	median	-0.2449
25.0%	quartile	-0.4697
10.0%		-0.6403
2.5%		-0.8570
0.5%		-0.8570
0.0%	minimum	-0.8570

Moments

Mean	-0.279161
Std Dev	0.2789219
Std Err Mean	0.0478347
upper 95% Mean	-0.181841
lower 95% Mean	-0.376482
N	34
Sum Wgt	34
Sum	-9.49149
Variance	0.0777974
Skewness	0.2524931
Kurtosis	0.0966885
CV	-99.91418
N Missing	0

Fitted Normal

Parameter Estimates

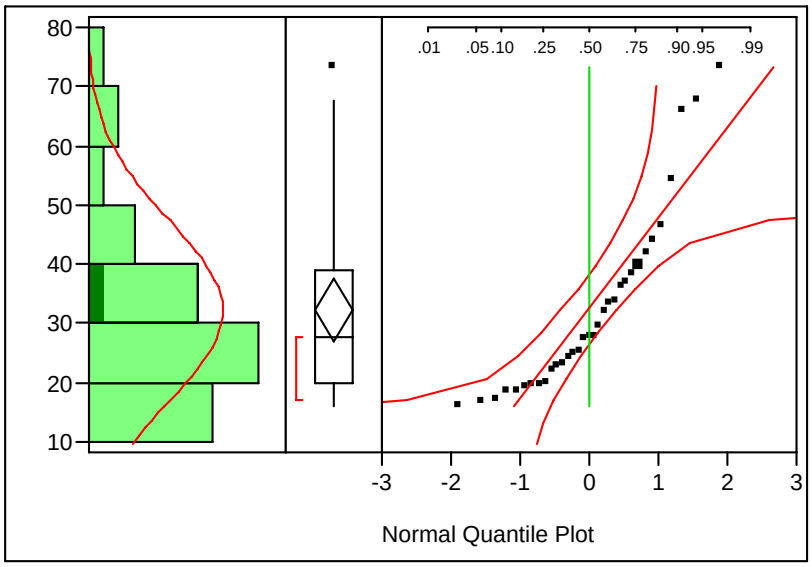
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-0.279161	-0.376482	-0.181841
Dispersion	Sigma	0.278922	0.224972	0.367139

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.984758	0.9056

Distributions
Zn Dissolved



Normal(32.3303,15.1933)

Quantiles

100.0%	maximum	73.300
99.5%		73.300
97.5%		73.300
90.0%		61.340
75.0%	quartile	39.150
50.0%	median	27.700
25.0%	quartile	19.900
10.0%		17.720
2.5%		16.100
0.5%		16.100
0.0%	minimum	16.100

Moments

Mean	32.330303
Std Dev	15.193306
Std Err Mean	2.6448151
upper 95% Mean	37.717615
lower 95% Mean	26.942991
N	33
Sum Wgt	33
Sum	1066.9
Variance	230.83655
Skewness	1.318505
Kurtosis	1.1953874
CV	46.994011
N Missing	1

Fitted Normal
Parameter Estimates

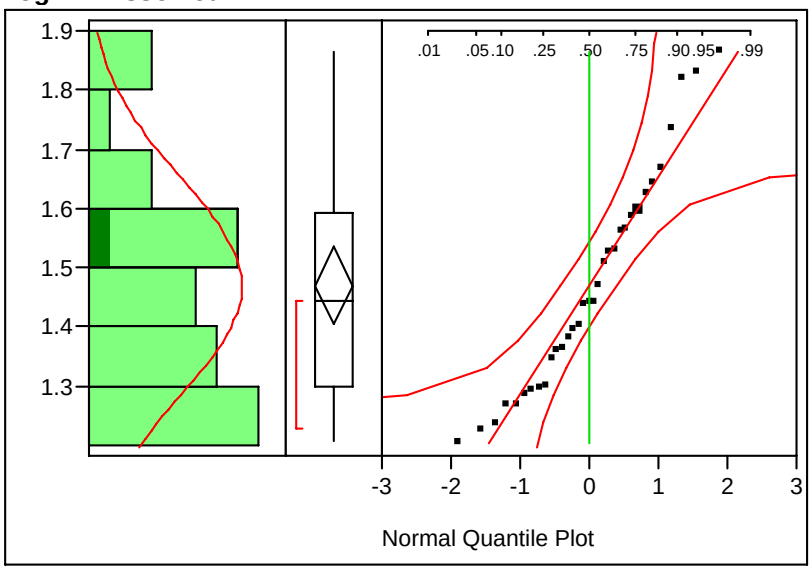
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	32.33030	26.94299	37.71762
Dispersion	Sigma	15.19331	12.21829	20.09608

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.857179	0.0005

Log Zn Dissolved



Normal(1.46977,0.18323)

Quantiles

100.0%	maximum	1.8651
99.5%		1.8651
97.5%		1.8651
90.0%		1.7859
75.0%	quartile	1.5927
50.0%	median	1.4425
25.0%	quartile	1.2988
10.0%		1.2482
2.5%		1.2068
0.5%		1.2068
0.0%	minimum	1.2068

Moments

Mean	1.4697743
Std Dev	0.1832325
Std Err Mean	0.0318967
upper 95% Mean	1.5347458
lower 95% Mean	1.4048029
N	33
Sum Wgt	33
Sum	48.502553
Variance	0.0335741
Skewness	0.5618696
Kurtosis	-0.495846
CV	12.466708
N Missing	1

Fitted Normal

Parameter Estimates

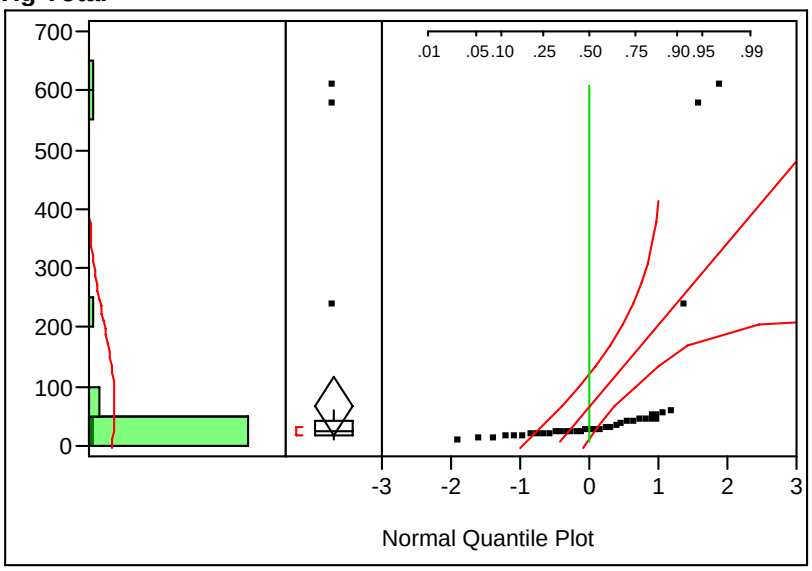
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	1.469774	1.404803	1.534746
Dispersion	Sigma	0.183232	0.147354	0.242360

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.947560	0.1129

Distributions
Hg Total



Normal(67.6612,138.828)

Quantiles

100.0%	maximum	609.00
99.5%		609.00
97.5%		609.00
90.0%		149.40
75.0%	quartile	42.45
50.0%	median	25.30
25.0%	quartile	18.78
10.0%		13.65
2.5%		10.10
0.5%		10.10
0.0%	minimum	10.10

Moments

Mean	67.661176
Std Dev	138.82777
Std Err Mean	23.808765
upper 95% Mean	116.10047
lower 95% Mean	19.221879
N	34
Sum Wgt	34
Sum	2300.48
Variance	19273.148
Skewness	3.5395902
Kurtosis	11.844613
CV	205.18083
N Missing	0

Fitted Normal
Parameter Estimates

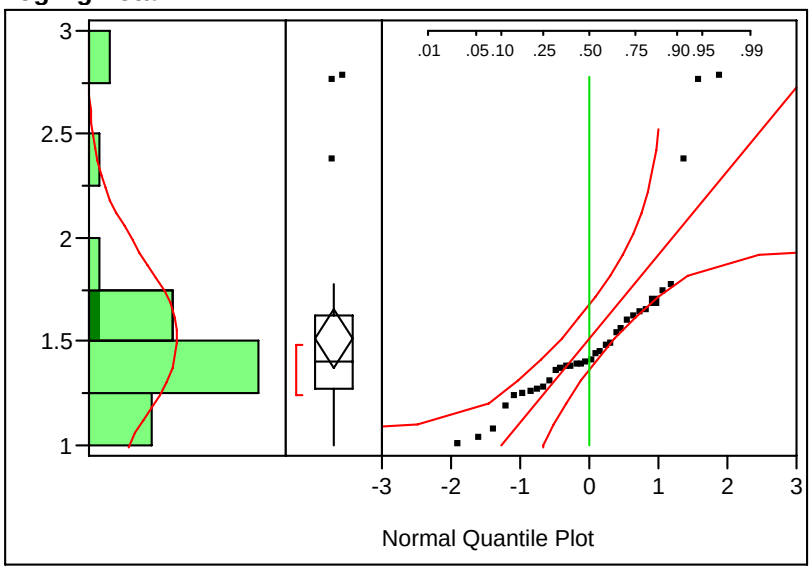
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	67.6612	19.2219	116.1005
Dispersion	Sigma	138.8278	111.9752	182.7359

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.390425	<.0001

Log Hg Total



Normal(1.51665,0.40605)

Quantiles

100.0%	maximum	2.7846
99.5%		2.7846
97.5%		2.7846
90.0%		2.0775
75.0%	quartile	1.6278
50.0%	median	1.4030
25.0%	quartile	1.2736
10.0%		1.1319
2.5%		1.0043
0.5%		1.0043
0.0%	minimum	1.0043

Moments

Mean	1.5166471
Std Dev	0.4060462
Std Err Mean	0.0696364
upper 95% Mean	1.6583233
lower 95% Mean	1.3749709
N	34
Sum Wgt	34
Sum	51.566002
Variance	0.1648735
Skewness	2.0039538
Kurtosis	4.393882
CV	26.772623
N Missing	0

Fitted Normal

Parameter Estimates

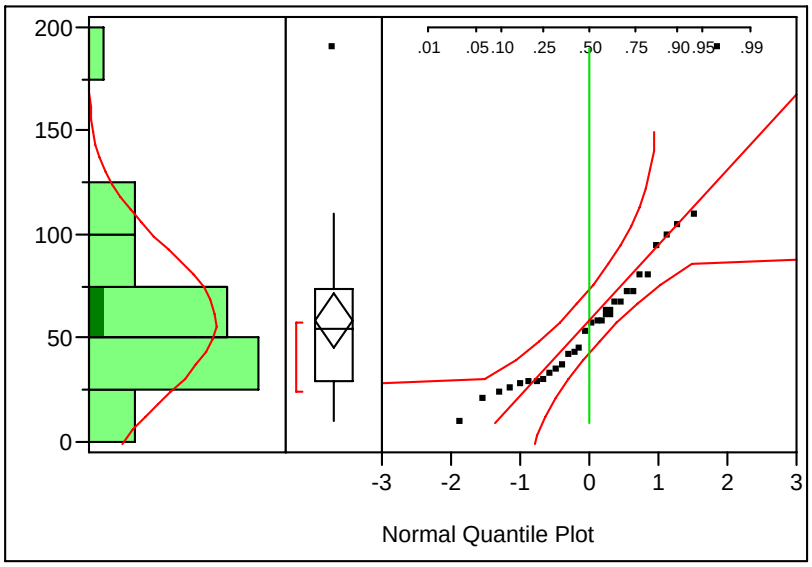
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	1.516647	1.374971	1.658323
Dispersion	Sigma	0.406046	0.327507	0.534470

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.778302	<.0001

Distributions
TDS



Normal(58.5667,36.396)

Quantiles

100.0%	maximum	190.00
99.5%		190.00
97.5%		190.00
90.0%		104.50
75.0%	quartile	74.00
50.0%	median	55.00
25.0%	quartile	29.75
10.0%		24.20
2.5%		10.00
0.5%		10.00
0.0%	minimum	10.00

Moments

Mean	58.566667
Std Dev	36.395986
Std Err Mean	6.6449676
upper 95% Mean	72.157151
lower 95% Mean	44.976182
N	30
Sum Wgt	30
Sum	1757
Variance	1324.6678
Skewness	1.724385
Kurtosis	4.6251317
CV	62.144541
N Missing	4

Fitted Normal
Parameter Estimates

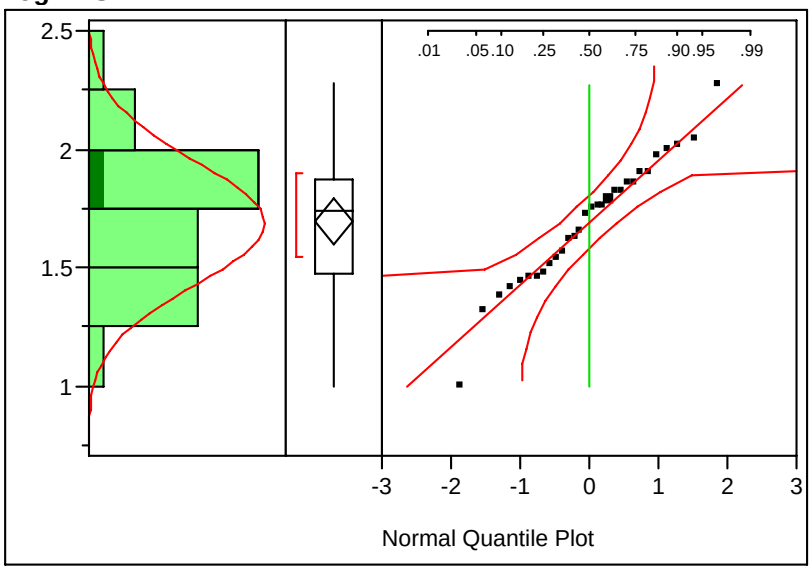
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	58.56667	44.97618	72.15715
Dispersion	Sigma	36.39599	28.98602	48.92768

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.864954	0.0013

Log TDS



Normal(1.69313,0.26469)

Quantiles

100.0%	maximum	2.2788
99.5%		2.2788
97.5%		2.2788
90.0%		2.0191
75.0%	quartile	1.8688
50.0%	median	1.7401
25.0%	quartile	1.4734
10.0%		1.3837
2.5%		1.0000
0.5%		1.0000
0.0%	minimum	1.0000

Moments

Mean	1.693135
Std Dev	0.2646924
Std Err Mean	0.048326
upper 95% Mean	1.7919727
lower 95% Mean	1.5942972
N	30
Sum Wgt	30
Sum	50.79405
Variance	0.0700621
Skewness	-0.266357
Kurtosis	0.4959798
CV	15.63327
N Missing	4

Fitted Normal

Parameter Estimates

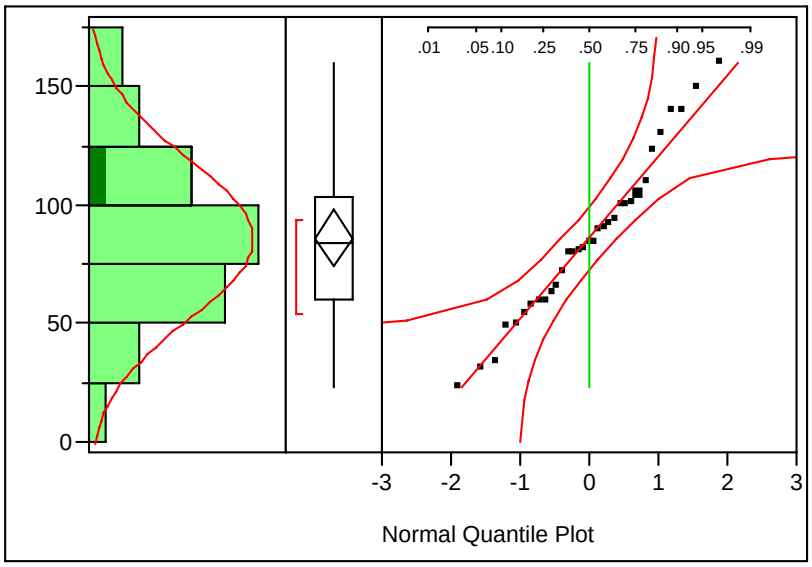
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	1.693135	1.594297	1.791973
Dispersion	Sigma	0.264692	0.210803	0.355830

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.981838	0.8720

Distributions
TSS



Normal(85.9697,34.0831)

Quantiles

100.0%	maximum	160.00
99.5%		160.00
97.5%		160.00
90.0%		140.00
75.0%	quartile	103.00
50.0%	median	84.00
25.0%	quartile	60.00
10.0%		40.00
2.5%		23.00
0.5%		23.00
0.0%	minimum	23.00

Moments

Mean	85.969697
Std Dev	34.083065
Std Err Mean	5.9331
upper 95% Mean	98.055026
lower 95% Mean	73.884368
N	33
Sum Wgt	33
Sum	2837
Variance	1161.6553
Skewness	0.3228213
Kurtosis	-0.261761
CV	39.64544
N Missing	1

Fitted Normal
Parameter Estimates

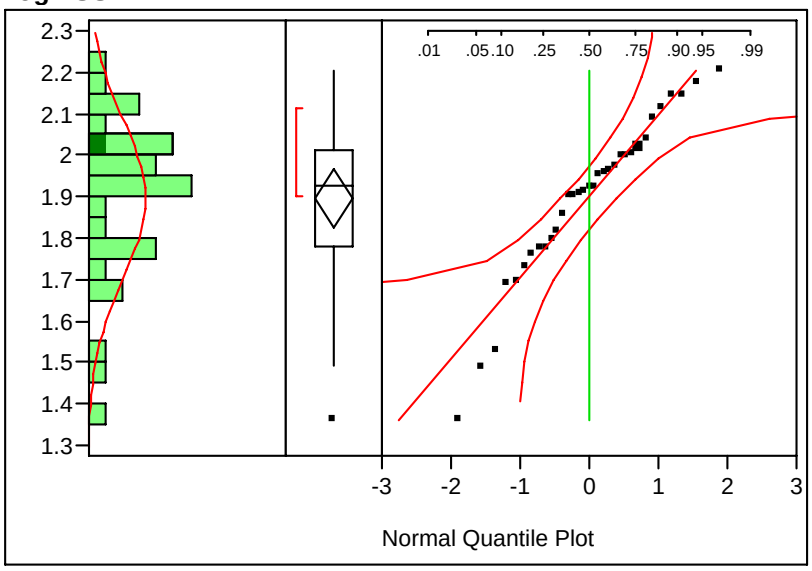
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	85.96970	73.88437	98.05503
Dispersion	Sigma	34.08306	27.40923	45.08143

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.976337	0.6714

Log TSS



Normal(1.89614,0.19573)

Quantiles

100.0%	maximum	2.2041
99.5%		2.2041
97.5%		2.2041
90.0%		2.1461
75.0%	quartile	2.0128
50.0%	median	1.9243
25.0%	quartile	1.7782
10.0%		1.5950
2.5%		1.3617
0.5%		1.3617
0.0%	minimum	1.3617

Moments

Mean	1.8961373
Std Dev	0.1957285
Std Err Mean	0.034072
upper 95% Mean	1.9655396
lower 95% Mean	1.826735
N	33
Sum Wgt	33
Sum	62.572532
Variance	0.0383096
Skewness	-0.822797
Kurtosis	0.7735109
CV	10.322486
N Missing	1

Fitted Normal

Parameter Estimates

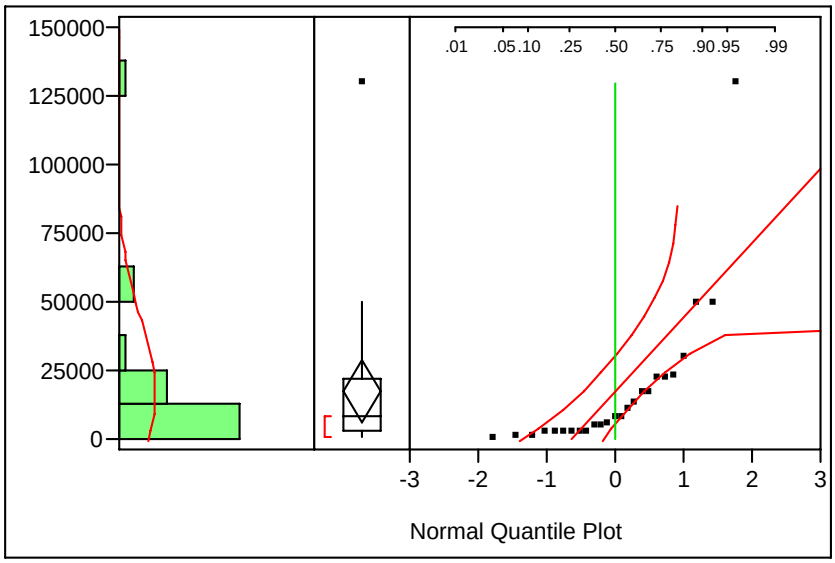
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	1.896137	1.826735	1.965540
Dispersion	Sigma	0.195729	0.157403	0.258889

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.949543	0.1290

Distributions
E. coli



Normal(17514,27208.6)

Quantiles

100.0%	maximum	130000
99.5%		130000
97.5%		130000
90.0%		50000
75.0%	quartile	22000
50.0%	median	8000
25.0%	quartile	3000
10.0%		1100
2.5%		750
0.5%		750
0.0%	minimum	750

Moments

Mean	17514
Std Dev	27208.598
Std Err Mean	5441.7196
upper 95% Mean	28745.157
lower 95% Mean	6282.8427
N	25
Sum Wgt	25
Sum	437850
Variance	740307817
Skewness	3.2706609
Kurtosis	12.4973
CV	155.35342
N Missing	9

Fitted Normal
Parameter Estimates

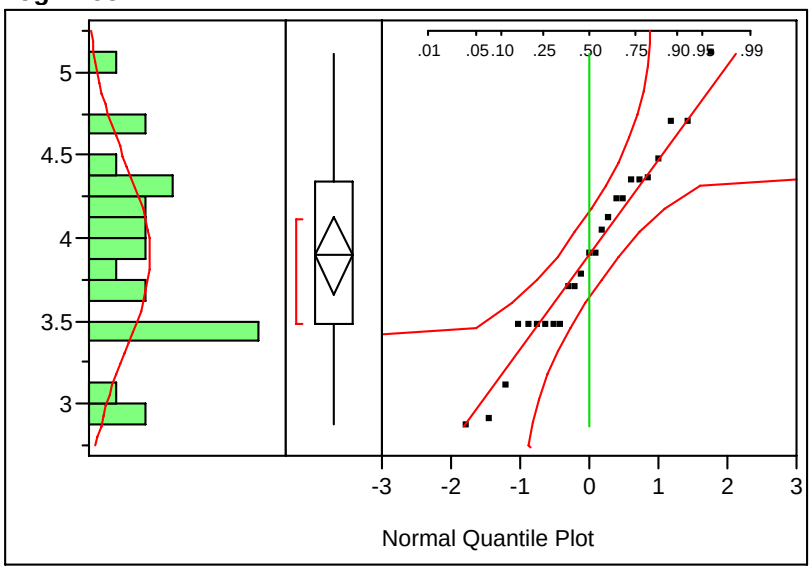
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	17514.00	6282.84	28745.16
Dispersion	Sigma	27208.60	21245.25	37851.30

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.597245	<.0001

Log E. coli



Normal(3.89556,0.57018)

Quantiles

100.0%	maximum	5.1139
99.5%		5.1139
97.5%		5.1139
90.0%		4.6990
75.0%	quartile	4.3424
50.0%	median	3.9031
25.0%	quartile	3.4771
10.0%		3.0296
2.5%		2.8751
0.5%		2.8751
0.0%	minimum	2.8751

Moments

Mean	3.8955562
Std Dev	0.5701838
Std Err Mean	0.1140368
upper 95% Mean	4.1309165
lower 95% Mean	3.6601959
N	25
Sum Wgt	25
Sum	97.388905
Variance	0.3251096
Skewness	0.1066975
Kurtosis	-0.416515
CV	14.636775
N Missing	9

Fitted Normal
Parameter Estimates

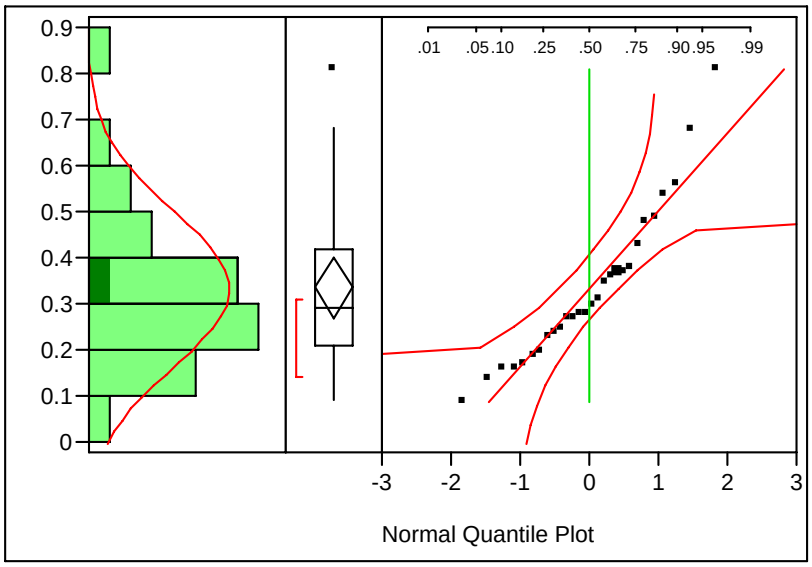
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	3.895556	3.660196	4.130917
Dispersion	Sigma	0.570184	0.445216	0.793212

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.972542	0.7099

Distributions
Diazinon



Normal(0.33429,0.16844)

Quantiles

100.0%	maximum	0.81000
99.5%		0.81000
97.5%		0.81000
90.0%		0.57200
75.0%	quartile	0.41750
50.0%	median	0.29000
25.0%	quartile	0.20750
10.0%		0.15800
2.5%		0.09000
0.5%		0.09000
0.0%	minimum	0.09000

Moments

Mean	0.3342857
Std Dev	0.1684445
Std Err Mean	0.031833
upper 95% Mean	0.3996017
lower 95% Mean	0.2689698
N	28
Sum Wgt	28
Sum	9.36
Variance	0.0283735
Skewness	1.0957438
Kurtosis	1.2121073
CV	50.389376
N Missing	6

Fitted Normal
Parameter Estimates

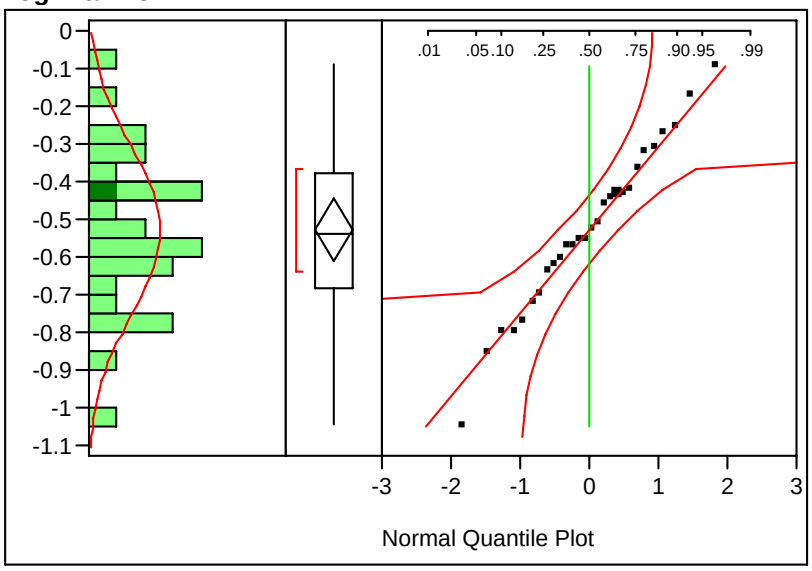
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	0.3342857	0.2689698	0.3996017
Dispersion	Sigma	0.1684445	0.1331755	0.2292759

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.925180	0.0467

Log Diazinon



Normal(-0.5276,0.21927)

Quantiles

100.0%	maximum	-0.092
99.5%		-0.092
97.5%		-0.092
90.0%		-0.243
75.0%	quartile	-0.380
50.0%	median	-0.538
25.0%	quartile	-0.684
10.0%		-0.802
2.5%		-1.046
0.5%		-1.046
0.0%	minimum	-1.046

Moments

Mean	-0.527597
Std Dev	0.2192725
Std Err Mean	0.0414386
upper 95% Mean	-0.442572
lower 95% Mean	-0.612622
N	28
Sum Wgt	28
Sum	-14.77271
Variance	0.0480804
Skewness	-0.17366
Kurtosis	0.00325
CV	-41.56062
N Missing	6

Fitted Normal

Parameter Estimates

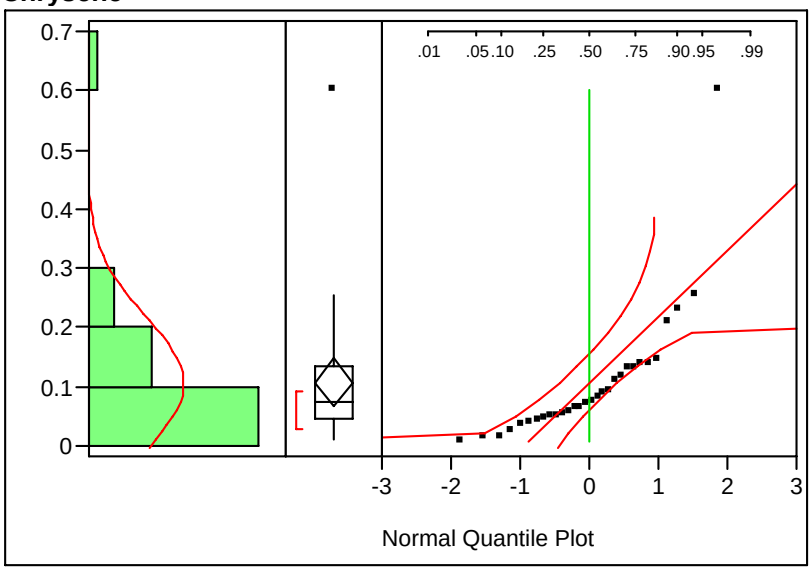
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-0.527597	-0.612622	-0.442572
Dispersion	Sigma	0.219273	0.173361	0.298460

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.991499	0.9974

Distributions
Chrysene



Normal(0.10754,0.11231)

Quantiles

100.0%	maximum	0.60200
99.5%		0.60200
97.5%		0.60200
90.0%		0.23090
75.0%	quartile	0.13525
50.0%	median	0.07475
25.0%	quartile	0.04715
10.0%		0.01738
2.5%		0.00900
0.5%		0.00900
0.0%	minimum	0.00900

Moments

Mean	0.10754
Std Dev	0.1123109
Std Err Mean	0.0205051
upper 95% Mean	0.1494776
lower 95% Mean	0.0656024
N	30
Sum Wgt	30
Sum	3.2262
Variance	0.0126137
Skewness	3.1920312
Kurtosis	12.929199
CV	104.43638
N Missing	4

Fitted Normal
Parameter Estimates

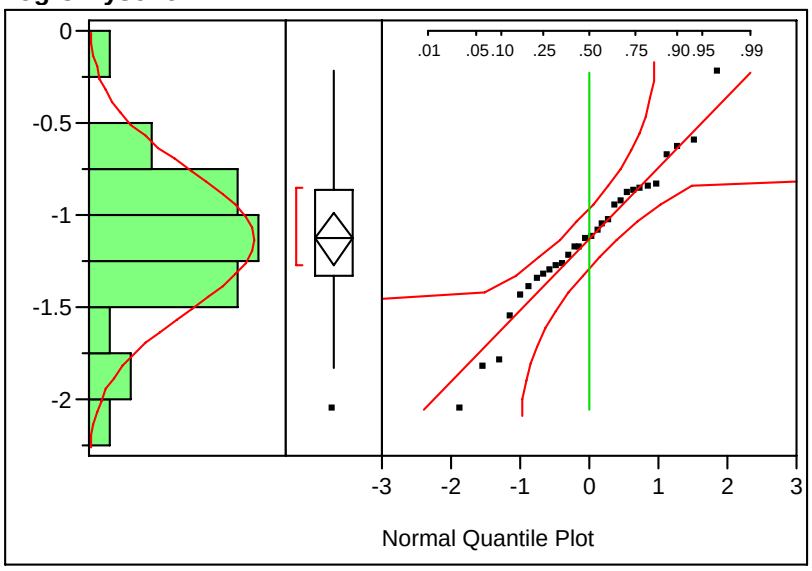
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	0.1075400	0.0656024	0.1494776
Dispersion	Sigma	0.1123109	0.0894452	0.1509812

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.671455	<.0001

Log Chrysene



Normal(-1.128,0.38465)

Quantiles

100.0%	maximum	-0.220
99.5%		-0.220
97.5%		-0.220
90.0%		-0.637
75.0%	quartile	-0.869
50.0%	median	-1.126
25.0%	quartile	-1.327
10.0%		-1.767
2.5%		-2.046
0.5%		-2.046
0.0%	minimum	-2.046

Moments

Mean	-1.127956
Std Dev	0.3846491
Std Err Mean	0.070227
upper 95% Mean	-0.984325
lower 95% Mean	-1.271586
N	30
Sum Wgt	30
Sum	-33.83867
Variance	0.1479549
Skewness	-0.212672
Kurtosis	0.6951016
CV	-34.10143
N Missing	4

Fitted Normal

Parameter Estimates

Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-1.12796	-1.27159	-0.984325
Dispersion	Sigma	0.38465	0.30634	0.517090

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.980366	0.8352

APPENDIX D

Dry Weather Data and Summary Statistics

Cd-D DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Dat
2.2%	-2.02	<0.01		-1.92		0.012	0.012	**Slope**	0.2833	
6.5%	-1.51	0.019	-1.72	-1.78	0.06	0.017	0.019	**Int**	-1.35	-0.01
10.9%	-1.23	0.021	-1.68	-1.70	0.02	0.020	0.021	**SE of resids**	0.03977	0.019
15.2%	-1.03	0.021	-1.68	-1.64	-0.04	0.023	0.021	**Median**	0.0430	0.021
19.6%	-0.86	0.023	-1.64	-1.59	-0.04	0.026	0.023	**Mean ~**	0.0553	0.021
23.9%	-0.71	0.032	-1.49	-1.55	0.06	0.028	0.032	**StDev ~**	0.0415	0.023
28.3%	-0.58	0.033	-1.48	-1.51	0.03	0.031	0.033			0.032
32.6%	-0.45	0.035	-1.46	-1.48	0.02	0.033	0.035			0.033
37.0%	-0.33	0.039	-1.41	-1.44	0.04	0.036	0.039			0.035
41.3%	-0.22	0.039	-1.41	-1.41	0.00	0.039	0.039			0.039
45.7%	-0.11	0.04	-1.40	-1.38	-0.02	0.042	0.040			0.039
50.0%	0.00	0.043	-1.37	-1.35	-0.02	0.045	0.043			0.04
54.3%	0.11	0.044	-1.36	-1.32	-0.04	0.048	0.044			0.043
58.7%	0.22	0.045	-1.35	-1.29	-0.06	0.051	0.045			0.044
63.0%	0.33	0.051	-1.29	-1.26	-0.04	0.055	0.051			0.045
67.4%	0.45	0.057	-1.24	-1.22	-0.02	0.060	0.057			0.051
71.7%	0.58	0.061	-1.21	-1.19	-0.03	0.065	0.061			0.057
76.1%	0.71	0.065	-1.19	-1.15	-0.04	0.071	0.065			0.061
80.4%	0.86	0.071	-1.15	-1.11	-0.04	0.078	0.071			0.065
84.8%	1.03	0.084	-1.08	-1.06	-0.02	0.087	0.084			0.071
89.1%	1.23	0.116	-0.94	-1.00	0.07	0.100	0.116			0.084
93.5%	1.51	0.13	-0.89	-0.92	0.04	0.120	0.130			0.116
97.8%	2.02	0.19	-0.72	-0.78	0.06	0.167	0.190			0.13
										0.19
										1.42

Cu-D DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.1%	-2.04	1.55	0.19	0.10	0.09	1.26		**Slope**	0.2326	1.55
6.3%	-1.53	1.57	0.20	0.22	-0.02	1.65		**Int**	0.57	1.57
10.4%	-1.26	1.61	0.21	0.28	-0.07	1.91		**SE of resids**	0.05062	1.61
14.6%	-1.05	1.62	0.21	0.33	-0.12	2.13		**Median**	3.56	1.62
18.8%	-0.89	2.16	0.33	0.37	-0.03	2.33		**Mean**	4.29	2.16
22.9%	-0.74	2.58	0.41	0.40	0.01	2.52		**StDev**	2.17	2.58
27.1%	-0.61	2.77	0.44	0.43	0.01	2.71				2.77
31.3%	-0.49	2.91	0.46	0.46	0.00	2.89				2.91
35.4%	-0.37	3.09	0.49	0.49	0.00	3.07				3.09
39.6%	-0.26	3.12	0.49	0.51	-0.02	3.26				3.12
43.8%	-0.16	3.37	0.53	0.54	-0.01	3.45				3.37
47.9%	-0.05	3.46	0.54	0.56	-0.02	3.65				3.46
52.1%	0.05	3.65	0.56	0.59	-0.02	3.86				3.65
56.3%	0.16	4.7	0.67	0.61	0.06	4.08				4.7
60.4%	0.26	4.79	0.68	0.64	0.04	4.32				4.79
64.6%	0.37	5.16	0.71	0.66	0.05	4.58				5.16
68.8%	0.49	5.68	0.75	0.69	0.07	4.88				5.68
72.9%	0.61	5.74	0.76	0.72	0.04	5.20				5.74
77.1%	0.74	6.18	0.79	0.75	0.04	5.58				6.18
81.3%	0.89	6.49	0.81	0.78	0.03	6.03				6.49
85.4%	1.05	6.76	0.83	0.82	0.01	6.60				6.76
89.6%	1.26	6.99	0.84	0.87	-0.02	7.36				6.99
93.8%	1.53	8.01	0.90	0.93	-0.03	8.53				8.01
97.9%	2.04	9.01	0.95	1.05	-0.09	11.17				9.01

Pb-D DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.1%	-2.04	0.017	-1.77	-1.58	-0.19	0.027		**Slope**	0.4746	0.017
6.3%	-1.53	0.04	-1.40	-1.34	-0.06	0.046		**Int**	-0.61	0.04
10.4%	-1.26	0.04	-1.40	-1.21	-0.19	0.062		**SE of resids**	0.10136	0.04
14.6%	-1.05	0.065	-1.19	-1.11	-0.08	0.078		**Median**	0.322	0.065
18.8%	-0.89	0.102	-0.99	-1.03	0.04	0.093		**Mean**	0.392	0.102
22.9%	-0.74	0.14	-0.85	-0.96	0.11	0.109		**StDev**	0.362	0.14
27.1%	-0.61	0.151	-0.82	-0.90	0.08	0.126				0.151
31.3%	-0.49	0.161	-0.79	-0.84	0.05	0.144				0.161
35.4%	-0.37	0.165	-0.78	-0.79	0.01	0.163				0.165
39.6%	-0.26	0.224	-0.65	-0.74	0.09	0.184				0.224
43.8%	-0.16	0.232	-0.63	-0.68	0.05	0.207				0.232
47.9%	-0.05	0.286	-0.54	-0.63	0.09	0.232				0.286
52.1%	0.05	0.357	-0.45	-0.59	0.14	0.260				0.357
56.3%	0.16	0.397	-0.40	-0.54	0.13	0.291				0.397
60.4%	0.26	0.431	-0.37	-0.48	0.12	0.328				0.431
64.6%	0.37	0.432	-0.36	-0.43	0.07	0.369				0.432
68.8%	0.49	0.432	-0.36	-0.38	0.01	0.419				0.432
72.9%	0.61	0.44	-0.36	-0.32	-0.04	0.478				0.44
77.1%	0.74	0.453	-0.34	-0.26	-0.09	0.552				0.453
81.3%	0.89	0.641	-0.19	-0.19	0.00	0.647				0.641
85.4%	1.05	0.763	-0.12	-0.11	-0.01	0.777				0.763
89.6%	1.26	0.782	-0.11	-0.01	-0.09	0.970				0.782
93.8%	1.53	1.2	0.08	0.12	-0.04	1.312				1.2
97.9%	2.04	1.45	0.16	0.36	-0.20	2.273				1.45

Zn-D DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.1%	-2.04	4.28	0.63	0.39	0.25	2.43		**Slope**	0.3677	4.28
6.3%	-1.53	4.51	0.65	0.57	0.08	3.7		**Int**	1.13	4.51
10.4%	-1.26	4.81	0.68	0.67	0.01	4.7		**SE of resids**	0.12089	4.81
14.6%	-1.05	5.63	0.75	0.75	0.00	5.6		**Median**	11.3	5.63
18.8%	-0.89	6.33	0.80	0.81	-0.01	6.4		**Mean**	22.1	6.33
22.9%	-0.74	6.39	0.81	0.86	-0.06	7.3		**StDev**	30.2	6.39
27.1%	-0.61	8.93	0.95	0.91	0.04	8.1				8.93
31.3%	-0.49	9.07	0.96	0.95	0.00	9.0				9.07
35.4%	-0.37	9.48	0.98	1.00	-0.02	9.9				9.48
39.6%	-0.26	10.4	1.02	1.04	-0.02	10.9				10.4
43.8%	-0.16	10.6	1.03	1.08	-0.05	11.9				10.6
47.9%	-0.05	11.2	1.05	1.11	-0.07	13.0				11.2
52.1%	0.05	11.4	1.06	1.15	-0.10	14.2				11.4
56.3%	0.16	13.5	1.13	1.19	-0.06	15.6				13.5
60.4%	0.26	15.3	1.18	1.23	-0.05	17.0				15.3
64.6%	0.37	15.6	1.19	1.27	-0.08	18.7				15.6
68.8%	0.49	16	1.20	1.31	-0.11	20.6				16
72.9%	0.61	18.3	1.26	1.36	-0.10	22.8				18.3
77.1%	0.74	20.7	1.32	1.41	-0.09	25.5				20.7
81.3%	0.89	21.3	1.33	1.46	-0.13	28.8				21.3
85.4%	1.05	23	1.36	1.52	-0.16	33.2				23
89.6%	1.26	67.4	1.83	1.60	0.23	39.5				67.4
93.8%	1.53	83.5	1.92	1.70	0.22	49.9				83.5
97.9%	2.04	133	2.12	1.88	0.24	76.3				133

Hg-T DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.1%	-2.04	1.61	0.21	-0.04	0.25	0.90		**Slope**	0.3883	1.61
6.3%	-1.53	2.07	0.32	0.15	0.16	1.4		**Int**	0.75	2.07
10.4%	-1.26	2.16	0.33	0.26	0.08	1.8		**SE of resids**	0.12311	2.16
14.6%	-1.05	2.42	0.38	0.34	0.05	2.2		**Median**	4.26	2.42
18.8%	-0.89	2.52	0.40	0.40	0.00	2.5		**Mean**	9.89	2.52
22.9%	-0.74	2.55	0.41	0.46	-0.05	2.9		**StDev**	16.81	2.55
27.1%	-0.61	3.01	0.48	0.51	-0.03	3.2				3.01
31.3%	-0.49	3.05	0.48	0.56	-0.07	3.6				3.05
35.4%	-0.37	3.78	0.58	0.60	-0.02	4.0				3.78
39.6%	-0.26	3.82	0.58	0.64	-0.06	4.4				3.82
43.8%	-0.16	3.92	0.59	0.69	-0.09	4.9				3.92
47.9%	-0.05	4.07	0.61	0.73	-0.12	5.3				4.07
52.1%	0.05	4.44	0.65	0.77	-0.12	5.9				4.44
56.3%	0.16	4.54	0.66	0.81	-0.15	6.4				4.54
60.4%	0.26	5.64	0.75	0.85	-0.10	7.1				5.64
64.6%	0.37	6.23	0.79	0.89	-0.10	7.8				6.23
68.8%	0.49	7.46	0.87	0.94	-0.06	8.6				7.46
72.9%	0.61	9.51	0.98	0.98	-0.01	9.6				9.51
77.1%	0.74	10.89	1.04	1.04	0.00	10.8				10.89
81.3%	0.89	11.8	1.07	1.09	-0.02	12.3				11.8
85.4%	1.05	14.1	1.15	1.16	-0.01	14.3				14.1
89.6%	1.26	19.4	1.29	1.24	0.05	17.2				19.4
93.8%	1.53	24.3	1.39	1.34	0.04	22.0				24.3
97.9%	2.04	84	1.92	1.54	0.39	34.5				84

TDS DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.1%	-2.04	60	1.78	1.88	-0.10	75		**Slope**	0.2504	60
6.3%	-1.53	110	2.04	2.00	0.04	100		**Int**	2.39	110
10.4%	-1.26	120	2.08	2.07	0.01	118		**SE of resids**	0.04709	120
14.6%	-1.05	140	2.15	2.12	0.02	132		**Median**	255	140
18.8%	-0.89	150	2.18	2.16	0.01	146		**Mean**	287	150
22.9%	-0.74	170	2.23	2.20	0.03	158		**StDev**	189	170
27.1%	-0.61	170	2.23	2.23	0.00	171				170
31.3%	-0.49	200	2.30	2.26	0.04	183				200
35.4%	-0.37	200	2.30	2.29	0.01	196				200
39.6%	-0.26	240	2.38	2.32	0.06	209				240
43.8%	-0.16	250	2.40	2.35	0.05	222				250
47.9%	-0.05	250	2.40	2.37	0.03	236				250
52.1%	0.05	260	2.41	2.40	0.02	250				260
56.3%	0.16	260	2.41	2.42	-0.01	266				260
60.4%	0.26	260	2.41	2.45	-0.04	283				260
64.6%	0.37	280	2.45	2.48	-0.03	301				280
68.8%	0.49	280	2.45	2.51	-0.06	322				280
72.9%	0.61	320	2.51	2.54	-0.03	345				320
77.1%	0.74	350	2.54	2.57	-0.03	372				350
81.3%	0.89	360	2.56	2.61	-0.05	405				360
85.4%	1.05	360	2.56	2.65	-0.09	446				360
89.6%	1.26	560	2.75	2.70	0.05	502				560
93.8%	1.53	570	2.76	2.77	-0.01	588				570
97.9%	2.04	960	2.98	2.90	0.09	786				960

TSS DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in
2.2%	-2.02	<3		0.41		2.6	2.6
6.5%	-1.51	4	0.60	0.51	0.09	3.3	4.0
10.9%	-1.23	4	0.60	0.57	0.03	3.7	4.0
15.2%	-1.03	4	0.60	0.61	-0.01	4.1	4.0
19.6%	-0.86	4	0.60	0.64	-0.04	4.4	4.0
23.9%	-0.71	5	0.70	0.67	0.03	4.7	5.0
28.3%	-0.58	5	0.70	0.70	0.00	5.0	5.0
32.6%	-0.45	5	0.70	0.72	-0.02	5.3	5.0
37.0%	-0.33	5	0.70	0.75	-0.05	5.6	5.0
41.3%	-0.22	5	0.70	0.77	-0.07	5.9	5.0
45.7%	-0.11	5.2	0.72	0.79	-0.08	6.2	5.2
50.0%	0.00	6	0.78	0.81	-0.03	6.5	6.0
54.3%	0.11	6	0.78	0.83	-0.06	6.8	6.0
58.7%	0.22	7	0.85	0.86	-0.01	7.2	7.0
63.0%	0.33	8	0.90	0.88	0.02	7.6	8.0
67.4%	0.45	8	0.90	0.90	0.00	8.0	8.0
71.7%	0.58	9	0.95	0.93	0.03	8.4	9.0
76.1%	0.71	11	1.04	0.95	0.09	9.0	11.0
80.4%	0.86	11	1.04	0.98	0.06	9.6	11.0
84.8%	1.03	12	1.08	1.02	0.06	10.4	12.0
89.1%	1.23	12	1.08	1.06	0.02	11.4	12.0
93.5%	1.51	13	1.11	1.11	0.00	12.9	13.0
97.8%	2.02	14	1.15	1.21	-0.07	16.3	14.0

Slope	0.1973
Int	0.81
SE of resids	0.04923
Median	6.00
Mean ~	7.21
StDev ~	3.39

Original Data
<3
4
4
4
4
5
5
5
5
5
5.2
6
6
<7
7
8
8
9
11
11
12
12
13
14

E-coli DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit
3.1%	-1.86	300	2.48	2.25	0.23	177
9.4%	-1.32	500	2.70	2.59	0.11	389
15.6%	-1.01	700	2.85	2.78	0.06	608
21.9%	-0.78	700	2.85	2.93	-0.09	853
28.1%	-0.58	800	2.90	3.06	-0.15	1136
34.4%	-0.40	800	2.90	3.17	-0.26	1468
40.6%	-0.24	1700	3.23	3.27	-0.04	1865
46.9%	-0.08	2300	3.36	3.37	-0.01	2347
53.1%	0.08	3000	3.48	3.47	0.01	2947
59.4%	0.24	3000	3.48	3.57	-0.09	3710
65.6%	0.40	3000	3.48	3.67	-0.20	4713
71.9%	0.58	3000	3.48	3.78	-0.31	6091
78.1%	0.78	17000	4.23	3.91	0.32	8109
84.4%	1.01	23000	4.36	4.06	0.31	11377
90.6%	1.32	30000	4.48	4.25	0.23	17784
96.9%	1.86	30000	4.48	4.59	-0.12	39181

Slope	0.630	**Original Data**
Int	3.42	-2
SE of resids	0.196	300
Median	2650	500
Mean	7488	700
StDev	10856	700
		800
		800
		1700
		2300
		3000
		3000
		3000
		3000
		17000
		23000
		30000
		30000
		900000

Chlorpyrifos DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.1%	-2.04	-0.05					0.025	**Slope**		-0.05
6.3%	-1.53	-0.05					0.025	**Int**		-0.05
10.4%	-1.26	-0.05					0.025	**SE of resids**		-0.05
14.6%	-1.05	-0.05					0.025	**Median ~**	0.025	-0.05
18.8%	-0.89	-0.05					0.025	**Mean ~**	0.023	-0.05
22.9%	-0.74	-0.05					0.025	**StDev ~**	0.00642	-0.05
27.1%	-0.61	-0.05					0.025			-0.05
31.3%	-0.49	-0.05					0.025			-0.05
35.4%	-0.37	-0.05					0.025			-0.05
39.6%	-0.26	-0.05					0.025			-0.05
43.8%	-0.16	-0.05					0.025			-0.05
47.9%	-0.05	-0.05					0.025			-0.05
52.1%	0.05	-0.05					0.025			-0.05
56.3%	0.16	-0.05					0.025			-0.05
60.4%	0.26	-0.05					0.025			-0.05
64.6%	0.37	-0.05					0.025			-0.05
68.8%	0.49	-0.05					0.025			-0.05
72.9%	0.61	-0.05					0.025			-0.05
77.1%	0.74	-0.05					0.025			-0.05
81.3%	0.89	-0.05					0.025			-0.05
85.4%	1.05	-0.05					0.025			-0.05
89.6%	1.26	-0.012					0.006			-0.012
93.8%	1.53	-0.012					0.006			-0.012
97.9%	2.04	-0.012					0.006			-0.012

All fill-ins based on 1/2 RL

Diazinon DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data	
2.1%	-2.04	<0.018		-1.70		0.020	0.020	**Slope**	0.2941	-0.018	
6.3%	-1.53	<0.05		-1.55		0.028	0.028	**Int**	-1.10	-0.05	0.03
10.4%	-1.26	<0.05		-1.47		0.034	0.034	**SE of resids**	0.07483	-0.05	0.03
14.6%	-1.05	<0.05		-1.41		0.039	0.039	**Median**	0.073	-0.05	0.03
18.8%	-0.89	<0.05		-1.36		0.044	0.044	**Mean ~**	0.099	-0.05	
22.9%	-0.74	<0.05		-1.32		0.048	0.048	**StDev ~**	0.06446	-0.05	
27.1%	-0.61	<0.05		-1.28		0.053	0.053			-0.05	
31.3%	-0.49	<0.05		-1.24		0.057	0.057			-0.05	
35.4%	-0.37	<0.05		-1.21		0.062	0.062			-0.05	
39.6%	-0.26	<0.05		-1.18		0.067	0.067			-0.05	
43.8%	-0.16	0.05	-1.30	-1.14	-0.16	0.072	0.050			0.05	
47.9%	-0.05	0.06	-1.22	-1.11	-0.11	0.077	0.060			0.06	
52.1%	0.05	0.08	-1.10	-1.08	-0.01	0.083	0.080			0.08	
56.3%	0.16	0.1	-1.00	-1.05	0.05	0.089	0.100			0.1	
60.4%	0.26	0.12	-0.92	-1.02	0.10	0.096	0.120			0.12	
64.6%	0.37	0.12	-0.92	-0.99	0.07	0.103	0.120			0.12	
68.8%	0.49	0.12	-0.92	-0.95	0.03	0.111	0.120			0.12	
72.9%	0.61	0.13	-0.89	-0.92	0.03	0.121	0.130			0.13	
77.1%	0.74	0.14	-0.85	-0.88	0.03	0.132	0.140			0.14	
81.3%	0.89	0.16	-0.80	-0.84	0.04	0.146	0.160			0.16	
85.4%	1.05	0.19	-0.72	-0.79	0.07	0.163	0.190			0.19	
89.6%	1.26	0.19	-0.72	-0.73	0.01	0.187	0.190			0.19	
93.8%	1.53	0.2	-0.70	-0.65	-0.05	0.226	0.200			0.2	
97.9%	2.04	0.26	-0.59	-0.50	-0.09	0.317	0.260			0.26	

DDT DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.1%	-2.04	-0.05					0.025	**Int**		-0.05
6.3%	-1.53	-0.05					0.025	**SE of resids**		-0.05
10.4%	-1.26	-0.05					0.025	**Median ~**	0.0250	-0.05
14.6%	-1.05	-0.05					0.025	**Mean ~**	0.0160	-0.05
18.8%	-0.89	-0.05					0.025	**StDev ~**	0.01042	-0.05
22.9%	-0.74	-0.05					0.025			-0.05
27.1%	-0.61	-0.05					0.025			-0.05
31.3%	-0.49	-0.05					0.025			-0.05
35.4%	-0.37	-0.05					0.025			-0.05
39.6%	-0.26	-0.05					0.025			-0.05
43.8%	-0.16	-0.05					0.025			-0.05
47.9%	-0.05	-0.05					0.025			-0.05
52.1%	0.05	-0.01					0.005			-0.01
56.3%	0.16	-0.01					0.005			-0.01
60.4%	0.26	-0.01					0.005			-0.01
64.6%	0.37	-0.01					0.005			-0.01
68.8%	0.49	-0.01					0.005			-0.01
72.9%	0.61	-0.01					0.005			-0.01
77.1%	0.74	-0.01					0.005			-0.01
81.3%	0.89	-0.01					0.005			-0.01
85.4%	1.05	-0.01					0.005			-0.01
89.6%	1.26	-0.01					0.005			-0.01
93.8%	1.53	-0.01					0.005			-0.01
97.9%	2.04	0.03	-1.52				0.03			0.03

All fill-ins based on 1/2 RL

Chrysene DRY WEATHER DATA
Probability-Based Regressions and Monte Carlo Parameters

Frequency	Z-Stat	Value	Log(Value)	log(Best Fit)	log(Residuals)	Best Fit	Data/Fill-in			Original Data
2.2%	-2.02	-0.005		-3.43		0.0004	0.0025	**Slope**	0.3376	-0.005
6.5%	-1.51	-0.005		-3.26		0.0006	0.0025	**Int**	-2.75	-0.005
10.9%	-1.23	-0.005		-3.16		0.0007	0.0025	**SE of resids**	0.00000	-0.005
15.2%	-1.03	-0.005		-3.09		0.0008	0.0025	**Median ~**	0.0025	-0.005
19.6%	-0.86	-0.005		-3.04		0.0009	0.0025	**Mean ~**	0.0022	-0.005
23.9%	-0.71	-0.005		-2.99		0.0010	0.0025	**StDev ~**	0.00185	-0.005
28.3%	-0.58	-0.005		-2.94		0.0011	0.0025	**Regr. Median**	0.0018	-0.005
32.6%	-0.45	-0.005		-2.90		0.0013	0.0025	**Regr. Mean**	0.0024	-0.005
37.0%	-0.33	-0.005		-2.86		0.0014	0.0025			-0.005
41.3%	-0.22	-0.005		-2.82		0.0015	0.0025			-0.005
45.7%	-0.11	-0.005		-2.78		0.0016	0.0025			-0.005
50.0%	0.00	-0.002		-2.75		0.0018	0.001			-0.002
54.3%	0.11	-0.002		-2.71		0.0019	0.001			-0.002
58.7%	0.22	-0.002		-2.67		0.0021	0.001			-0.002
63.0%	0.33	-0.002		-2.63		0.0023	0.001			-0.002
67.4%	0.45	-0.002		-2.60		0.0025	0.001			-0.002
71.7%	0.58	-0.002		-2.55		0.0028	0.001			-0.002
76.1%	0.71	-0.001		-2.51		0.0031	0.0005			-0.001
80.4%	0.86	-0.001		-2.46		0.0035	0.0005			-0.001
84.8%	1.03	-0.001		-2.40		0.0040	0.0005			-0.001
89.1%	1.23	-0.001		-2.33		0.0047	0.0005			-0.001
93.5%	1.51	0.0058	-2.24	-2.24	0.00	0.0058	0.0058			0.0058
97.8%	2.02	0.0086	-2.07	-2.07	0.00	0.0086	0.0086			0.0086

All fill-ins based on 1/2 RL

APPENDIX E

Model Formulas and Sample Calculations

Wet Weather Model Formulas/Mechanics

The "All Event Calcs – Urban Area" Excel workbook is the computational engine for the wet weather EMC/EML calculations for the entire urban area as a whole. (The computational process is similar for the "entire urban area" and for each individual urban drainage basin, but there are two separate computational tracks, one for the entire urban area, and one for handling the individual basins, in an Excel workbook called "All Event Calcs – General"). Extensive pre-processing is done elsewhere to prepare the rainfall/runoff data for these calculations. Discrete, qualifying storm events (at least 0.1" of rain over a six hour period) are delineated from the 30 year record of annual rainfall data, and associated event characteristics are identified for each qualifying event.

The All Event Calcs workbooks contain a worksheet for each of the 30 years modeled. Initially, storm event characteristics are read in from the pre-processed rainfall record files, and the following items are written to columns and/or calculated:

		E	F	G	H	I	J
Event #	Storm Date/Time	Event Rainfall (inches)	EventCum Rainfall (inches)	Event Duration (hours)	Average Intensity (inches/hr)	Event Runoff Volume (KCF)	Average Event Flow (KCF/Hr)

The Event Rainfall, EventCum Rainfall (the cumulative precip to date at the start of the given storm event), and Event Duration are read in from the rainfall record files for each qualifying rainfall event. Average Intensity is calculated from Event Rainfall/Event Duration (Col E/Col G).

Event Runoff Volume is calculated from the area-wide rainfall/runoff equation provided in the 1996 DCP, with the area term adjusted for the area currently designated as urban (160,000 acres, or 2.49 square miles):

8.293*E2^1.236*249^0.94*133.69

[For the individual basins, in the All Event Calcs – General workbook, the watershed characteristics are read from a table and Event Runoff is calculated using the basic rainfall/runoff formula:

$$V = 3.63 \cdot C \cdot R \cdot A$$

where V is the runoff volume in thousands of cubic feet (KCF), R is the event rainfall in inches, A is the watershed area in acres, and 3.63 is the appropriate unit conversion factor.]

Average Event Flow is calculated as Event Runoff Volume/Event Duration (Col I/Col G).

The EMC (or log EMC for all constituents except TSS) is calculated for each constituent for each qualifying event according to either the regression equation established for that constituent, or by Monte Carlo simulation for those constituents for which qualifying regression equations could not be established.

Copper/1980 Example

In the following example the number "2" next to the column designations refers to row 2 (the first event of the year) in the Excel workbook.

The formula for calculating log copper EMC is based on the regression equation (see Table 7 in the report) as follows:

$$0.764+(-0.218*E2)+(0.00966*G2)+(-0.0165*F2)+(0.143*L2)$$

The regression equation for copper relies on Event Rainfall, Event Duration, and cumulative precip to date (EventCum Rainfall). Col L is the randomly-generated Z-statistic, which is applied to the regression equation's error term (0.143), derived from the regression analysis.

The log EMC value is converted to EMC (µg/L). The Event Mass Load (EML) is then calculated (in grams) for the storm event as:

$$0.00834*454/133.69*Q2*I2$$

where Col Q is the EMC in µg/L, Col I is the event runoff volume in KCF, and the other terms are unit conversions.

Example results from the year 1980 are presented in the following table.

For each year the EMLs from the individual events are summed to produce an annual wet weather loading. This is repeated for each of the thirty years.

Annual Loadings

Dry weather loadings are calculated for the inter-storm flows and dry season flows based on average dry weather concentrations and average flow rates applied to the specific number of dry hours in each of those two categories for each year, derived from the precipitation record pre-processing. A total annual loading is then computed as the wet weather loadings plus the inter-storm and dry season loadings. The 30 annual sets of loadings results are then described statistically to produce average annual loadings for each constituent.

EXAMPLE WET WEATHER CALCULATIONS FOR DISSOLVED COPPER, 1980

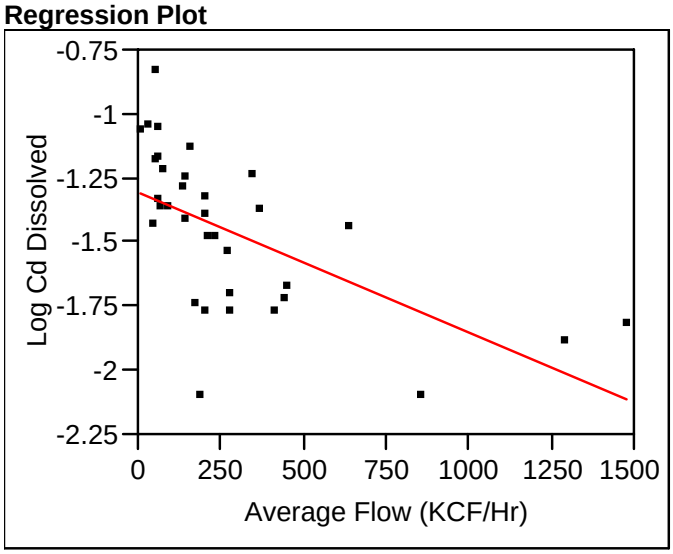
Event	Storm Date/Time	Event Rainfall (inches)	Event Cum Rainfall (inches)	Event Duration (hours)	Average Intensity (inches /hr)	Event Runoff Volume (KCF)	Average Event Flow (KCF/Hr)	Prandom	Zrandom	log EMC Cu	EMC Cu (ug/L)	EML Cu (grams)
1	11/21/1980 22:00	0.19	0.07	9	0.021111	25455.25	2828.361	0.638261	0.353814	0.859	7.227	5210.3
2	12/2/1980 18:00	0.11	0.33	2	0.055	12953.86	6476.932	0.570866	0.178578	0.7794	6.0177	2207.8
3	12/3/1980 9:00	1.08	0.55	18	0.06	218046.8	12113.71	0.682459	0.474587	0.7612	5.7707	35637
4	12/21/1980 10:00	0.46	1.63	8	0.0575	75928.82	9491.103	0.643896	0.368893	0.7669	5.846	12571
5	1/22/1981 11:00	1.77	2.34	21	0.084286	401543.8	19121.13	0.916951	1.384849	0.7404	5.5008	62557
6	1/23/1981 13:00	0.16	4.11	5	0.032	20584.02	4116.805	0.583331	0.210422	0.7397	5.4916	3201.5
7	1/26/1981 5:00	0.13	4.27	5	0.026	15924.73	3184.945	0.102493	-1.26747	0.5323	3.4061	1536.2
8	1/26/1981 15:00	1.55	4.4	26	0.059615	340790.9	13107.34	0.798929	0.837803	0.7245	5.3023	51177
9	1/27/1981 22:00	0.29	5.95	8	0.03625	42930.1	5366.263	0.495916	-0.01024	0.6784	4.7689	5798.4
10	1/28/1981 14:00	0.83	6.24	12	0.069167	157477.5	13123.12	0.598135	0.248524	0.6316	4.2811	19094
11	2/13/1981 4:00	0.24	7.24	9	0.026667	33976.53	3775.17	0.499139	-0.00216	0.6789	4.7737	4593.6
12	2/14/1981 0:00	0.16	7.48	2	0.08	20584.02	10292.01	0.259844	-0.64383	0.533	3.4116	1988.9
13	2/25/1981 2:00	0.15	7.79	5	0.03	19005.83	3801.165	0.136328	-1.09696	0.4942	3.1203	1679.6
14	3/4/1981 6:00	0.63	8.08	15	0.042	112001.3	7466.75	0.093463	-1.31973	0.4495	2.8153	8930.3
15	3/15/1981 8:00	0.97	8.72	14	0.069286	190936	13638.29	0.110807	-1.22225	0.3691	2.3395	12651
16	3/18/1981 9:00	1.18	9.69	24	0.049167	243267.5	10136.15	0.445758	-0.13639	0.5592	3.6242	24970
17	3/20/1981 17:00	0.13	10.96	6	0.021667	15924.73	2654.121	0.002817	-2.76838	0.2169	1.6478	743.18
18	3/21/1981 2:00	0.1	11.09	6	0.016667	11514.31	1919.052	0.875133	1.150996	0.7818	6.0502	1973
19	3/25/1981 4:00	0.43	11.19	6	0.071667	69856.2	11642.7	0.893169	1.243557	0.7214	5.2652	10417
20	4/18/1981 16:00	0.1	11.62	4	0.025	11514.31	2878.578	0.020129	-2.05109	0.2958	1.9761	644.41
21	4/19/1981 0:00	0.61	11.72	18	0.033889	107623.1	5979.063	0.897922	1.269803	0.7931	6.2101	18929
22	5/18/1981 3:00	0.1	12.33	2	0.05	11514.31	5757.156	0.707694	0.546659	0.6362	4.3276	1411.3
23	5/18/1981 11:00	0.24	12.43	3	0.08	33976.53	11325.51	0.470679	-0.07356	0.525	3.35	3223.6

APPENDIX F

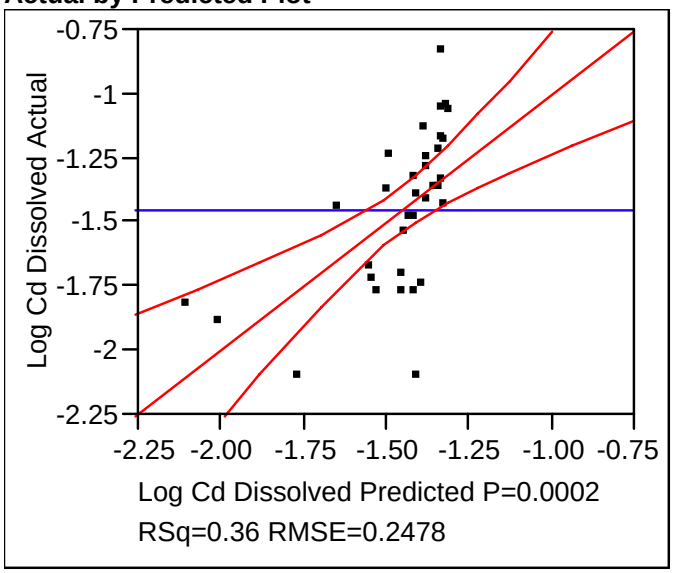
Regression Statistics and Plots

REGRESSION MODELS
Sacramento Stormwater Discharge Characterization Update – 2005
Armand Ruby Consulting
Updated March 24, 2005

Response Log Cd Dissolved
Whole Model
Regression Plot



Actual by Predicted Plot



Summary of Fit

RSquare	0.359375
RSquare Adj	0.339356
Root Mean Square Error	0.247803
Mean of Response	-1.45573
Observations (or Sum Wgts)	34

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	1.1023236	1.10232	17.9512
Error	32	1.9650089	0.06141	Prob > F
C. Total	33	3.0673325		0.0002

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	30	1.9491818	0.064973	8.2103
Pure Error	2	0.0158271	0.007914	Prob > F
Total Error	32	1.9650089		0.1142
				Max RSq
				0.9948

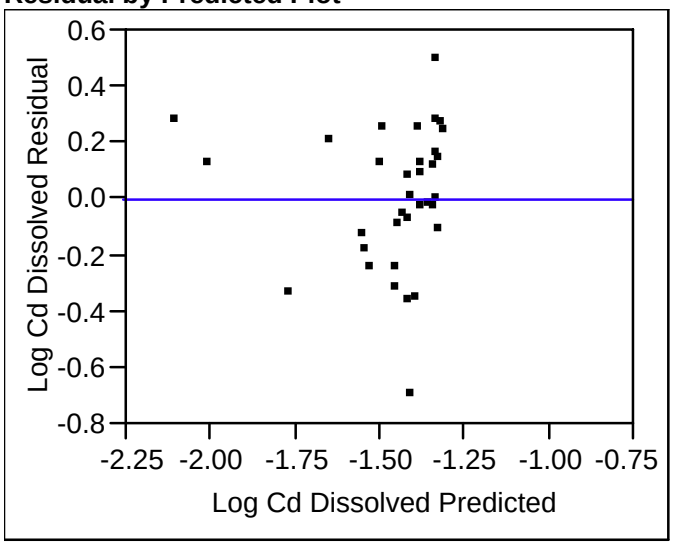
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-1.298074	0.056486	-22.98	<.0001
Average Flow (KCF/Hr)	-0.000548	0.000129	-4.24	0.0002

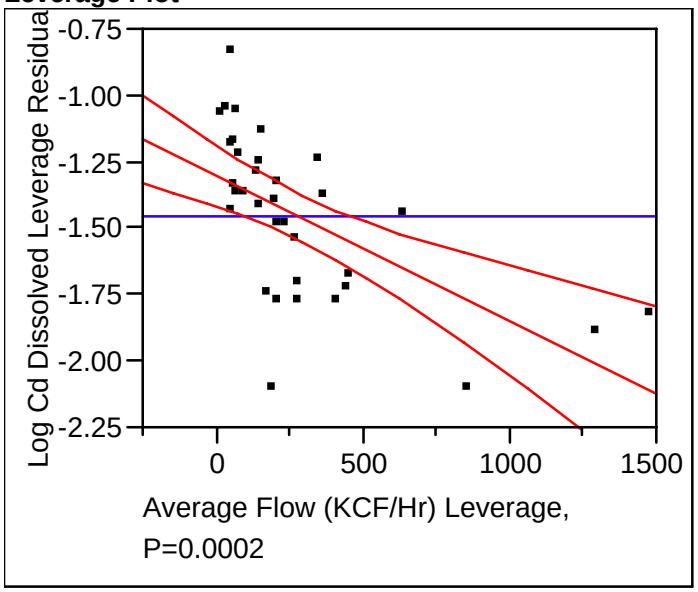
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
Average Flow (KCF/Hr)	1	1	1.1023236	17.9512	0.0002

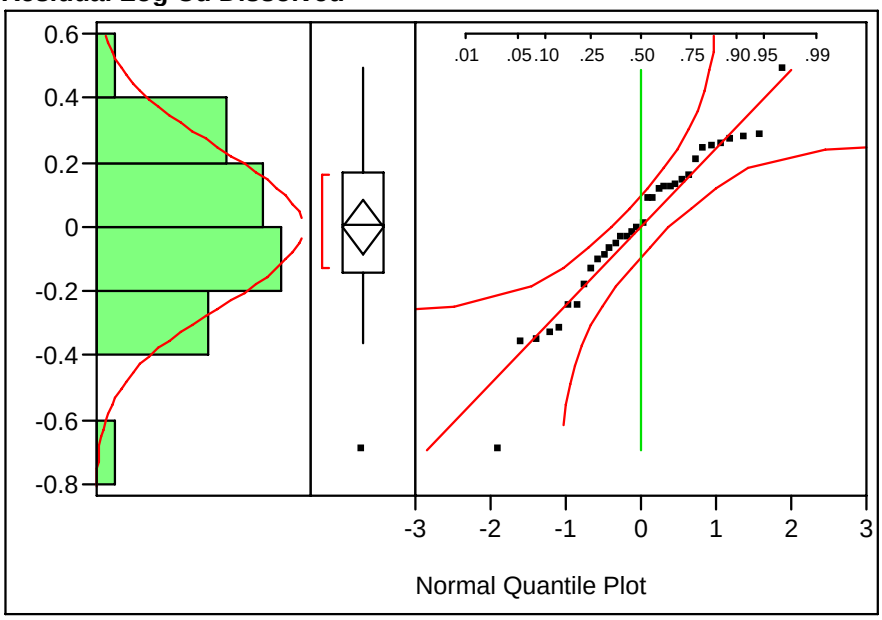
Residual by Predicted Plot



Average Flow (KCF/Hr)
Leverage Plot



Distributions
Residual Log Cd Dissolved



Normal(-3e-16,0.24402)

Quantiles

100.0%	maximum	0.4920
99.5%		0.4920
97.5%		0.4920
90.0%		0.2748
75.0%	quartile	0.1705
50.0%	median	0.0036
25.0%	quartile	-0.1423
10.0%		-0.3402
2.5%		-0.6932
0.5%		-0.6932
0.0%	minimum	-0.6932

Moments

Mean	-3.46e-16
Std Dev	0.2440199
Std Err Mean	0.0418491
upper 95% Mean	0.0851426
lower 95% Mean	-0.085143
N	34
Sum Wgt	34
Sum	-1.18e-14
Variance	0.0595457
Skewness	-0.613307
Kurtosis	0.6571734
CV	-7.05e+16
N Missing	0

Fitted Normal
Parameter Estimates

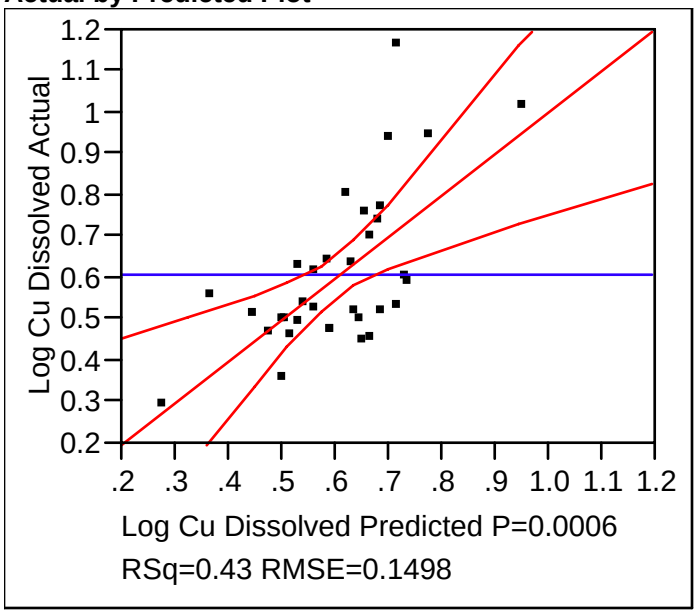
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-3.46e-16	-0.085143	0.0851426
Dispersion	Sigma	0.244020	0.196821	0.3211980

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.964926	0.3364

Response Log Cu Dissolved
Whole Model
Actual by Predicted Plot



Summary of Fit

RSquare	0.43462
RSquare Adj	0.378083
Root Mean Square Error	0.149818
Mean of Response	0.608689
Observations (or Sum Wgts)	34

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	0.5176316	0.172544	7.6872
Error	30	0.6733652	0.022446	Prob > F
C. Total	33	1.1909967		0.0006

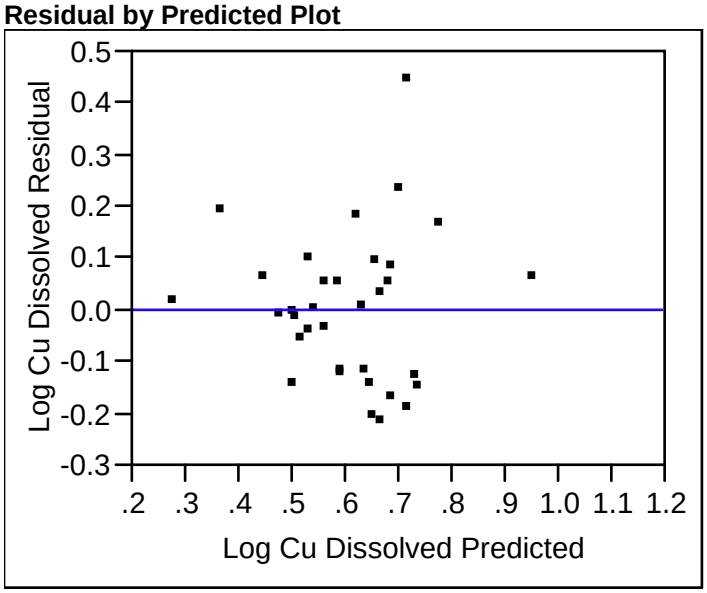
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	0.7639987	0.057215	13.35	<.0001
RAINFALL	-0.217713	0.076236	-2.86	0.0077
Rain Duration	0.0096623	0.003723	2.60	0.0145
CUM RAIN	-0.016534	0.005866	-2.82	0.0085

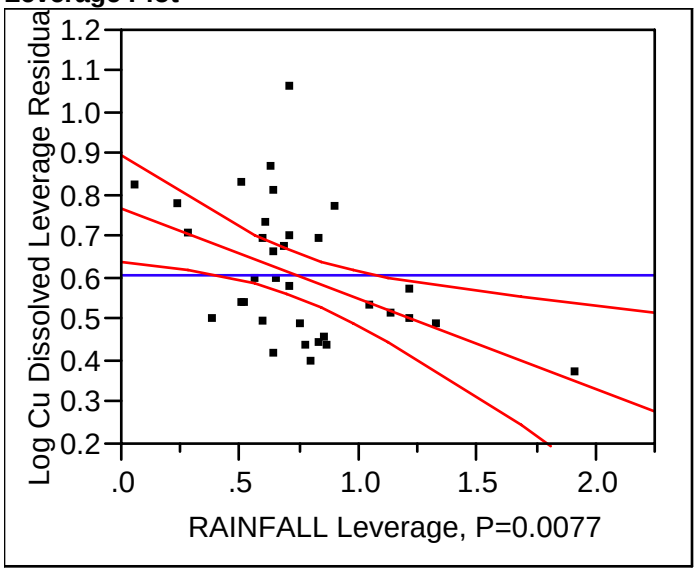
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
RAINFALL	1	1	0.18305264	8.1554	0.0077
Rain Duration	1	1	0.15116660	6.7348	0.0145
CUM RAIN	1	1	0.17828014	7.9428	0.0085

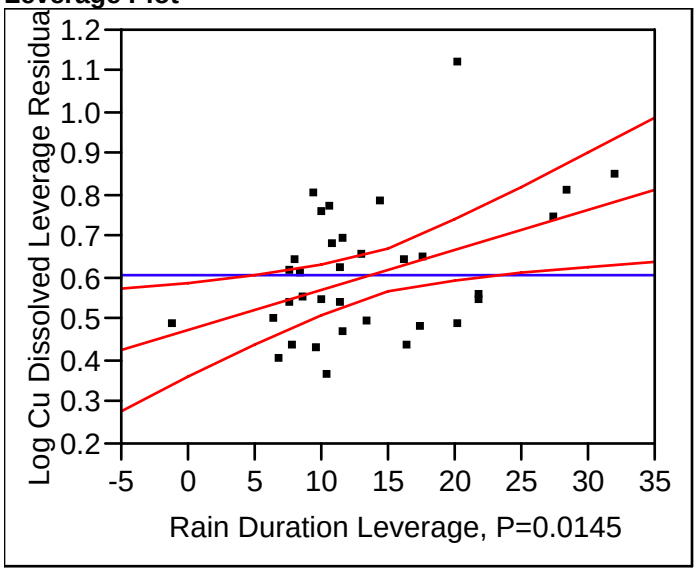
Residual by Predicted Plot



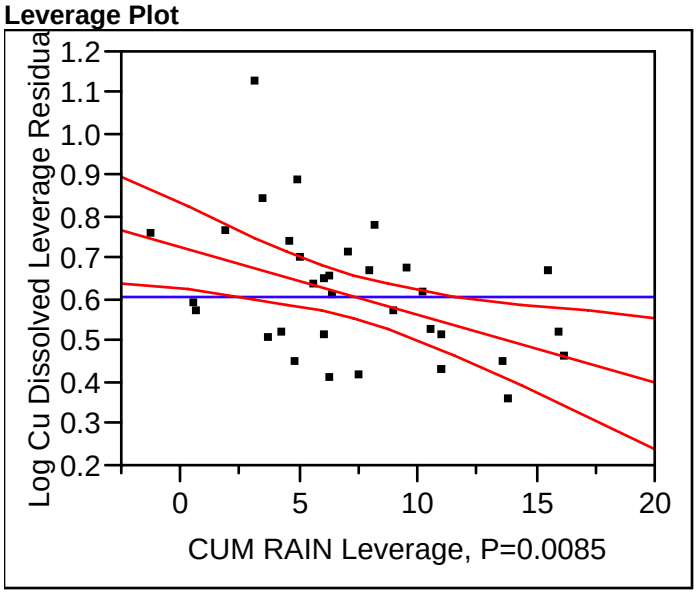
RAINFALL
Leverage Plot



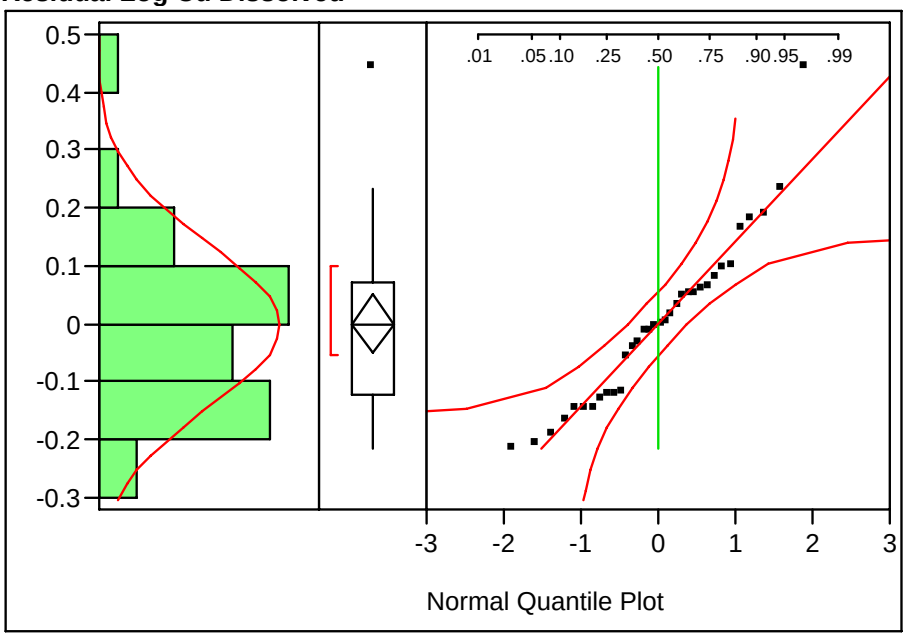
Rain Duration
Leverage Plot



CUM RAIN
Leverage Plot



Distributions
Residual Log Cu Dissolved



Normal(9.5e-17,0.14285)

Quantiles

100.0%	maximum	0.4446
99.5%		0.4446
97.5%		0.4446
90.0%		0.1869
75.0%	quartile	0.0702
50.0%	median	-0.0020
25.0%	quartile	-0.1234
10.0%		-0.1767
2.5%		-0.2150
0.5%		-0.2150
0.0%	minimum	-0.2150

Moments

Mean	9.47e-17
Std Dev	0.1428461
Std Err Mean	0.0244979
upper 95% Mean	0.0498414
lower 95% Mean	-0.049841
N	34
Sum Wgt	34
Sum	3.22e-15
Variance	0.020405
Skewness	0.840844
Kurtosis	1.3963411
CV	.
N Missing	0

Fitted Normal
Parameter Estimates

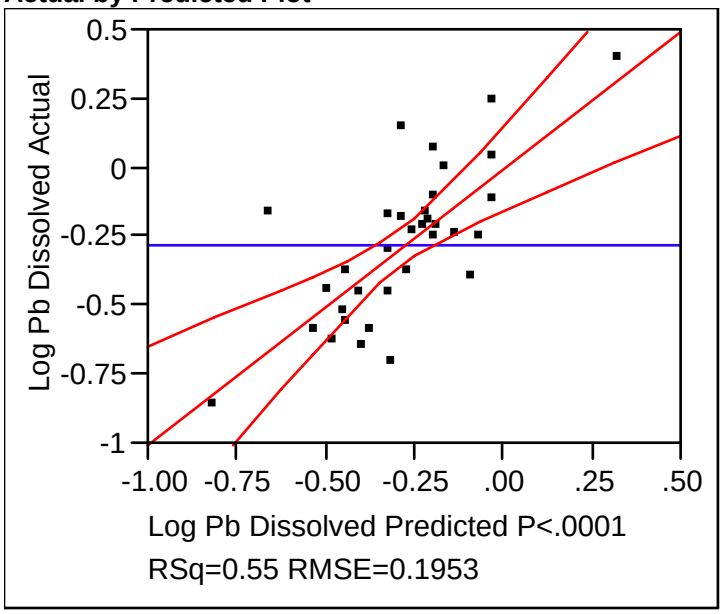
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	9.47e-17	-0.049841	0.0498414
Dispersion	Sigma	0.1428461	0.115216	0.1880251

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.943777	0.0799

Response Log Pb Dissolved
Whole Model
Actual by Predicted Plot



Summary of Fit

RSquare	0.554135
RSquare Adj	0.509548
Root Mean Square Error	0.195335
Mean of Response	-0.27916
Observations (or Sum Wgts)	34

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	1.4226377	0.474213	12.4283
Error	30	1.1446771	0.038156	Prob > F
C. Total	33	2.5673149		<.0001

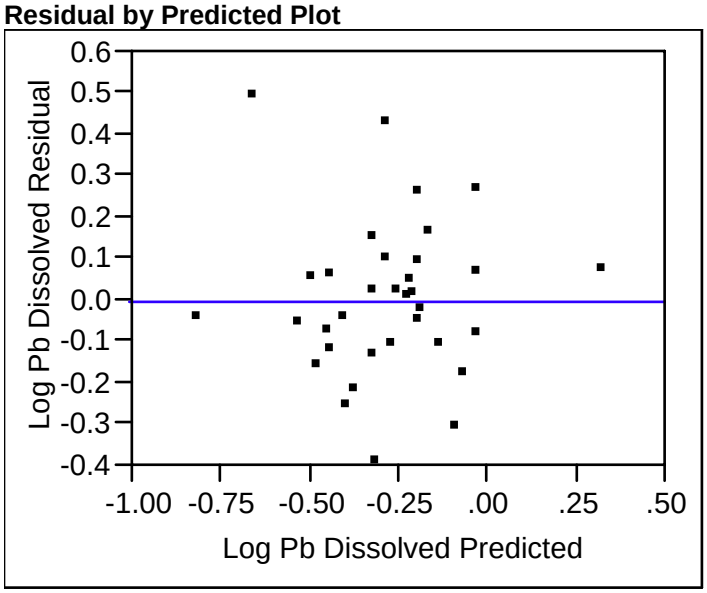
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.073268	0.074598	-0.98	0.3339
RAINFALL	-0.35358	0.099398	-3.56	0.0013
Rain Duration	0.01938	0.004854	3.99	0.0004
CUM RAIN	-0.027326	0.007649	-3.57	0.0012

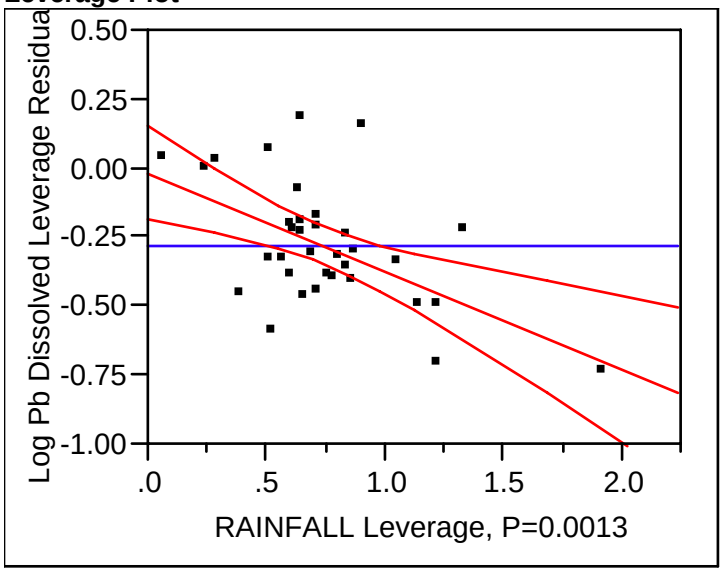
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
RAINFALL	1	1	0.48281868	12.6538	0.0013
Rain Duration	1	1	0.60813741	15.9382	0.0004
CUM RAIN	1	1	0.48700914	12.7637	0.0012

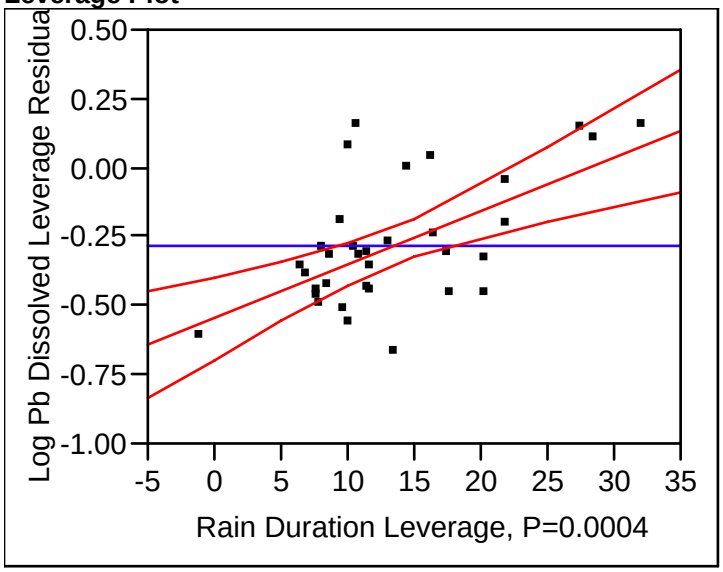
Residual by Predicted Plot



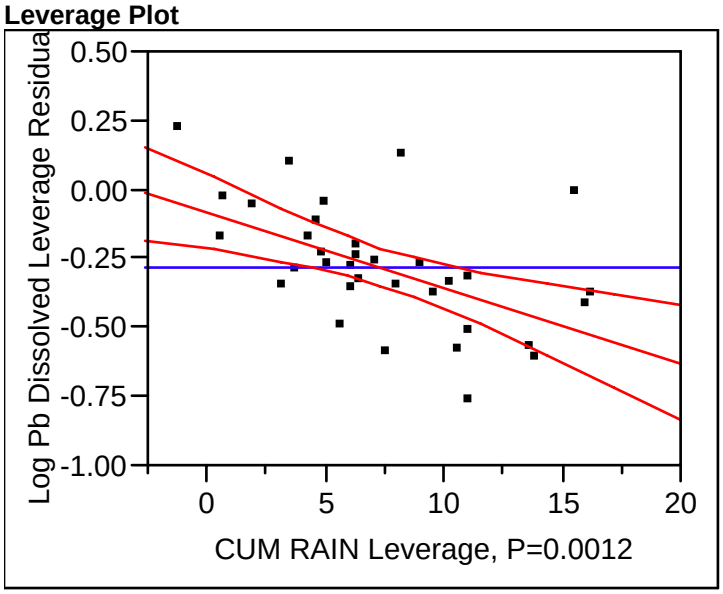
RAINFALL
Leverage Plot



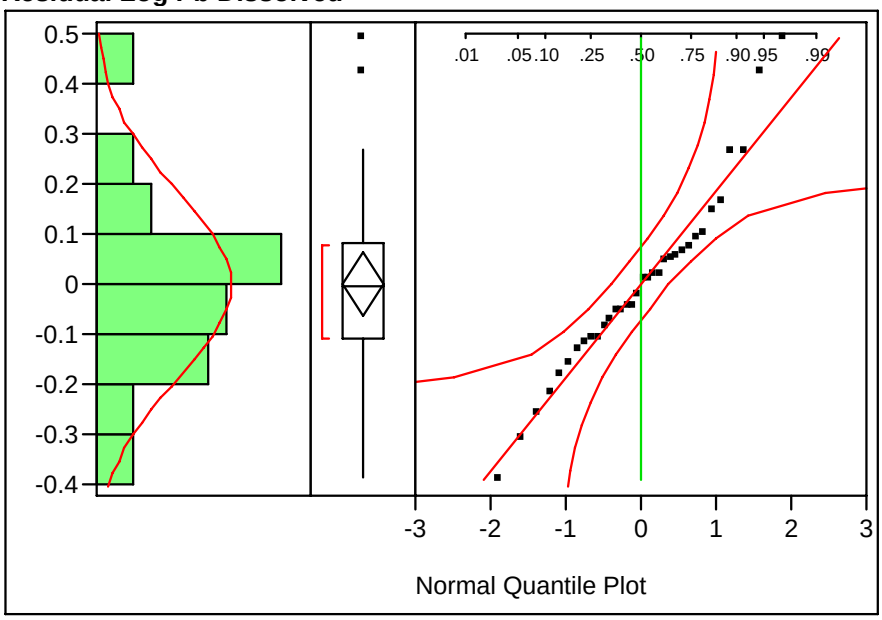
Rain Duration
Leverage Plot



CUM RAIN
Leverage Plot



Distributions
Residual Log Pb Dissolved



Normal(1.2e-16,0.18624)

Quantiles

100.0%	maximum	0.4922
99.5%		0.4922
97.5%		0.4922
90.0%		0.2659
75.0%	quartile	0.0803
50.0%	median	-0.0043
25.0%	quartile	-0.1105
10.0%		-0.2368
2.5%		-0.3876
0.5%		-0.3876
0.0%	minimum	-0.3876

Moments

Mean	1.225e-16
Std Dev	0.186245
Std Err Mean	0.0319407
upper 95% Mean	0.0649839
lower 95% Mean	-0.064984
N	34
Sum Wgt	34
Sum	4.163e-15
Variance	0.0346872
Skewness	0.5663021
Kurtosis	1.054021
CV	.
N Missing	0

Fitted Normal
Parameter Estimates

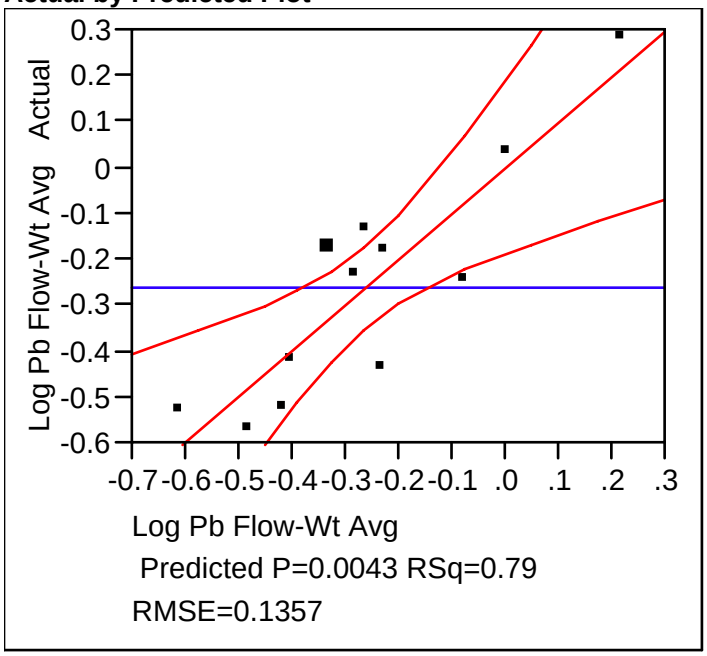
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	1.225e-16	-0.064984	0.0649839
Dispersion	Sigma	0.1862450	0.150221	0.2451501

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.966508	0.3721

Response Log Pb Flow-Wt Avg
Whole Model
Actual by Predicted Plot



Summary of Fit

RSquare	0.790862
RSquare Adj	0.712435
Root Mean Square Error	0.135674
Mean of Response	-0.25848
Observations (or Sum Wgts)	12

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	0.55686230	0.185621	10.0841
Error	8	0.14725869	0.018407	Prob > F
C. Total	11	0.70412098		0.0043

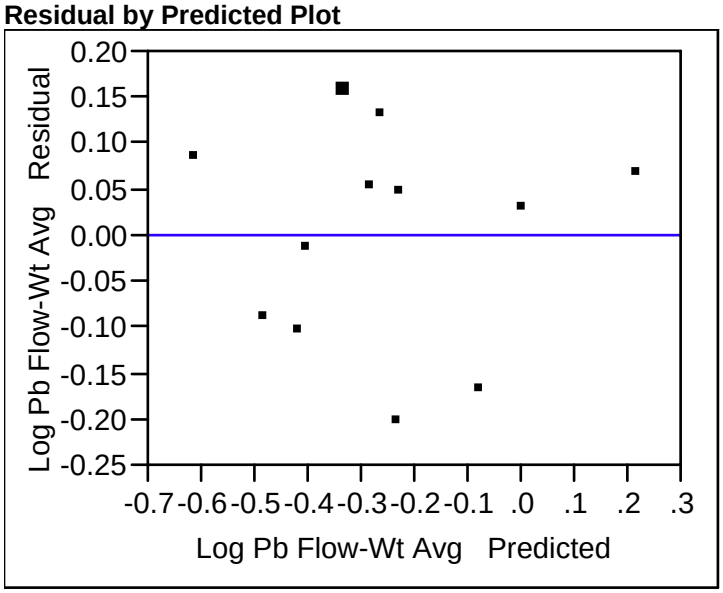
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	-0.119404	0.090503	-1.32	0.2236
Rainfall Avg	-0.402291	0.138017	-2.91	0.0194
Rain Duration Avg	0.0272886	0.006947	3.93	0.0044
Cum Rain Avg	-0.028829	0.009031	-3.19	0.0128

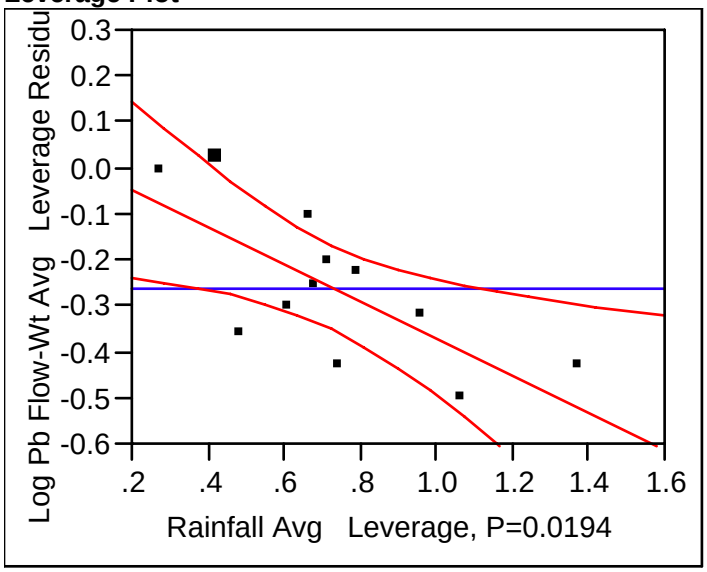
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
Rainfall Avg	1	1	0.15638903	8.4960	0.0194
Rain Duration Avg	1	1	0.28400632	15.4290	0.0044
Cum Rain Avg	1	1	0.18757254	10.1901	0.0128

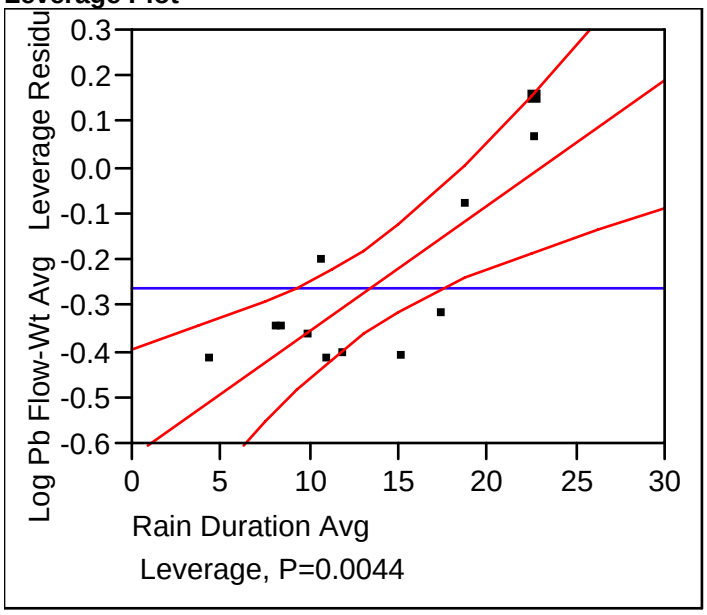
Residual by Predicted Plot



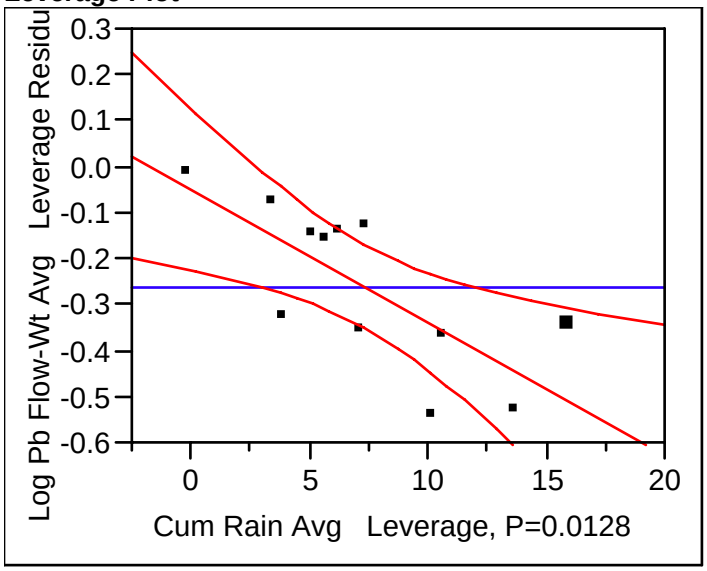
Rainfall Avg
Leverage Plot



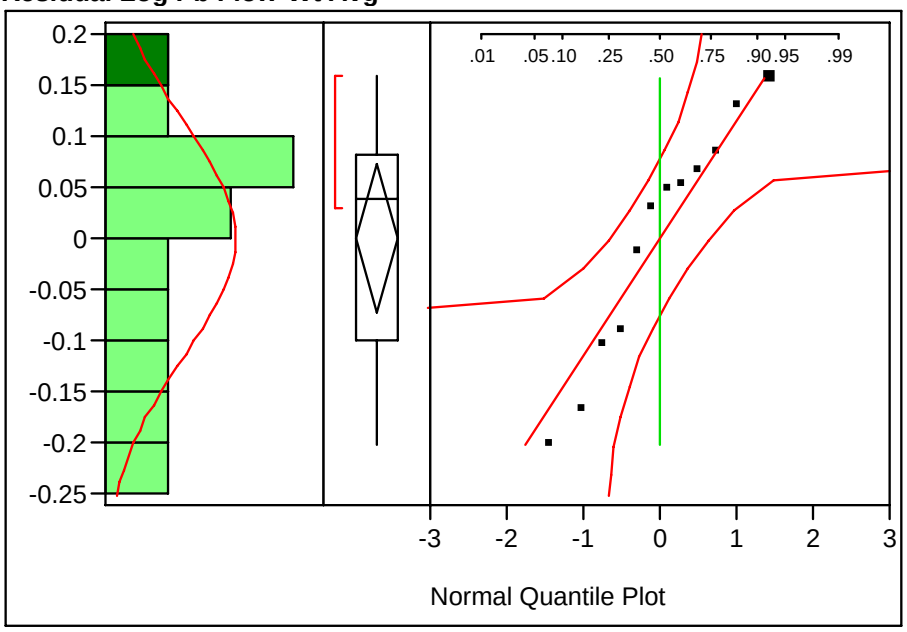
Rain Duration Avg
Leverage Plot



Cum Rain Avg
Leverage Plot



Distributions
Residual Log Pb Flow-Wt Avg



Normal(-6e-17,0.1157)

Quantiles

100.0%	maximum	0.1589
99.5%		0.1589
97.5%		0.1589
90.0%		0.1505
75.0%	quartile	0.0808
50.0%	median	0.0388
25.0%	quartile	-0.1000
10.0%		-0.1908
2.5%		-0.2012
0.5%		-0.2012
0.0%	minimum	-0.2012

Moments

Mean	-6.48e-17
Std Dev	0.1157029
Std Err Mean	0.0334005
upper 95% Mean	0.0735141
lower 95% Mean	-0.073514
N	12
Sum Wgt	12
Sum	-7.77e-16
Variance	0.0133872
Skewness	-0.500963
Kurtosis	-0.864881
CV	.
N Missing	22

Fitted Normal
Parameter Estimates

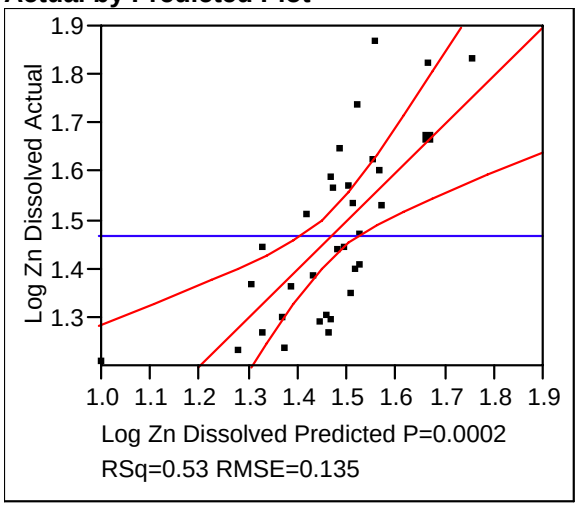
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-6.48e-17	-0.073514	0.0735141
Dispersion	Sigma	0.115703	0.081963	0.1964494

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.938932	0.4844

Response Log Zn Dissolved
Whole Model
Actual by Predicted Plot



Summary of Fit

RSquare	0.525276
RSquare Adj	0.457459
Root Mean Square Error	0.134964
Mean of Response	1.469774
Observations (or Sum Wgts)	33

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	4	0.5643425	0.141086	7.7454
Error	28	0.5100301	0.018215	Prob > F
C. Total	32	1.0743726		0.0002

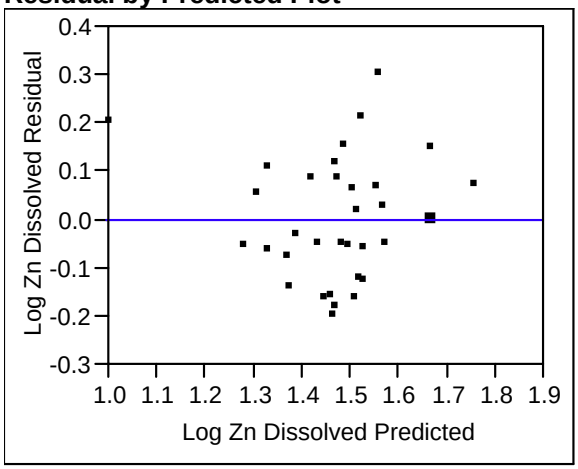
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	1.373452	0.113782	12.07	<.0001
RAINFALL	-0.31392	0.093141	-3.37	0.0022
Rain Duration	0.0171268	0.00596	2.87	0.0077
Average Intensity	2.8448796	1.390379	2.05	0.0502
Average Flow (KCF/Hr)	-0.000327	0.000088	-3.73	0.0009

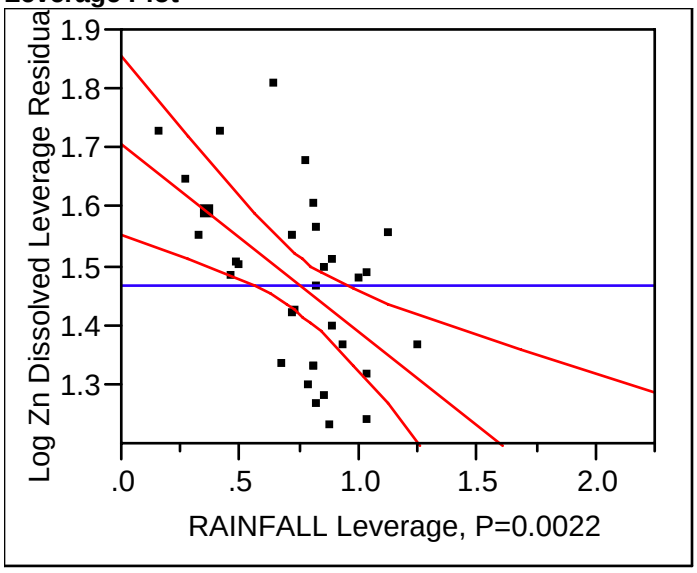
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
RAINFALL	1	1	0.20691516	11.3594	0.0022
Rain Duration	1	1	0.15041715	8.2577	0.0077
Average Intensity	1	1	0.07626042	4.1866	0.0502
Average Flow (KCF/Hr)	1	1	0.25381014	13.9339	0.0009

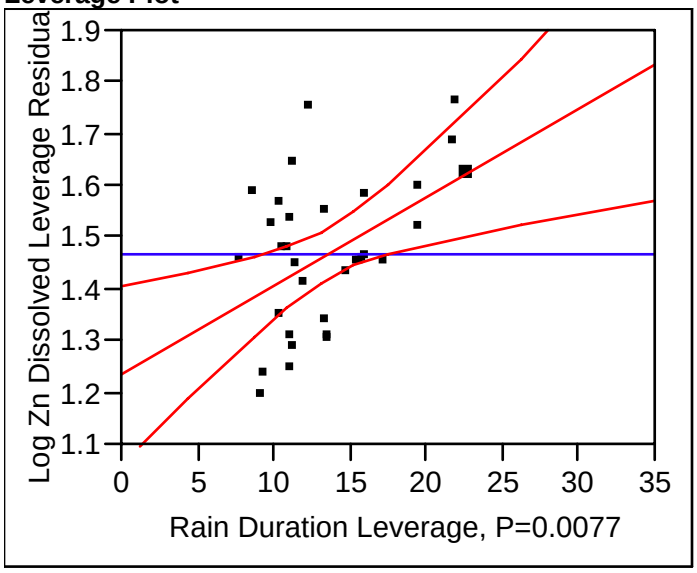
Residual by Predicted Plot



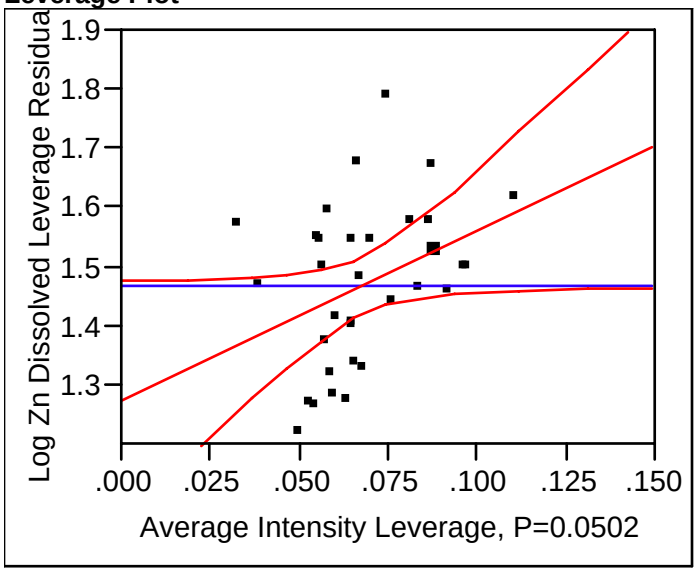
RAINFALL
Leverage Plot



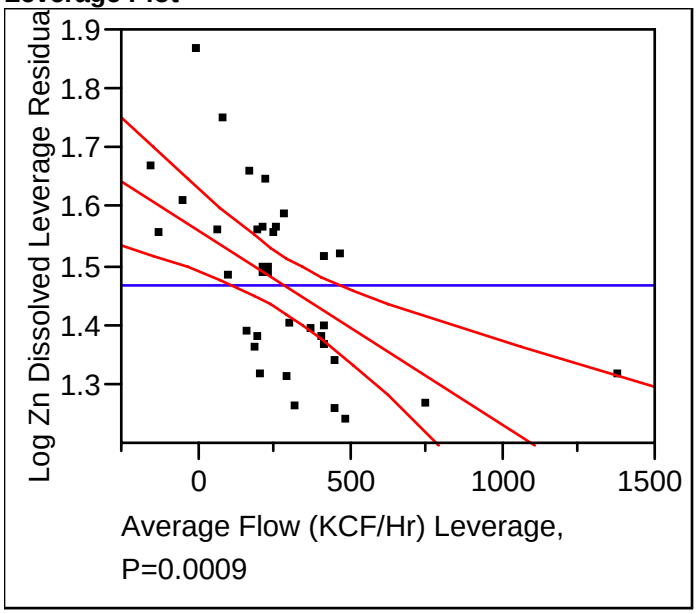
Rain Duration
Leverage Plot



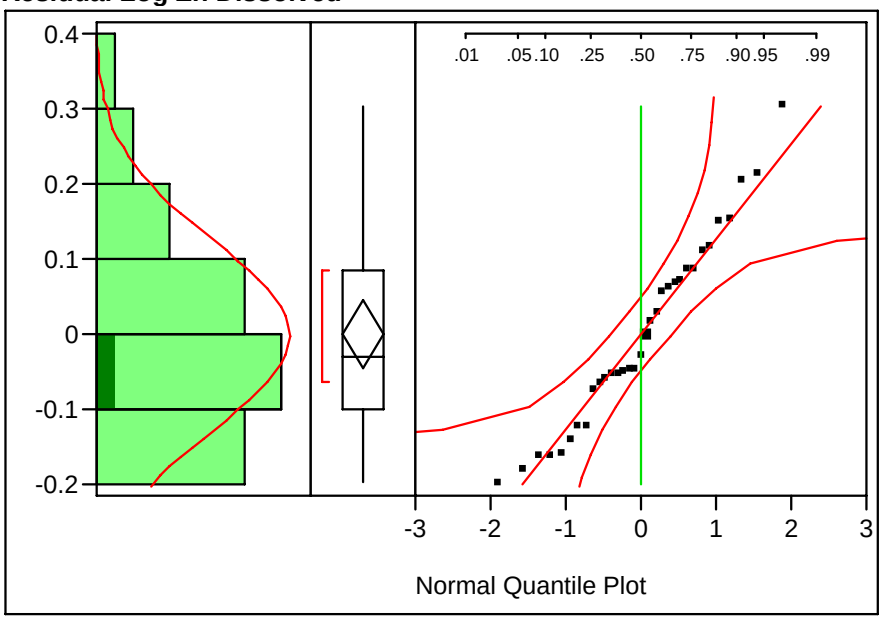
Average Intensity
Leverage Plot



Average Flow (KCF/Hr)
Leverage Plot



Distributions
Residual Log Zn Dissolved



Normal(-4e-16,0.12625)

Quantiles

100.0%	maximum	0.3035
99.5%		0.3035
97.5%		0.3035
90.0%		0.1838
75.0%	quartile	0.0857
50.0%	median	-0.0299
25.0%	quartile	-0.0986
10.0%		-0.1626
2.5%		-0.1975
0.5%		-0.1975
0.0%	minimum	-0.1975

Moments

Mean	-3.63e-16
Std Dev	0.1262475
Std Err Mean	0.0219769
upper 95% Mean	0.0447654
lower 95% Mean	-0.044765
N	33
Sum Wgt	33
Sum	-1.2e-14
Variance	0.0159384
Skewness	0.4040145
Kurtosis	-0.423296
CV	-3.475e16
N Missing	1

Fitted Normal
Parameter Estimates

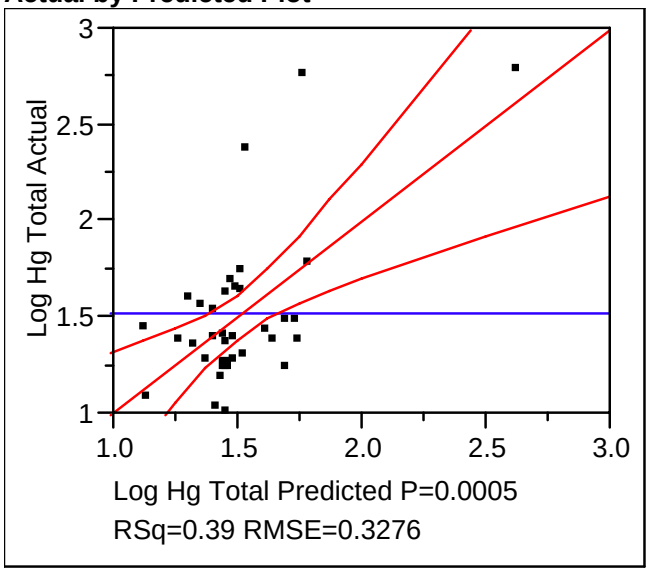
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-3.63e-16	-0.044765	0.0447654
Dispersion	Sigma	0.126248	0.101527	0.1669867

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.966328	0.3860

Response Log Hg Total
Whole Model
Actual by Predicted Plot



Summary of Fit

RSquare	0.388366
RSquare Adj	0.348906
Root Mean Square Error	0.32764
Mean of Response	1.516647
Observations (or Sum Wgts)	34

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	2	2.1130343	1.05652	9.8420
Error	31	3.3277921	0.10735	Prob > F
C. Total	33	5.4408264		0.0005

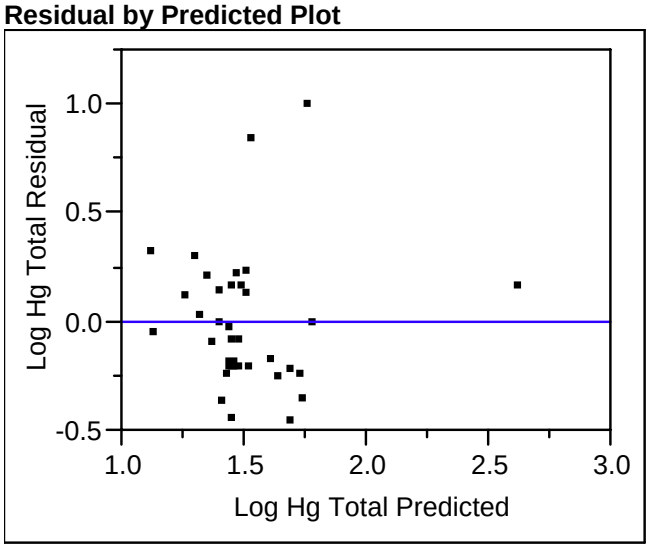
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	1.4931763	0.109886	13.59	<.0001
RAINFALL	-0.29985	0.137602	-2.18	0.0370
RUNOFF VOL	0.0000825	0.000019	4.42	0.0001

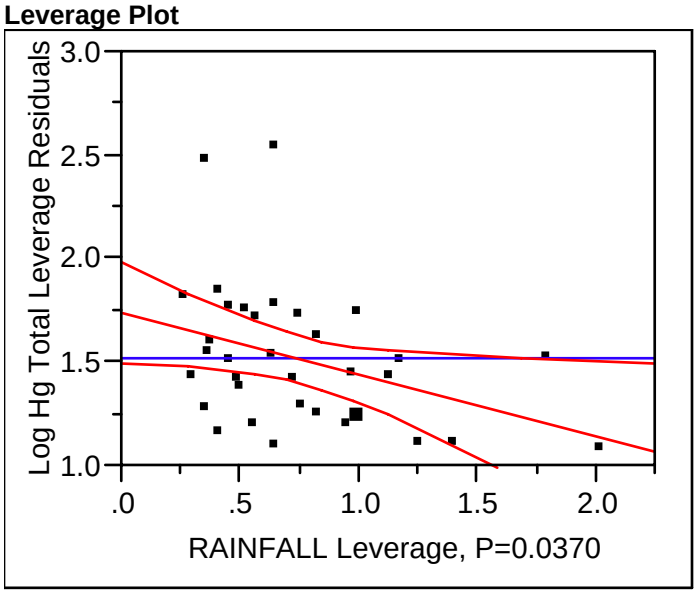
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
RAINFALL	1	1	0.5097475	4.7485	0.0370
RUNOFF VOL	1	1	2.1003377	19.5657	0.0001

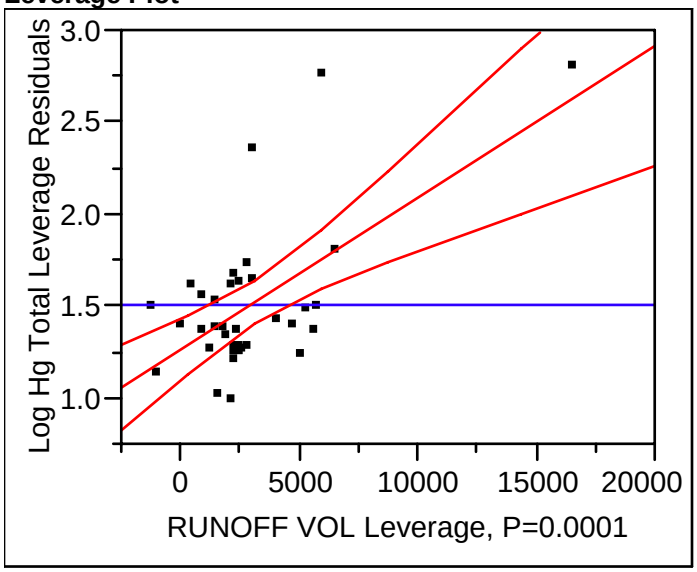
Residual by Predicted Plot



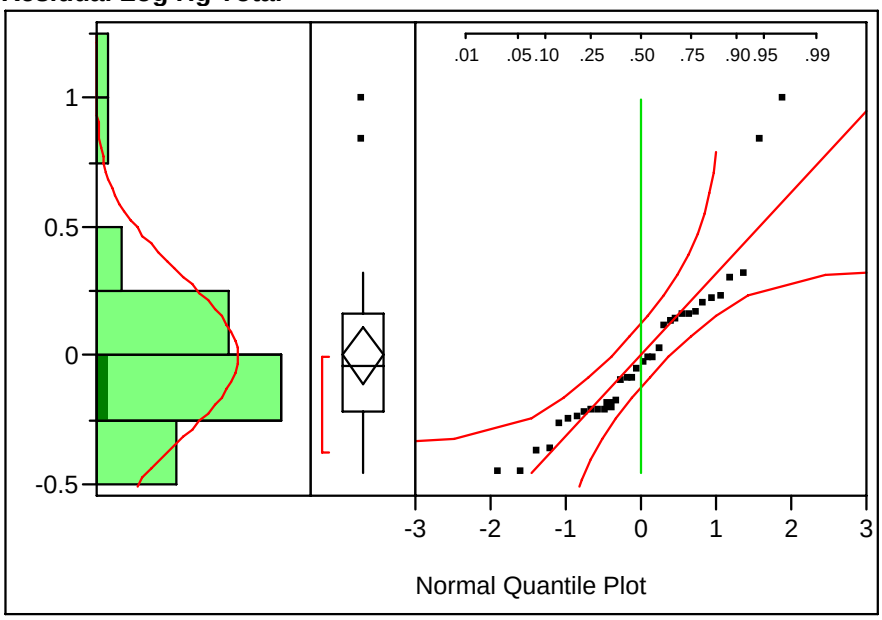
RAINFALL
Leverage Plot



RUNOFF VOL
Leverage Plot



Distributions
Residual Log Hg Total



Normal(5e-16,0.31756)

Quantiles

100.0%	maximum	1.001
99.5%		1.001
97.5%		1.001
90.0%		0.310
75.0%	quartile	0.162
50.0%	median	-0.041
25.0%	quartile	-0.217
10.0%		-0.368
2.5%		-0.455
0.5%		-0.455
0.0%	minimum	-0.455

Moments

Mean	4.963e-16
Std Dev	0.3175566
Std Err Mean	0.0544605
upper 95% Mean	0.1108007
lower 95% Mean	-0.110801
N	34
Sum Wgt	34
Sum	1.688e-14
Variance	0.1008422
Skewness	1.321682
Kurtosis	2.6803388
CV	6.398e+16
N Missing	0

Fitted Normal
Parameter Estimates

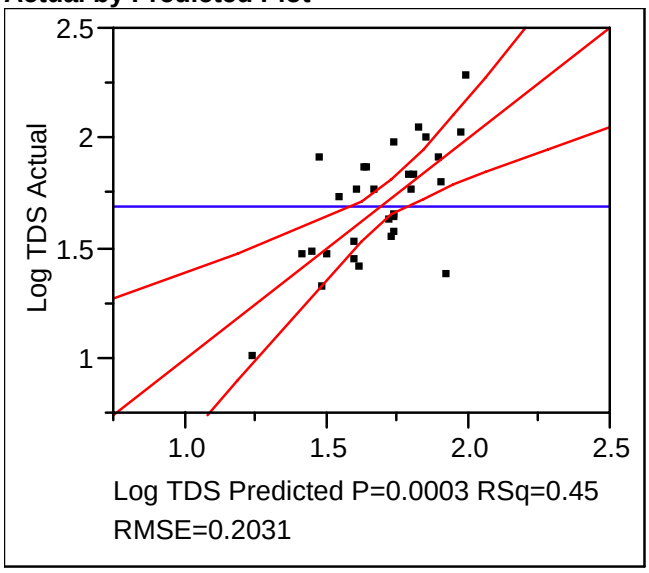
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	4.963e-16	-0.110801	0.1108007
Dispersion	Sigma	0.3175566	0.256134	0.4179927

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.894779	0.0033

Response Log TDS
Whole Model
Actual by Predicted Plot



Summary of Fit

RSquare	0.452095
RSquare Adj	0.41151
Root Mean Square Error	0.203054
Mean of Response	1.693135
Observations (or Sum Wgts)	30

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	2	0.9185670	0.459283	11.1393
Error	27	1.1132325	0.041231	Prob > F
C. Total	29	2.0317995		0.0003

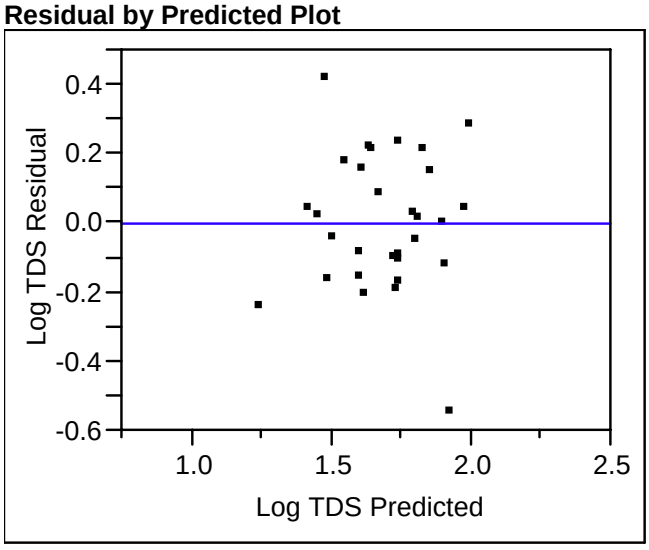
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	2.050654	0.084484	24.27	<.0001
RAINFALL	-0.219428	0.09199	-2.39	0.0243
CUM RAIN	-0.033208	0.010521	-3.16	0.0039

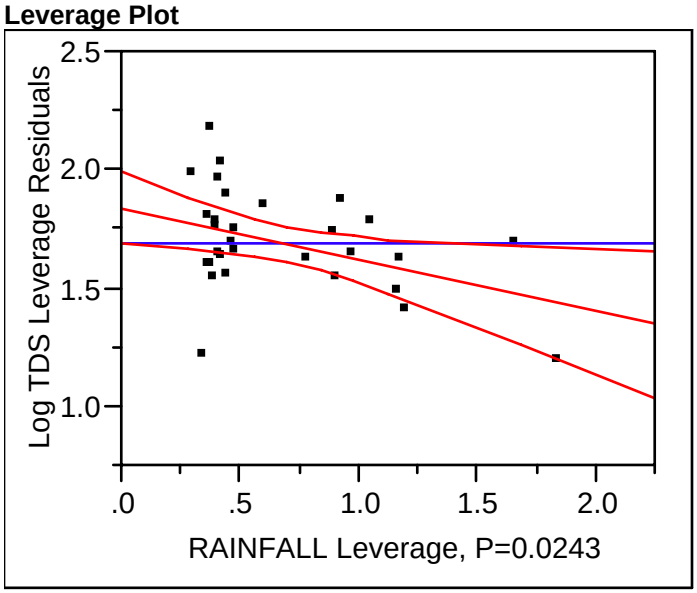
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
RAINFALL	1	1	0.23460039	5.6899	0.0243
CUM RAIN	1	1	0.41078679	9.9631	0.0039

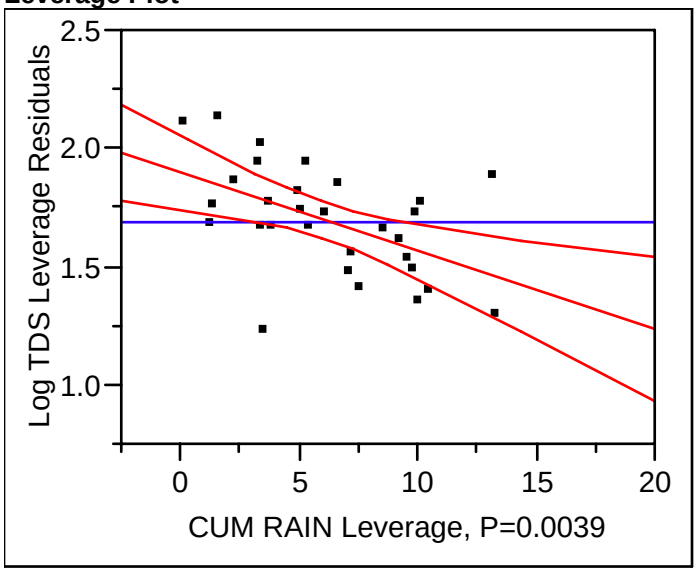
Residual by Predicted Plot



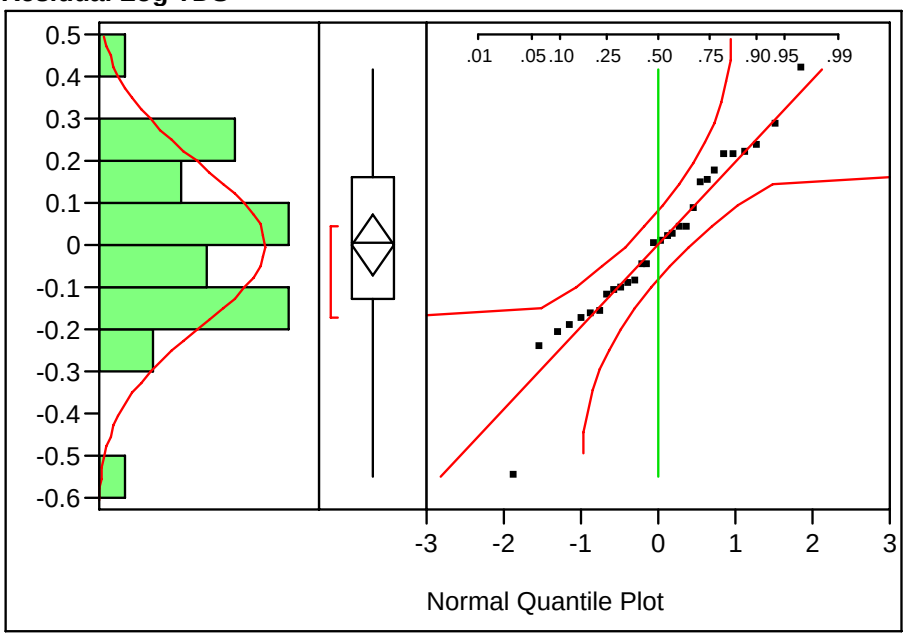
RAINFALL
Leverage Plot



CUM RAIN
Leverage Plot



Distributions
Residual Log TDS



Normal(-1e-16,0.19593)

Quantiles

100.0%	maximum	0.4183
99.5%		0.4183
97.5%		0.4183
90.0%		0.2326
75.0%	quartile	0.1594
50.0%	median	0.0056
25.0%	quartile	-0.1295
10.0%		-0.2061
2.5%		-0.5473
0.5%		-0.5473
0.0%	minimum	-0.5473

Moments

Mean	-9.99e-17
Std Dev	0.1959268
Std Err Mean	0.0357712
upper 95% Mean	0.0731603
lower 95% Mean	-0.07316
N	30
Sum Wgt	30
Sum	-3e-15
Variance	0.0383873
Skewness	-0.302809
Kurtosis	0.9171816
CV	.
N Missing	4

Fitted Normal
Parameter Estimates

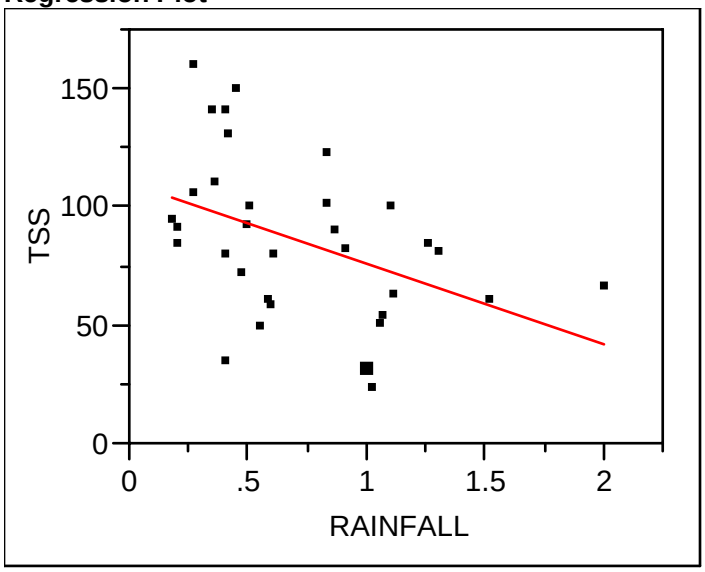
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	-9.99e-17	-0.073160	0.0731603
Dispersion	Sigma	0.195927	0.156037	0.2633874

Goodness-of-Fit Test

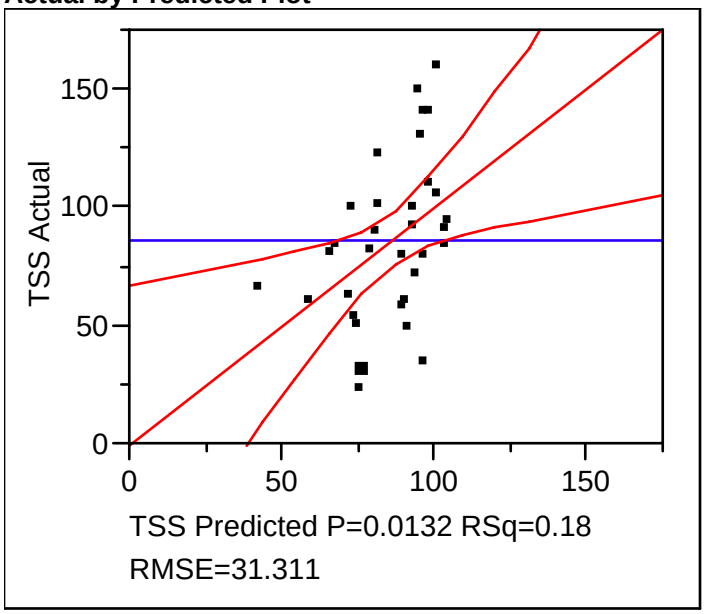
Shapiro-Wilk W Test

W	Prob<W
0.970851	0.5627

Response TSS
Whole Model
Regression Plot



Actual by Predicted Plot



Summary of Fit

RSquare	0.18243
RSquare Adj	0.156057
Root Mean Square Error	31.31087
Mean of Response	85.9697
Observations (or Sum Wgts)	33

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	1	6781.476	6781.48	6.9173
Error	31	30391.494	980.37	Prob > F
C. Total	32	37172.970		0.0132

Lack Of Fit

Source	DF	Sum of Squares	Mean Square	F Ratio
Lack Of Fit	27	24474.327	906.46	0.6128
Pure Error	4	5917.167	1479.29	Prob > F

Source	DF	Sum of Squares	Mean Square	F Ratio
Total Error	31	30391.494		0.8049
				Max RSq
				0.8408

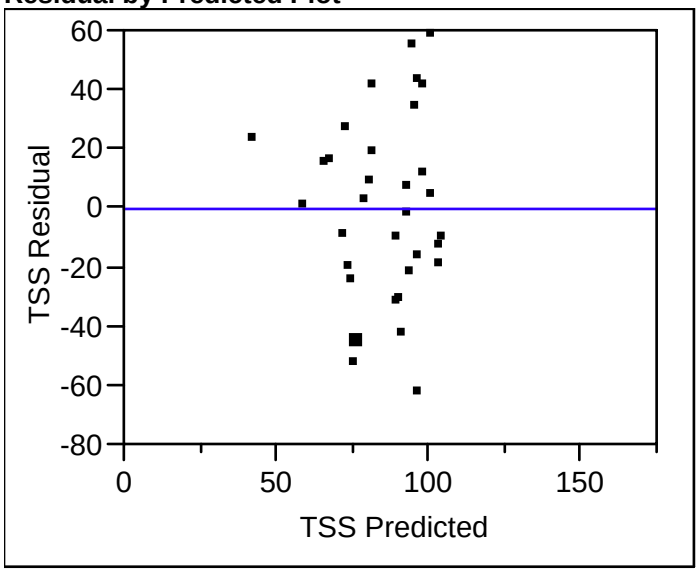
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	110.37922	10.7631	10.26	<.0001
RAINFALL	-33.87361	12.87937	-2.63	0.0132

Effect Tests

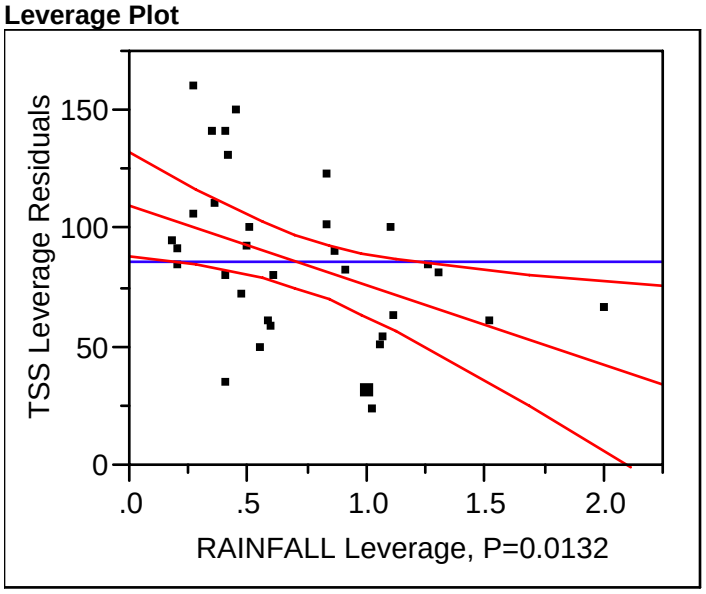
Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
RAINFALL	1	1	6781.4760	6.9173	0.0132

Residual by Predicted Plot

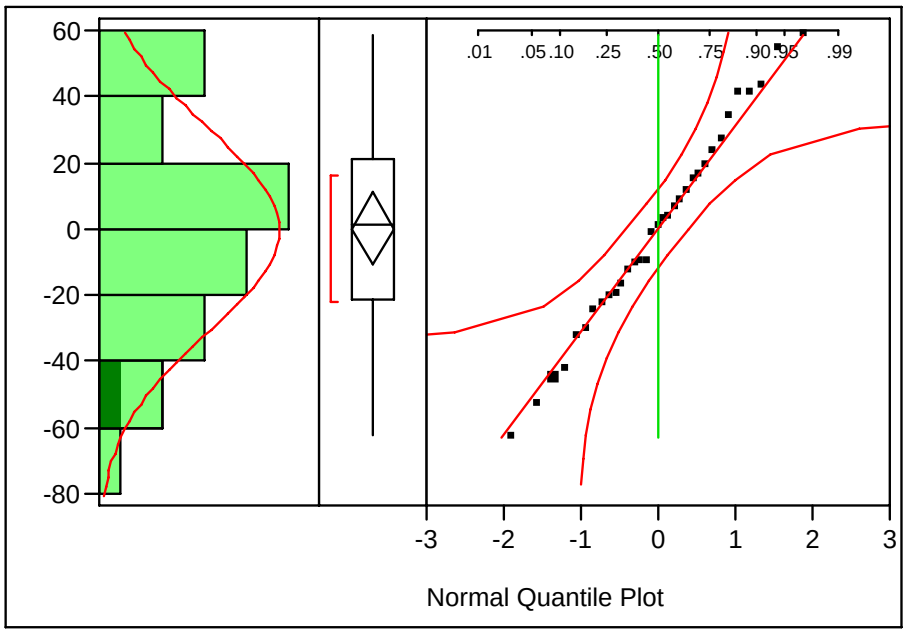


RAINFALL

Leverage Plot



Distributions
Residual TSS



Normal(8.2e-15,30.8178)

Quantiles

100.0%	maximum	58.77
99.5%		58.77
97.5%		58.77
90.0%		42.70
75.0%	quartile	21.39
50.0%	median	1.11
25.0%	quartile	-21.13
10.0%		-44.06
2.5%		-62.49
0.5%		-62.49
0.0%	minimum	-62.49

Moments

Mean	8.182e-15
Std Dev	30.817758
Std Err Mean	5.364683
upper 95% Mean	10.927502
lower 95% Mean	-10.9275
N	33
Sum Wgt	33
Sum	2.7e-13
Variance	949.73418
Skewness	0.0145291
Kurtosis	-0.544215
CV	3.7665e17
N Missing	1

Fitted Normal
Parameter Estimates

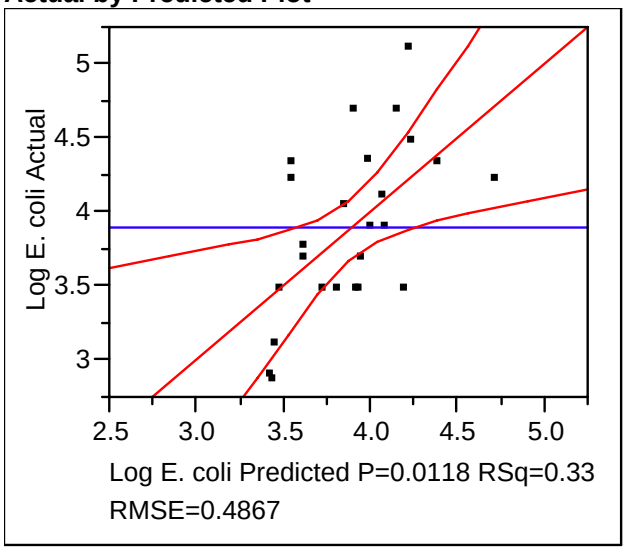
Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	8.182e-15	-10.9275	10.92750
Dispersion	Sigma	30.81776	24.7833	40.76243

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.987213	0.9576

Response Log E. coli
Whole Model
Actual by Predicted Plot



Summary of Fit

RSquare	0.332038
RSquare Adj	0.271314
Root Mean Square Error	0.486726
Mean of Response	3.895556
Observations (or Sum Wgts)	25

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	2	2.5907713	1.29539	5.4680
Error	22	5.2118584	0.23690	Prob > F
C. Total	24	7.8026297		0.0118

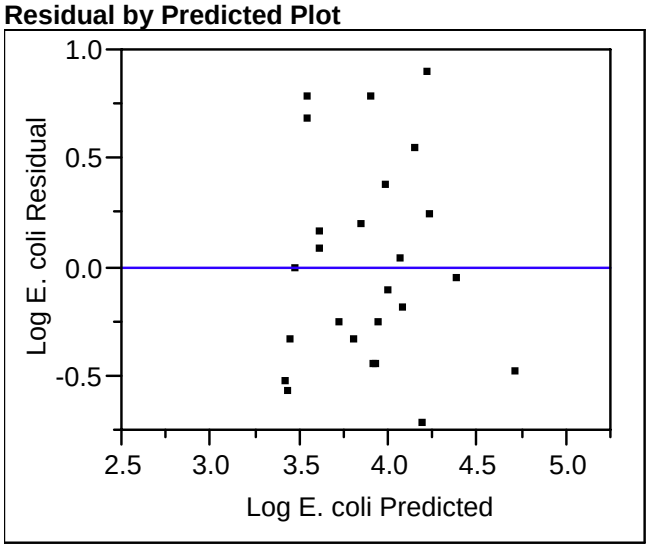
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob>|t|
Intercept	4.2396624	0.216399	19.59	<.0001
Average Flow (KCF/Hr)	0.0005396	0.000269	2.01	0.0573
CUM RAIN	-0.082107	0.029464	-2.79	0.0108

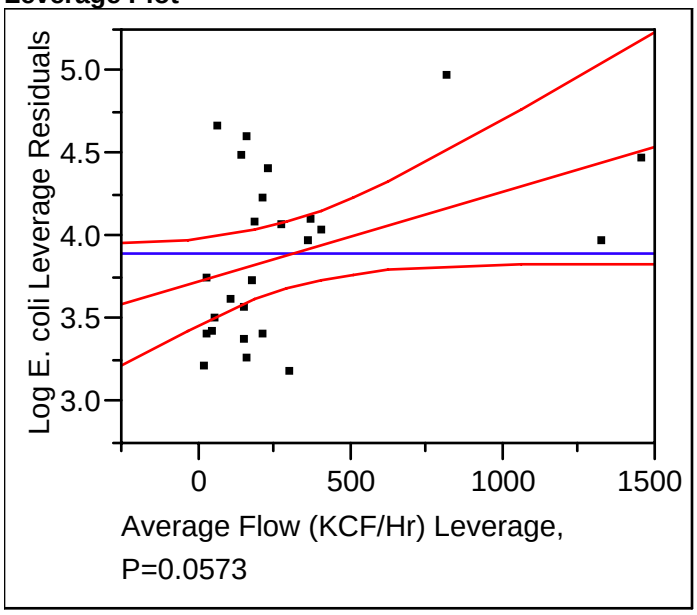
Effect Tests

Source	Nparm	DF	Sum of Squares	F Ratio	Prob > F
Average Flow (KCF/Hr)	1	1	0.9533087	4.0241	0.0573
CUM RAIN	1	1	1.8396530	7.7654	0.0108

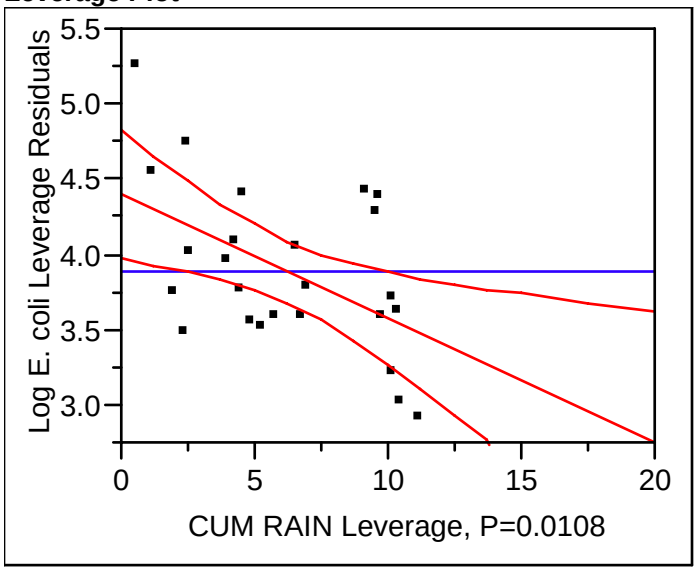
Residual by Predicted Plot



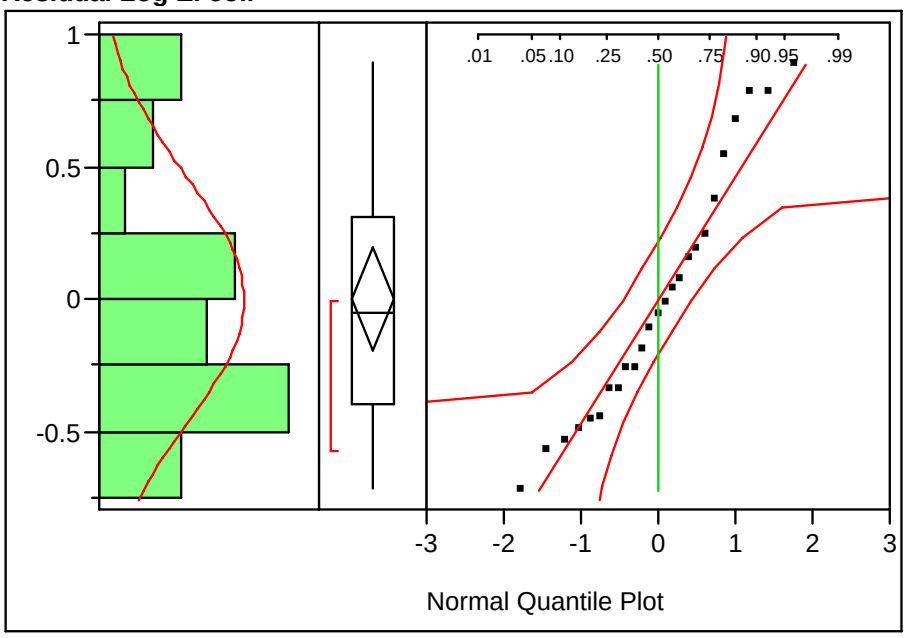
Average Flow (KCF/Hr)
Leverage Plot



CUM RAIN
Leverage Plot



Distributions
Residual Log E. coli



Normal(2.5e-16,0.46601)

Quantiles

100.0%	maximum	0.8919
99.5%		0.8919
97.5%		0.8919
90.0%		0.7848
75.0%	quartile	0.3080
50.0%	median	-0.0543
25.0%	quartile	-0.3935
10.0%		-0.5465
2.5%		-0.7169
0.5%		-0.7169
0.0%	minimum	-0.7169

Moments

Mean	2.487e-16
Std Dev	0.4660051
Std Err Mean	0.093201
upper 95% Mean	0.1923575
lower 95% Mean	-0.192357
N	25
Sum Wgt	25
Sum	6.217e-15
Variance	0.2171608
Skewness	0.4915387
Kurtosis	-0.768968
CV	1.8738e17
N Missing	9

Fitted Normal
Parameter Estimates

Type	Parameter	Estimate	Lower 95%	Upper 95%
Location	Mu	2.487e-16	-0.192357	0.1923575
Dispersion	Sigma	0.4660051	0.363870	0.6482840

Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.945296	0.1960

APPENDIX G

Continuous Simulation Model Results – Summary Statistics for Individual Drainage Basins

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 1			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0560	0.0055	0.10	0.0477	0.068	0.014	0.006	0.43	0.004	0.028	0.0553	0.0415	0.75	0.005	0.003	0.022
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.93	0.25	0.27	0.40	1.51	4.29	2.17	0.51	0.37	0.24	1.54
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.118	0.028	0.24	0.057	0.203	0.392	0.362	0.92	0.034	0.022	0.174
Zn-D	µg/L	Kg	34.4	2.39	0.07	30.93	39.1	8.5	3.3	0.39	2.8	16.8	22.1	30.2	1.37	1.92	1.24	11.61
Hg-T	ng/L	grams	30.6	4.0	0.13	23.71	40	6.2	2.7	0.44	2.2	13.6	9.89	16.81	1.70	0.86	0.55	7.66
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	10.6	2.4	0.23	5.3	18.3	287	189	0.66	24.8	16.0	51.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	20	8	0.38	7	40	7.21	3.39	0.47	0.6	0.4	21.3
E-coli	MPN/100ml	MPN	9,265	4,549	0.49	3,379	2.1.E+04	2.1.E+13	9.7.E+12	0.45	9.0.E+12	6.1.E+13	7,488	10,856	1.45	6.48E+12	4.19E+12	3.21E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.912	1.928	0.493	1.000	8.31	0.023	0.006	0.28	2.0	1.27	7.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	78.7	36.51	0.464	20.30	156.5	0.099	0.064	0.65	8.6	5.5	92.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.375	1.462	0.433	0.916	6.726	0.016	0.010	0.65	1.39	0.90	5.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	29.30	15.54	0.530	6.95	66.84	0.002	0.002	0.85	0.19	0.12	29.61

Sump 10			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0535	0.0051	0.09	0.0459	0.065	0.031	0.013	0.43	0.009	0.062	0.0553	0.0415	0.75	0.008	0.005	0.044
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.15	0.58	0.27	0.92	3.49	4.29	2.17	0.51	0.60	0.39	3.14
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.272	0.065	0.24	0.132	0.468	0.392	0.362	0.92	0.055	0.036	0.363
Zn-D	µg/L	Kg	33.4	2.22	0.07	30.26	37.5	18.8	7.3	0.39	6.2	37.4	22.1	30.2	1.37	3.10	2.00	23.92
Hg-T	ng/L	grams	32.2	4.2	0.13	25.23	42	15.8	7.0	0.44	5.3	34.5	9.89	16.81	1.70	1.39	0.90	18.04
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	24.4	5.5	0.23	12.3	42.3	287	189	0.66	40.3	26.0	90.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	47	18	0.38	16	93	7.21	3.39	0.47	1.0	0.7	48.4
E-coli	MPN/100ml	MPN	9,738	4,795	0.49	3,575	2.3.E+04	5.2.E+13	2.4.E+13	0.46	2.2.E+13	1.5.E+14	7,488	10,856	1.45	1.05E+13	6.78E+12	6.98E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.015	4.444	0.493	2.305	19.15	0.023	0.006	0.28	3.2	2.05	14.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	181.3	84.15	0.464	46.78	360.7	0.099	0.064	0.65	13.9	9.0	204.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	7.777	3.370	0.433	2.111	15.500	0.016	0.010	0.65	2.25	1.45	11.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	67.53	35.82	0.530	16.02	154.04	0.002	0.002	0.85	0.30	0.20	68.03

Sump 100			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.004	0.001	0.27	0.002	0.006	4.29	2.17	0.51	0.001	0.001	0.01
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.000	0.000	0.24	0.000	0.001	0.392	0.362	0.92	0.000	0.000	0.001
Zn-D	µg/L	Kg	35.1	2.54	0.07	31.46	40.3	0.03	0.01	0.39	0.01	0.07	22.1	30.2	1.37	0.005	0.004	0.04
Hg-T	ng/L	grams	29.5	3.9	0.13	22.63	38	0.02	0.01	0.44	0.01	0.05	9.89	16.81	1.70	0.002	0.002	0.03
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.04	0.01	0.23	0.02	0.07	287	189	0.66	0.070	0.045	0.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.08	0.03	0.38	0.03	0.16	7.21	3.39	0.47	0.002	0.001	0.1
E-coli	MPN/100ml	MPN	8,924	4,374	0.49	3,237	2.0.E+04	8.0.E+10	3.6.E+10	0.45	3.4.E+10	2.3.E+11	7,488	10,856	1.45	1.84E+10	1.19E+10	1.11E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.015	0.008	0.493	0.004	0.03	0.023	0.006	0.28	0.006	0.004	0.02
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.3	0.14	0.464	0.08	0.6	0.099	0.064	0.65	0.024	0.016	0.35
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.013	0.006	0.433	0.004	0.026	0.016	0.010	0.65	0.004	0.003	0.02
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.12	0.06	0.530	0.03	0.26	0.002	0.002	0.85	0.001	0.000	0.12

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 1000			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.003	0.001	0.43	0.001	0.006	0.0553	0.0415	0.75	0.001	0.000	0.004
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.20	0.05	0.27	0.08	0.32	4.29	2.17	0.51	0.04	0.03	0.27
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.025	0.006	0.24	0.012	0.043	0.392	0.362	0.92	0.004	0.003	0.031
Zn-D	µg/L	Kg	35.0	2.50	0.07	31.35	40.1	1.8	0.7	0.39	0.6	3.6	22.1	30.2	1.37	0.22	0.14	2.19
Hg-T	ng/L	grams	29.7	3.9	0.13	22.85	39	1.3	0.5	0.44	0.4	2.7	9.89	16.81	1.70	0.10	0.06	1.41
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.2	0.5	0.23	1.1	3.9	287	189	0.66	2.8	1.8	6.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	2	0.38	1	9	7.21	3.39	0.47	0.1	0.0	4.4
E-coli	MPN/100ml	MPN	8,993	4,409	0.49	3,266	2.1.E+04	4.4.E+12	2.0.E+12	0.45	1.8.E+12	1.2.E+13	7,488	10,856	1.45	7.43E+11	4.79E+11	5.59E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.826	0.407	0.493	0.211	1.75	0.023	0.006	0.28	0.2	0.14	1.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	16.6	7.71	0.464	4.29	33.0	0.099	0.064	0.65	1.0	0.6	18.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.713	0.309	0.433	0.193	1.420	0.016	0.010	0.65	0.16	0.10	1.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	6.19	3.28	0.530	1.47	14.11	0.002	0.002	0.85	0.02	0.01	6.22

Sump 101			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0533	0.0050	0.09	0.0458	0.064	0.032	0.014	0.43	0.010	0.064	0.0553	0.0415	0.75	0.007	0.005	0.044
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.25	0.61	0.27	0.97	3.66	4.29	2.17	0.51	0.55	0.35	3.15
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.286	0.068	0.24	0.138	0.491	0.392	0.362	0.92	0.050	0.032	0.368
Zn-D	µg/L	Kg	33.3	2.20	0.07	30.20	37.3	19.7	7.7	0.39	6.5	39.1	22.1	30.2	1.37	2.81	1.82	24.30
Hg-T	ng/L	grams	32.4	4.2	0.13	25.37	42	16.7	7.4	0.44	5.6	36.5	9.89	16.81	1.70	1.26	0.81	18.73
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	25.6	5.8	0.23	12.9	44.3	287	189	0.66	36.5	23.5	85.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	49	19	0.38	16	98	7.21	3.39	0.47	0.9	0.6	50.5
E-coli	MPN/100ml	MPN	9,780	4,817	0.49	3,593	2.3.E+04	5.5.E+13	2.5.E+13	0.46	2.3.E+13	1.6.E+14	7,488	10,856	1.45	9.52E+12	6.14E+12	7.10E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.456	4.661	0.493	2.418	20.08	0.023	0.006	0.28	2.9	1.86	14.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	190.1	88.26	0.464	49.07	378.3	0.099	0.064	0.65	12.6	8.1	210.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	8.158	3.535	0.433	2.214	16.258	0.016	0.010	0.65	2.04	1.32	11.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	70.84	37.57	0.530	16.81	161.57	0.002	0.002	0.85	0.28	0.18	71.29

Sump 102			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0557	0.0055	0.10	0.0474	0.068	0.016	0.007	0.43	0.005	0.033	0.0553	0.0415	0.75	0.004	0.003	0.023
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.08	0.29	0.27	0.46	1.75	4.29	2.17	0.51	0.33	0.21	1.62
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.137	0.033	0.24	0.066	0.235	0.392	0.362	0.92	0.030	0.020	0.187
Zn-D	µg/L	Kg	34.2	2.37	0.07	30.85	38.9	9.8	3.8	0.39	3.2	19.4	22.1	30.2	1.37	1.71	1.10	12.57
Hg-T	ng/L	grams	30.8	4.0	0.13	23.88	40	7.3	3.2	0.44	2.5	15.9	9.89	16.81	1.70	0.76	0.49	8.57
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	12.3	2.8	0.23	6.2	21.3	287	189	0.66	22.2	14.3	48.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	23	9	0.38	8	47	7.21	3.39	0.47	0.6	0.4	24.4
E-coli	MPN/100ml	MPN	9,321	4,578	0.49	3,402	2.2.E+04	2.5.E+13	1.1.E+13	0.45	1.0.E+13	7.1.E+13	7,488	10,856	1.45	5.78E+12	3.73E+12	3.45E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.533	2.234	0.493	1.159	9.63	0.023	0.006	0.28	1.7	1.13	7.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	91.1	42.31	0.464	23.52	181.3	0.099	0.064	0.65	7.6	4.9	103.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.910	1.694	0.433	1.062	7.793	0.016	0.010	0.65	1.24	0.80	6.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	33.95	18.01	0.530	8.06	77.45	0.002	0.002	0.85	0.17	0.11	34.23

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 103			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0559	0.0055	0.10	0.0476	0.068	0.015	0.006	0.43	0.005	0.030	0.0553	0.0415	0.75	0.003	0.002	0.020
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.99	0.27	0.27	0.43	1.61	4.29	2.17	0.51	0.25	0.16	1.40
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.125	0.030	0.24	0.061	0.215	0.392	0.362	0.92	0.023	0.015	0.163
Zn-D	µg/L	Kg	34.3	2.38	0.07	30.90	39.0	9.0	3.5	0.39	2.9	17.8	22.1	30.2	1.37	1.30	0.84	11.11
Hg-T	ng/L	grams	30.7	4.0	0.13	23.77	40	6.7	2.9	0.44	2.3	14.5	9.89	16.81	1.70	0.58	0.38	7.62
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	11.2	2.5	0.23	5.6	19.5	287	189	0.66	16.9	10.9	39.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	22	8	0.38	7	43	7.21	3.39	0.47	0.4	0.3	22.2
E-coli	MPN/100ml	MPN	9,286	4,560	0.49	3,388	2.2.E+04	2.3.E+13	1.0.E+13	0.45	9.5.E+12	6.5.E+13	7,488	10,856	1.45	4.42E+12	2.85E+12	3.01E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.150	2.046	0.493	1.061	8.81	0.023	0.006	0.28	1.3	0.86	6.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	83.4	38.74	0.464	21.53	166.0	0.099	0.064	0.65	5.8	3.8	93.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.580	1.551	0.433	0.972	7.135	0.016	0.010	0.65	0.95	0.61	5.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	31.09	16.49	0.530	7.38	70.91	0.002	0.002	0.85	0.13	0.08	31.30

Sump 104			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0519	0.0048	0.09	0.0447	0.062	0.041	0.017	0.43	0.013	0.081	0.0553	0.0415	0.75	0.011	0.007	0.058
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.94	0.80	0.27	1.27	4.78	4.29	2.17	0.51	0.84	0.54	4.32
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.374	0.089	0.24	0.181	0.641	0.392	0.362	0.92	0.076	0.049	0.499
Zn-D	µg/L	Kg	32.7	2.11	0.06	29.83	36.6	25.2	9.8	0.39	8.4	50.1	22.1	30.2	1.37	4.31	2.79	32.30
Hg-T	ng/L	grams	33.4	4.4	0.13	26.31	43	23.0	10.2	0.45	7.6	50.5	9.89	16.81	1.70	1.93	1.25	26.16
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	33.5	7.6	0.23	16.8	58.0	287	189	0.66	55.9	36.1	125.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	64	25	0.38	21	128	7.21	3.39	0.47	1.4	0.9	66.4
E-coli	MPN/100ml	MPN	10,065	4,968	0.49	3,711	2.4.E+04	7.5.E+13	3.4.E+13	0.46	3.0.E+13	2.1.E+14	7,488	10,856	1.45	1.46E+13	9.43E+12	9.89E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	12.363	6.094	0.493	3.161	26.26	0.023	0.006	0.28	4.4	2.85	19.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	248.6	115.40	0.464	64.15	494.6	0.099	0.064	0.65	19.3	12.5	280.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	10.666	4.622	0.433	2.895	21.256	0.016	0.010	0.65	3.13	2.02	15.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	92.61	49.12	0.530	21.98	211.24	0.002	0.002	0.85	0.42	0.27	93.31

Sump 108			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0570	0.0057	0.10	0.0483	0.070	0.007	0.003	0.43	0.002	0.015	0.0553	0.0415	0.75	0.002	0.001	0.010
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.48	0.13	0.27	0.21	0.78	4.29	2.17	0.51	0.13	0.09	0.70
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.061	0.014	0.24	0.029	0.104	0.392	0.362	0.92	0.012	0.008	0.081
Zn-D	µg/L	Kg	34.7	2.46	0.07	31.19	39.7	4.4	1.7	0.39	1.4	8.7	22.1	30.2	1.37	0.69	0.44	5.52
Hg-T	ng/L	grams	30.1	4.0	0.13	23.17	39	3.1	1.4	0.44	1.1	6.7	9.89	16.81	1.70	0.31	0.20	3.60
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	5.4	1.2	0.23	2.7	9.4	287	189	0.66	8.9	5.7	20.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	10	4	0.38	3	21	7.21	3.39	0.47	0.2	0.1	10.7
E-coli	MPN/100ml	MPN	9,096	4,462	0.49	3,308	2.1.E+04	1.1.E+13	4.9.E+12	0.45	4.5.E+12	3.1.E+13	7,488	10,856	1.45	2.32E+12	1.50E+12	1.46E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.003	0.988	0.493	0.512	4.26	0.023	0.006	0.28	0.7	0.45	3.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	40.3	18.70	0.464	10.40	80.2	0.099	0.064	0.65	3.1	2.0	45.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.728	0.749	0.433	0.469	3.445	0.016	0.010	0.65	0.50	0.32	2.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	15.01	7.96	0.530	3.56	34.23	0.002	0.002	0.85	0.07	0.04	15.12

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 109			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0486	0.070	0.004	0.002	0.43	0.001	0.009	0.0553	0.0415	0.75	0.001	0.001	0.006
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.28	0.08	0.27	0.12	0.46	4.29	2.17	0.51	0.08	0.05	0.42
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.036	0.009	0.24	0.017	0.061	0.392	0.362	0.92	0.008	0.005	0.048
Zn-D	µg/L	Kg	34.9	2.49	0.07	31.30	39.9	2.6	1.0	0.39	0.8	5.2	22.1	30.2	1.37	0.43	0.27	3.30
Hg-T	ng/L	grams	29.8	3.9	0.13	22.95	39	1.8	0.8	0.44	0.6	3.9	9.89	16.81	1.70	0.19	0.12	2.11
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.2	0.7	0.23	1.6	5.5	287	189	0.66	5.5	3.6	12.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	6	2	0.38	2	12	7.21	3.39	0.47	0.1	0.1	6.3
E-coli	MPN/100ml	MPN	9,024	4,425	0.49	3,278	2.1.E+04	6.3.E+12	2.8.E+12	0.45	2.6.E+12	1.8.E+13	7,488	10,856	1.45	1.44E+12	9.29E+11	8.62E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.178	0.581	0.493	0.301	2.50	0.023	0.006	0.28	0.4	0.28	1.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	23.7	11.00	0.464	6.11	47.1	0.099	0.064	0.65	1.9	1.2	26.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.017	0.440	0.433	0.276	2.026	0.016	0.010	0.65	0.31	0.20	1.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	8.83	4.68	0.530	2.09	20.13	0.002	0.002	0.85	0.04	0.03	8.90

Sump 110			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0567	0.0056	0.10	0.0481	0.069	0.010	0.004	0.43	0.003	0.020	0.0553	0.0415	0.75	0.002	0.001	0.014
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.64	0.17	0.27	0.28	1.04	4.29	2.17	0.51	0.18	0.11	0.93
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.081	0.019	0.24	0.039	0.140	0.392	0.362	0.92	0.016	0.010	0.108
Zn-D	µg/L	Kg	34.6	2.44	0.07	31.10	39.4	5.9	2.3	0.39	1.9	11.7	22.1	30.2	1.37	0.91	0.59	7.37
Hg-T	ng/L	grams	30.3	4.0	0.13	23.36	39	4.2	1.8	0.44	1.5	9.1	9.89	16.81	1.70	0.41	0.26	4.88
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	7.3	1.7	0.23	3.7	12.6	287	189	0.66	11.8	7.6	26.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	14	5	0.38	5	28	7.21	3.39	0.47	0.3	0.2	14.4
E-coli	MPN/100ml	MPN	9,156	4,493	0.49	3,334	2.1.E+04	1.5.E+13	6.6.E+12	0.45	6.1.E+12	4.1.E+13	7,488	10,856	1.45	3.08E+12	1.99E+12	1.96E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.693	1.327	0.493	0.689	5.72	0.023	0.006	0.28	0.9	0.60	4.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	54.1	25.13	0.464	13.97	107.7	0.099	0.064	0.65	4.1	2.6	60.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.323	1.007	0.433	0.631	4.630	0.016	0.010	0.65	0.66	0.43	3.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	20.17	10.70	0.530	4.79	46.01	0.002	0.002	0.85	0.09	0.06	20.32

Sump 111			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0531	0.0050	0.09	0.0457	0.064	0.033	0.014	0.43	0.010	0.066	0.0553	0.0415	0.75	0.005	0.003	0.042
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.33	0.63	0.27	1.00	3.79	4.29	2.17	0.51	0.42	0.27	3.02
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.296	0.071	0.24	0.143	0.508	0.392	0.362	0.92	0.038	0.025	0.359
Zn-D	µg/L	Kg	33.2	2.19	0.07	30.16	37.2	20.3	7.9	0.39	6.7	40.4	22.1	30.2	1.37	2.16	1.40	23.89
Hg-T	ng/L	grams	32.5	4.2	0.13	25.47	42	17.4	7.7	0.44	5.9	38.0	9.89	16.81	1.70	0.97	0.62	18.96
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	26.5	6.0	0.23	13.3	45.9	287	189	0.66	28.0	18.1	72.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	51	19	0.38	17	101	7.21	3.39	0.47	0.7	0.5	51.9
E-coli	MPN/100ml	MPN	9,813	4,835	0.49	3,606	2.3.E+04	5.8.E+13	2.6.E+13	0.46	2.4.E+13	1.6.E+14	7,488	10,856	1.45	7.32E+12	4.72E+12	6.96E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.795	4.828	0.493	2.505	20.80	0.023	0.006	0.28	2.2	1.43	13.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	196.9	91.43	0.464	50.83	391.9	0.099	0.064	0.65	9.7	6.2	212.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	8.450	3.662	0.433	2.294	16.841	0.016	0.010	0.65	1.57	1.01	11.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	73.38	38.92	0.530	17.41	167.37	0.002	0.002	0.85	0.21	0.14	73.72

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 112			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0577	0.0058	0.10	0.0488	0.071	0.003	0.001	0.43	0.001	0.005	0.0553	0.0415	0.75	0.001	0.000	0.004
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.17	0.05	0.27	0.07	0.27	4.29	2.17	0.51	0.04	0.03	0.24
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.021	0.005	0.24	0.010	0.036	0.392	0.362	0.92	0.004	0.003	0.028
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.37	40.1	1.5	0.6	0.39	0.5	3.1	22.1	30.2	1.37	0.22	0.15	1.92
Hg-T	ng/L	grams	29.7	3.9	0.13	22.82	39	1.1	0.5	0.44	0.4	2.3	9.89	16.81	1.70	0.10	0.06	1.22
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	1.9	0.4	0.23	1.0	3.3	287	189	0.66	2.9	1.9	6.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	1	0.38	1	7	7.21	3.39	0.47	0.1	0.0	3.7
E-coli	MPN/100ml	MPN	8,982	4,404	0.49	3,261	2.1.E+04	3.7.E+12	1.7.E+12	0.45	1.6.E+12	1.0.E+13	7,488	10,856	1.45	7.60E+11	4.91E+11	4.94E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.699	0.345	0.493	0.179	1.49	0.023	0.006	0.28	0.2	0.15	1.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	14.1	6.53	0.464	3.63	28.0	0.099	0.064	0.65	1.0	0.6	15.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.603	0.261	0.433	0.164	1.203	0.016	0.010	0.65	0.16	0.11	0.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	5.24	2.78	0.530	1.24	11.95	0.002	0.002	0.85	0.02	0.01	5.28

Sump 113			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.002	0.001	0.27	0.001	0.003	4.29	2.17	0.51	0.002	0.001	0.01
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.000	0.000	0.24	0.000	0.000	0.392	0.362	0.92	0.000	0.000	0.001
Zn-D	µg/L	Kg	35.1	2.54	0.07	31.46	40.3	0.02	0.01	0.39	0.01	0.04	22.1	30.2	1.37	0.011	0.007	0.04
Hg-T	ng/L	grams	29.5	3.9	0.13	22.63	38	0.01	0.01	0.44	0.00	0.03	9.89	16.81	1.70	0.005	0.003	0.02
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.02	0.01	0.23	0.01	0.04	287	189	0.66	0.146	0.094	0.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.05	0.02	0.38	0.02	0.09	7.21	3.39	0.47	0.004	0.002	0.1
E-coli	MPN/100ml	MPN	8,923	4,374	0.49	3,236	2.0.E+04	4.7.E+10	2.1.E+10	0.45	2.0.E+10	1.3.E+11	7,488	10,856	1.45	3.82E+10	2.47E+10	1.10E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.009	0.004	0.493	0.002	0.02	0.023	0.006	0.28	0.012	0.007	0.03
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.2	0.08	0.464	0.05	0.4	0.099	0.064	0.65	0.050	0.033	0.26
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.008	0.003	0.433	0.002	0.015	0.016	0.010	0.65	0.008	0.005	0.02
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.07	0.04	0.530	0.02	0.15	0.002	0.002	0.85	0.001	0.001	0.07

Sump 114			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0486	0.070	0.004	0.002	0.43	0.001	0.008	0.0553	0.0415	0.75	0.001	0.000	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.27	0.07	0.27	0.11	0.43	4.29	2.17	0.51	0.04	0.03	0.34
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.034	0.008	0.24	0.016	0.058	0.392	0.362	0.92	0.004	0.003	0.040
Zn-D	µg/L	Kg	34.9	2.49	0.07	31.31	40.0	2.5	1.0	0.39	0.8	4.9	22.1	30.2	1.37	0.22	0.14	2.83
Hg-T	ng/L	grams	29.8	3.9	0.13	22.93	39	1.7	0.7	0.44	0.6	3.7	9.89	16.81	1.70	0.10	0.06	1.87
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.0	0.7	0.23	1.5	5.3	287	189	0.66	2.8	1.8	7.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	6	2	0.38	2	12	7.21	3.39	0.47	0.1	0.0	5.9
E-coli	MPN/100ml	MPN	9,019	4,423	0.49	3,276	2.1.E+04	6.0.E+12	2.7.E+12	0.45	2.5.E+12	1.7.E+13	7,488	10,856	1.45	7.43E+11	4.80E+11	7.17E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.122	0.553	0.493	0.287	2.38	0.023	0.006	0.28	0.2	0.15	1.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	22.5	10.47	0.464	5.82	44.9	0.099	0.064	0.65	1.0	0.6	24.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.968	0.419	0.433	0.263	1.928	0.016	0.010	0.65	0.16	0.10	1.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	8.40	4.46	0.530	1.99	19.16	0.002	0.002	0.85	0.02	0.01	8.44

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 115			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0567	0.0057	0.10	0.0481	0.069	0.010	0.004	0.43	0.003	0.020	0.0553	0.0415	0.75	0.002	0.001	0.013
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.63	0.17	0.27	0.27	1.02	4.29	2.17	0.51	0.15	0.09	0.87
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.080	0.019	0.24	0.039	0.137	0.392	0.362	0.92	0.013	0.009	0.102
Zn-D	µg/L	Kg	34.6	2.44	0.07	31.10	39.5	5.8	2.3	0.39	1.9	11.5	22.1	30.2	1.37	0.75	0.49	7.02
Hg-T	ng/L	grams	30.3	4.0	0.13	23.35	39	4.1	1.8	0.44	1.4	9.0	9.89	16.81	1.70	0.34	0.22	4.69
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	7.2	1.6	0.23	3.6	12.4	287	189	0.66	9.8	6.3	23.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	14	5	0.38	5	27	7.21	3.39	0.47	0.2	0.2	14.1
E-coli	MPN/100ml	MPN	9,152	4,491	0.49	3,332	2.1.E+04	1.4.E+13	6.5.E+12	0.45	6.0.E+12	4.1.E+13	7,488	10,856	1.45	2.55E+12	1.64E+12	1.85E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.649	1.306	0.493	0.677	5.63	0.023	0.006	0.28	0.8	0.50	3.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	53.3	24.72	0.464	13.74	106.0	0.099	0.064	0.65	3.4	2.2	58.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.285	0.990	0.433	0.620	4.554	0.016	0.010	0.65	0.55	0.35	3.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	19.84	10.52	0.530	4.71	45.25	0.002	0.002	0.85	0.07	0.05	19.96

Sump 116			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0555	0.0054	0.10	0.0473	0.067	0.017	0.007	0.43	0.005	0.035	0.0553	0.0415	0.75	0.003	0.002	0.022
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.15	0.31	0.27	0.50	1.87	4.29	2.17	0.51	0.20	0.13	1.49
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.146	0.035	0.24	0.071	0.251	0.392	0.362	0.92	0.019	0.012	0.177
Zn-D	µg/L	Kg	34.2	2.36	0.07	30.81	38.8	10.4	4.1	0.39	3.4	20.7	22.1	30.2	1.37	1.05	0.68	12.13
Hg-T	ng/L	grams	30.9	4.1	0.13	23.97	40	7.9	3.5	0.44	2.7	17.1	9.89	16.81	1.70	0.47	0.30	8.63
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	13.1	3.0	0.23	6.6	22.7	287	189	0.66	13.6	8.8	35.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	25	10	0.38	8	50	7.21	3.39	0.47	0.3	0.2	25.7
E-coli	MPN/100ml	MPN	9,349	4,592	0.49	3,414	2.2.E+04	2.7.E+13	1.2.E+13	0.45	1.1.E+13	7.6.E+13	7,488	10,856	1.45	3.56E+12	2.30E+12	3.27E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.842	2.387	0.493	1.238	10.28	0.023	0.006	0.28	1.1	0.69	6.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	97.4	45.20	0.464	25.13	193.7	0.099	0.064	0.65	4.7	3.0	105.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	4.177	1.810	0.433	1.134	8.325	0.016	0.010	0.65	0.76	0.49	5.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	36.27	19.24	0.530	8.61	82.74	0.002	0.002	0.85	0.10	0.07	36.44

Sump 117			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0562	0.0056	0.10	0.0478	0.068	0.013	0.006	0.43	0.004	0.026	0.0553	0.0415	0.75	0.003	0.002	0.017
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.86	0.23	0.27	0.37	1.40	4.29	2.17	0.51	0.20	0.13	1.19
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.109	0.026	0.24	0.053	0.188	0.392	0.362	0.92	0.018	0.012	0.139
Zn-D	µg/L	Kg	34.4	2.40	0.07	30.97	39.1	7.9	3.1	0.39	2.6	15.6	22.1	30.2	1.37	1.02	0.66	9.53
Hg-T	ng/L	grams	30.5	4.0	0.13	23.62	40	5.8	2.5	0.44	2.0	12.5	9.89	16.81	1.70	0.46	0.29	6.51
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	9.8	2.2	0.23	4.9	17.0	287	189	0.66	13.2	8.5	31.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	19	7	0.38	6	37	7.21	3.39	0.47	0.3	0.2	19.3
E-coli	MPN/100ml	MPN	9,239	4,536	0.49	3,368	2.1.E+04	2.0.E+13	9.0.E+12	0.45	8.3.E+12	5.6.E+13	7,488	10,856	1.45	3.45E+12	2.23E+12	2.55E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.623	1.786	0.493	0.926	7.69	0.023	0.006	0.28	1.0	0.67	5.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	72.8	33.81	0.464	18.80	144.9	0.099	0.064	0.65	4.6	2.9	80.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.125	1.354	0.433	0.848	6.229	0.016	0.010	0.65	0.74	0.48	4.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	27.14	14.39	0.530	6.44	61.90	0.002	0.002	0.85	0.10	0.06	27.30

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 128			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0532	0.0050	0.09	0.0457	0.064	0.033	0.014	0.43	0.010	0.066	0.0553	0.0415	0.75	0.008	0.005	0.046
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.30	0.62	0.27	0.99	3.74	4.29	2.17	0.51	0.61	0.40	3.31
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.292	0.070	0.24	0.142	0.502	0.392	0.362	0.92	0.056	0.036	0.385
Zn-D	µg/L	Kg	33.2	2.20	0.07	30.17	37.3	20.1	7.8	0.39	6.7	39.9	22.1	30.2	1.37	3.17	2.04	25.29
Hg-T	ng/L	grams	32.4	4.2	0.13	25.43	42	17.1	7.6	0.44	5.8	37.5	9.89	16.81	1.70	1.42	0.91	19.43
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	26.2	5.9	0.23	13.2	45.3	287	189	0.66	41.0	26.5	93.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	50	19	0.38	17	100	7.21	3.39	0.47	1.0	0.7	51.8
E-coli	MPN/100ml	MPN	9,801	4,828	0.49	3,601	2.3.E+04	5.7.E+13	2.6.E+13	0.46	2.3.E+13	1.6.E+14	7,488	10,856	1.45	1.07E+13	6.92E+12	7.44E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.670	4.767	0.493	2.473	20.54	0.023	0.006	0.28	3.2	2.09	15.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	194.4	90.26	0.464	50.18	386.9	0.099	0.064	0.65	14.2	9.1	217.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	8.343	3.615	0.433	2.265	16.627	0.016	0.010	0.65	2.30	1.48	12.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	72.44	38.42	0.530	17.19	165.23	0.002	0.002	0.85	0.31	0.20	72.95

Sump 129			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0485	0.0043	0.09	0.0418	0.058	0.060	0.025	0.42	0.019	0.120	0.0553	0.0415	0.75	0.017	0.011	0.089
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.75	1.28	0.27	2.04	7.72	4.29	2.17	0.51	1.33	0.86	6.94
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.602	0.144	0.24	0.292	1.034	0.392	0.362	0.92	0.122	0.079	0.803
Zn-D	µg/L	Kg	31.4	1.90	0.06	28.81	35.0	38.6	14.9	0.39	13.0	76.6	22.1	30.2	1.37	6.88	4.44	49.91
Hg-T	ng/L	grams	36.2	4.8	0.13	28.99	47	43.1	19.5	0.45	13.6	94.9	9.89	16.81	1.70	3.08	1.99	48.13
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	54.0	12.2	0.23	27.1	93.5	287	189	0.66	89.2	57.6	200.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	103	40	0.38	35	206	7.21	3.39	0.47	2.2	1.4	107.0
E-coli	MPN/100ml	MPN	10,861	5,395	0.50	4,038	2.6.E+04	1.3.E+14	6.1.E+13	0.46	5.2.E+13	3.8.E+14	7,488	10,856	1.45	2.33E+13	1.50E+13	1.71E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	19.938	9.828	0.493	5.098	42.35	0.023	0.006	0.28	7.0	4.54	31.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	400.9	186.10	0.464	103.46	797.7	0.099	0.064	0.65	30.8	19.9	451.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	17.201	7.453	0.433	4.669	34.281	0.016	0.010	0.65	4.99	3.22	25.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	149.36	79.22	0.530	35.44	340.68	0.002	0.002	0.85	0.68	0.44	150.47

Sump 130			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0535	0.0051	0.09	0.0459	0.065	0.031	0.013	0.43	0.009	0.062	0.0553	0.0415	0.75	0.006	0.004	0.040
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.15	0.58	0.27	0.92	3.49	4.29	2.17	0.51	0.44	0.28	2.87
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.273	0.065	0.24	0.132	0.468	0.392	0.362	0.92	0.040	0.026	0.338
Zn-D	µg/L	Kg	33.4	2.22	0.07	30.26	37.5	18.8	7.4	0.39	6.2	37.4	22.1	30.2	1.37	2.26	1.46	22.53
Hg-T	ng/L	grams	32.2	4.2	0.13	25.23	42	15.8	7.0	0.44	5.3	34.5	9.89	16.81	1.70	1.01	0.65	17.43
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	24.4	5.5	0.23	12.3	42.3	287	189	0.66	29.3	18.9	72.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	47	18	0.38	16	93	7.21	3.39	0.47	0.7	0.5	48.0
E-coli	MPN/100ml	MPN	9,738	4,795	0.49	3,576	2.3.E+04	5.3.E+13	2.4.E+13	0.46	2.2.E+13	1.5.E+14	7,488	10,856	1.45	7.64E+12	4.93E+12	6.51E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.020	4.446	0.493	2.306	19.16	0.023	0.006	0.28	2.3	1.49	12.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	181.4	84.19	0.464	46.81	360.9	0.099	0.064	0.65	10.1	6.5	198.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	7.782	3.372	0.433	2.112	15.509	0.016	0.010	0.65	1.64	1.06	10.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	67.57	35.84	0.530	16.03	154.12	0.002	0.002	0.85	0.22	0.14	67.93

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 132			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0450	0.0038	0.08	0.0387	0.053	0.079	0.033	0.42	0.025	0.157	0.0553	0.0415	0.75	0.025	0.016	0.120
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	6.82	1.84	0.27	2.94	11.09	4.29	2.17	0.51	1.97	1.27	10.06
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.866	0.207	0.24	0.419	1.487	0.392	0.362	0.92	0.180	0.116	1.161
Zn-D	µg/L	Kg	29.9	1.70	0.06	27.49	33.1	52.3	20.1	0.38	17.8	103.7	22.1	30.2	1.37	10.13	6.54	68.96
Hg-T	ng/L	grams	40.1	5.5	0.14	31.65	54	75.1	35.1	0.47	21.9	164.3	9.89	16.81	1.70	4.53	2.93	82.59
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	77.6	17.6	0.23	39.0	134.4	287	189	0.66	131.4	84.8	293.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	149	57	0.38	50	296	7.21	3.39	0.47	3.3	2.1	153.9
E-coli	MPN/100ml	MPN	11,882	5,960	0.50	4,454	2.9.E+04	2.1.E+14	9.8.E+13	0.46	8.1.E+13	6.0.E+14	7,488	10,856	1.45	3.43E+13	2.21E+13	2.68E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	28.658	14.126	0.493	7.328	60.87	0.023	0.006	0.28	10.4	6.69	45.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	576.2	267.49	0.464	148.71	1146.6	0.099	0.064	0.65	45.3	29.2	650.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	24.724	10.713	0.433	6.711	49.273	0.016	0.010	0.65	7.35	4.75	36.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	214.67	113.87	0.530	50.94	489.67	0.002	0.002	0.85	0.99	0.64	216.31

Sump 138			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0566	0.0056	0.10	0.0480	0.069	0.010	0.005	0.43	0.003	0.021	0.0553	0.0415	0.75	0.002	0.002	0.014
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.67	0.18	0.27	0.29	1.10	4.29	2.17	0.51	0.19	0.12	0.98
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.086	0.020	0.24	0.041	0.147	0.392	0.362	0.92	0.017	0.011	0.113
Zn-D	µg/L	Kg	34.6	2.43	0.07	31.08	39.4	6.2	2.4	0.39	2.0	12.3	22.1	30.2	1.37	0.96	0.62	7.75
Hg-T	ng/L	grams	30.3	4.0	0.13	23.40	39	4.4	1.9	0.44	1.6	9.6	9.89	16.81	1.70	0.43	0.28	5.15
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	7.7	1.7	0.23	3.9	13.3	287	189	0.66	12.4	8.0	28.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	15	6	0.38	5	29	7.21	3.39	0.47	0.3	0.2	15.2
E-coli	MPN/100ml	MPN	9,169	4,500	0.49	3,339	2.1.E+04	1.5.E+13	7.0.E+12	0.45	6.4.E+12	4.4.E+13	7,488	10,856	1.45	3.23E+12	2.09E+12	2.07E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.834	1.397	0.493	0.725	6.02	0.023	0.006	0.28	1.0	0.63	4.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	57.0	26.45	0.464	14.70	113.4	0.099	0.064	0.65	4.3	2.8	64.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.445	1.059	0.433	0.664	4.872	0.016	0.010	0.65	0.69	0.45	3.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	21.23	11.26	0.530	5.04	48.42	0.002	0.002	0.85	0.09	0.06	21.38

Sump 139			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0565	0.0056	0.10	0.0480	0.069	0.011	0.005	0.43	0.003	0.022	0.0553	0.0415	0.75	0.003	0.002	0.015
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.71	0.19	0.27	0.31	1.16	4.29	2.17	0.51	0.20	0.13	1.05
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.090	0.022	0.24	0.044	0.155	0.392	0.362	0.92	0.019	0.012	0.121
Zn-D	µg/L	Kg	34.5	2.42	0.07	31.06	39.4	6.5	2.6	0.39	2.1	12.9	22.1	30.2	1.37	1.05	0.68	8.24
Hg-T	ng/L	grams	30.4	4.0	0.13	23.45	39	4.7	2.1	0.44	1.6	10.2	9.89	16.81	1.70	0.47	0.30	5.48
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	8.1	1.8	0.23	4.1	14.0	287	189	0.66	13.7	8.8	30.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	15	6	0.38	5	31	7.21	3.39	0.47	0.3	0.2	16.1
E-coli	MPN/100ml	MPN	9,183	4,507	0.49	3,345	2.1.E+04	1.6.E+13	7.4.E+12	0.45	6.8.E+12	4.6.E+13	7,488	10,856	1.45	3.57E+12	2.30E+12	2.21E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.989	1.474	0.493	0.764	6.35	0.023	0.006	0.28	1.1	0.70	4.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	60.1	27.90	0.464	15.51	119.6	0.099	0.064	0.65	4.7	3.0	67.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.579	1.118	0.433	0.700	5.140	0.016	0.010	0.65	0.76	0.49	3.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	22.39	11.88	0.530	5.31	51.08	0.002	0.002	0.85	0.10	0.07	22.56

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 140			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0556	0.0054	0.10	0.0474	0.068	0.017	0.007	0.43	0.005	0.034	0.0553	0.0415	0.75	0.004	0.003	0.024
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.13	0.30	0.27	0.48	1.83	4.29	2.17	0.51	0.32	0.21	1.65
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.143	0.034	0.24	0.069	0.245	0.392	0.362	0.92	0.029	0.019	0.191
Zn-D	µg/L	Kg	34.2	2.36	0.07	30.82	38.8	10.2	4.0	0.39	3.3	20.2	22.1	30.2	1.37	1.65	1.06	12.88
Hg-T	ng/L	grams	30.9	4.0	0.13	23.94	40	7.7	3.4	0.44	2.7	16.7	9.89	16.81	1.70	0.74	0.48	8.87
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	12.8	2.9	0.23	6.4	22.2	287	189	0.66	21.3	13.8	47.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	25	9	0.38	8	49	7.21	3.39	0.47	0.5	0.3	25.4
E-coli	MPN/100ml	MPN	9,339	4,587	0.49	3,409	2.2.E+04	2.6.E+13	1.2.E+13	0.45	1.1.E+13	7.4.E+13	7,488	10,856	1.45	5.57E+12	3.60E+12	3.53E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.728	2.331	0.493	1.209	10.04	0.023	0.006	0.28	1.7	1.09	7.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	95.1	44.14	0.464	24.54	189.2	0.099	0.064	0.65	7.4	4.8	107.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	4.079	1.768	0.433	1.107	8.130	0.016	0.010	0.65	1.19	0.77	6.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	35.42	18.79	0.530	8.41	80.79	0.002	0.002	0.85	0.16	0.10	35.69

Sump 141			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0563	0.0056	0.10	0.0478	0.069	0.012	0.005	0.43	0.004	0.025	0.0553	0.0415	0.75	0.003	0.002	0.017
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.81	0.22	0.27	0.35	1.32	4.29	2.17	0.51	0.21	0.13	1.16
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.103	0.025	0.24	0.050	0.178	0.392	0.362	0.92	0.019	0.012	0.135
Zn-D	µg/L	Kg	34.4	2.41	0.07	31.00	39.2	7.4	2.9	0.39	2.4	14.8	22.1	30.2	1.37	1.07	0.69	9.19
Hg-T	ng/L	grams	30.5	4.0	0.13	23.57	40	5.4	2.4	0.44	1.9	11.8	9.89	16.81	1.70	0.48	0.31	6.21
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	9.3	2.1	0.23	4.7	16.0	287	189	0.66	13.9	9.0	32.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	18	7	0.38	6	35	7.21	3.39	0.47	0.3	0.2	18.3
E-coli	MPN/100ml	MPN	9,221	4,526	0.49	3,361	2.1.E+04	1.9.E+13	8.5.E+12	0.45	7.8.E+12	5.3.E+13	7,488	10,856	1.45	3.63E+12	2.35E+12	2.46E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.422	1.687	0.493	0.875	7.27	0.023	0.006	0.28	1.1	0.71	5.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	68.8	31.94	0.464	17.76	136.9	0.099	0.064	0.65	4.8	3.1	76.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.953	1.279	0.433	0.801	5.884	0.016	0.010	0.65	0.78	0.50	4.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	25.64	13.60	0.530	6.08	58.48	0.002	0.002	0.85	0.11	0.07	25.81

Sump 142			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0569	0.0057	0.10	0.0483	0.069	0.008	0.003	0.43	0.002	0.016	0.0553	0.0415	0.75	0.001	0.001	0.010
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.51	0.14	0.27	0.22	0.83	4.29	2.17	0.51	0.10	0.07	0.68
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.065	0.016	0.24	0.032	0.112	0.392	0.362	0.92	0.009	0.006	0.081
Zn-D	µg/L	Kg	34.7	2.45	0.07	31.17	39.6	4.7	1.9	0.39	1.5	9.4	22.1	30.2	1.37	0.53	0.34	5.59
Hg-T	ng/L	grams	30.1	4.0	0.13	23.21	39	3.3	1.5	0.44	1.2	7.3	9.89	16.81	1.70	0.24	0.15	3.73
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	5.8	1.3	0.23	2.9	10.1	287	189	0.66	6.8	4.4	17.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	11	4	0.38	4	22	7.21	3.39	0.47	0.2	0.1	11.5
E-coli	MPN/100ml	MPN	9,109	4,469	0.49	3,314	2.1.E+04	1.2.E+13	5.3.E+12	0.45	4.9.E+12	3.3.E+13	7,488	10,856	1.45	1.78E+12	1.15E+12	1.45E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.158	1.064	0.493	0.552	4.58	0.023	0.006	0.28	0.5	0.35	3.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	43.4	20.14	0.464	11.20	86.3	0.099	0.064	0.65	2.4	1.5	47.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.861	0.807	0.433	0.505	3.710	0.016	0.010	0.65	0.38	0.25	2.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	16.16	8.57	0.530	3.84	36.87	0.002	0.002	0.85	0.05	0.03	16.25

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 144			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0543	0.0052	0.10	0.0465	0.066	0.025	0.011	0.43	0.008	0.051	0.0553	0.0415	0.75	0.005	0.003	0.034
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.72	0.47	0.27	0.74	2.80	4.29	2.17	0.51	0.40	0.26	2.38
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.219	0.052	0.24	0.106	0.376	0.392	0.362	0.92	0.036	0.023	0.279
Zn-D	µg/L	Kg	33.7	2.28	0.07	30.49	38.0	15.3	6.0	0.39	5.0	30.4	22.1	30.2	1.37	2.05	1.32	18.67
Hg-T	ng/L	grams	31.7	4.1	0.13	24.68	41	12.3	5.4	0.44	4.2	26.8	9.89	16.81	1.70	0.92	0.59	13.77
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	19.6	4.4	0.23	9.9	34.0	287	189	0.66	26.5	17.1	63.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	38	14	0.38	13	75	7.21	3.39	0.47	0.7	0.4	38.6
E-coli	MPN/100ml	MPN	9,570	4,707	0.49	3,506	2.2.E+04	4.1.E+13	1.9.E+13	0.45	1.7.E+13	1.2.E+14	7,488	10,856	1.45	6.93E+12	4.47E+12	5.27E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	7.243	3.570	0.493	1.852	15.38	0.023	0.006	0.28	2.1	1.35	10.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	145.6	67.60	0.464	37.58	289.8	0.099	0.064	0.65	9.2	5.9	160.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	6.249	2.708	0.433	1.696	12.453	0.016	0.010	0.65	1.49	0.96	8.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	54.26	28.78	0.530	12.87	123.76	0.002	0.002	0.85	0.20	0.13	54.59

Sump 147			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0577	0.0059	0.10	0.0488	0.071	0.002	0.001	0.43	0.001	0.005	0.0553	0.0415	0.75	0.000	0.000	0.003
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.16	0.04	0.27	0.07	0.25	4.29	2.17	0.51	0.04	0.02	0.22
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.020	0.005	0.24	0.010	0.034	0.392	0.362	0.92	0.004	0.002	0.026
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.37	40.1	1.5	0.6	0.39	0.5	2.9	22.1	30.2	1.37	0.20	0.13	1.78
Hg-T	ng/L	grams	29.7	3.9	0.13	22.81	39	1.0	0.4	0.44	0.4	2.2	9.89	16.81	1.70	0.09	0.06	1.14
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	1.8	0.4	0.23	0.9	3.1	287	189	0.66	2.6	1.7	6.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	3	1	0.38	1	7	7.21	3.39	0.47	0.1	0.0	3.5
E-coli	MPN/100ml	MPN	8,979	4,402	0.49	3,260	2.1.E+04	3.5.E+12	1.6.E+12	0.45	1.5.E+12	9.9.E+12	7,488	10,856	1.45	6.73E+11	4.34E+11	4.58E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.659	0.325	0.493	0.168	1.40	0.023	0.006	0.28	0.2	0.13	1.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	13.2	6.15	0.464	3.42	26.4	0.099	0.064	0.65	0.9	0.6	14.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.568	0.246	0.433	0.154	1.133	0.016	0.010	0.65	0.14	0.09	0.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	4.93	2.62	0.530	1.17	11.26	0.002	0.002	0.85	0.02	0.01	4.97

Sump 148			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0567	0.0057	0.10	0.0481	0.069	0.009	0.004	0.43	0.003	0.019	0.0553	0.0415	0.75	0.001	0.001	0.012
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.61	0.17	0.27	0.26	0.99	4.29	2.17	0.51	0.11	0.07	0.79
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.077	0.019	0.24	0.038	0.133	0.392	0.362	0.92	0.010	0.006	0.094
Zn-D	µg/L	Kg	34.6	2.44	0.07	31.11	39.5	5.6	2.2	0.39	1.8	11.1	22.1	30.2	1.37	0.56	0.36	6.53
Hg-T	ng/L	grams	30.2	4.0	0.13	23.33	39	4.0	1.8	0.44	1.4	8.7	9.89	16.81	1.70	0.25	0.16	4.42
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	6.9	1.6	0.23	3.5	12.0	287	189	0.66	7.3	4.7	19.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	13	5	0.38	4	26	7.21	3.39	0.47	0.2	0.1	13.6
E-coli	MPN/100ml	MPN	9,145	4,487	0.49	3,329	2.1.E+04	1.4.E+13	6.3.E+12	0.45	5.8.E+12	3.9.E+13	7,488	10,856	1.45	1.91E+12	1.23E+12	1.70E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.564	1.264	0.493	0.656	5.45	0.023	0.006	0.28	0.6	0.37	3.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	51.6	23.94	0.464	13.31	102.6	0.099	0.064	0.65	2.5	1.6	55.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.212	0.959	0.433	0.601	4.409	0.016	0.010	0.65	0.41	0.26	2.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	19.21	10.19	0.530	4.56	43.82	0.002	0.002	0.85	0.06	0.04	19.30

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 151			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0485	0.0043	0.09	0.0418	0.058	0.060	0.025	0.42	0.019	0.120	0.0553	0.0415	0.75	0.012	0.008	0.081
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.75	1.28	0.27	2.04	7.72	4.29	2.17	0.51	0.97	0.62	6.34
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.603	0.144	0.24	0.292	1.035	0.392	0.362	0.92	0.088	0.057	0.748
Zn-D	µg/L	Kg	31.4	1.90	0.06	28.81	34.9	38.6	14.9	0.39	13.0	76.6	22.1	30.2	1.37	4.98	3.22	46.79
Hg-T	ng/L	grams	36.2	4.8	0.13	28.99	47	43.1	19.5	0.45	13.6	94.9	9.89	16.81	1.70	2.23	1.44	46.75
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	54.0	12.2	0.23	27.1	93.5	287	189	0.66	64.6	41.7	160.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	103	40	0.38	35	206	7.21	3.39	0.47	1.6	1.0	106.0
E-coli	MPN/100ml	MPN	10,862	5,396	0.50	4,039	2.6.E+04	1.3.E+14	6.1.E+13	0.46	5.2.E+13	3.8.E+14	7,488	10,856	1.45	1.69E+13	1.09E+13	1.60E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	19.943	9.830	0.493	5.099	42.36	0.023	0.006	0.28	5.1	3.29	28.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	401.0	186.14	0.464	103.48	797.9	0.099	0.064	0.65	22.3	14.4	437.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	17.205	7.455	0.433	4.670	34.289	0.016	0.010	0.65	3.61	2.33	23.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	149.39	79.24	0.530	35.45	340.75	0.002	0.002	0.85	0.49	0.32	150.19

Sump 152			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0459	0.0039	0.08	0.0395	0.054	0.074	0.031	0.42	0.024	0.148	0.0553	0.0415	0.75	0.019	0.012	0.106
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	6.28	1.70	0.27	2.71	10.22	4.29	2.17	0.51	1.49	0.96	8.74
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.798	0.191	0.24	0.386	1.370	0.392	0.362	0.92	0.136	0.088	1.022
Zn-D	µg/L	Kg	30.3	1.75	0.06	27.83	33.6	48.9	18.8	0.38	16.6	97.0	22.1	30.2	1.37	7.69	4.96	61.56
Hg-T	ng/L	grams	39.0	5.3	0.14	30.93	52	65.7	30.3	0.46	19.6	144.1	9.89	16.81	1.70	3.44	2.22	71.33
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	71.5	16.2	0.23	35.9	123.8	287	189	0.66	99.7	64.3	235.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	137	52	0.38	46	273	7.21	3.39	0.47	2.5	1.6	140.9
E-coli	MPN/100ml	MPN	11,607	5,806	0.50	4,343	2.8.E+04	1.9.E+14	8.8.E+13	0.46	7.3.E+13	5.4.E+14	7,488	10,856	1.45	2.60E+13	1.68E+13	2.33E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	26.403	13.015	0.493	6.751	56.08	0.023	0.006	0.28	7.9	5.08	39.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	530.9	246.45	0.464	137.01	1056.4	0.099	0.064	0.65	34.4	22.2	587.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	22.779	9.870	0.433	6.183	45.397	0.016	0.010	0.65	5.58	3.60	32.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	197.79	104.91	0.530	46.93	451.15	0.002	0.002	0.85	0.75	0.49	199.03

Sump 153			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0558	0.0055	0.10	0.0475	0.068	0.015	0.007	0.43	0.005	0.031	0.0553	0.0415	0.75	0.003	0.002	0.020
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.01	0.27	0.27	0.44	1.65	4.29	2.17	0.51	0.23	0.15	1.39
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.129	0.031	0.24	0.062	0.221	0.392	0.362	0.92	0.021	0.013	0.163
Zn-D	µg/L	Kg	34.3	2.38	0.07	30.88	38.9	9.2	3.6	0.39	3.0	18.3	22.1	30.2	1.37	1.17	0.76	11.13
Hg-T	ng/L	grams	30.7	4.0	0.13	23.81	40	6.8	3.0	0.44	2.4	14.9	9.89	16.81	1.70	0.53	0.34	7.71
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	11.5	2.6	0.23	5.8	20.0	287	189	0.66	15.2	9.8	36.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	22	8	0.38	7	44	7.21	3.39	0.47	0.4	0.2	22.7
E-coli	MPN/100ml	MPN	9,296	4,565	0.49	3,392	2.2.E+04	2.3.E+13	1.1.E+13	0.45	9.8.E+12	6.7.E+13	7,488	10,856	1.45	3.97E+12	2.57E+12	3.00E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.263	2.101	0.493	1.090	9.05	0.023	0.006	0.28	1.2	0.78	6.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	85.7	39.79	0.464	22.12	170.6	0.099	0.064	0.65	5.3	3.4	94.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.678	1.594	0.433	0.998	7.329	0.016	0.010	0.65	0.85	0.55	5.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	31.93	16.94	0.530	7.58	72.84	0.002	0.002	0.85	0.12	0.07	32.12

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 154			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0534	0.0051	0.09	0.0459	0.064	0.031	0.013	0.43	0.010	0.062	0.0553	0.0415	0.75	0.008	0.005	0.044
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.18	0.59	0.27	0.94	3.54	4.29	2.17	0.51	0.60	0.39	3.16
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.276	0.066	0.24	0.134	0.474	0.392	0.362	0.92	0.055	0.035	0.366
Zn-D	µg/L	Kg	33.3	2.21	0.07	30.24	37.4	19.1	7.4	0.39	6.3	37.9	22.1	30.2	1.37	3.10	2.00	24.15
Hg-T	ng/L	grams	32.3	4.2	0.13	25.27	42	16.0	7.1	0.44	5.4	35.0	9.89	16.81	1.70	1.39	0.89	18.29
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	24.7	5.6	0.23	12.4	42.9	287	189	0.66	40.2	25.9	90.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	47	18	0.38	16	94	7.21	3.39	0.47	1.0	0.7	49.0
E-coli	MPN/100ml	MPN	9,750	4,801	0.49	3,580	2.3.E+04	5.3.E+13	2.4.E+13	0.46	2.2.E+13	1.5.E+14	7,488	10,856	1.45	1.05E+13	6.77E+12	7.05E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.140	4.505	0.493	2.337	19.41	0.023	0.006	0.28	3.2	2.05	14.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	183.8	85.31	0.464	47.43	365.7	0.099	0.064	0.65	13.9	8.9	206.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	7.885	3.417	0.433	2.140	15.714	0.016	0.010	0.65	2.25	1.45	11.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	68.46	36.31	0.530	16.25	156.17	0.002	0.002	0.85	0.30	0.20	68.96

Sump 155			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.008	0.0553	0.0415	0.75	0.002	0.001	0.006
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.25	0.07	0.27	0.11	0.40	4.29	2.17	0.51	0.12	0.08	0.44
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.032	0.008	0.24	0.015	0.054	0.392	0.362	0.92	0.011	0.007	0.049
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.32	40.0	2.3	0.9	0.39	0.8	4.6	22.1	30.2	1.37	0.61	0.39	3.30
Hg-T	ng/L	grams	29.8	3.9	0.13	22.91	39	1.6	0.7	0.44	0.6	3.4	9.89	16.81	1.70	0.27	0.18	2.04
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.8	0.6	0.23	1.4	4.9	287	189	0.66	7.9	5.1	15.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	11	7.21	3.39	0.47	0.2	0.1	5.7
E-coli	MPN/100ml	MPN	9,012	4,419	0.49	3,274	2.1.E+04	5.5.E+12	2.5.E+12	0.45	2.3.E+12	1.6.E+13	7,488	10,856	1.45	2.06E+12	1.33E+12	8.92E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.044	0.515	0.493	0.267	2.22	0.023	0.006	0.28	0.6	0.40	2.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	21.0	9.75	0.464	5.42	41.8	0.099	0.064	0.65	2.7	1.8	25.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.901	0.390	0.433	0.245	1.795	0.016	0.010	0.65	0.44	0.28	1.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.82	4.15	0.530	1.86	17.84	0.002	0.002	0.85	0.06	0.04	7.92

Sump 157			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0451	0.0038	0.08	0.0388	0.053	0.078	0.033	0.42	0.025	0.156	0.0553	0.0415	0.75	0.021	0.013	0.113
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	6.77	1.83	0.27	2.91	11.00	4.29	2.17	0.51	1.62	1.04	9.43
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.859	0.205	0.24	0.416	1.475	0.392	0.362	0.92	0.148	0.095	1.102
Zn-D	µg/L	Kg	30.0	1.71	0.06	27.53	33.2	52.0	20.0	0.38	17.7	103.0	22.1	30.2	1.37	8.34	5.38	65.68
Hg-T	ng/L	grams	40.0	5.5	0.14	31.57	53	74.1	34.6	0.47	21.6	162.2	9.89	16.81	1.70	3.73	2.41	80.27
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	77.0	17.4	0.23	38.7	133.3	287	189	0.66	108.1	69.8	254.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	147	56	0.38	49	294	7.21	3.39	0.47	2.7	1.8	151.8
E-coli	MPN/100ml	MPN	11,854	5,944	0.50	4,443	2.9.E+04	2.1.E+14	9.7.E+13	0.46	8.0.E+13	6.0.E+14	7,488	10,856	1.45	2.82E+13	1.82E+13	2.56E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	28.428	14.013	0.493	7.269	60.38	0.023	0.006	0.28	8.5	5.51	42.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	571.6	265.35	0.464	147.52	1137.4	0.099	0.064	0.65	37.3	24.1	633.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	24.526	10.627	0.433	6.658	48.878	0.016	0.010	0.65	6.05	3.91	34.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	212.95	112.95	0.530	50.53	485.75	0.002	0.002	0.85	0.82	0.53	214.30

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 158			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0551	0.0054	0.10	0.0470	0.067	0.020	0.009	0.43	0.006	0.041	0.0553	0.0415	0.75	0.005	0.003	0.029
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.37	0.37	0.27	0.59	2.22	4.29	2.17	0.51	0.38	0.25	2.00
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.174	0.041	0.24	0.084	0.298	0.392	0.362	0.92	0.035	0.023	0.231
Zn-D	µg/L	Kg	34.0	2.33	0.07	30.69	38.5	12.3	4.8	0.39	4.0	24.4	22.1	30.2	1.37	1.97	1.27	15.51
Hg-T	ng/L	grams	31.2	4.1	0.13	24.24	40	9.5	4.2	0.44	3.3	20.6	9.89	16.81	1.70	0.88	0.57	10.92
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	15.6	3.5	0.23	7.8	26.9	287	189	0.66	25.6	16.5	57.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	30	11	0.38	10	59	7.21	3.39	0.47	0.6	0.4	30.8
E-coli	MPN/100ml	MPN	9,431	4,635	0.49	3,448	2.2.E+04	3.2.E+13	1.5.E+13	0.45	1.3.E+13	9.1.E+13	7,488	10,856	1.45	6.68E+12	4.31E+12	4.32E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	5.745	2.832	0.493	1.469	12.20	0.023	0.006	0.28	2.0	1.30	9.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	115.5	53.63	0.464	29.81	229.9	0.099	0.064	0.65	8.8	5.7	130.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	4.957	2.148	0.433	1.345	9.878	0.016	0.010	0.65	1.43	0.92	7.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	43.04	22.83	0.530	10.21	98.17	0.002	0.002	0.85	0.19	0.12	43.36

Sump 159			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0532	0.0050	0.09	0.0458	0.064	0.032	0.014	0.43	0.010	0.065	0.0553	0.0415	0.75	0.007	0.005	0.044
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.27	0.61	0.27	0.98	3.69	4.29	2.17	0.51	0.56	0.36	3.18
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.288	0.069	0.24	0.140	0.495	0.392	0.362	0.92	0.051	0.033	0.372
Zn-D	µg/L	Kg	33.3	2.20	0.07	30.19	37.3	19.8	7.7	0.39	6.6	39.4	22.1	30.2	1.37	2.86	1.85	24.54
Hg-T	ng/L	grams	32.4	4.2	0.13	25.39	42	16.8	7.5	0.44	5.7	36.8	9.89	16.81	1.70	1.28	0.83	18.93
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	25.8	5.8	0.23	13.0	44.7	287	189	0.66	37.1	24.0	86.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	49	19	0.38	17	98	7.21	3.39	0.47	0.9	0.6	50.9
E-coli	MPN/100ml	MPN	9,788	4,821	0.49	3,596	2.3.E+04	5.6.E+13	2.5.E+13	0.46	2.3.E+13	1.6.E+14	7,488	10,856	1.45	9.69E+12	6.26E+12	7.18E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.535	4.700	0.493	2.438	20.25	0.023	0.006	0.28	2.9	1.89	14.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	191.7	89.00	0.464	49.48	381.5	0.099	0.064	0.65	12.8	8.3	212.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	8.226	3.564	0.433	2.233	16.394	0.016	0.010	0.65	2.08	1.34	11.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	71.43	37.89	0.530	16.95	162.92	0.002	0.002	0.85	0.28	0.18	71.89

Sump 19			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0570	0.0057	0.10	0.0483	0.070	0.007	0.003	0.43	0.002	0.014	0.0553	0.0415	0.75	0.001	0.001	0.009
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.46	0.13	0.27	0.20	0.75	4.29	2.17	0.51	0.08	0.05	0.60
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.059	0.014	0.24	0.028	0.101	0.392	0.362	0.92	0.008	0.005	0.071
Zn-D	µg/L	Kg	34.7	2.46	0.07	31.20	39.7	4.3	1.7	0.39	1.4	8.5	22.1	30.2	1.37	0.43	0.28	4.98
Hg-T	ng/L	grams	30.0	4.0	0.13	23.16	39	3.0	1.3	0.44	1.1	6.5	9.89	16.81	1.70	0.19	0.12	3.32
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	5.3	1.2	0.23	2.6	9.1	287	189	0.66	5.6	3.6	14.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	10	4	0.38	3	20	7.21	3.39	0.47	0.1	0.1	10.3
E-coli	MPN/100ml	MPN	9,091	4,459	0.49	3,306	2.1.E+04	1.0.E+13	4.7.E+12	0.45	4.4.E+12	3.0.E+13	7,488	10,856	1.45	1.46E+12	9.43E+11	1.28E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.945	0.959	0.493	0.497	4.13	0.023	0.006	0.28	0.4	0.29	2.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	39.1	18.15	0.464	10.09	77.8	0.099	0.064	0.65	1.9	1.2	42.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.678	0.727	0.433	0.455	3.344	0.016	0.010	0.65	0.31	0.20	2.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	14.57	7.73	0.530	3.46	33.23	0.002	0.002	0.85	0.04	0.03	14.64

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 2			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0489	0.071	0.001	0.000	0.43	0.000	0.002	0.0553	0.0415	0.75	0.000	0.000	0.001
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.06	0.02	0.27	0.02	0.09	4.29	2.17	0.51	0.01	0.01	0.08
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.007	0.002	0.24	0.004	0.013	0.392	0.362	0.92	0.001	0.001	0.009
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.43	40.3	0.5	0.2	0.39	0.2	1.1	22.1	30.2	1.37	0.07	0.04	0.65
Hg-T	ng/L	grams	29.6	3.9	0.13	22.70	38	0.4	0.2	0.44	0.1	0.8	9.89	16.81	1.70	0.03	0.02	0.42
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.7	0.1	0.23	0.3	1.1	287	189	0.66	0.9	0.6	2.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	1	0	0.38	0	3	7.21	3.39	0.47	0.0	0.0	1.3
E-coli	MPN/100ml	MPN	8,943	4,384	0.49	3,245	2.1.E+04	1.3.E+12	5.8.E+11	0.45	5.4.E+11	3.6.E+12	7,488	10,856	1.45	2.34E+11	1.51E+11	1.66E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.243	0.120	0.493	0.062	0.52	0.023	0.006	0.28	0.1	0.05	0.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	4.9	2.27	0.464	1.26	9.7	0.099	0.064	0.65	0.3	0.2	5.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.209	0.091	0.433	0.057	0.417	0.016	0.010	0.65	0.05	0.03	0.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	1.82	0.96	0.530	0.43	4.15	0.002	0.002	0.85	0.01	0.00	1.83

Sump 20			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0564	0.0056	0.10	0.0479	0.069	0.011	0.005	0.43	0.003	0.023	0.0553	0.0415	0.75	0.003	0.002	0.016
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.74	0.20	0.27	0.32	1.21	4.29	2.17	0.51	0.20	0.13	1.07
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.094	0.023	0.24	0.046	0.162	0.392	0.362	0.92	0.018	0.012	0.125
Zn-D	µg/L	Kg	34.5	2.42	0.07	31.04	39.3	6.8	2.7	0.39	2.2	13.5	22.1	30.2	1.37	1.03	0.67	8.49
Hg-T	ng/L	grams	30.4	4.0	0.13	23.48	39	4.9	2.2	0.44	1.7	10.7	9.89	16.81	1.70	0.46	0.30	5.68
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	8.5	1.9	0.23	4.3	14.6	287	189	0.66	13.4	8.7	30.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	16	6	0.38	5	32	7.21	3.39	0.47	0.3	0.2	16.7
E-coli	MPN/100ml	MPN	9,194	4,513	0.49	3,349	2.1.E+04	1.7.E+13	7.7.E+12	0.45	7.1.E+12	4.8.E+13	7,488	10,856	1.45	3.50E+12	2.26E+12	2.27E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.123	1.539	0.493	0.799	6.63	0.023	0.006	0.28	1.1	0.68	4.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	62.8	29.15	0.464	16.21	124.9	0.099	0.064	0.65	4.6	3.0	70.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.694	1.167	0.433	0.731	5.370	0.016	0.010	0.65	0.75	0.48	3.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	23.39	12.41	0.530	5.55	53.36	0.002	0.002	0.85	0.10	0.07	23.56

Sump 22			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0548	0.0053	0.10	0.0468	0.066	0.022	0.010	0.43	0.007	0.045	0.0553	0.0415	0.75	0.006	0.004	0.032
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.51	0.41	0.27	0.65	2.46	4.29	2.17	0.51	0.45	0.29	2.25
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.192	0.046	0.24	0.093	0.330	0.392	0.362	0.92	0.041	0.026	0.259
Zn-D	µg/L	Kg	33.9	2.31	0.07	30.61	38.3	13.5	5.3	0.39	4.4	26.8	22.1	30.2	1.37	2.30	1.48	17.28
Hg-T	ng/L	grams	31.4	4.1	0.13	24.42	41	10.6	4.7	0.44	3.6	23.1	9.89	16.81	1.70	1.03	0.66	12.27
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	17.2	3.9	0.23	8.6	29.8	287	189	0.66	29.8	19.2	66.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	33	13	0.38	11	66	7.21	3.39	0.47	0.7	0.5	34.1
E-coli	MPN/100ml	MPN	9,487	4,664	0.49	3,471	2.2.E+04	3.6.E+13	1.6.E+13	0.45	1.5.E+13	1.0.E+14	7,488	10,856	1.45	7.77E+12	5.02E+12	4.86E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	6.352	3.131	0.493	1.624	13.49	0.023	0.006	0.28	2.3	1.52	10.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	127.7	59.29	0.464	32.96	254.1	0.099	0.064	0.65	10.3	6.6	144.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	5.480	2.375	0.433	1.488	10.922	0.016	0.010	0.65	1.67	1.08	8.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	47.58	25.24	0.530	11.29	108.54	0.002	0.002	0.85	0.23	0.15	47.95

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 24			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0561	0.0055	0.10	0.0477	0.068	0.014	0.006	0.43	0.004	0.027	0.0553	0.0415	0.75	0.004	0.003	0.020
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.89	0.24	0.27	0.38	1.45	4.29	2.17	0.51	0.31	0.20	1.41
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.113	0.027	0.24	0.055	0.194	0.392	0.362	0.92	0.029	0.019	0.160
Zn-D	µg/L	Kg	34.4	2.40	0.07	30.95	39.1	8.1	3.2	0.39	2.7	16.1	22.1	30.2	1.37	1.62	1.04	10.77
Hg-T	ng/L	grams	30.6	4.0	0.13	23.66	40	6.0	2.6	0.44	2.1	13.0	9.89	16.81	1.70	0.72	0.47	7.15
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	10.1	2.3	0.23	5.1	17.6	287	189	0.66	21.0	13.5	44.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	19	7	0.38	6	39	7.21	3.39	0.47	0.5	0.3	20.3
E-coli	MPN/100ml	MPN	9,250	4,541	0.49	3,373	2.1.E+04	2.0.E+13	9.3.E+12	0.45	8.6.E+12	5.8.E+13	7,488	10,856	1.45	5.48E+12	3.54E+12	2.95E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.743	1.845	0.493	0.957	7.95	0.023	0.006	0.28	1.7	1.07	6.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	75.3	34.94	0.464	19.42	149.8	0.099	0.064	0.65	7.2	4.7	87.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.229	1.399	0.433	0.877	6.436	0.016	0.010	0.65	1.17	0.76	5.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	28.04	14.87	0.530	6.65	63.96	0.002	0.002	0.85	0.16	0.10	28.30

Sump 25			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.007	0.0553	0.0415	0.75	0.001	0.001	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.23	0.06	0.27	0.10	0.38	4.29	2.17	0.51	0.07	0.04	0.34
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.030	0.007	0.24	0.014	0.051	0.392	0.362	0.92	0.006	0.004	0.040
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.33	40.0	2.2	0.9	0.39	0.7	4.3	22.1	30.2	1.37	0.34	0.22	2.72
Hg-T	ng/L	grams	29.8	3.9	0.13	22.89	39	1.5	0.7	0.44	0.5	3.2	9.89	16.81	1.70	0.15	0.10	1.74
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.7	0.6	0.23	1.3	4.6	287	189	0.66	4.4	2.8	9.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	10	7.21	3.39	0.47	0.1	0.1	5.3
E-coli	MPN/100ml	MPN	9,007	4,416	0.49	3,271	2.1.E+04	5.2.E+12	2.4.E+12	0.45	2.2.E+12	1.5.E+13	7,488	10,856	1.45	1.14E+12	7.34E+11	7.08E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.984	0.485	0.493	0.251	2.09	0.023	0.006	0.28	0.3	0.22	1.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	19.8	9.18	0.464	5.10	39.4	0.099	0.064	0.65	1.5	1.0	22.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.849	0.368	0.433	0.230	1.691	0.016	0.010	0.65	0.24	0.16	1.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.37	3.91	0.530	1.75	16.81	0.002	0.002	0.85	0.03	0.02	7.42

Sump 26			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0507	0.0046	0.09	0.0437	0.061	0.048	0.020	0.42	0.015	0.095	0.0553	0.0415	0.75	0.013	0.008	0.069
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.55	0.96	0.27	1.53	5.77	4.29	2.17	0.51	0.98	0.64	5.17
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.451	0.108	0.24	0.218	0.774	0.392	0.362	0.92	0.090	0.058	0.599
Zn-D	µg/L	Kg	32.3	2.04	0.06	29.50	36.0	29.9	11.6	0.39	10.0	59.3	22.1	30.2	1.37	5.07	3.28	38.22
Hg-T	ng/L	grams	34.3	4.5	0.13	27.17	44	29.1	13.0	0.45	9.5	64.0	9.89	16.81	1.70	2.27	1.47	32.85
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	40.4	9.1	0.23	20.3	69.9	287	189	0.66	65.8	42.5	148.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	77	30	0.38	26	154	7.21	3.39	0.47	1.7	1.1	80.0
E-coli	MPN/100ml	MPN	10,325	5,106	0.49	3,818	2.5.E+04	9.3.E+13	4.3.E+13	0.46	3.8.E+13	2.6.E+14	7,488	10,856	1.45	1.72E+13	1.11E+13	1.21E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	14.912	7.351	0.493	3.813	31.67	0.023	0.006	0.28	5.2	3.35	23.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	299.8	139.19	0.464	77.38	596.6	0.099	0.064	0.65	22.7	14.7	337.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	12.865	5.575	0.433	3.492	25.640	0.016	0.010	0.65	3.68	2.38	18.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	111.71	59.25	0.530	26.51	254.80	0.002	0.002	0.85	0.50	0.32	112.53

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 27			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0577	0.0058	0.10	0.0488	0.071	0.003	0.001	0.43	0.001	0.006	0.0553	0.0415	0.75	0.001	0.000	0.004
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.18	0.05	0.27	0.08	0.29	4.29	2.17	0.51	0.05	0.03	0.26
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.023	0.005	0.24	0.011	0.039	0.392	0.362	0.92	0.005	0.003	0.030
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.36	40.1	1.7	0.7	0.39	0.5	3.3	22.1	30.2	1.37	0.27	0.17	2.10
Hg-T	ng/L	grams	29.7	3.9	0.13	22.83	39	1.1	0.5	0.44	0.4	2.5	9.89	16.81	1.70	0.12	0.08	1.33
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.0	0.5	0.23	1.0	3.5	287	189	0.66	3.4	2.2	7.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	1	0.38	1	8	7.21	3.39	0.47	0.1	0.1	4.0
E-coli	MPN/100ml	MPN	8,987	4,406	0.49	3,263	2.1.E+04	4.0.E+12	1.8.E+12	0.45	1.7.E+12	1.1.E+13	7,488	10,856	1.45	9.00E+11	5.81E+11	5.46E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.753	0.371	0.493	0.192	1.60	0.023	0.006	0.28	0.3	0.18	1.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	15.1	7.02	0.464	3.91	30.1	0.099	0.064	0.65	1.2	0.8	17.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.649	0.281	0.433	0.176	1.294	0.016	0.010	0.65	0.19	0.12	1.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	5.64	2.99	0.530	1.34	12.86	0.002	0.002	0.85	0.03	0.02	5.68

Sump 28			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.001	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.020	0.005	0.27	0.009	0.032	4.29	2.17	0.51	0.006	0.004	0.03
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.003	0.001	0.24	0.001	0.004	0.392	0.362	0.92	0.001	0.000	0.003
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.45	40.3	0.19	0.07	0.39	0.06	0.37	22.1	30.2	1.37	0.029	0.019	0.23
Hg-T	ng/L	grams	29.5	3.9	0.13	22.65	38	0.13	0.05	0.44	0.04	0.27	9.89	16.81	1.70	0.013	0.008	0.15
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.23	0.05	0.23	0.11	0.39	287	189	0.66	0.372	0.240	0.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.43	0.17	0.38	0.14	0.86	7.21	3.39	0.47	0.009	0.006	0.4
E-coli	MPN/100ml	MPN	8,930	4,377	0.49	3,239	2.0.E+04	4.4.E+11	2.0.E+11	0.45	1.9.E+11	1.2.E+12	7,488	10,856	1.45	9.72E+10	6.27E+10	5.98E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.084	0.041	0.493	0.021	0.18	0.023	0.006	0.28	0.029	0.019	0.13
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1.7	0.78	0.464	0.43	3.3	0.099	0.064	0.65	0.128	0.083	1.89
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.072	0.031	0.433	0.020	0.144	0.016	0.010	0.65	0.021	0.013	0.11
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.63	0.33	0.530	0.15	1.43	0.002	0.002	0.85	0.003	0.002	0.63

Sump 3			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0489	0.071	0.001	0.000	0.43	0.000	0.002	0.0553	0.0415	0.75	0.000	0.000	0.001
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.05	0.01	0.27	0.02	0.09	4.29	2.17	0.51	0.01	0.01	0.07
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.007	0.002	0.24	0.003	0.012	0.392	0.362	0.92	0.001	0.001	0.009
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.43	40.3	0.5	0.2	0.39	0.2	1.0	22.1	30.2	1.37	0.06	0.04	0.60
Hg-T	ng/L	grams	29.6	3.9	0.13	22.69	38	0.3	0.1	0.44	0.1	0.7	9.89	16.81	1.70	0.03	0.02	0.38
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.6	0.1	0.23	0.3	1.1	287	189	0.66	0.7	0.5	1.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	1	0	0.38	0	2	7.21	3.39	0.47	0.0	0.0	1.2
E-coli	MPN/100ml	MPN	8,942	4,383	0.49	3,244	2.1.E+04	1.2.E+12	5.4.E+11	0.45	5.0.E+11	3.4.E+12	7,488	10,856	1.45	1.95E+11	1.26E+11	1.51E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.226	0.112	0.493	0.058	0.48	0.023	0.006	0.28	0.1	0.04	0.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	4.6	2.11	0.464	1.18	9.1	0.099	0.064	0.65	0.3	0.2	5.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.195	0.085	0.433	0.053	0.389	0.016	0.010	0.65	0.04	0.03	0.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	1.70	0.90	0.530	0.40	3.87	0.002	0.002	0.85	0.01	0.00	1.71

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 30			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0578	0.0059	0.10	0.0488	0.071	0.002	0.001	0.43	0.001	0.004	0.0553	0.0415	0.75	0.000	0.000	0.003
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.12	0.03	0.27	0.05	0.19	4.29	2.17	0.51	0.03	0.02	0.17
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.015	0.004	0.24	0.007	0.026	0.392	0.362	0.92	0.003	0.002	0.020
Zn-D	µg/L	Kg	35.0	2.52	0.07	31.39	40.2	1.1	0.4	0.39	0.4	2.2	22.1	30.2	1.37	0.16	0.10	1.37
Hg-T	ng/L	grams	29.6	3.9	0.13	22.76	39	0.8	0.3	0.44	0.3	1.6	9.89	16.81	1.70	0.07	0.05	0.87
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	1.4	0.3	0.23	0.7	2.4	287	189	0.66	2.1	1.3	4.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	3	1	0.38	1	5	7.21	3.39	0.47	0.1	0.0	2.7
E-coli	MPN/100ml	MPN	8,965	4,395	0.49	3,254	2.1.E+04	2.6.E+12	1.2.E+12	0.45	1.1.E+12	7.5.E+12	7,488	10,856	1.45	5.39E+11	3.48E+11	3.53E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.502	0.247	0.493	0.128	1.07	0.023	0.006	0.28	0.2	0.11	0.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	10.1	4.68	0.464	2.60	20.1	0.099	0.064	0.65	0.7	0.5	11.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.433	0.188	0.433	0.118	0.863	0.016	0.010	0.65	0.12	0.07	0.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	3.76	1.99	0.530	0.89	8.58	0.002	0.002	0.85	0.02	0.01	3.79

Sump 31			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0510	0.0047	0.09	0.0440	0.061	0.046	0.019	0.42	0.014	0.092	0.0553	0.0415	0.75	0.011	0.007	0.063
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.38	0.91	0.27	1.46	5.50	4.29	2.17	0.51	0.83	0.53	4.74
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.429	0.103	0.24	0.208	0.737	0.392	0.362	0.92	0.075	0.049	0.554
Zn-D	µg/L	Kg	32.4	2.06	0.06	29.59	36.2	28.6	11.1	0.39	9.5	56.8	22.1	30.2	1.37	4.26	2.75	35.61
Hg-T	ng/L	grams	34.0	4.5	0.13	26.93	44	27.4	12.2	0.45	9.0	60.1	9.89	16.81	1.70	1.91	1.23	30.50
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	38.5	8.7	0.23	19.3	66.6	287	189	0.66	55.3	35.7	129.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	74	28	0.38	25	147	7.21	3.39	0.47	1.4	0.9	75.9
E-coli	MPN/100ml	MPN	10,252	5,067	0.49	3,788	2.4.E+04	8.8.E+13	4.0.E+13	0.46	3.6.E+13	2.5.E+14	7,488	10,856	1.45	1.44E+13	9.31E+12	1.12E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	14.206	7.002	0.493	3.632	30.17	0.023	0.006	0.28	4.4	2.82	21.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	285.6	132.60	0.464	73.71	568.4	0.099	0.064	0.65	19.1	12.3	317.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	12.256	5.310	0.433	3.327	24.425	0.016	0.010	0.65	3.09	2.00	17.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	106.41	56.44	0.530	25.25	242.73	0.002	0.002	0.85	0.42	0.27	107.10

Sump 33			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0533	0.0050	0.09	0.0458	0.064	0.032	0.014	0.43	0.010	0.064	0.0553	0.0415	0.75	0.008	0.005	0.045
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.22	0.60	0.27	0.96	3.61	4.29	2.17	0.51	0.61	0.40	3.23
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.282	0.067	0.24	0.136	0.484	0.392	0.362	0.92	0.056	0.036	0.374
Zn-D	µg/L	Kg	33.3	2.21	0.07	30.22	37.4	19.4	7.6	0.39	6.4	38.6	22.1	30.2	1.37	3.17	2.04	24.62
Hg-T	ng/L	grams	32.3	4.2	0.13	25.32	42	16.4	7.3	0.44	5.5	35.9	9.89	16.81	1.70	1.42	0.91	18.72
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	25.2	5.7	0.23	12.7	43.7	287	189	0.66	41.1	26.5	92.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	48	19	0.38	16	96	7.21	3.39	0.47	1.0	0.7	50.0
E-coli	MPN/100ml	MPN	9,767	4,811	0.49	3,588	2.3.E+04	5.4.E+13	2.5.E+13	0.46	2.2.E+13	1.5.E+14	7,488	10,856	1.45	1.07E+13	6.92E+12	7.21E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.323	4.596	0.493	2.384	19.80	0.023	0.006	0.28	3.2	2.09	14.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	187.5	87.02	0.464	48.38	373.0	0.099	0.064	0.65	14.2	9.1	210.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	8.043	3.485	0.433	2.183	16.030	0.016	0.010	0.65	2.30	1.48	11.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	69.84	37.04	0.530	16.57	159.30	0.002	0.002	0.85	0.31	0.20	70.35

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 34			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0545	0.0053	0.10	0.0466	0.066	0.024	0.010	0.43	0.007	0.048	0.0553	0.0415	0.75	0.006	0.004	0.033
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.64	0.44	0.27	0.71	2.67	4.29	2.17	0.51	0.44	0.28	2.36
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.209	0.050	0.24	0.101	0.358	0.392	0.362	0.92	0.040	0.026	0.274
Zn-D	µg/L	Kg	33.8	2.29	0.07	30.53	38.1	14.6	5.7	0.39	4.8	29.1	22.1	30.2	1.37	2.25	1.45	18.32
Hg-T	ng/L	grams	31.5	4.1	0.13	24.58	41	11.6	5.1	0.44	4.0	25.4	9.89	16.81	1.70	1.01	0.65	13.28
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	18.7	4.2	0.23	9.4	32.4	287	189	0.66	29.1	18.8	66.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	36	14	0.38	12	71	7.21	3.39	0.47	0.7	0.5	37.0
E-coli	MPN/100ml	MPN	9,539	4,691	0.49	3,493	2.2.E+04	3.9.E+13	1.8.E+13	0.45	1.6.E+13	1.1.E+14	7,488	10,856	1.45	7.61E+12	4.91E+12	5.17E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	6.906	3.404	0.493	1.766	14.67	0.023	0.006	0.28	2.3	1.49	10.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	138.9	64.46	0.464	35.84	276.3	0.099	0.064	0.65	10.1	6.5	155.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	5.958	2.582	0.433	1.617	11.875	0.016	0.010	0.65	1.63	1.05	8.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	51.74	27.44	0.530	12.28	118.01	0.002	0.002	0.85	0.22	0.14	52.10

Sump 37			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0568	0.0057	0.10	0.0482	0.069	0.009	0.004	0.43	0.003	0.017	0.0553	0.0415	0.75	0.002	0.001	0.012
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.56	0.15	0.27	0.24	0.90	4.29	2.17	0.51	0.14	0.09	0.78
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.071	0.017	0.24	0.034	0.121	0.392	0.362	0.92	0.013	0.008	0.091
Zn-D	µg/L	Kg	34.7	2.45	0.07	31.14	39.6	5.1	2.0	0.39	1.7	10.1	22.1	30.2	1.37	0.71	0.46	6.27
Hg-T	ng/L	grams	30.2	4.0	0.13	23.26	39	3.6	1.6	0.44	1.3	7.9	9.89	16.81	1.70	0.32	0.20	4.15
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	6.3	1.4	0.23	3.2	10.9	287	189	0.66	9.2	5.9	21.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	12	5	0.38	4	24	7.21	3.39	0.47	0.2	0.1	12.5
E-coli	MPN/100ml	MPN	9,125	4,477	0.49	3,320	2.1.E+04	1.3.E+13	5.7.E+12	0.45	5.3.E+12	3.6.E+13	7,488	10,856	1.45	2.40E+12	1.55E+12	1.65E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.334	1.150	0.493	0.597	4.96	0.023	0.006	0.28	0.7	0.47	3.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	46.9	21.78	0.464	12.11	93.4	0.099	0.064	0.65	3.2	2.0	52.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.013	0.872	0.433	0.547	4.012	0.016	0.010	0.65	0.51	0.33	2.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	17.48	9.27	0.530	4.15	39.88	0.002	0.002	0.85	0.07	0.04	17.60

Sump 38			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.008	0.002	0.27	0.003	0.013	4.29	2.17	0.51	0.006	0.004	0.02
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.001	0.000	0.24	0.000	0.002	0.392	0.362	0.92	0.001	0.000	0.002
Zn-D	µg/L	Kg	35.1	2.54	0.07	31.46	40.3	0.07	0.03	0.39	0.02	0.15	22.1	30.2	1.37	0.032	0.020	0.13
Hg-T	ng/L	grams	29.5	3.9	0.13	22.64	38	0.05	0.02	0.44	0.02	0.11	9.89	16.81	1.70	0.014	0.009	0.07
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.09	0.02	0.23	0.05	0.16	287	189	0.66	0.411	0.265	0.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.17	0.07	0.38	0.06	0.35	7.21	3.39	0.47	0.010	0.007	0.2
E-coli	MPN/100ml	MPN	8,925	4,375	0.49	3,237	2.0.E+04	1.8.E+11	7.9.E+10	0.45	7.4.E+10	5.0.E+11	7,488	10,856	1.45	1.07E+11	6.92E+10	3.51E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.033	0.016	0.493	0.009	0.07	0.023	0.006	0.28	0.032	0.021	0.09
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.7	0.31	0.464	0.17	1.3	0.099	0.064	0.65	0.142	0.091	0.91
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.029	0.012	0.433	0.008	0.057	0.016	0.010	0.65	0.023	0.015	0.07
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.25	0.13	0.530	0.06	0.57	0.002	0.002	0.85	0.003	0.002	0.26

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 39			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.008	0.0553	0.0415	0.75	0.001	0.001	0.006
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.25	0.07	0.27	0.11	0.41	4.29	2.17	0.51	0.07	0.05	0.37
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.032	0.008	0.24	0.015	0.054	0.392	0.362	0.92	0.007	0.004	0.043
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.32	40.0	2.3	0.9	0.39	0.8	4.6	22.1	30.2	1.37	0.38	0.25	2.94
Hg-T	ng/L	grams	29.8	3.9	0.13	22.91	39	1.6	0.7	0.44	0.6	3.5	9.89	16.81	1.70	0.17	0.11	1.88
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.8	0.6	0.23	1.4	4.9	287	189	0.66	4.9	3.2	11.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	11	7.21	3.39	0.47	0.1	0.1	5.6
E-coli	MPN/100ml	MPN	9,013	4,419	0.49	3,274	2.1.E+04	5.6.E+12	2.5.E+12	0.45	2.4.E+12	1.6.E+13	7,488	10,856	1.45	1.29E+12	8.33E+11	7.68E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.049	0.517	0.493	0.268	2.23	0.023	0.006	0.28	0.4	0.25	1.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	21.1	9.79	0.464	5.44	42.0	0.099	0.064	0.65	1.7	1.1	23.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.905	0.392	0.433	0.246	1.804	0.016	0.010	0.65	0.28	0.18	1.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.86	4.17	0.530	1.86	17.93	0.002	0.002	0.85	0.04	0.02	7.92

Sump 4			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0552	0.0054	0.10	0.0471	0.067	0.020	0.009	0.43	0.006	0.040	0.0553	0.0415	0.75	0.005	0.003	0.028
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.34	0.36	0.27	0.58	2.17	4.29	2.17	0.51	0.39	0.25	1.97
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.170	0.041	0.24	0.082	0.292	0.392	0.362	0.92	0.035	0.023	0.228
Zn-D	µg/L	Kg	34.0	2.33	0.07	30.70	38.5	12.0	4.7	0.39	4.0	23.9	22.1	30.2	1.37	1.98	1.28	15.27
Hg-T	ng/L	grams	31.1	4.1	0.13	24.20	40	9.2	4.1	0.44	3.2	20.1	9.89	16.81	1.70	0.89	0.57	10.71
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	15.2	3.4	0.23	7.7	26.4	287	189	0.66	25.7	16.6	57.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	29	11	0.38	10	58	7.21	3.39	0.47	0.6	0.4	30.2
E-coli	MPN/100ml	MPN	9,420	4,629	0.49	3,443	2.2.E+04	3.1.E+13	1.4.E+13	0.45	1.3.E+13	8.9.E+13	7,488	10,856	1.45	6.72E+12	4.34E+12	4.25E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	5.620	2.770	0.493	1.437	11.94	0.023	0.006	0.28	2.0	1.31	9.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	113.0	52.45	0.464	29.16	224.8	0.099	0.064	0.65	8.9	5.7	127.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	4.848	2.101	0.433	1.316	9.662	0.016	0.010	0.65	1.44	0.93	7.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	42.10	22.33	0.530	9.99	96.02	0.002	0.002	0.85	0.19	0.13	42.42

Sump 4.5			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0510	0.0046	0.09	0.0439	0.061	0.046	0.020	0.42	0.014	0.093	0.0553	0.0415	0.75	0.009	0.006	0.061
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.43	0.93	0.27	1.48	5.57	4.29	2.17	0.51	0.70	0.45	4.57
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.435	0.104	0.24	0.211	0.747	0.392	0.362	0.92	0.064	0.041	0.540
Zn-D	µg/L	Kg	32.4	2.05	0.06	29.57	36.2	28.9	11.2	0.39	9.7	57.5	22.1	30.2	1.37	3.59	2.32	34.84
Hg-T	ng/L	grams	34.1	4.5	0.13	26.99	44	27.8	12.4	0.45	9.1	61.2	9.89	16.81	1.70	1.61	1.04	30.46
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	39.0	8.8	0.23	19.6	67.5	287	189	0.66	46.5	30.0	115.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	75	29	0.38	25	149	7.21	3.39	0.47	1.2	0.8	76.5
E-coli	MPN/100ml	MPN	10,271	5,077	0.49	3,796	2.4.E+04	8.9.E+13	4.1.E+13	0.46	3.6.E+13	2.5.E+14	7,488	10,856	1.45	1.21E+13	7.84E+12	1.09E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	14.393	7.095	0.493	3.680	30.57	0.023	0.006	0.28	3.7	2.37	20.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	289.4	134.35	0.464	74.69	575.9	0.099	0.064	0.65	16.1	10.4	315.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	12.418	5.381	0.433	3.371	24.748	0.016	0.010	0.65	2.60	1.68	16.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	107.82	57.19	0.530	25.59	245.94	0.002	0.002	0.85	0.35	0.23	108.40

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 41			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.008	0.0553	0.0415	0.75	0.001	0.001	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.24	0.06	0.27	0.10	0.39	4.29	2.17	0.51	0.06	0.04	0.34
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.030	0.007	0.24	0.015	0.052	0.392	0.362	0.92	0.006	0.004	0.040
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.32	40.0	2.2	0.9	0.39	0.7	4.4	22.1	30.2	1.37	0.33	0.21	2.76
Hg-T	ng/L	grams	29.8	3.9	0.13	22.90	39	1.5	0.7	0.44	0.5	3.3	9.89	16.81	1.70	0.15	0.10	1.77
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.7	0.6	0.23	1.4	4.7	287	189	0.66	4.3	2.8	9.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	10	7.21	3.39	0.47	0.1	0.1	5.4
E-coli	MPN/100ml	MPN	9,009	4,417	0.49	3,272	2.1.E+04	5.3.E+12	2.4.E+12	0.45	2.3.E+12	1.5.E+13	7,488	10,856	1.45	1.12E+12	7.22E+11	7.17E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.005	0.495	0.493	0.257	2.13	0.023	0.006	0.28	0.3	0.22	1.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	20.2	9.38	0.464	5.22	40.2	0.099	0.064	0.65	1.5	1.0	22.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.867	0.376	0.433	0.235	1.728	0.016	0.010	0.65	0.24	0.15	1.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.53	3.99	0.530	1.79	17.17	0.002	0.002	0.85	0.03	0.02	7.58

Sump 43			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0525	0.0049	0.09	0.0453	0.063	0.037	0.016	0.43	0.011	0.074	0.0553	0.0415	0.75	0.007	0.005	0.048
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.62	0.71	0.27	1.13	4.27	4.29	2.17	0.51	0.55	0.35	3.53
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.333	0.080	0.24	0.161	0.572	0.392	0.362	0.92	0.050	0.032	0.415
Zn-D	µg/L	Kg	33.0	2.15	0.07	30.00	36.9	22.7	8.8	0.39	7.5	45.1	22.1	30.2	1.37	2.82	1.82	27.33
Hg-T	ng/L	grams	32.9	4.3	0.13	25.87	42	20.0	8.9	0.44	6.7	43.8	9.89	16.81	1.70	1.26	0.82	22.07
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	29.9	6.8	0.23	15.0	51.7	287	189	0.66	36.6	23.6	90.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	57	22	0.38	19	114	7.21	3.39	0.47	0.9	0.6	58.6
E-coli	MPN/100ml	MPN	9,933	4,898	0.49	3,656	2.3.E+04	6.6.E+13	3.0.E+13	0.46	2.7.E+13	1.9.E+14	7,488	10,856	1.45	9.55E+12	6.17E+12	8.15E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	11.025	5.435	0.493	2.819	23.42	0.023	0.006	0.28	2.9	1.87	15.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	221.7	102.91	0.464	57.21	441.1	0.099	0.064	0.65	12.6	8.1	242.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	9.512	4.122	0.433	2.582	18.957	0.016	0.010	0.65	2.05	1.32	12.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	82.59	43.81	0.530	19.60	188.39	0.002	0.002	0.85	0.28	0.18	83.05

Sump 44			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0573	0.0058	0.10	0.0485	0.070	0.005	0.002	0.43	0.002	0.011	0.0553	0.0415	0.75	0.001	0.001	0.007
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.35	0.09	0.27	0.15	0.56	4.29	2.17	0.51	0.09	0.06	0.49
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.044	0.010	0.24	0.021	0.075	0.392	0.362	0.92	0.008	0.005	0.057
Zn-D	µg/L	Kg	34.8	2.48	0.07	31.26	39.9	3.2	1.3	0.39	1.0	6.3	22.1	30.2	1.37	0.46	0.30	3.95
Hg-T	ng/L	grams	29.9	3.9	0.13	23.02	39	2.2	1.0	0.44	0.8	4.8	9.89	16.81	1.70	0.21	0.13	2.56
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.9	0.9	0.23	2.0	6.8	287	189	0.66	6.0	3.8	13.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	8	3	0.38	3	15	7.21	3.39	0.47	0.1	0.1	7.8
E-coli	MPN/100ml	MPN	9,047	4,437	0.49	3,288	2.1.E+04	7.7.E+12	3.5.E+12	0.45	3.3.E+12	2.2.E+13	7,488	10,856	1.45	1.56E+12	1.00E+12	1.03E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.451	0.715	0.493	0.371	3.08	0.023	0.006	0.28	0.5	0.30	2.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	29.2	13.54	0.464	7.53	58.0	0.099	0.064	0.65	2.1	1.3	32.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.252	0.542	0.433	0.340	2.495	0.016	0.010	0.65	0.33	0.22	1.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	10.87	5.76	0.530	2.58	24.79	0.002	0.002	0.85	0.05	0.03	10.94

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 46			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0574	0.0058	0.10	0.0486	0.070	0.005	0.002	0.43	0.001	0.010	0.0553	0.0415	0.75	0.001	0.001	0.006
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.30	0.08	0.27	0.13	0.49	4.29	2.17	0.51	0.07	0.04	0.41
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.038	0.009	0.24	0.019	0.066	0.392	0.362	0.92	0.006	0.004	0.049
Zn-D	µg/L	Kg	34.9	2.49	0.07	31.29	39.9	2.8	1.1	0.39	0.9	5.6	22.1	30.2	1.37	0.35	0.22	3.37
Hg-T	ng/L	grams	29.9	3.9	0.13	22.97	39	1.9	0.9	0.44	0.7	4.2	9.89	16.81	1.70	0.15	0.10	2.20
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.4	0.8	0.23	1.7	6.0	287	189	0.66	4.5	2.9	10.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	7	3	0.38	2	13	7.21	3.39	0.47	0.1	0.1	6.8
E-coli	MPN/100ml	MPN	9,032	4,429	0.49	3,282	2.1.E+04	6.8.E+12	3.1.E+12	0.45	2.9.E+12	1.9.E+13	7,488	10,856	1.45	1.17E+12	7.55E+11	8.69E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.274	0.628	0.493	0.326	2.70	0.023	0.006	0.28	0.4	0.23	1.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	25.6	11.89	0.464	6.61	51.0	0.099	0.064	0.65	1.5	1.0	28.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.099	0.476	0.433	0.298	2.190	0.016	0.010	0.65	0.25	0.16	1.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	9.54	5.06	0.530	2.26	21.76	0.002	0.002	0.85	0.03	0.02	9.60

Sump 47			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0577	0.0058	0.10	0.0487	0.071	0.003	0.001	0.43	0.001	0.006	0.0553	0.0415	0.75	0.001	0.000	0.004
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.19	0.05	0.27	0.08	0.31	4.29	2.17	0.51	0.05	0.04	0.28
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.024	0.006	0.24	0.012	0.042	0.392	0.362	0.92	0.005	0.003	0.032
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.35	40.1	1.8	0.7	0.39	0.6	3.5	22.1	30.2	1.37	0.28	0.18	2.24
Hg-T	ng/L	grams	29.7	3.9	0.13	22.84	39	1.2	0.5	0.44	0.4	2.6	9.89	16.81	1.70	0.13	0.08	1.42
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.2	0.5	0.23	1.1	3.8	287	189	0.66	3.7	2.4	8.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	2	0.38	1	8	7.21	3.39	0.47	0.1	0.1	4.3
E-coli	MPN/100ml	MPN	8,991	4,408	0.49	3,265	2.1.E+04	4.2.E+12	1.9.E+12	0.45	1.8.E+12	1.2.E+13	7,488	10,856	1.45	9.58E+11	6.18E+11	5.81E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.801	0.395	0.493	0.205	1.70	0.023	0.006	0.28	0.3	0.19	1.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	16.1	7.47	0.464	4.15	32.0	0.099	0.064	0.65	1.3	0.8	18.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.691	0.299	0.433	0.187	1.376	0.016	0.010	0.65	0.21	0.13	1.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	6.00	3.18	0.530	1.42	13.68	0.002	0.002	0.85	0.03	0.02	6.04

Sump 5			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0558	0.0055	0.10	0.0475	0.068	0.015	0.007	0.43	0.005	0.031	0.0553	0.0415	0.75	0.004	0.003	0.023
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.02	0.28	0.27	0.44	1.66	4.29	2.17	0.51	0.34	0.22	1.58
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.129	0.031	0.24	0.063	0.222	0.392	0.362	0.92	0.031	0.020	0.181
Zn-D	µg/L	Kg	34.3	2.38	0.07	30.88	38.9	9.2	3.6	0.39	3.0	18.4	22.1	30.2	1.37	1.76	1.14	12.13
Hg-T	ng/L	grams	30.7	4.0	0.13	23.81	40	6.9	3.0	0.44	2.4	15.0	9.89	16.81	1.70	0.79	0.51	8.18
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	11.6	2.6	0.23	5.8	20.1	287	189	0.66	22.8	14.7	49.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	22	9	0.38	7	44	7.21	3.39	0.47	0.6	0.4	23.1
E-coli	MPN/100ml	MPN	9,298	4,566	0.49	3,393	2.2.E+04	2.4.E+13	1.1.E+13	0.45	9.9.E+12	6.7.E+13	7,488	10,856	1.45	5.96E+12	3.85E+12	3.34E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.282	2.111	0.493	1.095	9.10	0.023	0.006	0.28	1.8	1.16	7.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	86.1	39.97	0.464	22.22	171.3	0.099	0.064	0.65	7.9	5.1	99.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.694	1.601	0.433	1.003	7.363	0.016	0.010	0.65	1.28	0.82	5.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	32.08	17.01	0.530	7.61	73.17	0.002	0.002	0.85	0.17	0.11	32.36

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 50			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0486	0.070	0.004	0.002	0.43	0.001	0.009	0.0553	0.0415	0.75	0.001	0.001	0.006
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.27	0.07	0.27	0.12	0.45	4.29	2.17	0.51	0.08	0.05	0.40
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.035	0.008	0.24	0.017	0.060	0.392	0.362	0.92	0.007	0.005	0.047
Zn-D	µg/L	Kg	34.9	2.49	0.07	31.30	40.0	2.5	1.0	0.39	0.8	5.1	22.1	30.2	1.37	0.41	0.26	3.21
Hg-T	ng/L	grams	29.8	3.9	0.13	22.94	39	1.8	0.8	0.44	0.6	3.8	9.89	16.81	1.70	0.18	0.12	2.06
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.1	0.7	0.23	1.6	5.4	287	189	0.66	5.3	3.4	11.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	6	2	0.38	2	12	7.21	3.39	0.47	0.1	0.1	6.2
E-coli	MPN/100ml	MPN	9,022	4,424	0.49	3,277	2.1.E+04	6.1.E+12	2.8.E+12	0.45	2.6.E+12	1.7.E+13	7,488	10,856	1.45	1.37E+12	8.85E+11	8.38E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.154	0.569	0.493	0.295	2.45	0.023	0.006	0.28	0.4	0.27	1.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	23.2	10.77	0.464	5.99	46.2	0.099	0.064	0.65	1.8	1.2	26.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.995	0.431	0.433	0.270	1.984	0.016	0.010	0.65	0.29	0.19	1.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	8.64	4.58	0.530	2.05	19.71	0.002	0.002	0.85	0.04	0.03	8.71

Sump 51			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0572	0.0058	0.10	0.0485	0.070	0.006	0.003	0.43	0.002	0.012	0.0553	0.0415	0.75	0.001	0.001	0.008
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.38	0.10	0.27	0.17	0.62	4.29	2.17	0.51	0.09	0.06	0.53
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.049	0.012	0.24	0.024	0.084	0.392	0.362	0.92	0.008	0.005	0.062
Zn-D	µg/L	Kg	34.8	2.48	0.07	31.24	39.8	3.5	1.4	0.39	1.2	7.0	22.1	30.2	1.37	0.44	0.29	4.27
Hg-T	ng/L	grams	30.0	3.9	0.13	23.06	39	2.5	1.1	0.44	0.9	5.4	9.89	16.81	1.70	0.20	0.13	2.80
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	4.4	1.0	0.23	2.2	7.6	287	189	0.66	5.8	3.7	13.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	8	3	0.38	3	17	7.21	3.39	0.47	0.1	0.1	8.6
E-coli	MPN/100ml	MPN	9,061	4,444	0.49	3,294	2.1.E+04	8.6.E+12	3.9.E+12	0.45	3.6.E+12	2.4.E+13	7,488	10,856	1.45	1.51E+12	9.72E+11	1.11E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.611	0.794	0.493	0.412	3.42	0.023	0.006	0.28	0.5	0.29	2.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	32.4	15.04	0.464	8.36	64.5	0.099	0.064	0.65	2.0	1.3	35.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.390	0.602	0.433	0.377	2.770	0.016	0.010	0.65	0.32	0.21	1.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	12.07	6.40	0.530	2.86	27.53	0.002	0.002	0.85	0.04	0.03	12.14

Sump 52			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0545	0.0053	0.10	0.0467	0.066	0.024	0.010	0.43	0.007	0.048	0.0553	0.0415	0.75	0.003	0.002	0.029
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.63	0.44	0.27	0.70	2.64	4.29	2.17	0.51	0.26	0.17	2.05
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.206	0.049	0.24	0.100	0.355	0.392	0.362	0.92	0.024	0.015	0.245
Zn-D	µg/L	Kg	33.8	2.29	0.07	30.54	38.1	14.5	5.7	0.39	4.8	28.8	22.1	30.2	1.37	1.34	0.86	16.68
Hg-T	ng/L	grams	31.5	4.1	0.13	24.56	41	11.5	5.1	0.44	3.9	25.1	9.89	16.81	1.70	0.60	0.39	12.47
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	18.5	4.2	0.23	9.3	32.0	287	189	0.66	17.3	11.2	47.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	35	14	0.38	12	71	7.21	3.39	0.47	0.4	0.3	36.1
E-coli	MPN/100ml	MPN	9,532	4,688	0.49	3,490	2.2.E+04	3.9.E+13	1.8.E+13	0.45	1.6.E+13	1.1.E+14	7,488	10,856	1.45	4.52E+12	2.92E+12	4.62E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	6.833	3.368	0.493	1.747	14.51	0.023	0.006	0.28	1.4	0.88	9.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	137.4	63.78	0.464	35.46	273.4	0.099	0.064	0.65	6.0	3.9	147.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	5.895	2.554	0.433	1.600	11.749	0.016	0.010	0.65	0.97	0.63	7.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	51.19	27.15	0.530	12.15	116.76	0.002	0.002	0.85	0.13	0.08	51.40

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 54			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0559	0.0055	0.10	0.0476	0.068	0.015	0.006	0.43	0.004	0.030	0.0553	0.0415	0.75	0.003	0.002	0.020
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.98	0.26	0.27	0.42	1.59	4.29	2.17	0.51	0.23	0.15	1.35
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.124	0.030	0.24	0.060	0.213	0.392	0.362	0.92	0.021	0.014	0.158
Zn-D	µg/L	Kg	34.3	2.38	0.07	30.91	39.0	8.9	3.5	0.39	2.9	17.6	22.1	30.2	1.37	1.18	0.76	10.81
Hg-T	ng/L	grams	30.7	4.0	0.13	23.76	40	6.6	2.9	0.44	2.3	14.3	9.89	16.81	1.70	0.53	0.34	7.44
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	11.1	2.5	0.23	5.6	19.2	287	189	0.66	15.3	9.9	36.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	21	8	0.38	7	42	7.21	3.39	0.47	0.4	0.2	21.9
E-coli	MPN/100ml	MPN	9,282	4,558	0.49	3,386	2.1.E+04	2.3.E+13	1.0.E+13	0.45	9.4.E+12	6.4.E+13	7,488	10,856	1.45	4.00E+12	2.59E+12	2.91E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.102	2.022	0.493	1.049	8.71	0.023	0.006	0.28	1.2	0.78	6.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	82.5	38.29	0.464	21.29	164.1	0.099	0.064	0.65	5.3	3.4	91.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.539	1.533	0.433	0.961	7.053	0.016	0.010	0.65	0.86	0.55	5.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	30.73	16.30	0.530	7.29	70.09	0.002	0.002	0.85	0.12	0.07	30.92

Sump 56			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.011	0.003	0.27	0.005	0.017	4.29	2.17	0.51	0.005	0.003	0.02
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.001	0.000	0.24	0.001	0.002	0.392	0.362	0.92	0.000	0.000	0.002
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.45	40.3	0.10	0.04	0.39	0.03	0.20	22.1	30.2	1.37	0.027	0.017	0.14
Hg-T	ng/L	grams	29.5	3.9	0.13	22.64	38	0.07	0.03	0.44	0.02	0.15	9.89	16.81	1.70	0.012	0.008	0.09
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.12	0.03	0.23	0.06	0.21	287	189	0.66	0.349	0.225	0.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.23	0.09	0.38	0.08	0.46	7.21	3.39	0.47	0.009	0.006	0.2
E-coli	MPN/100ml	MPN	8,926	4,375	0.49	3,238	2.0.E+04	2.4.E+11	1.1.E+11	0.45	1.0.E+11	6.7.E+11	7,488	10,856	1.45	9.11E+10	5.88E+10	3.85E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.045	0.022	0.493	0.011	0.10	0.023	0.006	0.28	0.028	0.018	0.09
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.9	0.42	0.464	0.23	1.8	0.099	0.064	0.65	0.120	0.078	1.10
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.039	0.017	0.433	0.011	0.077	0.016	0.010	0.65	0.020	0.013	0.07
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.34	0.18	0.530	0.08	0.77	0.002	0.002	0.85	0.003	0.002	0.34

Sump 58			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0577	0.0058	0.10	0.0487	0.071	0.003	0.001	0.43	0.001	0.006	0.0553	0.0415	0.75	0.001	0.001	0.004
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.18	0.05	0.27	0.08	0.30	4.29	2.17	0.51	0.06	0.04	0.29
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.023	0.006	0.24	0.011	0.040	0.392	0.362	0.92	0.006	0.004	0.033
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.36	40.1	1.7	0.7	0.39	0.6	3.4	22.1	30.2	1.37	0.32	0.21	2.24
Hg-T	ng/L	grams	29.7	3.9	0.13	22.84	39	1.2	0.5	0.44	0.4	2.5	9.89	16.81	1.70	0.14	0.09	1.41
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.1	0.5	0.23	1.1	3.6	287	189	0.66	4.2	2.7	9.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	2	0.38	1	8	7.21	3.39	0.47	0.1	0.1	4.2
E-coli	MPN/100ml	MPN	8,989	4,407	0.49	3,264	2.1.E+04	4.1.E+12	1.9.E+12	0.45	1.7.E+12	1.2.E+13	7,488	10,856	1.45	1.09E+12	7.01E+11	5.89E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.776	0.382	0.493	0.198	1.65	0.023	0.006	0.28	0.3	0.21	1.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	15.6	7.24	0.464	4.03	31.0	0.099	0.064	0.65	1.4	0.9	18.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.669	0.290	0.433	0.182	1.334	0.016	0.010	0.65	0.23	0.15	1.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	5.81	3.08	0.530	1.38	13.26	0.002	0.002	0.85	0.03	0.02	5.86

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 6			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0569	0.0057	0.10	0.0482	0.069	0.008	0.004	0.43	0.002	0.016	0.0553	0.0415	0.75	0.002	0.002	0.012
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.53	0.14	0.27	0.23	0.86	4.29	2.17	0.51	0.18	0.12	0.83
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.067	0.016	0.24	0.032	0.115	0.392	0.362	0.92	0.017	0.011	0.095
Zn-D	µg/L	Kg	34.7	2.45	0.07	31.16	39.6	4.8	1.9	0.39	1.6	9.6	22.1	30.2	1.37	0.95	0.62	6.41
Hg-T	ng/L	grams	30.1	4.0	0.13	23.23	39	3.4	1.5	0.44	1.2	7.4	9.89	16.81	1.70	0.43	0.28	4.13
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	6.0	1.4	0.23	3.0	10.4	287	189	0.66	12.4	8.0	26.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	11	4	0.38	4	23	7.21	3.39	0.47	0.3	0.2	12.0
E-coli	MPN/100ml	MPN	9,114	4,471	0.49	3,316	2.1.E+04	1.2.E+13	5.4.E+12	0.45	5.0.E+12	3.4.E+13	7,488	10,856	1.45	3.22E+12	2.08E+12	1.72E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.211	1.090	0.493	0.565	4.70	0.023	0.006	0.28	1.0	0.63	3.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	44.5	20.64	0.464	11.47	88.5	0.099	0.064	0.65	4.3	2.8	51.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.908	0.827	0.433	0.518	3.802	0.016	0.010	0.65	0.69	0.45	3.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	16.56	8.79	0.530	3.93	37.78	0.002	0.002	0.85	0.09	0.06	16.72

Sump 63			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0548	0.0053	0.10	0.0469	0.066	0.022	0.010	0.43	0.007	0.044	0.0553	0.0415	0.75	0.006	0.004	0.032
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.49	0.40	0.27	0.64	2.43	4.29	2.17	0.51	0.45	0.29	2.23
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.189	0.045	0.24	0.092	0.325	0.392	0.362	0.92	0.041	0.026	0.257
Zn-D	µg/L	Kg	33.9	2.31	0.07	30.62	38.3	13.3	5.2	0.39	4.4	26.5	22.1	30.2	1.37	2.30	1.49	17.12
Hg-T	ng/L	grams	31.3	4.1	0.13	24.39	41	10.4	4.6	0.44	3.6	22.7	9.89	16.81	1.70	1.03	0.67	12.12
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	17.0	3.8	0.23	8.5	29.4	287	189	0.66	29.9	19.3	66.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	32	12	0.38	11	65	7.21	3.39	0.47	0.8	0.5	33.7
E-coli	MPN/100ml	MPN	9,479	4,660	0.49	3,468	2.2.E+04	3.5.E+13	1.6.E+13	0.45	1.5.E+13	1.0.E+14	7,488	10,856	1.45	7.80E+12	5.03E+12	4.81E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	6.267	3.089	0.493	1.603	13.31	0.023	0.006	0.28	2.4	1.52	10.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	126.0	58.50	0.464	32.52	250.8	0.099	0.064	0.65	10.3	6.7	143.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	5.407	2.343	0.433	1.468	10.776	0.016	0.010	0.65	1.67	1.08	8.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	46.95	24.90	0.530	11.14	107.09	0.002	0.002	0.85	0.23	0.15	47.32

Sump 65			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0559	0.0055	0.10	0.0476	0.068	0.015	0.007	0.43	0.005	0.030	0.0553	0.0415	0.75	0.004	0.002	0.021
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.00	0.27	0.27	0.43	1.63	4.29	2.17	0.51	0.28	0.18	1.46
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.127	0.030	0.24	0.061	0.218	0.392	0.362	0.92	0.026	0.017	0.169
Zn-D	µg/L	Kg	34.3	2.38	0.07	30.89	39.0	9.1	3.6	0.39	3.0	18.0	22.1	30.2	1.37	1.45	0.94	11.45
Hg-T	ng/L	grams	30.7	4.0	0.13	23.79	40	6.7	3.0	0.44	2.3	14.7	9.89	16.81	1.70	0.65	0.42	7.81
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	11.4	2.6	0.23	5.7	19.7	287	189	0.66	18.8	12.1	42.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	22	8	0.38	7	43	7.21	3.39	0.47	0.5	0.3	22.6
E-coli	MPN/100ml	MPN	9,291	4,563	0.49	3,390	2.2.E+04	2.3.E+13	1.0.E+13	0.45	9.7.E+12	6.6.E+13	7,488	10,856	1.45	4.91E+12	3.17E+12	3.12E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.202	2.071	0.493	1.074	8.92	0.023	0.006	0.28	1.5	0.96	6.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	84.5	39.22	0.464	21.80	168.1	0.099	0.064	0.65	6.5	4.2	95.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.625	1.571	0.433	0.984	7.225	0.016	0.010	0.65	1.05	0.68	5.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	31.48	16.70	0.530	7.47	71.80	0.002	0.002	0.85	0.14	0.09	31.71

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 66			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0531	0.0050	0.09	0.0457	0.064	0.033	0.014	0.43	0.010	0.066	0.0553	0.0415	0.75	0.005	0.003	0.042
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.33	0.63	0.27	1.00	3.79	4.29	2.17	0.51	0.42	0.27	3.03
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.296	0.071	0.24	0.143	0.508	0.392	0.362	0.92	0.038	0.025	0.359
Zn-D	µg/L	Kg	33.2	2.19	0.07	30.16	37.2	20.3	7.9	0.39	6.7	40.4	22.1	30.2	1.37	2.17	1.40	23.91
Hg-T	ng/L	grams	32.5	4.2	0.13	25.47	42	17.4	7.7	0.44	5.9	38.1	9.89	16.81	1.70	0.97	0.63	18.97
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	26.5	6.0	0.23	13.3	46.0	287	189	0.66	28.1	18.2	72.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	51	19	0.38	17	101	7.21	3.39	0.47	0.7	0.5	52.0
E-coli	MPN/100ml	MPN	9,814	4,835	0.49	3,607	2.3.E+04	5.8.E+13	2.6.E+13	0.46	2.4.E+13	1.6.E+14	7,488	10,856	1.45	7.34E+12	4.74E+12	6.97E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.801	4.831	0.493	2.506	20.82	0.023	0.006	0.28	2.2	1.43	13.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	197.1	91.48	0.464	50.86	392.1	0.099	0.064	0.65	9.7	6.3	213.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	8.456	3.664	0.433	2.295	16.852	0.016	0.010	0.65	1.57	1.02	11.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	73.42	38.94	0.530	17.42	167.47	0.002	0.002	0.85	0.21	0.14	73.77

Sump 67			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0511	0.0047	0.09	0.0440	0.061	0.045	0.019	0.42	0.014	0.091	0.0553	0.0415	0.75	0.011	0.007	0.063
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.34	0.90	0.27	1.44	5.44	4.29	2.17	0.51	0.84	0.54	4.73
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.424	0.101	0.24	0.206	0.729	0.392	0.362	0.92	0.077	0.050	0.551
Zn-D	µg/L	Kg	32.4	2.06	0.06	29.61	36.2	28.3	11.0	0.39	9.4	56.2	22.1	30.2	1.37	4.34	2.80	35.44
Hg-T	ng/L	grams	33.9	4.5	0.13	26.87	44	27.0	12.1	0.45	8.9	59.3	9.89	16.81	1.70	1.94	1.25	30.16
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	38.0	8.6	0.23	19.1	65.9	287	189	0.66	56.3	36.3	130.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	73	28	0.38	24	145	7.21	3.39	0.47	1.4	0.9	75.1
E-coli	MPN/100ml	MPN	10,236	5,058	0.49	3,781	2.4.E+04	8.7.E+13	4.0.E+13	0.46	3.5.E+13	2.5.E+14	7,488	10,856	1.45	1.47E+13	9.48E+12	1.11E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	14.046	6.924	0.493	3.591	29.83	0.023	0.006	0.28	4.4	2.87	21.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	282.4	131.10	0.464	72.89	562.0	0.099	0.064	0.65	19.4	12.5	314.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	12.118	5.251	0.433	3.289	24.150	0.016	0.010	0.65	3.15	2.03	17.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	105.22	55.81	0.530	24.97	240.00	0.002	0.002	0.85	0.43	0.27	105.92

Sump 68			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0558	0.0055	0.10	0.0475	0.068	0.016	0.007	0.43	0.005	0.031	0.0553	0.0415	0.75	0.004	0.002	0.022
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.02	0.28	0.27	0.44	1.67	4.29	2.17	0.51	0.29	0.19	1.51
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.130	0.031	0.24	0.063	0.223	0.392	0.362	0.92	0.027	0.017	0.174
Zn-D	µg/L	Kg	34.3	2.38	0.07	30.88	38.9	9.3	3.6	0.39	3.0	18.5	22.1	30.2	1.37	1.51	0.97	11.76
Hg-T	ng/L	grams	30.7	4.0	0.13	23.82	40	6.9	3.0	0.44	2.4	15.1	9.89	16.81	1.70	0.67	0.43	8.03
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	11.7	2.6	0.23	5.9	20.2	287	189	0.66	19.5	12.6	43.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	22	9	0.38	7	44	7.21	3.39	0.47	0.5	0.3	23.1
E-coli	MPN/100ml	MPN	9,300	4,567	0.49	3,394	2.2.E+04	2.4.E+13	1.1.E+13	0.45	9.9.E+12	6.7.E+13	7,488	10,856	1.45	5.10E+12	3.29E+12	3.21E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.306	2.122	0.493	1.101	9.15	0.023	0.006	0.28	1.5	0.99	6.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	86.6	40.19	0.464	22.34	172.3	0.099	0.064	0.65	6.7	4.3	97.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.715	1.610	0.433	1.008	7.403	0.016	0.010	0.65	1.09	0.71	5.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	32.26	17.11	0.530	7.65	73.57	0.002	0.002	0.85	0.15	0.10	32.50

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 69			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0520	0.0048	0.09	0.0448	0.063	0.040	0.017	0.43	0.012	0.080	0.0553	0.0415	0.75	0.012	0.008	0.060
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.87	0.78	0.27	1.24	4.67	4.29	2.17	0.51	0.96	0.62	4.45
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.365	0.087	0.24	0.177	0.626	0.392	0.362	0.92	0.088	0.057	0.509
Zn-D	µg/L	Kg	32.8	2.12	0.06	29.86	36.7	24.7	9.6	0.39	8.2	49.0	22.1	30.2	1.37	4.95	3.19	32.80
Hg-T	ng/L	grams	33.3	4.4	0.13	26.21	43	22.3	9.9	0.45	7.4	49.0	9.89	16.81	1.70	2.21	1.43	25.96
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	32.7	7.4	0.23	16.4	56.6	287	189	0.66	64.2	41.4	138.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	63	24	0.38	21	125	7.21	3.39	0.47	1.6	1.0	65.2
E-coli	MPN/100ml	MPN	10,036	4,952	0.49	3,699	2.4.E+04	7.3.E+13	3.3.E+13	0.46	3.0.E+13	2.1.E+14	7,488	10,856	1.45	1.67E+13	1.08E+13	1.00E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	12.070	5.950	0.493	3.086	25.64	0.023	0.006	0.28	5.1	3.27	20.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	242.7	112.66	0.464	62.63	482.9	0.099	0.064	0.65	22.1	14.3	279.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	10.413	4.512	0.433	2.827	20.753	0.016	0.010	0.65	3.59	2.32	16.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	90.42	47.96	0.530	21.46	206.24	0.002	0.002	0.85	0.49	0.31	91.22

Sump 70			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0565	0.0056	0.10	0.0480	0.069	0.011	0.005	0.43	0.003	0.022	0.0553	0.0415	0.75	0.003	0.002	0.015
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.71	0.19	0.27	0.30	1.15	4.29	2.17	0.51	0.20	0.13	1.04
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.090	0.021	0.24	0.043	0.154	0.392	0.362	0.92	0.019	0.012	0.120
Zn-D	µg/L	Kg	34.5	2.42	0.07	31.06	39.4	6.5	2.5	0.39	2.1	12.8	22.1	30.2	1.37	1.05	0.68	8.19
Hg-T	ng/L	grams	30.3	4.0	0.13	23.44	39	4.7	2.0	0.44	1.6	10.1	9.89	16.81	1.70	0.47	0.30	5.44
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	8.0	1.8	0.23	4.0	13.9	287	189	0.66	13.6	8.8	30.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	15	6	0.38	5	31	7.21	3.39	0.47	0.3	0.2	15.9
E-coli	MPN/100ml	MPN	9,181	4,506	0.49	3,344	2.1.E+04	1.6.E+13	7.3.E+12	0.45	6.8.E+12	4.6.E+13	7,488	10,856	1.45	3.55E+12	2.29E+12	2.19E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.968	1.463	0.493	0.759	6.30	0.023	0.006	0.28	1.1	0.69	4.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	59.7	27.70	0.464	15.40	118.7	0.099	0.064	0.65	4.7	3.0	67.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.561	1.110	0.433	0.695	5.103	0.016	0.010	0.65	0.76	0.49	3.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	22.23	11.79	0.530	5.28	50.71	0.002	0.002	0.85	0.10	0.07	22.40

Sump 71			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0562	0.0056	0.10	0.0478	0.068	0.013	0.006	0.43	0.004	0.026	0.0553	0.0415	0.75	0.003	0.002	0.018
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.85	0.23	0.27	0.37	1.39	4.29	2.17	0.51	0.22	0.14	1.21
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.108	0.026	0.24	0.052	0.186	0.392	0.362	0.92	0.020	0.013	0.141
Zn-D	µg/L	Kg	34.4	2.40	0.07	30.98	39.2	7.8	3.1	0.39	2.5	15.4	22.1	30.2	1.37	1.12	0.72	9.62
Hg-T	ng/L	grams	30.5	4.0	0.13	23.61	40	5.7	2.5	0.44	2.0	12.4	9.89	16.81	1.70	0.50	0.32	6.52
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	9.7	2.2	0.23	4.9	16.8	287	189	0.66	14.5	9.4	33.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	19	7	0.38	6	37	7.21	3.39	0.47	0.4	0.2	19.2
E-coli	MPN/100ml	MPN	9,236	4,534	0.49	3,367	2.1.E+04	2.0.E+13	8.9.E+12	0.45	8.2.E+12	5.6.E+13	7,488	10,856	1.45	3.80E+12	2.45E+12	2.58E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.586	1.767	0.493	0.917	7.62	0.023	0.006	0.28	1.1	0.74	5.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	72.1	33.47	0.464	18.61	143.5	0.099	0.064	0.65	5.0	3.2	80.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.093	1.340	0.433	0.840	6.165	0.016	0.010	0.65	0.81	0.53	4.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	26.86	14.25	0.530	6.37	61.27	0.002	0.002	0.85	0.11	0.07	27.04

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 73			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.009	0.002	0.27	0.004	0.015	4.29	2.17	0.51	0.001	0.001	0.01
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.001	0.000	0.24	0.001	0.002	0.392	0.362	0.92	0.000	0.000	0.001
Zn-D	µg/L	Kg	35.1	2.54	0.07	31.46	40.3	0.08	0.03	0.39	0.03	0.17	22.1	30.2	1.37	0.007	0.005	0.10
Hg-T	ng/L	grams	29.5	3.9	0.13	22.64	38	0.06	0.02	0.44	0.02	0.12	9.89	16.81	1.70	0.003	0.002	0.06
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.10	0.02	0.23	0.05	0.18	287	189	0.66	0.096	0.062	0.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.20	0.08	0.38	0.07	0.39	7.21	3.39	0.47	0.002	0.002	0.2
E-coli	MPN/100ml	MPN	8,926	4,375	0.49	3,237	2.0.E+04	2.0.E+11	9.0.E+10	0.45	8.4.E+10	5.6.E+11	7,488	10,856	1.45	2.51E+10	1.62E+10	2.40E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.038	0.019	0.493	0.010	0.08	0.023	0.006	0.28	0.008	0.005	0.05
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.8	0.35	0.464	0.20	1.5	0.099	0.064	0.65	0.033	0.021	0.82
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.033	0.014	0.433	0.009	0.065	0.016	0.010	0.65	0.005	0.003	0.04
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.28	0.15	0.530	0.07	0.65	0.002	0.002	0.85	0.001	0.000	0.29

Sump 7A			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0573	0.0058	0.10	0.0485	0.070	0.005	0.002	0.43	0.002	0.011	0.0553	0.0415	0.75	0.002	0.001	0.008
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.34	0.09	0.27	0.15	0.56	4.29	2.17	0.51	0.13	0.09	0.56
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.044	0.010	0.24	0.021	0.075	0.392	0.362	0.92	0.012	0.008	0.063
Zn-D	µg/L	Kg	34.8	2.48	0.07	31.26	39.9	3.2	1.2	0.39	1.0	6.3	22.1	30.2	1.37	0.68	0.44	4.29
Hg-T	ng/L	grams	29.9	3.9	0.13	23.02	39	2.2	1.0	0.44	0.8	4.8	9.89	16.81	1.70	0.30	0.20	2.71
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.9	0.9	0.23	2.0	6.8	287	189	0.66	8.8	5.7	18.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	7	3	0.38	2	15	7.21	3.39	0.47	0.2	0.1	7.8
E-coli	MPN/100ml	MPN	9,047	4,437	0.49	3,288	2.1.E+04	7.7.E+12	3.5.E+12	0.45	3.2.E+12	2.2.E+13	7,488	10,856	1.45	2.30E+12	1.49E+12	1.15E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.441	0.710	0.493	0.368	3.06	0.023	0.006	0.28	0.7	0.45	2.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	29.0	13.45	0.464	7.48	57.7	0.099	0.064	0.65	3.0	2.0	34.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.243	0.539	0.433	0.337	2.478	0.016	0.010	0.65	0.49	0.32	2.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	10.79	5.73	0.530	2.56	24.62	0.002	0.002	0.85	0.07	0.04	10.90

Sump 7B			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0579	0.0059	0.10	0.0489	0.071	0.001	0.000	0.43	0.000	0.002	0.0553	0.0415	0.75	0.001	0.001	0.003
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.07	0.02	0.27	0.03	0.11	4.29	2.17	0.51	0.08	0.05	0.20
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.008	0.002	0.24	0.004	0.014	0.392	0.362	0.92	0.007	0.005	0.021
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.42	40.2	0.6	0.2	0.39	0.2	1.2	22.1	30.2	1.37	0.42	0.27	1.32
Hg-T	ng/L	grams	29.6	3.9	0.13	22.70	38	0.4	0.2	0.44	0.1	0.9	9.89	16.81	1.70	0.19	0.12	0.73
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.8	0.2	0.23	0.4	1.3	287	189	0.66	5.5	3.5	9.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	1	1	0.38	0	3	7.21	3.39	0.47	0.1	0.1	1.7
E-coli	MPN/100ml	MPN	8,946	4,385	0.49	3,246	2.1.E+04	1.5.E+12	6.6.E+11	0.45	6.2.E+11	4.2.E+12	7,488	10,856	1.45	1.43E+12	9.24E+11	3.82E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.279	0.138	0.493	0.071	0.59	0.023	0.006	0.28	0.4	0.28	1.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	5.6	2.60	0.464	1.45	11.2	0.099	0.064	0.65	1.9	1.2	8.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.241	0.104	0.433	0.065	0.480	0.016	0.010	0.65	0.31	0.20	0.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	2.09	1.11	0.530	0.50	4.77	0.002	0.002	0.85	0.04	0.03	2.16

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 8			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0562	0.0056	0.10	0.0478	0.068	0.013	0.006	0.43	0.004	0.026	0.0553	0.0415	0.75	0.003	0.002	0.018
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.85	0.23	0.27	0.36	1.38	4.29	2.17	0.51	0.23	0.15	1.23
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.107	0.026	0.24	0.052	0.185	0.392	0.362	0.92	0.021	0.014	0.142
Zn-D	µg/L	Kg	34.4	2.40	0.07	30.98	39.2	7.7	3.0	0.39	2.5	15.3	22.1	30.2	1.37	1.19	0.77	9.67
Hg-T	ng/L	grams	30.5	4.0	0.13	23.61	40	5.6	2.5	0.44	2.0	12.3	9.89	16.81	1.70	0.53	0.34	6.52
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	9.6	2.2	0.23	4.8	16.7	287	189	0.66	15.5	10.0	35.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	18	7	0.38	6	37	7.21	3.39	0.47	0.4	0.3	19.1
E-coli	MPN/100ml	MPN	9,233	4,533	0.49	3,366	2.1.E+04	1.9.E+13	8.8.E+12	0.45	8.1.E+12	5.5.E+13	7,488	10,856	1.45	4.04E+12	2.61E+12	2.61E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.556	1.753	0.493	0.909	7.55	0.023	0.006	0.28	1.2	0.79	5.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	71.5	33.20	0.464	18.45	142.3	0.099	0.064	0.65	5.3	3.4	80.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.068	1.329	0.433	0.833	6.115	0.016	0.010	0.65	0.87	0.56	4.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	26.64	14.13	0.530	6.32	60.77	0.002	0.002	0.85	0.12	0.08	26.83

Sump 83			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.016	0.004	0.27	0.007	0.025	4.29	2.17	0.51	0.010	0.007	0.03
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.002	0.000	0.24	0.001	0.003	0.392	0.362	0.92	0.001	0.001	0.004
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.45	40.3	0.15	0.06	0.39	0.05	0.29	22.1	30.2	1.37	0.053	0.034	0.23
Hg-T	ng/L	grams	29.5	3.9	0.13	22.65	38	0.10	0.04	0.44	0.03	0.21	9.89	16.81	1.70	0.024	0.015	0.14
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.18	0.04	0.23	0.09	0.31	287	189	0.66	0.685	0.442	1.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.34	0.13	0.38	0.11	0.67	7.21	3.39	0.47	0.017	0.011	0.4
E-coli	MPN/100ml	MPN	8,928	4,376	0.49	3,238	2.0.E+04	3.4.E+11	1.5.E+11	0.45	1.5.E+11	9.7.E+11	7,488	10,856	1.45	1.79E+11	1.15E+11	6.36E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.065	0.032	0.493	0.017	0.14	0.023	0.006	0.28	0.054	0.035	0.15
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1.3	0.61	0.464	0.34	2.6	0.099	0.064	0.65	0.236	0.152	1.70
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.056	0.024	0.433	0.015	0.112	0.016	0.010	0.65	0.038	0.025	0.12
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.49	0.26	0.530	0.12	1.12	0.002	0.002	0.85	0.005	0.003	0.50

Sump 89			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0565	0.0056	0.10	0.0479	0.069	0.011	0.005	0.43	0.003	0.023	0.0553	0.0415	0.75	0.003	0.002	0.016
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.73	0.20	0.27	0.31	1.19	4.29	2.17	0.51	0.24	0.16	1.13
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.093	0.022	0.24	0.045	0.159	0.392	0.362	0.92	0.022	0.014	0.129
Zn-D	µg/L	Kg	34.5	2.42	0.07	31.04	39.3	6.7	2.6	0.39	2.2	13.3	22.1	30.2	1.37	1.26	0.81	8.75
Hg-T	ng/L	grams	30.4	4.0	0.13	23.47	39	4.8	2.1	0.44	1.7	10.5	9.89	16.81	1.70	0.56	0.36	5.76
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	8.3	1.9	0.23	4.2	14.4	287	189	0.66	16.3	10.5	35.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	16	6	0.38	5	32	7.21	3.39	0.47	0.4	0.3	16.6
E-coli	MPN/100ml	MPN	9,190	4,510	0.49	3,348	2.1.E+04	1.7.E+13	7.6.E+12	0.45	7.0.E+12	4.7.E+13	7,488	10,856	1.45	4.25E+12	2.75E+12	2.37E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.070	1.513	0.493	0.785	6.52	0.023	0.006	0.28	1.3	0.83	5.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	61.7	28.66	0.464	15.93	122.8	0.099	0.064	0.65	5.6	3.6	71.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.649	1.148	0.433	0.719	5.278	0.016	0.010	0.65	0.91	0.59	4.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	23.00	12.20	0.530	5.46	52.46	0.002	0.002	0.85	0.12	0.08	23.20

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 8A			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0569	0.0057	0.10	0.0482	0.069	0.008	0.004	0.43	0.003	0.017	0.0553	0.0415	0.75	0.003	0.002	0.014
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.55	0.15	0.27	0.23	0.89	4.29	2.17	0.51	0.26	0.17	0.98
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.069	0.017	0.24	0.034	0.119	0.392	0.362	0.92	0.024	0.016	0.109
Zn-D	µg/L	Kg	34.7	2.45	0.07	31.15	39.6	5.0	2.0	0.39	1.6	10.0	22.1	30.2	1.37	1.36	0.88	7.25
Hg-T	ng/L	grams	30.1	4.0	0.13	23.25	39	3.6	1.6	0.44	1.2	7.7	9.89	16.81	1.70	0.61	0.39	4.56
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	6.2	1.4	0.23	3.1	10.7	287	189	0.66	17.7	11.4	35.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	12	5	0.38	4	24	7.21	3.39	0.47	0.4	0.3	12.6
E-coli	MPN/100ml	MPN	9,121	4,475	0.49	3,319	2.1.E+04	1.2.E+13	5.6.E+12	0.45	5.2.E+12	3.5.E+13	7,488	10,856	1.45	4.61E+12	2.98E+12	1.99E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.291	1.129	0.493	0.586	4.87	0.023	0.006	0.28	1.4	0.90	4.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	46.1	21.38	0.464	11.89	91.6	0.099	0.064	0.65	6.1	3.9	56.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.976	0.856	0.433	0.536	3.939	0.016	0.010	0.65	0.99	0.64	3.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	17.16	9.10	0.530	4.07	39.14	0.002	0.002	0.85	0.13	0.09	17.38

Sump 8B			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0578	0.0059	0.10	0.0488	0.071	0.002	0.001	0.43	0.001	0.004	0.0553	0.0415	0.75	0.000	0.000	0.003
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.13	0.03	0.27	0.06	0.21	4.29	2.17	0.51	0.03	0.02	0.18
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.016	0.004	0.24	0.008	0.028	0.392	0.362	0.92	0.003	0.002	0.021
Zn-D	µg/L	Kg	35.0	2.52	0.07	31.39	40.2	1.2	0.5	0.39	0.4	2.4	22.1	30.2	1.37	0.16	0.10	1.46
Hg-T	ng/L	grams	29.6	3.9	0.13	22.77	39	0.8	0.4	0.44	0.3	1.8	9.89	16.81	1.70	0.07	0.05	0.93
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	1.5	0.3	0.23	0.7	2.5	287	189	0.66	2.1	1.4	4.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	3	1	0.38	1	6	7.21	3.39	0.47	0.1	0.0	2.9
E-coli	MPN/100ml	MPN	8,968	4,397	0.49	3,255	2.1.E+04	2.8.E+12	1.3.E+12	0.45	1.2.E+12	8.0.E+12	7,488	10,856	1.45	5.49E+11	3.54E+11	3.73E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.537	0.265	0.493	0.137	1.14	0.023	0.006	0.28	0.2	0.11	0.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	10.8	5.01	0.464	2.79	21.5	0.099	0.064	0.65	0.7	0.5	12.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.463	0.201	0.433	0.126	0.923	0.016	0.010	0.65	0.12	0.08	0.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	4.02	2.13	0.530	0.95	9.18	0.002	0.002	0.85	0.02	0.01	4.05

Sump 8C			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0569	0.0057	0.10	0.0482	0.069	0.009	0.004	0.43	0.003	0.017	0.0553	0.0415	0.75	0.002	0.001	0.011
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.55	0.15	0.27	0.24	0.89	4.29	2.17	0.51	0.13	0.09	0.77
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.070	0.017	0.24	0.034	0.120	0.392	0.362	0.92	0.012	0.008	0.089
Zn-D	µg/L	Kg	34.7	2.45	0.07	31.15	39.6	5.0	2.0	0.39	1.6	10.0	22.1	30.2	1.37	0.68	0.44	6.16
Hg-T	ng/L	grams	30.2	4.0	0.13	23.25	39	3.6	1.6	0.44	1.3	7.8	9.89	16.81	1.70	0.30	0.20	4.08
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	6.2	1.4	0.23	3.1	10.8	287	189	0.66	8.8	5.7	20.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	12	5	0.38	4	24	7.21	3.39	0.47	0.2	0.1	12.3
E-coli	MPN/100ml	MPN	9,122	4,476	0.49	3,319	2.1.E+04	1.2.E+13	5.6.E+12	0.45	5.2.E+12	3.5.E+13	7,488	10,856	1.45	2.30E+12	1.48E+12	1.62E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.304	1.136	0.493	0.589	4.89	0.023	0.006	0.28	0.7	0.45	3.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	46.3	21.51	0.464	11.96	92.2	0.099	0.064	0.65	3.0	2.0	51.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.988	0.861	0.433	0.540	3.962	0.016	0.010	0.65	0.49	0.32	2.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	17.26	9.16	0.530	4.10	39.37	0.002	0.002	0.85	0.07	0.04	17.37

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 91			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0535	0.0051	0.09	0.0460	0.065	0.031	0.013	0.43	0.009	0.061	0.0553	0.0415	0.75	0.006	0.004	0.040
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.13	0.57	0.27	0.92	3.45	4.29	2.17	0.51	0.46	0.29	2.88
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.270	0.064	0.24	0.131	0.463	0.392	0.362	0.92	0.042	0.027	0.338
Zn-D	µg/L	Kg	33.4	2.22	0.07	30.27	37.5	18.6	7.3	0.39	6.2	37.0	22.1	30.2	1.37	2.35	1.52	22.51
Hg-T	ng/L	grams	32.2	4.2	0.13	25.20	42	15.6	6.9	0.44	5.3	34.1	9.89	16.81	1.70	1.05	0.68	17.31
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	24.2	5.5	0.23	12.2	41.9	287	189	0.66	30.5	19.7	74.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	46	18	0.38	15	92	7.21	3.39	0.47	0.8	0.5	47.5
E-coli	MPN/100ml	MPN	9,730	4,791	0.49	3,572	2.3.E+04	5.2.E+13	2.4.E+13	0.46	2.1.E+13	1.5.E+14	7,488	10,856	1.45	7.96E+12	5.14E+12	6.50E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	8.928	4.401	0.493	2.283	18.96	0.023	0.006	0.28	2.4	1.55	12.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	179.5	83.33	0.464	46.33	357.2	0.099	0.064	0.65	10.5	6.8	196.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	7.702	3.337	0.433	2.091	15.350	0.016	0.010	0.65	1.71	1.10	10.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	66.88	35.47	0.530	15.87	152.55	0.002	0.002	0.85	0.23	0.15	67.26

Sump 92			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0504	0.0045	0.09	0.0434	0.060	0.050	0.021	0.42	0.015	0.100	0.0553	0.0415	0.75	0.011	0.007	0.069
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.74	1.01	0.27	1.61	6.08	4.29	2.17	0.51	0.89	0.58	5.21
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.475	0.114	0.24	0.230	0.816	0.392	0.362	0.92	0.081	0.053	0.609
Zn-D	µg/L	Kg	32.1	2.02	0.06	29.40	35.9	31.3	12.2	0.39	10.5	62.2	22.1	30.2	1.37	4.60	2.97	38.88
Hg-T	ng/L	grams	34.6	4.5	0.13	27.46	44	31.2	14.0	0.45	10.2	68.6	9.89	16.81	1.70	2.06	1.33	34.57
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	42.6	9.6	0.23	21.4	73.7	287	189	0.66	59.6	38.5	140.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	81	31	0.38	27	162	7.21	3.39	0.47	1.5	1.0	83.9
E-coli	MPN/100ml	MPN	10,408	5,151	0.49	3,852	2.5.E+04	9.9.E+13	4.5.E+13	0.46	4.0.E+13	2.8.E+14	7,488	10,856	1.45	1.56E+13	1.00E+13	1.25E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	15.720	7.749	0.493	4.020	33.39	0.023	0.006	0.28	4.7	3.04	23.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	316.1	146.73	0.464	81.57	629.0	0.099	0.064	0.65	20.6	13.3	349.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	13.562	5.877	0.433	3.682	27.029	0.016	0.010	0.65	3.34	2.15	19.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	117.76	62.46	0.530	27.94	268.61	0.002	0.002	0.85	0.45	0.29	118.50

Sump 94			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.003	0.001	0.43	0.001	0.007	0.0553	0.0415	0.75	0.001	0.000	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.21	0.06	0.27	0.09	0.34	4.29	2.17	0.51	0.06	0.04	0.30
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.026	0.006	0.24	0.013	0.045	0.392	0.362	0.92	0.005	0.004	0.035
Zn-D	µg/L	Kg	35.0	2.50	0.07	31.34	40.1	1.9	0.8	0.39	0.6	3.8	22.1	30.2	1.37	0.31	0.20	2.42
Hg-T	ng/L	grams	29.7	3.9	0.13	22.86	39	1.3	0.6	0.44	0.5	2.9	9.89	16.81	1.70	0.14	0.09	1.54
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.4	0.5	0.23	1.2	4.1	287	189	0.66	4.0	2.6	8.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	2	0.38	2	9	7.21	3.39	0.47	0.1	0.1	4.7
E-coli	MPN/100ml	MPN	8,997	4,411	0.49	3,267	2.1.E+04	4.6.E+12	2.1.E+12	0.45	1.9.E+12	1.3.E+13	7,488	10,856	1.45	1.04E+12	6.71E+11	6.30E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.868	0.428	0.493	0.222	1.84	0.023	0.006	0.28	0.3	0.20	1.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	17.5	8.10	0.464	4.51	34.7	0.099	0.064	0.65	1.4	0.9	19.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.749	0.325	0.433	0.203	1.493	0.016	0.010	0.65	0.22	0.14	1.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	6.50	3.45	0.530	1.54	14.84	0.002	0.002	0.85	0.03	0.02	6.55

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 95			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0536	0.0051	0.09	0.0460	0.065	0.030	0.013	0.43	0.009	0.060	0.0553	0.0415	0.75	0.006	0.004	0.040
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.09	0.56	0.27	0.90	3.39	4.29	2.17	0.51	0.47	0.30	2.86
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.265	0.063	0.24	0.128	0.455	0.392	0.362	0.92	0.043	0.028	0.336
Zn-D	µg/L	Kg	33.4	2.23	0.07	30.29	37.5	18.3	7.2	0.39	6.1	36.4	22.1	30.2	1.37	2.42	1.56	22.31
Hg-T	ng/L	grams	32.1	4.2	0.13	25.15	42	15.3	6.8	0.44	5.2	33.4	9.89	16.81	1.70	1.08	0.70	17.04
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	23.7	5.4	0.23	11.9	41.1	287	189	0.66	31.4	20.3	75.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	45	17	0.38	15	91	7.21	3.39	0.47	0.8	0.5	46.7
E-coli	MPN/100ml	MPN	9,714	4,783	0.49	3,566	2.3.E+04	5.1.E+13	2.3.E+13	0.46	2.1.E+13	1.4.E+14	7,488	10,856	1.45	8.19E+12	5.29E+12	6.44E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	8.769	4.322	0.493	2.242	18.62	0.023	0.006	0.28	2.5	1.60	12.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	176.3	81.85	0.464	45.50	350.8	0.099	0.064	0.65	10.8	7.0	194.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	7.565	3.278	0.433	2.054	15.077	0.016	0.010	0.65	1.76	1.13	10.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	65.69	34.84	0.530	15.59	149.83	0.002	0.002	0.85	0.24	0.15	66.08

Sump 96			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0508	0.0046	0.09	0.0438	0.061	0.047	0.020	0.42	0.015	0.094	0.0553	0.0415	0.75	0.013	0.008	0.069
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.51	0.95	0.27	1.51	5.70	4.29	2.17	0.51	1.01	0.65	5.17
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.445	0.106	0.24	0.216	0.765	0.392	0.362	0.92	0.092	0.059	0.597
Zn-D	µg/L	Kg	32.3	2.04	0.06	29.52	36.1	29.6	11.5	0.39	9.9	58.7	22.1	30.2	1.37	5.20	3.36	38.11
Hg-T	ng/L	grams	34.2	4.5	0.13	27.11	44	28.7	12.8	0.45	9.4	63.1	9.89	16.81	1.70	2.32	1.50	32.50
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	39.9	9.0	0.23	20.1	69.1	287	189	0.66	67.4	43.5	150.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	76	29	0.38	26	152	7.21	3.39	0.47	1.7	1.1	79.1
E-coli	MPN/100ml	MPN	10,306	5,096	0.49	3,810	2.5.E+04	9.2.E+13	4.2.E+13	0.46	3.7.E+13	2.6.E+14	7,488	10,856	1.45	1.76E+13	1.14E+13	1.21E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	14.736	7.264	0.493	3.768	31.30	0.023	0.006	0.28	5.3	3.43	23.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	296.3	137.54	0.464	76.47	589.6	0.099	0.064	0.65	23.2	15.0	334.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	12.713	5.509	0.433	3.451	25.336	0.016	0.010	0.65	3.77	2.44	18.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	110.39	58.55	0.530	26.19	251.79	0.002	0.002	0.85	0.51	0.33	111.23

Sump 97			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0548	0.0053	0.10	0.0468	0.066	0.022	0.010	0.43	0.007	0.045	0.0553	0.0415	0.75	0.005	0.003	0.030
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.51	0.41	0.27	0.65	2.46	4.29	2.17	0.51	0.38	0.24	2.13
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.192	0.046	0.24	0.093	0.329	0.392	0.362	0.92	0.034	0.022	0.248
Zn-D	µg/L	Kg	33.9	2.31	0.07	30.61	38.3	13.5	5.3	0.39	4.4	26.8	22.1	30.2	1.37	1.94	1.25	16.67
Hg-T	ng/L	grams	31.4	4.1	0.13	24.41	41	10.6	4.7	0.44	3.6	23.1	9.89	16.81	1.70	0.87	0.56	12.00
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	17.2	3.9	0.23	8.6	29.7	287	189	0.66	25.1	16.2	58.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	33	13	0.38	11	66	7.21	3.39	0.47	0.6	0.4	33.9
E-coli	MPN/100ml	MPN	9,487	4,664	0.49	3,471	2.2.E+04	3.6.E+13	1.6.E+13	0.45	1.5.E+13	1.0.E+14	7,488	10,856	1.45	6.55E+12	4.23E+12	4.66E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	6.344	3.127	0.493	1.622	13.47	0.023	0.006	0.28	2.0	1.28	9.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	127.6	59.22	0.464	32.92	253.8	0.099	0.064	0.65	8.7	5.6	141.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	5.473	2.372	0.433	1.486	10.908	0.016	0.010	0.65	1.40	0.91	7.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	47.52	25.21	0.530	11.28	108.40	0.002	0.002	0.85	0.19	0.12	47.84

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

Sump 98			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0542	0.0052	0.10	0.0464	0.066	0.026	0.011	0.43	0.008	0.053	0.0553	0.0415	0.75	0.008	0.005	0.039
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.80	0.49	0.27	0.78	2.93	4.29	2.17	0.51	0.60	0.39	2.79
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.229	0.055	0.24	0.111	0.393	0.392	0.362	0.92	0.054	0.035	0.319
Zn-D	µg/L	Kg	33.6	2.26	0.07	30.45	37.9	16.0	6.3	0.39	5.3	31.8	22.1	30.2	1.37	3.07	1.98	21.03
Hg-T	ng/L	grams	31.8	4.2	0.13	24.78	41	12.9	5.7	0.44	4.4	28.2	9.89	16.81	1.70	1.37	0.89	15.17
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	20.5	4.6	0.23	10.3	35.5	287	189	0.66	39.9	25.7	86.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	39	15	0.38	13	78	7.21	3.39	0.47	1.0	0.6	40.9
E-coli	MPN/100ml	MPN	9,602	4,724	0.49	3,519	2.2.E+04	4.3.E+13	2.0.E+13	0.46	1.8.E+13	1.2.E+14	7,488	10,856	1.45	1.04E+13	6.72E+12	6.05E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	7.580	3.736	0.493	1.938	16.10	0.023	0.006	0.28	3.1	2.03	12.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	152.4	70.75	0.464	39.33	303.3	0.099	0.064	0.65	13.7	8.9	175.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	6.539	2.834	0.433	1.775	13.033	0.016	0.010	0.65	2.23	1.44	10.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	56.78	30.12	0.530	13.47	129.52	0.002	0.002	0.85	0.30	0.19	57.28

Sump 99			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0549	0.0053	0.10	0.0469	0.067	0.022	0.009	0.43	0.007	0.044	0.0553	0.0415	0.75	0.005	0.003	0.030
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.48	0.40	0.27	0.64	2.40	4.29	2.17	0.51	0.39	0.25	2.12
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.188	0.045	0.24	0.091	0.322	0.392	0.362	0.92	0.036	0.023	0.246
Zn-D	µg/L	Kg	33.9	2.31	0.07	30.63	38.3	13.2	5.2	0.39	4.3	26.2	22.1	30.2	1.37	2.01	1.30	16.51
Hg-T	ng/L	grams	31.3	4.1	0.13	24.37	41	10.3	4.5	0.44	3.6	22.5	9.89	16.81	1.70	0.90	0.58	11.79
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	16.8	3.8	0.23	8.4	29.1	287	189	0.66	26.0	16.8	59.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	32	12	0.38	11	64	7.21	3.39	0.47	0.7	0.4	33.2
E-coli	MPN/100ml	MPN	9,474	4,657	0.49	3,466	2.2.E+04	3.5.E+13	1.6.E+13	0.45	1.5.E+13	9.9.E+13	7,488	10,856	1.45	6.79E+12	4.38E+12	4.61E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	6.206	3.059	0.493	1.587	13.18	0.023	0.006	0.28	2.1	1.33	9.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	124.8	57.92	0.464	32.20	248.3	0.099	0.064	0.65	9.0	5.8	139.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	5.354	2.320	0.433	1.453	10.670	0.016	0.010	0.65	1.46	0.94	7.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	46.49	24.66	0.530	11.03	106.03	0.002	0.002	0.85	0.20	0.13	46.81

ALDER CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0463	0.0039	0.09	0.0398	0.055	0.072	0.030	0.42	0.023	0.144	0.0553	0.0415	0.75	0.016	0.010	0.098
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	6.04	1.63	0.27	2.60	9.82	4.29	2.17	0.51	1.23	0.79	8.06
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.767	0.183	0.24	0.371	1.317	0.392	0.362	0.92	0.112	0.072	0.951
Zn-D	µg/L	Kg	30.5	1.77	0.06	27.98	33.8	47.3	18.2	0.39	16.1	94.0	22.1	30.2	1.37	6.33	4.08	57.76
Hg-T	ng/L	grams	38.5	5.2	0.13	30.61	51	61.7	28.4	0.46	18.6	135.5	9.89	16.81	1.70	2.83	1.83	66.35
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	68.7	15.6	0.23	34.6	119.0	287	189	0.66	82.0	52.9	203.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	132	50	0.38	44	262	7.21	3.39	0.47	2.1	1.3	134.9
E-coli	MPN/100ml	MPN	11,485	5,738	0.50	4,293	2.8.E+04	1.8.E+14	8.3.E+13	0.46	7.0.E+13	5.1.E+14	7,488	10,856	1.45	2.14E+13	1.38E+13	2.15E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	25.385	12.513	0.493	6.491	53.92	0.023	0.006	0.28	6.5	4.18	36.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	510.4	236.94	0.464	131.72	1015.6	0.099	0.064	0.65	28.3	18.3	556.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	21.900	9.490	0.433	5.945	43.646	0.016	0.010	0.65	4.59	2.96	29.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	190.16	100.86	0.530	45.12	433.75	0.002	0.002	0.85	0.62	0.40	191.18

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

AMERICAN RIVER			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0567	0.0057	0.10	0.0481	0.069	0.009	0.004	0.43	0.003	0.019	0.0553	0.0415	0.75	0.004	0.003	0.016
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.60	0.16	0.27	0.26	0.97	4.29	2.17	0.51	0.32	0.21	1.12
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.076	0.018	0.24	0.037	0.130	0.392	0.362	0.92	0.029	0.019	0.124
Zn-D	µg/L	Kg	34.6	2.44	0.07	31.12	39.5	5.5	2.2	0.39	1.8	10.9	22.1	30.2	1.37	1.65	1.06	8.20
Hg-T	ng/L	grams	30.2	4.0	0.13	23.31	39	3.9	1.7	0.44	1.4	8.5	9.89	16.81	1.70	0.74	0.48	5.13
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	6.8	1.5	0.23	3.4	11.8	287	189	0.66	21.4	13.8	42.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	13	5	0.38	4	26	7.21	3.39	0.47	0.5	0.3	13.9
E-coli	MPN/100ml	MPN	9,140	4,485	0.49	3,327	2.1.E+04	1.4.E+13	6.1.E+12	0.45	5.7.E+12	3.8.E+13	7,488	10,856	1.45	5.57E+12	3.60E+12	2.27E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.513	1.239	0.493	0.642	5.34	0.023	0.006	0.28	1.7	1.09	5.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	50.5	23.45	0.464	13.04	100.5	0.099	0.064	0.65	7.4	4.8	62.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.168	0.939	0.433	0.588	4.320	0.016	0.010	0.65	1.20	0.77	4.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	18.82	9.98	0.530	4.47	42.93	0.002	0.002	0.85	0.16	0.10	19.09

ANTELOPE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0519	0.0048	0.09	0.0447	0.062	0.041	0.017	0.43	0.012	0.081	0.0553	0.0415	0.75	0.010	0.007	0.058
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.93	0.79	0.27	1.26	4.76	4.29	2.17	0.51	0.82	0.53	4.27
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.372	0.089	0.24	0.180	0.638	0.392	0.362	0.92	0.074	0.048	0.494
Zn-D	µg/L	Kg	32.8	2.12	0.06	29.83	36.6	25.1	9.8	0.39	8.3	49.9	22.1	30.2	1.37	4.20	2.71	32.01
Hg-T	ng/L	grams	33.3	4.4	0.13	26.29	43	22.9	10.2	0.45	7.6	50.2	9.89	16.81	1.70	1.88	1.21	25.95
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	33.3	7.5	0.23	16.8	57.7	287	189	0.66	54.5	35.2	122.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	64	24	0.38	21	127	7.21	3.39	0.47	1.4	0.9	66.0
E-coli	MPN/100ml	MPN	10,060	4,965	0.49	3,709	2.4.E+04	7.5.E+13	3.4.E+13	0.46	3.0.E+13	2.1.E+14	7,488	10,856	1.45	1.42E+13	9.18E+12	9.79E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	12.306	6.066	0.493	3.147	26.14	0.023	0.006	0.28	4.3	2.77	19.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	247.4	114.86	0.464	63.86	492.3	0.099	0.064	0.65	18.8	12.1	278.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	10.616	4.600	0.433	2.882	21.158	0.016	0.010	0.65	3.05	1.97	15.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	92.18	48.89	0.530	21.87	210.27	0.002	0.002	0.85	0.41	0.27	92.86

ARCADE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0269	0.0022	0.08	0.0226	0.031	0.133	0.052	0.39	0.048	0.257	0.0553	0.0415	0.75	0.078	0.050	0.261
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	22.19	6.00	0.27	9.56	36.08	4.29	2.17	0.51	6.02	3.89	32.09
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	2.817	0.673	0.24	1.364	4.837	0.392	0.362	0.92	0.550	0.355	3.721
Zn-D	µg/L	Kg	21.4	1.06	0.05	19.80	23.3	113.0	41.8	0.37	41.4	220.1	22.1	30.2	1.37	31.02	20.02	164.08
Hg-T	ng/L	grams	246.8	316.1	1.28	71.16	1230	8545.5	17460.7	2.04	170.5	64335.3	9.89	16.81	1.70	13.87	8.95	8568.33
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	252.4	57.2	0.23	126.9	437.1	287	189	0.66	402.2	259.6	914.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	483	185	0.38	161	963	7.21	3.39	0.47	10.1	6.5	499.7
E-coli	MPN/100ml	MPN	25,289	14,872	0.59	8,664	7.2.E+04	1.7.E+15	9.0.E+14	0.54	4.6.E+14	4.9.E+15	7,488	10,856	1.45	1.05E+14	6.78E+13	1.84E+15
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	93.225	45.953	0.493	23.837	198.00	0.023	0.006	0.28	31.7	20.49	145.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1874.4	870.17	0.464	483.76	3729.9	0.099	0.064	0.65	138.7	89.5	2102.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	80.428	34.850	0.433	21.832	160.289	0.016	0.010	0.65	22.51	14.53	117.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	698.35	370.42	0.530	165.71	1592.93	0.002	0.002	0.85	3.04	1.97	703.36

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

ARCADE CREEK SOUTH BRANCH			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0472	0.0041	0.09	0.0406	0.056	0.067	0.028	0.42	0.021	0.134	0.0553	0.0415	0.75	0.019	0.012	0.099
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	5.49	1.48	0.27	2.37	8.93	4.29	2.17	0.51	1.48	0.96	7.93
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.697	0.167	0.24	0.338	1.197	0.392	0.362	0.92	0.135	0.087	0.920
Zn-D	µg/L	Kg	30.8	1.83	0.06	28.33	34.3	43.7	16.9	0.39	14.8	86.8	22.1	30.2	1.37	7.64	4.93	56.28
Hg-T	ng/L	grams	37.5	5.0	0.13	29.90	49	53.3	24.3	0.46	16.4	117.2	9.89	16.81	1.70	3.42	2.21	58.90
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	62.5	14.1	0.23	31.4	108.2	287	189	0.66	99.0	63.9	225.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	120	46	0.38	40	238	7.21	3.39	0.47	2.5	1.6	123.7
E-coli	MPN/100ml	MPN	11,215	5,589	0.50	4,183	2.7.E+04	1.6.E+14	7.3.E+13	0.46	6.2.E+13	4.5.E+14	7,488	10,856	1.45	2.58E+13	1.67E+13	2.02E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	23.073	11.373	0.493	5.900	49.01	0.023	0.006	0.28	7.8	5.05	35.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	463.9	215.37	0.464	119.73	923.1	0.099	0.064	0.65	34.2	22.1	520.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	19.906	8.625	0.433	5.403	39.671	0.016	0.010	0.65	5.54	3.58	29.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	172.84	91.68	0.530	41.01	394.25	0.002	0.002	0.85	0.75	0.48	174.08

BEACH-STONE LAKE			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.004	0.001	0.27	0.002	0.006	4.29	2.17	0.51	0.001	0.001	0.01
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.000	0.000	0.24	0.000	0.001	0.392	0.362	0.92	0.000	0.000	0.001
Zn-D	µg/L	Kg	35.1	2.54	0.07	31.46	40.3	0.03	0.01	0.39	0.01	0.07	22.1	30.2	1.37	0.005	0.003	0.04
Hg-T	ng/L	grams	29.5	3.9	0.13	22.63	38	0.02	0.01	0.44	0.01	0.05	9.89	16.81	1.70	0.002	0.002	0.03
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.04	0.01	0.23	0.02	0.07	287	189	0.66	0.070	0.045	0.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.08	0.03	0.38	0.03	0.16	7.21	3.39	0.47	0.002	0.001	0.1
E-coli	MPN/100ml	MPN	8,924	4,374	0.49	3,237	2.0.E+04	8.0.E+10	3.6.E+10	0.45	3.4.E+10	2.3.E+11	7,488	10,856	1.45	1.83E+10	1.18E+10	1.10E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.015	0.008	0.493	0.004	0.03	0.023	0.006	0.28	0.006	0.004	0.02
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.3	0.14	0.464	0.08	0.6	0.099	0.064	0.65	0.024	0.016	0.35
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.013	0.006	0.433	0.004	0.026	0.016	0.010	0.65	0.004	0.003	0.02
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.11	0.06	0.530	0.03	0.26	0.002	0.002	0.85	0.001	0.000	0.12

BOYD CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0405	0.0032	0.08	0.0347	0.047	0.099	0.041	0.41	0.033	0.196	0.0553	0.0415	0.75	0.026	0.017	0.141
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	9.80	2.65	0.27	4.22	15.93	4.29	2.17	0.51	2.01	1.30	13.10
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.244	0.297	0.24	0.602	2.136	0.392	0.362	0.92	0.183	0.118	1.545
Zn-D	µg/L	Kg	28.0	1.47	0.05	25.74	30.8	69.1	26.3	0.38	24.0	136.8	22.1	30.2	1.37	10.34	6.68	86.16
Hg-T	ng/L	grams	47.3	7.3	0.15	36.18	65	151.1	79.5	0.53	37.0	315.5	9.89	16.81	1.70	4.62	2.99	158.74
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	111.5	25.2	0.23	56.0	193.0	287	189	0.66	134.1	86.6	332.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	213	82	0.38	71	425	7.21	3.39	0.47	3.4	2.2	218.8
E-coli	MPN/100ml	MPN	13,577	6,936	0.51	5,128	3.5.E+04	3.6.E+14	1.7.E+14	0.47	1.3.E+14	1.0.E+15	7,488	10,856	1.45	3.50E+13	2.26E+13	4.14E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	41.162	20.290	0.493	10.525	87.42	0.023	0.006	0.28	10.6	6.83	58.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	827.6	384.20	0.464	213.59	1646.8	0.099	0.064	0.65	46.2	29.9	903.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	35.511	15.387	0.433	9.640	70.772	0.016	0.010	0.65	7.50	4.84	47.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	308.34	163.55	0.530	73.17	703.32	0.002	0.002	0.85	1.01	0.66	310.01

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

BROOKTREE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0490	0.0043	0.09	0.0422	0.058	0.058	0.024	0.42	0.018	0.115	0.0553	0.0415	0.75	0.015	0.009	0.082
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.48	1.21	0.27	1.93	7.29	4.29	2.17	0.51	1.13	0.73	6.34
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.569	0.136	0.24	0.276	0.977	0.392	0.362	0.92	0.103	0.066	0.738
Zn-D	µg/L	Kg	31.6	1.93	0.06	28.99	35.2	36.7	14.2	0.39	12.3	72.9	22.1	30.2	1.37	5.81	3.75	46.28
Hg-T	ng/L	grams	35.7	4.7	0.13	28.59	46	39.7	18.0	0.45	12.6	87.5	9.89	16.81	1.70	2.60	1.68	44.03
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	51.0	11.5	0.23	25.6	88.3	287	189	0.66	75.4	48.6	175.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	98	37	0.38	33	194	7.21	3.39	0.47	1.9	1.2	100.7
E-coli	MPN/100ml	MPN	10,740	5,329	0.50	3,989	2.6.E+04	1.2.E+14	5.7.E+13	0.46	4.9.E+13	3.5.E+14	7,488	10,856	1.45	1.97E+13	1.27E+13	1.56E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	18.828	9.281	0.493	4.814	39.99	0.023	0.006	0.28	5.9	3.84	28.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	378.6	175.74	0.464	97.70	753.3	0.099	0.064	0.65	26.0	16.8	421.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	16.243	7.038	0.433	4.409	32.372	0.016	0.010	0.65	4.22	2.72	23.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	141.04	74.81	0.530	33.47	321.71	0.002	0.002	0.85	0.57	0.37	141.98

BUFFALO CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0382	0.0030	0.08	0.0327	0.045	0.108	0.044	0.41	0.036	0.213	0.0553	0.0415	0.75	0.032	0.021	0.161
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	11.47	3.10	0.27	4.94	18.64	4.29	2.17	0.51	2.52	1.62	15.61
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.456	0.348	0.24	0.705	2.499	0.392	0.362	0.92	0.230	0.148	1.834
Zn-D	µg/L	Kg	26.9	1.37	0.05	24.83	29.5	77.3	29.3	0.38	27.0	152.8	22.1	30.2	1.37	12.96	8.37	98.66
Hg-T	ng/L	grams	52.7	9.3	0.18	39.18	73	223.7	136.3	0.61	47.5	584.3	9.89	16.81	1.70	5.80	3.74	233.20
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	130.5	29.5	0.23	65.6	225.9	287	189	0.66	168.1	108.5	407.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	250	96	0.38	83	498	7.21	3.39	0.47	4.2	2.7	256.6
E-coli	MPN/100ml	MPN	14,667	7,589	0.52	5,488	3.8.E+04	4.6.E+14	2.2.E+14	0.48	1.6.E+14	1.3.E+15	7,488	10,856	1.45	4.39E+13	2.83E+13	5.29E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	48.177	23.748	0.493	12.319	102.32	0.023	0.006	0.28	13.3	8.56	70.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	968.7	449.69	0.464	250.00	1927.5	0.099	0.064	0.65	58.0	37.4	1064.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	41.563	18.010	0.433	11.282	82.834	0.016	0.010	0.65	9.41	6.07	57.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	360.89	191.42	0.530	85.64	823.19	0.002	0.002	0.85	1.27	0.82	362.99

CARMICHAEL CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0425	0.0035	0.08	0.0365	0.050	0.090	0.037	0.41	0.029	0.180	0.0553	0.0415	0.75	0.032	0.021	0.143
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	8.43	2.28	0.27	3.63	13.71	4.29	2.17	0.51	2.49	1.61	12.53
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.071	0.256	0.24	0.518	1.838	0.392	0.362	0.92	0.227	0.147	1.445
Zn-D	µg/L	Kg	28.8	1.57	0.05	26.53	31.8	61.8	23.6	0.38	21.3	122.4	22.1	30.2	1.37	12.84	8.29	82.92
Hg-T	ng/L	grams	43.7	6.3	0.14	33.99	59	110.3	54.0	0.49	29.5	236.9	9.89	16.81	1.70	5.74	3.71	119.73
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	95.9	21.7	0.23	48.2	166.1	287	189	0.66	166.5	107.5	369.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	184	70	0.38	61	366	7.21	3.39	0.47	4.2	2.7	190.5
E-coli	MPN/100ml	MPN	12,763	6,461	0.51	4,809	3.2.E+04	2.9.E+14	1.3.E+14	0.47	1.1.E+14	8.1.E+14	7,488	10,856	1.45	4.34E+13	2.80E+13	3.57E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	35.428	17.463	0.493	9.059	75.25	0.023	0.006	0.28	13.1	8.48	57.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	712.3	330.68	0.464	183.84	1417.4	0.099	0.064	0.65	57.4	37.1	806.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	30.564	13.244	0.433	8.297	60.913	0.016	0.010	0.65	9.31	6.01	45.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	265.39	140.77	0.530	62.97	605.35	0.002	0.002	0.85	1.26	0.81	267.46

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

CHICKEN RANCH SLOUGH			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0362	0.0028	0.08	0.0309	0.042	0.114	0.046	0.40	0.039	0.225	0.0553	0.0415	0.75	0.042	0.027	0.183
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	13.03	3.52	0.27	5.61	21.18	4.29	2.17	0.51	3.25	2.10	18.37
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.654	0.395	0.24	0.801	2.840	0.392	0.362	0.92	0.297	0.191	2.142
Zn-D	µg/L	Kg	26.0	1.30	0.05	24.02	28.4	84.2	31.8	0.38	29.7	166.1	22.1	30.2	1.37	16.74	10.81	111.77
Hg-T	ng/L	grams	59.1	12.6	0.21	42.34	86	330.1	244.0	0.74	58.9	1087.4	9.89	16.81	1.70	7.49	4.83	342.37
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	148.2	33.6	0.23	74.5	256.6	287	189	0.66	217.1	140.1	505.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	284	109	0.38	95	565	7.21	3.39	0.47	5.5	3.5	292.6
E-coli	MPN/100ml	MPN	15,792	8,283	0.52	5,852	4.1.E+04	5.7.E+14	2.7.E+14	0.48	1.9.E+14	1.6.E+15	7,488	10,856	1.45	5.67E+13	3.66E+13	6.60E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	54.733	26.979	0.493	13.995	116.25	0.023	0.006	0.28	17.1	11.06	82.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1100.5	510.88	0.464	284.02	2189.8	0.099	0.064	0.65	74.9	48.3	1223.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	47.220	20.461	0.433	12.818	94.107	0.016	0.010	0.65	12.15	7.84	67.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	410.01	217.48	0.530	97.29	935.22	0.002	0.002	0.85	1.64	1.06	412.71

COMBINED			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0197	0.0020	0.10	0.0162	0.024	0.132	0.050	0.38	0.049	0.246	0.0553	0.0415	0.75	0.092	0.060	0.284
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	32.41	8.76	0.27	13.96	52.70	4.29	2.17	0.51	7.16	4.62	44.20
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	4.115	0.983	0.24	1.993	7.065	0.392	0.362	0.92	0.654	0.422	5.191
Zn-D	µg/L	Kg	17.5	1.01	0.06	16.00	19.7	128.5	46.7	0.36	48.6	245.9	22.1	30.2	1.37	36.91	23.83	189.21
Hg-T	ng/L	grams	164.1	20.2	0.12	128.58	231	1532.2	655.6	0.43	407.6	2982.9	9.89	16.81	1.70	16.51	10.66	1559.41
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	368.7	83.5	0.23	185.4	638.5	287	189	0.66	478.6	309.0	1156.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	706	270	0.38	236	1407	7.21	3.39	0.47	12.0	7.8	725.5
E-coli	MPN/100ml	MPN	46,872	33,242	0.71	13,857	1.4.E+05	5.0.E+15	3.5.E+15	0.71	9.9.E+14	1.8.E+16	7,488	10,856	1.45	1.25E+14	8.06E+13	5.18E+15
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	136.178	67.125	0.493	34.820	289.23	0.023	0.006	0.28	37.8	24.39	198.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	2738.0	1271.09	0.464	706.64	5448.4	0.099	0.064	0.65	165.1	106.6	3009.7
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	117.484	50.907	0.433	31.891	234.140	0.016	0.010	0.65	26.78	17.29	161.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	1020.11	541.08	0.530	242.06	2326.85	0.002	0.002	0.85	3.62	2.34	1026.07

COMBINED (LANDFILL)			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.001	0.0553	0.0415	0.75	0.001	0.001	0.002
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.031	0.008	0.27	0.013	0.050	4.29	2.17	0.51	0.075	0.049	0.15
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.004	0.001	0.24	0.002	0.007	0.392	0.362	0.92	0.007	0.004	0.015
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.44	40.3	0.29	0.11	0.39	0.09	0.57	22.1	30.2	1.37	0.388	0.250	0.93
Hg-T	ng/L	grams	29.5	3.9	0.13	22.67	38	0.19	0.08	0.44	0.07	0.42	9.89	16.81	1.70	0.173	0.112	0.48
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.35	0.08	0.23	0.18	0.61	287	189	0.66	5.029	3.246	8.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.67	0.26	0.38	0.22	1.34	7.21	3.39	0.47	0.126	0.082	0.9
E-coli	MPN/100ml	MPN	8,933	4,379	0.49	3,241	2.0.E+04	6.8.E+11	3.1.E+11	0.45	2.9.E+11	1.9.E+12	7,488	10,856	1.45	1.31E+12	8.47E+11	2.84E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.129	0.064	0.493	0.033	0.27	0.023	0.006	0.28	0.397	0.256	0.78
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	2.6	1.21	0.464	0.67	5.2	0.099	0.064	0.65	1.734	1.120	5.46
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.112	0.048	0.433	0.030	0.223	0.016	0.010	0.65	0.281	0.182	0.57
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.97	0.51	0.530	0.23	2.21	0.002	0.002	0.85	0.038	0.025	1.03

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

CORDOVA/COLOMA STREAM			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0474	0.0041	0.09	0.0408	0.056	0.066	0.028	0.42	0.021	0.132	0.0553	0.0415	0.75	0.019	0.012	0.097
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	5.37	1.45	0.27	2.31	8.73	4.29	2.17	0.51	1.44	0.93	7.74
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.682	0.163	0.24	0.330	1.171	0.392	0.362	0.92	0.131	0.085	0.898
Zn-D	µg/L	Kg	30.9	1.84	0.06	28.41	34.4	42.9	16.6	0.39	14.5	85.2	22.1	30.2	1.37	7.41	4.79	55.09
Hg-T	ng/L	grams	37.3	5.0	0.13	29.75	49	51.5	23.5	0.46	15.9	113.4	9.89	16.81	1.70	3.31	2.14	56.98
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	61.1	13.8	0.23	30.7	105.8	287	189	0.66	96.1	62.1	219.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	117	45	0.38	39	233	7.21	3.39	0.47	2.4	1.6	120.9
E-coli	MPN/100ml	MPN	11,156	5,556	0.50	4,159	2.7.E+04	1.5.E+14	7.1.E+13	0.46	6.1.E+13	4.4.E+14	7,488	10,856	1.45	2.51E+13	1.62E+13	1.96E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	22.562	11.121	0.493	5.769	47.92	0.023	0.006	0.28	7.6	4.90	35.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	453.6	210.59	0.464	117.08	902.7	0.099	0.064	0.65	33.1	21.4	508.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	19.465	8.434	0.433	5.284	38.792	0.016	0.010	0.65	5.38	3.47	28.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	169.01	89.65	0.530	40.11	385.51	0.002	0.002	0.85	0.73	0.47	170.21

COSUMNES RIVER			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0489	0.0043	0.09	0.0421	0.058	0.058	0.025	0.42	0.018	0.116	0.0553	0.0415	0.75	0.021	0.013	0.092
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.53	1.22	0.27	1.95	7.37	4.29	2.17	0.51	1.60	1.03	7.17
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.575	0.137	0.24	0.279	0.987	0.392	0.362	0.92	0.146	0.094	0.816
Zn-D	µg/L	Kg	31.5	1.93	0.06	28.95	35.1	37.1	14.3	0.39	12.5	73.6	22.1	30.2	1.37	8.26	5.33	50.65
Hg-T	ng/L	grams	35.8	4.7	0.13	28.67	47	40.3	18.2	0.45	12.8	88.9	9.89	16.81	1.70	3.69	2.38	46.42
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	51.5	11.7	0.23	25.9	89.2	287	189	0.66	107.0	69.1	227.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	99	38	0.38	33	197	7.21	3.39	0.47	2.7	1.7	103.1
E-coli	MPN/100ml	MPN	10,762	5,341	0.50	3,998	2.6.E+04	1.2.E+14	5.7.E+13	0.46	5.0.E+13	3.6.E+14	7,488	10,856	1.45	2.79E+13	1.80E+13	1.71E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	19.032	9.381	0.493	4.866	40.42	0.023	0.006	0.28	8.4	5.45	32.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	382.7	177.64	0.464	98.76	761.4	0.099	0.064	0.65	36.9	23.8	443.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	16.419	7.115	0.433	4.457	32.723	0.016	0.010	0.65	5.99	3.87	26.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	142.57	75.62	0.530	33.83	325.19	0.002	0.002	0.85	0.81	0.52	143.90

COUNTY			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0448	0.0037	0.08	0.0385	0.053	0.080	0.033	0.42	0.026	0.159	0.0553	0.0415	0.75	0.022	0.014	0.115
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	6.95	1.88	0.27	2.99	11.30	4.29	2.17	0.51	1.69	1.09	9.73
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.883	0.211	0.24	0.427	1.515	0.392	0.362	0.92	0.154	0.099	1.136
Zn-D	µg/L	Kg	29.8	1.69	0.06	27.41	33.0	53.1	20.4	0.38	18.1	105.3	22.1	30.2	1.37	8.69	5.61	67.40
Hg-T	ng/L	grams	40.3	5.6	0.14	31.83	54	77.6	36.3	0.47	22.4	169.5	9.89	16.81	1.70	3.89	2.51	83.98
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	79.1	17.9	0.23	39.8	136.9	287	189	0.66	112.7	72.8	264.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	151	58	0.38	51	302	7.21	3.39	0.47	2.8	1.8	156.0
E-coli	MPN/100ml	MPN	11,951	5,998	0.50	4,482	3.0.E+04	2.2.E+14	1.0.E+14	0.46	8.3.E+13	6.2.E+14	7,488	10,856	1.45	2.94E+13	1.90E+13	2.66E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	29.206	14.396	0.493	7.468	62.03	0.023	0.006	0.28	8.9	5.74	43.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	587.2	272.61	0.464	151.55	1168.5	0.099	0.064	0.65	38.9	25.1	651.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	25.196	10.918	0.433	6.840	50.215	0.016	0.010	0.65	6.31	4.07	35.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	218.78	116.04	0.530	51.91	499.03	0.002	0.002	0.85	0.85	0.55	220.18

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

COURTLAND			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.003	0.001	0.43	0.001	0.007	0.0553	0.0415	0.75	0.001	0.001	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.21	0.06	0.27	0.09	0.34	4.29	2.17	0.51	0.10	0.06	0.37
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.027	0.006	0.24	0.013	0.046	0.392	0.362	0.92	0.009	0.006	0.041
Zn-D	µg/L	Kg	35.0	2.50	0.07	31.34	40.0	2.0	0.8	0.39	0.6	3.9	22.1	30.2	1.37	0.49	0.32	2.77
Hg-T	ng/L	grams	29.7	3.9	0.13	22.87	39	1.3	0.6	0.44	0.5	2.9	9.89	16.81	1.70	0.22	0.14	1.71
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.4	0.5	0.23	1.2	4.2	287	189	0.66	6.4	4.1	12.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	9	7.21	3.39	0.47	0.2	0.1	4.9
E-coli	MPN/100ml	MPN	8,999	4,412	0.49	3,268	2.1.E+04	4.7.E+12	2.1.E+12	0.45	2.0.E+12	1.3.E+13	7,488	10,856	1.45	1.67E+12	1.08E+12	7.44E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.887	0.437	0.493	0.227	1.88	0.023	0.006	0.28	0.5	0.33	1.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	17.8	8.28	0.464	4.60	35.5	0.099	0.064	0.65	2.2	1.4	21.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.765	0.331	0.433	0.208	1.524	0.016	0.010	0.65	0.36	0.23	1.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	6.64	3.52	0.530	1.58	15.15	0.002	0.002	0.85	0.05	0.03	6.72

COYLE CREEK			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0507	0.0046	0.09	0.0437	0.061	0.048	0.020	0.42	0.015	0.095	0.0553	0.0415	0.75	0.012	0.008	0.068
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.55	0.96	0.27	1.53	5.77	4.29	2.17	0.51	0.95	0.61	5.11
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.451	0.108	0.24	0.218	0.774	0.392	0.362	0.92	0.087	0.056	0.594
Zn-D	µg/L	Kg	32.3	2.04	0.06	29.50	36.0	29.9	11.6	0.39	10.0	59.3	22.1	30.2	1.37	4.90	3.17	37.94
Hg-T	ng/L	grams	34.3	4.5	0.13	27.17	44	29.1	13.0	0.45	9.5	64.0	9.89	16.81	1.70	2.19	1.42	32.72
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	40.4	9.1	0.23	20.3	69.9	287	189	0.66	63.6	41.0	145.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	77	30	0.38	26	154	7.21	3.39	0.47	1.6	1.0	79.9
E-coli	MPN/100ml	MPN	10,324	5,106	0.49	3,818	2.5.E+04	9.3.E+13	4.3.E+13	0.46	3.8.E+13	2.6.E+14	7,488	10,856	1.45	1.66E+13	1.07E+13	1.20E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	14.911	7.350	0.493	3.813	31.67	0.023	0.006	0.28	5.0	3.24	23.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	299.8	139.18	0.464	77.37	596.6	0.099	0.064	0.65	21.9	14.2	335.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	12.864	5.574	0.433	3.492	25.637	0.016	0.010	0.65	3.56	2.30	18.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	111.70	59.25	0.530	26.50	254.78	0.002	0.002	0.85	0.48	0.31	112.49

COYOTE CREEK			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.010	0.003	0.27	0.004	0.017	4.29	2.17	0.51	0.011	0.007	0.03
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.001	0.000	0.24	0.001	0.002	0.392	0.362	0.92	0.001	0.001	0.003
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.45	40.3	0.10	0.04	0.39	0.03	0.19	22.1	30.2	1.37	0.055	0.035	0.19
Hg-T	ng/L	grams	29.5	3.9	0.13	22.64	38	0.06	0.03	0.44	0.02	0.14	9.89	16.81	1.70	0.024	0.016	0.11
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.12	0.03	0.23	0.06	0.20	287	189	0.66	0.709	0.458	1.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.22	0.09	0.38	0.08	0.45	7.21	3.39	0.47	0.018	0.012	0.3
E-coli	MPN/100ml	MPN	8,926	4,375	0.49	3,238	2.0.E+04	2.3.E+11	1.0.E+11	0.45	9.6.E+10	6.5.E+11	7,488	10,856	1.45	1.85E+11	1.20E+11	5.32E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.043	0.021	0.493	0.011	0.09	0.023	0.006	0.28	0.056	0.036	0.14
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.9	0.40	0.464	0.22	1.7	0.099	0.064	0.65	0.245	0.158	1.27
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.037	0.016	0.433	0.010	0.075	0.016	0.010	0.65	0.040	0.026	0.10
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.32	0.17	0.530	0.08	0.74	0.002	0.002	0.85	0.005	0.003	0.33

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

CRIPPLE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0350	0.0027	0.08	0.0298	0.041	0.118	0.048	0.40	0.040	0.232	0.0553	0.0415	0.75	0.052	0.034	0.204
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	14.05	3.80	0.27	6.05	22.85	4.29	2.17	0.51	4.06	2.62	20.73
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.784	0.426	0.24	0.864	3.063	0.392	0.362	0.92	0.370	0.239	2.393
Zn-D	µg/L	Kg	25.5	1.25	0.05	23.50	27.8	88.4	33.3	0.38	31.3	174.1	22.1	30.2	1.37	20.90	13.49	122.79
Hg-T	ng/L	grams	64.4	16.1	0.25	44.62	104	434.4	371.3	0.85	67.3	1657.7	9.89	16.81	1.70	9.35	6.03	449.75
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	159.9	36.2	0.23	80.4	276.8	287	189	0.66	271.0	175.0	605.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	306	117	0.38	102	610	7.21	3.39	0.47	6.8	4.4	317.1
E-coli	MPN/100ml	MPN	16,592	8,789	0.53	6,106	4.4.E+04	6.5.E+14	3.1.E+14	0.49	2.2.E+14	1.8.E+15	7,488	10,856	1.45	7.07E+13	4.57E+13	7.64E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	59.035	29.100	0.493	15.095	125.39	0.023	0.006	0.28	21.4	13.81	94.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1187.0	551.04	0.464	306.34	2361.9	0.099	0.064	0.65	93.5	60.3	1340.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	50.931	22.069	0.433	13.825	101.504	0.016	0.010	0.65	15.17	9.79	75.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	442.23	234.57	0.530	104.94	1008.73	0.002	0.002	0.85	2.05	1.32	445.61

DATE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0526	0.0049	0.09	0.0453	0.063	0.036	0.016	0.43	0.011	0.073	0.0553	0.0415	0.75	0.007	0.005	0.049
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.59	0.70	0.27	1.12	4.22	4.29	2.17	0.51	0.57	0.37	3.54
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.329	0.079	0.24	0.160	0.566	0.392	0.362	0.92	0.052	0.034	0.416
Zn-D	µg/L	Kg	33.0	2.16	0.07	30.01	37.0	22.4	8.8	0.39	7.5	44.6	22.1	30.2	1.37	2.96	1.91	27.32
Hg-T	ng/L	grams	32.9	4.3	0.13	25.83	42	19.7	8.8	0.44	6.6	43.2	9.89	16.81	1.70	1.32	0.85	21.90
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	29.5	6.7	0.23	14.8	51.1	287	189	0.66	38.4	24.8	92.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	56	22	0.38	19	113	7.21	3.39	0.47	1.0	0.6	58.1
E-coli	MPN/100ml	MPN	9,921	4,891	0.49	3,651	2.3.E+04	6.5.E+13	3.0.E+13	0.46	2.7.E+13	1.8.E+14	7,488	10,856	1.45	1.00E+13	6.47E+12	8.14E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	10.901	5.374	0.493	2.787	23.15	0.023	0.006	0.28	3.0	1.96	15.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	219.2	101.75	0.464	56.57	436.2	0.099	0.064	0.65	13.2	8.5	241.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	9.405	4.075	0.433	2.553	18.744	0.016	0.010	0.65	2.15	1.39	12.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	81.66	43.32	0.530	19.38	186.27	0.002	0.002	0.85	0.29	0.19	82.14

DEADMAN'S GULCH			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0421	0.0034	0.08	0.0362	0.049	0.092	0.038	0.41	0.030	0.183	0.0553	0.0415	0.75	0.035	0.023	0.150
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	8.65	2.34	0.27	3.73	14.07	4.29	2.17	0.51	2.72	1.76	13.13
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.099	0.263	0.24	0.532	1.886	0.392	0.362	0.92	0.248	0.160	1.507
Zn-D	µg/L	Kg	28.7	1.55	0.05	26.40	31.7	63.0	24.1	0.38	21.7	124.9	22.1	30.2	1.37	14.02	9.05	86.10
Hg-T	ng/L	grams	44.2	6.4	0.15	34.33	60	116.1	57.4	0.49	30.7	248.5	9.89	16.81	1.70	6.27	4.05	126.42
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	98.5	22.3	0.23	49.5	170.5	287	189	0.66	181.7	117.3	397.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	188	72	0.38	63	376	7.21	3.39	0.47	4.6	3.0	195.9
E-coli	MPN/100ml	MPN	12,891	6,535	0.51	4,860	3.2.E+04	3.0.E+14	1.4.E+14	0.47	1.1.E+14	8.4.E+14	7,488	10,856	1.45	4.74E+13	3.06E+13	3.74E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	36.360	17.923	0.493	9.297	77.23	0.023	0.006	0.28	14.3	9.26	60.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	731.1	339.38	0.464	188.68	1454.7	0.099	0.064	0.65	62.7	40.5	834.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	31.369	13.592	0.433	8.515	62.516	0.016	0.010	0.65	10.17	6.57	48.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	272.37	144.47	0.530	64.63	621.28	0.002	0.002	0.85	1.38	0.89	274.64

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

DEER CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0537	0.0051	0.10	0.0461	0.065	0.030	0.013	0.43	0.009	0.059	0.0553	0.0415	0.75	0.010	0.007	0.046
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.05	0.55	0.27	0.88	3.33	4.29	2.17	0.51	0.80	0.51	3.36
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.260	0.062	0.24	0.126	0.447	0.392	0.362	0.92	0.073	0.047	0.380
Zn-D	µg/L	Kg	33.4	2.23	0.07	30.31	37.6	18.0	7.0	0.39	6.0	35.8	22.1	30.2	1.37	4.11	2.65	24.79
Hg-T	ng/L	grams	32.1	4.2	0.13	25.10	41	14.9	6.6	0.44	5.1	32.7	9.89	16.81	1.70	1.84	1.19	17.97
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	23.3	5.3	0.23	11.7	40.4	287	189	0.66	53.3	34.4	111.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	45	17	0.38	15	89	7.21	3.39	0.47	1.3	0.9	46.8
E-coli	MPN/100ml	MPN	9,700	4,775	0.49	3,560	2.3.E+04	5.0.E+13	2.3.E+13	0.46	2.1.E+13	1.4.E+14	7,488	10,856	1.45	1.39E+13	8.98E+12	7.28E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	8.615	4.247	0.493	2.203	18.30	0.023	0.006	0.28	4.2	2.71	15.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	173.2	80.41	0.464	44.70	344.7	0.099	0.064	0.65	18.4	11.9	203.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	7.432	3.221	0.433	2.018	14.812	0.016	0.010	0.65	2.98	1.92	12.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	64.53	34.23	0.530	15.31	147.20	0.002	0.002	0.85	0.40	0.26	65.20

DIABLO CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0512	0.0047	0.09	0.0442	0.061	0.045	0.019	0.43	0.014	0.089	0.0553	0.0415	0.75	0.012	0.007	0.064
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.28	0.89	0.27	1.41	5.33	4.29	2.17	0.51	0.89	0.58	4.75
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.416	0.099	0.24	0.202	0.715	0.392	0.362	0.92	0.082	0.053	0.551
Zn-D	µg/L	Kg	32.5	2.07	0.06	29.64	36.3	27.8	10.8	0.39	9.3	55.3	22.1	30.2	1.37	4.61	2.97	35.39
Hg-T	ng/L	grams	33.9	4.4	0.13	26.78	44	26.3	11.8	0.45	8.7	57.8	9.89	16.81	1.70	2.06	1.33	29.70
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	37.3	8.4	0.23	18.8	64.6	287	189	0.66	59.7	38.5	135.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	71	27	0.38	24	142	7.21	3.39	0.47	1.5	1.0	73.9
E-coli	MPN/100ml	MPN	10,208	5,044	0.49	3,770	2.4.E+04	8.5.E+13	3.9.E+13	0.46	3.4.E+13	2.4.E+14	7,488	10,856	1.45	1.56E+13	1.01E+13	1.11E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	13.776	6.791	0.493	3.522	29.26	0.023	0.006	0.28	4.7	3.04	21.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	277.0	128.59	0.464	71.49	551.2	0.099	0.064	0.65	20.6	13.3	310.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	11.885	5.150	0.433	3.226	23.686	0.016	0.010	0.65	3.34	2.16	17.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	103.20	54.74	0.530	24.49	235.39	0.002	0.002	0.85	0.45	0.29	103.94

DRY CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0481	0.0042	0.09	0.0414	0.057	0.063	0.026	0.42	0.020	0.125	0.0553	0.0415	0.75	0.025	0.016	0.104
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.99	1.35	0.27	2.15	8.11	4.29	2.17	0.51	1.94	1.25	8.18
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.633	0.151	0.24	0.307	1.087	0.392	0.362	0.92	0.177	0.114	0.925
Zn-D	µg/L	Kg	31.2	1.88	0.06	28.65	34.7	40.3	15.6	0.39	13.6	80.0	22.1	30.2	1.37	10.00	6.46	56.74
Hg-T	ng/L	grams	36.6	4.9	0.13	29.28	48	46.2	21.0	0.45	14.5	101.8	9.89	16.81	1.70	4.47	2.89	53.61
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	56.7	12.9	0.23	28.5	98.3	287	189	0.66	129.7	83.7	270.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	109	42	0.38	36	216	7.21	3.39	0.47	3.3	2.1	114.0
E-coli	MPN/100ml	MPN	10,975	5,457	0.50	4,085	2.7.E+04	1.4.E+14	6.5.E+13	0.46	5.6.E+13	4.0.E+14	7,488	10,856	1.45	3.38E+13	2.18E+13	1.97E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	20.958	10.331	0.493	5.359	44.51	0.023	0.006	0.28	10.2	6.61	37.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	421.4	195.62	0.464	108.75	838.5	0.099	0.064	0.65	44.7	28.9	495.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	18.081	7.835	0.433	4.908	36.035	0.016	0.010	0.65	7.26	4.68	30.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	157.00	83.27	0.530	37.25	358.11	0.002	0.002	0.85	0.98	0.63	158.61

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

EAST ANTELOPE			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0522	0.0049	0.09	0.0450	0.063	0.039	0.016	0.43	0.012	0.077	0.0553	0.0415	0.75	0.008	0.005	0.052
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.77	0.75	0.27	1.19	4.50	4.29	2.17	0.51	0.64	0.41	3.82
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.351	0.084	0.24	0.170	0.603	0.392	0.362	0.92	0.058	0.038	0.447
Zn-D	µg/L	Kg	32.9	2.14	0.06	29.92	36.8	23.8	9.3	0.39	7.9	47.3	22.1	30.2	1.37	3.28	2.12	29.23
Hg-T	ng/L	grams	33.1	4.3	0.13	26.06	43	21.3	9.5	0.45	7.1	46.8	9.89	16.81	1.70	1.47	0.95	23.74
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	31.5	7.1	0.23	15.8	54.5	287	189	0.66	42.6	27.5	101.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	60	23	0.38	20	120	7.21	3.39	0.47	1.1	0.7	62.0
E-coli	MPN/100ml	MPN	9,992	4,929	0.49	3,681	2.4.E+04	7.0.E+13	3.2.E+13	0.46	2.8.E+13	2.0.E+14	7,488	10,856	1.45	1.11E+13	7.18E+12	8.81E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	11.625	5.730	0.493	2.973	24.69	0.023	0.006	0.28	3.4	2.17	17.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	233.7	108.51	0.464	60.32	465.1	0.099	0.064	0.65	14.7	9.5	257.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	10.029	4.346	0.433	2.723	19.988	0.016	0.010	0.65	2.38	1.54	14.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	87.09	46.19	0.530	20.66	198.64	0.002	0.002	0.85	0.32	0.21	87.62

EAST NATOMAS			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0532	0.0050	0.09	0.0457	0.064	0.033	0.014	0.43	0.010	0.066	0.0553	0.0415	0.75	0.008	0.005	0.045
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.30	0.62	0.27	0.99	3.74	4.29	2.17	0.51	0.59	0.38	3.27
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.292	0.070	0.24	0.142	0.502	0.392	0.362	0.92	0.054	0.035	0.381
Zn-D	µg/L	Kg	33.2	2.20	0.07	30.17	37.3	20.1	7.8	0.39	6.7	39.9	22.1	30.2	1.37	3.04	1.96	25.09
Hg-T	ng/L	grams	32.4	4.2	0.13	25.43	42	17.1	7.6	0.44	5.8	37.5	9.89	16.81	1.70	1.36	0.88	19.34
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	26.2	5.9	0.23	13.2	45.4	287	189	0.66	39.4	25.4	91.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	50	19	0.38	17	100	7.21	3.39	0.47	1.0	0.6	51.8
E-coli	MPN/100ml	MPN	9,801	4,828	0.49	3,602	2.3.E+04	5.7.E+13	2.6.E+13	0.46	2.3.E+13	1.6.E+14	7,488	10,856	1.45	1.03E+13	6.63E+12	7.37E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	9.674	4.768	0.493	2.473	20.55	0.023	0.006	0.28	3.1	2.01	14.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	194.5	90.29	0.464	50.20	387.0	0.099	0.064	0.65	13.6	8.8	216.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	8.346	3.616	0.433	2.265	16.632	0.016	0.010	0.65	2.20	1.42	12.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	72.46	38.44	0.530	17.20	165.29	0.002	0.002	0.85	0.30	0.19	72.95

ELDER CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0473	0.0041	0.09	0.0407	0.056	0.067	0.028	0.42	0.021	0.134	0.0553	0.0415	0.75	0.017	0.011	0.095
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	5.45	1.47	0.27	2.35	8.86	4.29	2.17	0.51	1.33	0.86	7.64
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.692	0.165	0.24	0.335	1.188	0.392	0.362	0.92	0.122	0.079	0.892
Zn-D	µg/L	Kg	30.9	1.83	0.06	28.35	34.3	43.4	16.8	0.39	14.7	86.2	22.1	30.2	1.37	6.87	4.44	54.74
Hg-T	ng/L	grams	37.4	5.0	0.13	29.85	49	52.7	24.0	0.46	16.2	115.9	9.89	16.81	1.70	3.07	1.98	57.74
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	62.0	14.0	0.23	31.2	107.4	287	189	0.66	89.1	57.5	208.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	119	45	0.38	40	237	7.21	3.39	0.47	2.2	1.4	122.4
E-coli	MPN/100ml	MPN	11,195	5,578	0.50	4,175	2.7.E+04	1.6.E+14	7.3.E+13	0.46	6.2.E+13	4.5.E+14	7,488	10,856	1.45	2.32E+13	1.50E+13	1.96E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	22.901	11.289	0.493	5.856	48.64	0.023	0.006	0.28	7.0	4.54	34.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	460.5	213.76	0.464	118.84	916.3	0.099	0.064	0.65	30.7	19.8	511.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	19.757	8.561	0.433	5.363	39.376	0.016	0.010	0.65	4.98	3.22	28.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	171.55	90.99	0.530	40.71	391.31	0.002	0.002	0.85	0.67	0.44	172.66

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

ELK GROVE CREEK			Storms EMC					Storms Mass Loading					Dry Weather Concentration			Dry Weather Inter-Storm Mass Loading	Dry Weather Dry Season Mass Loading	TOTAL Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0415	0.0033	0.08	0.0356	0.049	0.095	0.039	0.41	0.031	0.188	0.0553	0.0415	0.75	0.028	0.018	0.140
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	9.09	2.46	0.27	3.92	14.78	4.29	2.17	0.51	2.14	1.38	12.61
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.154	0.276	0.24	0.559	1.982	0.392	0.362	0.92	0.195	0.126	1.476
Zn-D	µg/L	Kg	28.4	1.52	0.05	26.14	31.3	65.4	25.0	0.38	22.6	129.5	22.1	30.2	1.37	11.02	7.11	83.56
Hg-T	ng/L	grams	45.3	6.7	0.15	35.02	62	128.5	64.8	0.50	33.0	272.6	9.89	16.81	1.70	4.93	3.18	136.56
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	103.4	23.4	0.23	52.0	179.1	287	189	0.66	142.9	92.2	338.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	198	76	0.38	66	395	7.21	3.39	0.47	3.6	2.3	203.9
E-coli	MPN/100ml	MPN	13,148	6,684	0.51	4,962	3.3.E+04	3.2.E+14	1.5.E+14	0.47	1.2.E+14	9.0.E+14	7,488	10,856	1.45	3.73E+13	2.41E+13	3.80E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	38.199	18.829	0.493	9.767	81.13	0.023	0.006	0.28	11.3	7.28	56.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	768.0	356.55	0.464	198.22	1528.3	0.099	0.064	0.65	49.3	31.8	849.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	32.955	14.280	0.433	8.946	65.678	0.016	0.010	0.65	7.99	5.16	46.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	286.15	151.78	0.530	67.90	652.70	0.002	0.002	0.85	1.08	0.70	287.93

FAIR OAKS STREAM GROUP			Storms EMC					Storms Mass Loading					Dry Weather Concentration			Dry Weather Inter-Storm Mass Loading	Dry Weather Dry Season Mass Loading	TOTAL Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0300	0.0024	0.08	0.0254	0.035	0.129	0.051	0.40	0.045	0.251	0.0553	0.0415	0.75	0.071	0.046	0.246
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	18.67	5.05	0.27	8.04	30.36	4.29	2.17	0.51	5.49	3.54	27.70
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	2.370	0.566	0.24	1.148	4.070	0.392	0.362	0.92	0.501	0.323	3.195
Zn-D	µg/L	Kg	23.1	1.12	0.05	21.35	24.9	104.1	38.8	0.37	37.6	203.7	22.1	30.2	1.37	28.27	18.25	150.57
Hg-T	ng/L	grams	113.4	74.5	0.66	57.52	355	1976.1	3073.3	1.56	116.7	12162.2	9.89	16.81	1.70	12.64	8.16	1996.88
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	212.4	48.1	0.23	106.8	367.8	287	189	0.66	366.5	236.6	815.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	406	156	0.38	136	810	7.21	3.39	0.47	9.2	6.0	421.7
E-coli	MPN/100ml	MPN	20,937	11,703	0.56	7,428	5.8.E+04	1.1.E+15	5.8.E+14	0.51	3.4.E+14	3.2.E+15	7,488	10,856	1.45	9.57E+13	6.18E+13	1.29E+15
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	78.444	38.667	0.493	20.058	166.61	0.023	0.006	0.28	28.9	18.68	126.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1577.2	732.20	0.464	407.05	3138.5	0.099	0.064	0.65	126.4	81.6	1785.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	67.675	29.325	0.433	18.371	134.874	0.016	0.010	0.65	20.51	13.24	101.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	587.62	311.69	0.530	139.44	1340.36	0.002	0.002	0.85	2.77	1.79	592.19

FLORIN CREEK			Storms EMC					Storms Mass Loading					Dry Weather Concentration			Dry Weather Inter-Storm Mass Loading	Dry Weather Dry Season Mass Loading	TOTAL Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0441	0.0037	0.08	0.0379	0.052	0.083	0.034	0.42	0.027	0.165	0.0553	0.0415	0.75	0.022	0.014	0.118
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	7.37	1.99	0.27	3.17	11.98	4.29	2.17	0.51	1.67	1.08	10.12
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.936	0.224	0.24	0.453	1.606	0.392	0.362	0.92	0.153	0.099	1.187
Zn-D	µg/L	Kg	29.5	1.65	0.06	27.16	32.7	55.6	21.3	0.38	19.0	110.3	22.1	30.2	1.37	8.63	5.57	69.83
Hg-T	ng/L	grams	41.2	5.7	0.14	32.41	55	85.8	40.6	0.47	24.3	186.9	9.89	16.81	1.70	3.86	2.49	92.20
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	83.8	19.0	0.23	42.1	145.2	287	189	0.66	111.9	72.2	267.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	160	61	0.38	54	320	7.21	3.39	0.47	2.8	1.8	165.1
E-coli	MPN/100ml	MPN	12,173	6,124	0.50	4,572	3.0.E+04	2.4.E+14	1.1.E+14	0.46	8.9.E+13	6.7.E+14	7,488	10,856	1.45	2.92E+13	1.88E+13	2.84E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	30.961	15.261	0.493	7.916	65.76	0.023	0.006	0.28	8.8	5.70	45.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	622.5	288.99	0.464	160.66	1238.7	0.099	0.064	0.65	38.6	24.9	686.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	26.710	11.574	0.433	7.251	53.233	0.016	0.010	0.65	6.26	4.04	37.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	231.93	123.02	0.530	55.03	529.02	0.002	0.002	0.85	0.85	0.55	233.32

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G200			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0564	0.0056	0.10	0.0479	0.069	0.012	0.005	0.43	0.003	0.023	0.0553	0.0415	0.75	0.002	0.001	0.015
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.76	0.21	0.27	0.33	1.23	4.29	2.17	0.51	0.17	0.11	1.03
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.096	0.023	0.24	0.047	0.165	0.392	0.362	0.92	0.015	0.010	0.122
Zn-D	µg/L	Kg	34.5	2.42	0.07	31.03	39.3	6.9	2.7	0.39	2.3	13.8	22.1	30.2	1.37	0.87	0.56	8.35
Hg-T	ng/L	grams	30.4	4.0	0.13	23.50	39	5.0	2.2	0.44	1.8	10.9	9.89	16.81	1.70	0.39	0.25	5.66
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	8.6	2.0	0.23	4.3	14.9	287	189	0.66	11.2	7.2	27.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	17	6	0.38	6	33	7.21	3.39	0.47	0.3	0.2	17.0
E-coli	MPN/100ml	MPN	9,200	4,516	0.49	3,352	2.1.E+04	1.7.E+13	7.9.E+12	0.45	7.3.E+12	4.9.E+13	7,488	10,856	1.45	2.93E+12	1.89E+12	2.21E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.186	1.570	0.493	0.815	6.77	0.023	0.006	0.28	0.9	0.57	4.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	64.1	29.74	0.464	16.53	127.5	0.099	0.064	0.65	3.9	2.5	70.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.748	1.191	0.433	0.746	5.477	0.016	0.010	0.65	0.63	0.41	3.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	23.86	12.66	0.530	5.66	54.43	0.002	0.002	0.85	0.08	0.05	24.00

G201			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0443	0.0037	0.08	0.0381	0.052	0.082	0.034	0.42	0.026	0.164	0.0553	0.0415	0.75	0.031	0.020	0.133
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	7.26	1.96	0.27	3.13	11.80	4.29	2.17	0.51	2.42	1.56	11.25
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.922	0.220	0.24	0.446	1.583	0.392	0.362	0.92	0.221	0.143	1.286
Zn-D	µg/L	Kg	29.6	1.66	0.06	27.22	32.8	55.0	21.1	0.38	18.8	109.0	22.1	30.2	1.37	12.48	8.06	75.52
Hg-T	ng/L	grams	41.0	5.7	0.14	32.26	55	83.6	39.4	0.47	23.8	182.3	9.89	16.81	1.70	5.58	3.60	92.82
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	82.6	18.7	0.23	41.5	143.0	287	189	0.66	161.9	104.5	349.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	158	61	0.38	53	315	7.21	3.39	0.47	4.1	2.6	164.8
E-coli	MPN/100ml	MPN	12,114	6,091	0.50	4,548	3.0.E+04	2.3.E+14	1.1.E+14	0.46	8.8.E+13	6.6.E+14	7,488	10,856	1.45	4.22E+13	2.73E+13	3.00E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	30.505	15.036	0.493	7.800	64.79	0.023	0.006	0.28	12.8	8.25	51.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	613.3	284.73	0.464	158.29	1220.5	0.099	0.064	0.65	55.8	36.0	705.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	26.317	11.404	0.433	7.144	52.449	0.016	0.010	0.65	9.06	5.85	41.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	228.51	121.21	0.530	54.22	521.23	0.002	0.002	0.85	1.23	0.79	230.53

G203			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0560	0.0055	0.10	0.0477	0.068	0.014	0.006	0.43	0.004	0.028	0.0553	0.0415	0.75	0.004	0.002	0.020
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.93	0.25	0.27	0.40	1.51	4.29	2.17	0.51	0.28	0.18	1.40
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.118	0.028	0.24	0.057	0.203	0.392	0.362	0.92	0.026	0.017	0.161
Zn-D	µg/L	Kg	34.4	2.39	0.07	30.93	39.1	8.5	3.3	0.39	2.8	16.8	22.1	30.2	1.37	1.46	0.95	10.86
Hg-T	ng/L	grams	30.6	4.0	0.13	23.70	40	6.2	2.7	0.44	2.2	13.6	9.89	16.81	1.70	0.66	0.42	7.32
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	10.6	2.4	0.23	5.3	18.3	287	189	0.66	19.0	12.3	41.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	20	8	0.38	7	40	7.21	3.39	0.47	0.5	0.3	21.0
E-coli	MPN/100ml	MPN	9,265	4,549	0.49	3,379	2.1.E+04	2.1.E+13	9.7.E+12	0.45	9.0.E+12	6.1.E+13	7,488	10,856	1.45	4.96E+12	3.20E+12	2.96E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.908	1.926	0.493	0.999	8.30	0.023	0.006	0.28	1.5	0.97	6.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	78.6	36.48	0.464	20.28	156.4	0.099	0.064	0.65	6.5	4.2	89.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.372	1.461	0.433	0.915	6.720	0.016	0.010	0.65	1.06	0.69	5.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	29.28	15.53	0.530	6.95	66.78	0.002	0.002	0.85	0.14	0.09	29.51

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G204			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0486	0.070	0.004	0.002	0.43	0.001	0.009	0.0553	0.0415	0.75	0.002	0.001	0.008
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.27	0.07	0.27	0.12	0.44	4.29	2.17	0.51	0.16	0.10	0.54
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.035	0.008	0.24	0.017	0.059	0.392	0.362	0.92	0.015	0.009	0.059
Zn-D	µg/L	Kg	34.9	2.49	0.07	31.31	40.0	2.5	1.0	0.39	0.8	5.0	22.1	30.2	1.37	0.82	0.53	3.88
Hg-T	ng/L	grams	29.8	3.9	0.13	22.94	39	1.7	0.8	0.44	0.6	3.8	9.89	16.81	1.70	0.37	0.24	2.35
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.1	0.7	0.23	1.6	5.4	287	189	0.66	10.7	6.9	20.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	6	2	0.38	2	12	7.21	3.39	0.47	0.3	0.2	6.4
E-coli	MPN/100ml	MPN	9,021	4,424	0.49	3,277	2.1.E+04	6.1.E+12	2.7.E+12	0.45	2.6.E+12	1.7.E+13	7,488	10,856	1.45	2.79E+12	1.80E+12	1.07E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.144	0.564	0.493	0.292	2.43	0.023	0.006	0.28	0.8	0.54	2.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	23.0	10.67	0.464	5.93	45.8	0.099	0.064	0.65	3.7	2.4	29.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.987	0.427	0.433	0.268	1.966	0.016	0.010	0.65	0.60	0.39	2.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	8.57	4.54	0.530	2.03	19.54	0.002	0.002	0.85	0.08	0.05	8.70

G205			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.001	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.018	0.005	0.27	0.008	0.029	4.29	2.17	0.51	0.005	0.003	0.03
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.002	0.001	0.24	0.001	0.004	0.392	0.362	0.92	0.000	0.000	0.003
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.45	40.3	0.17	0.07	0.39	0.05	0.33	22.1	30.2	1.37	0.026	0.017	0.21
Hg-T	ng/L	grams	29.5	3.9	0.13	22.65	38	0.11	0.05	0.44	0.04	0.24	9.89	16.81	1.70	0.012	0.008	0.13
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.20	0.05	0.23	0.10	0.35	287	189	0.66	0.343	0.221	0.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.39	0.15	0.38	0.13	0.77	7.21	3.39	0.47	0.009	0.006	0.4
E-coli	MPN/100ml	MPN	8,929	4,376	0.49	3,239	2.0.E+04	3.9.E+11	1.8.E+11	0.45	1.7.E+11	1.1.E+12	7,488	10,856	1.45	8.94E+10	5.77E+10	5.39E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.075	0.037	0.493	0.019	0.16	0.023	0.006	0.28	0.027	0.017	0.12
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1.5	0.70	0.464	0.39	3.0	0.099	0.064	0.65	0.118	0.076	1.70
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.064	0.028	0.433	0.018	0.129	0.016	0.010	0.65	0.019	0.012	0.10
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.56	0.30	0.530	0.13	1.28	0.002	0.002	0.85	0.003	0.002	0.56

G252			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0485	0.0043	0.09	0.0418	0.058	0.060	0.025	0.42	0.019	0.120	0.0553	0.0415	0.75	0.015	0.010	0.085
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.74	1.28	0.27	2.04	7.70	4.29	2.17	0.51	1.17	0.76	6.66
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.602	0.144	0.24	0.291	1.033	0.392	0.362	0.92	0.107	0.069	0.777
Zn-D	µg/L	Kg	31.4	1.90	0.06	28.82	35.0	38.5	14.9	0.39	13.0	76.5	22.1	30.2	1.37	6.03	3.89	48.45
Hg-T	ng/L	grams	36.2	4.8	0.13	28.98	47	43.0	19.5	0.45	13.6	94.6	9.89	16.81	1.70	2.70	1.74	47.41
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	53.9	12.2	0.23	27.1	93.3	287	189	0.66	78.2	50.5	182.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	103	40	0.38	34	206	7.21	3.39	0.47	2.0	1.3	106.4
E-coli	MPN/100ml	MPN	10,858	5,394	0.50	4,037	2.6.E+04	1.3.E+14	6.1.E+13	0.46	5.2.E+13	3.8.E+14	7,488	10,856	1.45	2.04E+13	1.32E+13	1.66E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	19.907	9.813	0.493	5.090	42.28	0.023	0.006	0.28	6.2	3.98	30.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	400.3	185.81	0.464	103.30	796.5	0.099	0.064	0.65	27.0	17.4	444.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	17.174	7.442	0.433	4.662	34.228	0.016	0.010	0.65	4.37	2.82	24.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	149.12	79.10	0.530	35.39	340.15	0.002	0.002	0.85	0.59	0.38	150.10

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G253			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0563	0.0056	0.10	0.0478	0.069	0.012	0.005	0.43	0.004	0.025	0.0553	0.0415	0.75	0.003	0.002	0.018
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.81	0.22	0.27	0.35	1.32	4.29	2.17	0.51	0.24	0.16	1.21
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.103	0.025	0.24	0.050	0.177	0.392	0.362	0.92	0.022	0.014	0.139
Zn-D	µg/L	Kg	34.4	2.41	0.07	31.00	39.2	7.4	2.9	0.39	2.4	14.7	22.1	30.2	1.37	1.25	0.80	9.46
Hg-T	ng/L	grams	30.5	4.0	0.13	23.56	40	5.4	2.4	0.44	1.9	11.7	9.89	16.81	1.70	0.56	0.36	6.32
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	9.2	2.1	0.23	4.6	16.0	287	189	0.66	16.1	10.4	35.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	18	7	0.38	6	35	7.21	3.39	0.47	0.4	0.3	18.4
E-coli	MPN/100ml	MPN	9,220	4,526	0.49	3,360	2.1.E+04	1.9.E+13	8.4.E+12	0.45	7.8.E+12	5.3.E+13	7,488	10,856	1.45	4.21E+12	2.72E+12	2.55E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.414	1.683	0.493	0.873	7.25	0.023	0.006	0.28	1.3	0.82	5.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	68.6	31.87	0.464	17.72	136.6	0.099	0.064	0.65	5.6	3.6	77.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.945	1.276	0.433	0.800	5.870	0.016	0.010	0.65	0.90	0.58	4.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	25.58	13.57	0.530	6.07	58.34	0.002	0.002	0.85	0.12	0.08	25.78

G254			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0570	0.0057	0.10	0.0483	0.070	0.008	0.003	0.43	0.002	0.016	0.0553	0.0415	0.75	0.004	0.003	0.014
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.50	0.14	0.27	0.22	0.82	4.29	2.17	0.51	0.31	0.20	1.01
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.064	0.015	0.24	0.031	0.110	0.392	0.362	0.92	0.028	0.018	0.110
Zn-D	µg/L	Kg	34.7	2.46	0.07	31.17	39.6	4.6	1.8	0.39	1.5	9.2	22.1	30.2	1.37	1.59	1.03	7.26
Hg-T	ng/L	grams	30.1	4.0	0.13	23.20	39	3.3	1.4	0.44	1.2	7.1	9.89	16.81	1.70	0.71	0.46	4.45
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	5.7	1.3	0.23	2.9	9.9	287	189	0.66	20.6	13.3	39.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	11	4	0.38	4	22	7.21	3.39	0.47	0.5	0.3	11.8
E-coli	MPN/100ml	MPN	9,106	4,467	0.49	3,313	2.1.E+04	1.1.E+13	5.2.E+12	0.45	4.8.E+12	3.2.E+13	7,488	10,856	1.45	5.38E+12	3.47E+12	2.02E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.120	1.045	0.493	0.542	4.50	0.023	0.006	0.28	1.6	1.05	4.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	42.6	19.79	0.464	11.00	84.8	0.099	0.064	0.65	7.1	4.6	54.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.829	0.793	0.433	0.496	3.645	0.016	0.010	0.65	1.15	0.74	3.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	15.88	8.42	0.530	3.77	36.23	0.002	0.002	0.85	0.16	0.10	16.14

G255			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0572	0.0058	0.10	0.0484	0.070	0.006	0.003	0.43	0.002	0.012	0.0553	0.0415	0.75	0.001	0.001	0.008
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.39	0.11	0.27	0.17	0.63	4.29	2.17	0.51	0.11	0.07	0.57
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.050	0.012	0.24	0.024	0.085	0.392	0.362	0.92	0.010	0.006	0.066
Zn-D	µg/L	Kg	34.8	2.47	0.07	31.24	39.8	3.6	1.4	0.39	1.2	7.2	22.1	30.2	1.37	0.56	0.36	4.52
Hg-T	ng/L	grams	30.0	3.9	0.13	23.07	39	2.5	1.1	0.44	0.9	5.5	9.89	16.81	1.70	0.25	0.16	2.93
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	4.4	1.0	0.23	2.2	7.7	287	189	0.66	7.3	4.7	16.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	8	3	0.38	3	17	7.21	3.39	0.47	0.2	0.1	8.8
E-coli	MPN/100ml	MPN	9,064	4,446	0.49	3,295	2.1.E+04	8.7.E+12	4.0.E+12	0.45	3.7.E+12	2.5.E+13	7,488	10,856	1.45	1.90E+12	1.22E+12	1.19E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.639	0.808	0.493	0.419	3.48	0.023	0.006	0.28	0.6	0.37	2.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	33.0	15.30	0.464	8.51	65.6	0.099	0.064	0.65	2.5	1.6	37.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.414	0.613	0.433	0.384	2.818	0.016	0.010	0.65	0.41	0.26	2.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	12.28	6.51	0.530	2.91	28.01	0.002	0.002	0.85	0.05	0.04	12.37

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G256			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0574	0.0058	0.10	0.0485	0.070	0.005	0.002	0.43	0.002	0.010	0.0553	0.0415	0.75	0.001	0.001	0.007
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.32	0.09	0.27	0.14	0.52	4.29	2.17	0.51	0.08	0.05	0.46
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.041	0.010	0.24	0.020	0.070	0.392	0.362	0.92	0.007	0.005	0.053
Zn-D	µg/L	Kg	34.9	2.48	0.07	31.28	39.9	3.0	1.2	0.39	1.0	5.9	22.1	30.2	1.37	0.42	0.27	3.66
Hg-T	ng/L	grams	29.9	3.9	0.13	22.99	39	2.1	0.9	0.44	0.7	4.5	9.89	16.81	1.70	0.19	0.12	2.37
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	3.7	0.8	0.23	1.8	6.3	287	189	0.66	5.4	3.5	12.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	7	3	0.38	2	14	7.21	3.39	0.47	0.1	0.1	7.2
E-coli	MPN/100ml	MPN	9,039	4,433	0.49	3,285	2.1.E+04	7.2.E+12	3.3.E+12	0.45	3.0.E+12	2.0.E+13	7,488	10,856	1.45	1.42E+12	9.18E+11	9.52E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.350	0.666	0.493	0.345	2.87	0.023	0.006	0.28	0.4	0.28	2.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	27.2	12.60	0.464	7.01	54.0	0.099	0.064	0.65	1.9	1.2	30.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.165	0.505	0.433	0.316	2.322	0.016	0.010	0.65	0.30	0.20	1.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	10.12	5.37	0.530	2.40	23.07	0.002	0.002	0.85	0.04	0.03	10.18

G257			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0490	0.071	0.001	0.000	0.44	0.000	0.001	0.0553	0.0415	0.75	0.000	0.000	0.001
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.04	0.01	0.27	0.02	0.06	4.29	2.17	0.51	0.01	0.01	0.05
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.005	0.001	0.24	0.002	0.008	0.392	0.362	0.92	0.001	0.001	0.006
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.44	40.3	0.3	0.1	0.39	0.1	0.7	22.1	30.2	1.37	0.05	0.03	0.42
Hg-T	ng/L	grams	29.5	3.9	0.13	22.67	38	0.2	0.1	0.44	0.1	0.5	9.89	16.81	1.70	0.02	0.02	0.26
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.4	0.1	0.23	0.2	0.7	287	189	0.66	0.7	0.4	1.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	1	0	0.38	0	2	7.21	3.39	0.47	0.0	0.0	0.8
E-coli	MPN/100ml	MPN	8,935	4,380	0.49	3,241	2.0.E+04	7.9.E+11	3.6.E+11	0.45	3.3.E+11	2.2.E+12	7,488	10,856	1.45	1.79E+11	1.16E+11	1.08E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.150	0.074	0.493	0.038	0.32	0.023	0.006	0.28	0.1	0.03	0.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	3.0	1.40	0.464	0.78	6.0	0.099	0.064	0.65	0.2	0.2	3.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.129	0.056	0.433	0.035	0.258	0.016	0.010	0.65	0.04	0.02	0.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	1.12	0.60	0.530	0.27	2.56	0.002	0.002	0.85	0.01	0.00	1.13

G258			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0539	0.0051	0.10	0.0462	0.065	0.028	0.012	0.43	0.008	0.056	0.0553	0.0415	0.75	0.007	0.004	0.039
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.92	0.52	0.27	0.83	3.12	4.29	2.17	0.51	0.53	0.34	2.79
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.244	0.058	0.24	0.118	0.419	0.392	0.362	0.92	0.048	0.031	0.323
Zn-D	µg/L	Kg	33.5	2.25	0.07	30.38	37.7	17.0	6.6	0.39	5.6	33.7	22.1	30.2	1.37	2.72	1.76	21.44
Hg-T	ng/L	grams	31.9	4.2	0.13	24.94	41	13.9	6.1	0.44	4.7	30.3	9.89	16.81	1.70	1.22	0.79	15.87
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	21.9	5.0	0.23	11.0	37.9	287	189	0.66	35.3	22.8	79.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	42	16	0.38	14	83	7.21	3.39	0.47	0.9	0.6	43.3
E-coli	MPN/100ml	MPN	9,648	4,748	0.49	3,538	2.3.E+04	4.6.E+13	2.1.E+13	0.46	1.9.E+13	1.3.E+14	7,488	10,856	1.45	9.21E+12	5.95E+12	6.16E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	8.073	3.979	0.493	2.064	17.15	0.023	0.006	0.28	2.8	1.80	12.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	162.3	75.36	0.464	41.89	323.0	0.099	0.064	0.65	12.2	7.9	182.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	6.965	3.018	0.433	1.891	13.881	0.016	0.010	0.65	1.97	1.27	10.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	60.48	32.08	0.530	14.35	137.94	0.002	0.002	0.85	0.27	0.17	60.92

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G259			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0526	0.0049	0.09	0.0453	0.063	0.037	0.016	0.43	0.011	0.073	0.0553	0.0415	0.75	0.006	0.004	0.046
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.60	0.70	0.27	1.12	4.23	4.29	2.17	0.51	0.47	0.30	3.37
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.331	0.079	0.24	0.160	0.568	0.392	0.362	0.92	0.042	0.027	0.400
Zn-D	µg/L	Kg	33.0	2.16	0.07	30.01	36.9	22.5	8.8	0.39	7.5	44.8	22.1	30.2	1.37	2.40	1.55	26.46
Hg-T	ng/L	grams	32.9	4.3	0.13	25.84	42	19.8	8.8	0.44	6.6	43.4	9.89	16.81	1.70	1.07	0.69	21.57
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	29.6	6.7	0.23	14.9	51.3	287	189	0.66	31.1	20.1	80.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	57	22	0.38	19	113	7.21	3.39	0.47	0.8	0.5	58.0
E-coli	MPN/100ml	MPN	9,924	4,893	0.49	3,653	2.3.E+04	6.5.E+13	3.0.E+13	0.46	2.7.E+13	1.9.E+14	7,488	10,856	1.45	8.11E+12	5.24E+12	7.85E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	10.939	5.392	0.493	2.797	23.23	0.023	0.006	0.28	2.5	1.58	15.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	219.9	102.10	0.464	56.76	437.7	0.099	0.064	0.65	10.7	6.9	237.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	9.437	4.089	0.433	2.562	18.808	0.016	0.010	0.65	1.74	1.12	12.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	81.94	43.46	0.530	19.44	186.91	0.002	0.002	0.85	0.24	0.15	82.33

G260			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0572	0.0058	0.10	0.0485	0.070	0.006	0.003	0.43	0.002	0.012	0.0553	0.0415	0.75	0.001	0.001	0.007
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.37	0.10	0.27	0.16	0.60	4.29	2.17	0.51	0.08	0.05	0.50
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.047	0.011	0.24	0.023	0.081	0.392	0.362	0.92	0.007	0.005	0.059
Zn-D	µg/L	Kg	34.8	2.48	0.07	31.25	39.8	3.4	1.4	0.39	1.1	6.8	22.1	30.2	1.37	0.39	0.25	4.08
Hg-T	ng/L	grams	29.9	3.9	0.13	23.05	39	2.4	1.0	0.44	0.8	5.2	9.89	16.81	1.70	0.18	0.11	2.68
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	4.2	1.0	0.23	2.1	7.3	287	189	0.66	5.1	3.3	12.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	8	3	0.38	3	16	7.21	3.39	0.47	0.1	0.1	8.3
E-coli	MPN/100ml	MPN	9,057	4,442	0.49	3,292	2.1.E+04	8.3.E+12	3.8.E+12	0.45	3.5.E+12	2.4.E+13	7,488	10,856	1.45	1.33E+12	8.61E+11	1.05E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.560	0.769	0.493	0.399	3.31	0.023	0.006	0.28	0.4	0.26	2.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	31.4	14.56	0.464	8.10	62.4	0.099	0.064	0.65	1.8	1.1	34.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.346	0.583	0.433	0.365	2.683	0.016	0.010	0.65	0.29	0.18	1.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	11.69	6.20	0.530	2.77	26.66	0.002	0.002	0.85	0.04	0.02	11.75

G261			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0572	0.0058	0.10	0.0484	0.070	0.006	0.003	0.43	0.002	0.012	0.0553	0.0415	0.75	0.001	0.001	0.008
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.39	0.11	0.27	0.17	0.64	4.29	2.17	0.51	0.08	0.05	0.53
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.050	0.012	0.24	0.024	0.086	0.392	0.362	0.92	0.007	0.005	0.062
Zn-D	µg/L	Kg	34.8	2.47	0.07	31.24	39.8	3.6	1.4	0.39	1.2	7.2	22.1	30.2	1.37	0.42	0.27	4.33
Hg-T	ng/L	grams	30.0	3.9	0.13	23.08	39	2.5	1.1	0.44	0.9	5.5	9.89	16.81	1.70	0.19	0.12	2.85
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	4.5	1.0	0.23	2.3	7.8	287	189	0.66	5.4	3.5	13.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	9	3	0.38	3	17	7.21	3.39	0.47	0.1	0.1	8.8
E-coli	MPN/100ml	MPN	9,065	4,446	0.49	3,296	2.1.E+04	8.8.E+12	4.0.E+12	0.45	3.7.E+12	2.5.E+13	7,488	10,856	1.45	1.41E+12	9.08E+11	1.12E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.657	0.817	0.493	0.424	3.52	0.023	0.006	0.28	0.4	0.27	2.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	33.3	15.47	0.464	8.60	66.3	0.099	0.064	0.65	1.9	1.2	36.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.430	0.620	0.433	0.388	2.850	0.016	0.010	0.65	0.30	0.19	1.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	12.42	6.59	0.530	2.95	28.32	0.002	0.002	0.85	0.04	0.03	12.48

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G262			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0570	0.0057	0.10	0.0483	0.070	0.008	0.003	0.43	0.002	0.015	0.0553	0.0415	0.75	0.001	0.001	0.009
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.48	0.13	0.27	0.21	0.79	4.29	2.17	0.51	0.09	0.06	0.63
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.061	0.015	0.24	0.030	0.105	0.392	0.362	0.92	0.008	0.005	0.074
Zn-D	µg/L	Kg	34.7	2.46	0.07	31.18	39.7	4.4	1.8	0.39	1.5	8.8	22.1	30.2	1.37	0.45	0.29	5.18
Hg-T	ng/L	grams	30.1	4.0	0.13	23.18	39	3.1	1.4	0.44	1.1	6.8	9.89	16.81	1.70	0.20	0.13	3.47
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	5.5	1.2	0.23	2.8	9.5	287	189	0.66	5.8	3.7	15.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	11	4	0.38	4	21	7.21	3.39	0.47	0.1	0.1	10.8
E-coli	MPN/100ml	MPN	9,098	4,463	0.49	3,309	2.1.E+04	1.1.E+13	4.9.E+12	0.45	4.6.E+12	3.1.E+13	7,488	10,856	1.45	1.51E+12	9.74E+11	1.34E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.030	1.001	0.493	0.519	4.31	0.023	0.006	0.28	0.5	0.29	2.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	40.8	18.95	0.464	10.54	81.2	0.099	0.064	0.65	2.0	1.3	44.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.752	0.759	0.433	0.475	3.491	0.016	0.010	0.65	0.32	0.21	2.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	15.21	8.07	0.530	3.61	34.69	0.002	0.002	0.85	0.04	0.03	15.28

G263			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0558	0.0055	0.10	0.0475	0.068	0.016	0.007	0.43	0.005	0.032	0.0553	0.0415	0.75	0.004	0.002	0.022
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.05	0.28	0.27	0.45	1.70	4.29	2.17	0.51	0.29	0.19	1.52
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.133	0.032	0.24	0.064	0.228	0.392	0.362	0.92	0.026	0.017	0.176
Zn-D	µg/L	Kg	34.3	2.37	0.07	30.87	38.9	9.5	3.7	0.39	3.1	18.8	22.1	30.2	1.37	1.48	0.95	11.90
Hg-T	ng/L	grams	30.8	4.0	0.13	23.84	40	7.1	3.1	0.44	2.5	15.4	9.89	16.81	1.70	0.66	0.43	8.16
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	11.9	2.7	0.23	6.0	20.6	287	189	0.66	19.2	12.4	43.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	23	9	0.38	8	45	7.21	3.39	0.47	0.5	0.3	23.6
E-coli	MPN/100ml	MPN	9,308	4,571	0.49	3,397	2.2.E+04	2.4.E+13	1.1.E+13	0.45	1.0.E+13	6.9.E+13	7,488	10,856	1.45	5.00E+12	3.23E+12	3.24E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.393	2.165	0.493	1.123	9.33	0.023	0.006	0.28	1.5	0.98	6.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	88.3	41.00	0.464	22.79	175.7	0.099	0.064	0.65	6.6	4.3	99.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.790	1.642	0.433	1.029	7.553	0.016	0.010	0.65	1.07	0.69	5.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	32.91	17.45	0.530	7.81	75.06	0.002	0.002	0.85	0.14	0.09	33.14

G264			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.007	0.0553	0.0415	0.75	0.001	0.000	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.23	0.06	0.27	0.10	0.38	4.29	2.17	0.51	0.04	0.03	0.30
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.029	0.007	0.24	0.014	0.050	0.392	0.362	0.92	0.004	0.002	0.036
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.33	40.0	2.1	0.8	0.39	0.7	4.3	22.1	30.2	1.37	0.21	0.14	2.49
Hg-T	ng/L	grams	29.8	3.9	0.13	22.89	39	1.5	0.6	0.44	0.5	3.2	9.89	16.81	1.70	0.09	0.06	1.63
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.6	0.6	0.23	1.3	4.6	287	189	0.66	2.7	1.8	7.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	10	7.21	3.39	0.47	0.1	0.0	5.2
E-coli	MPN/100ml	MPN	9,006	4,416	0.49	3,271	2.1.E+04	5.1.E+12	2.3.E+12	0.45	2.2.E+12	1.5.E+13	7,488	10,856	1.45	7.13E+11	4.61E+11	6.32E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.972	0.479	0.493	0.249	2.06	0.023	0.006	0.28	0.2	0.14	1.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	19.5	9.07	0.464	5.04	38.9	0.099	0.064	0.65	0.9	0.6	21.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.839	0.363	0.433	0.228	1.672	0.016	0.010	0.65	0.15	0.10	1.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.28	3.86	0.530	1.73	16.61	0.002	0.002	0.85	0.02	0.01	7.32

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G265			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0575	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.008	0.0553	0.0415	0.75	0.001	0.000	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.24	0.06	0.27	0.10	0.39	4.29	2.17	0.51	0.04	0.03	0.30
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.030	0.007	0.24	0.015	0.052	0.392	0.362	0.92	0.004	0.002	0.036
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.32	40.0	2.2	0.9	0.39	0.7	4.4	22.1	30.2	1.37	0.21	0.13	2.55
Hg-T	ng/L	grams	29.8	3.9	0.13	22.90	39	1.5	0.7	0.44	0.5	3.3	9.89	16.81	1.70	0.09	0.06	1.67
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.7	0.6	0.23	1.4	4.7	287	189	0.66	2.7	1.7	7.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	10	7.21	3.39	0.47	0.1	0.0	5.3
E-coli	MPN/100ml	MPN	9,008	4,417	0.49	3,272	2.1.E+04	5.3.E+12	2.4.E+12	0.45	2.2.E+12	1.5.E+13	7,488	10,856	1.45	7.01E+11	4.53E+11	6.45E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.999	0.492	0.493	0.255	2.12	0.023	0.006	0.28	0.2	0.14	1.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	20.1	9.32	0.464	5.18	40.0	0.099	0.064	0.65	0.9	0.6	21.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.862	0.373	0.433	0.234	1.717	0.016	0.010	0.65	0.15	0.10	1.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.48	3.97	0.530	1.78	17.07	0.002	0.002	0.85	0.02	0.01	7.52

G266			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.007	0.0553	0.0415	0.75	0.000	0.000	0.004
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.22	0.06	0.27	0.10	0.36	4.29	2.17	0.51	0.04	0.02	0.28
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.028	0.007	0.24	0.014	0.049	0.392	0.362	0.92	0.003	0.002	0.034
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.33	40.0	2.1	0.8	0.39	0.7	4.1	22.1	30.2	1.37	0.19	0.12	2.38
Hg-T	ng/L	grams	29.8	3.9	0.13	22.88	39	1.4	0.6	0.44	0.5	3.1	9.89	16.81	1.70	0.09	0.06	1.56
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.5	0.6	0.23	1.3	4.4	287	189	0.66	2.5	1.6	6.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	10	7.21	3.39	0.47	0.1	0.0	4.9
E-coli	MPN/100ml	MPN	9,003	4,414	0.49	3,270	2.1.E+04	4.9.E+12	2.2.E+12	0.45	2.1.E+12	1.4.E+13	7,488	10,856	1.45	6.52E+11	4.21E+11	6.02E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.935	0.461	0.493	0.239	1.99	0.023	0.006	0.28	0.2	0.13	1.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	18.8	8.73	0.464	4.85	37.4	0.099	0.064	0.65	0.9	0.6	20.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.807	0.349	0.433	0.219	1.607	0.016	0.010	0.65	0.14	0.09	1.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.00	3.71	0.530	1.66	15.97	0.002	0.002	0.85	0.02	0.01	7.03

G267			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.008	0.002	0.27	0.003	0.013	4.29	2.17	0.51	0.001	0.001	0.01
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.001	0.000	0.24	0.000	0.002	0.392	0.362	0.92	0.000	0.000	0.001
Zn-D	µg/L	Kg	35.1	2.54	0.07	31.46	40.3	0.07	0.03	0.39	0.02	0.15	22.1	30.2	1.37	0.007	0.004	0.09
Hg-T	ng/L	grams	29.5	3.9	0.13	22.64	38	0.05	0.02	0.44	0.02	0.11	9.89	16.81	1.70	0.003	0.002	0.05
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.09	0.02	0.23	0.05	0.16	287	189	0.66	0.089	0.058	0.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.17	0.07	0.38	0.06	0.34	7.21	3.39	0.47	0.002	0.001	0.2
E-coli	MPN/100ml	MPN	8,925	4,375	0.49	3,237	2.0.E+04	1.7.E+11	7.9.E+10	0.45	7.4.E+10	4.9.E+11	7,488	10,856	1.45	2.33E+10	1.51E+10	2.12E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.033	0.016	0.493	0.008	0.07	0.023	0.006	0.28	0.007	0.005	0.04
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.7	0.31	0.464	0.17	1.3	0.099	0.064	0.65	0.031	0.020	0.72
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.029	0.012	0.433	0.008	0.057	0.016	0.010	0.65	0.005	0.003	0.04
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.25	0.13	0.530	0.06	0.57	0.002	0.002	0.85	0.001	0.000	0.25

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G268			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0489	0.071	0.001	0.000	0.43	0.000	0.002	0.0553	0.0415	0.75	0.000	0.000	0.001
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.06	0.02	0.27	0.02	0.09	4.29	2.17	0.51	0.02	0.01	0.08
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.007	0.002	0.24	0.003	0.012	0.392	0.362	0.92	0.001	0.001	0.009
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.43	40.3	0.5	0.2	0.39	0.2	1.0	22.1	30.2	1.37	0.08	0.05	0.66
Hg-T	ng/L	grams	29.6	3.9	0.13	22.69	38	0.4	0.2	0.44	0.1	0.8	9.89	16.81	1.70	0.04	0.02	0.41
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.6	0.1	0.23	0.3	1.1	287	189	0.66	1.0	0.7	2.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	1	0	0.38	0	2	7.21	3.39	0.47	0.0	0.0	1.3
E-coli	MPN/100ml	MPN	8,943	4,384	0.49	3,244	2.1.E+04	1.2.E+12	5.6.E+11	0.45	5.3.E+11	3.5.E+12	7,488	10,856	1.45	2.70E+11	1.74E+11	1.69E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.237	0.117	0.493	0.060	0.50	0.023	0.006	0.28	0.1	0.05	0.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	4.8	2.21	0.464	1.23	9.5	0.099	0.064	0.65	0.4	0.2	5.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.204	0.088	0.433	0.055	0.407	0.016	0.010	0.65	0.06	0.04	0.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	1.77	0.94	0.530	0.42	4.04	0.002	0.002	0.85	0.01	0.01	1.78

G269			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.004	0.002	0.43	0.001	0.007	0.0553	0.0415	0.75	0.001	0.001	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.23	0.06	0.27	0.10	0.38	4.29	2.17	0.51	0.06	0.04	0.33
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.030	0.007	0.24	0.014	0.051	0.392	0.362	0.92	0.005	0.004	0.039
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.33	40.0	2.2	0.9	0.39	0.7	4.3	22.1	30.2	1.37	0.31	0.20	2.68
Hg-T	ng/L	grams	29.8	3.9	0.13	22.89	39	1.5	0.7	0.44	0.5	3.2	9.89	16.81	1.70	0.14	0.09	1.72
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.7	0.6	0.23	1.3	4.6	287	189	0.66	4.0	2.6	9.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	10	7.21	3.39	0.47	0.1	0.1	5.3
E-coli	MPN/100ml	MPN	9,007	4,416	0.49	3,271	2.1.E+04	5.2.E+12	2.4.E+12	0.45	2.2.E+12	1.5.E+13	7,488	10,856	1.45	1.05E+12	6.78E+11	6.93E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.983	0.484	0.493	0.251	2.09	0.023	0.006	0.28	0.3	0.20	1.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	19.8	9.17	0.464	5.10	39.3	0.099	0.064	0.65	1.4	0.9	22.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.848	0.367	0.433	0.230	1.690	0.016	0.010	0.65	0.23	0.15	1.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	7.36	3.90	0.530	1.75	16.79	0.002	0.002	0.85	0.03	0.02	7.41

G270			Storms					Storms					Dry Weather			Dry Weather		TOTAL
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0527	0.0049	0.09	0.0454	0.064	0.035	0.015	0.43	0.011	0.071	0.0553	0.0415	0.75	0.010	0.006	0.051
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.51	0.68	0.27	1.08	4.09	4.29	2.17	0.51	0.74	0.48	3.74
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.319	0.076	0.24	0.154	0.548	0.392	0.362	0.92	0.068	0.044	0.431
Zn-D	µg/L	Kg	33.1	2.17	0.07	30.06	37.0	21.8	8.5	0.39	7.2	43.3	22.1	30.2	1.37	3.83	2.47	28.10
Hg-T	ng/L	grams	32.7	4.3	0.13	25.72	42	19.0	8.4	0.44	6.4	41.6	9.89	16.81	1.70	1.71	1.11	21.80
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	28.6	6.5	0.23	14.4	49.5	287	189	0.66	49.7	32.1	110.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	55	21	0.38	18	109	7.21	3.39	0.47	1.2	0.8	56.8
E-coli	MPN/100ml	MPN	9,887	4,874	0.49	3,637	2.3.E+04	6.3.E+13	2.9.E+13	0.46	2.6.E+13	1.8.E+14	7,488	10,856	1.45	1.30E+13	8.37E+12	8.39E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	10.557	5.204	0.493	2.699	22.42	0.023	0.006	0.28	3.9	2.53	17.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	212.3	98.54	0.464	54.78	422.4	0.099	0.064	0.65	17.1	11.1	240.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	9.108	3.947	0.433	2.472	18.152	0.016	0.010	0.65	2.78	1.79	13.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	79.08	41.95	0.530	18.77	180.39	0.002	0.002	0.85	0.38	0.24	79.70

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

G271			Storms EMC					Storms Mass Loading					Dry Weather Concentration			Dry Weather Inter-Storm Mass Loading	Dry Weather Dry Season Mass Loading	TOTAL Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0580	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.001	0.0553	0.0415	0.75	0.000	0.000	0.001
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.029	0.008	0.27	0.013	0.048	4.29	2.17	0.51	0.019	0.012	0.06
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.004	0.001	0.24	0.002	0.006	0.392	0.362	0.92	0.002	0.001	0.007
Zn-D	µg/L	Kg	35.1	2.53	0.07	31.44	40.3	0.27	0.11	0.39	0.09	0.54	22.1	30.2	1.37	0.097	0.062	0.43
Hg-T	ng/L	grams	29.5	3.9	0.13	22.66	38	0.18	0.08	0.44	0.07	0.40	9.89	16.81	1.70	0.043	0.028	0.26
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.33	0.08	0.23	0.17	0.58	287	189	0.66	1.253	0.809	2.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.64	0.24	0.38	0.21	1.27	7.21	3.39	0.47	0.031	0.020	0.7
E-coli	MPN/100ml	MPN	8,933	4,379	0.49	3,240	2.0.E+04	6.4.E+11	2.9.E+11	0.45	2.7.E+11	1.8.E+12	7,488	10,856	1.45	3.27E+11	2.11E+11	1.18E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.123	0.061	0.493	0.031	0.26	0.023	0.006	0.28	0.099	0.064	0.29
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	2.5	1.15	0.464	0.64	4.9	0.099	0.064	0.65	0.432	0.279	3.18
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.106	0.046	0.433	0.029	0.211	0.016	0.010	0.65	0.070	0.045	0.22
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.92	0.49	0.530	0.22	2.10	0.002	0.002	0.85	0.009	0.006	0.94

G272			Storms EMC					Storms Mass Loading					Dry Weather Concentration			Dry Weather Inter-Storm Mass Loading	Dry Weather Dry Season Mass Loading	TOTAL Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0565	0.0056	0.10	0.0480	0.069	0.011	0.005	0.43	0.003	0.022	0.0553	0.0415	0.75	0.002	0.001	0.013
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.70	0.19	0.27	0.30	1.13	4.29	2.17	0.51	0.12	0.08	0.90
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.089	0.021	0.24	0.043	0.152	0.392	0.362	0.92	0.011	0.007	0.107
Zn-D	µg/L	Kg	34.5	2.43	0.07	31.06	39.4	6.4	2.5	0.39	2.1	12.7	22.1	30.2	1.37	0.64	0.41	7.43
Hg-T	ng/L	grams	30.3	4.0	0.13	23.43	39	4.6	2.0	0.44	1.6	10.0	9.89	16.81	1.70	0.28	0.18	5.07
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	7.9	1.8	0.23	4.0	13.7	287	189	0.66	8.2	5.3	21.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	15	6	0.38	5	30	7.21	3.39	0.47	0.2	0.1	15.5
E-coli	MPN/100ml	MPN	9,177	4,504	0.49	3,342	2.1.E+04	1.6.E+13	7.2.E+12	0.45	6.7.E+12	4.5.E+13	7,488	10,856	1.45	2.15E+12	1.39E+12	1.94E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.931	1.445	0.493	0.749	6.22	0.023	0.006	0.28	0.7	0.42	4.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	58.9	27.36	0.464	15.21	117.3	0.099	0.064	0.65	2.8	1.8	63.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.529	1.096	0.433	0.686	5.039	0.016	0.010	0.65	0.46	0.30	3.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	21.96	11.65	0.530	5.21	50.08	0.002	0.002	0.85	0.06	0.04	22.06

GALT			Storms EMC					Storms Mass Loading					Dry Weather Concentration			Dry Weather Inter-Storm Mass Loading	Dry Weather Dry Season Mass Loading	TOTAL Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0573	0.0058	0.10	0.0485	0.070	0.006	0.003	0.43	0.002	0.012	0.0553	0.0415	0.75	0.003	0.002	0.010
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.37	0.10	0.27	0.16	0.60	4.29	2.17	0.51	0.22	0.14	0.73
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.047	0.011	0.24	0.023	0.081	0.392	0.362	0.92	0.020	0.013	0.080
Zn-D	µg/L	Kg	34.8	2.48	0.07	31.25	39.8	3.4	1.3	0.39	1.1	6.8	22.1	30.2	1.37	1.13	0.73	5.28
Hg-T	ng/L	grams	29.9	3.9	0.13	23.05	39	2.4	1.0	0.44	0.8	5.2	9.89	16.81	1.70	0.50	0.33	3.22
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	4.2	1.0	0.23	2.1	7.3	287	189	0.66	14.6	9.5	28.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	8	3	0.38	3	16	7.21	3.39	0.47	0.4	0.2	8.7
E-coli	MPN/100ml	MPN	9,057	4,442	0.49	3,292	2.1.E+04	8.3.E+12	3.8.E+12	0.45	3.5.E+12	2.4.E+13	7,488	10,856	1.45	3.82E+12	2.47E+12	1.46E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.555	0.766	0.493	0.398	3.30	0.023	0.006	0.28	1.2	0.75	3.5
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	31.3	14.51	0.464	8.07	62.2	0.099	0.064	0.65	5.0	3.3	39.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.342	0.581	0.433	0.364	2.674	0.016	0.010	0.65	0.82	0.53	2.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	11.65	6.18	0.530	2.76	26.57	0.002	0.002	0.85	0.11	0.07	11.83

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

GERBER CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0577	0.0058	0.10	0.0488	0.071	0.003	0.001	0.43	0.001	0.006	0.0553	0.0415	0.75	0.002	0.001	0.007
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.18	0.05	0.27	0.08	0.30	4.29	2.17	0.51	0.18	0.12	0.48
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.023	0.006	0.24	0.011	0.040	0.392	0.362	0.92	0.016	0.011	0.050
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.36	40.1	1.7	0.7	0.39	0.6	3.4	22.1	30.2	1.37	0.92	0.59	3.22
Hg-T	ng/L	grams	29.7	3.9	0.13	22.84	39	1.2	0.5	0.44	0.4	2.5	9.89	16.81	1.70	0.41	0.27	1.85
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.1	0.5	0.23	1.1	3.6	287	189	0.66	11.9	7.7	21.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	2	0.38	1	8	7.21	3.39	0.47	0.3	0.2	4.5
E-coli	MPN/100ml	MPN	8,989	4,407	0.49	3,264	2.1.E+04	4.1.E+12	1.9.E+12	0.45	1.7.E+12	1.2.E+13	7,488	10,856	1.45	3.11E+12	2.01E+12	9.21E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.773	0.381	0.493	0.198	1.64	0.023	0.006	0.28	0.9	0.61	2.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	15.6	7.22	0.464	4.01	30.9	0.099	0.064	0.65	4.1	2.7	22.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.667	0.289	0.433	0.181	1.330	0.016	0.010	0.65	0.67	0.43	1.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	5.79	3.07	0.530	1.37	13.22	0.002	0.002	0.85	0.09	0.06	5.94

HAGGINBOTTOM			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0427	0.0035	0.08	0.0367	0.050	0.089	0.037	0.41	0.029	0.178	0.0553	0.0415	0.75	0.030	0.020	0.139
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	8.28	2.24	0.27	3.57	13.46	4.29	2.17	0.51	2.35	1.52	12.15
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.051	0.251	0.24	0.509	1.804	0.392	0.362	0.92	0.215	0.139	1.404
Zn-D	µg/L	Kg	28.9	1.58	0.05	26.62	32.0	60.9	23.3	0.38	20.9	120.7	22.1	30.2	1.37	12.12	7.83	80.87
Hg-T	ng/L	grams	43.3	6.2	0.14	33.75	59	106.4	51.7	0.49	28.7	229.0	9.89	16.81	1.70	5.42	3.50	115.29
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	94.2	21.3	0.23	47.3	163.1	287	189	0.66	157.2	101.5	352.9
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	180	69	0.38	60	359	7.21	3.39	0.47	4.0	2.6	186.7
E-coli	MPN/100ml	MPN	12,675	6,410	0.51	4,773	3.2.E+04	2.8.E+14	1.3.E+14	0.47	1.0.E+14	7.9.E+14	7,488	10,856	1.45	4.10E+13	2.65E+13	3.45E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	34.776	17.142	0.493	8.892	73.86	0.023	0.006	0.28	12.4	8.01	55.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	699.2	324.60	0.464	180.45	1391.3	0.099	0.064	0.65	54.2	35.0	788.4
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	30.002	13.000	0.433	8.144	59.792	0.016	0.010	0.65	8.80	5.68	44.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	260.50	138.18	0.530	61.82	594.20	0.002	0.002	0.85	1.19	0.77	262.46

HEN CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0549	0.0053	0.10	0.0469	0.067	0.022	0.009	0.43	0.007	0.044	0.0553	0.0415	0.75	0.006	0.004	0.032
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.47	0.40	0.27	0.63	2.38	4.29	2.17	0.51	0.49	0.32	2.27
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.186	0.044	0.24	0.090	0.320	0.392	0.362	0.92	0.045	0.029	0.260
Zn-D	µg/L	Kg	33.9	2.31	0.07	30.63	38.3	13.1	5.1	0.39	4.3	26.1	22.1	30.2	1.37	2.52	1.63	17.27
Hg-T	ng/L	grams	31.3	4.1	0.13	24.36	41	10.2	4.5	0.44	3.5	22.3	9.89	16.81	1.70	1.13	0.73	12.09
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	16.7	3.8	0.23	8.4	28.9	287	189	0.66	32.7	21.1	70.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	32	12	0.38	11	64	7.21	3.39	0.47	0.8	0.5	33.3
E-coli	MPN/100ml	MPN	9,470	4,655	0.49	3,464	2.2.E+04	3.5.E+13	1.6.E+13	0.45	1.4.E+13	9.9.E+13	7,488	10,856	1.45	8.54E+12	5.51E+12	4.87E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	6.162	3.037	0.493	1.576	13.09	0.023	0.006	0.28	2.6	1.67	10.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	123.9	57.51	0.464	31.97	246.5	0.099	0.064	0.65	11.3	7.3	142.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	5.316	2.303	0.433	1.443	10.595	0.016	0.010	0.65	1.83	1.18	8.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	46.16	24.48	0.530	10.95	105.29	0.002	0.002	0.85	0.25	0.16	46.57

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

HOOD			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0578	0.0059	0.10	0.0488	0.071	0.002	0.001	0.43	0.001	0.004	0.0553	0.0415	0.75	0.000	0.000	0.003
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.14	0.04	0.27	0.06	0.22	4.29	2.17	0.51	0.04	0.02	0.20
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.017	0.004	0.24	0.008	0.030	0.392	0.362	0.92	0.003	0.002	0.023
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.38	40.1	1.3	0.5	0.39	0.4	2.5	22.1	30.2	1.37	0.19	0.12	1.58
Hg-T	ng/L	grams	29.7	3.9	0.13	22.78	39	0.9	0.4	0.44	0.3	1.9	9.89	16.81	1.70	0.08	0.05	1.00
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	1.6	0.4	0.23	0.8	2.7	287	189	0.66	2.4	1.6	5.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	3	1	0.38	1	6	7.21	3.39	0.47	0.1	0.0	3.1
E-coli	MPN/100ml	MPN	8,972	4,398	0.49	3,257	2.1.E+04	3.0.E+12	1.4.E+12	0.45	1.3.E+12	8.6.E+12	7,488	10,856	1.45	6.31E+11	4.08E+11	4.07E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.574	0.283	0.493	0.147	1.22	0.023	0.006	0.28	0.2	0.12	0.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	11.5	5.36	0.464	2.98	23.0	0.099	0.064	0.65	0.8	0.5	12.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.495	0.215	0.433	0.134	0.987	0.016	0.010	0.65	0.14	0.09	0.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	4.30	2.28	0.530	1.02	9.81	0.002	0.002	0.85	0.02	0.01	4.33

LAGUNA CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0435	0.0036	0.08	0.0374	0.051	0.086	0.035	0.41	0.028	0.170	0.0553	0.0415	0.75	0.036	0.023	0.145
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	7.73	2.09	0.27	3.33	12.56	4.29	2.17	0.51	2.80	1.80	12.33
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.981	0.234	0.24	0.475	1.684	0.392	0.362	0.92	0.255	0.165	1.401
Zn-D	µg/L	Kg	29.3	1.62	0.06	26.94	32.4	57.8	22.1	0.38	19.8	114.5	22.1	30.2	1.37	14.41	9.30	81.46
Hg-T	ng/L	grams	42.0	5.9	0.14	32.93	57	93.5	44.6	0.48	26.0	202.8	9.89	16.81	1.70	6.44	4.16	104.09
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	87.9	19.9	0.23	44.2	152.2	287	189	0.66	186.8	120.6	395.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	168	64	0.38	56	335	7.21	3.39	0.47	4.7	3.0	176.0
E-coli	MPN/100ml	MPN	12,367	6,234	0.50	4,650	3.1.E+04	2.5.E+14	1.2.E+14	0.47	9.5.E+13	7.1.E+14	7,488	10,856	1.45	4.88E+13	3.15E+13	3.32E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	32.465	16.003	0.493	8.301	68.95	0.023	0.006	0.28	14.7	9.52	56.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	652.7	303.03	0.464	168.46	1298.9	0.099	0.064	0.65	64.4	41.6	758.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	28.008	12.136	0.433	7.603	55.819	0.016	0.010	0.65	10.45	6.75	45.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	243.19	128.99	0.530	57.71	554.72	0.002	0.002	0.85	1.41	0.91	245.52

LINDA CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0515	0.0047	0.09	0.0444	0.062	0.043	0.018	0.43	0.013	0.086	0.0553	0.0415	0.75	0.020	0.013	0.076
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.13	0.85	0.27	1.35	5.08	4.29	2.17	0.51	1.58	1.02	5.72
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.397	0.095	0.24	0.192	0.682	0.392	0.362	0.92	0.144	0.093	0.634
Zn-D	µg/L	Kg	32.6	2.09	0.06	29.73	36.4	26.6	10.4	0.39	8.9	52.9	22.1	30.2	1.37	8.13	5.25	40.02
Hg-T	ng/L	grams	33.6	4.4	0.13	26.56	43	24.8	11.1	0.45	8.2	54.5	9.89	16.81	1.70	3.64	2.35	30.77
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	35.6	8.1	0.23	17.9	61.6	287	189	0.66	105.5	68.1	209.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	68	26	0.38	23	136	7.21	3.39	0.47	2.7	1.7	72.4
E-coli	MPN/100ml	MPN	10,143	5,009	0.49	3,743	2.4.E+04	8.0.E+13	3.7.E+13	0.46	3.3.E+13	2.3.E+14	7,488	10,856	1.45	2.75E+13	1.78E+13	1.26E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	13.137	6.476	0.493	3.359	27.90	0.023	0.006	0.28	8.3	5.37	26.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	264.1	122.62	0.464	68.17	525.6	0.099	0.064	0.65	36.4	23.5	324.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	11.334	4.911	0.433	3.077	22.587	0.016	0.010	0.65	5.90	3.81	21.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	98.41	52.20	0.530	23.35	224.47	0.002	0.002	0.85	0.80	0.52	99.72

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

MAGPIE CREEK			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0428	0.0035	0.08	0.0368	0.050	0.089	0.037	0.41	0.029	0.177	0.0553	0.0415	0.75	0.042	0.027	0.158
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	8.20	2.22	0.27	3.53	13.33	4.29	2.17	0.51	3.28	2.12	13.60
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.041	0.249	0.24	0.504	1.786	0.392	0.362	0.92	0.300	0.193	1.534
Zn-D	µg/L	Kg	29.0	1.59	0.05	26.67	32.0	60.5	23.1	0.38	20.8	119.8	22.1	30.2	1.37	16.91	10.92	88.29
Hg-T	ng/L	grams	43.1	6.2	0.14	33.63	58	104.4	50.6	0.48	28.3	225.0	9.89	16.81	1.70	7.56	4.88	116.82
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	93.2	21.1	0.23	46.9	161.5	287	189	0.66	219.3	141.6	454.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	178	68	0.38	60	356	7.21	3.39	0.47	5.5	3.6	187.5
E-coli	MPN/100ml	MPN	12,629	6,384	0.51	4,755	3.2.E+04	2.7.E+14	1.3.E+14	0.47	1.0.E+14	7.8.E+14	7,488	10,856	1.45	5.72E+13	3.69E+13	3.68E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	34.434	16.973	0.493	8.805	73.14	0.023	0.006	0.28	17.3	11.17	62.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	692.3	321.41	0.464	178.68	1377.7	0.099	0.064	0.65	75.6	48.8	816.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	29.707	12.872	0.433	8.064	59.205	0.016	0.010	0.65	12.27	7.92	49.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	257.95	136.82	0.530	61.21	588.37	0.002	0.002	0.85	1.66	1.07	260.68

MANLOVE			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0489	0.0043	0.09	0.0422	0.058	0.058	0.024	0.42	0.018	0.116	0.0553	0.0415	0.75	0.015	0.010	0.083
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.51	1.22	0.27	1.94	7.33	4.29	2.17	0.51	1.18	0.76	6.45
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.573	0.137	0.24	0.277	0.983	0.392	0.362	0.92	0.108	0.069	0.749
Zn-D	µg/L	Kg	31.6	1.93	0.06	28.97	35.2	36.9	14.3	0.39	12.4	73.3	22.1	30.2	1.37	6.07	3.92	46.90
Hg-T	ng/L	grams	35.8	4.7	0.13	28.64	47	40.1	18.1	0.45	12.7	88.3	9.89	16.81	1.70	2.71	1.75	44.57
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	51.3	11.6	0.23	25.8	88.8	287	189	0.66	78.7	50.8	180.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	98	38	0.38	33	196	7.21	3.39	0.47	2.0	1.3	101.4
E-coli	MPN/100ml	MPN	10,753	5,336	0.50	3,994	2.6.E+04	1.2.E+14	5.7.E+13	0.46	4.9.E+13	3.5.E+14	7,488	10,856	1.45	2.05E+13	1.33E+13	1.58E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	18.947	9.340	0.493	4.845	40.24	0.023	0.006	0.28	6.2	4.01	29.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	381.0	176.85	0.464	98.32	758.1	0.099	0.064	0.65	27.1	17.5	425.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	16.346	7.083	0.433	4.437	32.577	0.016	0.010	0.65	4.40	2.84	23.6
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	141.93	75.28	0.530	33.68	323.75	0.002	0.002	0.85	0.60	0.38	142.91

MARIPOSA CREEK			**Storms**					**Storms**					**Dry Weather**			**Dry Weather**		**TOTAL**
			EMC					Mass Loading					Concentration			Inter-Storm Mass Loading	Dry Season Mass Loading	Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0519	0.0048	0.09	0.0448	0.062	0.040	0.017	0.43	0.012	0.081	0.0553	0.0415	0.75	0.010	0.007	0.057
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.91	0.79	0.27	1.25	4.74	4.29	2.17	0.51	0.79	0.51	4.22
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.370	0.088	0.24	0.179	0.635	0.392	0.362	0.92	0.073	0.047	0.489
Zn-D	µg/L	Kg	32.8	2.12	0.06	29.84	36.7	25.0	9.7	0.39	8.3	49.6	22.1	30.2	1.37	4.09	2.64	31.70
Hg-T	ng/L	grams	33.3	4.4	0.13	26.26	43	22.7	10.1	0.45	7.6	49.8	9.89	16.81	1.70	1.83	1.18	25.71
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	33.1	7.5	0.23	16.7	57.4	287	189	0.66	53.1	34.3	120.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	63	24	0.38	21	126	7.21	3.39	0.47	1.3	0.9	65.6
E-coli	MPN/100ml	MPN	10,053	4,961	0.49	3,706	2.4.E+04	7.4.E+13	3.4.E+13	0.46	3.0.E+13	2.1.E+14	7,488	10,856	1.45	1.38E+13	8.94E+12	9.68E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	12.238	6.032	0.493	3.129	25.99	0.023	0.006	0.28	4.2	2.70	19.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	246.1	114.23	0.464	63.50	489.6	0.099	0.064	0.65	18.3	11.8	276.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	10.558	4.575	0.433	2.866	21.041	0.016	0.010	0.65	2.97	1.92	15.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	91.67	48.62	0.530	21.75	209.10	0.002	0.002	0.85	0.40	0.26	92.33

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

MAYHEW SLOUGH			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0404	0.0032	0.08	0.0346	0.047	0.099	0.041	0.41	0.033	0.197	0.0553	0.0415	0.75	0.032	0.021	0.152
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	9.85	2.66	0.27	4.24	16.01	4.29	2.17	0.51	2.49	1.61	13.94
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.250	0.299	0.24	0.605	2.146	0.392	0.362	0.92	0.227	0.147	1.624
Zn-D	µg/L	Kg	27.9	1.47	0.05	25.72	30.7	69.4	26.4	0.38	24.1	137.3	22.1	30.2	1.37	12.81	8.27	90.48
Hg-T	ng/L	grams	47.4	7.4	0.16	36.27	65	152.8	80.7	0.53	37.3	318.6	9.89	16.81	1.70	5.73	3.70	162.25
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	112.0	25.4	0.23	56.3	194.0	287	189	0.66	166.2	107.3	385.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	214	82	0.38	72	427	7.21	3.39	0.47	4.2	2.7	221.2
E-coli	MPN/100ml	MPN	13,607	6,953	0.51	5,138	3.5.E+04	3.6.E+14	1.7.E+14	0.47	1.3.E+14	1.0.E+15	7,488	10,856	1.45	4.34E+13	2.80E+13	4.31E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	41.363	20.389	0.493	10.576	87.85	0.023	0.006	0.28	13.1	8.47	62.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	831.7	386.09	0.464	214.64	1654.9	0.099	0.064	0.65	57.3	37.0	926.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	35.685	15.463	0.433	9.687	71.119	0.016	0.010	0.65	9.30	6.00	51.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	309.85	164.35	0.530	73.53	706.77	0.002	0.002	0.85	1.26	0.81	311.92

MINNESOTA CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0499	0.0045	0.09	0.0430	0.060	0.052	0.022	0.42	0.016	0.105	0.0553	0.0415	0.75	0.014	0.009	0.075
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	3.99	1.08	0.27	1.72	6.49	4.29	2.17	0.51	1.08	0.70	5.77
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.506	0.121	0.24	0.245	0.869	0.392	0.362	0.92	0.099	0.064	0.669
Zn-D	µg/L	Kg	31.9	1.99	0.06	29.27	35.6	33.1	12.9	0.39	11.1	65.8	22.1	30.2	1.37	5.58	3.60	42.33
Hg-T	ng/L	grams	34.9	4.6	0.13	27.83	45	33.9	15.3	0.45	11.0	74.7	9.89	16.81	1.70	2.50	1.61	38.04
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	45.4	10.3	0.23	22.8	78.6	287	189	0.66	72.4	46.7	164.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	87	33	0.38	29	173	7.21	3.39	0.47	1.8	1.2	89.8
E-coli	MPN/100ml	MPN	10,518	5,209	0.50	3,897	2.5.E+04	1.1.E+14	4.9.E+13	0.46	4.3.E+13	3.0.E+14	7,488	10,856	1.45	1.89E+13	1.22E+13	1.38E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	16.758	8.260	0.493	4.285	35.59	0.023	0.006	0.28	5.7	3.69	26.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	336.9	156.42	0.464	86.96	670.5	0.099	0.064	0.65	25.0	16.1	378.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	14.458	6.265	0.433	3.925	28.814	0.016	0.010	0.65	4.05	2.61	21.1
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	125.54	66.59	0.530	29.79	286.34	0.002	0.002	0.85	0.55	0.35	126.44

MORRISON CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0186	0.0020	0.10	0.0152	0.023	0.130	0.049	0.38	0.049	0.242	0.0553	0.0415	0.75	0.131	0.084	0.346
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	34.35	9.29	0.27	14.80	55.85	4.29	2.17	0.51	10.15	6.55	51.06
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	4.361	1.042	0.24	2.112	7.488	0.392	0.362	0.92	0.927	0.598	5.887
Zn-D	µg/L	Kg	16.8	1.01	0.06	15.38	19.1	130.0	47.1	0.36	49.4	248.0	22.1	30.2	1.37	52.32	33.78	216.11
Hg-T	ng/L	grams	164.1	20.2	0.12	128.58	231	1624.0	694.9	0.43	432.0	3161.4	9.89	16.81	1.70	23.40	15.10	1662.46
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	390.8	88.5	0.23	196.5	676.8	287	189	0.66	678.3	437.9	1507.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	748	287	0.38	250	1491	7.21	3.39	0.47	17.1	11.0	776.0
E-coli	MPN/100ml	MPN	53,401	39,415	0.74	15,207	1.6.E+05	6.1.E+15	4.7.E+15	0.77	1.1.E+15	2.4.E+16	7,488	10,856	1.45	1.77E+14	1.14E+14	6.44E+15
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	144.329	71.143	0.493	36.904	306.55	0.023	0.006	0.28	53.5	34.56	232.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	2901.9	1347.17	0.464	748.94	5774.5	0.099	0.064	0.65	233.9	151.0	3286.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	124.516	53.954	0.433	33.800	248.155	0.016	0.010	0.65	37.96	24.51	187.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	1081.17	573.47	0.530	256.55	2466.12	0.002	0.002	0.85	5.13	3.31	1089.62

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

NATOMAS BASIN			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0539	0.0052	0.10	0.0463	0.065	0.028	0.012	0.43	0.008	0.056	0.0553	0.0415	0.75	0.023	0.015	0.066
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.91	0.52	0.27	0.82	3.11	4.29	2.17	0.51	1.82	1.18	4.92
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.243	0.058	0.24	0.118	0.417	0.392	0.362	0.92	0.166	0.107	0.517
Zn-D	µg/L	Kg	33.6	2.25	0.07	30.38	37.8	16.9	6.6	0.39	5.6	33.6	22.1	30.2	1.37	9.40	6.07	32.36
Hg-T	ng/L	grams	31.9	4.2	0.13	24.93	41	13.8	6.1	0.44	4.7	30.2	9.89	16.81	1.70	4.20	2.71	20.73
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	21.8	4.9	0.23	11.0	37.7	287	189	0.66	121.8	78.7	222.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	42	16	0.38	14	83	7.21	3.39	0.47	3.1	2.0	46.7
E-coli	MPN/100ml	MPN	9,646	4,747	0.49	3,537	2.3.E+04	4.6.E+13	2.1.E+13	0.46	1.9.E+13	1.3.E+14	7,488	10,856	1.45	3.18E+13	2.05E+13	9.86E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	8.044	3.965	0.493	2.057	17.08	0.023	0.006	0.28	9.6	6.21	23.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	161.7	75.08	0.464	41.74	321.8	0.099	0.064	0.65	42.0	27.1	230.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	6.940	3.007	0.433	1.884	13.831	0.016	0.010	0.65	6.82	4.40	18.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	60.26	31.96	0.530	14.30	137.45	0.002	0.002	0.85	0.92	0.60	61.77

NEGRO SLOUGH			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0581	0.0059	0.10	0.0490	0.071	0.000	0.000	0.44	0.000	0.000	0.0553	0.0415	0.75	0.000	0.000	0.000
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.003	0.001	0.27	0.001	0.006	4.29	2.17	0.51	0.001	0.001	0.01
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.000	0.000	0.24	0.000	0.001	0.392	0.362	0.92	0.000	0.000	0.001
Zn-D	µg/L	Kg	35.1	2.54	0.07	31.46	40.3	0.03	0.01	0.39	0.01	0.06	22.1	30.2	1.37	0.005	0.003	0.04
Hg-T	ng/L	grams	29.5	3.9	0.13	22.63	38	0.02	0.01	0.44	0.01	0.05	9.89	16.81	1.70	0.002	0.001	0.03
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	0.04	0.01	0.23	0.02	0.07	287	189	0.66	0.067	0.043	0.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	0.08	0.03	0.38	0.03	0.15	7.21	3.39	0.47	0.002	0.001	0.1
E-coli	MPN/100ml	MPN	8,924	4,374	0.49	3,237	2.0.E+04	7.6.E+10	3.5.E+10	0.45	3.2.E+10	2.2.E+11	7,488	10,856	1.45	1.74E+10	1.13E+10	1.05E+11
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.015	0.007	0.493	0.004	0.03	0.023	0.006	0.28	0.005	0.003	0.02
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	0.3	0.14	0.464	0.08	0.6	0.099	0.064	0.65	0.023	0.015	0.33
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.013	0.005	0.433	0.003	0.025	0.016	0.010	0.65	0.004	0.002	0.02
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	0.11	0.06	0.530	0.03	0.25	0.002	0.002	0.85	0.001	0.000	0.11

NEMDC			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.071	0.003	0.001	0.43	0.001	0.006	0.0553	0.0415	0.75	0.001	0.001	0.005
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.19	0.05	0.27	0.08	0.32	4.29	2.17	0.51	0.11	0.07	0.37
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.025	0.006	0.24	0.012	0.042	0.392	0.362	0.92	0.010	0.006	0.041
Zn-D	µg/L	Kg	35.0	2.51	0.07	31.35	40.1	1.8	0.7	0.39	0.6	3.6	22.1	30.2	1.37	0.56	0.36	2.73
Hg-T	ng/L	grams	29.7	3.9	0.13	22.85	39	1.2	0.5	0.44	0.4	2.7	9.89	16.81	1.70	0.25	0.16	1.65
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.2	0.5	0.23	1.1	3.8	287	189	0.66	7.2	4.7	14.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	4	2	0.38	1	8	7.21	3.39	0.47	0.2	0.1	4.5
E-coli	MPN/100ml	MPN	8,993	4,409	0.49	3,265	2.1.E+04	4.3.E+12	2.0.E+12	0.45	1.8.E+12	1.2.E+13	7,488	10,856	1.45	1.89E+12	1.22E+12	7.43E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.818	0.403	0.493	0.209	1.74	0.023	0.006	0.28	0.6	0.37	1.8
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	16.5	7.64	0.464	4.25	32.7	0.099	0.064	0.65	2.5	1.6	20.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.706	0.306	0.433	0.192	1.407	0.016	0.010	0.65	0.40	0.26	1.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	6.13	3.25	0.530	1.45	13.99	0.002	0.002	0.85	0.05	0.04	6.22

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

NEMDC TRIB 1			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0579	0.0059	0.10	0.0489	0.071	0.001	0.001	0.43	0.000	0.003	0.0553	0.0415	0.75	0.000	0.000	0.002
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.09	0.03	0.27	0.04	0.15	4.29	2.17	0.51	0.03	0.02	0.14
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.012	0.003	0.24	0.006	0.020	0.392	0.362	0.92	0.003	0.002	0.017
Zn-D	µg/L	Kg	35.1	2.52	0.07	31.41	40.2	0.9	0.3	0.39	0.3	1.7	22.1	30.2	1.37	0.16	0.10	1.13
Hg-T	ng/L	grams	29.6	3.9	0.13	22.74	38	0.6	0.3	0.44	0.2	1.3	9.89	16.81	1.70	0.07	0.05	0.71
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	1.1	0.2	0.23	0.5	1.8	287	189	0.66	2.1	1.3	4.5
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	2	1	0.38	1	4	7.21	3.39	0.47	0.1	0.0	2.1
E-coli	MPN/100ml	MPN	8,956	4,390	0.49	3,250	2.1.E+04	2.1.E+12	9.3.E+11	0.45	8.7.E+11	5.9.E+12	7,488	10,856	1.45	5.45E+11	3.52E+11	2.96E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.392	0.193	0.493	0.100	0.83	0.023	0.006	0.28	0.2	0.11	0.7
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	7.9	3.66	0.464	2.03	15.7	0.099	0.064	0.65	0.7	0.5	9.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.338	0.146	0.433	0.092	0.673	0.016	0.010	0.65	0.12	0.08	0.5
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	2.93	1.56	0.530	0.70	6.69	0.002	0.002	0.85	0.02	0.01	2.96

NEMDC TRIB 2			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0568	0.0057	0.10	0.0482	0.069	0.009	0.004	0.43	0.003	0.018	0.0553	0.0415	0.75	0.004	0.003	0.016
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.59	0.16	0.27	0.25	0.96	4.29	2.17	0.51	0.30	0.20	1.09
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.075	0.018	0.24	0.036	0.128	0.392	0.362	0.92	0.028	0.018	0.120
Zn-D	µg/L	Kg	34.6	2.44	0.07	31.13	39.5	5.4	2.1	0.39	1.8	10.7	22.1	30.2	1.37	1.57	1.01	7.98
Hg-T	ng/L	grams	30.2	4.0	0.13	23.30	39	3.8	1.7	0.44	1.3	8.3	9.89	16.81	1.70	0.70	0.45	5.00
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	6.7	1.5	0.23	3.4	11.6	287	189	0.66	20.4	13.1	40.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	13	5	0.38	4	26	7.21	3.39	0.47	0.5	0.3	13.6
E-coli	MPN/100ml	MPN	9,137	4,483	0.49	3,325	2.1.E+04	1.3.E+13	6.0.E+12	0.45	5.6.E+12	3.8.E+13	7,488	10,856	1.45	5.31E+12	3.43E+12	2.21E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.470	1.217	0.493	0.631	5.25	0.023	0.006	0.28	1.6	1.04	5.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	49.7	23.05	0.464	12.81	98.8	0.099	0.064	0.65	7.0	4.5	61.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	2.131	0.923	0.433	0.578	4.246	0.016	0.010	0.65	1.14	0.74	4.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	18.50	9.81	0.530	4.39	42.20	0.002	0.002	0.85	0.15	0.10	18.75

NEMDC TRIB 3			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0560	0.0055	0.10	0.0476	0.068	0.014	0.006	0.43	0.004	0.029	0.0553	0.0415	0.75	0.004	0.002	0.020
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.94	0.25	0.27	0.40	1.52	4.29	2.17	0.51	0.29	0.18	1.41
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.119	0.028	0.24	0.058	0.204	0.392	0.362	0.92	0.026	0.017	0.162
Zn-D	µg/L	Kg	34.3	2.39	0.07	30.93	39.0	8.5	3.3	0.39	2.8	16.9	22.1	30.2	1.37	1.47	0.95	10.94
Hg-T	ng/L	grams	30.6	4.0	0.13	23.71	40	6.3	2.8	0.44	2.2	13.7	9.89	16.81	1.70	0.66	0.43	7.38
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	10.7	2.4	0.23	5.4	18.5	287	189	0.66	19.1	12.3	42.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	20	8	0.38	7	41	7.21	3.39	0.47	0.5	0.3	21.2
E-coli	MPN/100ml	MPN	9,267	4,550	0.49	3,380	2.1.E+04	2.2.E+13	9.8.E+12	0.45	9.0.E+12	6.1.E+13	7,488	10,856	1.45	4.99E+12	3.22E+12	2.98E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	3.938	1.941	0.493	1.007	8.36	0.023	0.006	0.28	1.5	0.97	6.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	79.2	36.75	0.464	20.43	157.5	0.099	0.064	0.65	6.6	4.3	90.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	3.397	1.472	0.433	0.922	6.770	0.016	0.010	0.65	1.07	0.69	5.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	29.50	15.65	0.530	7.00	67.28	0.002	0.002	0.85	0.14	0.09	29.74

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

ROBLA CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0405	0.0032	0.08	0.0347	0.047	0.099	0.041	0.41	0.033	0.196	0.0553	0.0415	0.75	0.038	0.025	0.162
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	9.79	2.65	0.27	4.22	15.91	4.29	2.17	0.51	2.98	1.92	14.69
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.243	0.297	0.24	0.602	2.133	0.392	0.362	0.92	0.272	0.176	1.690
Zn-D	µg/L	Kg	28.0	1.47	0.05	25.75	30.8	69.1	26.3	0.38	23.9	136.7	22.1	30.2	1.37	15.36	9.91	94.36
Hg-T	ng/L	grams	47.2	7.3	0.15	36.17	65	150.8	79.3	0.53	36.9	314.8	9.89	16.81	1.70	6.87	4.43	162.08
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	111.3	25.2	0.23	56.0	192.8	287	189	0.66	199.1	128.5	439.0
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	213	82	0.38	71	425	7.21	3.39	0.47	5.0	3.2	221.3
E-coli	MPN/100ml	MPN	13,571	6,932	0.51	5,126	3.5.E+04	3.6.E+14	1.7.E+14	0.47	1.3.E+14	1.0.E+15	7,488	10,856	1.45	5.20E+13	3.35E+13	4.41E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	41.120	20.269	0.493	10.514	87.34	0.023	0.006	0.28	15.7	10.14	67.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	826.8	383.81	0.464	213.37	1645.2	0.099	0.064	0.65	68.7	44.3	939.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	35.475	15.372	0.433	9.630	70.700	0.016	0.010	0.65	11.14	7.19	53.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	308.03	163.38	0.530	73.09	702.60	0.002	0.002	0.85	1.51	0.97	310.51

SACRAMENTO RIVER			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0554	0.0054	0.10	0.0472	0.067	0.019	0.008	0.43	0.006	0.037	0.0553	0.0415	0.75	0.006	0.004	0.028
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.23	0.33	0.27	0.53	2.00	4.29	2.17	0.51	0.45	0.29	1.97
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.156	0.037	0.24	0.076	0.269	0.392	0.362	0.92	0.041	0.026	0.224
Zn-D	µg/L	Kg	34.1	2.35	0.07	30.76	38.6	11.1	4.4	0.39	3.6	22.1	22.1	30.2	1.37	2.30	1.49	14.89
Hg-T	ng/L	grams	31.0	4.1	0.13	24.07	40	8.5	3.7	0.44	2.9	18.4	9.89	16.81	1.70	1.03	0.66	10.15
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	14.0	3.2	0.23	7.0	24.3	287	189	0.66	29.9	19.3	63.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	27	10	0.38	9	53	7.21	3.39	0.47	0.8	0.5	28.1
E-coli	MPN/100ml	MPN	9,379	4,608	0.49	3,426	2.2.E+04	2.9.E+13	1.3.E+13	0.45	1.2.E+13	8.2.E+13	7,488	10,856	1.45	7.79E+12	5.03E+12	4.16E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	5.177	2.552	0.493	1.324	11.00	0.023	0.006	0.28	2.4	1.52	9.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	104.1	48.33	0.464	26.87	207.1	0.099	0.064	0.65	10.3	6.6	121.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	4.467	1.935	0.433	1.212	8.902	0.016	0.010	0.65	1.67	1.08	7.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	38.78	20.57	0.530	9.20	88.47	0.002	0.002	0.85	0.23	0.15	39.16

SAN JUAN CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0472	0.0041	0.09	0.0406	0.056	0.067	0.028	0.42	0.021	0.135	0.0553	0.0415	0.75	0.016	0.011	0.094
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	5.51	1.49	0.27	2.37	8.95	4.29	2.17	0.51	1.27	0.82	7.60
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.699	0.167	0.24	0.339	1.200	0.392	0.362	0.92	0.116	0.075	0.890
Zn-D	µg/L	Kg	30.8	1.82	0.06	28.32	34.3	43.8	16.9	0.39	14.8	87.0	22.1	30.2	1.37	6.56	4.24	54.61
Hg-T	ng/L	grams	37.5	5.0	0.13	29.92	49	53.5	24.4	0.46	16.4	117.7	9.89	16.81	1.70	2.94	1.90	58.32
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	62.6	14.2	0.23	31.5	108.5	287	189	0.66	85.1	54.9	202.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	120	46	0.38	40	239	7.21	3.39	0.47	2.1	1.4	123.4
E-coli	MPN/100ml	MPN	11,222	5,593	0.50	4,186	2.7.E+04	1.6.E+14	7.4.E+13	0.46	6.2.E+13	4.5.E+14	7,488	10,856	1.45	2.22E+13	1.43E+13	1.96E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	23.135	11.404	0.493	5.916	49.14	0.023	0.006	0.28	6.7	4.34	34.2
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	465.2	215.95	0.464	120.05	925.6	0.099	0.064	0.65	29.4	18.9	513.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	19.959	8.649	0.433	5.418	39.778	0.016	0.010	0.65	4.76	3.07	27.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	173.31	91.93	0.530	41.12	395.31	0.002	0.002	0.85	0.64	0.42	174.37

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

SIERRA BRANCH			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0494	0.0044	0.09	0.0426	0.059	0.055	0.023	0.42	0.017	0.110	0.0553	0.0415	0.75	0.014	0.009	0.077
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.24	1.15	0.27	1.83	6.89	4.29	2.17	0.51	1.05	0.68	5.97
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.538	0.129	0.24	0.261	0.924	0.392	0.362	0.92	0.096	0.062	0.696
Zn-D	µg/L	Kg	31.8	1.96	0.06	29.14	35.4	35.0	13.5	0.39	11.7	69.4	22.1	30.2	1.37	5.41	3.49	43.86
Hg-T	ng/L	grams	35.3	4.7	0.13	28.21	46	36.8	16.6	0.45	11.8	81.1	9.89	16.81	1.70	2.42	1.56	40.79
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	48.2	10.9	0.23	24.2	83.5	287	189	0.66	70.1	45.3	163.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	92	35	0.38	31	184	7.21	3.39	0.47	1.8	1.1	95.2
E-coli	MPN/100ml	MPN	10,629	5,269	0.50	3,943	2.6.E+04	1.2.E+14	5.3.E+13	0.46	4.6.E+13	3.3.E+14	7,488	10,856	1.45	1.83E+13	1.18E+13	1.45E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	17.804	8.776	0.493	4.552	37.81	0.023	0.006	0.28	5.5	3.57	26.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	358.0	166.18	0.464	92.38	712.3	0.099	0.064	0.65	24.2	15.6	397.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	15.360	6.655	0.433	4.169	30.611	0.016	0.010	0.65	3.92	2.53	21.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	133.37	70.74	0.530	31.65	304.21	0.002	0.002	0.85	0.53	0.34	134.24

SIERRA CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0487	0.0043	0.09	0.0419	0.058	0.059	0.025	0.42	0.019	0.118	0.0553	0.0415	0.75	0.016	0.011	0.086
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.64	1.26	0.27	2.00	7.55	4.29	2.17	0.51	1.28	0.82	6.74
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.589	0.141	0.24	0.285	1.012	0.392	0.362	0.92	0.116	0.075	0.781
Zn-D	µg/L	Kg	31.5	1.91	0.06	28.88	35.0	37.9	14.6	0.39	12.7	75.2	22.1	30.2	1.37	6.58	4.24	48.68
Hg-T	ng/L	grams	36.0	4.8	0.13	28.85	47	41.7	18.9	0.45	13.2	91.9	9.89	16.81	1.70	2.94	1.90	46.59
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	52.8	12.0	0.23	26.6	91.4	287	189	0.66	85.3	55.0	193.1
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	101	39	0.38	34	201	7.21	3.39	0.47	2.1	1.4	104.6
E-coli	MPN/100ml	MPN	10,813	5,369	0.50	4,019	2.6.E+04	1.3.E+14	5.9.E+13	0.46	5.1.E+13	3.7.E+14	7,488	10,856	1.45	2.22E+13	1.44E+13	1.65E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	19.502	9.613	0.493	4.987	41.42	0.023	0.006	0.28	6.7	4.34	30.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	392.1	182.03	0.464	101.20	780.3	0.099	0.064	0.65	29.4	19.0	440.5
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	16.825	7.291	0.433	4.567	33.532	0.016	0.010	0.65	4.77	3.08	24.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	146.09	77.49	0.530	34.67	333.23	0.002	0.002	0.85	0.65	0.42	147.15

SRWTP			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0576	0.0058	0.10	0.0487	0.070	0.003	0.002	0.43	0.001	0.007	0.0553	0.0415	0.75	0.000	0.000	0.004
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.22	0.06	0.27	0.09	0.36	4.29	2.17	0.51	0.04	0.02	0.28
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.028	0.007	0.24	0.013	0.048	0.392	0.362	0.92	0.004	0.002	0.034
Zn-D	µg/L	Kg	34.9	2.50	0.07	31.34	40.0	2.0	0.8	0.39	0.7	4.0	22.1	30.2	1.37	0.20	0.13	2.36
Hg-T	ng/L	grams	29.8	3.9	0.13	22.88	39	1.4	0.6	0.44	0.5	3.0	9.89	16.81	1.70	0.09	0.06	1.54
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	2.5	0.6	0.23	1.3	4.3	287	189	0.66	2.6	1.7	6.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	5	2	0.38	2	9	7.21	3.39	0.47	0.1	0.0	4.9
E-coli	MPN/100ml	MPN	9,001	4,414	0.49	3,269	2.1.E+04	4.9.E+12	2.2.E+12	0.45	2.1.E+12	1.4.E+13	7,488	10,856	1.45	6.75E+11	4.36E+11	5.98E+12
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	0.920	0.453	0.493	0.235	1.95	0.023	0.006	0.28	0.2	0.13	1.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	18.5	8.58	0.464	4.77	36.8	0.099	0.064	0.65	0.9	0.6	20.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	0.793	0.344	0.433	0.215	1.581	0.016	0.010	0.65	0.14	0.09	1.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	6.89	3.65	0.530	1.63	15.71	0.002	0.002	0.85	0.02	0.01	6.92

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

STATE			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0570	0.0057	0.10	0.0483	0.070	0.007	0.003	0.43	0.002	0.015	0.0553	0.0415	0.75	0.003	0.002	0.012
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.48	0.13	0.27	0.21	0.78	4.29	2.17	0.51	0.23	0.15	0.86
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.061	0.015	0.24	0.029	0.104	0.392	0.362	0.92	0.021	0.014	0.096
Zn-D	µg/L	Kg	34.7	2.46	0.07	31.19	39.7	4.4	1.7	0.39	1.4	8.8	22.1	30.2	1.37	1.21	0.78	6.39
Hg-T	ng/L	grams	30.1	4.0	0.13	23.17	39	3.1	1.4	0.44	1.1	6.7	9.89	16.81	1.70	0.54	0.35	3.99
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	5.4	1.2	0.23	2.7	9.4	287	189	0.66	15.7	10.1	31.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	10	4	0.38	3	21	7.21	3.39	0.47	0.4	0.3	11.1
E-coli	MPN/100ml	MPN	9,096	4,462	0.49	3,309	2.1.E+04	1.1.E+13	4.9.E+12	0.45	4.5.E+12	3.1.E+13	7,488	10,856	1.45	4.09E+12	2.64E+12	1.75E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	2.009	0.990	0.493	0.514	4.27	0.023	0.006	0.28	1.2	0.80	4.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	40.4	18.75	0.464	10.43	80.4	0.099	0.064	0.65	5.4	3.5	49.3
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.733	0.751	0.433	0.470	3.454	0.016	0.010	0.65	0.88	0.57	3.2
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	15.05	7.98	0.530	3.57	34.33	0.002	0.002	0.85	0.12	0.08	15.24

STRAWBERRY CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0420	0.0034	0.08	0.0361	0.049	0.092	0.038	0.41	0.030	0.183	0.0553	0.0415	0.75	0.032	0.021	0.145
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	8.71	2.36	0.27	3.75	14.16	4.29	2.17	0.51	2.50	1.61	12.82
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	1.106	0.264	0.24	0.536	1.899	0.392	0.362	0.92	0.228	0.147	1.481
Zn-D	µg/L	Kg	28.7	1.55	0.05	26.36	31.6	63.3	24.2	0.38	21.8	125.5	22.1	30.2	1.37	12.87	8.31	84.53
Hg-T	ng/L	grams	44.4	6.5	0.15	34.42	61	117.6	58.3	0.50	31.0	251.5	9.89	16.81	1.70	5.76	3.72	127.11
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	99.1	22.4	0.23	49.8	171.6	287	189	0.66	166.9	107.8	373.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	190	73	0.38	63	378	7.21	3.39	0.47	4.2	2.7	196.6
E-coli	MPN/100ml	MPN	12,924	6,554	0.51	4,873	3.3.E+04	3.0.E+14	1.4.E+14	0.47	1.1.E+14	8.5.E+14	7,488	10,856	1.45	4.36E+13	2.81E+13	3.71E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	36.598	18.040	0.493	9.358	77.73	0.023	0.006	0.28	13.2	8.51	58.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	735.8	341.60	0.464	189.91	1464.2	0.099	0.064	0.65	57.6	37.2	830.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	31.574	13.681	0.433	8.571	62.925	0.016	0.010	0.65	9.34	6.03	46.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	274.15	145.42	0.530	65.05	625.34	0.002	0.002	0.85	1.26	0.82	276.23

STRONG RANCH SLOUGH			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0317	0.0025	0.08	0.0269	0.037	0.126	0.050	0.40	0.044	0.246	0.0553	0.0415	0.75	0.055	0.035	0.216
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	17.01	4.60	0.27	7.33	27.65	4.29	2.17	0.51	4.25	2.74	24.00
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	2.159	0.516	0.24	1.046	3.707	0.392	0.362	0.92	0.388	0.250	2.798
Zn-D	µg/L	Kg	23.9	1.16	0.05	22.10	25.9	99.0	37.0	0.37	35.5	194.2	22.1	30.2	1.37	21.90	14.14	135.00
Hg-T	ng/L	grams	88.5	40.2	0.45	52.32	214	1082.1	1395.3	1.29	96.5	5862.7	9.89	16.81	1.70	9.79	6.32	1098.22
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	193.5	43.8	0.23	97.3	335.1	287	189	0.66	283.9	183.3	660.7
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	370	142	0.38	124	738	7.21	3.39	0.47	7.1	4.6	382.0
E-coli	MPN/100ml	MPN	19,219	10,518	0.55	6,917	5.2.E+04	9.3.E+14	4.7.E+14	0.50	2.9.E+14	2.7.E+15	7,488	10,856	1.45	7.41E+13	4.78E+13	1.05E+15
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	71.458	35.223	0.493	18.271	151.77	0.023	0.006	0.28	22.4	14.47	108.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	1436.8	666.99	0.464	370.80	2859.0	0.099	0.064	0.65	97.9	63.2	1597.9
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	61.649	26.713	0.433	16.735	122.863	0.016	0.010	0.65	15.89	10.26	87.8
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	535.29	283.93	0.530	127.02	1220.99	0.002	0.002	0.85	2.15	1.39	538.83

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

SUNRISE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0537	0.0051	0.10	0.0461	0.065	0.029	0.013	0.43	0.009	0.059	0.0553	0.0415	0.75	0.008	0.005	0.042
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	2.03	0.55	0.27	0.87	3.30	4.29	2.17	0.51	0.58	0.38	2.99
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.258	0.062	0.24	0.125	0.442	0.392	0.362	0.92	0.053	0.034	0.346
Zn-D	µg/L	Kg	33.5	2.23	0.07	30.32	37.6	17.9	7.0	0.39	5.9	35.5	22.1	30.2	1.37	3.01	1.95	22.81
Hg-T	ng/L	grams	32.1	4.2	0.13	25.08	41	14.8	6.5	0.44	5.0	32.3	9.89	16.81	1.70	1.35	0.87	16.99
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	23.1	5.2	0.23	11.6	40.0	287	189	0.66	39.1	25.2	87.4
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	44	17	0.38	15	88	7.21	3.39	0.47	1.0	0.6	45.8
E-coli	MPN/100ml	MPN	9,691	4,771	0.49	3,556	2.3.E+04	4.9.E+13	2.2.E+13	0.46	2.0.E+13	1.4.E+14	7,488	10,856	1.45	1.02E+13	6.58E+12	6.61E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	8.527	4.203	0.493	2.180	18.11	0.023	0.006	0.28	3.1	1.99	13.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	171.4	79.59	0.464	44.25	341.2	0.099	0.064	0.65	13.5	8.7	193.6
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	7.357	3.188	0.433	1.997	14.661	0.016	0.010	0.65	2.19	1.41	11.0
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	63.88	33.88	0.530	15.16	145.70	0.002	0.002	0.85	0.30	0.19	64.36

UNIONHOUSE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0493	0.0044	0.09	0.0425	0.059	0.056	0.023	0.42	0.017	0.111	0.0553	0.0415	0.75	0.014	0.009	0.079
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.29	1.16	0.27	1.85	6.97	4.29	2.17	0.51	1.10	0.71	6.10
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.544	0.130	0.24	0.264	0.934	0.392	0.362	0.92	0.101	0.065	0.710
Zn-D	µg/L	Kg	31.7	1.95	0.06	29.11	35.4	35.3	13.7	0.39	11.9	70.1	22.1	30.2	1.37	5.69	3.68	44.69
Hg-T	ng/L	grams	35.4	4.7	0.13	28.29	46	37.4	16.9	0.45	12.0	82.3	9.89	16.81	1.70	2.55	1.64	41.58
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	48.8	11.0	0.23	24.5	84.4	287	189	0.66	73.8	47.7	170.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	93	36	0.38	31	186	7.21	3.39	0.47	1.9	1.2	96.4
E-coli	MPN/100ml	MPN	10,651	5,281	0.50	3,952	2.6.E+04	1.2.E+14	5.4.E+13	0.46	4.7.E+13	3.3.E+14	7,488	10,856	1.45	1.93E+13	1.24E+13	1.48E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	18.009	8.877	0.493	4.605	38.25	0.023	0.006	0.28	5.8	3.76	27.6
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	362.1	168.10	0.464	93.45	720.5	0.099	0.064	0.65	25.5	16.4	404.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	15.537	6.732	0.433	4.217	30.964	0.016	0.010	0.65	4.13	2.67	22.3
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	134.91	71.56	0.530	32.01	307.72	0.002	0.002	0.85	0.56	0.36	135.82

US			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0571	0.0057	0.10	0.0484	0.070	0.007	0.003	0.43	0.002	0.013	0.0553	0.0415	0.75	0.005	0.003	0.015
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	0.43	0.11	0.27	0.18	0.69	4.29	2.17	0.51	0.38	0.24	1.05
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.054	0.013	0.24	0.026	0.093	0.392	0.362	0.92	0.034	0.022	0.111
Zn-D	µg/L	Kg	34.8	2.47	0.07	31.22	39.7	3.9	1.5	0.39	1.3	7.8	22.1	30.2	1.37	1.95	1.26	7.12
Hg-T	ng/L	grams	30.0	3.9	0.13	23.11	39	2.8	1.2	0.44	1.0	6.0	9.89	16.81	1.70	0.87	0.56	4.18
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	4.8	1.1	0.23	2.4	8.4	287	189	0.66	25.2	16.3	46.3
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	9	4	0.38	3	18	7.21	3.39	0.47	0.6	0.4	10.3
E-coli	MPN/100ml	MPN	9,077	4,452	0.49	3,300	2.1.E+04	9.6.E+12	4.3.E+12	0.45	4.0.E+12	2.7.E+13	7,488	10,856	1.45	6.58E+12	4.25E+12	2.04E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	1.786	0.881	0.493	0.457	3.79	0.023	0.006	0.28	2.0	1.29	5.1
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	35.9	16.67	0.464	9.27	71.5	0.099	0.064	0.65	8.7	5.6	50.2
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	1.541	0.668	0.433	0.418	3.072	0.016	0.010	0.65	1.41	0.91	3.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	13.38	7.10	0.530	3.18	30.52	0.002	0.002	0.85	0.19	0.12	13.70

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

VERDE CRUZ CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0490	0.0043	0.09	0.0422	0.058	0.058	0.024	0.42	0.018	0.115	0.0553	0.0415	0.75	0.016	0.010	0.083
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	4.49	1.21	0.27	1.93	7.30	4.29	2.17	0.51	1.21	0.78	6.48
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.570	0.136	0.24	0.276	0.979	0.392	0.362	0.92	0.110	0.071	0.752
Zn-D	µg/L	Kg	31.6	1.93	0.06	28.98	35.2	36.8	14.2	0.39	12.4	73.0	22.1	30.2	1.37	6.22	4.02	47.02
Hg-T	ng/L	grams	35.8	4.7	0.13	28.61	46	39.9	18.0	0.45	12.7	87.8	9.89	16.81	1.70	2.78	1.80	44.44
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	51.1	11.6	0.23	25.7	88.5	287	189	0.66	80.7	52.1	183.8
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	98	37	0.38	33	195	7.21	3.39	0.47	2.0	1.3	101.1
E-coli	MPN/100ml	MPN	10,744	5,332	0.50	3,990	2.6.E+04	1.2.E+14	5.7.E+13	0.46	4.9.E+13	3.5.E+14	7,488	10,856	1.45	2.11E+13	1.36E+13	1.58E+14
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	18.867	9.300	0.493	4.824	40.07	0.023	0.006	0.28	6.4	4.11	29.3
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	379.3	176.10	0.464	97.90	754.8	0.099	0.064	0.65	27.8	18.0	425.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	16.277	7.053	0.433	4.418	32.439	0.016	0.010	0.65	4.51	2.91	23.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	141.33	74.96	0.530	33.54	322.37	0.002	0.002	0.85	0.61	0.39	142.34

WALNUT GROVE			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0544	0.0052	0.10	0.0466	0.066	0.025	0.011	0.43	0.007	0.049	0.0553	0.0415	0.75	0.014	0.009	0.047
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.67	0.45	0.27	0.72	2.72	4.29	2.17	0.51	1.08	0.70	3.45
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.212	0.051	0.24	0.103	0.365	0.392	0.362	0.92	0.098	0.064	0.374
Zn-D	µg/L	Kg	33.7	2.28	0.07	30.52	38.1	14.9	5.8	0.39	4.9	29.5	22.1	30.2	1.37	5.56	3.59	24.01
Hg-T	ng/L	grams	31.6	4.1	0.13	24.62	41	11.8	5.2	0.44	4.1	25.9	9.89	16.81	1.70	2.48	1.60	15.94
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	19.0	4.3	0.23	9.6	32.9	287	189	0.66	72.0	46.5	137.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	36	14	0.38	12	73	7.21	3.39	0.47	1.8	1.2	39.4
E-coli	MPN/100ml	MPN	9,550	4,697	0.49	3,497	2.2.E+04	4.0.E+13	1.8.E+13	0.45	1.7.E+13	1.1.E+14	7,488	10,856	1.45	1.88E+13	1.21E+13	7.09E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	7.026	3.463	0.493	1.796	14.92	0.023	0.006	0.28	5.7	3.67	16.4
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	141.3	65.58	0.464	36.46	281.1	0.099	0.064	0.65	24.8	16.0	182.1
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	6.061	2.626	0.433	1.645	12.080	0.016	0.010	0.65	4.03	2.60	12.7
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	52.63	27.92	0.530	12.49	120.05	0.002	0.002	0.85	0.55	0.35	53.53

WHITEHOUSE CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0555	0.0054	0.10	0.0473	0.067	0.018	0.008	0.43	0.005	0.035	0.0553	0.0415	0.75	0.004	0.003	0.025
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	1.17	0.32	0.27	0.50	1.90	4.29	2.17	0.51	0.35	0.23	1.74
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	0.148	0.035	0.24	0.072	0.254	0.392	0.362	0.92	0.032	0.021	0.201
Zn-D	µg/L	Kg	34.2	2.36	0.07	30.80	38.7	10.5	4.1	0.39	3.5	20.9	22.1	30.2	1.37	1.80	1.16	13.48
Hg-T	ng/L	grams	30.9	4.1	0.13	23.99	40	8.0	3.5	0.44	2.8	17.3	9.89	16.81	1.70	0.80	0.52	9.29
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	13.3	3.0	0.23	6.7	23.0	287	189	0.66	23.3	15.0	51.6
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	25	10	0.38	8	51	7.21	3.39	0.47	0.6	0.4	26.4
E-coli	MPN/100ml	MPN	9,354	4,595	0.49	3,416	2.2.E+04	2.7.E+13	1.2.E+13	0.45	1.1.E+13	7.7.E+13	7,488	10,856	1.45	6.08E+12	3.92E+12	3.72E+13
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	4.902	2.416	0.493	1.253	10.41	0.023	0.006	0.28	1.8	1.19	7.9
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	98.6	45.76	0.464	25.44	196.1	0.099	0.064	0.65	8.0	5.2	111.8
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	4.229	1.833	0.433	1.148	8.429	0.016	0.010	0.65	1.30	0.84	6.4
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	36.72	19.48	0.530	8.71	83.76	0.002	0.002	0.85	0.18	0.11	37.01

CONTINUOUS SIMULATION RESULTS
ANNUAL AVERAGE STATISTICS BY DRAINAGE AREA

WILLOW CREEK			**Storms** EMC					**Storms** Mass Loading					**Dry Weather** Concentration			**Dry Weather** Inter-Storm Mass Loading	**Dry Weather** Dry Season Mass Loading	**TOTAL** Mass Loading
	Conc. Units	Loading Units	Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Min	Max	Annual Mean	StDev	CV	Annual Mean	Annual Mean	Annual Mean
Cd-D	µg/L	Kg	0.0246	0.0022	0.09	0.0205	0.029	0.135	0.052	0.39	0.049	0.257	0.0553	0.0415	0.75	0.090	0.058	0.283
Cu-D	µg/L	Kg	4.14	0.64	0.16	2.889	5.7	25.04	6.77	0.27	10.79	40.71	4.29	2.17	0.51	7.01	4.52	36.57
Pb-D	µg/L	Kg	0.545	0.126	0.23	0.3149	0.84	3.179	0.760	0.24	1.540	5.458	0.392	0.362	0.92	0.640	0.413	4.232
Zn-D	µg/L	Kg	20.2	1.03	0.05	18.65	22.2	118.8	43.7	0.37	43.9	230.2	22.1	30.2	1.37	36.10	23.31	178.17
Hg-T	ng/L	grams	617.5	1123.0	1.82	84.67	4108	31985.3	75243.8	2.35	228.1	316089.2	9.89	16.81	1.70	16.14	10.42	32011.89
TDS	mg/L	tonnes	52.7	14.3	0.27	25.66	90	284.9	64.5	0.23	143.2	493.3	287	189	0.66	468.1	302.2	1055.2
TSS	mg/L	tonnes	93.4	5.3	0.06	84.3	105	545	209	0.38	182	1087	7.21	3.39	0.47	11.8	7.6	564.5
E-coli	MPN/100ml	MPN	29,715	18,315	0.62	9,843	8.5.E+04	2.3.E+15	1.3.E+15	0.57	5.8.E+14	6.9.E+15	7,488	10,856	1.45	1.22E+14	7.89E+13	2.47E+15
Chlorpyrifos	µg/L	grams	0.0149	0.0022	0.147	0.0114	0.0191	105.205	51.858	0.493	26.900	223.45	0.023	0.006	0.28	36.9	23.85	166.0
Diazinon	µg/L	grams	0.300	0.0348	0.116	0.242	0.370	2115.3	981.99	0.464	545.92	4209.2	0.099	0.064	0.65	161.4	104.2	2381.0
DDT	µg/L	grams	0.0129	0.0010	0.0804	0.0110	0.0151	90.763	39.329	0.433	24.638	180.887	0.016	0.010	0.65	26.19	16.91	133.9
Chrysene	µg/L	grams	0.110	0.0198	0.179	0.0787	0.150	788.10	418.02	0.530	187.01	1797.63	0.002	0.002	0.85	3.54	2.29	793.92

APPENDIX H

Results of Model Sensitivity Analysis

Constituent	EMC unit	Load unit	Adjusted Storms Mean EMC	Model Storms Mean EMC	Percent Change	Adjusted Storms Mean Annual Mass Loading	Model Storms Mean Annual Mass Loading	Percent Change	Adjusted Total Mean Annual Loading	Model Total Mean Annual Loading	Percent Change
Runoff Volume * 1.05 in EML calcs											
Cu-D	µg/L	Kg	4.14	4.14	0%	346	330	5%	597	580	3%
Zn-D	µg/L	Kg	32.0	32.0	0%	2729	2599	5%	4021	3891	3%
TSS	mg/L	tonnes	93.4	93.4	0%	7369	7018	5%	7790	7439	5%
Diazinon	µg/L	grams	0.300	0.300	0%	30552	29098	5%	36328	34873	4%
Event Rainfall *1.05 in EMC calcs											
Cu-D	µg/L	Kg	4.10	4.14	-1%	322	330	-2%	573	580	-1%
Pb-D	µg/L	Kg	0.536	0.545	-2%	40.1	41.5	-4%	62.9	64.4	-2%
Zn-D	µg/L	Kg	31.6	32.0	-1%	2533	2599	-3%	3824	3891	-2%
TDS	mg/L	tonnes	52.1	52.7	-1%	3583	3659	-2%	20328	20404	0%
TSS	mg/L	tonnes	92.6	93.4	-1%	6878	7018	-2%	7299	7439	-2%
Rainfall Event Duration * 1.05 in EMC calcs											
Cu-D	µg/L	Kg	4.18	4.14	1%	335	330	2%	585	580	1%
Pb-D	µg/L	Kg	0.556	0.545	2%	42.9	41.5	3%	65.7	64.4	2%
Zn-D	µg/L	Kg	32.4	32.0	1%	2650	2599	2%	3942	3891	1%
Cum Rainfall to Date *1.05 in EMC calcs											
Cu-D	µg/L	Kg	4.08	4.14	-2%	324	330	-2%	575	580	-1%
Pb-D	µg/L	Kg	0.533	0.545	-2%	40.6	41.5	-2%	63.5	64.4	-2%
TDS	mg/L	tonnes	51.4	52.7	-2%	3563	3659	-3%	20308	20404	0%
E-coli	MPN/100ml	MPN	13,364	13,842	-3%	1.1.E+16	1.1.E+16	-4%	1.54E+16	1.58E+16	-3%
Intercept * 1.05 in EMC calcs											
Cd-D	µg/L	Kg	0.0419	0.0482	-13%	3.39	3.90	-13%	6.61	7.12	-7%
Cu-D	µg/L	Kg	4.52	4.14	9%	359.72	330	9%	610.34	580	5%
Pb-D	µg/L	Kg	0.541	0.545	-1%	41.2	41.5	-1%	64.1	64.4	-1%
Zn-D	µg/L	Kg	38.0	32.0	19%	3084.3	2599	19%	4375.83	3891	12%
TDS	mg/L	tonnes	66.5	52.7	26%	4627.2	3659	26%	21372.6	20404	5%
TSS	mg/L	tonnes	98.9	93.4	6%	7501	7018	7%	7922	7439	6%
E-coli	MPN/100ml	MPN	22,892	13,842	65%	1.9.E+16	1.1.E+16	65%	2.33E+16	1.58E+16	47%
Diazinon	µg/L	grams	0.306	0.300	2%	29740	29098	2%	35516	34873	2%
Residual Error * 1.05 in EMC calcs											
Cu-D	µg/L	Kg	4.17	4.14	1%	331	330	0%	582	580	0%
Zn-D	µg/L	Kg	32.3	32.0	1%	2614	2599	1%	3906	3891	0%
Hg-T	ng/L	grams	51.0	50.5	1%	5154	5097	1%	5732	5675	1%
Chrysene	µg/L	grams	0.110	0.110	0%	10925	10911	0%	11052	11038	0%