

**Appendix J:
 Technical Approach Used to Generate Maximum Daily Loads &
 TMDL Daily Loads and Statistics**

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J.1 SUMMARY

This appendix documents the technical approach used to define maximum daily loads of iron, aluminum, ammonium, nitrate, and sulfate consistent with the average annual TMDL which, when met, will result in the protection of the water quality standard for pH in the Western Maryland watersheds. The approach builds on the modeling analysis that was conducted to determine the loadings of iron, aluminum, ammonium, nitrate, and sulfate that will protect the water quality standard for pH and can be summarized as follows:

- The approach defines maximum daily loads for each of the source categories.
- The approach builds on the TMDL modeling analysis that was conducted to ensure that compliance with average annual loading targets will result in compliance with water quality standards. These average annual loading targets were converted into allowable *daily* values by using the daily time-series loadings developed from the TMDL modeling analysis.
- The approach converts daily time-series loadings into TMDL values in a manner that is consistent with available EPA guidance on generating daily loads for TMDLs.
- The approach uses policy input related to the expected level of resolution and probability level provided by an advisory group led by EPA Region 3.

J.2 INTRODUCTION

This appendix documents the development and application of the approach used to define maximum daily loads on the basis of the average annual TMDLs for pH in the Western Maryland watersheds. It is divided into sections discussing

- Basis for approach
- Options considered
- Selected approach
- Application of approach
- Results of approach

J.3 BASIS FOR APPROACH

The overall approach for development of daily loads was based on the following factors:

- **Daily time-series loadings developed for this TMDL:** This TMDL employs continuous simulation modeling to determine compliance with the applicable water quality standard for pH, producing a time series of daily loads (iron, aluminum, ammonium, nitrate, and sulfate) for the period that was simulated (December 1, 2004–November 30, 2005).
- **Draft EPA guidance on “Developing Daily Loads for Load-based TMDLs:”** This guidance provides options for defining maximum daily loads when using TMDL approaches that generate daily output.¹

¹ *Approaches for Developing a Daily Load Expression for TMDLs Computed for Longer Term Averages*. 2006 Draft guidance document. U.S. Environmental Protection Agency, Washington, DC.

The rationale for developing TMDLs with *daily* load expressions was to accept the existing TMDL development methodology but to then develop a method for converting the resulting daily time series of loadings into maximum *daily* values in a manner consistent with EPA guidance.

J.4 OPTIONS CONSIDERED

The available guidance for developing daily loads does not specify a single allowable approach; it contains a range of options. Selecting a specific method for translating a time-series of allowable loads into expression of a TMDL requires decisions regarding both the level of resolution (e.g., single daily load for all conditions vs. loads that vary with environmental conditions) and the level of probability (of exceedance) associated with the TMDL.

This section describes the range of candidate options that were considered for use in developing maximum daily loads for the Western Maryland watersheds. The section is first divided into discussions corresponding to the two primary decisions required in selecting an approach: (1) Level of Resolution, and (2) Probability Level. It concludes with a discussion of how various options were applied via the calculation of *sample* maximum daily loads.

J.4.1 Level of Resolution

The level of resolution pertains to the amount of detail used in specifying the maximum daily load. The draft EPA guidance on daily loads provides three categories of options for level of resolution, all of which are potentially applicable for the Western Maryland watersheds:

1. **Representative daily load:** In this option, a single daily load (or multiple representative daily loads) is specified that covers all time periods and environmental conditions.
2. **Flow-variable daily load:** This option allows the maximum daily load to vary according to the observed flow condition.
3. **Temporally-variable daily load:** This option allows the maximum daily load to vary according to seasons or times of varying source or waterbody behavior.

J.4.2 Probability Level

Essentially all TMDLs have some probability of being exceeded, with the specific probability being either explicitly stated or implicitly assumed. This level of probability reflects, directly or indirectly, two separate phenomena:

1. Water quality criteria consist of components describing acceptable magnitude, duration, and frequency. The frequency component addresses how often conditions can allowably surpass the combined magnitude and duration components.
2. Pollutant loads, especially from wet-weather sources, typically exhibit a large degree of variability over time. It is rarely practical to specify a *never to be exceeded value* for a daily load, because essentially any loading value has some finite probability of being exceeded.

The draft daily load guidance states that the probability component of the maximum daily load should be “based on a representative statistical measure” that is dependent on the specific TMDL

and best professional judgment of the developers. This statistical measure represents how often the maximum daily load is expected/allowed to be exceeded. The primary options for selecting this level of protection would be

1. **The maximum daily load reflects some central tendency:** In this option, the maximum daily load is based on the mean or median value of the range of loads expected to occur. The variability in the actual loads is not addressed.
2. **The maximum daily load reflects a level of protection implicitly provided by the selection of some *critical* period:** In this option, the maximum daily load is based on the allowable load that is predicted to occur during some critical period examined during the analysis. The developer does not explicitly specify the probability of occurrence.
3. **The maximum daily load is a value that will be exceeded with a pre-defined probability:** In this option, a *reasonable* upper bound percentile is selected for the maximum daily load on the basis of a characterization of the variability of daily loads. For example, selection of the 95th percentile value would result in maximum daily load that would be exceeded 5 percent of the time.

J.5 SELECTED APPROACH

The approach selected for defining a maximum daily load for the Western Maryland watersheds was based on the level of information available.

Approach for Nonpoint Sources

The level of resolution selected for defining a maximum daily load for the Western Maryland watersheds is for a flow-variable daily load for each loading source. This approach was selected to provide the maximum detail possible, given the nature of the system.

The probability level will be based on the use of a critical condition. This approach was selected because it is directly analogous to the approach used in setting the original TMDL and will maintain the policy decisions made during development of that TMDL. The probability level for the annual TMDL determination was based on the use of a critical period approach. For the annual TMDL, the period of December 1, 2004, through November 30, 2005, was selected as representing a range of wet, average, and dry rainfall conditions. The most direct analogy for developing maximum daily loads will be to use the same critical period approach, with the critical period being defined as the highest single daily loading predicted during the same simulation period originally used in the TMDL. The maximum *daily* load for each contributing source is therefore defined as the highest observed (or predicted) daily load for each loading source over the course of the critical period. These maximum daily loads will be calculated for each of the flow strata considered.

J.6 APPLICATION OF APPROACH

This section documents the application of the selected approach to define maximum daily loads for the Western Maryland watersheds.

Calculation Approach for Nonpoint Sources

The specific approach used for application to the Western Maryland TMDLs was

1. Obtained the predicted daily loading time series over the simulation period (December 1, 2004–November 30, 2005) from each contributing source for the recommended TMDL scenario that demonstrates compliance with water quality standards.
2. Conducted a flow duration analysis for the Western Maryland watersheds' flow, dividing flows into 10 duration intervals by percentiles (i.e. 0–10%, 10–20%, 20–30%, 30–40%, 40–50%, 50–60%, 60–70%, 70–80%, 80–90%, and 90–100%).
3. Determined the maximum daily load over this period of simulation for each flow duration interval.
4. Used the maximum daily load obtained in Step 3 as the basis of the maximum daily load.

J.7 RESULTS OF APPROACH

Figures J-1 through J-125 and Tables J-1 through J-125 present the pollutant loadings by flow percentile for each of the impaired waterbody segments in the western Maryland watersheds.

UT to Jennings Run (WM-33/UJN0005) plots and tables

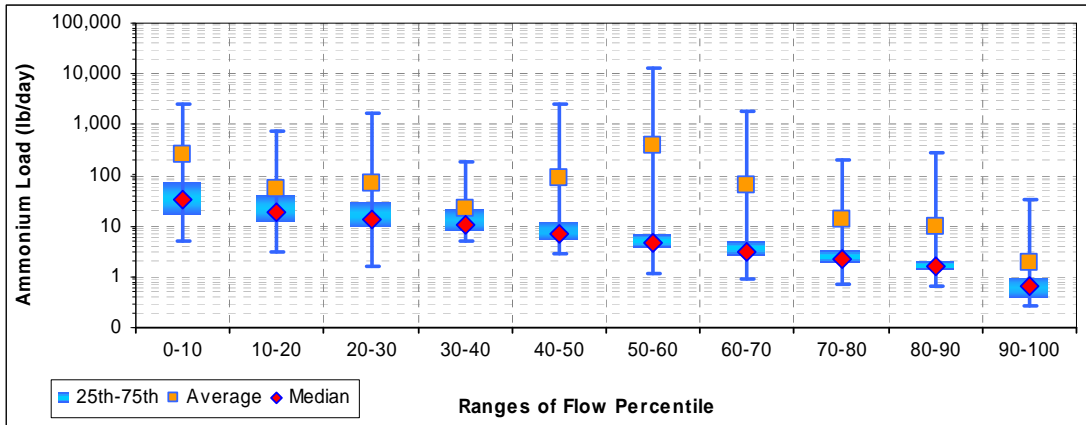


Figure J-1. Ammonium loads by flow percentile for UT to Jennings Run (UJN0005/WM-33)

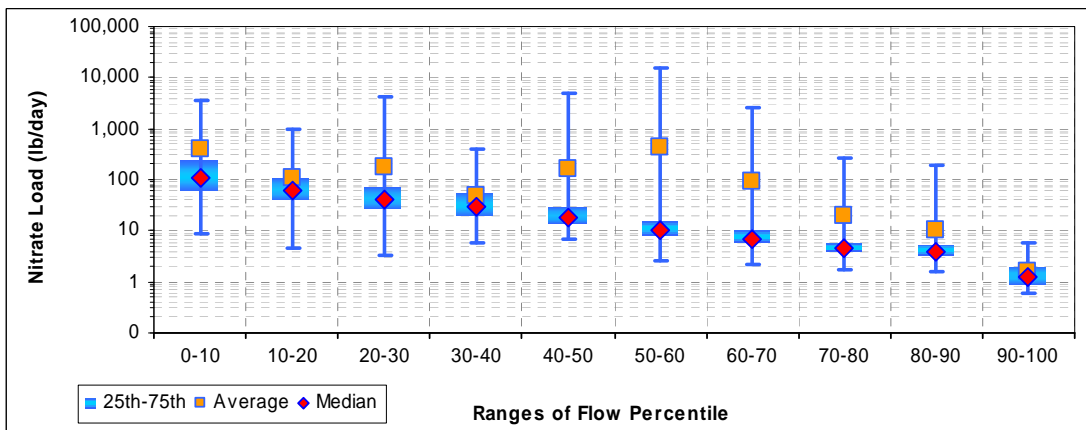


Figure J-2. Nitrate loads by flow percentile for UT to Jennings Run (UJN0005/WM-33)

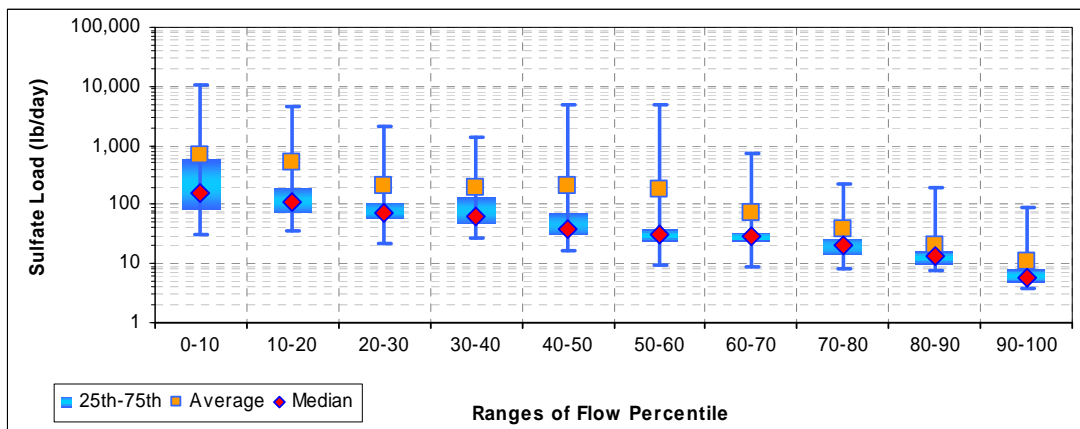


Figure J-3. Sulfate loads by flow percentile for UT to Jennings Run (UJN0005/WM-33)

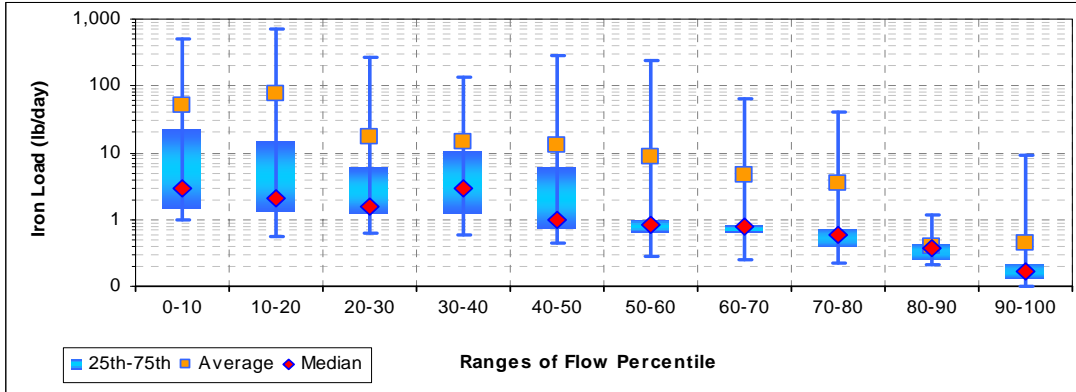


Figure J-4. Iron loads by flow percentile for UT to Jennings Run (UJN0005/WM-33)

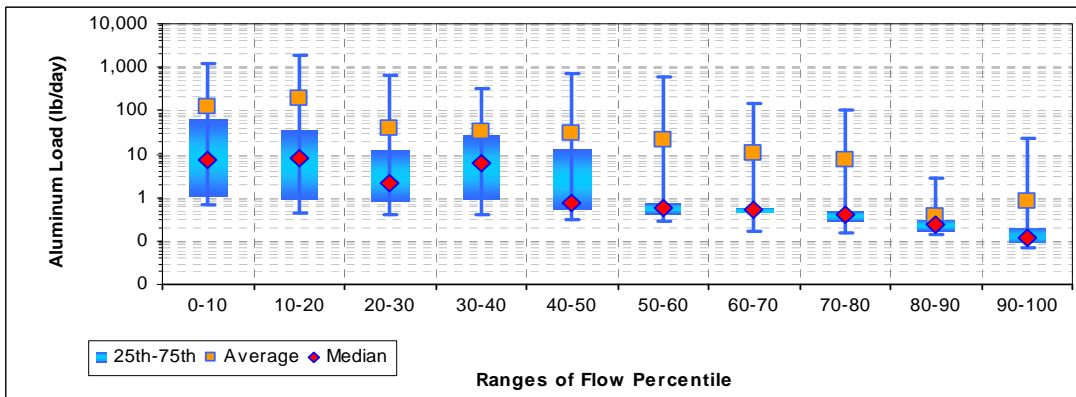


Figure J-5. Aluminum loads by flow percentile for UT to Jennings Run (UJN0005/WM-33)

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Table J-1. Ammonium loads (lb/d) by flow percentile for UT to Jennings Run (UJN0005/WM-33)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	5.2	3.0	1.6	4.9	2.9	1.2	0.9	0.7	0.7	0.3
Average	254.1	52.6	69.6	22.4	86.9	382.3	65.0	13.1	9.7	1.9
Maximum	2,469.3	731.9	1,678.5	182.0	2,497.8	13,314.3	1,887.8	206.8	273.4	33.7
Median	33.2	19.4	13.5	10.3	6.8	4.7	3.1	2.2	1.6	0.7
25th	17.9	12.9	10.1	8.1	5.7	3.5	2.7	1.9	1.3	0.4
75th	72.2	41.4	29.6	22.5	12.4	6.9	5.1	3.4	2.0	1.0

Table J-2. Nitrate loads (lbs/d) by flow percentile for UT to Jennings Run (UJN0005/WM-33)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	9.0	4.4	3.3	5.7	6.7	2.5	2.3	1.7	1.6	0.6
Average	384.9	106.1	172.2	49.5	161.4	449.7	90.1	19.7	10.3	1.6
Maximum	3,512.8	934.8	4,234.1	384.7	4,836.2	15,285.7	2,628.4	264.7	186.3	5.7
Median	106.5	61.6	40.5	30.1	18.1	10.3	6.9	4.6	3.9	1.3
25th	63.6	40.7	28.2	20.3	13.7	7.8	5.6	4.0	3.2	0.9
75th	239.9	112.0	69.4	54.8	30.7	15.1	10.6	5.8	5.4	2.0

Table J-3. Sulfate loads (lbs/d) by flow percentile for UT to Jennings Run (UJN0005/WM-33)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	31	35	22	27	16	9	9	8	8	4
Average	703	530	209	192	210	175	75	38	20	11
Maximum	10,448	4,568	2,092	1,390	5,027	4,824	751	217	199	92
Median	161	110	72	65	39	31	28	21	14	6
25th	85	70	58	48	30	24	24	15	9	5
75th	600	191	114	140	73	39	34	26	17	8

Table J-4. Iron loads (lbs/d) by flow percentile for UT to Jennings Run (UJN0005/WM-33)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1.0	0.5	0.6	0.6	0.4	0.3	0.2	0.2	0.2	0.1
Average	50.9	74.3	17.2	14.4	13.0	8.6	4.7	3.5	0.4	0.4
Maximum	510.4	700.9	274.6	135.8	285.7	240.6	62.7	40.9	1.2	9.1
Median	2.9	2.0	1.6	2.9	1.0	0.8	0.8	0.6	0.4	0.2
25th	1.5	1.3	1.2	1.2	0.7	0.6	0.6	0.4	0.2	0.1
75th	22.5	15.0	6.3	10.8	6.1	1.0	0.8	0.7	0.5	0.2

Table J-5. Aluminum loads (lbs/d) by flow percentile for UT to Jennings Run (UJN0005/WM-33)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	0.7	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1
Average	120.8	182.9	39.5	33.5	30.4	20.6	10.5	7.6	0.4	0.8
Maximum	1,184.0	1,802.0	633.4	329.1	696.3	615.7	151.2	98.7	2.8	24.1
Median	7.6	7.8	2.1	6.0	0.7	0.6	0.5	0.4	0.2	0.1
25th	1.1	0.9	0.8	0.9	0.5	0.4	0.4	0.3	0.2	0.1
75th	66.3	35.9	13.0	27.6	13.5	0.7	0.6	0.5	0.3	0.2

UT to Jennings Run (WM-34/UJH0015) plots and tables

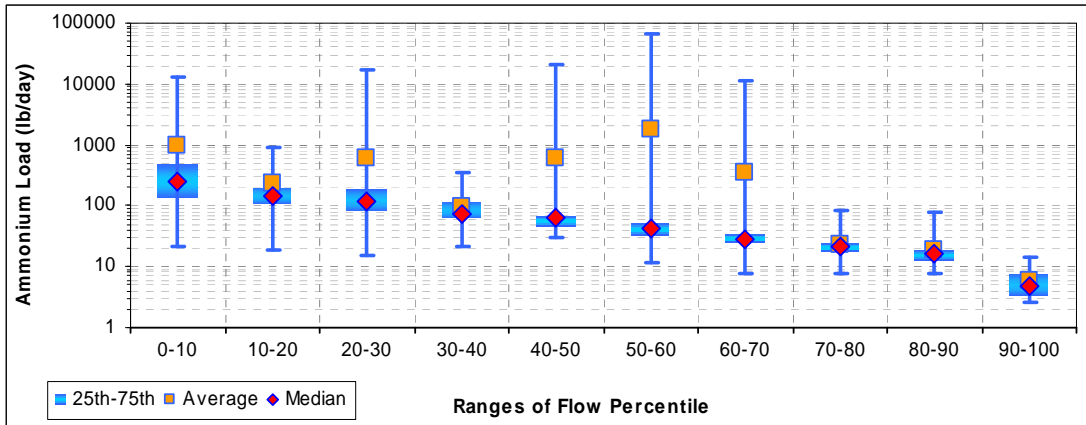


Figure J-6. Ammonium loads by flow percentile for UT to Jennings Run (UJH0015/WM-34)

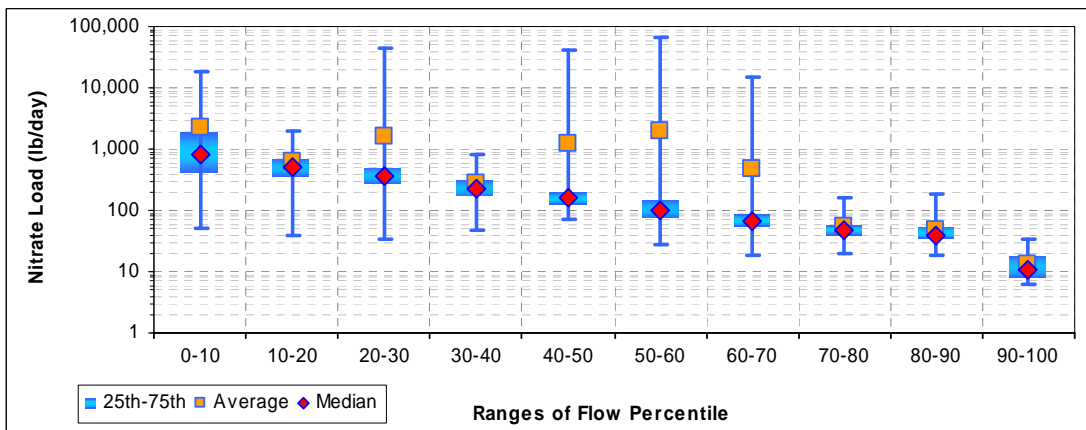


Figure J-7. Nitrate loads by flow percentile for UT to Jennings Run (UJH0015/WM-34)

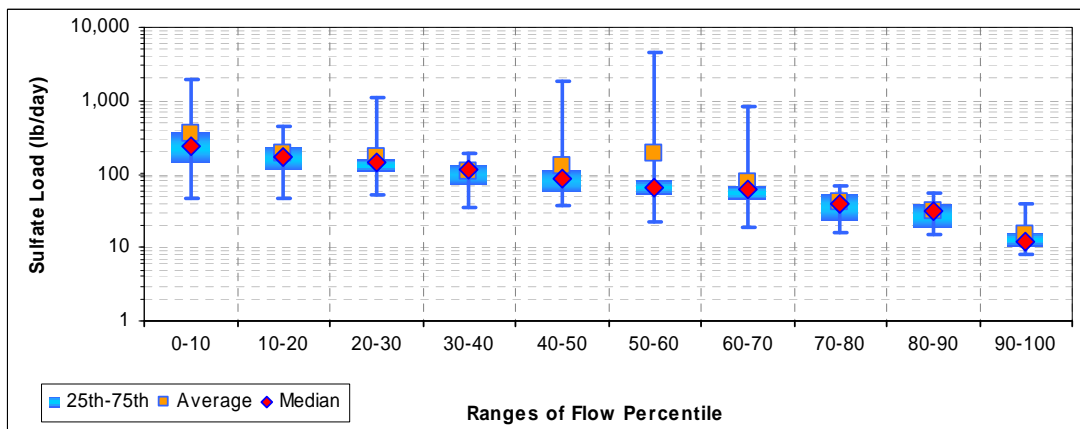


Figure J-8. Sulfate loads by flow percentile for UT to Jennings Run (UJH0015/WM-34)

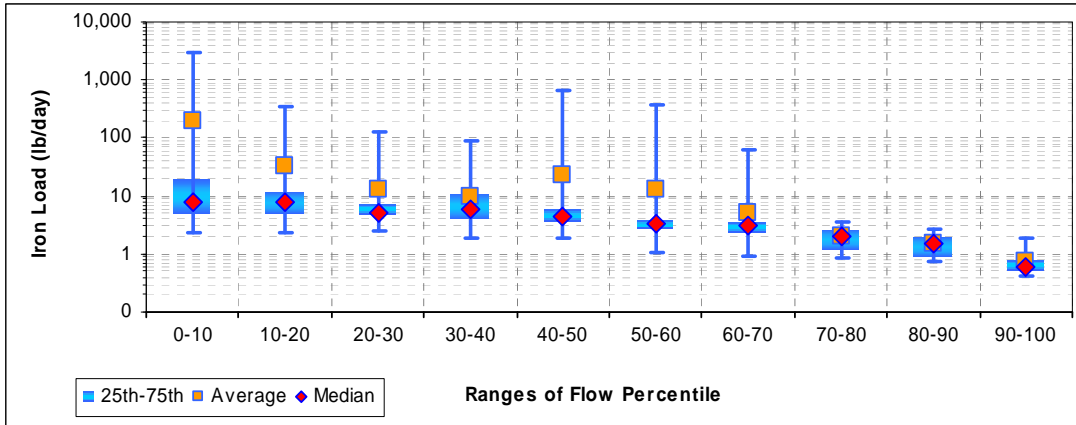


Figure J-9. Iron loads by flow percentile for UT to Jennings Run (UJH0015/WM-34)

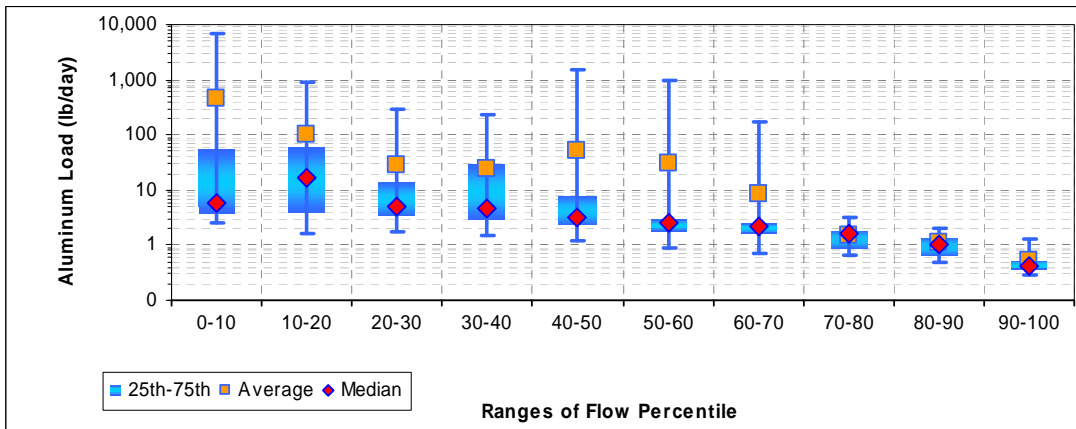


Figure J-10. Aluminum loads by flow percentile for UT to Jennings Run (UJH0015/WM-34)

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Table J-6. Ammonium loads (lb/d) by flow percentile for UT to Jennings Run (UJH0015/WM-34)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	21.9	18.2	15.2	21.7	29.9	11.2	7.6	8.0	7.5	2.7
Average	962.1	225.5	619.2	96.9	609.6	1,840.8	341.9	22.6	18.3	5.9
Maximum	13,134.3	899.0	17,001.6	338.7	20,354.0	64,506.5	11,288.8	82.7	76.2	13.8
Median	250.2	146.0	114.7	75.5	62.4	41.2	28.5	21.3	16.1	4.6
25th	137.0	110.0	84.6	62.3	46.1	32.1	24.4	17.4	12.7	3.3
75th	477.3	200.9	184.5	118.1	70.1	52.4	34.5	25.1	19.0	7.5

Table J-7. Nitrate loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0015/WM-34)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	51.4	39.7	32.8	48.2	71.1	28.2	18.1	20.3	18.7	6.0
Average	2,222.7	612.6	1,576.0	268.5	1,259.9	1,970.5	487.9	52.7	49.0	13.5
Maximum	18,355.0	1,915.5	43,161.7	809.4	40,722.8	66,637.2	15,083.9	162.3	186.2	34.3
Median	832.8	491.7	371.5	219.7	164.2	99.1	67.9	48.9	39.3	10.7
25th	412.4	351.7	281.0	177.6	124.5	78.1	52.7	39.7	33.8	8.3
75th	1,925.6	718.7	519.0	312.1	198.9	147.4	87.3	59.2	52.6	18.1

Table J-8. Sulfate loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0015/WM-34)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	47	47	52	36	37	22	19	16	15	8
Average	356	188	171	106	132	188	76	41	31	15
Maximum	1,972	457	1,083	192	1,865	4,451	815	71	55	39
Median	234	173	148	115	88	65	62	39	32	12
25th	148	115	112	75	58	53	45	24	19	10
75th	387	239	166	133	113	80	69	55	40	16

Table J-9. Iron loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0015/WM-34)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.3	2.3	2.5	1.8	1.8	1.1	0.9	0.9	0.7	0.4
Average	194.2	33.8	12.8	10.0	23.0	13.2	5.1	2.0	1.5	0.7
Maximum	2,960.2	348.1	128.8	90.4	648.4	361.2	64.1	3.5	2.7	1.9
Median	7.9	7.8	5.3	6.0	4.4	3.3	3.1	2.0	1.5	0.6
25th	5.1	5.3	4.7	4.2	3.5	2.6	2.3	1.2	0.9	0.5
75th	20.5	11.6	7.4	11.3	5.9	3.9	3.5	2.8	2.0	0.8

Table J-10. Aluminum loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0015/WM-34)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.5	1.6	1.7	1.5	1.2	0.9	0.7	0.7	0.5	0.3
Average	453.2	104.1	29.0	23.5	51.8	29.9	8.2	1.5	1.1	0.5
Maximum	6,985.9	925.7	293.6	238.6	1,567.9	986.7	171.3	3.3	2.1	1.3
Median	6.0	16.9	4.9	4.7	3.3	2.5	2.2	1.6	1.0	0.4
25th	3.8	3.9	3.5	3.0	2.4	1.8	1.6	0.9	0.6	0.4
75th	54.1	59.6	13.8	29.7	7.6	3.0	2.5	1.9	1.4	0.5

UT to Jennings Run (WM-37/UJF0002) plots and tables

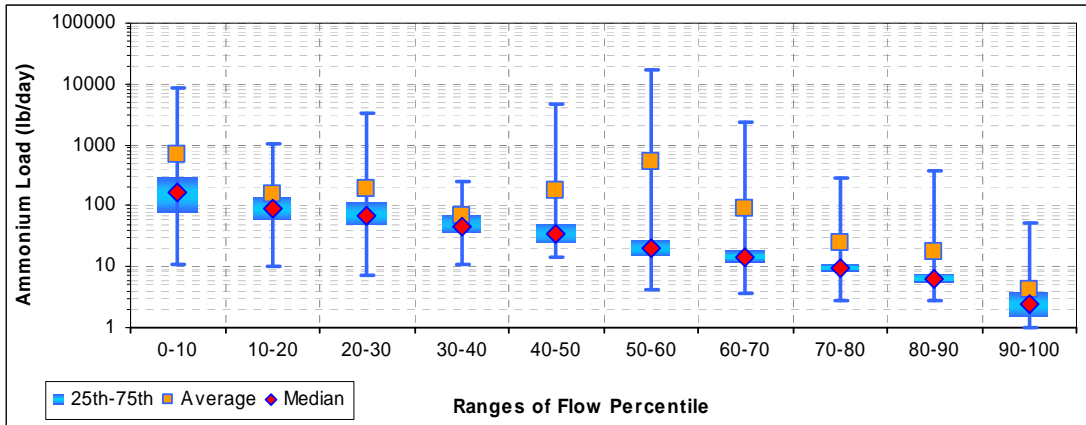


Figure J-11. Ammonium loads by flow percentile for UT to Jennings Run (UJF0002/WM-37)

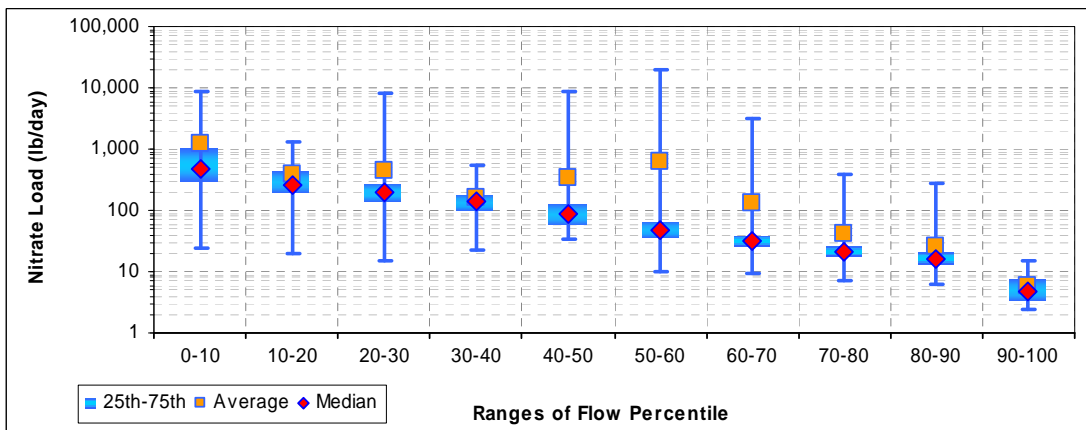


Figure J-12. Nitrate loads by flow percentile for UT to Jennings Run (UJF0002/WM-37)

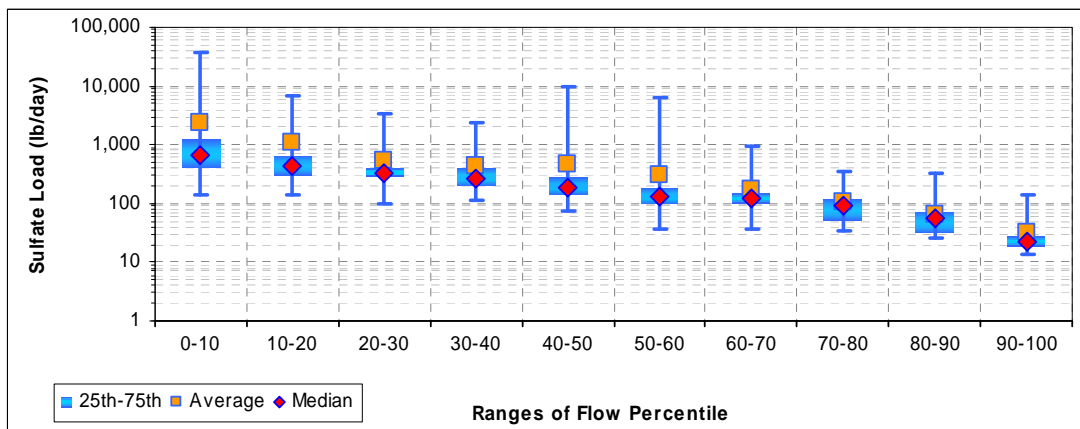


Figure J-13. Sulfate loads by flow percentile for UT to Jennings Run (UJF0002/WM-37)

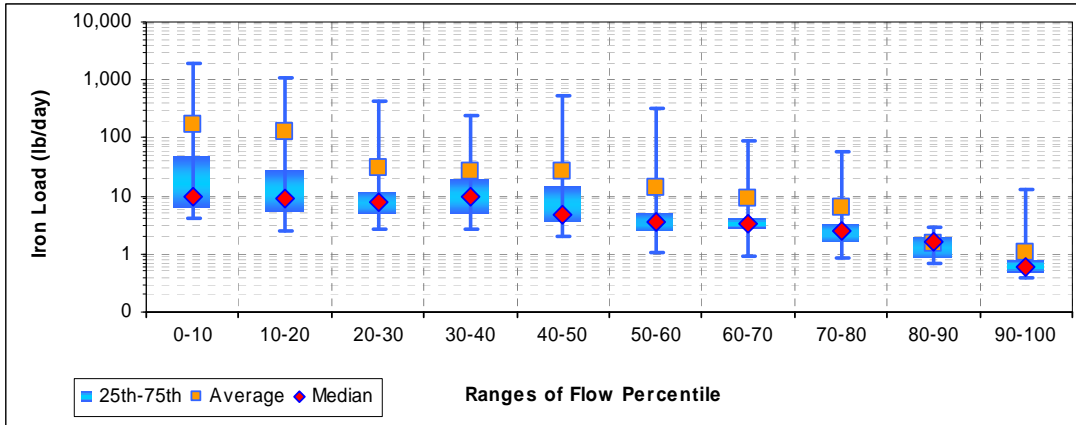


Figure J-14. Iron loads by flow percentile for UT to Jennings Run (UJF0002/WM-37)

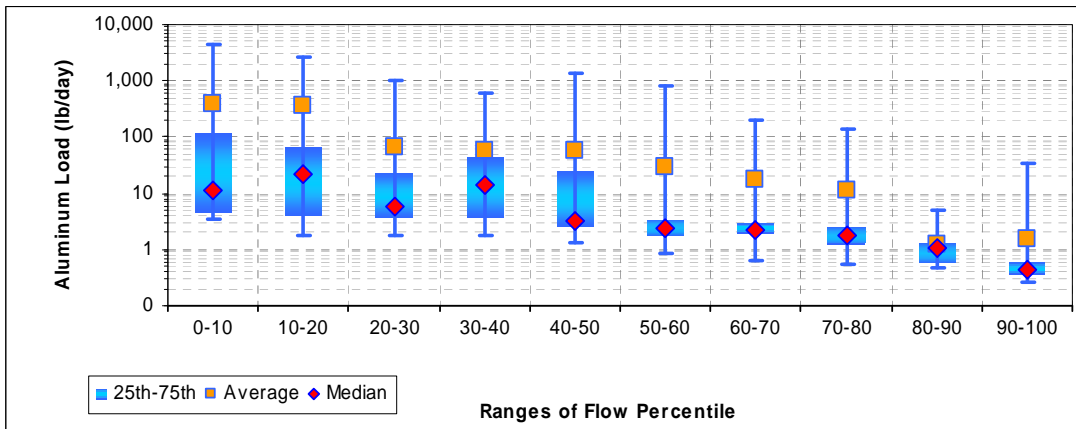


Figure J-15. Aluminum loads by flow percentile for UT to Jennings Run (UJF0002/WM-37)

FINAL

Table J-11. Ammonium loads (lb/d) by flow percentile for UT to Jennings Run (UJF0002/WM-37)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	11.2	10.4	7.1	11.0	14.7	4.2	3.7	2.9	2.7	1.0
Average	682.7	158.8	184.1	66.2	175.5	517.1	90.0	24.0	18.0	4.3
Maximum	8,869.6	1,008.5	3,219.2	248.2	4,680.8	17,519.3	2,311.3	295.3	386.2	52.7
Median	171.1	87.5	69.2	46.7	33.7	20.1	13.8	9.3	6.3	2.5
25th	80.5	58.7	48.4	36.9	24.4	14.8	11.5	8.1	5.5	1.5
75th	303.0	144.9	115.4	75.0	51.5	28.2	18.7	11.0	7.9	3.8

Table J-12. Nitrate loads (lbs/d) by flow percentile for UT to Jennings Run (UJF0002/WM-37)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	24.2	19.2	14.5	22.0	34.4	10.0	9.2	6.9	6.4	2.4
Average	1,199.4	376.9	457.8	163.1	341.9	623.8	130.9	40.7	26.2	5.7
Maximum	8,463.5	1,293.1	8,135.1	525.7	9,006.8	20,064.7	3,161.7	380.8	270.9	14.9
Median	475.1	262.8	198.9	136.9	86.3	46.8	31.1	20.4	16.1	4.8
25th	300.2	198.5	141.0	100.5	56.7	36.9	25.9	16.8	13.0	3.5
75th	1,035.2	428.9	277.6	185.1	131.4	67.5	38.4	25.3	20.9	7.5

Table J-13. Sulfate loads (lbs/d) by flow percentile for UT to Jennings Run (UJF0002/WM-37)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	143	139	97	114	73	37	36	33	26	14
Average	2,448	1,075	526	441	479	315	170	103	64	32
Maximum	38,229	6,860	3,450	2,299	9,589	6,361	964	349	322	137
Median	663	444	320	274	180	135	124	92	57	22
25th	403	303	284	202	140	101	101	51	32	18
75th	1,232	648	394	395	287	185	154	119	73	28

Table J-14. Iron loads (lbs/d) by flow percentile for UT to Jennings Run (UJF0002/WM-37)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4.1	2.5	2.7	2.6	2.0	1.1	0.9	0.8	0.7	0.4
Average	166.6	124.8	30.8	26.3	25.5	13.7	9.3	6.2	1.5	1.1
Maximum	1,984.8	1,102.1	437.7	245.6	543.3	317.2	86.1	57.9	2.8	13.4
Median	9.8	9.3	7.9	9.4	4.6	3.7	3.4	2.5	1.6	0.6
25th	6.2	5.6	5.2	5.1	3.6	2.6	2.8	1.6	0.9	0.5
75th	50.8	28.5	12.3	20.2	14.9	5.1	4.1	3.3	2.0	0.8

Table J-15. Aluminum loads (lbs/d) by flow percentile for UT to Jennings Run (UJF0002/WM-37)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3.3	1.8	1.8	1.8	1.3	0.9	0.6	0.6	0.5	0.3
Average	391.2	361.6	66.3	57.5	55.9	29.0	18.0	11.6	1.2	1.5
Maximum	4,607.2	2,615.7	1,004.5	597.2	1,323.2	811.2	206.7	138.4	4.9	35.0
Median	11.1	22.0	5.7	13.7	3.1	2.5	2.3	1.8	1.1	0.4
25th	4.6	3.9	3.7	3.6	2.5	1.7	1.9	1.2	0.6	0.4
75th	118.5	66.4	23.8	45.3	26.1	3.6	3.0	2.5	1.4	0.6

Jennings Run (WM-39/JEN0092) plots and tables

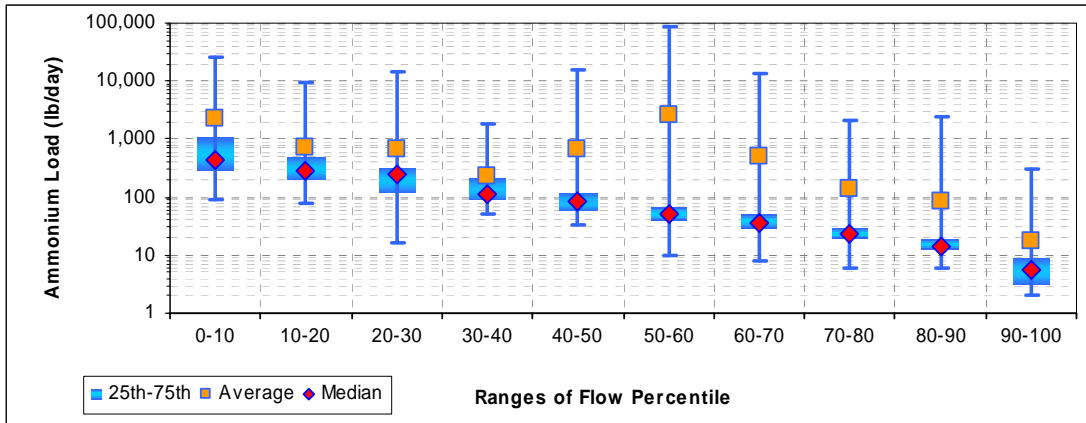


Figure J-16. Ammonium loads by flow percentile for Jennings Run (JEN0092/WM-39)

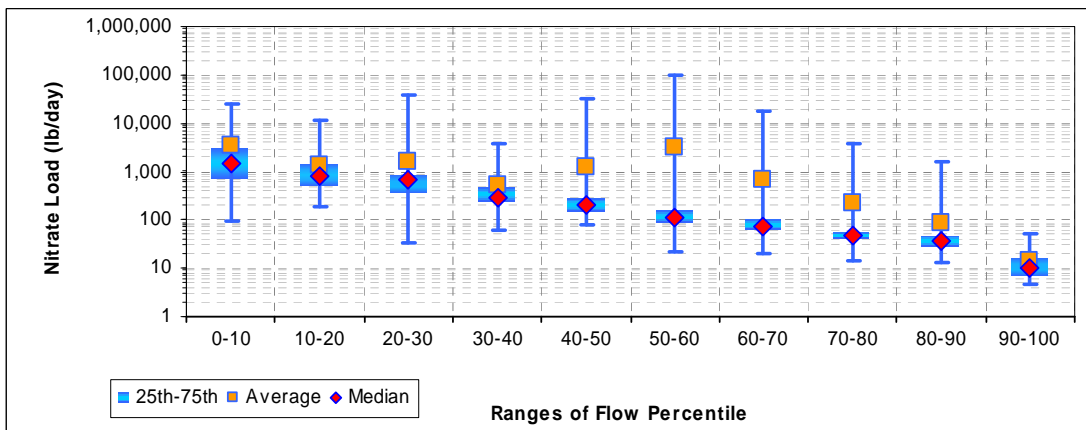


Figure J-17. Nitrate loads by flow percentile for Jennings Run (JEN0092/WM-39)

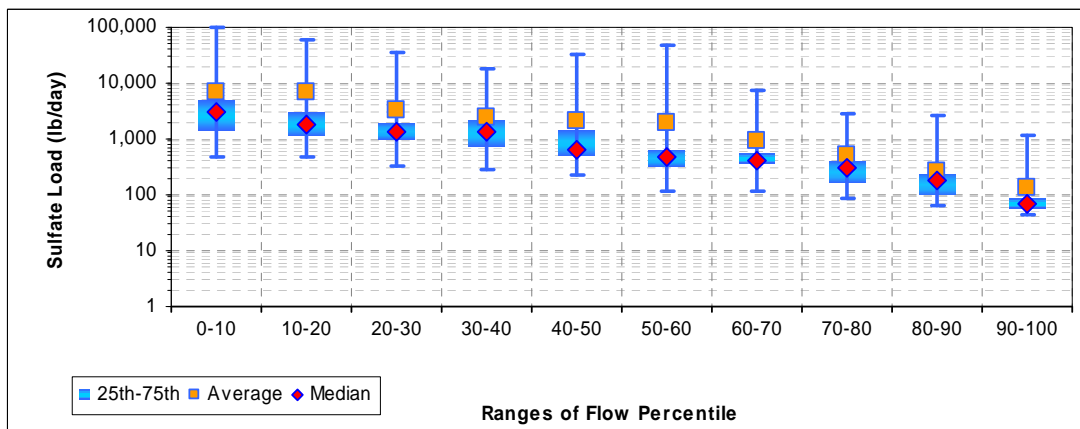


Figure J-18. Sulfate loads by flow percentile for Jennings Run (JEN0092/WM-39)

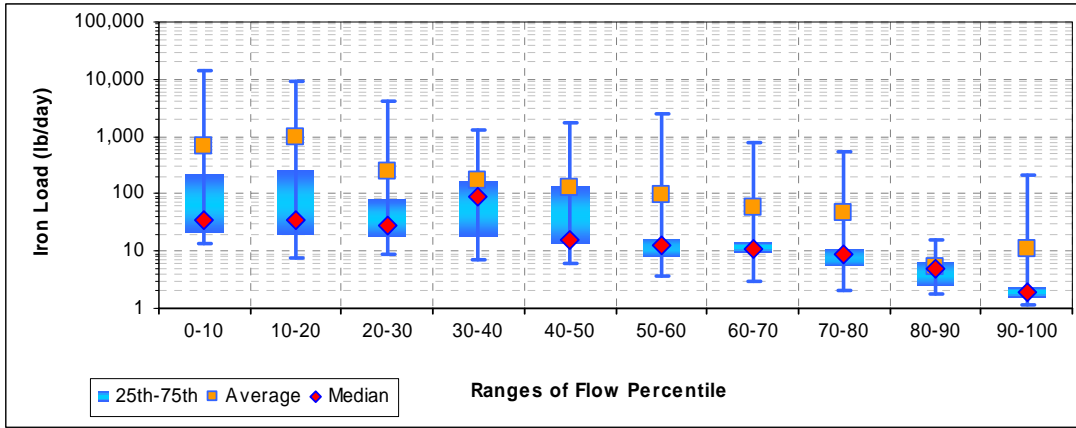


Figure J-19. Iron loads by flow percentile for Jennings Run (JEN0092/WM-39)

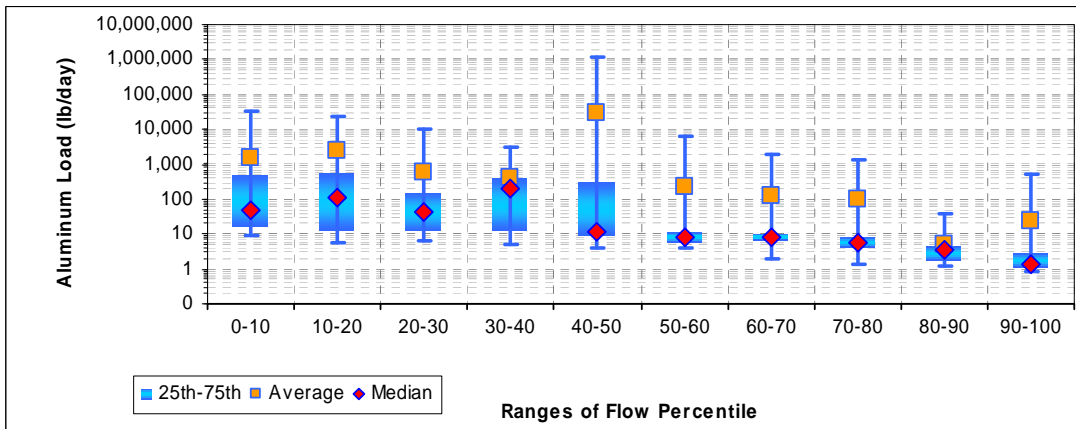


Figure J-20. Aluminum loads by flow percentile for Jennings Run (JEN0092/WM-39)

Table J-16. Ammonium loads (lb/d) by flow percentile for Jennings Run (JEN0092/WM-39)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	87.7	75.9	16.3	49.8	34.1	10.1	7.8	6.1	5.8	2.1
Average	2,231.4	695.2	688.6	232.3	665.7	2,641.2	489.6	138.0	84.3	17.0
Maximum	26,186.0	9,236.7	14,661.9	1,787.6	15,219.1	89,186.6	13,188.0	2,130.1	2,385.7	301.1
Median	443.9	286.6	248.4	110.2	84.0	49.5	35.9	22.7	14.4	5.6
25th	277.3	192.1	123.4	90.5	59.9	38.1	29.0	19.4	11.9	3.1
75th	1,087.7	486.3	330.1	207.7	117.0	67.2	51.2	28.5	18.9	8.9

Table J-17. Nitrate loads (lbs/d) by flow percentile for Jennings Run (JEN0092/WM-39)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	91.9	192.7	32.6	63.2	77.9	21.8	19.4	14.6	13.5	4.9
Average	3,599.0	1,387.6	1,668.3	530.6	1,238.5	3,140.9	674.8	214.6	87.8	13.7
Maximum	25,923.7	11,964.8	37,023.8	3,663.2	31,807.1	101,576.7	18,363.0	3,758.4	1,621.2	52.2
Median	1,508.7	840.4	674.1	283.7	209.7	109.6	74.4	49.2	35.2	10.1
25th	771.9	537.5	366.6	242.2	145.0	86.1	58.9	39.4	29.2	7.3
75th	3,117.3	1,453.0	875.8	500.2	297.9	156.2	102.7	57.1	47.3	17.4

Table J-18. Sulfate loads (lbs/d) by flow percentile for Jennings Run (JEN0092/WM-39)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	491	465	326	291	222	116	113	86	63	43
Average	7,120	7,066	3,232	2,527	2,025	1,928	943	520	265	137
Maximum	99,088	59,564	34,486	18,727	32,783	48,469	7,387	2,843	2,619	1,191
Median	3,077	1,841	1,320	1,302	631	466	416	312	180	67
25th	1,455	1,192	1,001	752	500	332	345	167	101	56
75th	5,292	3,103	1,918	2,290	1,474	655	543	420	242	87

Table J-19. Iron loads (lbs/d) by flow percentile for Jennings Run (JEN0092/WM-39)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	13.1	7.7	9.0	7.3	6.1	3.6	2.9	2.0	1.7	1.2
Average	670.4	950.1	248.8	170.4	130.7	93.4	57.9	45.6	5.2	11.0
Maximum	14,624.9	9,053.3	4,202.8	1,324.8	1,685.4	2,416.0	784.1	531.6	15.9	207.3
Median	34.2	35.8	28.0	89.0	15.7	12.6	11.2	8.8	5.0	1.9
25th	20.9	19.9	17.9	18.2	13.2	8.1	9.1	5.8	2.6	1.6
75th	232.4	260.4	82.0	172.9	138.3	17.2	14.3	11.1	6.7	2.4

Table J-20. Aluminum loads (lbs/d) by flow percentile for Jennings Run (JEN0092/WM-39)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	9.7	5.7	6.1	4.9	4.1	3.8	2.0	1.4	1.2	0.8
Average	1,585.6	2,343.0	565.0	391.2	30,489.5	214.6	126.1	99.1	4.8	23.8
Maximum	34,625.5	24,139.5	9,638.1	3,208.6	1,121,242.6	6,087.7	1,890.0	1,283.6	36.2	501.9
Median	48.8	105.7	40.9	189.4	11.4	8.5	7.7	6.0	3.3	1.4
25th	16.0	13.8	13.3	12.3	8.9	5.5	6.4	4.0	1.8	1.1
75th	546.2	607.8	166.3	404.2	312.8	12.2	10.1	8.4	4.5	2.8

UT to Jennings Run (WM-41/UJH0011) plots and tables

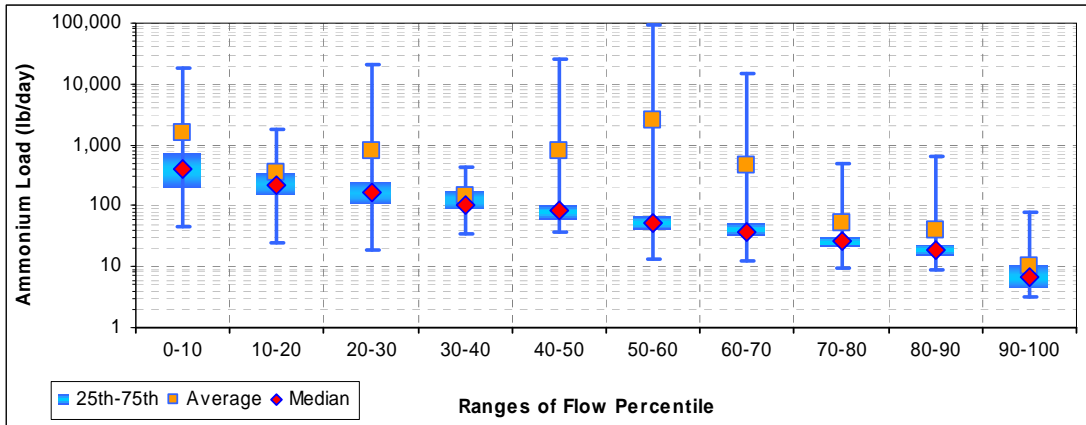


Figure J-21. Ammonium loads by flow percentile for UT to Jennings Run (UJH0011/WM-41)

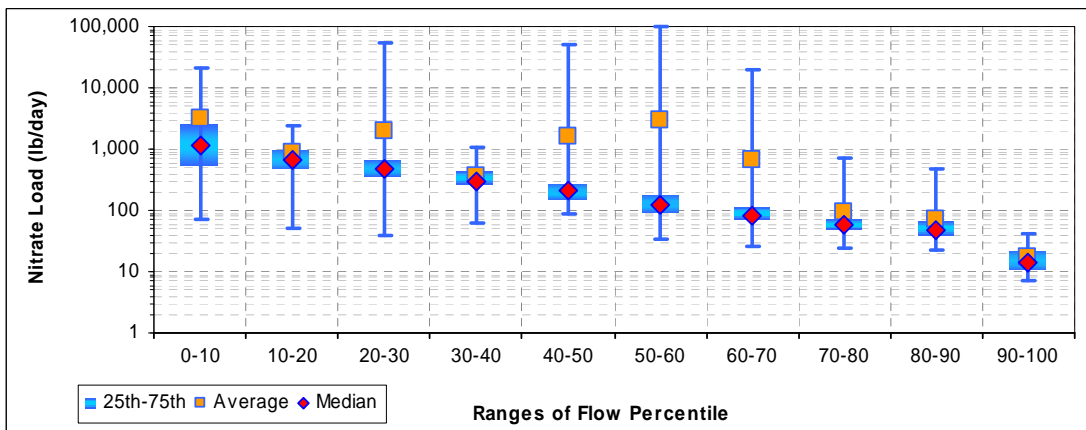


Figure J-22. Nitrate loads by flow percentile for UT to Jennings Run (UJH0011/WM-41)

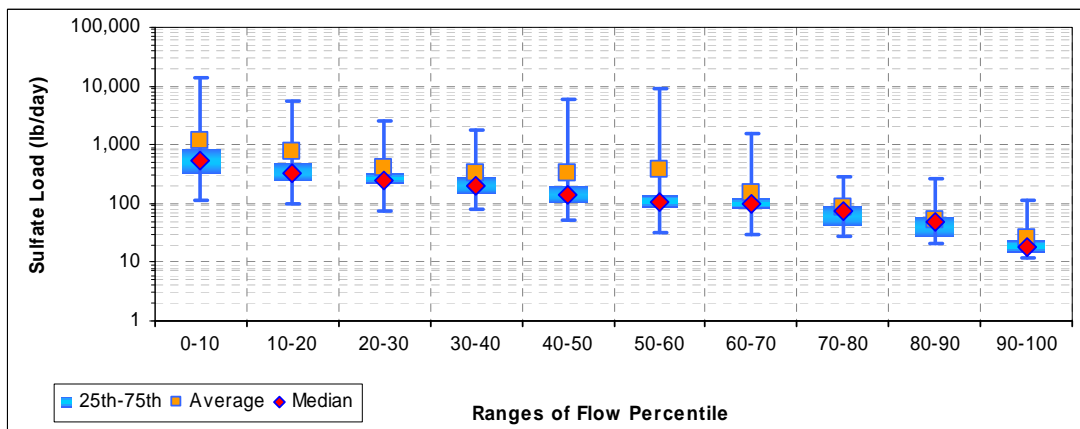


Figure J-23. Sulfate loads by flow percentile for UT to Jennings Run (UJH0011/WM-41)

** These plots include upstream loads from UT to Jennings Run (WM-34/UJH0015).

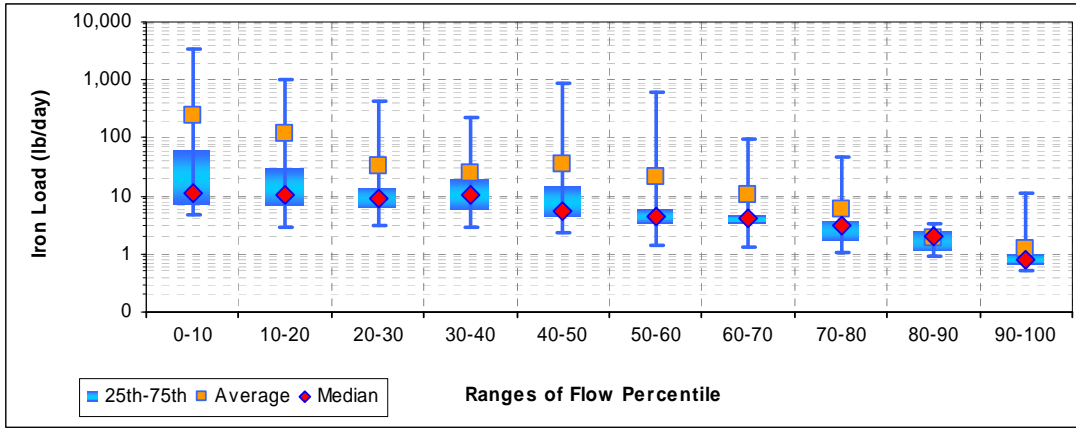


Figure J-24. Iron loads by flow percentile for UT to Jennings Run (UJH0011/WM-41)

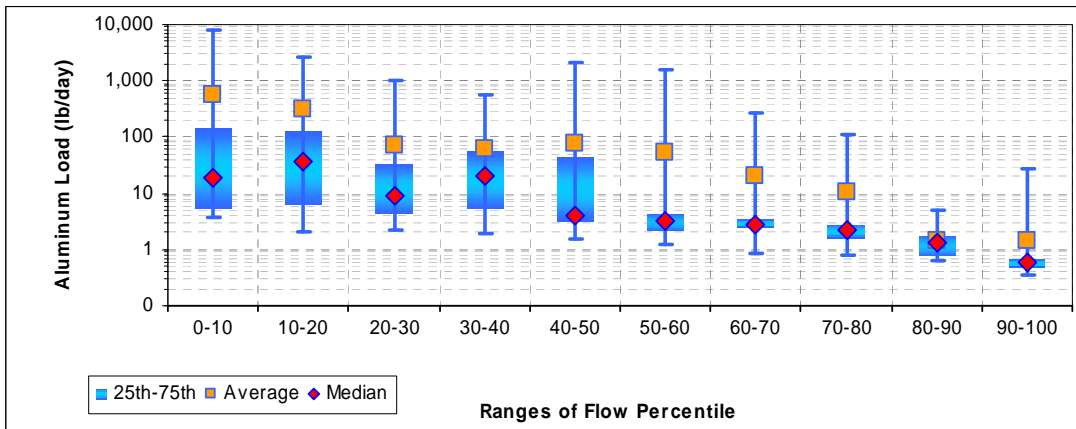


Figure J-25. Aluminum loads by flow percentile for UT to Jennings Run (UJH0011/WM-41)

** These plots include upstream loads from UT to Jennings Run (WM-34/UJH0015).

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Table J-21. Ammonium loads (lb/d) by flow percentile for UT to Jennings Run (UJH0011/WM-41)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	45.3	25.3	18.8	33.5	36.6	13.6	12.1	9.4	8.8	3.2
Average	1,550.2	347.6	781.4	145.1	772.9	2,607.7	467.0	51.4	39.5	9.9
Maximum	18,651.7	1,766.2	20,914.9	426.0	24,814.0	90,965.1	14,785.6	498.7	635.9	80.9
Median	399.6	211.3	161.8	105.1	83.2	50.6	36.8	26.5	19.3	7.0
25th	204.7	152.8	110.8	88.6	61.3	39.8	31.7	22.1	15.7	4.6
75th	723.6	342.4	251.4	178.1	101.1	66.7	50.9	30.6	23.4	10.9

Table J-22. Nitrate loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0011/WM-41)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	71.6	50.2	40.0	61.3	86.6	33.2	26.4	23.7	21.8	7.2
Average	3,068.3	860.7	1,974.4	373.7	1,569.3	2,876.4	657.7	95.5	70.5	16.7
Maximum	21,448.3	2,413.8	53,021.5	1,084.9	49,715.3	96,961.2	19,842.8	708.3	468.5	41.5
Median	1,126.4	660.1	488.4	291.6	216.1	120.4	84.1	59.0	48.2	13.6
25th	554.0	490.3	350.8	256.8	151.9	95.7	72.1	47.8	40.0	10.6
75th	2,618.7	1,029.1	672.0	455.2	283.7	183.1	112.9	72.6	68.3	21.9

Table J-23. Sulfate loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0011/WM-41)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	110	101	77	82	53	31	30	28	21	12
Average	1,152	791	412	324	320	366	156	83	52	26
Maximum	13,417	5,391	2,520	1,745	5,760	9,247	1,532	282	262	112
Median	535	332	243	198	141	107	97	72	47	19
25th	326	242	218	154	108	83	80	43	27	15
75th	870	514	324	284	207	137	119	91	60	24

Table J-24. Iron loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0011/WM-41)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4.8	2.8	3.2	2.9	2.3	1.4	1.3	1.1	0.9	0.5
Average	245.3	117.5	31.9	25.4	34.4	22.0	10.2	5.9	1.9	1.2
Maximum	3,317.8	1,039.4	438.5	229.8	852.4	600.4	98.6	47.7	3.4	10.8
Median	11.0	10.7	9.1	10.3	5.5	4.5	4.1	3.1	2.0	0.8
25th	7.3	6.8	6.4	5.8	4.5	3.3	3.4	1.8	1.2	0.6
75th	60.2	30.0	14.0	20.2	15.1	5.9	4.6	3.9	2.5	1.0

Table J-25. Aluminum loads (lbs/d) by flow percentile for UT to Jennings Run (UJH0011/WM-41)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3.7	2.0	2.1	1.9	1.5	1.2	0.9	0.8	0.6	0.3
Average	574.6	322.9	73.0	59.6	78.3	51.7	19.8	10.1	1.5	1.5
Maximum	7,849.3	2,719.2	1,007.2	579.9	2,067.4	1,626.3	261.6	113.3	5.1	27.9
Median	18.8	36.6	9.2	20.2	4.1	3.2	2.8	2.2	1.3	0.6
25th	5.3	6.3	4.5	5.3	3.1	2.3	2.3	1.5	0.8	0.5
75th	150.2	125.0	34.2	55.5	45.1	4.2	3.5	2.8	1.7	0.7

** These tables include upstream loads from UT to Jennings Run (WM-34/UJH0015).

Three Forks Run (WM-42/TFR0021) plots and tables

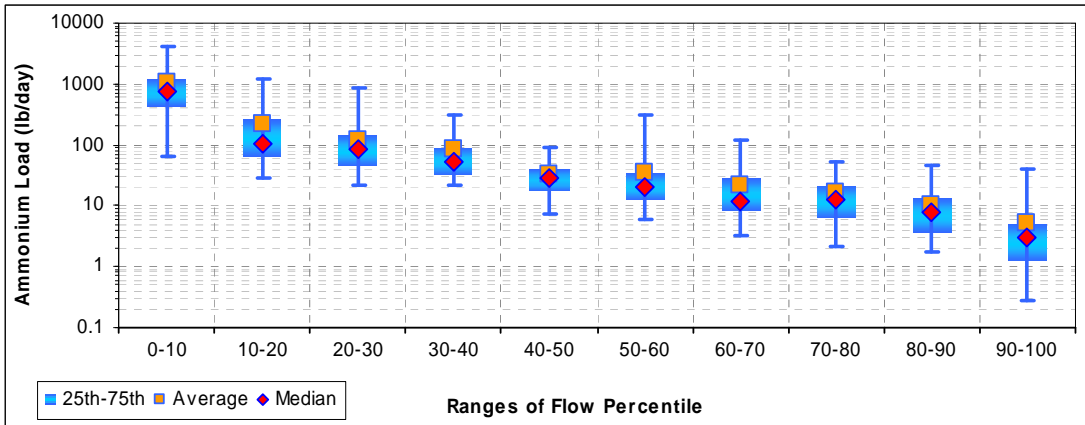


Figure J-. Ammonium loads by flow percentile for Three Forks Run (TFR0021/WM-42)

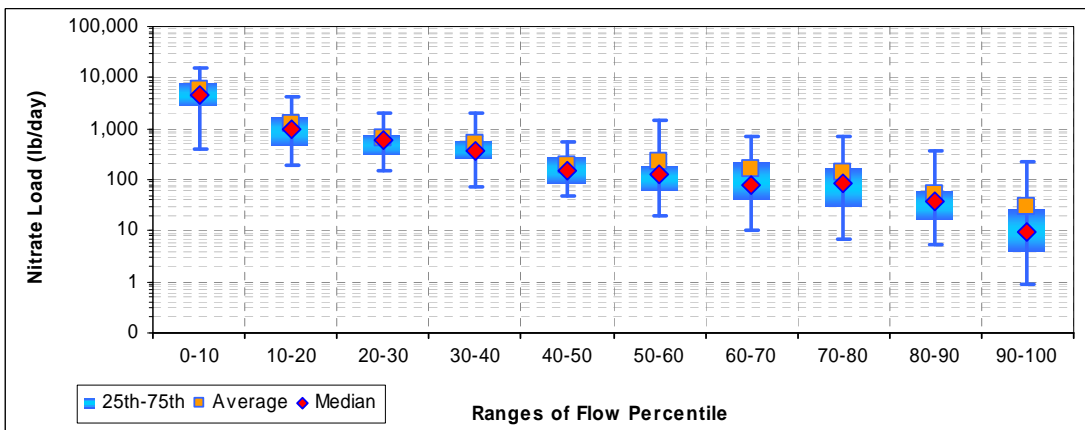


Figure J-1. Nitrate loads by flow percentile for Three Forks Run (TFR0021/WM-42)

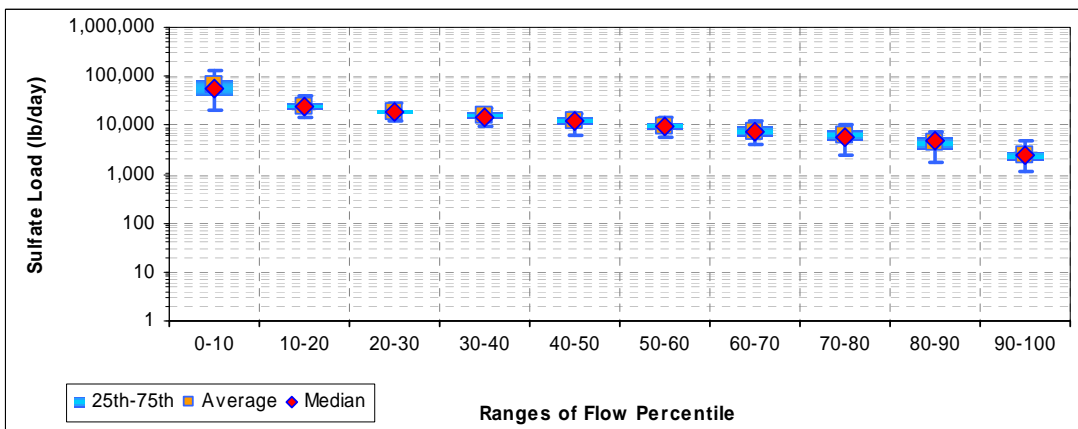


Figure J-2. Sulfate loads by flow percentile for Three Forks Run (TFR0021/WM-42)

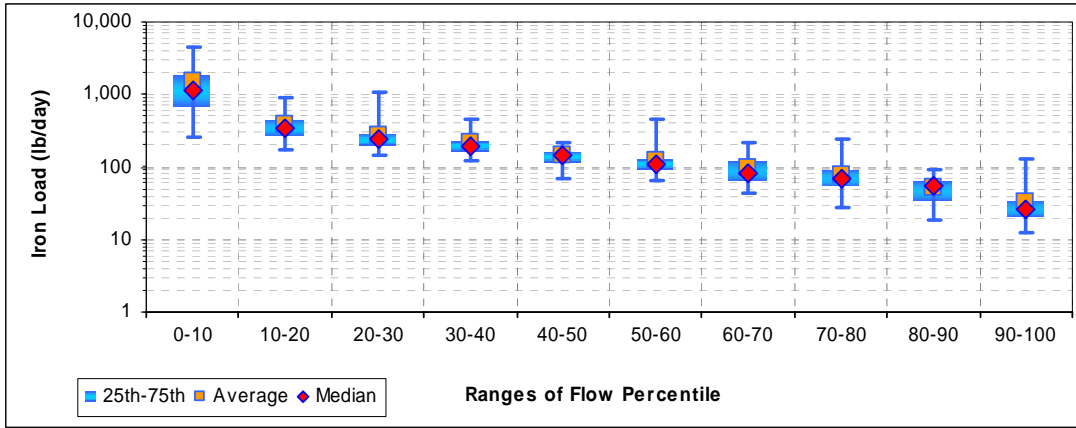


Figure J-3. Iron loads by flow percentile for Three Forks Run (TFR0021/WM-42)

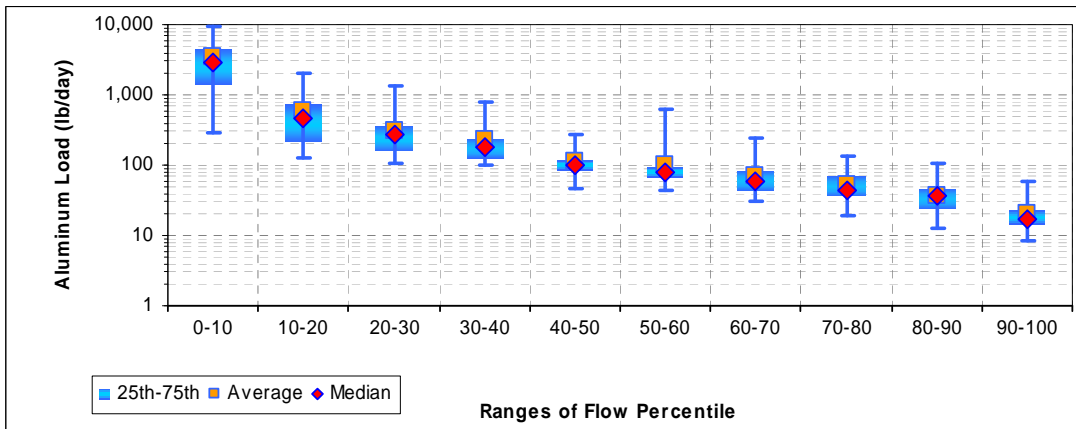


Figure J-4. Aluminum loads by flow percentile for Three Forks Run (TFR0021/WM-42)

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Table J-. Ammonium loads (lb/d) by flow percentile for Three Forks Run (TFR0021/WM-42)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	62.6	29.3	21.1	21.0	7.4	6.1	3.2	2.2	1.7	0.3
Average	1,026.1	219.5	116.8	82.1	32.8	33.9	22.5	17.0	10.0	5.2
Maximum	4,127.0	1,184.8	844.8	308.3	90.8	311.7	120.4	52.7	45.7	40.9
Median	750.5	104.6	82.5	54.5	28.6	20.9	12.1	12.4	8.1	3.0
25th	433.6	64.6	45.3	31.8	17.6	12.5	8.6	6.6	3.6	1.2
75th	1,207.9	270.5	149.8	93.5	41.1	34.5	28.6	22.2	13.8	5.2

Table J-1. Nitrate loads (lbs/d) by flow percentile for Three Forks Run (TFR0021/WM-42)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	392.7	199.5	146.3	75.2	47.5	19.1	10.0	6.6	5.4	0.9
Average	5,691.7	1,254.4	637.7	521.8	195.5	222.1	160.4	142.0	53.3	29.8
Maximum	15,059.9	4,263.6	2,022.0	2,090.1	571.3	1,435.3	680.4	703.2	372.3	233.7
Median	4,487.9	973.8	590.5	367.2	150.0	128.7	76.9	85.0	37.3	9.4
25th	2,866.4	483.5	321.1	258.3	83.9	60.1	41.0	30.1	16.1	3.8
75th	7,870.9	1,703.4	772.5	582.0	277.2	194.5	222.3	176.5	59.5	26.2

Table J-2. Sulfate loads (lbs/d) by flow percentile for Three Forks Run (TFR0021/WM-42)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	20,216	14,607	12,353	9,815	6,168	5,626	3,982	2,443	1,672	1,103
Average	64,027	24,409	18,432	15,763	12,426	9,532	7,570	6,146	4,460	2,464
Maximum	134,310	39,421	27,915	22,334	17,393	14,406	11,902	9,921	7,544	4,771
Median	57,530	23,974	18,075	15,060	12,362	9,250	7,474	5,606	4,664	2,344
25th	39,366	20,153	16,524	13,578	10,607	7,789	5,675	4,823	3,136	1,929
75th	88,132	27,577	20,396	18,451	14,135	10,845	9,335	7,805	5,702	2,895

Table J-3. Iron loads (lbs/d) by flow percentile for Three Forks Run (TFR0021/WM-42)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	252.3	170.1	145.1	123.4	67.4	65.5	44.1	27.4	18.3	12.1
Average	1,471.4	394.0	270.3	213.0	142.0	119.6	97.0	76.8	51.6	33.4
Maximum	4,448.3	912.8	1,054.0	448.7	212.7	457.8	212.9	245.4	91.5	128.5
Median	1,144.7	343.7	240.7	191.7	144.2	108.5	83.3	69.4	54.8	26.5
25th	662.2	268.1	195.4	162.6	117.5	90.8	65.0	55.9	35.4	21.0
75th	1,937.9	467.1	283.6	233.2	159.8	129.3	120.5	90.0	66.4	34.6

Table J-4. Aluminum loads (lbs/d) by flow percentile for Three Forks Run (TFR0021/WM-42)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	282.4	127.3	103.9	97.5	47.0	43.4	30.8	18.7	12.7	8.4
Average	3,495.4	587.0	306.9	222.8	113.8	99.6	72.1	53.6	36.8	20.9
Maximum	9,450.1	2,022.1	1,369.2	791.2	268.9	630.2	244.3	135.7	104.4	57.3
Median	2,860.8	467.1	265.5	176.2	101.2	79.3	58.6	44.3	37.3	17.5
25th	1,402.5	209.8	164.5	124.3	85.9	64.7	43.8	36.5	24.7	14.7
75th	4,533.0	756.9	357.0	239.7	120.6	92.0	81.7	69.1	46.3	23.3

Wolfden Run (WM-43/WOL0004) plots and tables

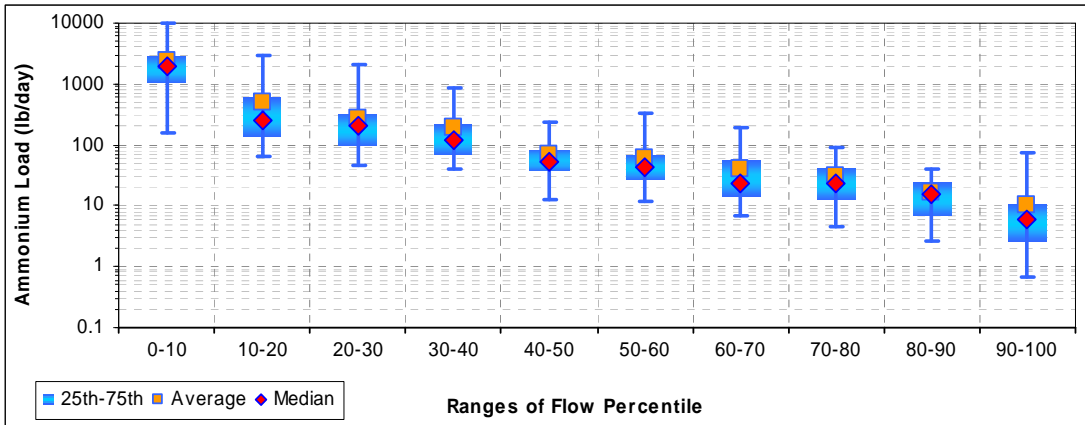


Figure J-31. Ammonium loads by flow percentile for Wolfden Run (WOL0004/WM-43)

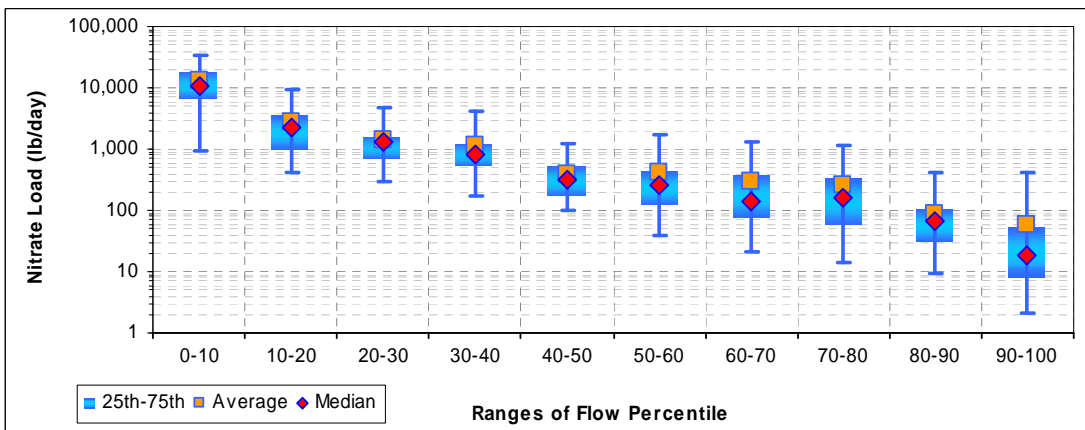


Figure J-32. Nitrate loads by flow percentile for Wolfden Run (WOL0004/WM-43)

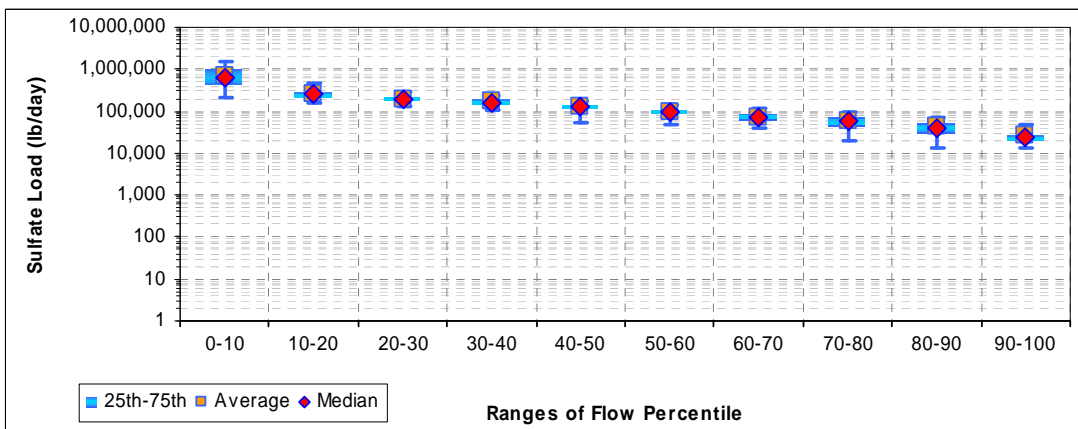


Figure J-33. Sulfate loads by flow percentile for Wolfden Run (WOL0004/WM-43)

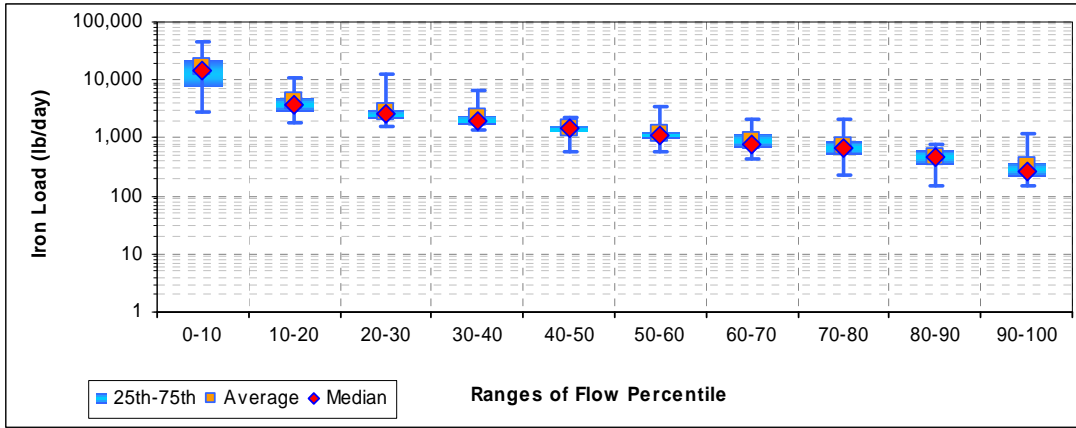


Figure J-34. Iron loads by flow percentile for Wolfden Run (WOL0004/WM-43)

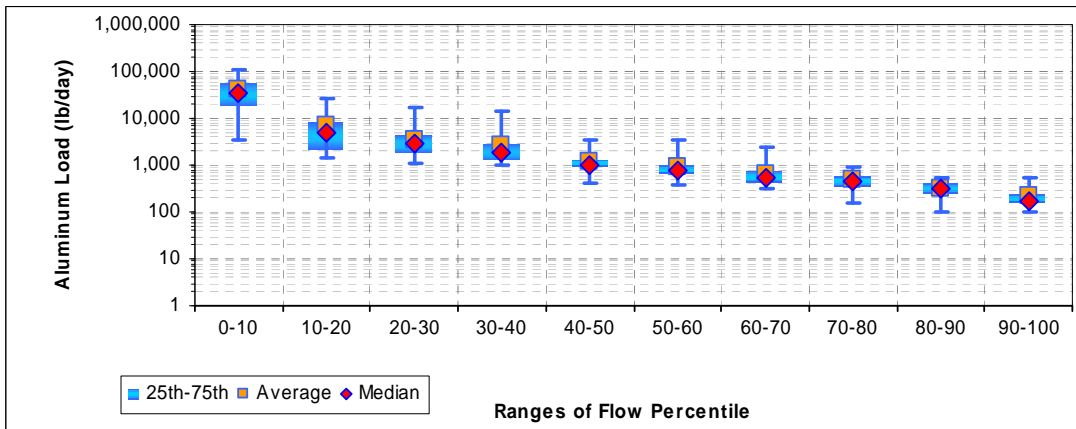


Figure J-35. Aluminum loads by flow percentile for Wolfden Run (WOL0004/WM-43)

Table J-31. Ammonium loads (lb/d) by flow percentile for Wolfden Run (WOL0004/WM-43)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	160.9	64.1	44.5	41.2	12.8	12.2	6.7	4.5	2.7	0.7
Average	2,467.6	508.5	265.6	193.6	68.9	62.1	40.9	30.4	16.6	10.2
Maximum	9,829.3	3,009.4	2,038.1	888.3	234.7	335.2	190.8	93.4	41.2	75.1
Median	1,887.9	255.6	200.0	121.5	53.3	41.8	22.9	23.4	15.3	5.9
25th	1,090.0	136.5	94.9	69.7	36.6	26.1	14.9	12.8	6.9	2.6
75th	2,917.6	605.8	326.0	215.5	87.2	70.0	56.0	43.2	24.7	11.0

Table J-32. Nitrate loads (lbs/d) by flow percentile for Wolfden Run (WOL0004/WM-43)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	910.0	421.1	303.4	168.3	100.7	38.2	20.5	13.8	9.7	2.1
Average	13,265.4	2,741.3	1,366.4	1,148.6	398.8	402.5	291.8	251.8	89.7	56.9
Maximum	33,200.0	9,451.3	4,798.7	4,198.2	1,187.3	1,767.3	1,344.6	1,127.6	418.9	423.6
Median	10,925.4	2,184.4	1,348.2	816.4	322.3	251.0	144.1	163.6	66.8	18.7
25th	6,854.7	1,015.3	721.9	535.6	173.4	123.0	75.6	57.3	30.8	8.0
75th	18,286.5	3,525.2	1,661.4	1,216.2	556.9	433.9	395.3	335.0	104.8	54.3

Table J-33. Sulfate loads (lbs/d) by flow percentile for Wolfden Run (WOL0004/WM-43)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	218,526	155,956	134,394	102,160	53,508	48,554	40,374	20,294	13,373	13,154
Average	705,896	258,069	190,770	166,341	126,028	94,668	71,857	58,353	41,628	25,390
Maximum	1,534,005	446,224	281,279	236,514	181,290	138,243	117,617	96,859	74,283	49,253
Median	629,957	250,249	191,533	157,217	123,497	93,463	70,252	57,210	40,577	23,309
25th	437,638	218,620	173,973	138,410	111,430	83,056	55,703	42,423	29,501	19,604
75th	991,945	296,138	212,670	195,119	141,832	108,104	87,231	73,336	54,420	27,606

Table J-34. Iron loads (lbs/d) by flow percentile for Wolfden Run (WOL0004/WM-43)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2,856.1	1,812.4	1,531.0	1,350.8	585.4	568.3	441.9	228.9	146.3	144.3
Average	16,974.3	4,254.0	2,865.0	2,295.5	1,441.3	1,168.5	915.8	725.6	477.9	337.2
Maximum	46,683.5	11,188.6	12,177.9	6,409.8	2,246.2	3,498.3	2,032.4	2,108.5	799.9	1,175.8
Median	14,040.5	3,606.8	2,600.4	1,997.6	1,479.9	1,070.5	778.5	653.4	470.1	259.6
25th	7,635.6	2,863.7	2,142.8	1,689.2	1,235.9	959.1	647.1	492.9	339.9	214.5
75th	22,628.1	4,969.7	2,977.4	2,457.4	1,577.2	1,285.8	1,148.6	871.8	615.2	380.4

Table J-35. Aluminum loads (lbs/d) by flow percentile for Wolfden Run (WOL0004/WM-43)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3,512.3	1,411.9	1,113.6	985.4	408.7	375.0	308.1	155.5	102.0	100.6
Average	42,394.3	6,784.9	3,479.4	2,687.8	1,178.5	923.4	667.0	497.4	324.6	212.9
Maximum	110,506.4	27,040.2	16,416.1	14,241.5	3,320.8	3,508.7	2,386.4	876.3	557.8	521.6
Median	35,951.9	4,934.9	2,890.0	1,927.6	1,033.9	763.3	538.3	441.0	319.6	177.6
25th	17,967.7	2,303.5	1,798.8	1,347.5	893.0	659.5	426.7	343.7	237.0	149.5
75th	58,050.9	8,464.3	4,593.4	2,923.1	1,276.6	992.8	744.3	609.6	426.4	245.4

Eiklick Run (WM-45/EKL0003) plots and tables

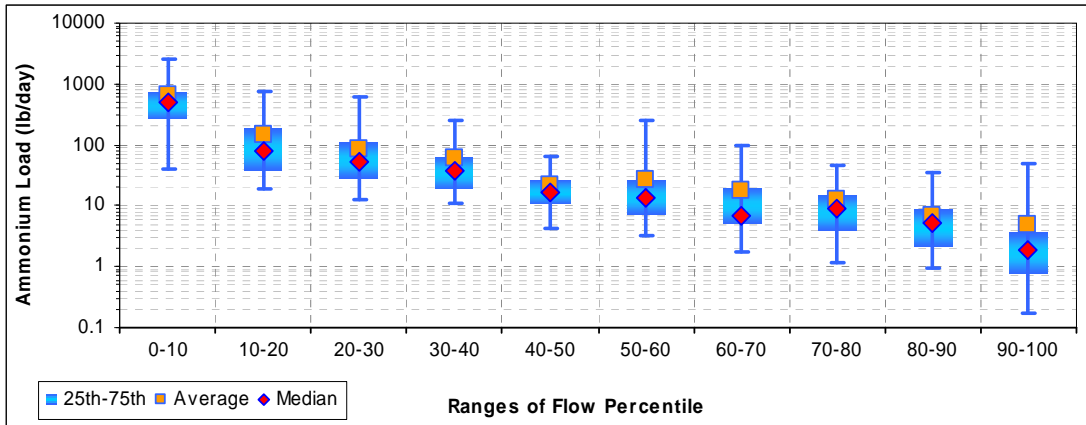


Figure J-36. Ammonium loads by flow percentile for Eiklick Run (EKL0003/WM-45)

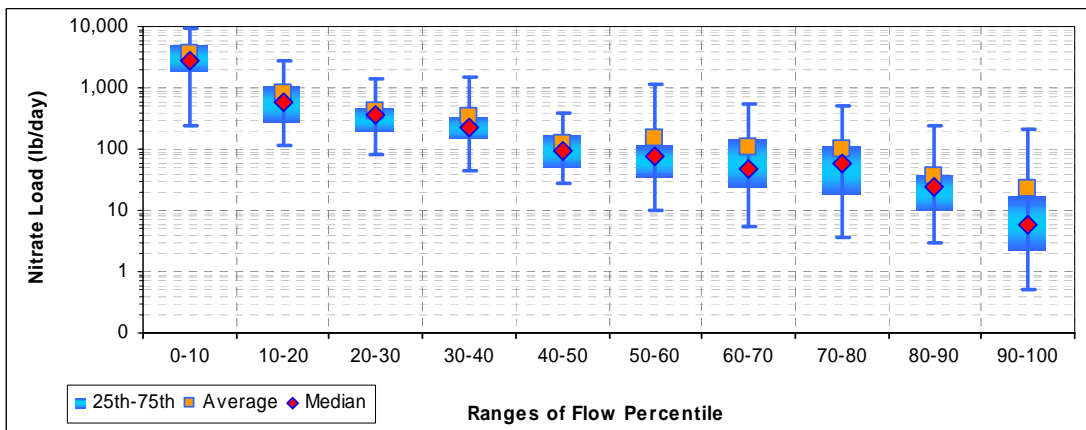


Figure J-37. Nitrate loads by flow percentile for Eiklick Run (EKL0003/WM-45)

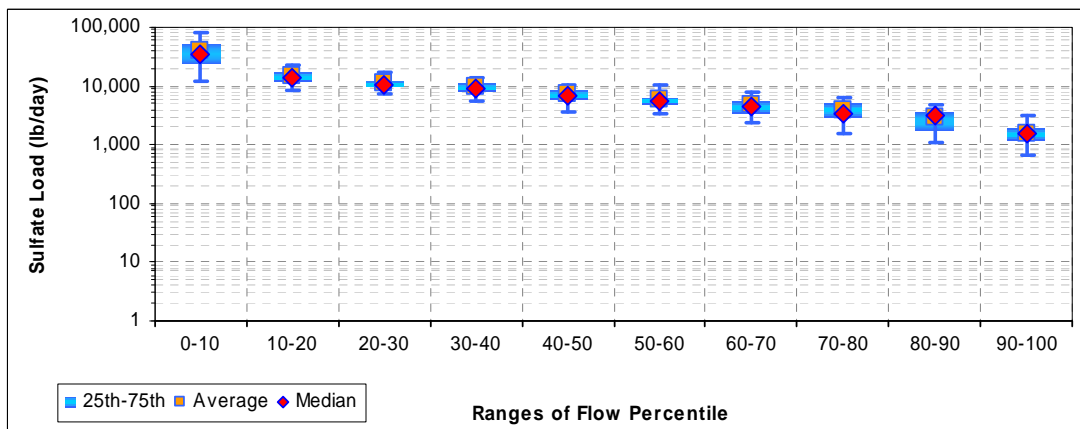


Figure J-38. Sulfate loads by flow percentile for Eiklick Run (EKL0003/WM-45)

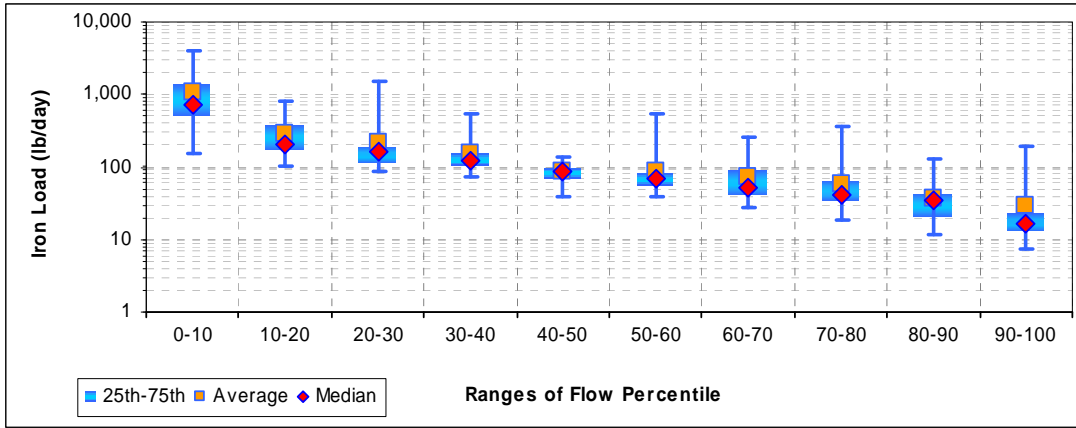


Figure J-39. Iron loads by flow percentile for Elklick Run (EKL0003/WM-45)

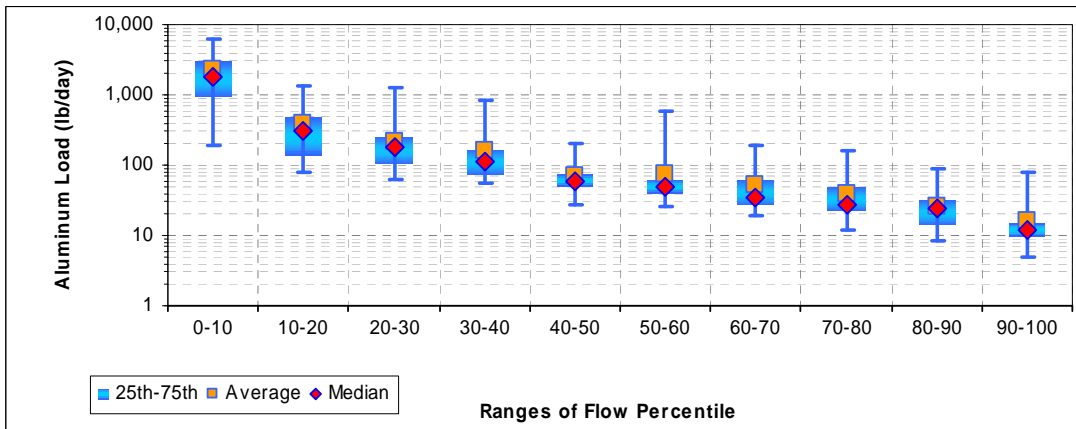


Figure J-40. Aluminum loads by flow percentile for Elklick Run (EKL0003/WM-45)

FINAL

Table J-36. Ammonium loads (lb/d) by flow percentile for Elklick Run (EKL0003/WM-45)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	41.4	18.5	12.2	11.1	4.3	3.3	1.8	1.2	1.0	0.2
Average	659.6	145.0	82.9	58.8	21.2	26.2	17.6	13.0	7.0	4.9
Maximum	2,627.3	756.7	616.2	251.1	65.2	261.1	94.2	46.6	34.4	49.7
Median	504.8	81.9	54.3	36.9	17.1	13.6	7.0	8.8	5.2	1.9
25th	275.5	38.8	28.3	19.6	11.4	7.4	5.1	3.9	2.2	0.8
75th	773.5	188.3	110.2	66.3	26.2	26.7	20.9	15.8	9.2	3.7

Table J-37. Nitrate loads (lbs/d) by flow percentile for Elklick Run (EKL0003/WM-45)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	243.0	116.9	82.3	44.6	28.3	10.3	5.4	3.6	3.0	0.5
Average	3,576.8	790.3	413.2	341.4	120.7	152.6	110.2	97.6	35.5	22.1
Maximum	9,252.4	2,738.3	1,397.6	1,509.7	375.3	1,116.9	527.3	496.4	243.0	205.2
Median	2,784.8	592.3	372.2	230.9	90.7	75.6	46.7	56.5	23.7	5.9
25th	1,799.2	282.2	196.7	148.5	50.8	34.6	23.5	17.8	10.0	2.3
75th	5,083.7	1,058.7	480.0	350.0	170.0	117.8	145.5	117.1	38.8	17.0

Table J-38. Sulfate loads (lbs/d) by flow percentile for Elklick Run (EKL0003/WM-45)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	11,676	8,367	7,267	5,603	3,641	3,340	2,429	1,522	1,067	659
Average	38,675	14,578	10,963	9,404	7,202	5,782	4,679	3,897	2,863	1,582
Maximum	83,745	23,060	17,715	13,559	10,247	10,685	7,914	6,541	4,868	3,089
Median	34,126	14,332	10,731	8,772	7,029	5,504	4,357	3,391	3,073	1,507
25th	23,724	12,125	9,464	7,771	5,985	4,754	3,399	2,827	1,812	1,203
75th	54,251	16,591	12,097	11,355	8,331	6,359	5,646	5,269	3,733	1,867

Table J-39. Iron loads (lbs/d) by flow percentile for Elklick Run (EKL0003/WM-45)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	152.8	103.0	84.6	74.2	39.8	39.4	26.9	18.0	11.7	7.2
Average	1,047.9	292.6	211.1	154.1	85.8	87.0	74.9	59.7	36.7	28.8
Maximum	4,004.4	802.0	1,529.5	534.6	134.3	553.4	259.7	362.5	132.0	187.7
Median	739.7	209.4	159.3	122.5	85.6	67.2	51.1	42.1	35.4	16.7
25th	508.6	173.8	118.3	102.3	67.8	54.1	41.0	33.8	21.1	13.4
75th	1,406.2	375.1	195.2	156.1	97.8	83.6	90.5	63.4	44.9	22.9

Table J-40. Aluminum loads (lbs/d) by flow percentile for Elklick Run (EKL0003/WM-45)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	189.4	76.8	60.8	56.6	27.8	26.3	18.8	11.8	8.1	5.0
Average	2,303.5	396.6	219.7	160.5	71.7	74.5	53.0	39.5	25.4	16.0
Maximum	6,207.5	1,375.5	1,268.0	814.9	206.7	591.7	191.8	160.0	89.7	76.7
Median	1,836.1	303.7	178.6	111.1	58.7	48.0	33.9	27.0	24.3	11.6
25th	947.4	136.2	108.1	75.1	48.1	38.1	27.4	22.7	14.7	9.4
75th	3,094.0	492.6	254.8	166.7	76.3	62.1	61.7	48.1	31.7	15.0

Right Prong Three Forks Run (WM-48/RTF0005) plots and tables

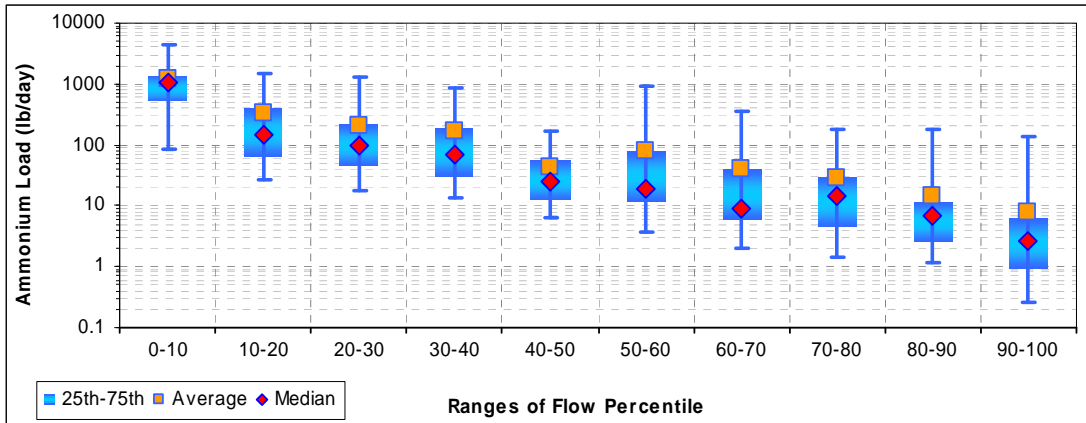


Figure J-41. Ammonium loads by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

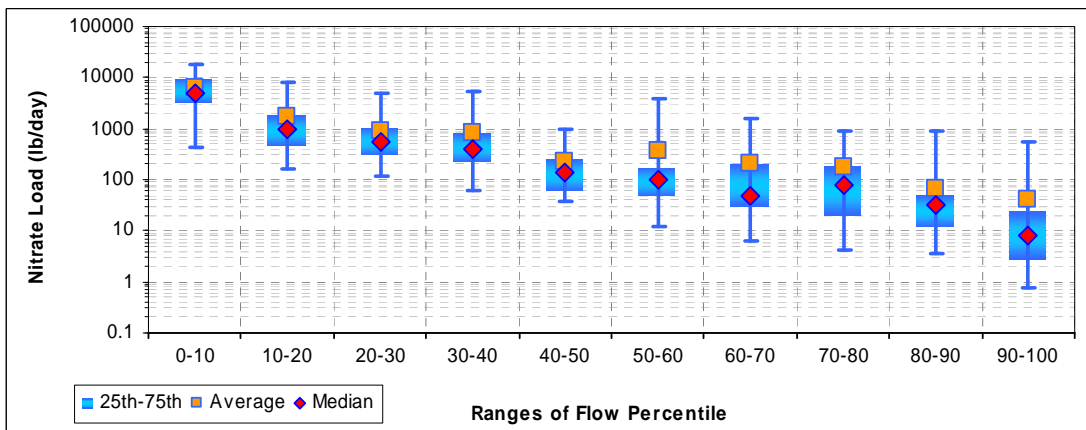


Figure J-42. Nitrate loads by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

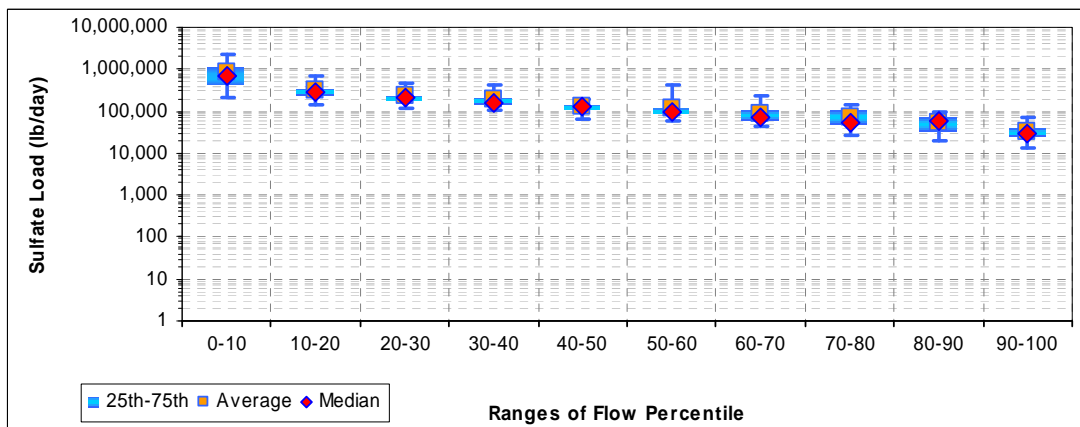


Figure J-43. Sulfate loads by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

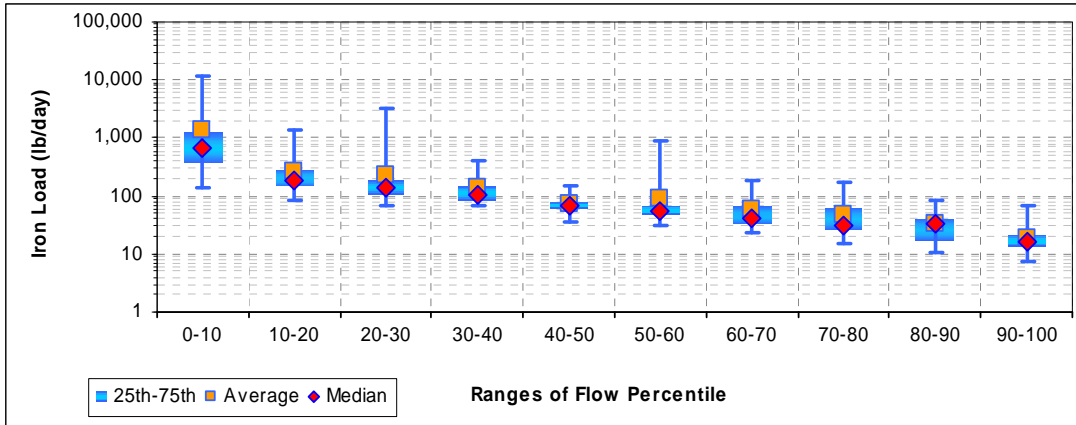


Figure J-44. Iron loads by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

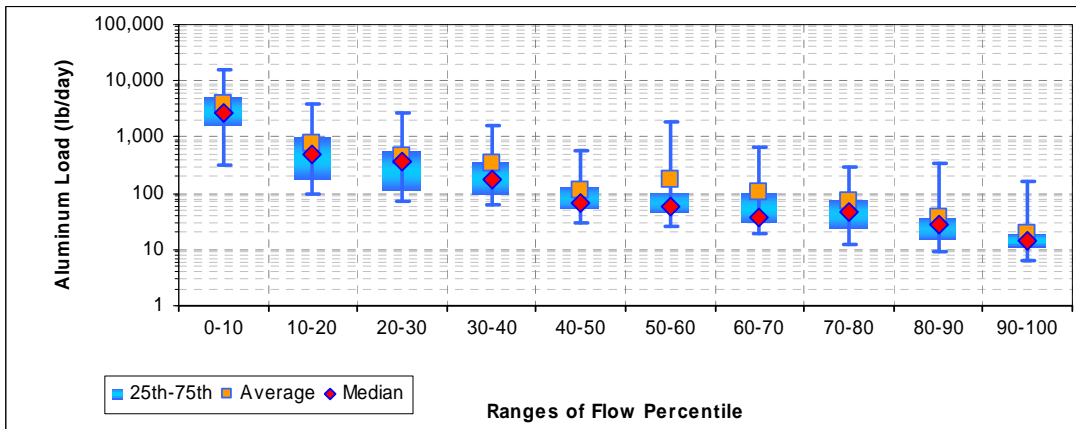


Figure J-45. Aluminum loads by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

FINAL

Table J-41. Ammonium loads (lb/d) by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	83.4	27.1	17.6	13.2	6.3	3.7	2.1	1.4	1.2	0.3
Average	1,223.2	326.4	201.4	165.0	43.6	80.4	38.9	28.1	14.1	7.9
Maximum	4,495.3	1,438.0	1,314.4	886.0	167.1	951.8	344.7	181.0	180.5	137.9
Median	1,027.1	148.8	99.3	69.1	25.4	19.2	9.1	14.6	6.9	2.6
25th	523.3	63.1	46.8	30.4	12.3	11.8	5.9	4.5	2.7	0.9
75th	1,355.8	394.7	217.2	194.0	57.4	81.3	39.7	29.9	12.1	6.3

Table J-42. Nitrate loads (lbs/d) by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	430.1	161.1	116.5	63.0	36.7	11.6	6.3	4.3	3.6	0.8
Average	6,441.9	1,686.3	899.5	822.8	218.4	357.3	209.0	174.1	68.7	39.3
Maximum	17,767.7	7,790.8	4,970.1	5,476.0	1,012.4	3,725.4	1,529.9	894.6	918.9	536.3
Median	4,766.4	947.4	549.5	384.8	132.9	96.4	49.8	78.6	33.1	8.0
25th	3,215.2	459.0	319.7	233.3	60.3	46.4	29.6	20.4	11.7	2.8
75th	9,163.0	1,891.4	1,051.1	835.5	264.4	183.9	211.0	198.3	52.5	25.2

Table J-43. Sulfate loads (lbs/d) by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	217,682	149,485	119,627	103,671	64,739	56,740	41,713	27,397	20,082	13,607
Average	856,166	310,054	223,015	192,748	127,030	116,254	89,834	74,608	55,087	31,983
Maximum	2,283,418	720,559	476,875	426,188	198,881	425,919	228,587	143,470	95,540	69,970
Median	720,767	278,340	206,073	164,371	123,992	97,252	72,825	54,506	58,798	28,104
25th	431,455	226,608	165,978	144,841	107,628	82,716	60,006	48,054	32,501	23,445
75th	1,180,352	334,427	243,584	213,455	143,287	113,340	100,996	110,512	74,141	38,381

Table J-44. Iron loads (lbs/d) by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	140.0	84.2	67.7	69.1	35.0	30.6	22.5	14.9	10.8	7.3
Average	1,332.4	273.4	233.5	136.3	74.9	90.3	57.9	47.5	32.1	18.8
Maximum	12,111.0	1,334.0	3,165.0	409.7	153.6	896.8	181.7	177.8	82.6	70.4
Median	667.5	183.2	134.9	101.6	68.8	54.8	40.5	31.6	32.8	16.0
25th	368.0	144.4	104.4	84.3	59.0	47.5	33.9	27.0	17.9	12.7
75th	1,273.7	282.7	184.9	149.0	80.2	69.9	65.9	64.1	42.4	21.4

Table J-45. Aluminum loads (lbs/d) by flow percentile for Right Prong Three Forks Run (RTF0005/WM-48)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	311.4	97.2	70.6	62.6	30.6	26.4	19.3	12.7	9.3	6.3
Average	3,888.1	788.0	465.9	350.8	116.4	180.5	104.2	70.4	37.5	19.7
Maximum	15,889.8	3,804.9	2,737.4	1,614.2	553.3	1,921.5	657.7	293.8	344.8	165.8
Median	2,761.9	475.1	365.8	175.1	68.7	57.4	37.1	47.4	28.0	13.8
25th	1,561.8	176.1	114.8	97.0	54.5	46.3	29.4	23.3	15.3	10.9
75th	5,228.4	1,052.8	550.6	379.4	132.9	102.5	107.0	76.2	37.5	19.8

North Prong Lostland Run (WM-50/NPL0001) plots and tables

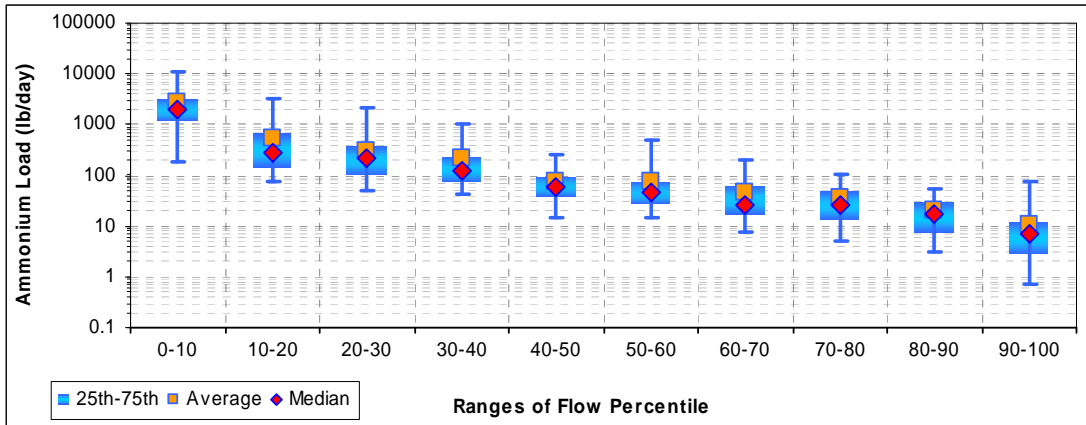


Figure J-46. Ammonium loads by flow percentile for North Prong Lostland Run (NPL0001/WM-50)

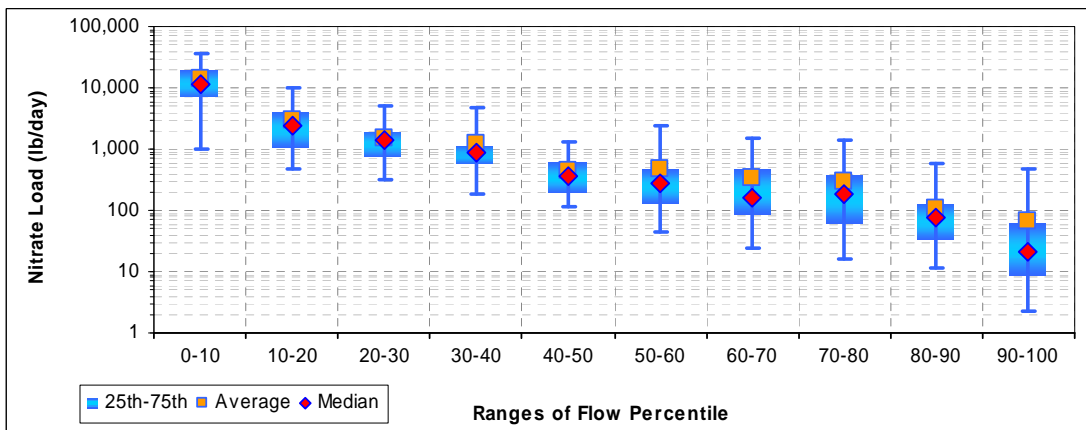


Figure J-47. Nitrate loads by flow percentile for North Prong Lostland Run (NPL0001/WM-50)

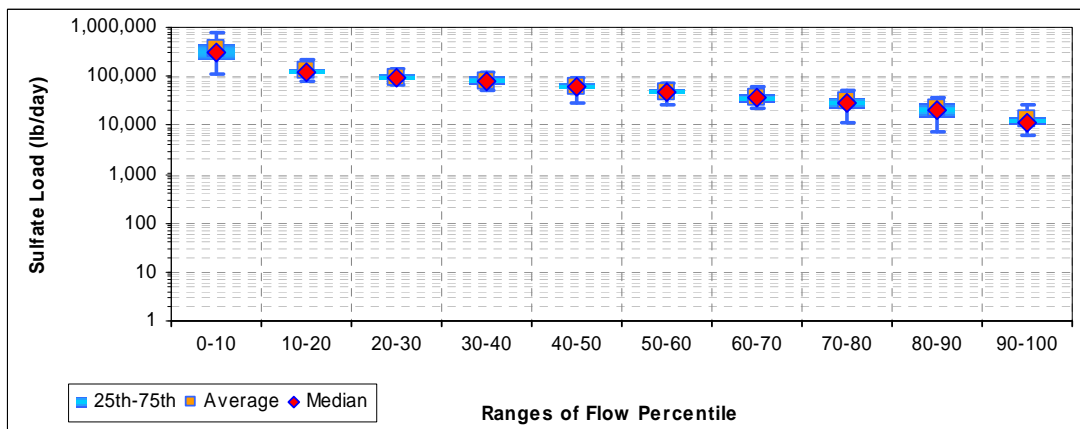


Figure J-48. Sulfate loads by flow percentile for North Prong Lostland Run (NPL0001/WM-50)

** These plots include upstream loads from North Prong Lostland Run (WM-64/NPL0018).

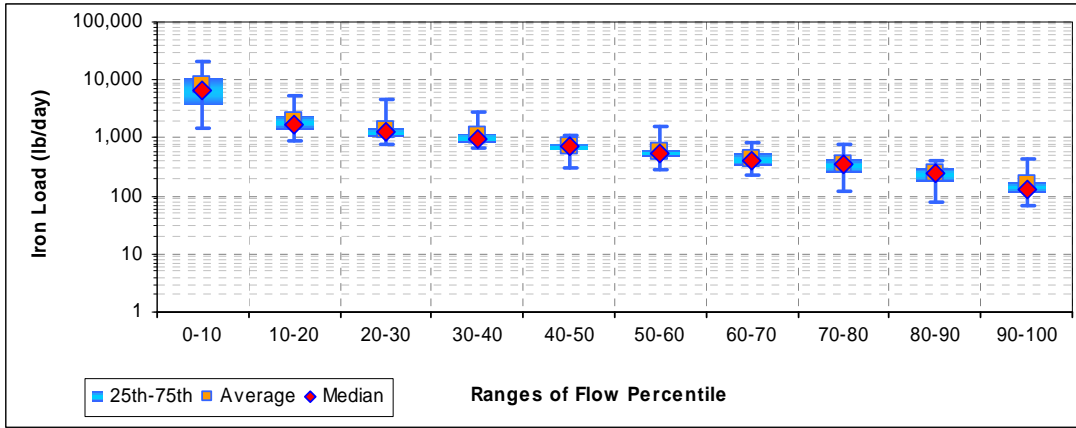


Figure J-49. Iron loads by flow percentile for North Prog Lostland Run (NPL001/WM-50)

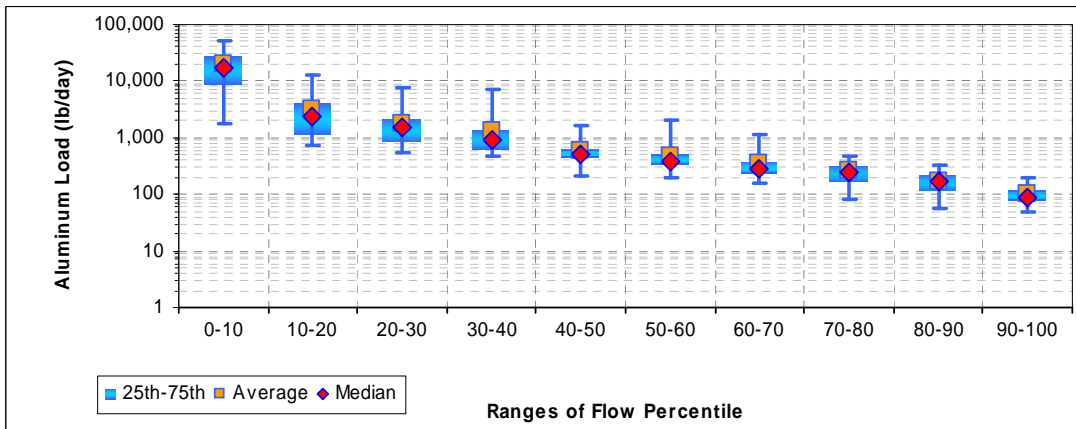


Figure J-50. Aluminum loads by flow percentile for North Prog Lostland Run (NPL001/WM-50)
 ** These plots include upstream loads from North Prog Lostland Run (WM-64/NPL0018).

Table J-46. Ammonium loads (lb/d) by flow percentile for North Prog Lostland Run (NPL0001/WM-50)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	182.4	72.1	49.7	43.9	14.6	14.1	7.7	5.1	3.2	0.7
Average	2,653.7	548.5	291.0	209.7	76.2	73.5	46.4	35.1	20.2	10.7
Maximum	10,699.0	3,199.8	2,154.5	996.0	256.9	473.6	208.4	104.1	56.0	72.3
Median	2,044.2	268.1	211.7	126.2	56.8	46.2	25.3	26.3	17.6	6.8
25th	1,173.5	148.4	103.8	74.5	38.1	28.9	17.0	13.9	7.7	2.9
75th	3,110.6	656.7	374.6	239.4	96.3	76.8	62.3	48.9	30.5	12.3

Table J-47. Nitrate loads (lbs/d) by flow percentile for North Prog Lostland Run (NPL0001/WM-50)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,030.1	466.6	325.5	178.7	114.1	44.2	23.6	15.8	11.5	2.2
Average	14,261.3	2,960.2	1,510.7	1,240.6	441.7	465.5	335.7	294.8	108.1	65.1
Maximum	35,724.0	10,241.5	5,054.9	4,737.4	1,320.8	2,377.3	1,478.2	1,366.0	597.1	475.5
Median	11,818.0	2,345.4	1,384.7	848.3	351.7	283.1	159.7	186.6	77.6	21.7
25th	7,329.7	1,087.7	780.7	566.8	192.6	135.4	86.8	63.4	34.7	8.8
75th	19,925.3	4,176.8	1,970.2	1,180.6	627.8	467.0	465.1	390.4	128.4	61.3

Table J-48. Sulfate loads (lbs/d) by flow percentile for North Prog Lostland Run (NPL0001/WM-50)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	109,498	78,041	66,218	51,315	27,732	25,221	21,357	10,761	7,208	6,332
Average	346,930	127,407	95,361	81,902	62,738	47,913	36,795	30,046	21,632	12,789
Maximum	748,762	217,045	142,357	117,742	90,021	70,293	59,994	49,653	37,974	25,053
Median	307,309	123,000	96,309	76,211	61,814	46,481	35,459	28,214	21,126	11,599
25th	215,993	108,328	85,514	67,899	55,725	42,313	28,659	21,681	15,023	9,950
75th	485,952	146,109	107,358	97,423	70,690	54,932	44,515	37,548	28,826	14,071

Table J-49. Iron loads (lbs/d) by flow percentile for North Prog Lostland Run (NPL0001/WM-50)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,451.2	902.4	766.8	676.3	303.5	287.1	233.8	119.8	78.9	69.5
Average	8,085.3	2,017.3	1,367.0	1,090.6	715.2	575.0	447.0	355.8	243.3	157.2
Maximum	21,017.5	5,152.8	4,629.3	2,900.0	1,116.3	1,544.6	825.3	756.5	409.0	426.8
Median	6,764.1	1,758.6	1,293.8	985.9	707.6	537.8	393.3	342.6	252.1	130.6
25th	3,627.5	1,396.1	1,062.7	822.9	634.0	471.3	319.0	251.8	173.8	110.3
75th	10,833.5	2,355.7	1,493.3	1,211.7	790.7	630.2	559.9	448.3	312.7	173.2

Table J-50. Aluminum loads (lbs/d) by flow percentile for North Prog Lostland Run (NPL0001/WM-50)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,819.3	723.6	563.5	466.0	211.8	193.8	163.0	82.3	55.0	48.4
Average	20,551.9	3,300.9	1,731.6	1,305.4	591.7	479.1	341.7	255.1	171.7	103.3
Maximum	53,399.6	12,768.1	7,506.4	6,981.1	1,630.8	2,085.8	1,131.1	475.7	325.6	197.9
Median	17,463.2	2,462.6	1,583.1	938.3	508.1	385.4	273.9	241.9	166.8	88.3
25th	8,750.8	1,133.3	861.6	645.1	436.2	338.6	220.9	175.6	121.2	75.8
75th	28,028.7	4,417.8	2,252.9	1,382.0	655.0	507.8	375.9	331.5	221.1	120.8

** These tables include upstream loads from North Prog Lostland Run (WM-64/NPL0018).

South Prong Lostland Run (WM-51/SPL0016) plots and tables

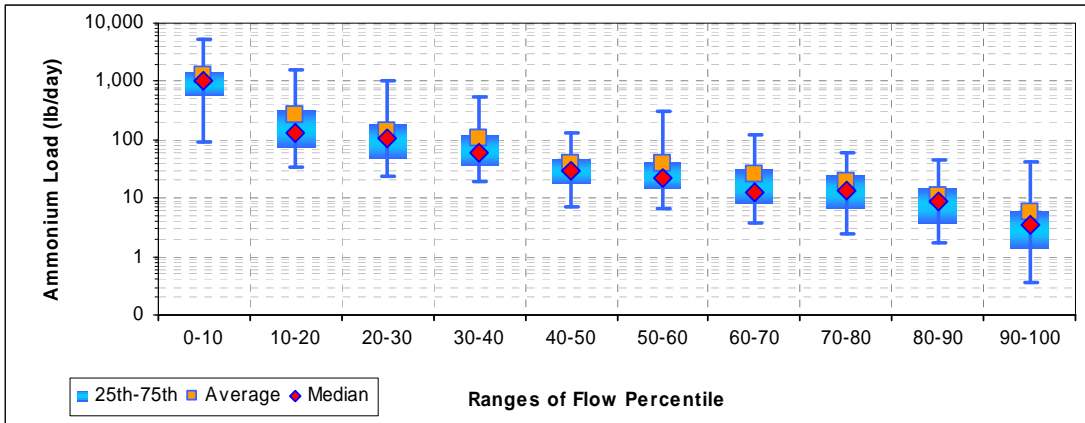


Figure J-51. Ammonium loads by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

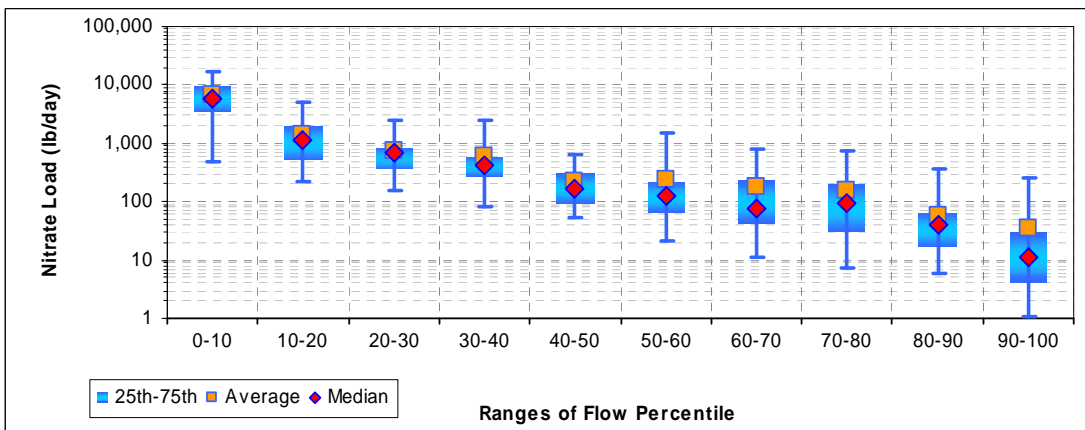


Figure J-52. Nitrate loads by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

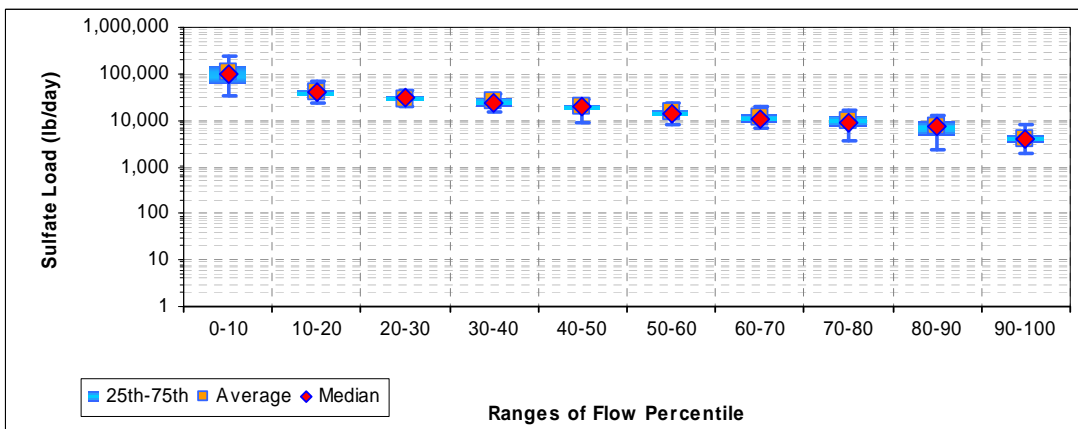


Figure J-53. Sulfate loads by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

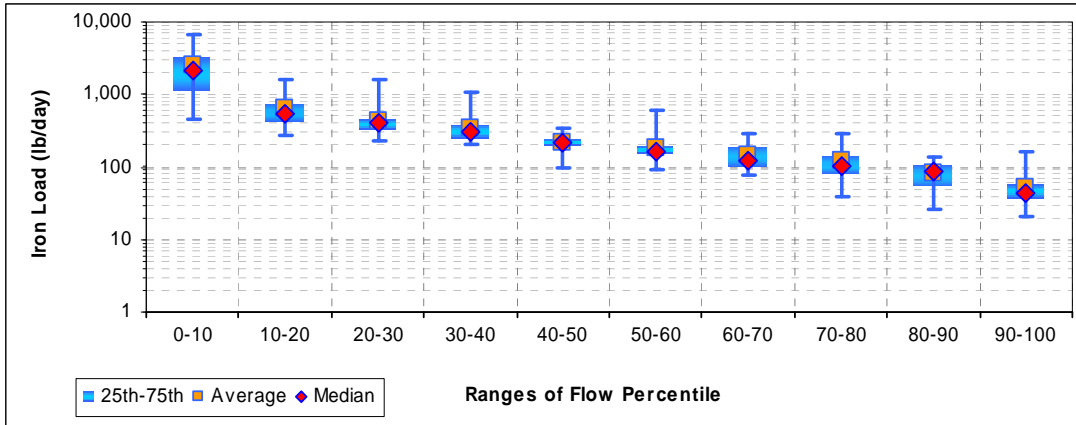


Figure J-54. Iron loads by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

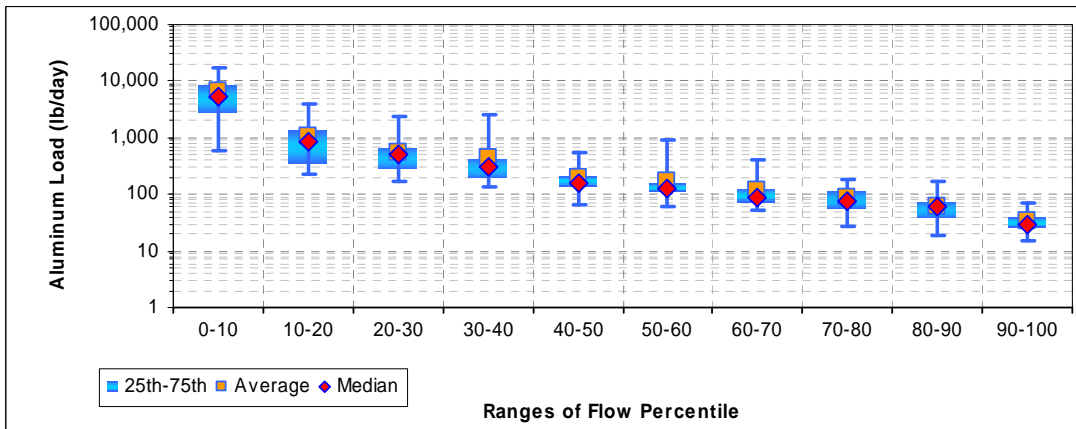


Figure J-55. Aluminum loads by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

Table J-51. Ammonium loads (lb/d) by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	93.9	34.6	23.4	19.8	7.1	6.7	3.6	2.4	1.7	0.3
Average	1,288.8	270.0	145.4	107.3	37.9	39.1	25.1	18.9	11.1	5.7
Maximum	5,185.5	1,534.3	1,051.8	525.0	131.1	314.6	124.6	58.1	45.3	41.7
Median	1,025.2	132.6	103.2	60.1	28.6	22.2	12.5	13.2	9.0	3.6
25th	577.2	71.6	49.1	35.3	18.2	14.0	8.2	6.4	3.8	1.4
75th	1,515.6	332.7	183.0	122.2	47.3	43.0	32.2	25.0	15.4	6.1

Table J-52. Nitrate loads (lbs/d) by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	498.4	219.0	151.6	84.7	54.9	21.0	11.1	7.4	6.0	1.0
Average	6,896.7	1,450.4	733.8	616.3	215.9	242.7	175.2	155.4	57.9	34.7
Maximum	17,397.2	4,982.2	2,452.1	2,463.4	659.0	1,475.6	769.0	744.8	353.6	263.6
Median	5,728.2	1,119.6	685.1	415.8	166.2	129.4	77.1	95.8	40.2	11.0
25th	3,514.8	516.9	366.9	265.7	92.0	64.0	43.1	30.8	17.2	4.3
75th	9,510.8	2,072.7	870.9	615.2	307.2	223.8	234.9	201.7	66.9	31.0

Table J-53. Sulfate loads (lbs/d) by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	33,475	23,737	20,167	15,634	8,803	8,038	6,943	3,555	2,432	1,940
Average	107,461	39,656	29,575	25,502	19,330	15,157	11,852	9,829	7,166	4,148
Maximum	234,786	66,290	46,089	37,986	28,159	23,016	19,888	16,434	12,494	8,209
Median	96,029	40,138	29,839	24,007	19,376	14,424	11,081	8,499	7,133	3,903
25th	65,102	33,271	25,809	20,703	16,867	13,197	9,172	7,249	4,851	3,258
75th	150,286	45,273	33,268	30,785	22,007	17,185	13,887	12,680	9,450	4,776

Table J-54. Iron loads (lbs/d) by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	455.9	276.6	234.1	205.2	96.4	92.4	76.1	39.7	26.6	21.3
Average	2,561.9	646.1	436.7	350.5	222.6	187.2	148.1	118.9	81.5	52.4
Maximum	6,765.5	1,601.8	1,612.9	1,059.9	351.3	621.0	294.7	294.6	134.6	162.3
Median	2,105.3	544.6	396.4	301.8	214.8	166.3	123.8	104.7	87.9	42.8
25th	1,166.7	436.9	330.2	249.8	187.7	150.1	102.9	80.9	55.4	36.3
75th	3,435.2	742.1	467.6	391.8	244.3	197.8	187.9	148.5	107.4	59.4

Table J-55. Aluminum loads (lbs/d) by flow percentile for South Prong Lostland Run (WM-51/SPL0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	583.2	224.5	173.4	140.5	67.4	61.9	53.0	27.2	18.6	14.8
Average	6,516.9	1,070.7	561.1	433.9	189.4	165.1	116.7	87.2	58.8	34.1
Maximum	17,068.5	3,920.1	2,453.9	2,567.1	534.4	912.5	394.5	189.1	165.0	72.2
Median	5,447.3	833.1	508.0	298.0	154.9	124.1	86.3	76.5	60.3	29.4
25th	2,769.2	357.7	273.6	199.4	133.3	106.5	70.4	56.4	38.6	24.4
75th	9,024.7	1,427.6	704.7	450.9	205.2	159.9	125.7	115.3	74.2	39.1

Three Forks Run (WM-54/TFR0016) plots and tables

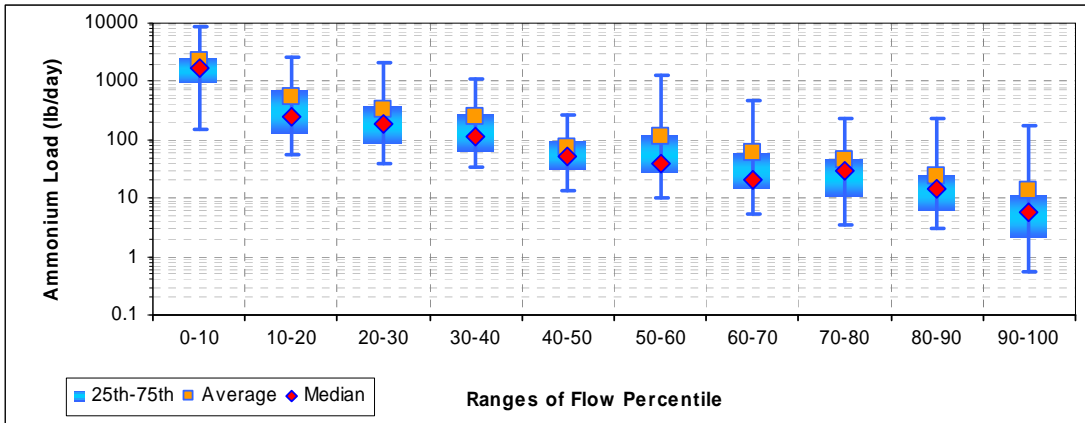


Figure J-56. Ammonium loads by flow percentile for Three Forks Run (WM-54/TFR0016)

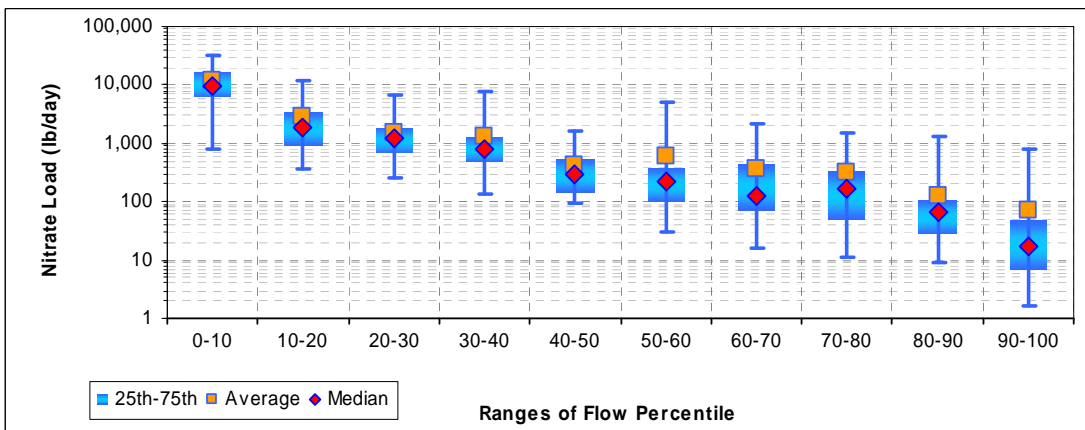


Figure J-57. Nitrate loads by flow percentile for Three Forks Run (WM-54/TFR0016)

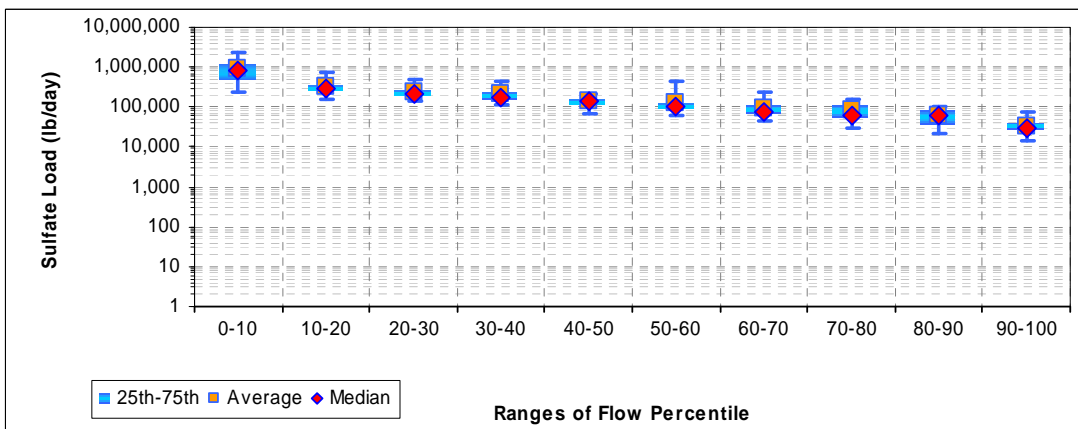


Figure J-58. Sulfate loads by flow percentile for Three Forks Run (WM-54/TFR0016)

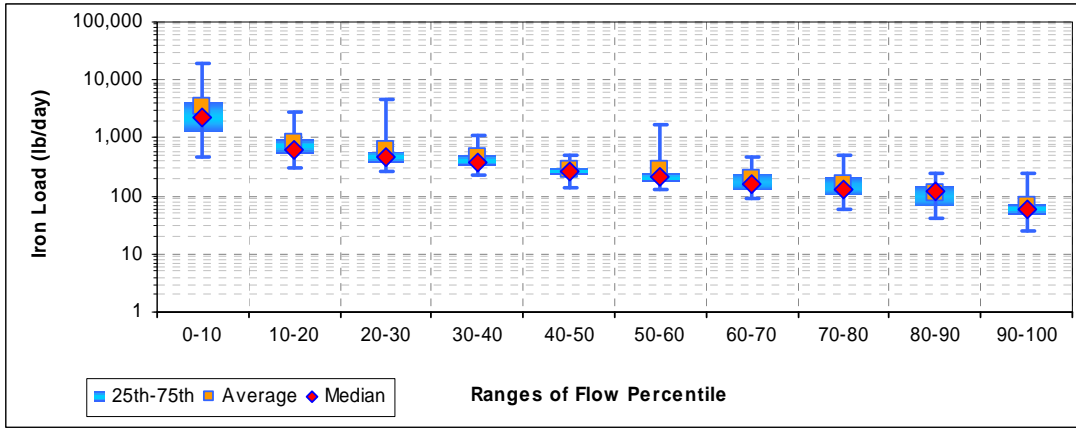


Figure J-59. Iron loads by flow percentile for Three Forks Run (WM-54/TFR0016)

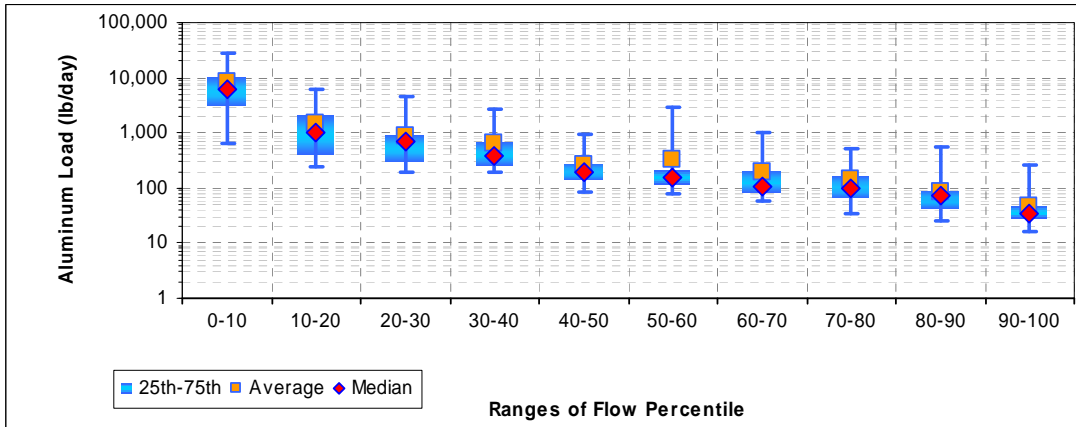


Figure J-60. Aluminum loads by flow percentile for Three Forks Run (WM-54/TFR0016)

FINAL

Table J-56. Ammonium loads (lb/d) by flow percentile for Three Forks Run (WM-54/TFR0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	146.1	56.4	38.8	34.3	13.7	9.8	5.3	3.6	3.0	0.5
Average	2,253.0	546.9	318.9	247.7	76.6	114.5	61.5	45.3	24.2	13.1
Maximum	8,636.9	2,626.8	2,163.0	1,144.1	258.5	1,266.6	466.3	226.4	227.2	179.6
Median	1,720.2	254.1	182.2	115.2	53.4	39.9	20.9	28.6	15.0	5.6
25th	962.7	133.8	83.3	64.3	31.1	27.0	14.4	11.2	6.3	2.2
75th	2,549.0	705.1	375.7	285.5	99.0	119.5	61.0	47.2	25.4	11.3

Table J-57. Nitrate loads (lbs/d) by flow percentile for Three Forks Run (WM-54/TFR0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	824.0	361.1	263.3	138.5	91.5	30.7	16.3	11.0	9.0	1.6
Average	12,154.2	2,946.4	1,540.4	1,347.6	414.8	580.8	370.3	316.9	122.4	69.3
Maximum	32,887.8	12,080.7	6,678.0	7,586.4	1,587.4	5,173.5	2,207.6	1,479.9	1,297.0	772.6
Median	9,401.8	1,918.7	1,204.0	791.0	289.0	228.8	125.3	168.0	68.5	17.4
25th	6,184.0	928.0	667.3	478.0	141.3	104.4	69.4	50.6	27.9	6.6
75th	17,068.9	3,639.4	1,869.0	1,300.3	553.5	381.7	448.7	341.9	112.3	51.5

Table J-58. Sulfate loads (lbs/d) by flow percentile for Three Forks Run (WM-54/TFR0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	238,214	164,403	134,813	113,641	71,055	63,285	46,283	29,904	21,802	14,732
Average	921,615	334,994	241,839	208,864	139,695	126,001	97,589	80,907	59,665	34,509
Maximum	2,410,689	750,641	499,734	447,427	216,143	441,059	240,030	152,568	102,588	73,534
Median	783,382	300,325	224,100	179,126	136,843	107,019	79,230	60,129	63,701	30,558
25th	468,289	253,108	186,700	160,306	119,074	92,448	65,850	52,736	35,736	25,479
75th	1,276,150	362,940	265,030	232,703	154,885	125,527	109,358	117,297	80,322	41,635

Table J-59. Iron loads (lbs/d) by flow percentile for Three Forks Run (WM-54/TFR0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	481.5	311.5	271.2	235.8	138.7	128.2	91.4	57.9	40.7	24.9
Average	3,447.2	850.0	632.8	458.6	280.2	274.2	205.3	165.1	113.9	67.7
Maximum	19,111.1	2,869.8	4,684.2	1,094.7	492.9	1,708.1	481.4	505.8	251.7	248.0
Median	2,310.8	646.1	485.6	366.0	263.9	206.3	161.9	126.2	118.5	58.1
25th	1,256.0	547.5	386.4	339.3	229.6	177.6	131.2	107.1	69.7	45.9
75th	4,178.4	966.3	587.8	491.8	304.5	253.9	242.5	210.7	154.2	72.4

Table J-60. Aluminum loads (lbs/d) by flow percentile for Three Forks Run (WM-54/TFR0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	639.4	240.0	187.0	189.0	85.7	78.9	58.3	34.8	24.6	15.9
Average	8,098.5	1,527.0	864.1	648.2	255.5	317.5	199.5	139.9	84.2	44.9
Maximum	28,024.9	6,260.8	4,551.0	2,655.5	939.5	2,921.9	1,032.5	509.9	563.3	252.7
Median	6,312.4	1,021.1	698.2	396.0	193.5	153.6	102.7	100.0	72.1	35.5
25th	3,230.0	402.4	294.6	259.2	148.2	117.8	82.1	66.1	43.3	27.9
75th	10,663.0	2,142.1	963.2	695.4	280.7	203.9	202.2	163.2	90.5	45.8

UT to Three Forks Run (WM-55/ZWT0000) plots and tables

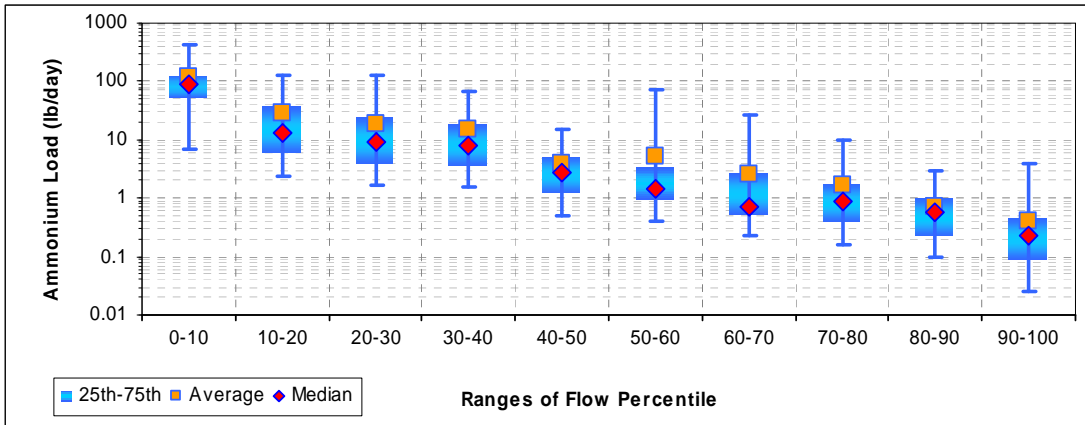


Figure J-61. Ammonium loads by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

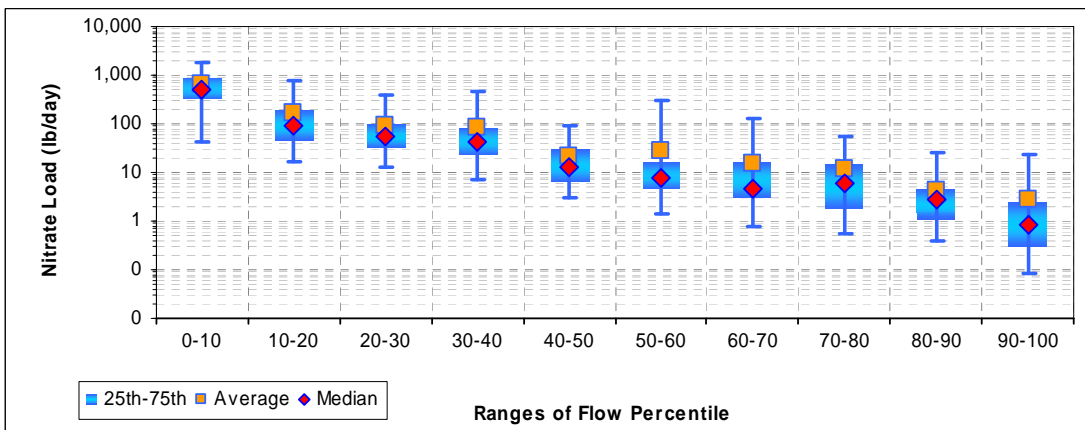


Figure J-62. Nitrate loads by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

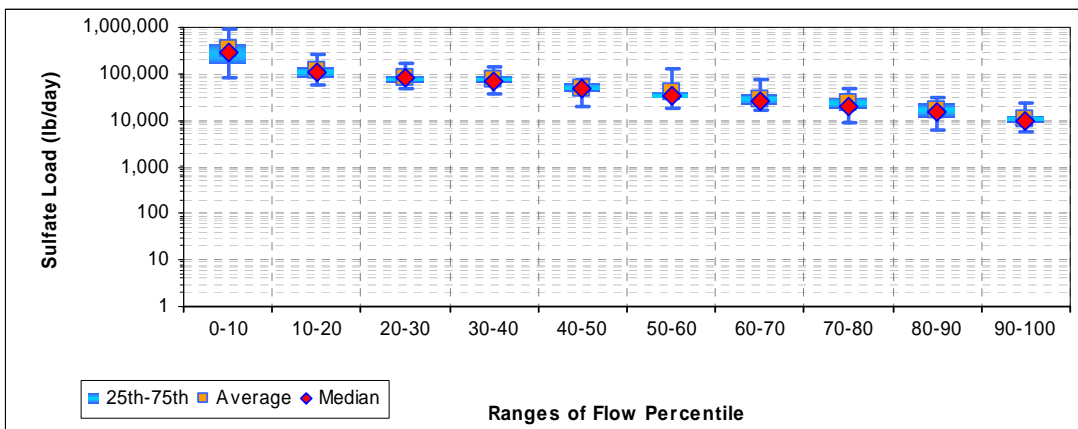


Figure J-63. Sulfate loads by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

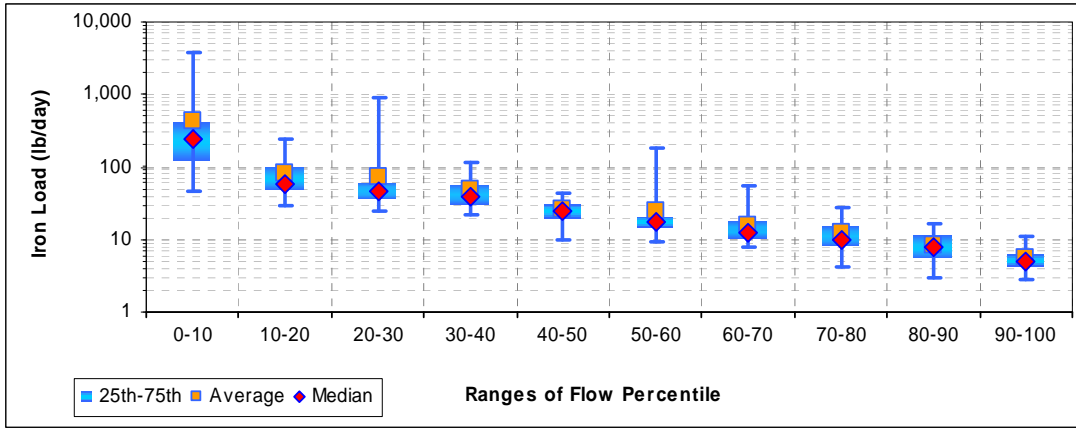


Figure J-64. Iron loads by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

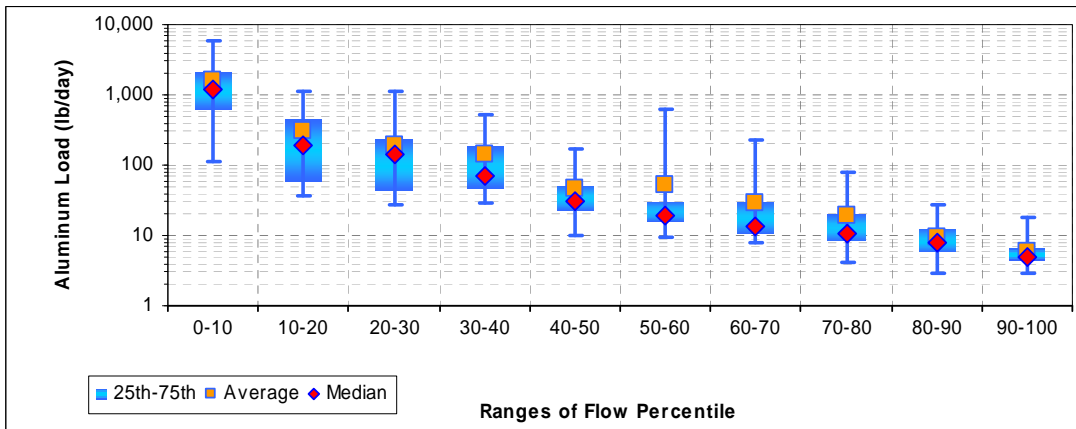


Figure J-65. Aluminum loads by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

FINAL

Table J-61. Ammonium loads (lb/d) by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	7.0	2.4	1.6	1.5	0.5	0.4	0.2	0.2	0.1	0.0
Average	114.7	29.5	18.4	15.1	4.0	5.2	2.6	1.7	0.7	0.4
Maximum	430.8	127.4	123.7	68.0	15.0	73.5	27.6	9.7	2.9	4.0
Median	91.2	13.5	9.4	7.8	2.7	1.4	0.7	0.9	0.6	0.2
25th	52.4	5.8	4.0	3.6	1.2	0.9	0.5	0.4	0.2	0.1
75th	129.1	38.3	24.8	18.1	5.2	3.5	2.6	1.8	1.0	0.5

Table J-62. Nitrate loads (lbs/d) by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	41.7	16.4	12.9	6.9	3.0	1.4	0.8	0.5	0.4	0.1
Average	653.5	163.0	89.2	81.1	21.9	27.6	15.9	12.3	4.1	2.7
Maximum	1,774.5	757.3	395.1	458.9	93.0	311.7	132.1	54.8	25.8	24.4
Median	494.3	91.3	57.4	41.7	12.6	8.1	4.6	6.1	2.8	0.8
25th	330.7	45.5	33.0	24.3	6.3	4.7	2.9	1.8	1.1	0.3
75th	920.9	206.1	100.4	83.9	30.9	17.3	16.3	15.2	4.5	2.5

Table J-63. Sulfate loads (lbs/d) by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	82,250	57,588	49,710	37,322	20,278	18,676	16,167	8,543	5,973	5,796
Average	336,956	116,531	85,371	76,008	49,446	39,638	29,293	23,810	17,244	11,050
Maximum	883,943	257,278	161,856	146,051	75,962	134,114	74,290	47,105	32,301	23,168
Median	279,468	105,054	82,086	72,051	49,871	34,272	25,944	19,905	15,303	10,101
25th	170,883	82,311	65,267	63,165	40,731	29,645	21,591	17,431	11,489	8,681
75th	465,129	140,662	91,588	88,085	60,669	40,318	35,695	31,575	24,159	12,321

Table J-64. Iron loads (lbs/d) by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	46.6	28.8	25.2	21.9	9.9	9.1	7.9	4.2	2.9	2.8
Average	426.2	84.2	75.0	47.5	26.0	24.0	15.6	12.3	8.5	5.4
Maximum	3,718.2	240.6	928.3	115.0	43.3	177.3	53.6	28.1	16.2	11.3
Median	240.8	58.1	46.2	38.1	24.8	17.5	12.6	9.8	7.8	4.9
25th	122.2	49.8	36.5	31.0	20.0	14.7	10.5	8.5	5.6	4.2
75th	420.7	100.6	60.5	58.4	31.4	20.6	18.2	15.8	11.8	6.1

Table J-65. Aluminum loads (lbs/d) by flow percentile for UT to Three Forks Run (WM-55/ZWT0000)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	113.1	36.7	27.8	28.9	10.1	9.2	7.9	4.2	2.9	2.8
Average	1,591.2	301.8	186.6	141.6	45.5	52.3	28.9	18.7	9.5	5.8
Maximum	5,912.3	1,109.5	1,137.2	537.2	168.2	617.9	229.5	81.0	26.6	18.0
Median	1,227.0	190.1	140.6	71.2	30.8	19.6	13.0	10.9	7.9	5.0
25th	631.0	59.5	44.9	45.1	22.5	16.1	10.6	8.6	5.8	4.3
75th	2,147.0	464.7	243.0	190.4	52.9	30.0	30.7	19.8	12.5	6.6

Short Run (WM-60/SHO0016) plots and tables

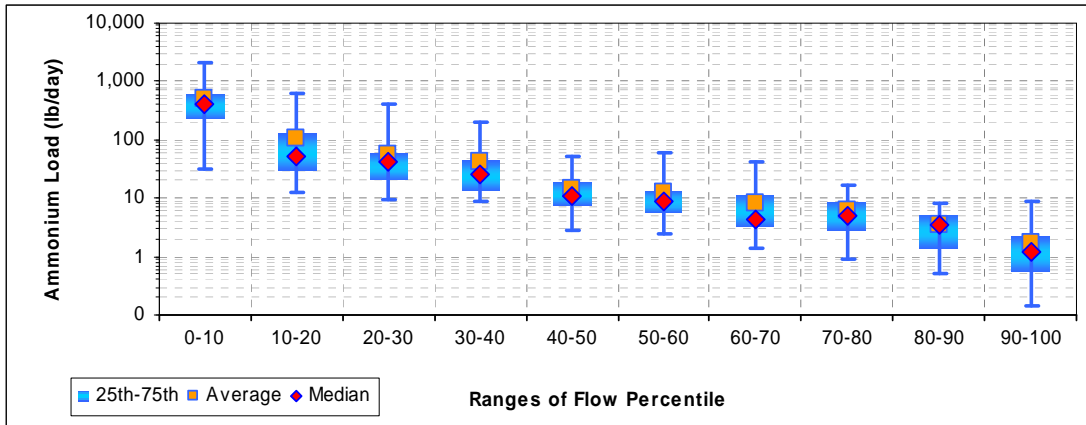


Figure J-66. Ammonium loads by flow percentile for Short Run (WM-60/SHO0016)

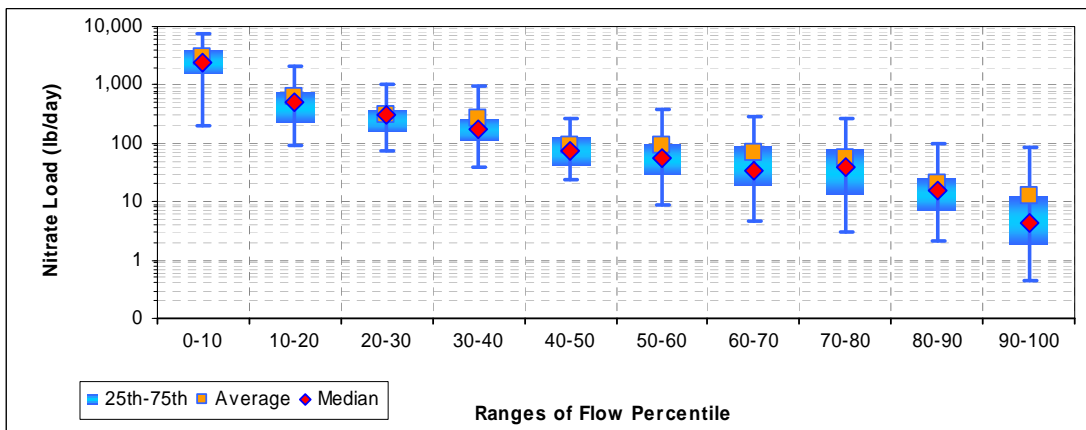


Figure J-67. Nitrate loads by flow percentile for Short Run (WM-60/SHO0016)

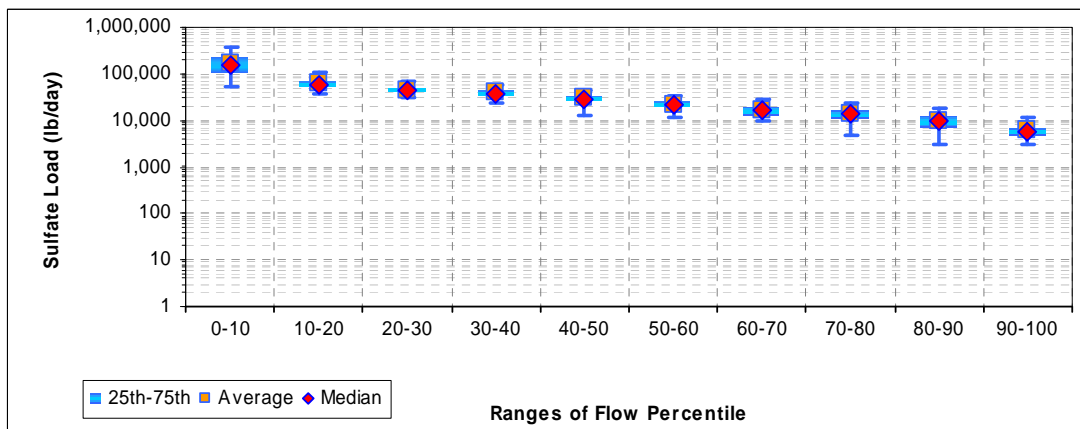


Figure J-68. Sulfate loads by flow percentile for Short Run (WM-60/SHO0016)

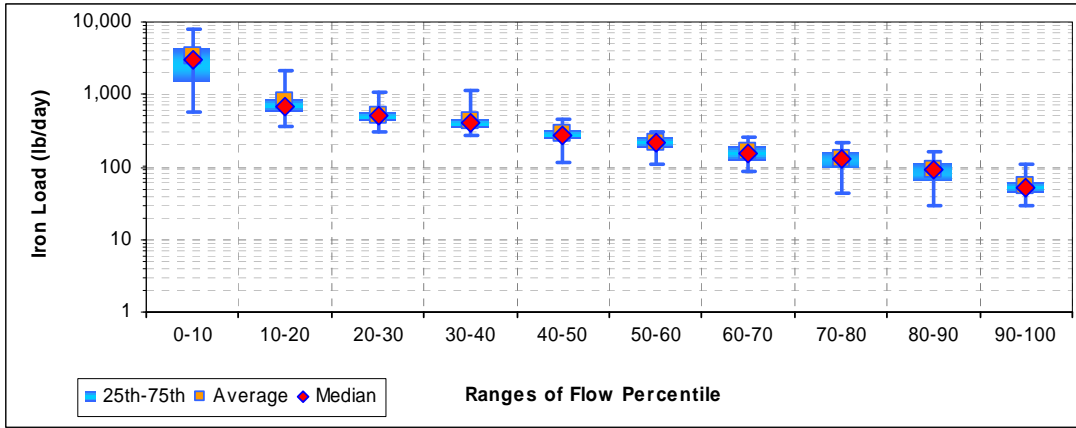


Figure J-69. Iron loads by flow percentile for Short Run (WM-60/SHO0016)

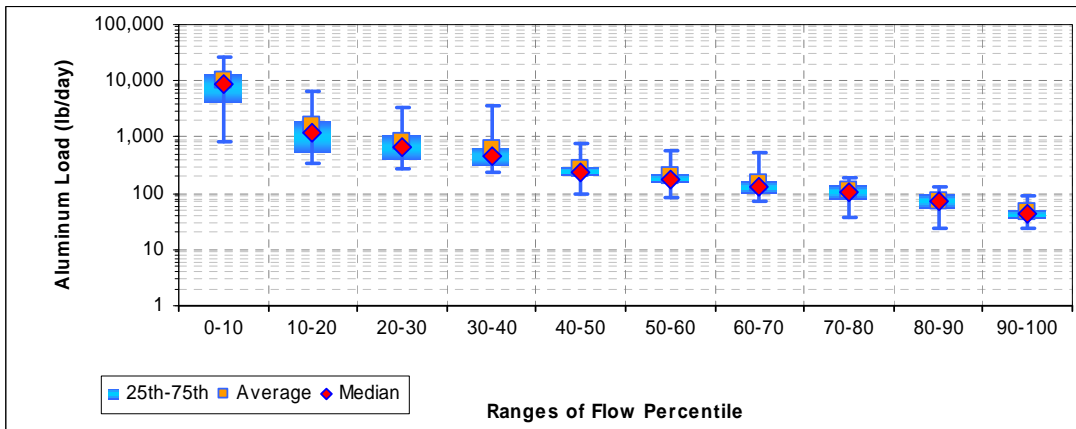


Figure J-70. Aluminum loads by flow percentile for Short Run (WM-60/SHO0016)

FINAL

Table J-66. Ammonium loads (lb/d) by flow percentile for Short Run (WM-60/SHO0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	32.3	12.9	9.3	8.6	2.8	2.5	1.4	0.9	0.5	0.1
Average	520.8	106.2	54.7	40.7	14.8	12.4	8.2	6.2	3.5	1.7
Maximum	2,093.6	629.7	404.5	194.1	50.9	61.9	40.7	16.8	8.0	8.6
Median	401.6	52.8	43.2	25.2	10.7	8.6	4.4	5.1	3.4	1.2
25th	231.4	28.8	20.1	13.9	7.4	5.6	3.3	2.7	1.4	0.6
75th	610.1	131.3	60.4	45.4	19.0	13.1	11.6	8.9	5.4	2.3

Table J-67. Nitrate loads (lbs/d) by flow percentile for Short Run (WM-60/SHO0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	207.5	92.5	71.8	39.5	23.4	8.6	4.6	3.1	2.1	0.5
Average	2,963.2	610.3	306.1	258.4	92.3	91.0	66.9	57.7	20.9	12.4
Maximum	7,432.3	2,091.9	1,010.1	936.5	274.9	375.9	286.5	258.3	98.8	86.0
Median	2,370.1	492.1	299.9	179.7	76.8	57.1	33.3	38.2	15.5	4.3
25th	1,538.6	231.9	163.0	117.6	42.1	29.2	19.2	13.3	7.1	1.8
75th	4,112.1	799.5	376.3	265.5	130.8	98.0	93.4	77.7	25.0	12.6

Table J-68. Sulfate loads (lbs/d) by flow percentile for Short Run (WM-60/SHO0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	51,891	37,021	31,932	24,242	12,562	11,397	9,475	4,766	3,137	3,164
Average	167,948	61,193	45,099	39,450	29,823	22,356	16,967	13,824	9,891	6,038
Maximum	366,840	106,785	66,343	56,155	43,132	32,389	27,790	23,071	17,711	11,781
Median	150,170	59,768	45,408	37,376	29,082	22,447	16,592	13,543	9,657	5,456
25th	103,415	51,678	41,146	32,666	26,370	19,786	13,137	10,280	7,003	4,643
75th	235,501	70,112	49,919	46,097	33,351	24,773	20,611	17,304	12,913	6,620

Table J-69. Iron loads (lbs/d) by flow percentile for Short Run (WM-60/SHO0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	577.5	359.6	308.5	275.4	117.4	106.5	88.6	44.5	29.3	29.6
Average	3,321.6	795.9	513.4	433.9	288.3	214.9	161.2	129.2	91.4	56.0
Maximum	8,104.0	2,127.4	1,081.1	1,140.7	458.7	305.3	256.9	212.1	163.2	108.2
Median	2,939.9	681.9	499.4	401.7	279.2	213.0	155.4	126.7	89.4	51.9
25th	1,497.3	567.9	433.8	336.5	249.7	186.7	123.1	97.1	65.3	42.8
75th	4,561.2	872.8	574.6	466.0	317.7	253.4	197.3	159.7	118.0	61.6

Table J-70. Aluminum loads (lbs/d) by flow percentile for Short Run (WM-60/SHO0016)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	842.3	334.4	263.6	228.9	95.6	86.6	72.0	36.2	23.9	24.1
Average	10,074.0	1,595.2	800.7	634.0	277.5	203.1	146.5	110.1	74.8	45.6
Maximum	26,368.3	6,491.4	3,236.2	3,626.4	795.4	575.5	520.5	187.5	132.7	88.0
Median	8,550.2	1,174.6	670.2	458.9	243.0	177.1	126.4	103.6	72.7	42.2
25th	4,301.0	539.5	406.3	315.4	206.3	154.6	100.2	79.2	53.1	34.8
75th	13,959.4	1,991.0	1,071.4	660.6	299.6	225.7	163.3	139.0	96.5	50.1

Laurel Run (WM-61/LNB0014) plots and tables

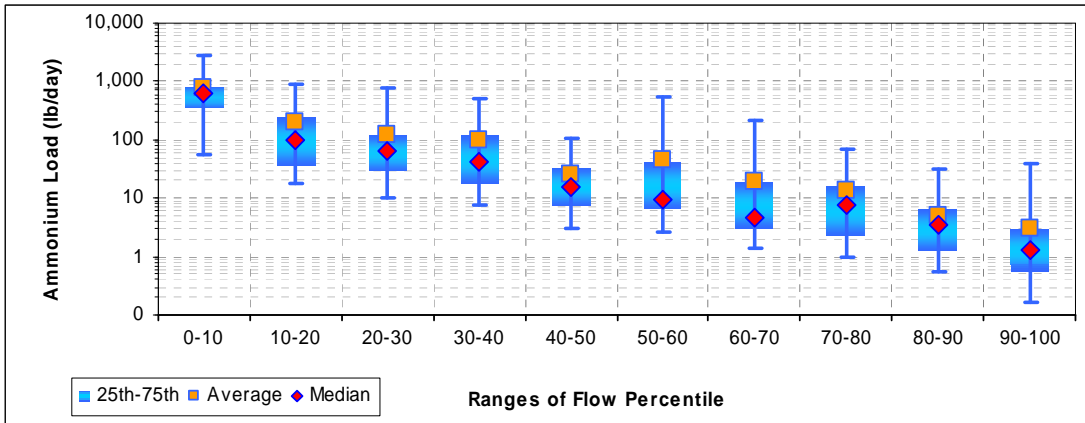


Figure J-71. Ammonium loads by flow percentile for Laurel Run (WM-61/LNB0014)

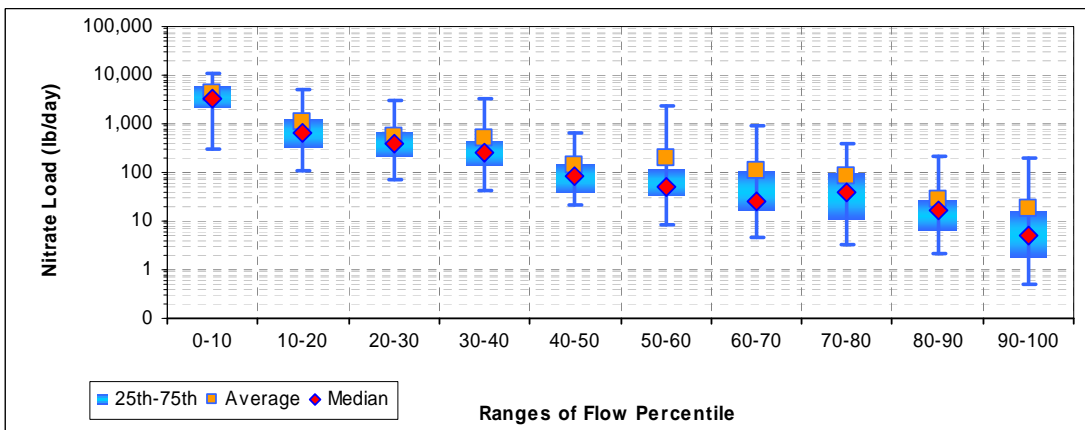


Figure J-72. Nitrate loads by flow percentile for Laurel Run (WM-61/LNB0014)

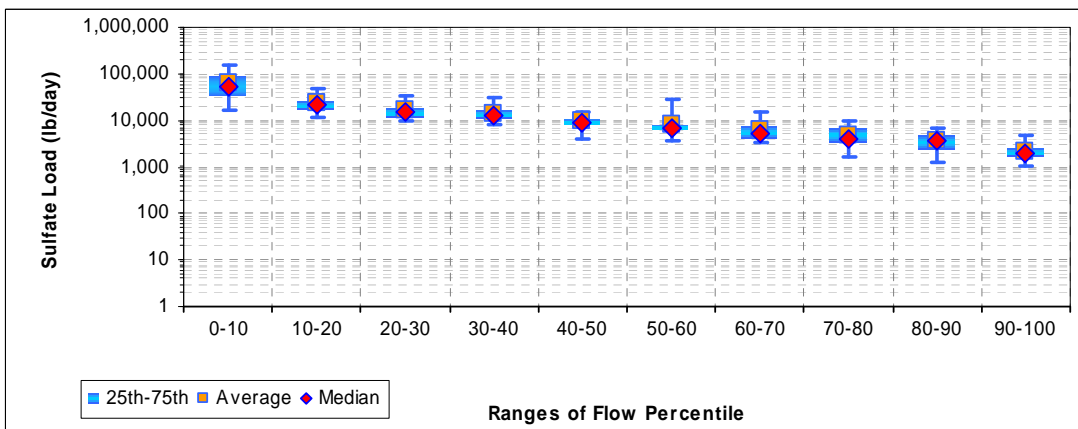


Figure J-73. Sulfate loads by flow percentile for Laurel Run (WM-61/LNB0014)

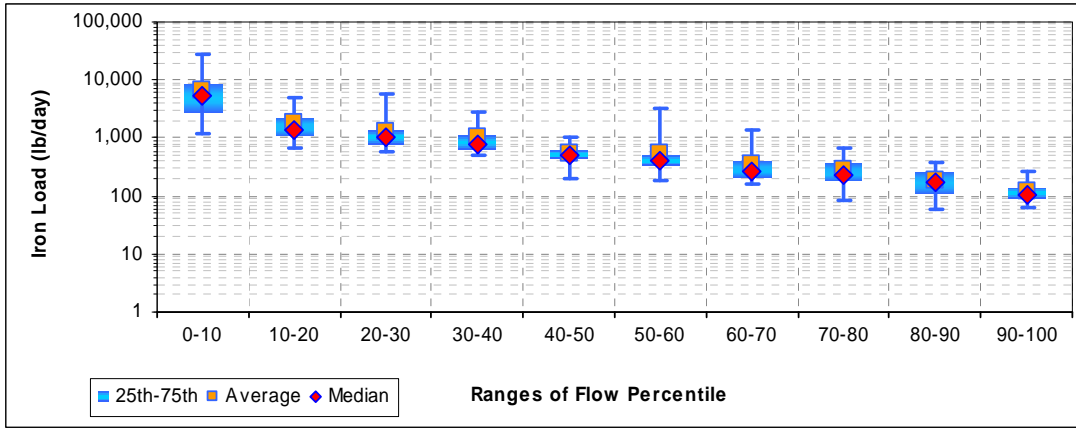


Figure J-74. Iron loads by flow percentile for Laurel Run (WM-61/LNB0014)

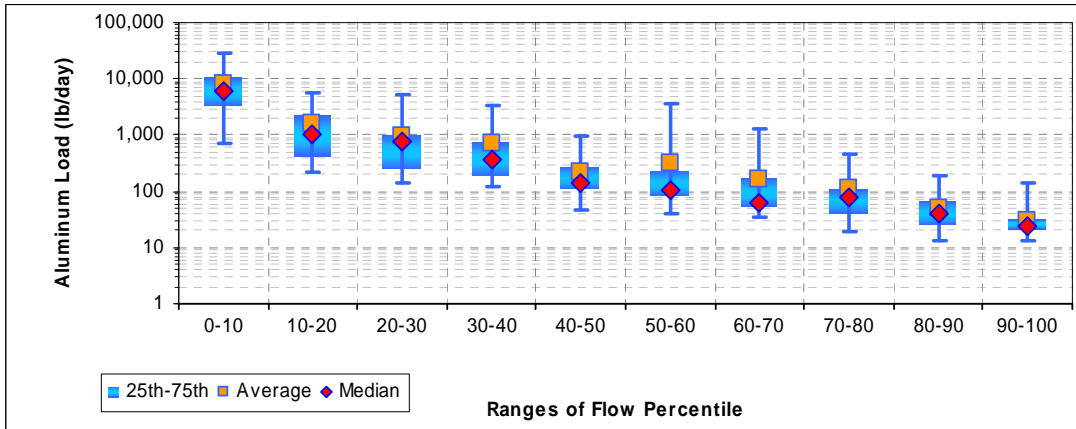


Figure J-75. Aluminum loads by flow percentile for Laurel Run (WM-61/LNB0014)

Table J-71. Ammonium loads (lb/d) by flow percentile for Laurel Run (WM-61/LNB0014)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	56.6	17.7	10.2	7.6	3.0	2.6	1.4	1.0	0.6	0.2
Average	754.9	201.5	120.9	100.3	26.3	44.3	19.9	13.2	5.1	3.0
Maximum	2,824.5	892.7	798.7	494.9	106.1	559.9	209.0	71.5	31.0	38.8
Median	638.8	100.4	62.7	41.8	15.8	9.6	4.7	7.6	3.5	1.3
25th	348.2	36.9	28.4	18.2	7.8	6.6	3.0	2.4	1.3	0.6
75th	850.6	255.2	124.9	123.2	34.9	41.3	19.9	16.6	6.4	3.1

Table J-72. Nitrate loads (lbs/d) by flow percentile for Laurel Run (WM-61/LNB0014)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	307.0	107.3	71.2	43.4	21.5	8.7	4.8	3.3	2.2	0.5
Average	4,182.6	1,083.1	563.6	512.1	136.9	204.5	111.8	85.8	27.8	18.4
Maximum	10,972.1	4,947.2	3,025.0	3,205.0	631.7	2,278.5	949.9	397.0	211.3	191.4
Median	3,179.3	632.6	380.7	251.3	82.9	49.4	26.3	39.5	17.3	5.1
25th	2,087.3	319.7	212.0	136.4	39.5	31.8	17.1	10.5	6.4	1.9
75th	5,837.7	1,275.8	685.6	483.7	159.0	119.0	112.7	102.2	28.5	16.4

Table J-73. Sulfate loads (lbs/d) by flow percentile for Laurel Run (WM-61/LNB0014)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	16,877	11,499	9,506	8,070	4,057	3,740	3,303	1,698	1,210	1,076
Average	64,498	23,090	16,382	14,228	9,347	8,146	5,971	4,918	3,560	2,208
Maximum	158,226	50,052	33,036	29,633	14,937	28,642	15,776	9,867	6,634	4,650
Median	54,680	21,092	15,409	12,325	8,970	7,078	5,040	3,866	3,523	1,962
25th	32,830	16,909	12,018	10,600	7,919	5,954	4,121	3,380	2,234	1,667
75th	87,618	25,888	17,993	15,873	10,962	7,912	7,177	6,780	4,857	2,598

Table J-74. Iron loads (lbs/d) by flow percentile for Laurel Run (WM-61/LNB0014)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,161.7	668.9	571.2	518.9	197.5	181.7	158.3	83.7	59.0	61.1
Average	6,819.2	1,826.2	1,255.1	1,005.6	551.3	541.0	353.8	279.6	186.3	120.1
Maximum	26,750.9	4,849.4	5,549.4	2,799.2	1,017.8	3,186.2	1,338.3	678.6	373.0	255.3
Median	5,239.6	1,337.9	1,026.0	773.8	505.3	407.1	261.4	230.8	170.7	107.1
25th	2,877.5	1,126.0	784.6	608.2	445.0	328.5	220.3	181.8	112.2	88.8
75th	8,973.2	2,190.6	1,322.7	1,069.3	626.2	516.4	415.3	369.7	266.3	140.8

Table J-75. Aluminum loads (lbs/d) by flow percentile for Laurel Run (WM-61/LNB0014)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	725.1	217.6	141.8	122.3	45.4	41.2	35.8	18.9	13.3	13.7
Average	7,963.6	1,602.9	935.1	711.7	224.3	318.4	166.6	109.2	49.2	30.1
Maximum	28,097.6	5,601.3	5,369.9	3,473.4	970.1	3,628.8	1,317.4	463.1	188.1	135.7
Median	6,038.1	1,049.3	767.2	361.3	145.0	107.0	60.5	80.4	39.7	24.8
25th	3,324.6	420.1	251.2	192.3	110.1	85.9	52.3	40.8	26.1	20.0
75th	10,905.5	2,265.8	1,062.3	747.3	263.3	235.8	181.6	115.7	64.9	33.0

UT to Laurel Run (WM-62/ULF0003) plots and tables

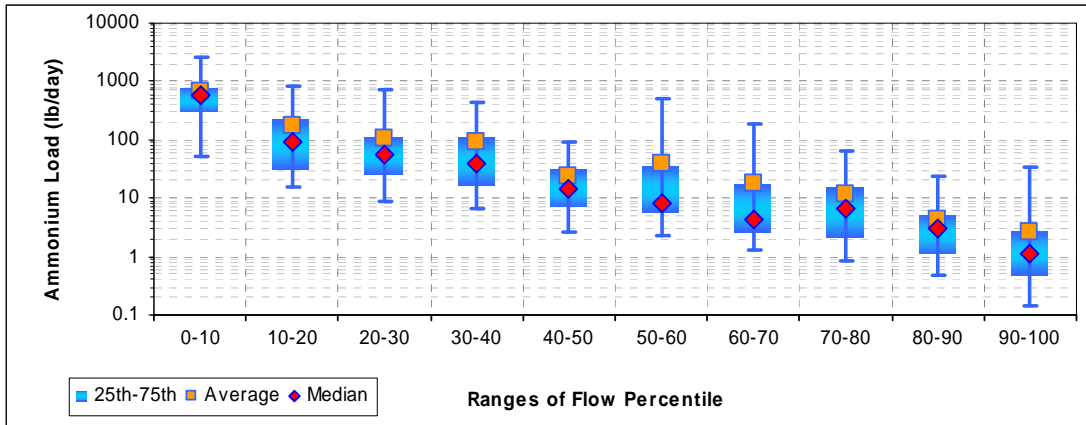


Figure J-. Ammonium loads by flow percentile for UT to Laurel Run (WM-62/ULF0003)

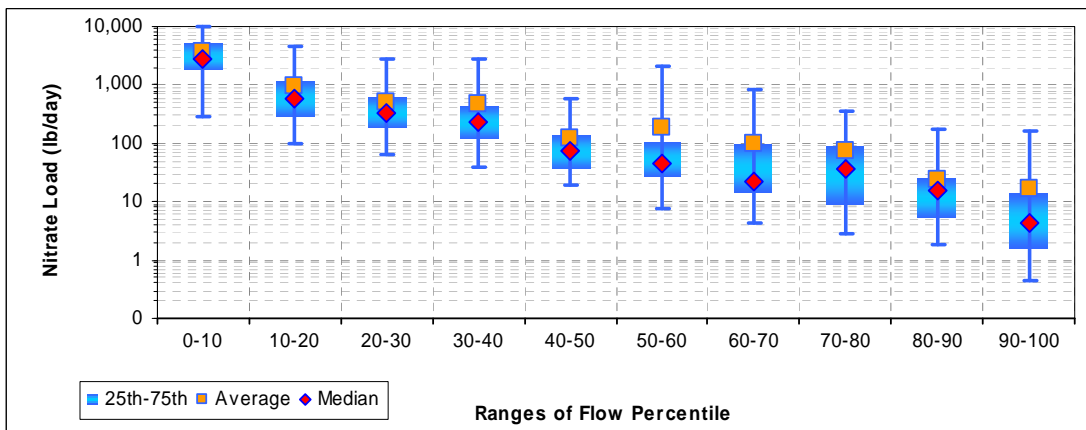


Figure J-1. Nitrate loads by flow percentile for UT to Laurel Run (WM-62/ULF0003)

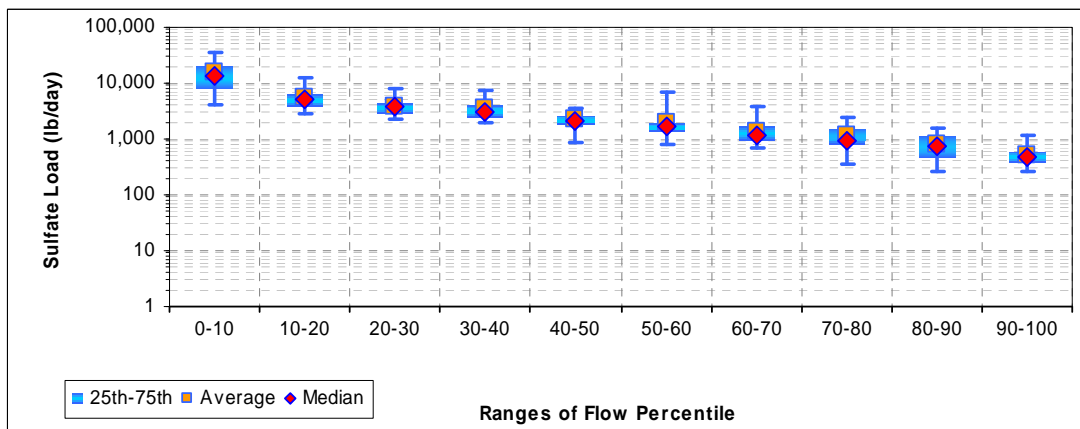


Figure J-2. Sulfate loads by flow percentile for UT to Laurel Run (WM-62/ULF0003)

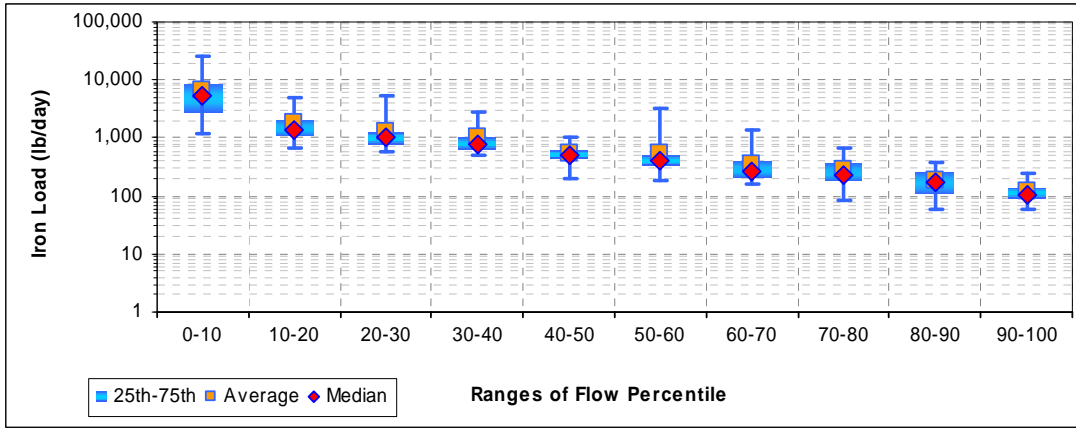


Figure J-3. Iron loads by flow percentile for UT to Laurel Run (WM-62/ULF0003)

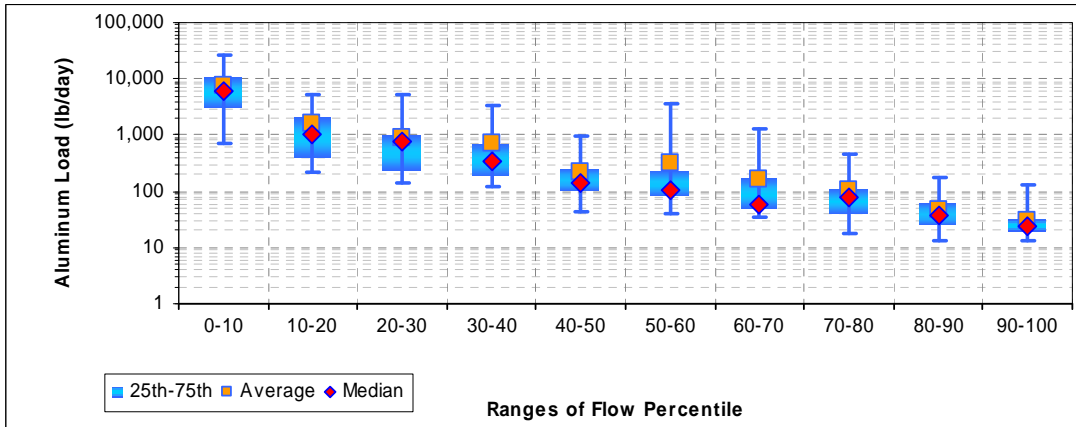


Figure J-4. Aluminum loads by flow percentile for UT to Laurel Run (WM-62/ULF0003)

FINAL

Table J-. Ammonium loads (lb/d) by flow percentile for UT to Laurel Run (WM-62/ULF0003)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	51.3	15.8	9.0	6.6	2.6	2.3	1.3	0.9	0.5	0.1
Average	674.7	180.1	108.1	89.6	23.5	39.6	17.7	11.7	4.4	2.6
Maximum	2,521.0	803.0	717.6	441.8	94.9	502.8	187.5	64.1	24.4	32.9
Median	570.7	90.9	56.1	37.9	14.0	8.4	4.2	6.7	3.0	1.1
25th	310.9	32.6	25.1	16.2	6.9	5.9	2.6	2.1	1.1	0.5
75th	760.4	229.8	112.0	110.0	31.1	36.6	17.6	15.5	5.5	2.7

Table J-1. Nitrate loads (lbs/d) by flow percentile for UT to Laurel Run (WM-62/ULF0003)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	277.8	96.6	63.2	38.6	18.6	7.8	4.2	2.9	1.9	0.5
Average	3,762.0	972.0	506.1	459.5	122.6	183.6	99.6	76.1	24.1	16.2
Maximum	9,850.0	4,442.0	2,729.4	2,880.2	567.9	2,054.7	855.7	353.1	172.9	167.3
Median	2,849.7	566.3	341.1	224.1	73.7	43.7	22.7	35.4	15.1	4.5
25th	1,876.9	286.8	190.9	122.3	35.3	28.3	14.5	9.1	5.5	1.6
75th	5,257.2	1,149.1	617.1	428.0	141.9	106.2	101.1	91.0	25.3	14.6

Table J-2. Sulfate loads (lbs/d) by flow percentile for UT to Laurel Run (WM-62/ULF0003)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4,127	2,763	2,286	1,971	855	787	686	363	256	265
Average	15,380	5,542	3,924	3,439	2,205	1,946	1,374	1,130	800	519
Maximum	36,278	12,071	8,260	7,280	3,641	7,129	3,887	2,388	1,588	1,121
Median	12,971	5,042	3,705	3,036	2,105	1,680	1,130	935	733	466
25th	7,889	3,936	2,897	2,442	1,878	1,379	951	781	487	385
75th	21,322	6,226	4,384	3,995	2,630	1,961	1,688	1,563	1,162	610

Table J-3. Iron loads (lbs/d) by flow percentile for UT to Laurel Run (WM-62/ULF0003)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,153.7	664.1	567.1	514.8	195.8	180.1	156.9	83.0	58.5	60.7
Average	6,755.3	1,812.3	1,243.7	998.4	547.2	536.8	351.0	277.4	184.8	119.2
Maximum	26,252.4	4,810.9	5,424.0	2,782.3	1,010.1	3,155.8	1,329.0	673.8	370.3	253.5
Median	5,193.6	1,329.2	1,018.4	768.2	501.8	404.3	259.5	229.1	169.3	106.3
25th	2,857.3	1,118.1	778.9	603.6	442.0	325.9	218.7	180.6	111.3	88.1
75th	8,909.8	2,176.2	1,312.2	1,061.6	621.8	512.8	412.1	366.9	264.3	139.7

Table J-4. Aluminum loads (lbs/d) by flow percentile for UT to Laurel Run (WM-62/ULF0003)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	704.3	211.1	136.9	118.1	43.7	39.6	34.4	18.2	12.8	13.3
Average	7,706.1	1,551.2	905.3	689.6	217.0	308.3	160.9	105.5	47.3	29.0
Maximum	27,191.6	5,416.1	5,200.0	3,379.8	938.0	3,516.8	1,277.0	449.4	175.7	129.4
Median	5,851.4	1,016.0	742.1	348.8	140.4	103.9	58.3	77.6	37.8	23.6
25th	3,218.9	408.4	243.6	185.9	106.4	82.8	50.2	39.5	25.2	19.3
75th	10,552.4	2,186.3	1,025.9	721.6	254.9	228.1	175.6	113.7	62.7	31.8

North Prong Lostland Run (WM-64/NPL0018) plots and tables

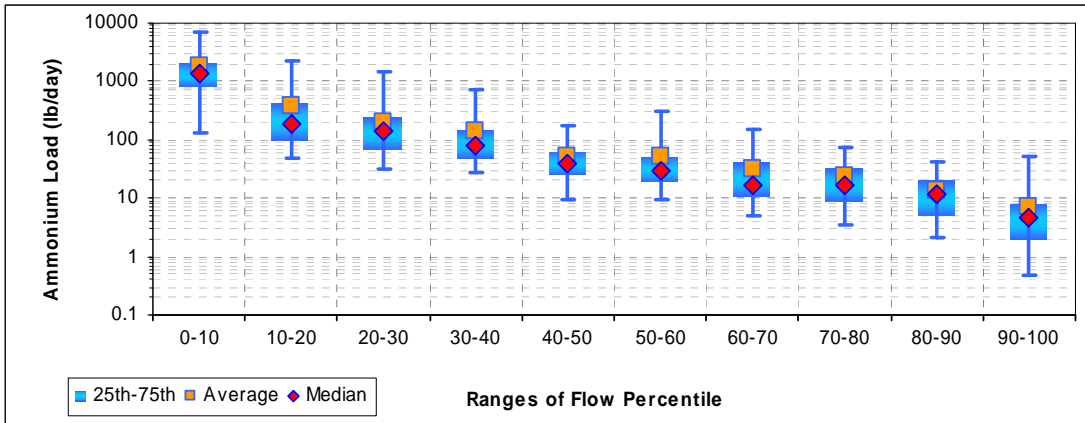


Figure J-81. Ammonium loads by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

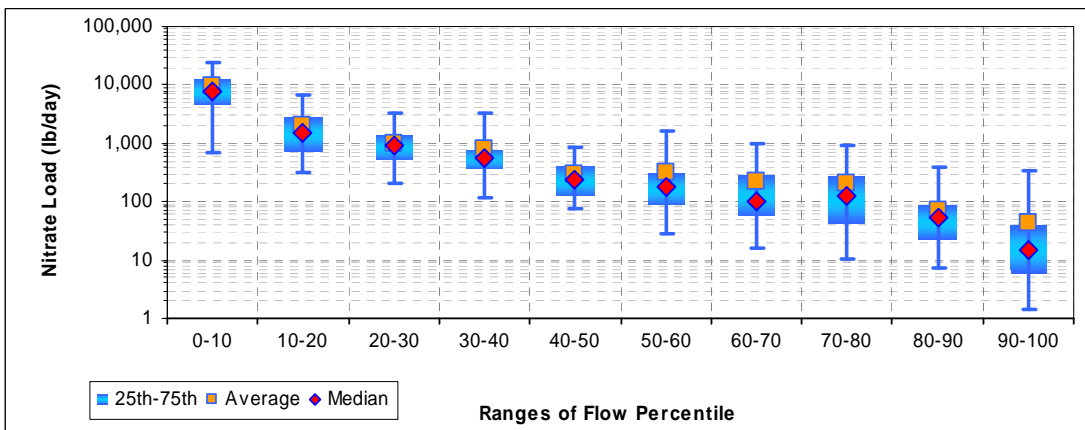


Figure J-82. Nitrate loads by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

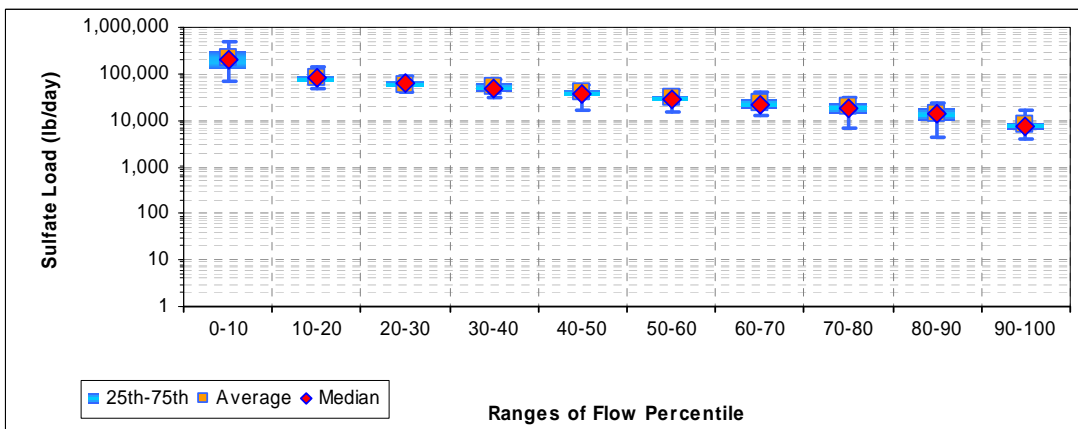


Figure J-83. Sulfate loads by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

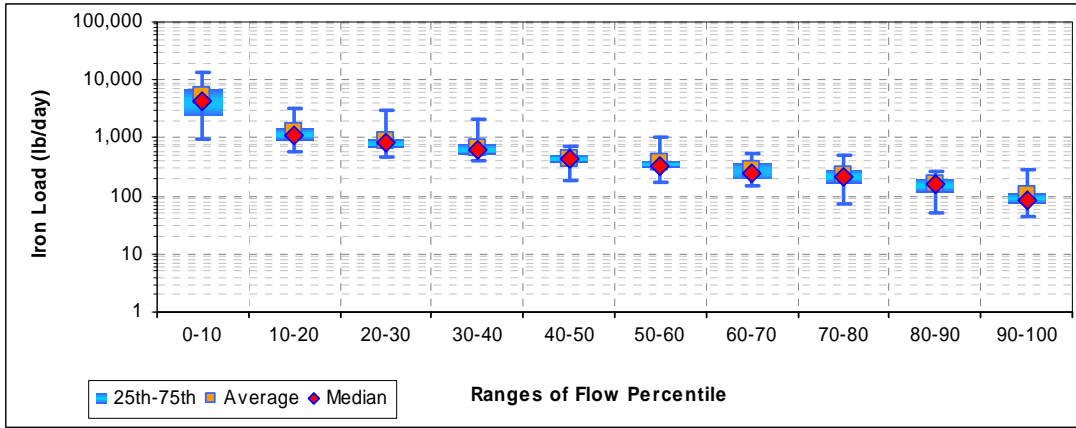


Figure J-84. Iron loads by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

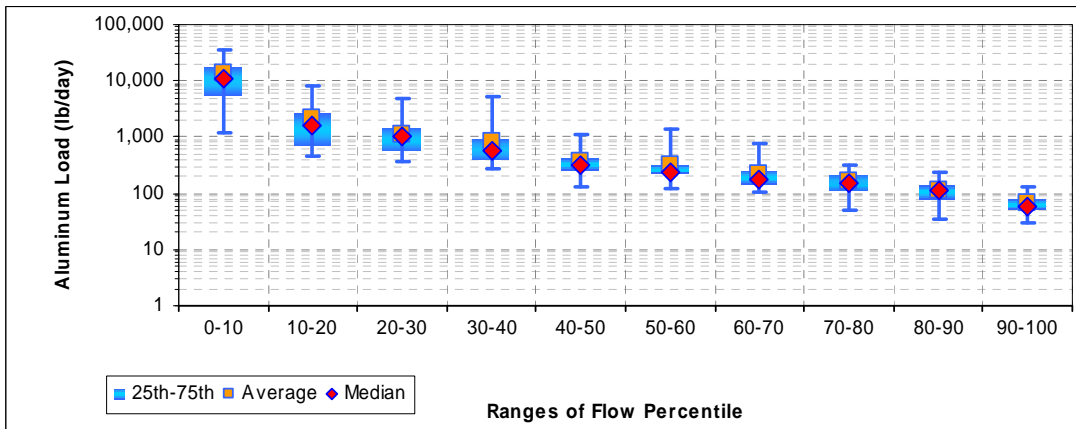


Figure J-85. Aluminum loads by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

Table J-81. Ammonium loads (lb/d) by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	128.4	48.7	32.7	27.3	9.4	9.3	5.1	3.4	2.1	0.5
Average	1,784.4	367.5	196.6	141.3	50.7	50.7	31.6	24.0	13.8	7.3
Maximum	7,182.9	2,176.2	1,449.1	720.7	179.1	315.3	150.4	72.2	42.2	50.9
Median	1,411.7	184.2	141.1	81.7	38.0	30.3	16.6	17.2	11.9	4.6
25th	803.4	100.5	67.2	48.3	24.8	19.1	10.9	8.9	5.1	1.9
75th	2,103.5	444.5	252.4	147.8	63.4	51.2	42.5	34.2	20.6	8.3

Table J-82. Nitrate loads (lbs/d) by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	700.6	307.0	208.7	117.0	75.3	29.2	15.6	10.4	7.5	1.5
Average	9,518.6	1,954.9	1,006.5	817.7	290.5	311.4	225.8	199.7	73.2	44.6
Maximum	23,973.9	6,757.0	3,379.6	3,230.0	869.1	1,584.8	1,001.2	936.2	403.9	329.7
Median	7,930.2	1,542.8	923.4	553.6	231.3	182.8	103.7	126.7	52.8	14.9
25th	4,859.9	722.7	503.7	360.3	129.2	88.7	56.1	41.8	23.0	5.8
75th	13,049.0	2,829.9	1,370.8	770.8	409.0	307.7	305.0	266.4	87.2	41.3

Table J-83. Sulfate loads (lbs/d) by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	69,692	49,222	40,543	32,299	17,133	15,598	13,256	6,711	4,518	4,015
Average	219,548	80,142	59,976	51,126	38,988	30,255	23,298	19,209	13,873	8,203
Maximum	476,975	137,924	90,416	76,896	56,952	45,051	39,056	32,241	24,540	16,119
Median	196,894	79,027	60,957	47,820	38,543	29,533	22,082	17,369	13,543	7,392
25th	133,713	67,241	52,618	41,726	33,611	26,626	18,005	13,743	9,392	6,332
75th	306,031	89,737	67,676	61,974	44,816	34,099	27,876	24,170	18,655	9,203

Table J-84. Iron loads (lbs/d) by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	945.8	572.3	482.6	399.0	187.7	178.4	145.2	74.9	49.5	44.1
Average	5,176.9	1,286.3	873.9	690.6	446.6	366.6	286.1	229.2	156.6	101.7
Maximum	13,166.7	3,320.6	2,985.7	2,098.4	708.4	1,018.0	548.8	510.9	264.5	288.4
Median	4,356.0	1,114.6	808.2	602.9	440.3	339.3	243.5	213.6	166.1	83.4
25th	2,367.2	894.4	674.9	504.7	385.0	296.6	200.6	158.9	109.3	71.8
75th	6,949.6	1,480.9	962.5	766.5	489.8	398.1	365.1	290.3	202.0	112.9

Table J-85. Aluminum loads (lbs/d) by flow percentile for North Prong Lostland Run (WM-64/NPL0018)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,218.1	467.6	357.4	274.0	131.0	120.0	101.3	51.4	34.5	30.7
Average	13,261.6	2,127.7	1,128.9	849.9	375.2	310.8	220.3	165.7	111.1	66.7
Maximum	34,606.4	8,319.6	4,833.5	5,186.1	1,074.9	1,339.6	760.6	305.3	234.6	131.2
Median	11,170.6	1,550.5	1,017.4	573.8	315.1	239.4	169.5	148.9	110.6	56.3
25th	5,636.0	731.4	552.3	401.4	262.2	215.8	137.7	110.8	76.2	48.3
75th	18,319.6	2,735.0	1,478.7	922.3	415.6	319.9	245.1	213.7	143.3	77.3

Laurel Run (WM-67/LRE0029) plots and tables

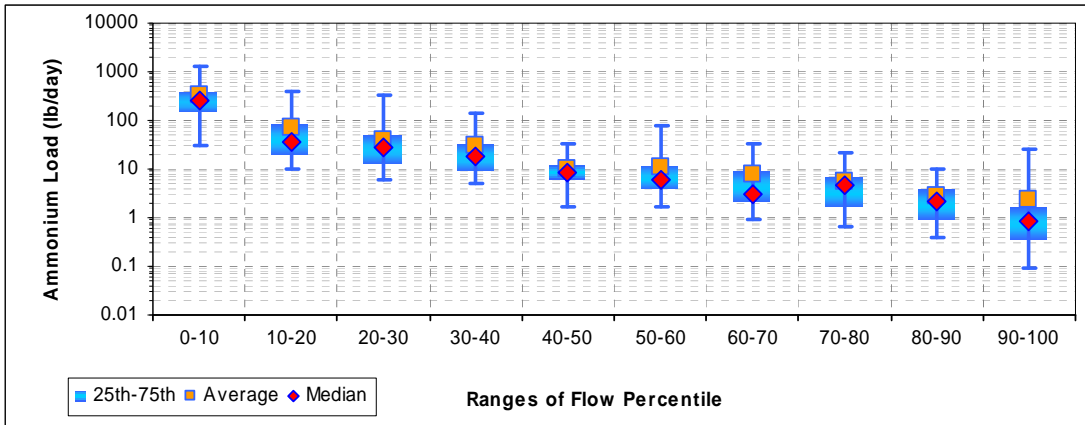


Figure J-86. Ammonium loads by flow percentile for Laurel Run (WM-67/LRE0029)

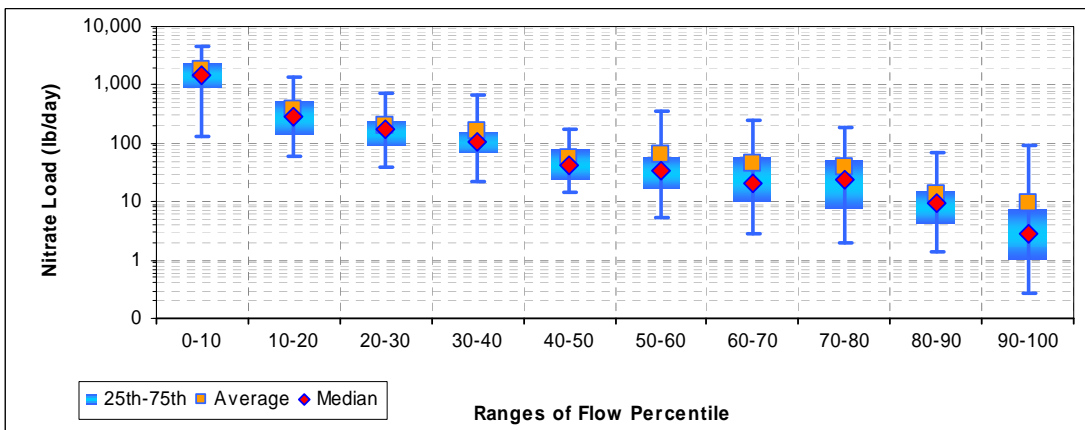


Figure J-87. Nitrate loads by flow percentile for Laurel Run (WM-67/LRE0029)

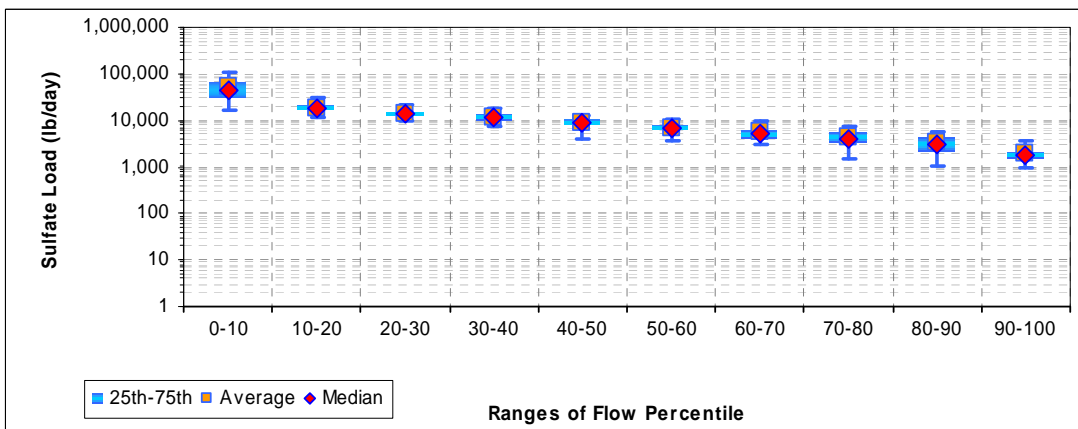


Figure J-88. Sulfate loads by flow percentile for Laurel Run (WM-67/LRE0029)

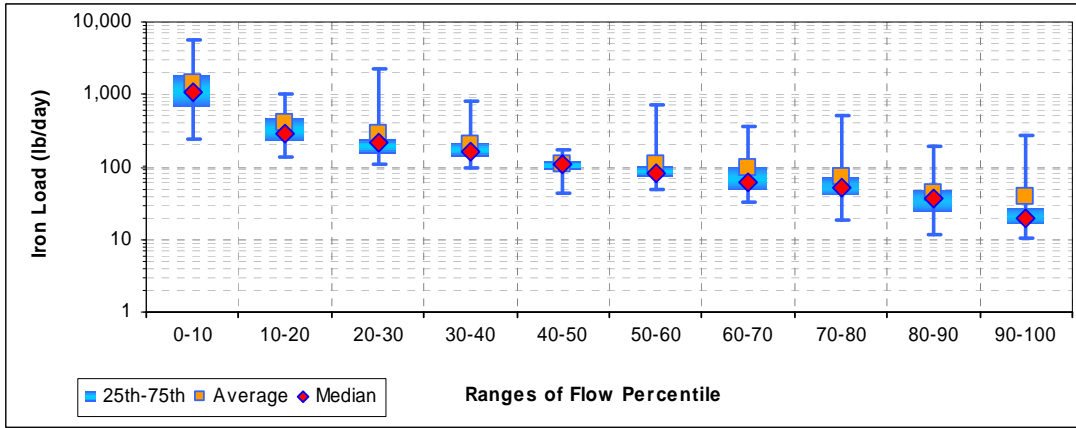


Figure J-89. Iron loads by flow percentile for Laurel Run (WM-67/LRE0029)

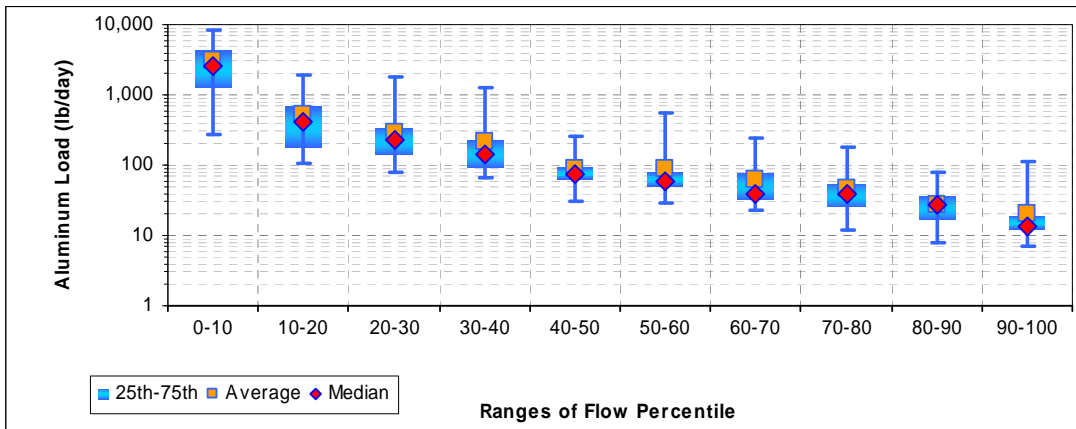


Figure J-90. Aluminum loads by flow percentile for Laurel Run (WM-67/LRE0029)

FINAL

Table J-86. Ammonium loads (lb/d) by flow percentile for Laurel Run (WM-67/LRE0029)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	29.9	9.6	5.9	5.2	1.7	1.7	0.9	0.6	0.4	0.1
Average	334.9	71.1	40.6	29.1	10.2	11.1	7.6	5.6	2.8	2.4
Maximum	1,331.1	407.7	321.5	139.3	33.9	79.0	32.5	21.0	9.8	25.6
Median	261.5	37.4	28.7	18.2	8.4	6.3	3.2	4.5	2.2	0.9
25th	151.6	19.6	13.2	9.2	6.0	3.9	2.1	1.7	0.9	0.4
75th	391.1	85.9	49.1	32.8	12.3	11.4	9.5	6.9	3.9	1.6

Table J-87. Nitrate loads (lbs/d) by flow percentile for Laurel Run (WM-67/LRE0029)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	130.2	58.2	39.3	21.9	14.0	5.4	2.9	1.9	1.4	0.3
Average	1,785.2	377.6	194.4	162.4	55.8	64.0	46.4	39.8	13.8	9.6
Maximum	4,493.1	1,348.6	709.5	671.6	172.6	350.2	246.7	188.1	70.0	92.4
Median	1,473.5	290.7	180.1	107.1	42.5	33.8	20.6	24.1	9.7	2.8
25th	906.3	136.1	94.4	67.6	24.6	16.3	10.4	7.7	4.2	1.1
75th	2,441.9	533.1	251.7	166.9	77.9	58.8	57.9	50.3	16.0	7.6

Table J-88. Sulfate loads (lbs/d) by flow percentile for Laurel Run (WM-67/LRE0029)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	15,870	11,149	9,520	7,295	3,949	3,599	3,046	1,552	1,046	925
Average	51,053	18,809	13,982	12,035	9,038	7,089	5,463	4,487	3,204	1,926
Maximum	111,509	31,844	21,308	18,120	13,112	10,882	9,364	7,507	5,691	3,730
Median	45,851	18,720	14,179	11,508	8,916	6,767	5,104	4,006	3,094	1,708
25th	30,964	15,879	12,324	9,705	7,831	6,141	4,155	3,272	2,157	1,467
75th	71,623	21,405	15,541	14,463	10,297	7,981	6,466	5,762	4,329	2,222

Table J-89. Iron loads (lbs/d) by flow percentile for Laurel Run (WM-67/LRE0029)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	238.0	139.4	109.8	99.1	43.3	50.0	33.4	19.0	11.5	10.2
Average	1,450.0	394.8	284.4	207.5	109.3	111.2	96.9	74.8	42.8	38.7
Maximum	5,580.7	1,009.4	2,283.9	812.5	168.1	708.5	372.1	523.3	191.1	275.1
Median	1,054.1	290.8	210.6	159.7	109.3	83.7	59.9	52.3	37.8	19.9
25th	681.7	226.3	157.3	135.8	93.6	72.3	48.2	41.1	25.1	16.8
75th	1,923.0	471.1	247.9	212.2	122.9	102.9	102.6	73.0	49.8	27.8

Table J-90. Aluminum loads (lbs/d) by flow percentile for Laurel Run (WM-67/LRE0029)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	274.8	105.8	80.5	67.2	30.2	28.8	23.3	12.1	8.0	7.1
Average	3,147.7	526.1	287.3	216.3	89.5	87.0	63.8	46.8	27.6	20.7
Maximum	8,188.3	1,971.8	1,782.3	1,258.0	254.0	546.7	236.2	182.6	79.5	111.1
Median	2,585.7	409.2	231.8	146.3	75.5	59.3	39.4	38.7	26.8	13.8
25th	1,300.2	183.2	145.9	96.9	63.9	50.6	32.7	25.5	17.5	11.7
75th	4,289.0	688.0	345.0	223.3	96.6	78.4	77.1	54.2	36.0	19.4

Glade Run (WM-69/GLR0031) plots and tables

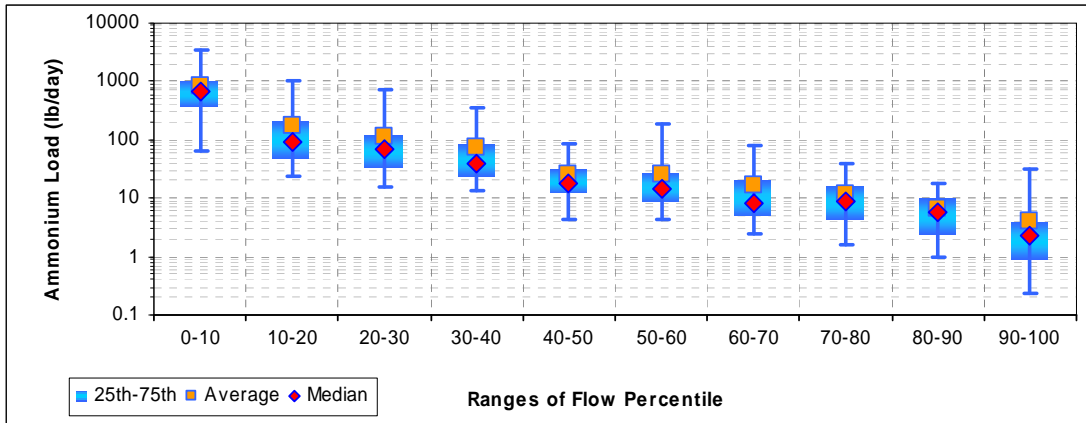


Figure J-91. Ammonium loads by flow percentile for Glade Run (WM-69/GLR0031)

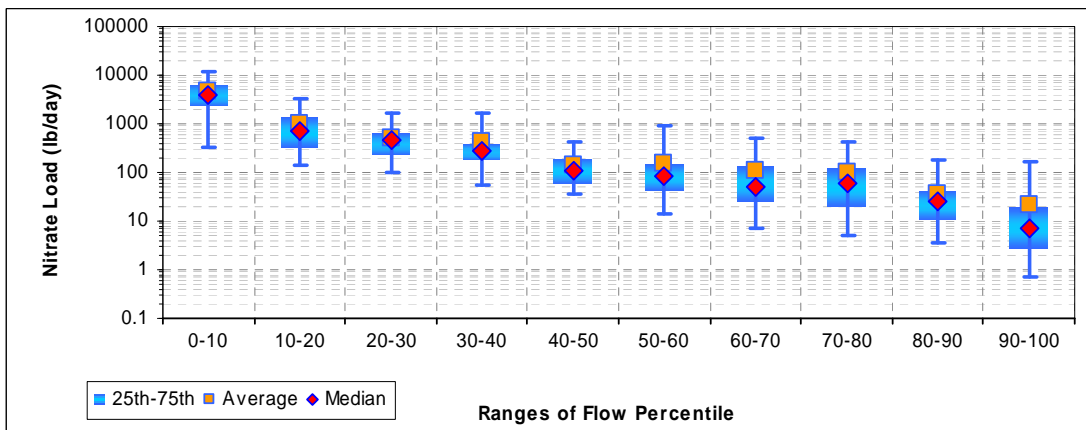


Figure J-92. Nitrate loads by flow percentile for Glade Run (WM-69/GLR0031)

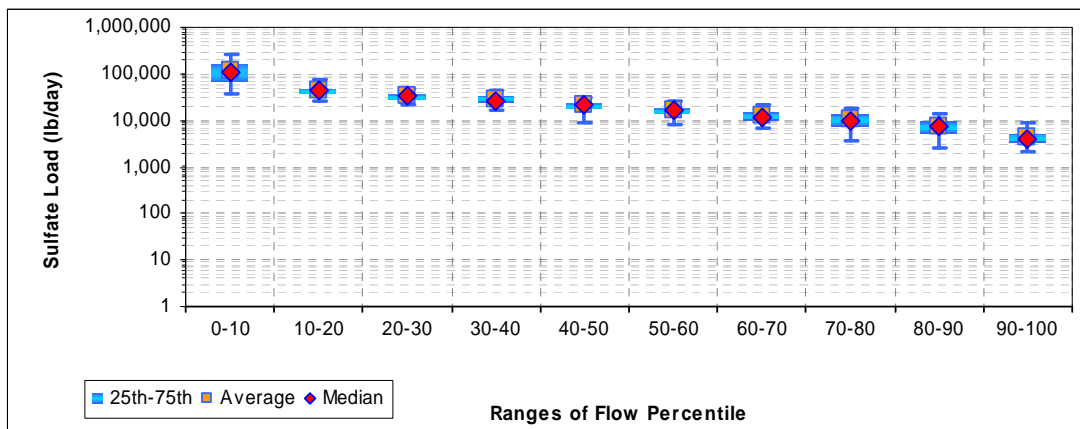


Figure J-93. Sulfate loads by flow percentile for Glade Run (WM-69/GLR0031)

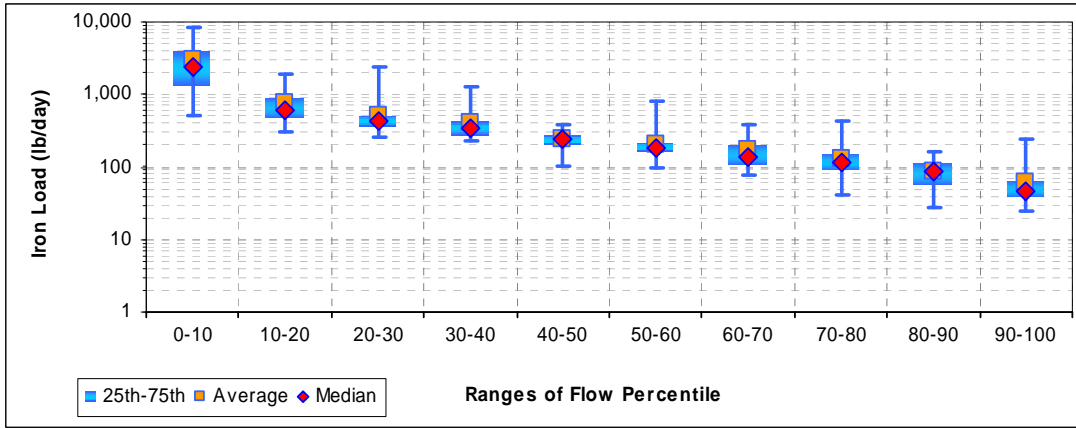


Figure J-94. Iron loads by flow percentile for Glade Run (WM-69/GLR0031)

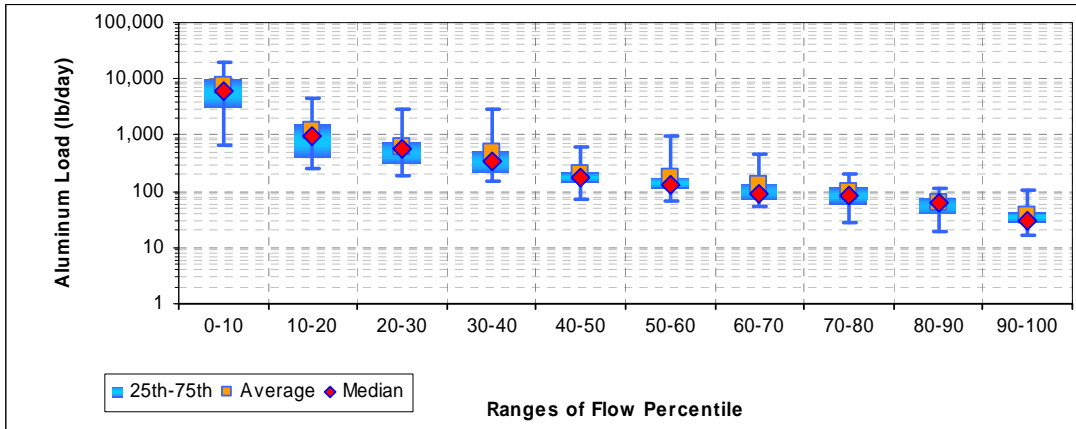


Figure J-95. Aluminum loads by flow percentile for Glade Run (WM-69/GLR0031)

FINAL

Table J-91. Ammonium loads (lb/d) by flow percentile for Glade Run (WM-69/GLR0031)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	64.5	23.3	15.5	13.1	4.5	4.4	2.4	1.6	1.0	0.2
Average	860.5	180.4	110.3	72.0	24.9	25.1	16.2	12.0	6.6	4.0
Maximum	3,443.5	1,037.2	719.7	351.9	87.4	188.0	78.1	38.3	17.7	31.4
Median	684.4	91.0	69.5	40.4	18.1	14.6	8.0	8.6	5.6	2.2
25th	386.3	48.4	33.0	23.3	12.5	9.0	5.1	4.2	2.4	0.9
75th	1,008.9	214.4	124.7	82.8	31.2	28.1	20.8	16.5	9.8	3.9

Table J-92. Nitrate loads (lbs/d) by flow percentile for Glade Run (WM-69/GLR0031)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	334.3	145.9	100.1	56.1	36.0	13.8	7.4	4.9	3.6	0.7
Average	4,587.4	959.3	502.6	409.2	141.0	154.3	110.6	96.2	34.7	22.1
Maximum	11,576.4	3,340.2	1,657.7	1,630.2	435.1	883.2	509.1	444.1	184.0	172.8
Median	3,811.5	740.5	451.5	273.1	109.4	84.2	49.5	59.9	25.0	7.2
25th	2,336.9	342.0	241.6	174.7	61.5	41.5	26.3	19.8	10.8	2.8
75th	6,314.9	1,358.1	664.6	407.5	197.3	148.8	144.4	126.3	40.9	19.9

Table J-93. Sulfate loads (lbs/d) by flow percentile for Glade Run (WM-69/GLR0031)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	37,209	26,326	22,306	17,268	9,170	8,357	7,100	3,655	2,465	2,197
Average	119,421	43,734	32,560	28,185	21,200	16,446	12,632	10,416	7,523	4,497
Maximum	261,703	74,126	50,046	42,589	31,064	24,855	21,193	17,376	13,291	8,892
Median	106,715	43,215	33,209	26,701	20,775	15,858	11,908	9,387	7,248	4,111
25th	71,940	36,870	28,599	22,842	18,639	14,388	9,635	7,517	5,087	3,460
75th	167,436	50,222	35,883	33,930	24,364	18,527	15,045	13,432	10,122	5,084

Table J-94. Iron loads (lbs/d) by flow percentile for Glade Run (WM-69/GLR0031)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	514.5	310.3	259.8	232.2	100.4	99.1	77.8	41.4	27.0	24.1
Average	2,950.6	744.0	508.4	402.0	245.6	210.4	167.4	132.8	87.5	61.5
Maximum	8,555.8	1,909.7	2,342.7	1,287.6	387.9	788.0	393.6	433.7	161.5	239.2
Median	2,391.9	608.9	442.5	342.0	241.8	184.1	134.9	115.4	88.4	46.3
25th	1,350.5	494.5	366.9	278.4	208.9	165.0	112.0	89.7	59.1	39.7
75th	3,910.3	889.9	524.1	439.7	272.1	218.2	208.7	157.1	112.6	65.5

Table J-95. Aluminum loads (lbs/d) by flow percentile for Glade Run (WM-69/GLR0031)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	661.8	251.8	192.9	156.3	70.2	64.7	54.2	28.1	18.8	16.8
Average	7,332.1	1,198.0	628.9	488.8	207.7	179.4	126.7	93.9	60.8	38.5
Maximum	19,191.8	4,525.7	2,938.1	2,903.2	597.6	957.4	462.3	200.6	113.9	102.3
Median	6,152.0	923.6	568.0	334.7	172.7	134.5	90.9	83.2	61.8	30.8
25th	3,114.3	401.6	312.2	222.6	145.7	116.5	73.8	59.6	41.2	27.6
75th	10,156.3	1,618.9	792.3	521.7	225.2	173.5	135.6	121.9	79.4	42.1

UT to Savage River above Aaron Run (WM-72/ZWV0001) plots and tables

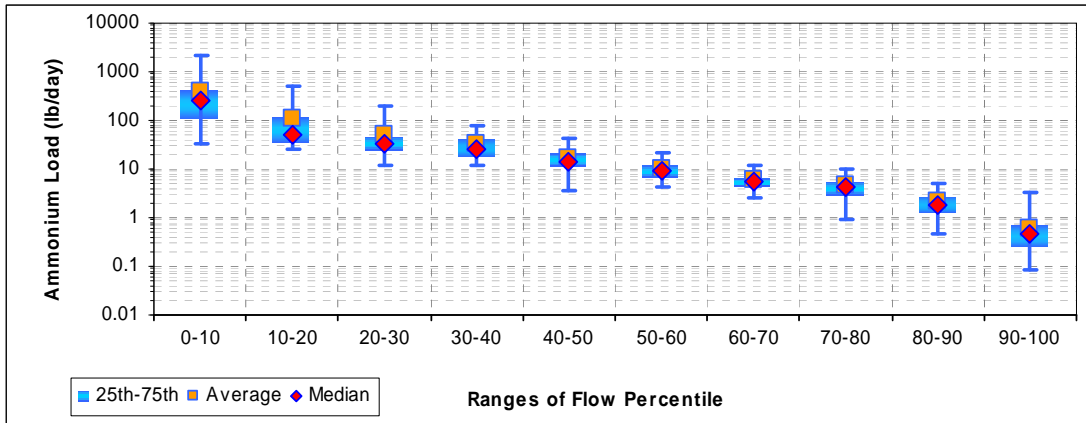


Figure J-96. Ammonium loads by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001)

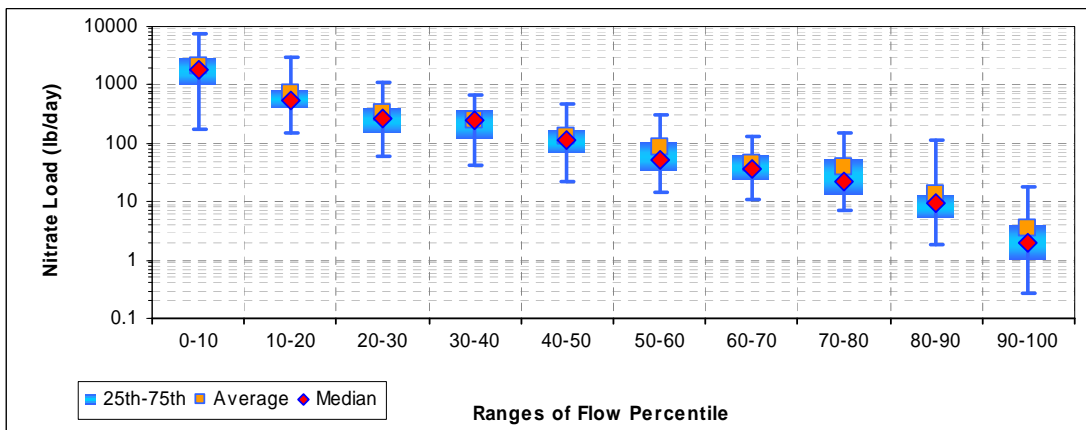


Figure J-97. Nitrate loads by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001)

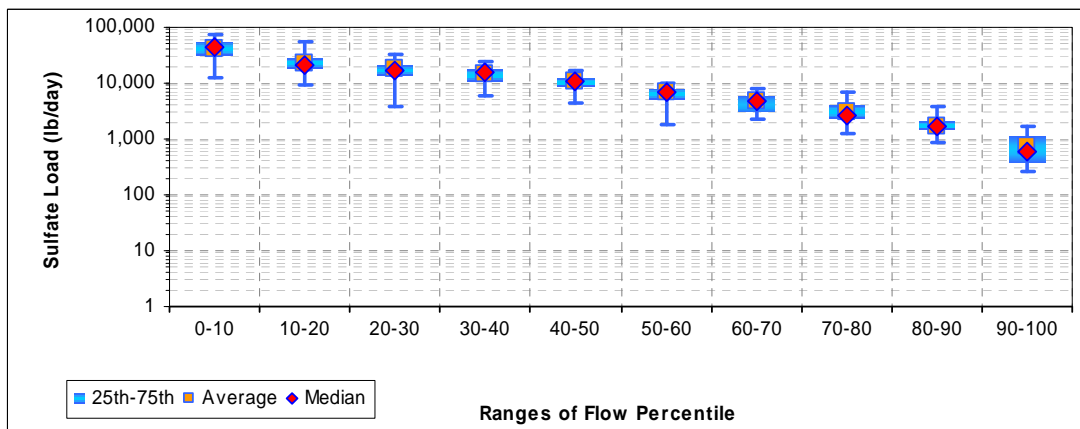


Figure J-98. Sulfate loads by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001)

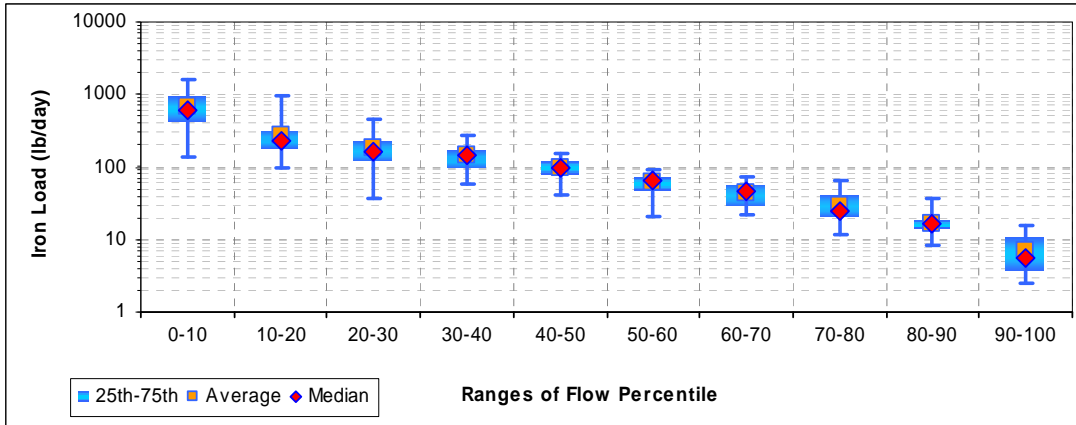


Figure J-99. Iron loads by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001)

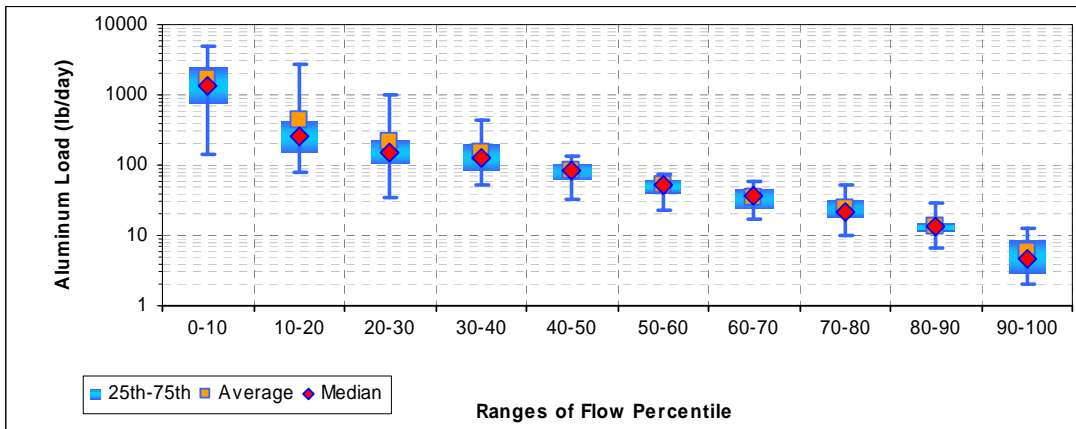


Figure J-100. Aluminum loads by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001)

FINAL

Table J-96. Ammonium loads (lb/d) by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	33.7	26.0	11.4	11.7	3.6	4.2	2.6	0.9	0.5	0.1
Average	381.1	109.9	48.8	32.4	17.0	9.7	5.8	4.5	2.1	0.6
Maximum	2,123.9	523.1	191.8	76.6	44.1	21.3	12.2	10.0	4.9	3.3
Median	258.8	51.0	33.7	25.0	14.0	9.2	5.3	4.2	1.9	0.5
25th	113.4	35.5	24.4	17.6	11.2	6.5	4.2	2.8	1.2	0.3
75th	438.7	113.8	46.3	41.8	21.4	12.3	6.8	5.5	2.9	0.7

Table J-97. Nitrate loads (lbs/d) by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	169.5	154.1	60.4	41.6	22.0	14.7	10.6	7.0	1.9	0.3
Average	2,142.5	721.5	340.0	254.4	131.0	85.6	46.3	38.7	13.7	3.5
Maximum	7,406.4	2,968.9	1,121.4	664.2	454.9	315.3	133.3	151.8	116.9	17.3
Median	1,778.0	534.0	266.0	255.2	111.0	53.3	36.9	22.7	9.1	1.9
25th	1,059.5	403.5	153.4	123.3	70.6	35.0	23.8	13.7	5.4	1.0
75th	2,947.6	859.7	405.8	371.6	173.0	104.4	64.4	54.8	13.2	4.1

Table J-98. Sulfate loads (lbs/d) by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	12,138	9,601	3,858	6,094	4,310	1,755	2,321	1,283	866	265
Average	42,452	23,177	17,620	14,444	10,477	6,649	4,638	3,137	1,740	758
Maximum	75,695	54,638	33,541	24,130	16,210	9,954	7,815	6,793	3,815	1,630
Median	42,966	21,541	17,216	15,209	10,646	7,022	4,783	2,605	1,740	599
25th	30,542	17,550	13,404	10,431	8,387	5,016	3,078	2,243	1,474	392
75th	55,429	28,103	21,541	17,566	12,923	8,008	6,168	4,238	2,031	1,170

Table J-99. Iron loads (lbs/d) by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV0001)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	139.1	97.2	37.3	58.9	40.4	21.3	21.4	12.0	8.1	2.5
Average	678.0	269.4	182.3	144.3	98.9	62.4	43.4	29.4	16.2	7.1
Maximum	1,586.0	967.9	467.7	273.4	153.2	94.2	73.3	63.5	36.1	15.2
Median	615.5	225.8	164.0	149.2	99.7	66.1	44.9	24.3	16.1	5.6
25th	430.3	178.5	125.6	98.4	79.0	46.4	28.7	20.7	13.7	3.6
75th	960.2	314.5	229.4	172.6	122.2	75.0	57.7	40.1	18.8	10.8

Table J-100. Aluminum loads (lbs/d) by flow percentile for UT to Savage River above Aaron Run (WM-72/ZWV

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	140.0	79.9	34.5	51.0	32.8	23.1	17.4	9.8	6.6	2.0
Average	1,692.1	440.2	220.3	153.5	83.7	51.9	35.5	24.4	13.3	5.8
Maximum	5,033.3	2,711.0	1,023.8	431.9	137.4	76.6	59.6	51.7	29.4	12.4
Median	1,356.5	261.3	152.5	129.2	81.8	53.8	36.6	21.1	13.2	4.5
25th	759.5	154.0	107.1	81.7	64.2	38.6	24.0	17.8	11.1	3.0
75th	2,605.5	428.8	234.3	203.1	104.4	61.1	47.1	32.6	15.5	8.8

Aaron Run (WM-73/AAR0000) plots and tables

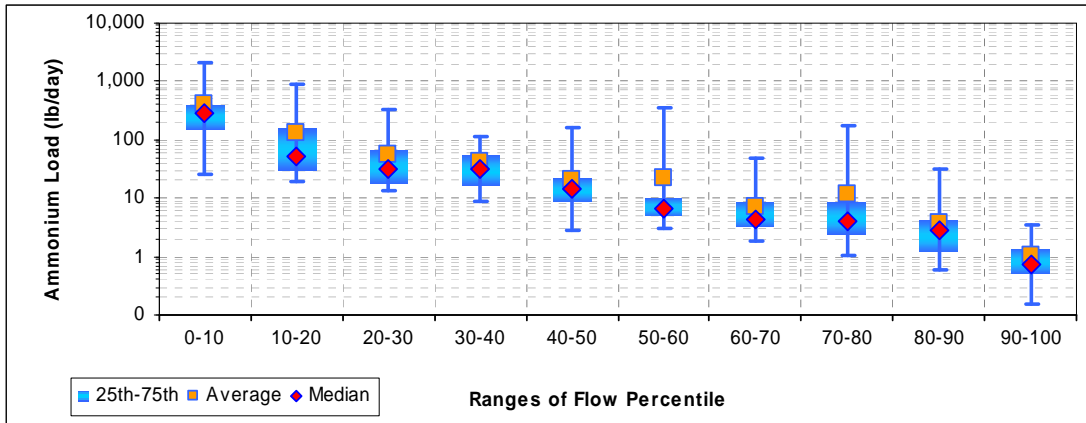


Figure J-101. Ammonium loads by flow percentile for Aaron Run (AAR0000/WM-73)

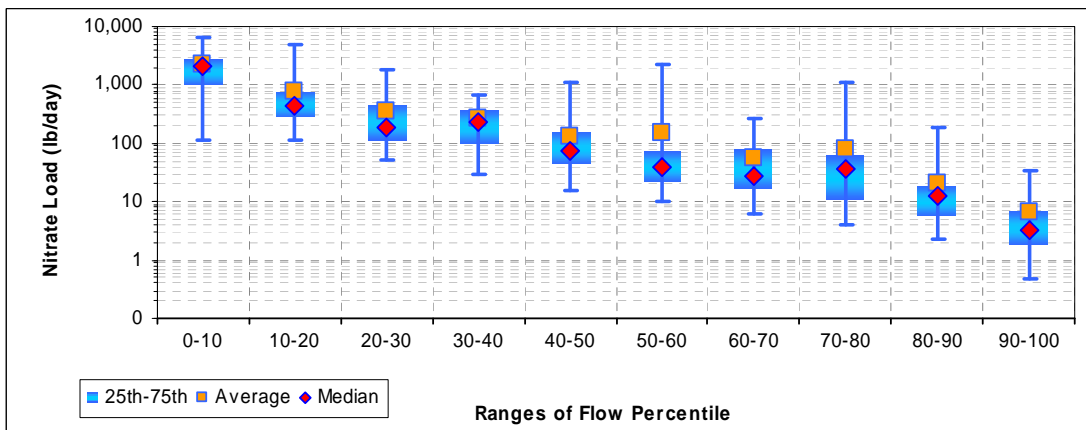


Figure J-102. Nitrate loads by flow percentile for Aaron Run (AAR0000/WM-73)

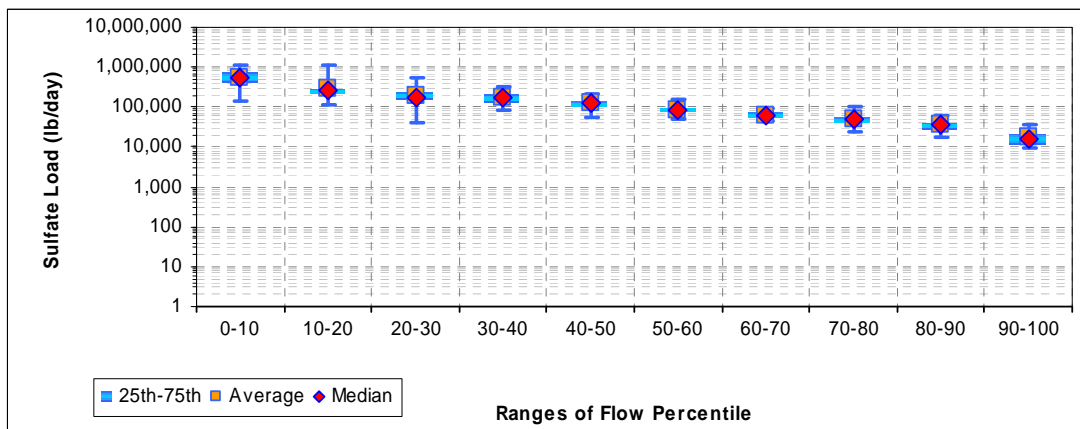


Figure J-103. Sulfate loads by flow percentile for Aaron Run (AAR0000/WM-73)
 ** These plots include upstream loads from UT to Aaron Run (WM-78/ZWA0000).

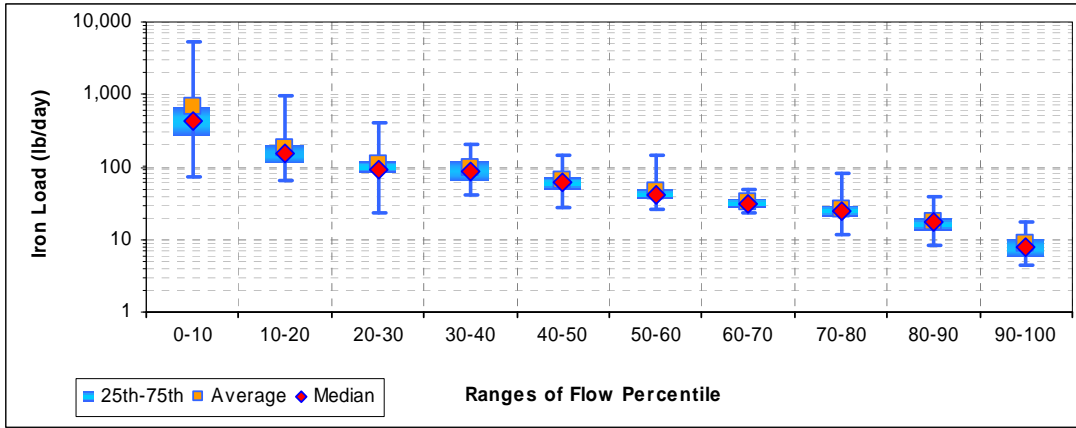


Figure J-104. Iron loads by flow percentile for Aaron Run (AAR0000/WM-73)

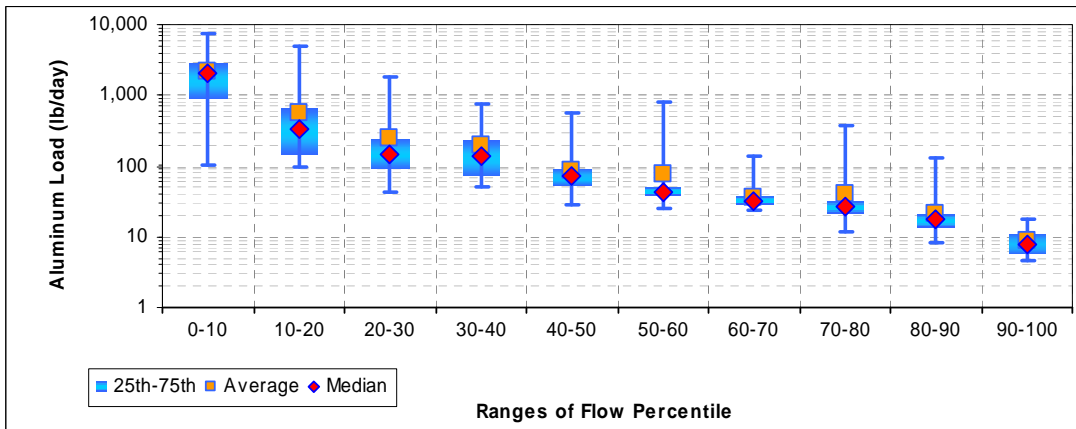


Figure J-105. Aluminum loads by flow percentile for Aaron Run (AAR0000/WM-73)
 ** These plots include upstream loads from UT to Aaron Run (WM-78/ZWA0000).

Table J-101. Ammonium loads (lb/d) by flow percentile for Aaron Run (AAR0000/WM-73)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	24.8	19.5	13.0	8.7	2.7	3.0	1.8	1.0	0.6	0.1
Average	404.3	127.6	56.2	41.2	20.6	21.9	7.4	11.3	3.8	1.0
Maximum	2,053.4	903.6	339.7	116.3	158.7	343.7	49.6	168.3	31.8	3.5
Median	290.8	53.6	32.7	30.8	14.5	6.8	4.2	4.1	2.7	0.7
25th	146.2	29.9	18.1	16.5	8.7	4.9	3.2	2.4	1.2	0.5
75th	412.1	162.2	68.6	55.1	21.4	10.4	9.0	8.5	4.4	1.3

Table J-102. Nitrate loads (lbs/d) by flow percentile for Aaron Run (AAR0000/WM-73)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	110.1	116.5	51.6	30.4	16.0	10.1	6.0	4.1	2.3	0.5
Average	2,192.1	756.6	346.7	264.0	133.7	150.0	55.9	81.0	21.1	6.5
Maximum	6,489.5	4,805.1	1,856.3	676.7	1,116.0	2,250.1	273.8	1,141.7	192.1	34.2
Median	2,084.5	450.0	192.8	228.1	74.6	40.0	27.4	36.6	12.9	3.2
25th	1,016.3	283.0	112.2	97.3	45.1	21.8	16.7	10.7	5.8	1.8
75th	2,872.4	756.7	480.0	369.4	165.5	76.8	80.0	66.2	18.6	7.0

Table J-103. Sulfate loads (lbs/d) by flow percentile for Aaron Run (AAR0000/WM-73)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	144,577	119,708	41,066	82,180	55,793	51,970	47,226	23,311	17,095	9,176
Average	557,132	285,380	201,046	177,611	124,875	86,770	64,516	51,956	35,015	17,572
Maximum	1,074,311	1,081,690	548,013	326,367	206,455	161,692	97,209	105,303	60,543	34,967
Median	523,728	270,956	181,392	167,506	121,807	85,490	62,484	50,969	35,378	15,962
25th	413,922	212,201	163,522	128,869	101,661	74,785	56,382	40,818	26,959	12,015
75th	729,664	304,449	240,799	215,403	146,718	94,752	73,204	58,006	41,008	21,045

Table J-104. Iron loads (lbs/d) by flow percentile for Aaron Run (AAR0000/WM-73)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	74.5	64.2	23.1	42.3	27.3	25.4	23.1	11.4	8.4	4.5
Average	673.2	182.3	111.5	96.8	63.5	45.4	32.0	26.8	17.5	8.6
Maximum	5,370.7	951.5	407.9	210.0	141.9	144.0	49.2	82.0	39.3	17.1
Median	438.5	151.9	93.1	86.0	60.5	42.1	30.6	25.0	17.5	7.8
25th	266.6	113.6	82.3	65.7	49.9	36.8	27.6	20.7	13.2	5.9
75th	674.0	207.4	122.8	122.1	72.0	48.8	35.9	28.5	20.1	10.3

Table J-105. Aluminum loads (lbs/d) by flow percentile for Aaron Run (AAR0000/WM-73)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	103.8	94.6	43.8	51.9	27.5	25.6	23.3	11.5	8.4	4.6
Average	2,163.1	574.5	245.3	193.1	88.7	75.1	36.5	40.1	21.0	8.8
Maximum	7,443.2	4,947.4	1,822.0	775.9	555.5	782.7	135.9	381.8	127.3	17.2
Median	2,096.2	324.5	145.2	138.3	71.4	43.9	32.1	26.0	17.6	7.9
25th	903.1	147.8	93.8	72.9	54.8	37.3	27.8	21.3	13.3	5.9
75th	2,922.7	692.3	249.3	231.2	91.4	50.7	37.6	32.1	21.2	11.2

** These tables include upstream loads from UT to Aaron Run (WM-78/ZWA0000).

Pine Swamp Run (WM-77/PYS0024) plots and tables

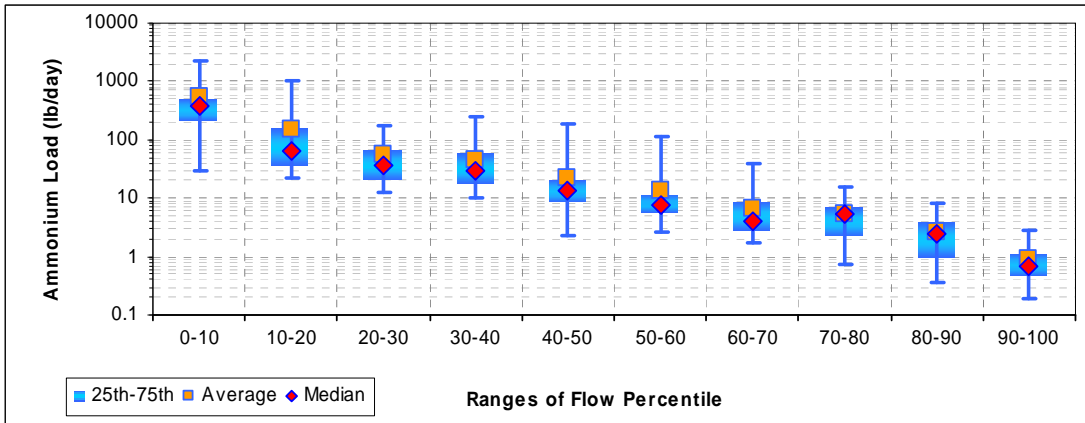


Figure J-106. Ammonium loads by flow percentile for Pine Swamp Run (PYS0024/WM-77)

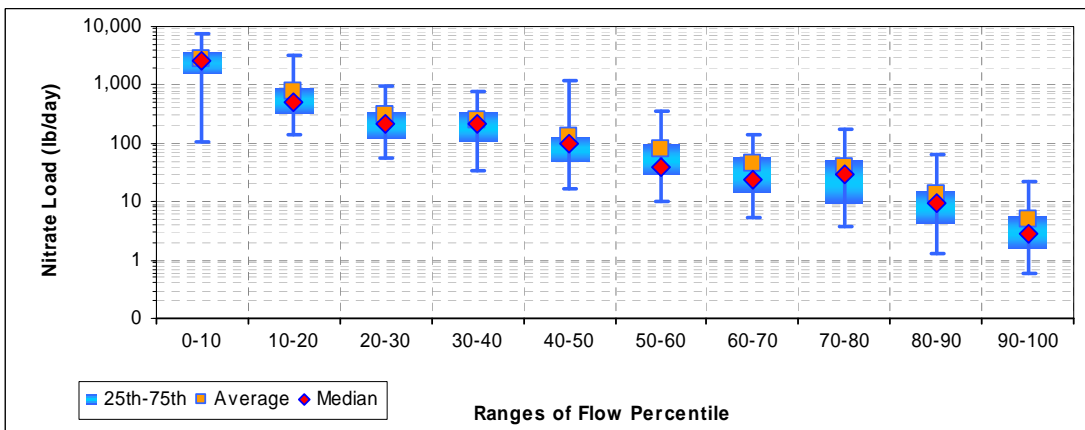


Figure J-107. Nitrate loads by flow percentile for Pine Swamp Run (PYS0024/WM-77)

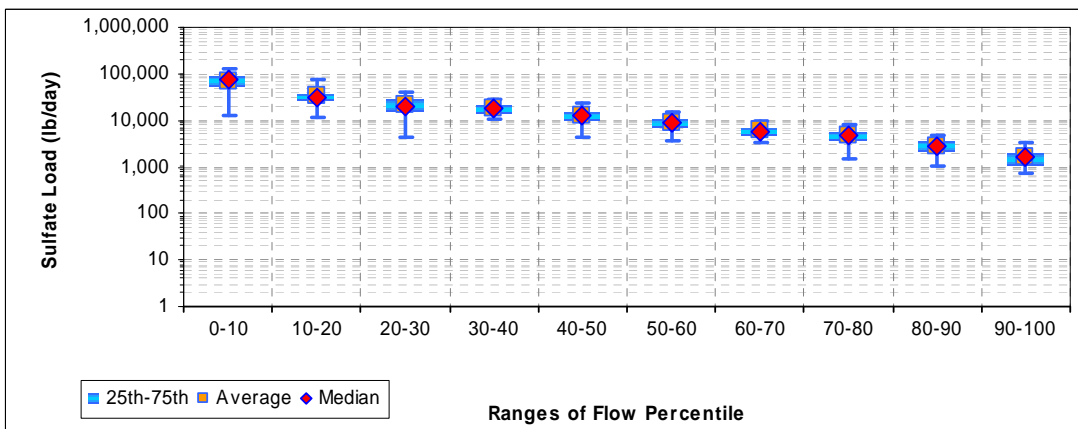


Figure J-108. Sulfate loads by flow percentile for Pine Swamp Run (PYS0024/WM-77)

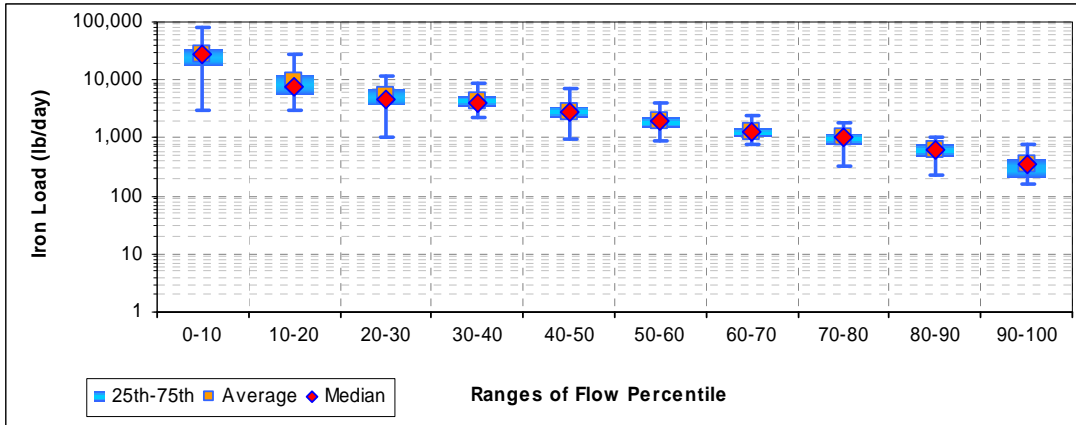


Figure J-109. Iron loads by flow percentile for Pine Swamp Run (PYS0024/WM-77)

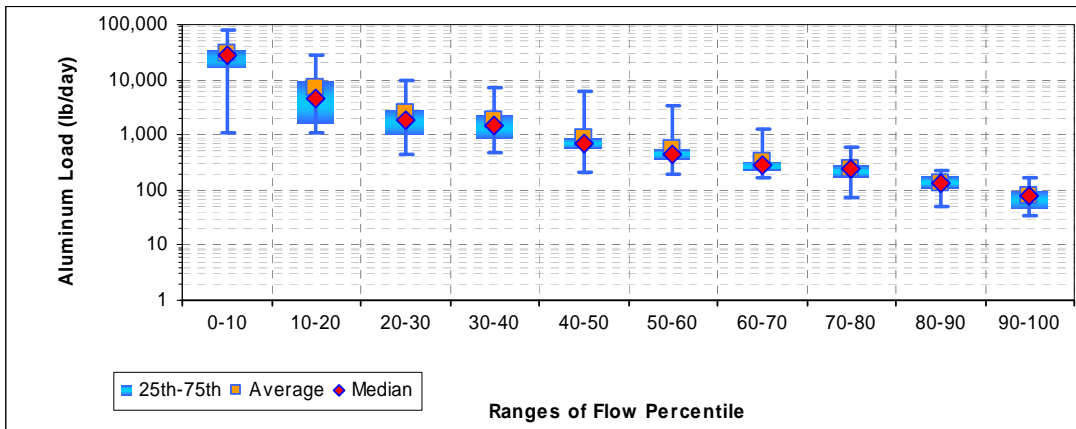


Figure J-110. Aluminum loads by flow percentile for Pine Swamp Run (PYS0024/WM-77)

FINAL

Table J-106. Ammonium loads (lb/d) by flow percentile for Pine Swamp Run (PYS0024/WM-77)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	28.7	21.9	12.4	10.0	2.4	2.7	1.7	0.7	0.4	0.2
Average	523.8	145.8	55.1	45.7	21.6	13.1	6.6	5.3	2.6	0.9
Maximum	2,265.0	994.6	178.3	242.8	181.0	112.7	38.5	16.0	8.1	2.8
Median	374.4	65.2	37.1	30.5	13.9	7.8	4.1	5.3	2.4	0.7
25th	216.9	37.5	21.1	17.7	8.8	5.6	2.9	2.3	1.0	0.5
75th	499.1	161.0	68.0	58.7	20.7	11.6	8.9	7.0	4.0	1.1

Table J-107. Nitrate loads (lbs/d) by flow percentile for Pine Swamp Run (PYS0024/WM-77)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	102.3	137.1	54.7	34.7	17.1	10.3	5.5	3.7	1.3	0.6
Average	2,750.0	777.4	304.5	245.0	134.0	81.6	43.6	40.3	13.6	5.0
Maximum	7,326.3	3,100.4	944.2	763.4	1,228.6	349.3	140.4	178.0	63.9	21.8
Median	2,520.8	502.4	221.7	220.1	96.3	40.5	23.4	30.4	9.8	2.9
25th	1,588.4	327.3	118.8	105.1	49.8	30.3	14.7	9.4	4.3	1.6
75th	3,629.6	898.9	345.3	342.7	134.4	95.8	59.3	53.7	15.3	5.6

Table J-108. Sulfate loads (lbs/d) by flow percentile for Pine Swamp Run (PYS0024/WM-77)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	13,209	11,264	4,168	10,477	4,473	3,711	3,476	1,535	1,044	739
Average	69,550	33,647	21,835	17,948	12,718	8,741	5,970	4,563	2,838	1,679
Maximum	128,810	76,631	39,585	28,587	23,679	14,960	9,735	8,065	4,891	3,459
Median	72,162	29,912	20,469	18,072	12,504	8,692	5,757	4,573	2,887	1,636
25th	51,786	24,874	14,934	13,769	9,815	6,944	4,819	3,526	2,155	1,018
75th	89,130	38,183	27,390	21,321	15,358	10,399	6,987	5,519	3,549	2,022

Table J-109. Iron loads (lbs/d) by flow percentile for Pine Swamp Run (PYS0024/WM-77)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3,096.3	3,057.7	1,035.4	2,255.5	977.8	901.0	759.8	335.7	228.4	159.8
Average	27,407.7	9,706.1	5,414.5	4,338.8	2,878.4	1,962.4	1,315.7	1,000.0	615.6	364.2
Maximum	79,541.2	26,823.9	11,863.0	8,779.2	7,221.9	4,060.3	2,449.7	1,858.7	1,054.1	747.8
Median	27,098.2	7,406.6	4,655.6	4,061.7	2,742.7	1,908.7	1,253.0	997.7	624.4	357.2
25th	17,517.3	5,743.4	3,634.3	3,427.9	2,195.0	1,515.5	1,051.2	766.5	470.1	220.3
75th	33,032.9	12,147.4	7,003.6	5,302.9	3,371.8	2,288.5	1,511.0	1,188.0	765.6	439.1

Table J-110. Aluminum loads (lbs/d) by flow percentile for Pine Swamp Run (PYS0024/WM-77)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,110.0	1,061.7	458.8	496.4	213.4	196.6	165.8	73.3	49.9	34.9
Average	28,918.6	7,219.5	2,591.2	1,866.4	865.6	552.1	320.3	236.9	136.6	79.6
Maximum	78,897.2	28,762.6	9,864.9	7,389.4	6,156.7	3,271.1	1,250.1	620.3	230.0	163.2
Median	28,501.1	4,438.8	1,891.7	1,433.1	673.3	433.2	286.4	245.0	136.3	78.0
25th	16,253.7	1,547.7	1,016.0	879.6	557.4	350.7	229.4	167.3	102.6	48.1
75th	35,604.8	9,533.2	2,949.0	2,338.8	849.2	551.5	337.2	278.8	173.9	95.8

UT to Aaron Run (WM-78/ZWA0000) plots and tables

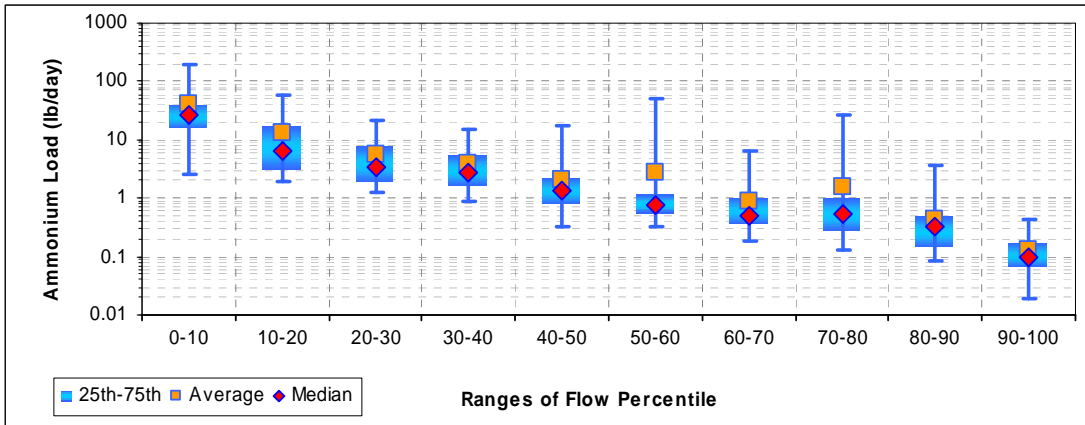


Figure J-111. Ammonium loads by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

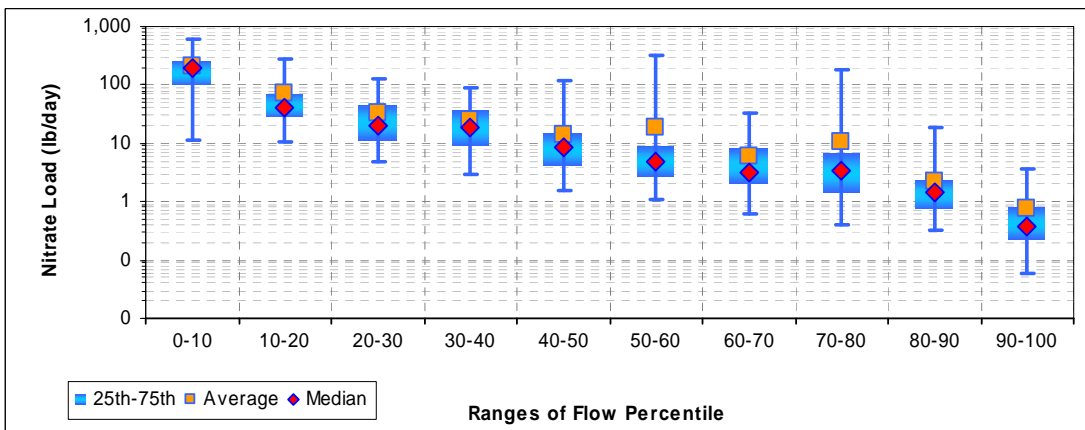


Figure J-112. Nitrate loads by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

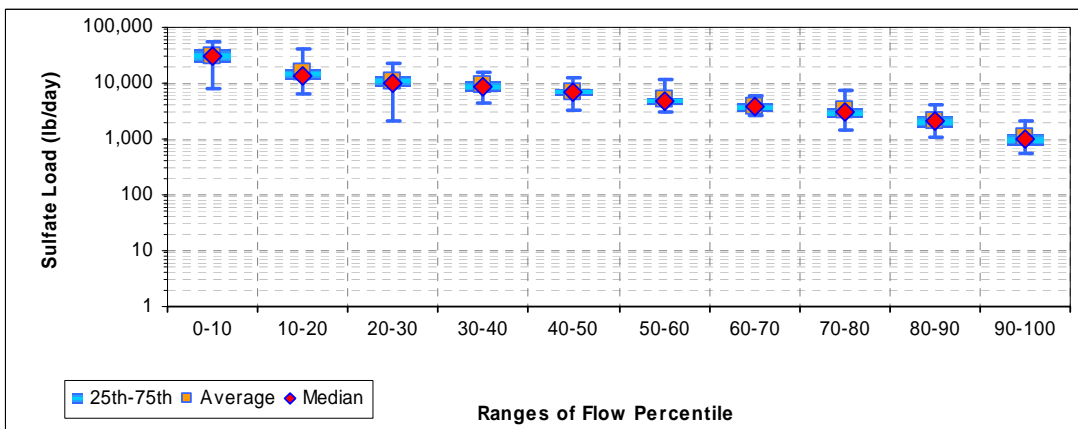


Figure J-113. Sulfate loads by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

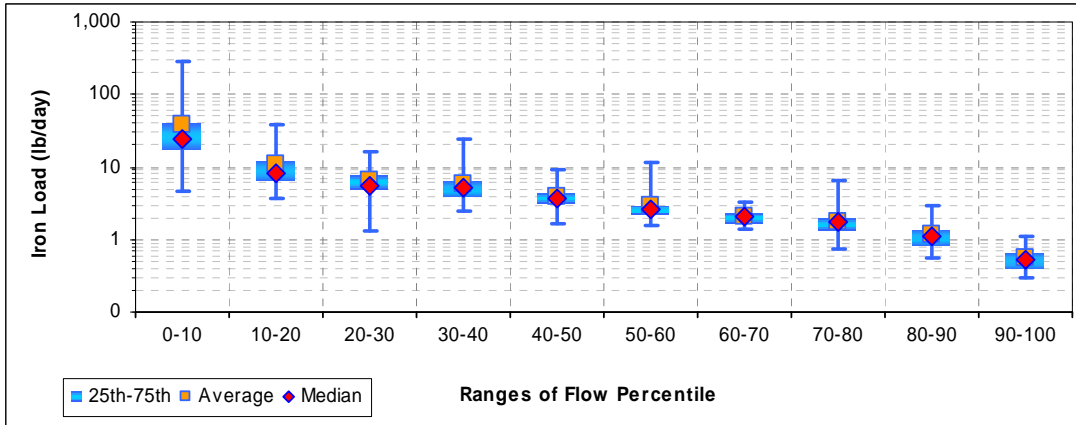


Figure J-114. Iron loads by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

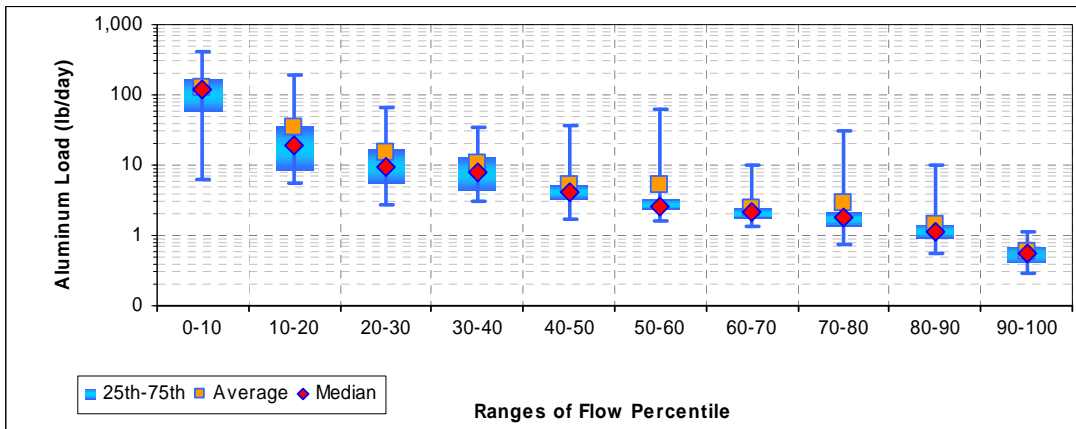


Figure J-115. Aluminum loads by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

FINAL

Table J-111. Ammonium loads (lb/d) by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.5	1.9	1.3	0.9	0.3	0.3	0.2	0.1	0.1	0.0
Average	40.3	12.7	5.8	4.0	2.1	2.8	0.9	1.5	0.4	0.1
Maximum	200.0	57.2	21.2	15.3	17.5	50.6	6.4	27.1	3.5	0.4
Median	27.4	6.3	3.4	2.8	1.4	0.8	0.5	0.5	0.3	0.1
25th	15.7	3.1	1.9	1.6	0.8	0.5	0.4	0.3	0.2	0.1
75th	41.4	16.8	8.1	5.5	2.2	1.1	1.0	1.0	0.5	0.2

Table J-112. Nitrate loads (lbs/d) by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	11.1	10.7	4.8	2.9	1.6	1.1	0.6	0.4	0.3	0.1
Average	205.7	70.9	34.1	24.1	13.9	18.5	6.1	10.3	2.3	0.8
Maximum	592.6	268.9	130.9	87.5	117.7	316.8	32.3	179.3	18.1	3.7
Median	189.5	41.6	19.8	19.2	8.5	4.7	3.2	3.4	1.4	0.4
25th	100.5	28.8	11.4	9.5	4.3	2.7	2.1	1.4	0.8	0.2
75th	260.2	72.2	45.7	37.1	15.6	9.2	8.6	7.1	2.3	0.8

Table J-113. Sulfate loads (lbs/d) by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	8,153	6,490	2,147	4,472	3,205	2,993	2,557	1,419	1,055	547
Average	30,429	15,511	11,093	9,276	6,872	5,087	3,789	3,180	2,144	1,062
Maximum	55,672	41,638	21,841	15,392	12,510	11,778	5,899	7,478	4,035	2,125
Median	29,483	13,803	10,131	8,770	6,802	4,817	3,846	3,130	2,126	967
25th	22,573	11,666	8,658	7,055	5,755	4,253	3,152	2,387	1,599	754
75th	40,246	17,865	13,770	10,814	8,011	5,561	4,296	3,598	2,533	1,242

Table J-114. Iron loads (lbs/d) by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4.5	3.8	1.3	2.5	1.7	1.6	1.4	0.8	0.6	0.3
Average	38.2	10.7	6.7	5.9	3.8	2.9	2.0	1.8	1.2	0.6
Maximum	288.4	37.3	16.4	24.4	9.3	11.5	3.2	6.4	2.9	1.1
Median	24.9	8.4	5.6	5.2	3.6	2.6	2.0	1.7	1.1	0.5
25th	17.5	6.5	4.8	3.9	3.2	2.3	1.7	1.3	0.8	0.4
75th	41.6	12.1	7.8	6.4	4.4	3.0	2.3	1.9	1.4	0.7

Table J-115. Aluminum loads (lbs/d) by flow percentile for UT to Aaron Run (ZWA0000/WM-78)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	6.4	5.5	2.7	3.1	1.7	1.6	1.4	0.8	0.6	0.3
Average	127.7	33.6	15.0	10.7	5.4	5.2	2.4	2.9	1.5	0.6
Maximum	415.8	188.6	65.8	34.0	36.2	63.6	10.2	31.0	10.1	1.1
Median	120.1	19.6	9.7	7.9	4.0	2.6	2.1	1.8	1.1	0.5
25th	60.3	8.5	5.5	4.3	3.3	2.3	1.7	1.3	0.9	0.4
75th	169.6	37.7	17.5	13.1	5.1	3.3	2.4	2.2	1.4	0.7

Miller Run (WM-80/MRR0000) plots and tables

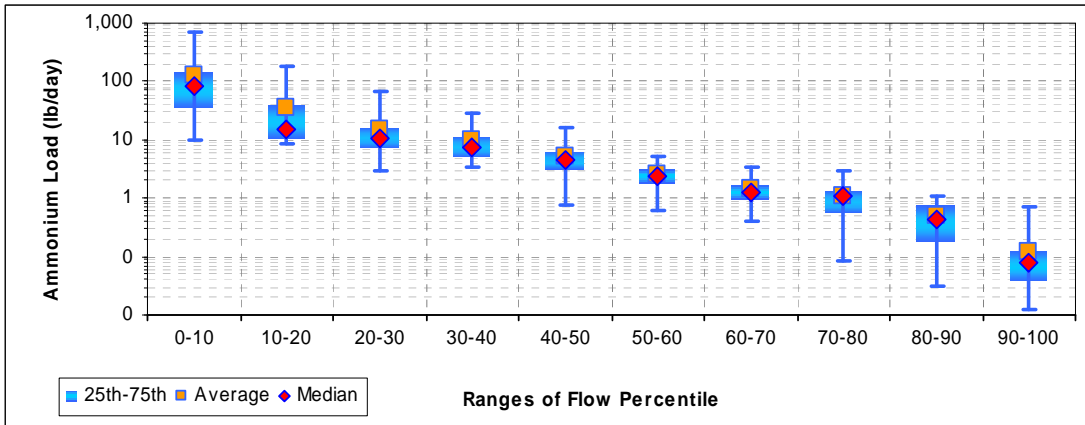


Figure J-116. Ammonium loads by flow percentile for Miller Run (MRR0000/WM-80)

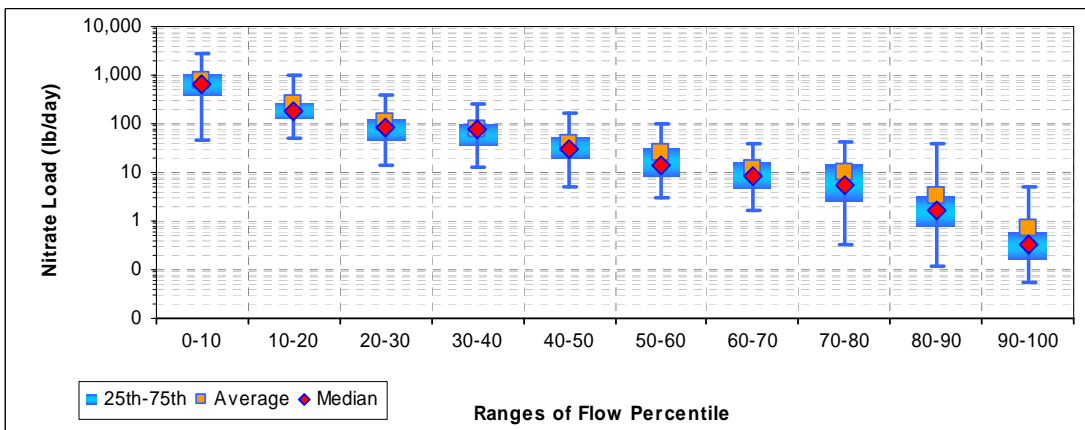


Figure J-117. Nitrate loads by flow percentile for Miller Run (MRR0000/WM-80)

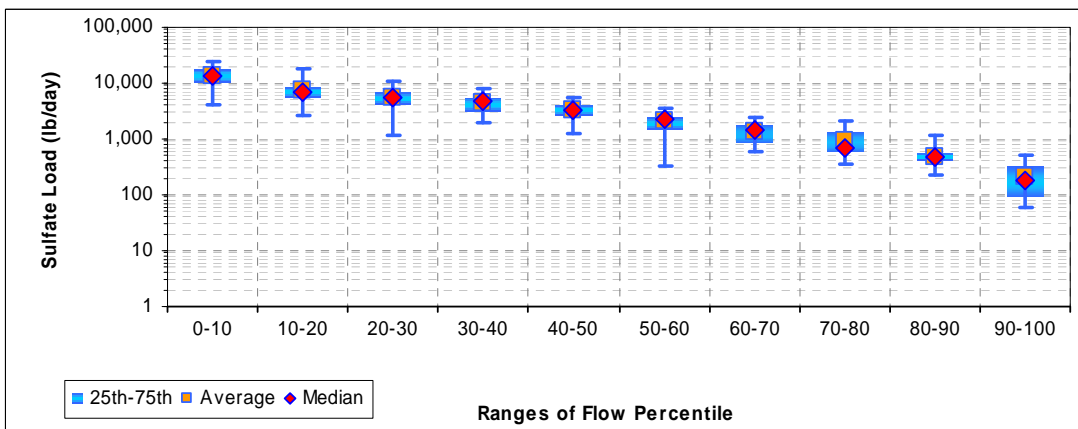


Figure J-118. Sulfate loads by flow percentile for Miller Run (MRR0000/WM-80)

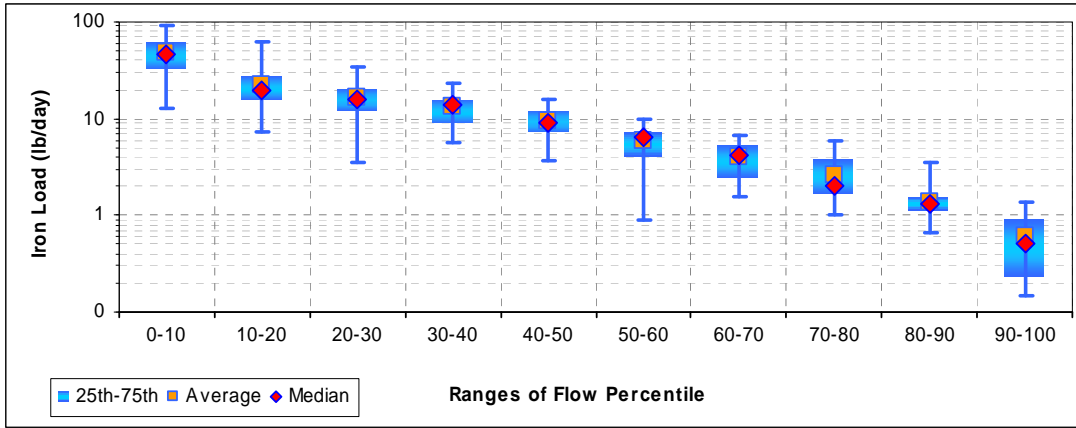


Figure J-119. Iron loads by flow percentile for Miller Run (MRR0000/WM-80)

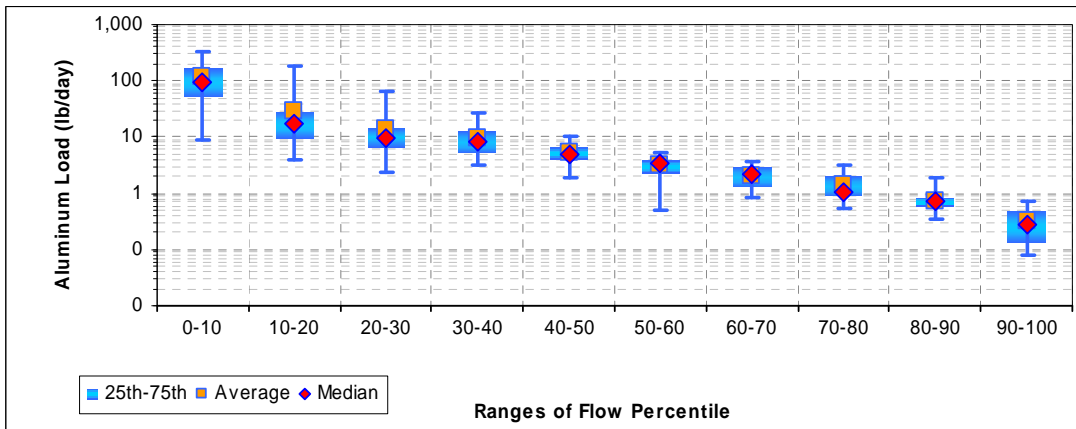


Figure J-120. Aluminum loads by flow percentile for Miller Run (MRR0000/WM-80)

Table J-116. Ammonium loads (lb/d) by flow percentile for Miller Run (MRR0000/WM-80)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	9.9	8.4	3.0	3.4	0.7	0.6	0.4	0.1	0.0	0.0
Average	125.9	35.9	15.0	9.8	5.2	2.6	1.4	1.1	0.5	0.1
Maximum	720.9	177.5	65.3	29.1	16.0	5.3	3.4	2.9	1.1	0.7
Median	82.5	15.2	10.5	7.5	4.4	2.3	1.3	1.1	0.4	0.1
25th	36.0	10.6	7.3	5.2	3.1	1.8	1.0	0.6	0.2	0.0
75th	149.2	39.7	16.4	11.1	6.3	3.2	1.7	1.3	0.7	0.1

Table J-117. Nitrate loads (lbs/d) by flow percentile for Miller Run (MRR0000/WM-80)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	45.1	51.4	13.8	12.8	4.9	3.1	1.6	0.3	0.1	0.1
Average	765.9	245.0	105.5	78.5	40.1	24.8	12.1	9.8	3.4	0.7
Maximum	2,681.7	1,035.3	381.5	245.1	162.4	102.4	40.3	42.2	40.8	5.1
Median	635.5	178.8	84.4	80.2	31.3	14.4	8.1	5.5	1.7	0.3
25th	397.8	130.3	45.6	37.3	19.2	8.3	4.7	2.5	0.8	0.2
75th	1,092.3	283.8	134.6	101.6	53.3	31.8	17.0	15.9	3.2	0.6

Table J-118. Sulfate loads (lbs/d) by flow percentile for Miller Run (MRR0000/WM-80)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4,036	2,689	1,187	1,946	1,291	339	586	354	232	61
Average	13,600	7,391	5,548	4,550	3,322	2,078	1,391	920	491	218
Maximum	24,349	17,594	10,749	7,734	5,482	3,431	2,406	2,047	1,187	496
Median	13,620	6,764	5,412	4,812	3,268	2,239	1,472	703	477	186
25th	10,090	5,510	4,206	3,137	2,677	1,486	879	615	411	94
75th	17,894	8,888	6,726	5,482	4,213	2,514	1,864	1,319	568	338

Table J-119. Iron loads (lbs/d) by flow percentile for Miller Run (MRR0000/WM-80)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	12.5	7.2	3.5	5.6	3.7	0.9	1.6	1.0	0.7	0.1
Average	47.4	22.5	16.2	13.2	9.4	5.9	3.9	2.6	1.4	0.6
Maximum	90.3	62.4	34.9	23.5	15.9	10.0	6.8	5.8	3.4	1.4
Median	45.5	19.9	15.6	14.1	9.2	6.3	4.2	2.0	1.3	0.5
25th	33.4	16.1	12.0	8.9	7.2	4.1	2.5	1.7	1.1	0.2
75th	61.8	27.8	20.3	15.8	12.1	7.2	5.3	3.8	1.6	0.9

Table J-120. Aluminum loads (lbs/d) by flow percentile for Miller Run (MRR0000/WM-80)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	8.8	3.9	2.3	3.2	2.0	0.5	0.8	0.5	0.4	0.1
Average	113.4	29.1	13.3	9.6	5.3	3.1	2.1	1.4	0.7	0.3
Maximum	322.8	177.6	66.9	27.9	10.0	5.3	3.6	3.1	1.8	0.7
Median	94.3	17.6	9.6	8.3	5.1	3.4	2.2	1.1	0.7	0.3
25th	50.9	9.7	6.8	5.4	3.9	2.2	1.3	0.9	0.6	0.1
75th	167.8	28.5	15.0	12.7	6.8	3.9	2.8	2.0	0.8	0.5

Big Run (WM-81/BRU0048) plots and tables

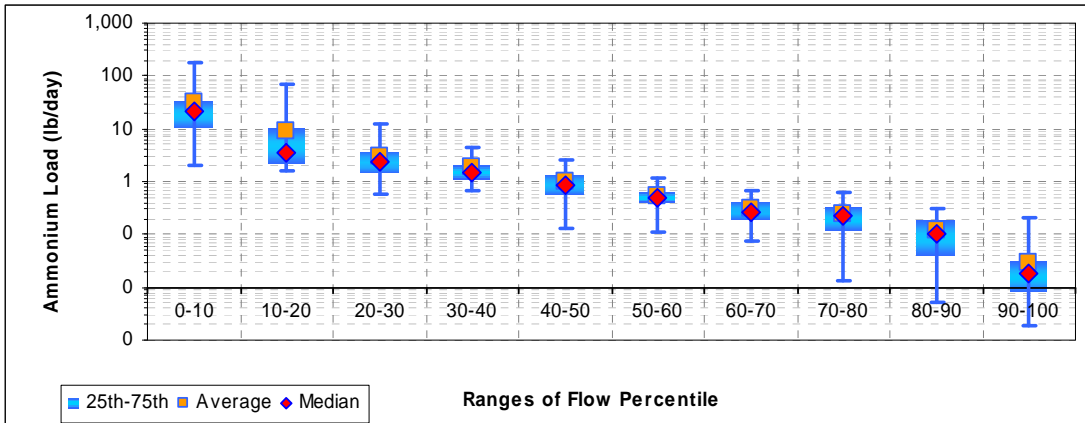


Figure J-121. Ammonium loads by flow percentile for Big Run (BRU0048/WM-81)

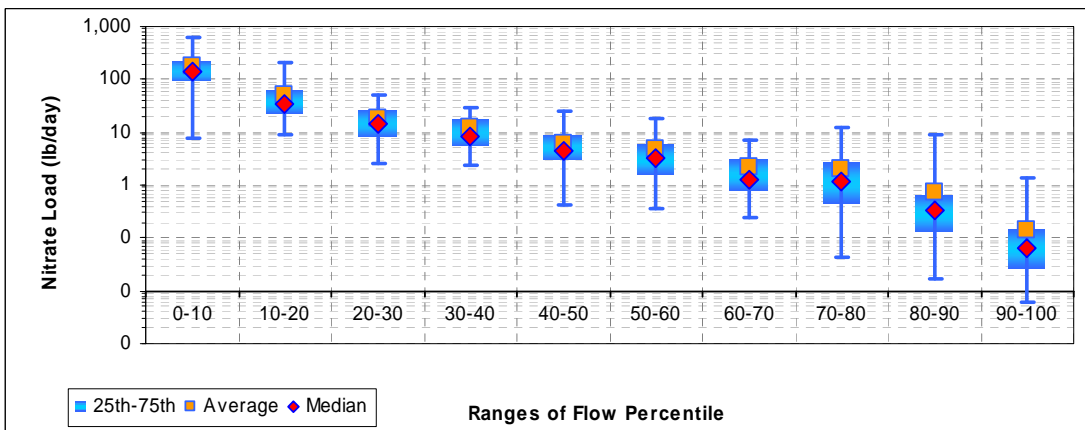


Figure J-122. Nitrate loads by flow percentile for Big Run (BRU0048/WM-81)

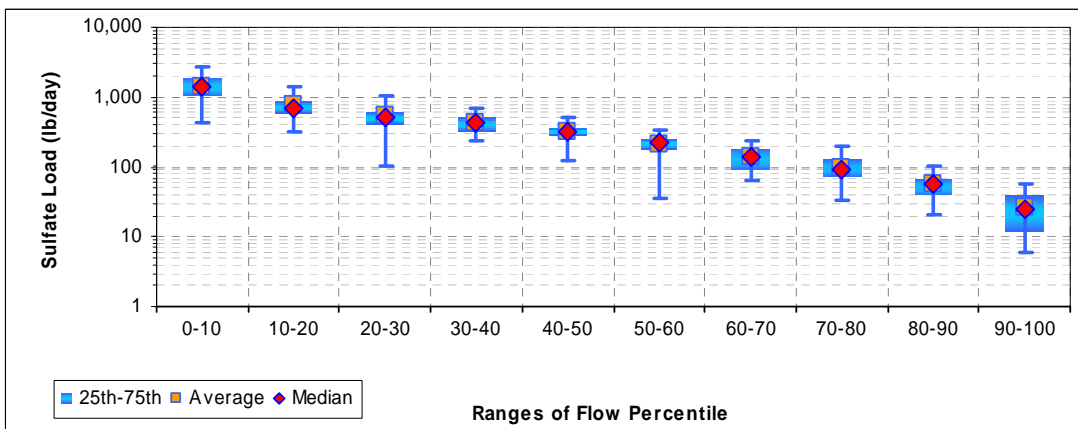


Figure J-123. Sulfate loads by flow percentile for Big Run (BRU0048/WM-81)

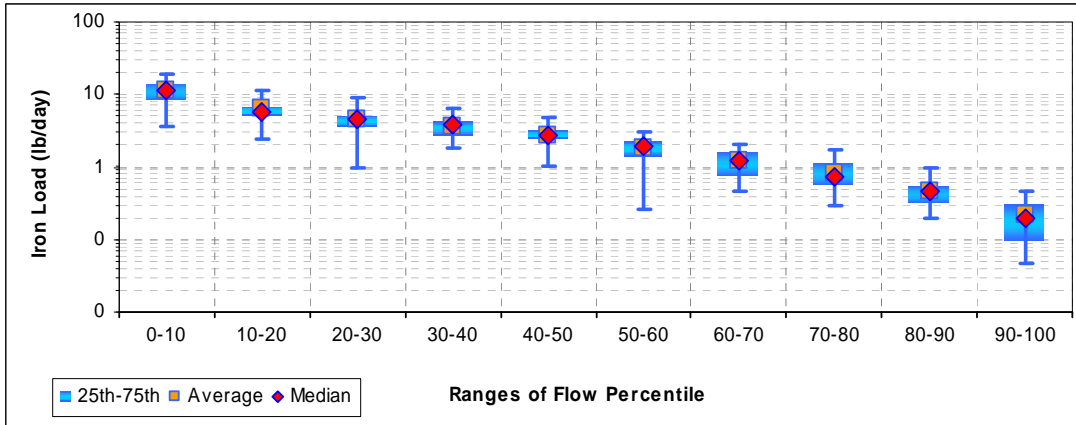


Figure J-124. Iron loads by flow percentile for Big Run (BRU0048/WM-81)

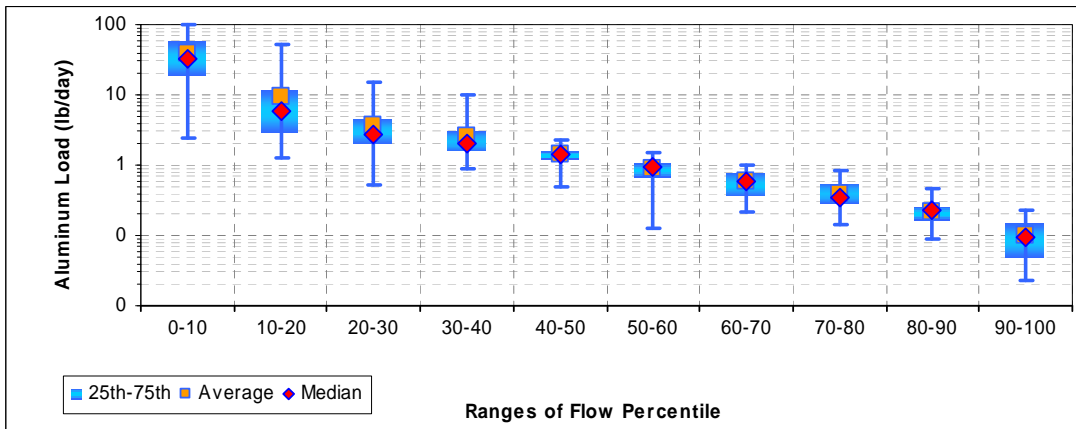


Figure J-125. Aluminum loads by flow percentile for Big Run (BRU0048/WM-81)

Table J-121. Ammonium loads (lb/d) by flow percentile for Big Run (BRU0048/WM-81)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.1	1.7	0.6	0.7	0.1	0.1	0.1	0.0	0.0	0.0
Average	30.8	8.8	3.1	1.9	1.0	0.6	0.3	0.2	0.1	0.0
Maximum	172.3	69.3	12.0	4.5	2.6	1.2	0.7	0.6	0.3	0.2
Median	20.8	3.5	2.3	1.5	0.8	0.5	0.3	0.2	0.1	0.0
25th	10.4	2.3	1.4	1.1	0.6	0.4	0.2	0.1	0.0	0.0
75th	34.2	10.3	3.7	2.1	1.4	0.6	0.4	0.3	0.2	0.0

Table J-122. Nitrate loads (lbs/d) by flow percentile for Big Run (BRU0048/WM-81)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	7.8	9.1	2.5	2.3	0.4	0.4	0.2	0.0	0.0	0.0
Average	176.6	51.1	18.6	12.1	6.2	4.7	2.2	2.0	0.7	0.1
Maximum	609.5	216.4	52.5	30.2	25.6	17.8	7.1	12.1	8.8	1.4
Median	146.0	35.5	14.6	8.4	4.4	3.4	1.2	1.1	0.3	0.1
25th	94.6	23.4	8.4	5.4	2.9	1.6	0.8	0.5	0.1	0.0
75th	216.4	62.7	26.4	18.2	9.0	6.2	3.3	2.8	0.7	0.1

Table J-123. Sulfate loads (lbs/d) by flow percentile for Big Run (BRU0048/WM-81)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	429	327	106	238	121	36	62	32	21	6
Average	1,447	757	534	424	322	215	141	98	55	26
Maximum	2,633	1,418	1,028	682	518	334	237	199	105	55
Median	1,445	699	519	422	325	228	142	92	57	24
25th	1,068	577	413	322	275	173	92	73	41	12
75th	1,845	874	605	504	360	256	183	128	68	40

Table J-124. Iron loads (lbs/d) by flow percentile for Big Run (BRU0048/WM-81)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3.6	2.5	1.0	1.9	1.1	0.3	0.5	0.3	0.2	0.0
Average	11.4	6.4	4.6	3.7	2.8	1.8	1.2	0.8	0.5	0.2
Maximum	18.7	11.4	9.3	6.3	4.8	3.1	2.1	1.7	1.0	0.5
Median	11.7	5.9	4.5	3.8	2.7	2.0	1.2	0.7	0.5	0.2
25th	8.5	5.0	3.7	2.7	2.4	1.4	0.8	0.6	0.3	0.1
75th	14.7	6.9	5.1	4.2	3.1	2.3	1.6	1.2	0.5	0.3

Table J-125. Aluminum loads (lbs/d) by flow percentile for Big Run (BRU0048/WM-81)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.5	1.2	0.5	0.9	0.5	0.1	0.2	0.1	0.1	0.0
Average	38.6	9.7	3.7	2.6	1.4	0.9	0.6	0.4	0.2	0.1
Maximum	99.4	51.6	14.8	10.1	2.3	1.5	1.0	0.8	0.5	0.2
Median	32.6	6.0	2.7	2.1	1.4	0.9	0.6	0.3	0.2	0.1
25th	18.9	2.9	2.0	1.6	1.2	0.7	0.4	0.3	0.2	0.0
75th	57.3	11.7	4.7	3.1	1.6	1.1	0.8	0.6	0.3	0.2

Little Savage River (WM-86/LSA0028) plots and tables

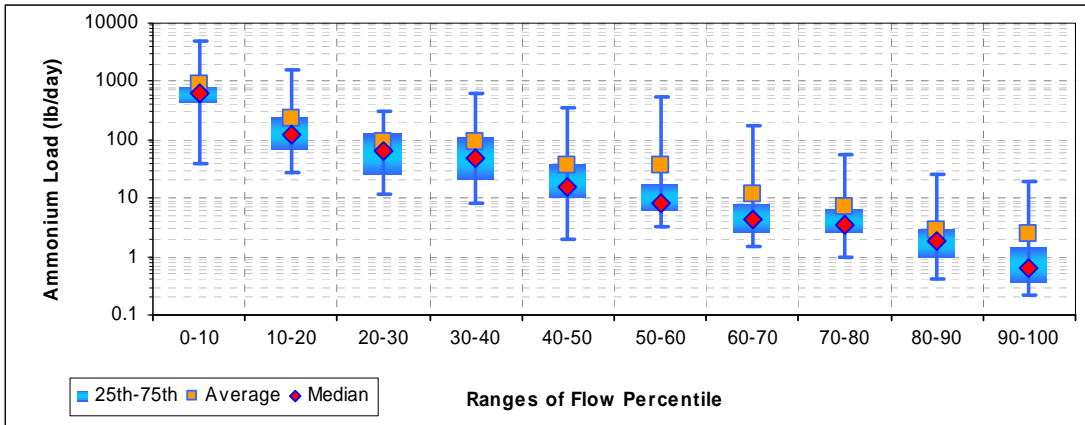


Figure J-126. Ammonium loads by flow percentile for Little Savage River (LSA0028/WM-86)

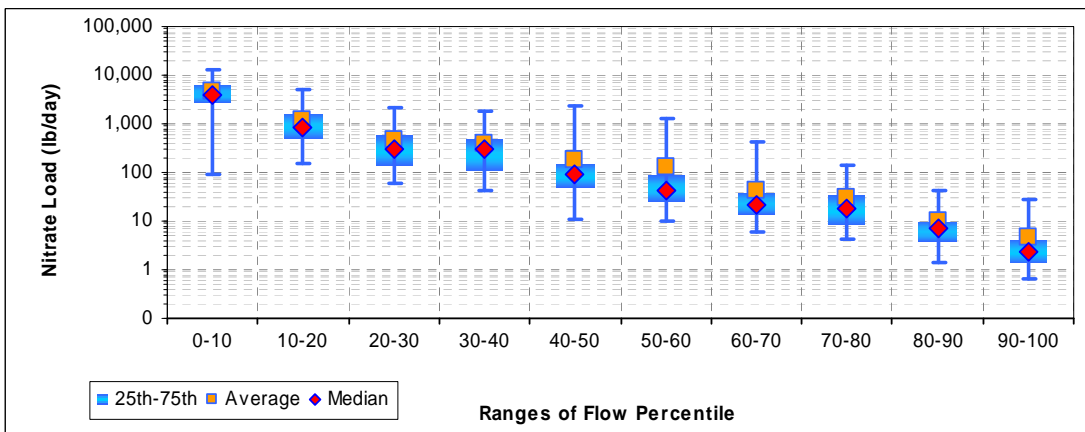


Figure J-127. Nitrate loads by flow percentile for Little Savage River (LSA0028/WM-86)

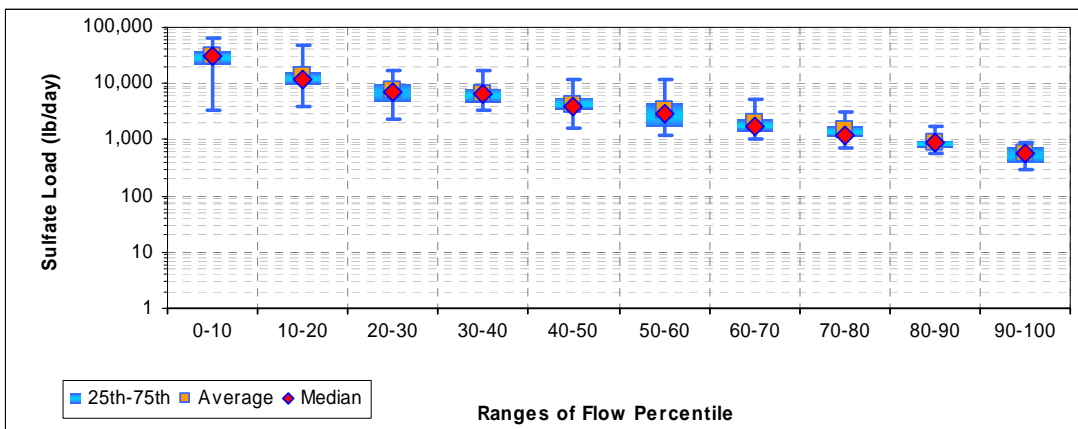


Figure J-128. Sulfate loads by flow percentile for Little Savage River (LSA0028/WM-86)

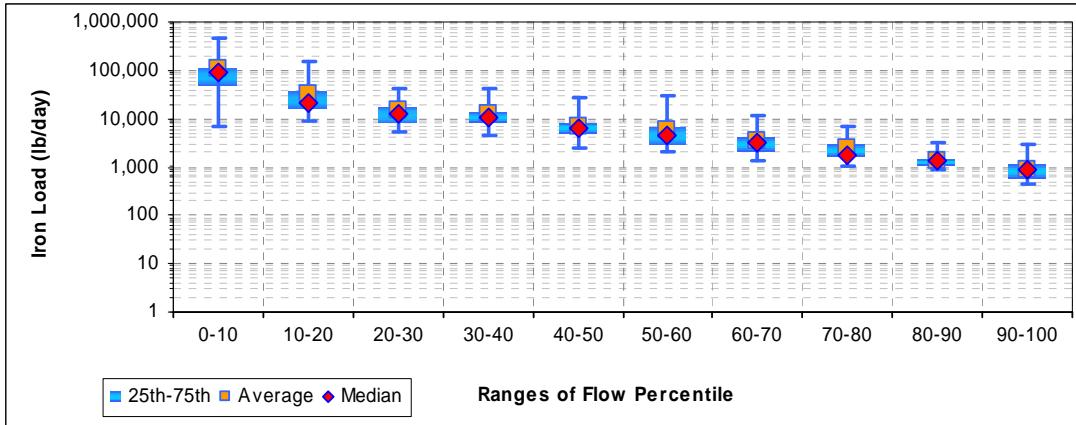


Figure J-129. Iron loads by flow percentile for Little Savage River (LSA0028/WM-86)

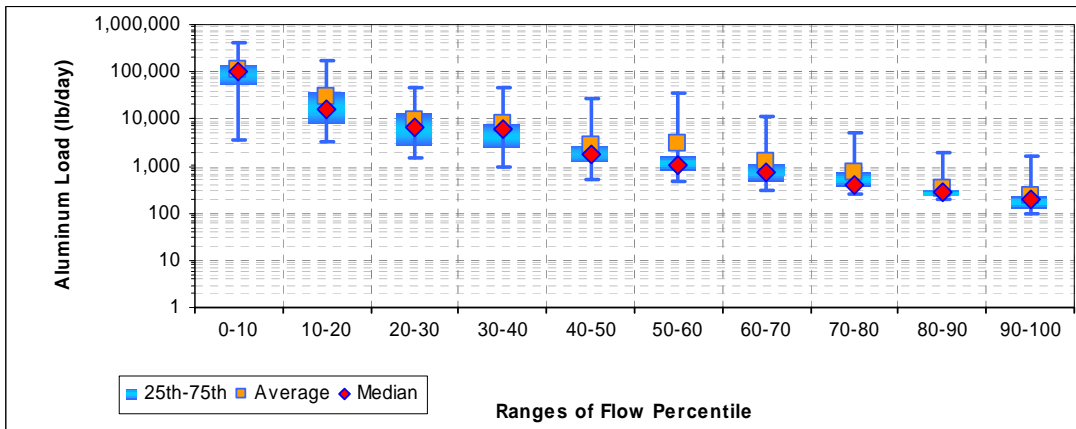


Figure J-130. Aluminum loads by flow percentile for Little Savage River (LSA0028/WM-86)

Table J-126. Ammonium loads (lb/d) by flow percentile for Little Savage River (LSA0028/WM-86)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	39.7	28.3	11.5	8.4	2.0	3.2	1.5	1.0	0.4	0.2
Average	888.0	234.9	92.1	90.7	36.7	36.4	11.4	7.0	2.9	2.5
Maximum	4,856.3	1,574.8	298.2	627.2	362.8	551.0	170.2	54.6	25.5	19.7
Median	617.5	124.4	63.6	47.8	15.1	8.0	4.3	3.5	1.8	0.6
25th	434.2	70.9	25.4	20.3	10.4	6.4	2.7	2.6	1.0	0.4
75th	858.6	247.4	127.5	111.2	39.0	18.6	8.3	6.6	3.0	1.5

Table J-127. Nitrate loads (lbs/d) by flow percentile for Little Savage River (LSA0028/WM-86)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	95.1	150.7	59.9	41.8	11.3	10.2	5.7	4.1	1.5	0.7
Average	4,476.1	1,229.1	457.9	399.3	186.1	127.0	41.4	29.6	9.8	4.7
Maximum	13,225.8	5,007.1	2,210.6	1,866.9	2,321.5	1,343.7	428.2	142.3	41.9	28.5
Median	3,763.7	879.9	297.4	293.5	93.4	44.1	21.2	18.7	6.8	2.4
25th	2,696.3	506.6	138.9	106.3	52.5	25.8	13.9	8.8	4.1	1.4
75th	6,418.0	1,610.6	579.2	488.9	158.3	94.3	39.1	35.6	10.0	4.2

Table J-128. Sulfate loads (lbs/d) by flow percentile for Little Savage River (LSA0028/WM-86)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3,452	3,932	2,398	3,314	1,615	1,175	996	732	581	303
Average	30,212	13,652	7,783	6,711	4,315	3,334	2,038	1,470	886	578
Maximum	63,053	48,873	16,870	16,447	11,749	12,104	5,159	3,111	1,732	910
Median	30,667	11,727	7,268	6,436	3,851	2,926	1,756	1,205	885	584
25th	21,387	9,154	4,679	4,415	3,361	1,682	1,364	1,096	723	402
75th	37,247	16,311	10,142	7,926	5,458	4,593	2,297	1,782	987	750

Table J-129. Iron loads (lbs/d) by flow percentile for Little Savage River (LSA0028/WM-86)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	6,879.1	9,068.3	5,487.4	4,372.4	2,378.6	2,024.3	1,362.6	1,031.5	867.9	442.5
Average	103,817.5	31,948.4	14,845.9	12,814.6	6,921.7	5,981.6	3,441.9	2,417.7	1,337.5	896.0
Maximum	474,557.5	146,427.3	43,603.1	43,125.4	26,841.7	30,817.1	11,605.5	7,132.7	3,119.8	2,833.3
Median	87,534.5	21,323.0	12,420.4	10,837.1	6,328.9	4,448.9	3,159.7	1,794.2	1,317.3	873.1
25th	51,385.7	15,613.2	7,955.0	8,259.4	5,035.7	2,942.2	2,034.1	1,621.7	1,023.4	584.8
75th	118,550.3	38,745.0	18,335.3	13,597.4	8,365.9	7,192.0	3,957.8	2,898.4	1,450.7	1,113.4

Table J-130. Aluminum loads (lbs/d) by flow percentile for Little Savage River (LSA0028/WM-86)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3,472.6	3,371.1	1,550.0	962.5	523.1	465.2	302.1	246.9	189.4	96.6
Average	112,440.6	30,097.7	9,776.9	8,139.3	2,824.9	2,961.2	1,218.2	755.5	330.4	239.4
Maximum	429,268.2	175,662.7	47,205.9	45,304.4	28,023.4	36,560.8	11,591.3	5,098.7	2,003.8	1,694.5
Median	101,788.1	16,285.0	6,566.6	5,853.3	1,812.8	1,043.7	737.0	401.3	287.5	190.5
25th	54,948.5	7,728.4	2,767.1	2,486.9	1,296.1	776.1	454.6	357.4	233.2	127.6
75th	139,163.4	38,261.7	13,108.3	8,024.6	2,658.8	1,681.3	1,184.7	703.7	316.8	243.0

Poplar Lick Run (WM-96/POP0065) plots and tables

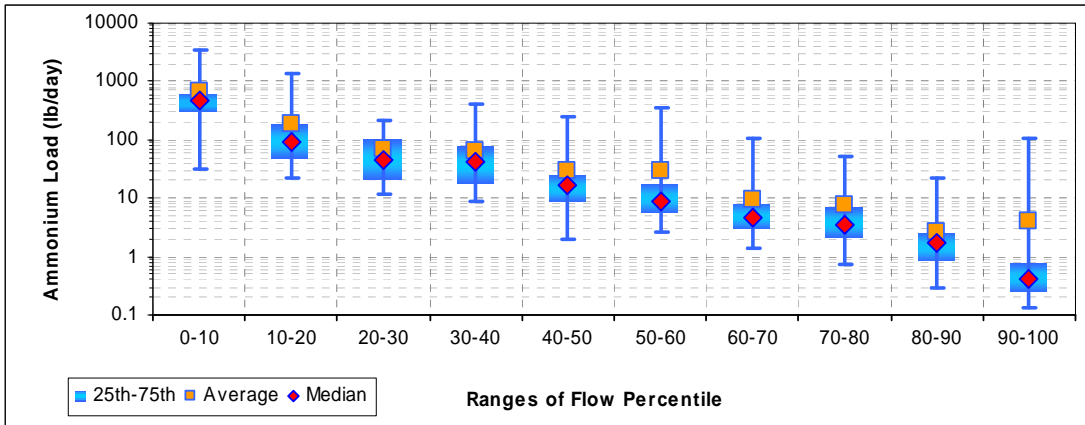


Figure J-131. Ammonium loads by flow percentile for Poplar Lick Run (POP0065/WM-96)

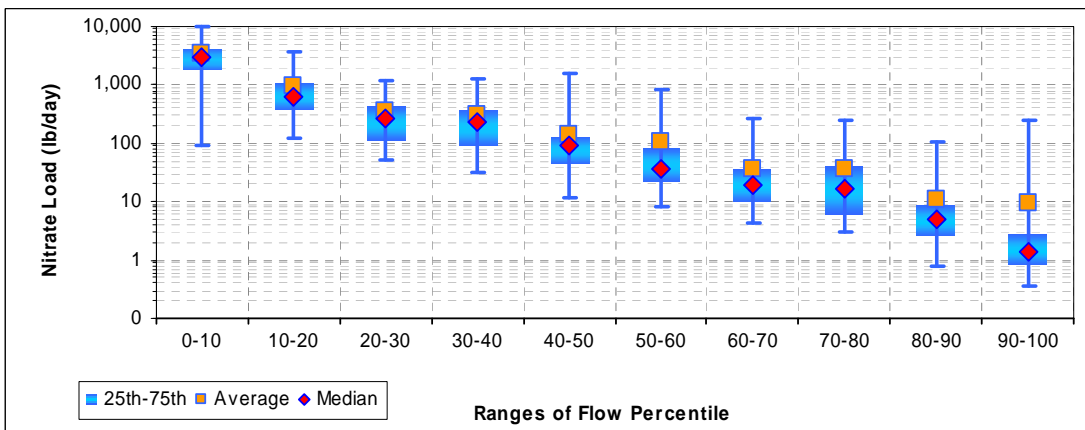


Figure J-132. Nitrate loads by flow percentile for Poplar Lick Run (POP0065/WM-96)

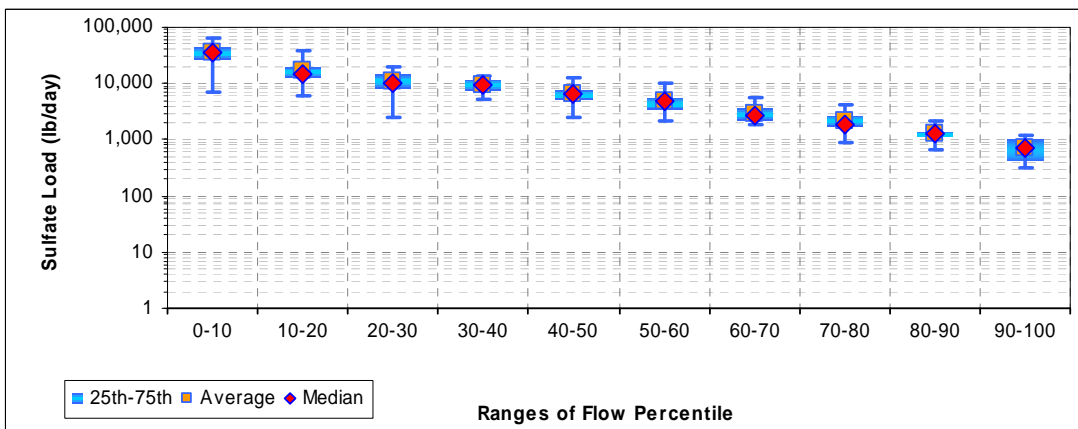


Figure J-133. Sulfate loads by flow percentile for Poplar Lick Run (POP0065/WM-96)

** These plots include upstream loads from Poplar Lick Run (WM-97/POP0071).

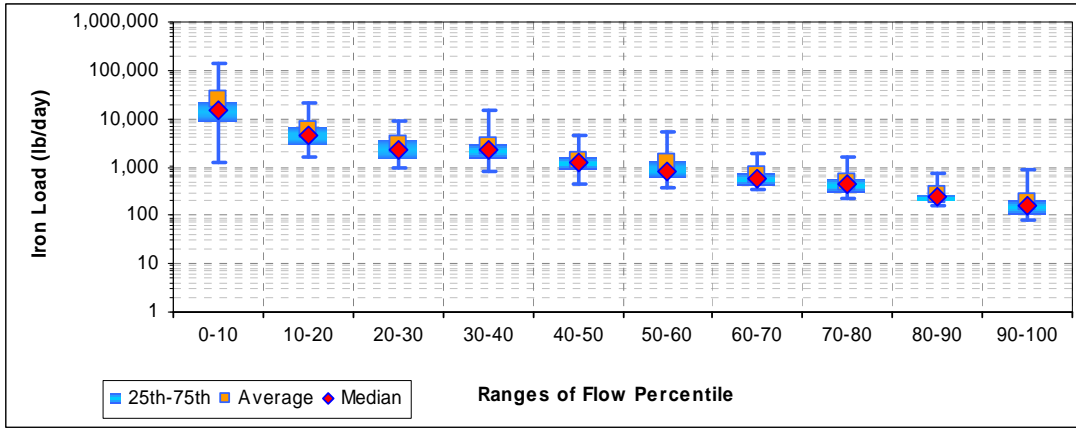


Figure J-134. Iron loads by flow percentile for Poplar Lick Run (POP0065/WM-96)

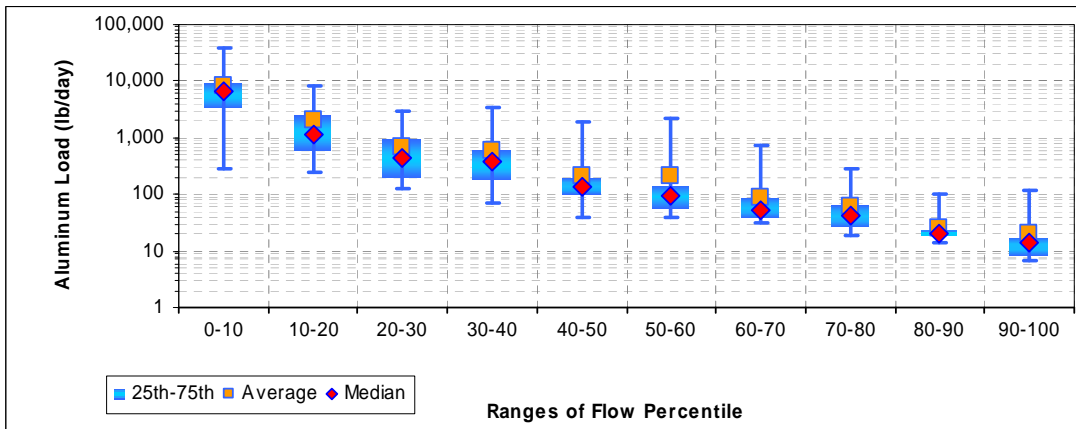


Figure J-135. Aluminum loads by flow percentile for Poplar Lick Run (POP0065/WM-96)

** These plots include upstream loads from Poplar Lick Run (WM-97/POP0071).

FINAL

Table J-131. Ammonium loads (lb/d) by flow percentile for Poplar Lick Run (POP0065/WM-96)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	32.6	21.9	11.4	8.9	1.9	2.6	1.4	0.7	0.3	0.1
Average	665.2	184.9	70.1	64.8	28.8	29.7	9.3	7.5	2.7	3.9
Maximum	3,435.1	1,329.7	218.8	411.2	243.1	350.9	109.7	51.9	22.8	108.8
Median	454.6	90.2	46.3	40.6	16.6	8.8	4.7	3.4	1.7	0.4
25th	312.3	47.9	21.4	18.1	8.7	5.6	3.0	2.1	0.8	0.3
75th	637.1	184.0	102.5	77.4	26.4	18.0	8.3	6.9	2.6	0.8

Table J-132. Nitrate loads (lbs/d) by flow percentile for Poplar Lick Run (POP0065/WM-96)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	93.5	121.2	52.0	31.6	12.1	8.4	4.4	2.9	0.8	0.4
Average	3,338.6	935.1	348.8	301.4	143.3	105.9	35.5	35.4	10.6	9.3
Maximum	9,704.7	3,712.2	1,189.7	1,233.3	1,540.9	817.2	266.3	245.8	107.3	244.3
Median	2,987.5	619.6	266.8	225.9	90.1	35.6	18.7	17.2	5.1	1.4
25th	1,790.3	376.3	115.4	90.5	46.5	22.5	10.3	6.4	2.6	0.8
75th	4,396.6	1,126.1	449.1	382.0	131.8	86.5	37.5	42.6	9.1	2.7

Table J-133. Sulfate loads (lbs/d) by flow percentile for Poplar Lick Run (POP0065/WM-96)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	7,230	6,030	2,578	5,347	2,469	2,079	1,810	906	651	307
Average	35,445	17,163	11,276	9,505	6,704	4,717	2,958	2,148	1,278	728
Maximum	64,073	37,869	19,952	13,950	12,360	10,050	5,736	4,205	2,160	1,236
Median	36,663	15,208	10,493	9,452	6,484	4,684	2,739	1,822	1,320	719
25th	26,253	12,554	7,930	7,347	5,314	3,261	2,083	1,668	1,125	431
75th	44,981	19,694	14,870	11,646	7,685	5,670	3,598	2,639	1,416	1,022

Table J-134. Iron loads (lbs/d) by flow percentile for Poplar Lick Run (POP0065/WM-96)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,285.1	1,659.9	991.4	805.6	440.8	373.1	333.6	214.6	160.1	77.0
Average	25,000.1	5,984.1	2,816.1	2,649.2	1,322.1	1,188.4	663.8	491.4	259.6	192.3
Maximum	141,647.6	21,768.5	9,305.3	14,878.7	4,677.2	5,144.0	1,965.9	1,591.7	768.8	848.4
Median	14,980.0	4,466.1	2,247.6	2,278.5	1,229.4	826.0	577.4	460.8	238.1	159.2
25th	8,640.2	2,897.6	1,413.8	1,444.8	866.0	631.8	392.4	295.1	202.7	102.2
75th	22,630.2	6,768.1	3,864.3	2,825.5	1,665.8	1,349.5	728.7	563.1	264.8	202.8

Table J-135. Aluminum loads (lbs/d) by flow percentile for Poplar Lick Run (POP0065/WM-96)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	279.0	237.2	123.7	72.6	38.6	37.9	30.3	19.1	13.6	6.5
Average	8,554.9	1,978.4	670.3	598.7	204.2	212.5	87.0	59.5	25.7	20.6
Maximum	37,937.6	8,449.7	2,976.9	3,315.9	1,842.9	2,283.8	729.4	293.8	103.6	120.0
Median	6,582.9	1,153.5	425.2	377.8	137.9	95.1	53.7	43.1	20.7	13.7
25th	3,528.4	593.6	199.0	185.4	103.5	58.5	39.8	27.1	18.5	8.7
75th	9,237.1	2,548.9	985.6	611.9	194.9	145.9	89.0	66.7	23.3	17.6

** These tables include upstream loads from Poplar Lick Run (WM-97/POP0071).

Poplar Lick Run (WM-97/POP0071) plots and tables

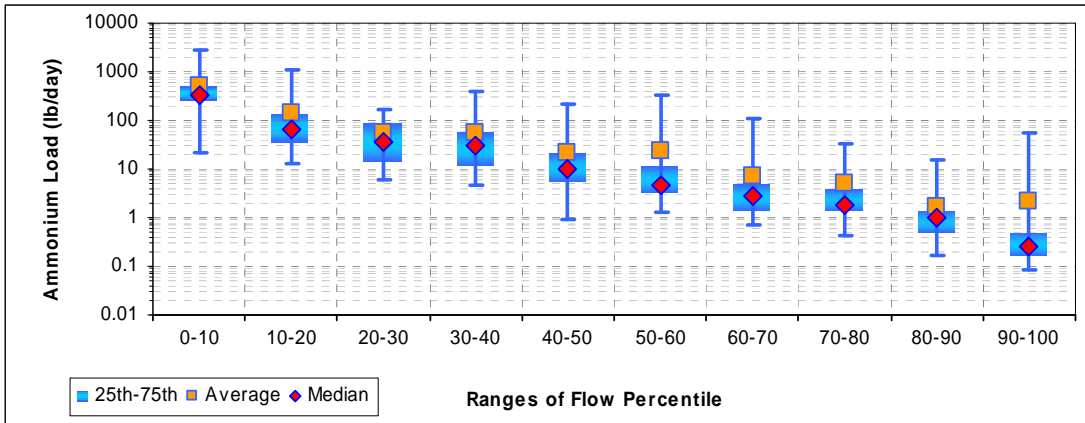


Figure J-136. Ammonium loads by flow percentile for Poplar Lick Run (POP0071/WM-97)

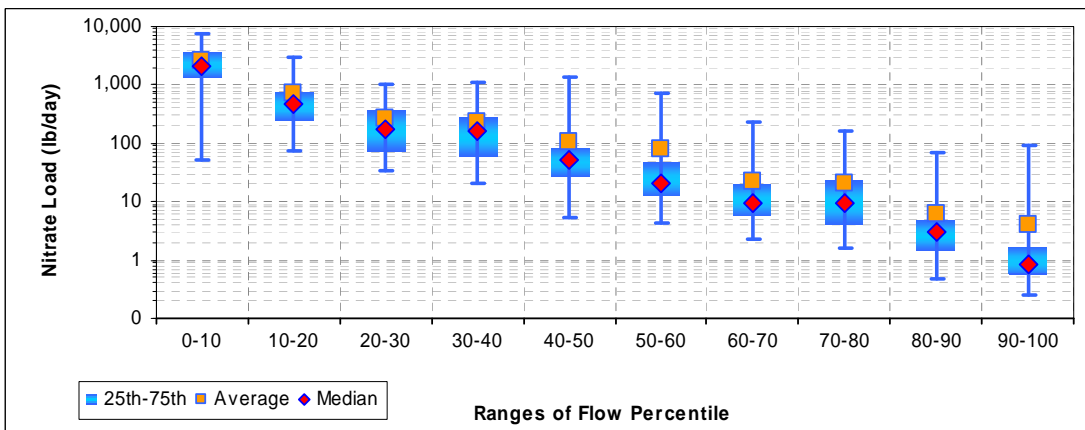


Figure J-137. Nitrate loads by flow percentile for Poplar Lick Run (POP0071/WM-97)

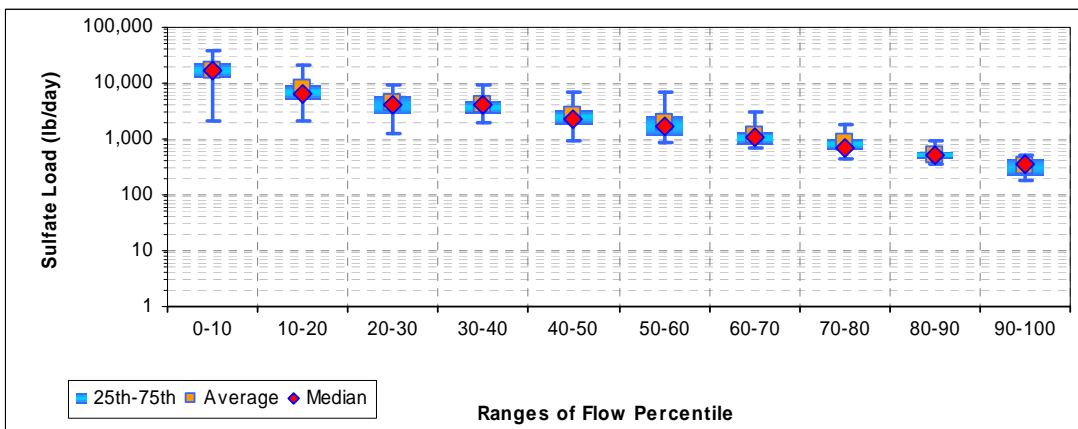


Figure J-138. Sulfate loads by flow percentile for Poplar Lick Run (POP0071/WM-97)

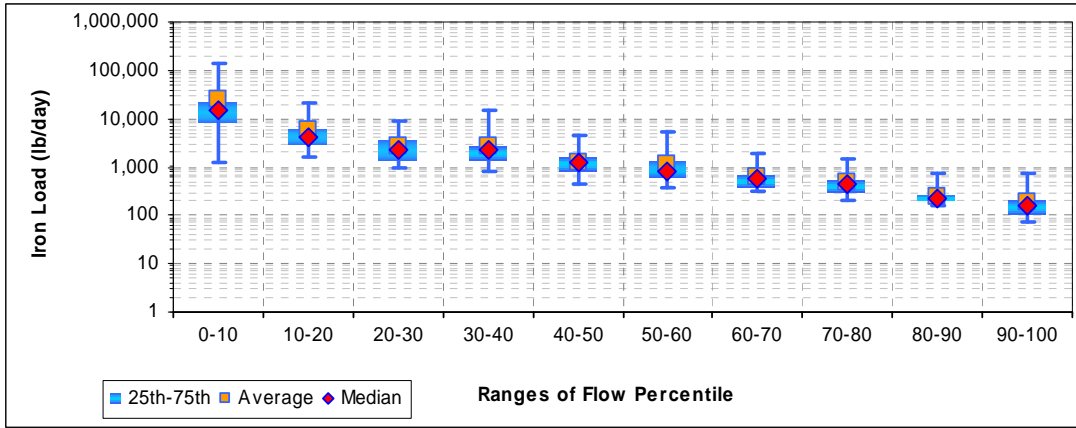


Figure J-139. Iron loads by flow percentile for Poplar Lick Run (POP0071/WM-97)

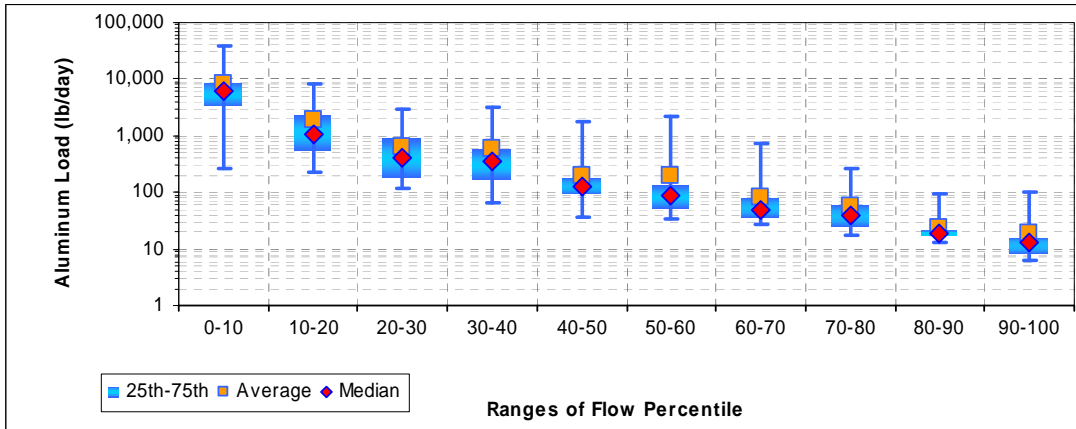


Figure J-140. Aluminum loads by flow percentile for Poplar Lick Run (POP0071/WM-97)

Table J-136. Ammonium loads (lb/d) by flow percentile for Poplar Lick Run (POP0071/WM-97)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	20.8	12.8	6.3	4.8	1.0	1.3	0.7	0.4	0.2	0.1
Average	518.3	143.1	54.1	53.5	21.8	23.6	6.9	4.9	1.7	2.1
Maximum	2,851.2	1,044.4	168.6	376.7	215.7	339.0	104.7	33.4	14.8	54.1
Median	338.7	67.4	36.0	29.9	10.0	4.5	2.8	1.8	1.0	0.2
25th	245.9	34.8	13.8	11.7	5.7	3.2	1.4	1.4	0.5	0.2
75th	509.2	139.4	90.3	59.7	21.7	11.6	5.0	3.9	1.4	0.5

Table J-137. Nitrate loads (lbs/d) by flow percentile for Poplar Lick Run (POP0071/WM-97)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	53.3	76.0	33.0	20.7	5.3	4.4	2.4	1.6	0.5	0.3
Average	2,571.3	709.5	258.8	233.5	105.0	77.4	22.5	20.8	6.0	4.1
Maximum	7,795.1	2,890.8	1,002.4	1,092.3	1,335.1	741.8	234.5	166.9	70.9	92.5
Median	2,138.4	475.8	172.7	161.4	53.1	20.8	9.8	9.7	2.9	0.8
25th	1,375.2	246.9	74.4	59.2	27.5	12.7	5.7	4.0	1.5	0.5
75th	3,663.8	797.5	369.1	278.4	86.4	49.9	20.6	23.2	4.9	1.7

Table J-138. Sulfate loads (lbs/d) by flow percentile for Poplar Lick Run (POP0071/WM-97)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2,062	2,179	1,247	2,003	957	852	688	441	346	175
Average	17,411	7,782	4,563	4,002	2,569	1,954	1,180	859	520	337
Maximum	37,260	21,787	9,302	9,268	6,885	6,851	2,953	1,795	911	521
Median	17,384	6,603	4,182	3,956	2,309	1,629	1,041	702	520	349
25th	12,046	5,099	2,920	2,726	1,815	1,133	804	658	451	233
75th	22,685	9,321	6,086	4,883	3,357	2,644	1,303	1,020	574	439

Table J-139. Iron loads (lbs/d) by flow percentile for Poplar Lick Run (POP0071/WM-97)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,236.2	1,622.0	958.6	780.0	425.1	361.9	323.2	209.1	157.7	76.0
Average	24,588.9	5,812.4	2,719.6	2,575.6	1,274.6	1,133.6	634.1	467.4	250.0	181.7
Maximum	139,795.4	21,111.7	8,843.9	14,639.3	4,627.4	5,116.8	1,943.1	1,418.7	714.1	718.0
Median	14,712.2	4,295.7	2,192.4	2,196.5	1,194.9	799.8	560.2	449.3	232.2	156.0
25th	8,441.4	2,819.2	1,357.0	1,394.9	840.0	607.6	380.5	286.2	197.0	100.7
75th	22,238.9	6,588.3	3,788.0	2,731.5	1,555.9	1,296.6	692.9	542.9	257.4	198.0

Table J-140. Aluminum loads (lbs/d) by flow percentile for Poplar Lick Run (POP0071/WM-97)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	261.1	219.5	113.9	65.3	35.2	33.5	27.1	17.9	12.9	6.2
Average	8,258.1	1,901.8	638.5	575.9	192.0	201.4	81.0	54.8	23.6	18.7
Maximum	37,222.3	8,276.3	2,885.0	3,259.6	1,810.0	2,271.1	721.5	270.2	95.9	103.6
Median	6,253.6	1,085.9	395.7	352.1	128.8	87.8	48.3	39.5	19.1	12.8
25th	3,360.2	560.3	183.0	173.3	95.2	52.8	36.1	24.5	16.9	8.3
75th	8,941.6	2,419.4	922.6	587.8	177.3	134.6	79.5	63.0	21.2	16.2

UT to Georges Creek (WM-110/UGQ000) plots and tables

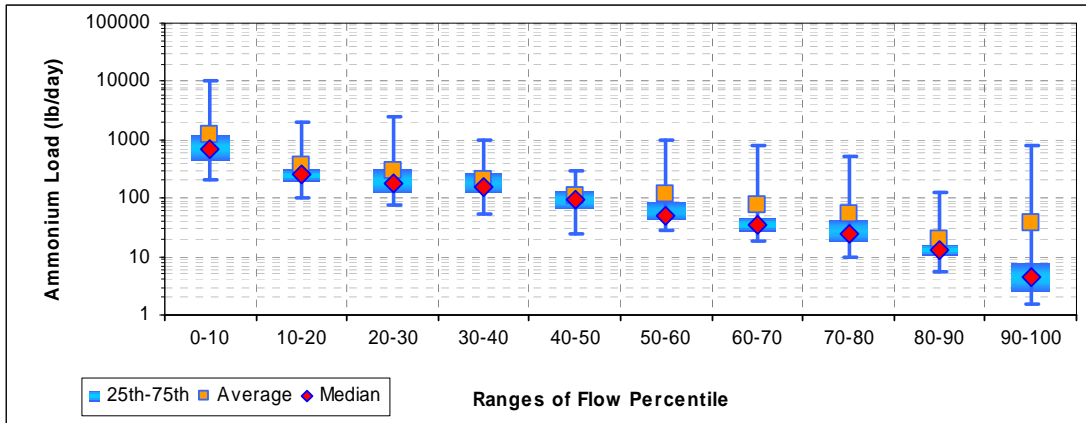


Figure J-141. Ammonium loads by flow percentile for UT to Georges Creek (UGQ000/WM-110)

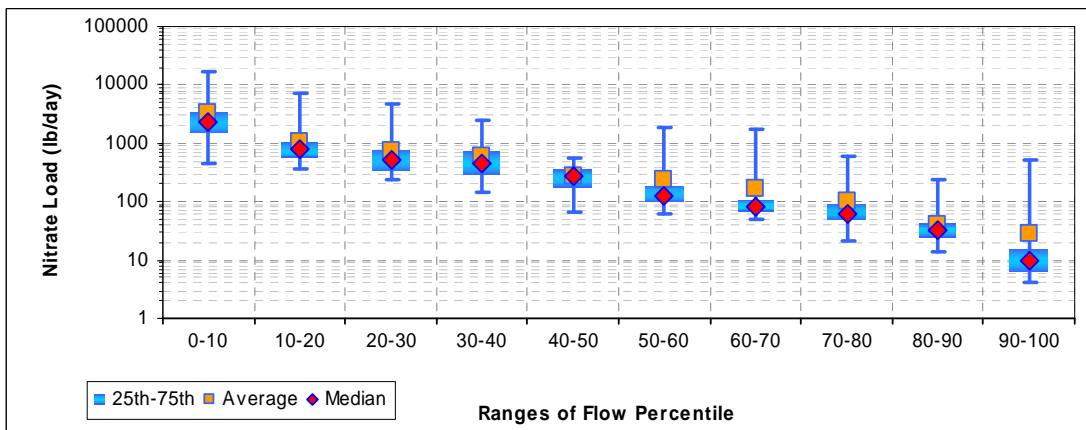


Figure J-142. Nitrate loads by flow percentile for UT to Georges Creek (UGQ000/WM-110)

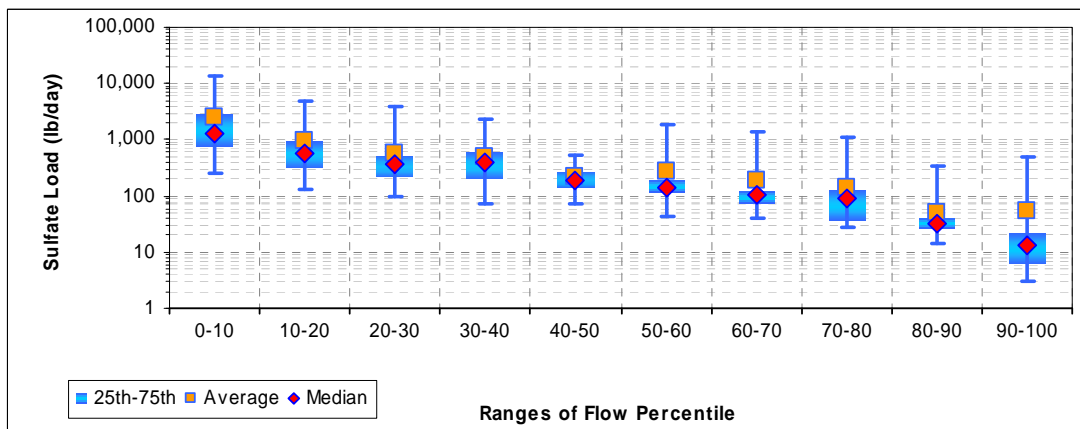


Figure J-143. Sulfate loads by flow percentile for UT to Georges Creek (UGQ000/WM-110)

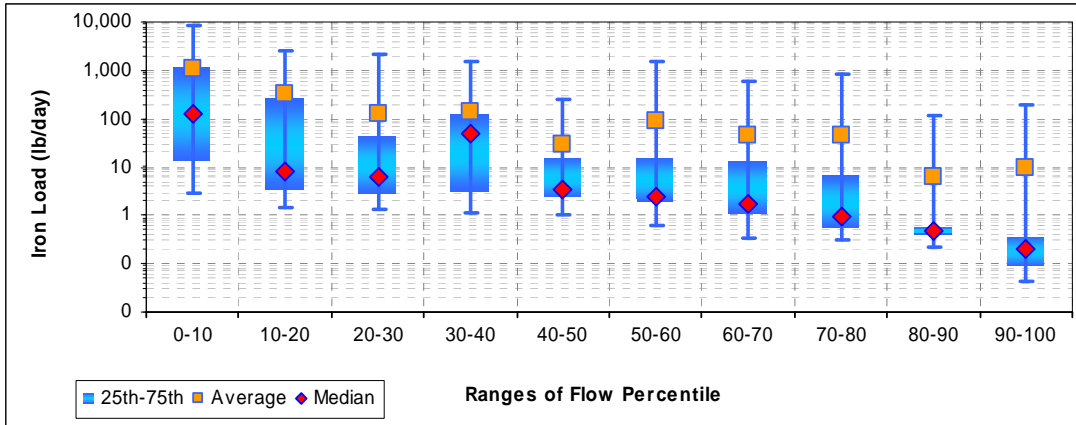


Figure J-144. Iron loads by flow percentile for UT to Georges Creek (UGQ0000/WM-110)

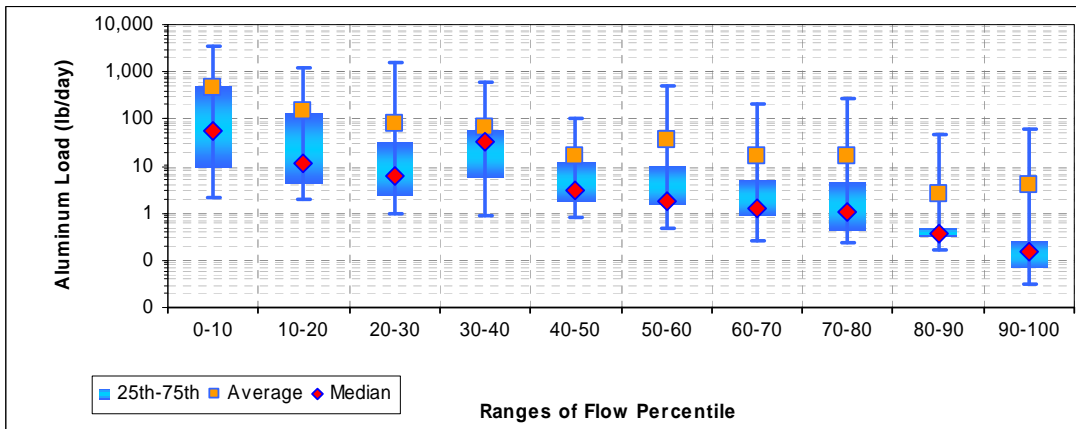


Figure J-145. Aluminum loads by flow percentile for UT to Georges Creek (UGQ0000/WM-110)

FINAL

Table J-141. Ammonium loads (lb/d) by flow percentile for UT to Georges Creek (UGQ0000/WM-110)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	204.4	103.4	75.8	53.8	24.0	27.6	18.8	9.4	5.3	1.6
Average	1,250.8	371.2	295.2	213.7	107.9	119.7	78.9	54.6	20.4	36.8
Maximum	10,488.5	2,060.2	2,552.6	970.8	303.7	964.4	804.1	507.6	128.5	814.8
Median	704.3	259.2	184.8	158.1	96.4	50.8	34.1	24.7	12.8	4.5
25th	441.8	197.9	125.1	123.1	67.6	42.3	26.5	18.3	10.4	2.6
75th	1,208.2	310.8	319.7	271.7	138.7	86.9	46.5	43.7	15.7	8.0

Table J-142. Nitrate loads (lbs/d) by flow percentile for UT to Georges Creek (UGQ0000/WM-110)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	455.6	356.4	232.9	140.9	64.8	60.7	48.9	21.2	13.5	4.0
Average	3,291.2	1,063.9	738.8	603.5	282.9	242.9	163.6	99.6	41.5	29.0
Maximum	16,802.6	7,363.8	4,716.8	2,488.5	557.1	1,834.0	1,762.3	621.0	237.2	520.6
Median	2,293.5	792.4	533.6	467.0	279.5	123.8	83.2	63.3	32.4	10.0
25th	1,563.4	570.8	342.1	284.4	179.0	102.5	67.6	49.6	24.6	6.2
75th	3,548.0	1,041.3	780.7	766.7	375.1	197.0	107.4	91.9	43.2	16.4

Table J-143. Sulfate loads (lbs/d) by flow percentile for UT to Georges Creek (UGQ0000/WM-110)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	255	135	100	75	71	43	40	27	14	3
Average	2,528	959	563	491	226	280	183	139	51	53
Maximum	13,880	4,895	3,943	2,247	538	1,874	1,405	1,121	335	503
Median	1,278	564	355	397	183	141	108	87	32	13
25th	793	310	211	198	142	115	70	38	26	6
75th	2,799	990	543	629	264	192	124	128	40	23

Table J-144. Iron loads (lbs/d) by flow percentile for UT to Georges Creek (UGQ0000/WM-110)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.9	1.5	1.3	1.1	1.1	0.6	0.3	0.3	0.2	0.0
Average	1,049.7	331.0	121.3	138.9	28.2	91.1	45.7	43.4	6.1	9.3
Maximum	8,362.9	2,523.1	2,148.8	1,486.4	257.2	1,461.6	582.7	823.2	119.9	186.3
Median	124.0	8.0	6.5	48.3	3.5	2.4	1.7	0.9	0.5	0.2
25th	13.4	3.4	3.0	3.3	2.3	1.9	1.1	0.6	0.4	0.1
75th	1,170.4	270.8	44.4	131.1	16.2	15.6	14.0	6.7	0.6	0.4

Table J-145. Aluminum loads (lbs/d) by flow percentile for UT to Georges Creek (UGQ0000/WM-110)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.2	2.0	1.0	0.9	0.8	0.5	0.2	0.2	0.2	0.0
Average	460.7	152.7	78.2	67.3	15.7	35.2	16.5	15.7	2.6	4.0
Maximum	3,440.8	1,161.2	1,575.9	603.1	106.2	499.8	203.7	279.6	44.8	62.8
Median	53.7	11.7	6.1	34.1	3.0	1.7	1.3	1.1	0.4	0.2
25th	9.5	4.3	2.3	5.5	1.8	1.5	0.9	0.4	0.3	0.1
75th	492.2	131.3	34.1	60.9	12.0	10.6	5.0	4.9	0.5	0.3

Mill Run (WM-111/MIL0001) plots and tables

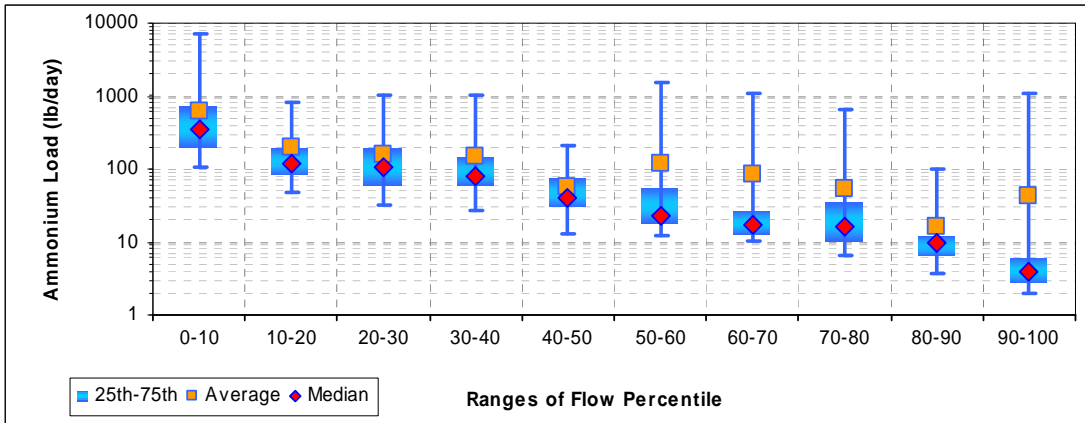


Figure J-146. Ammonium loads by flow percentile for Mill Run (MIL0001/WM-111)

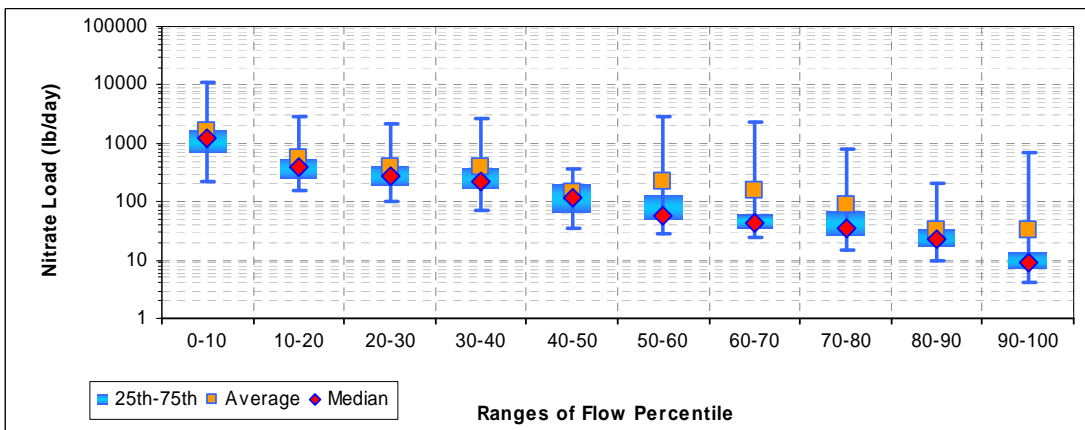


Figure J-147. Nitrate loads by flow percentile for Mill Run (MIL0001/WM-111)

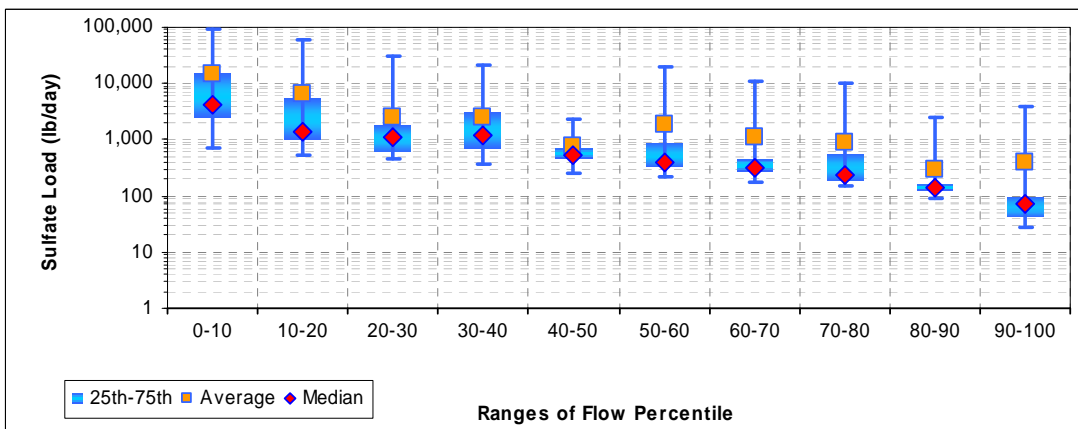


Figure J-148. Sulfate loads by flow percentile for Mill Run (MIL0001/WM-111)

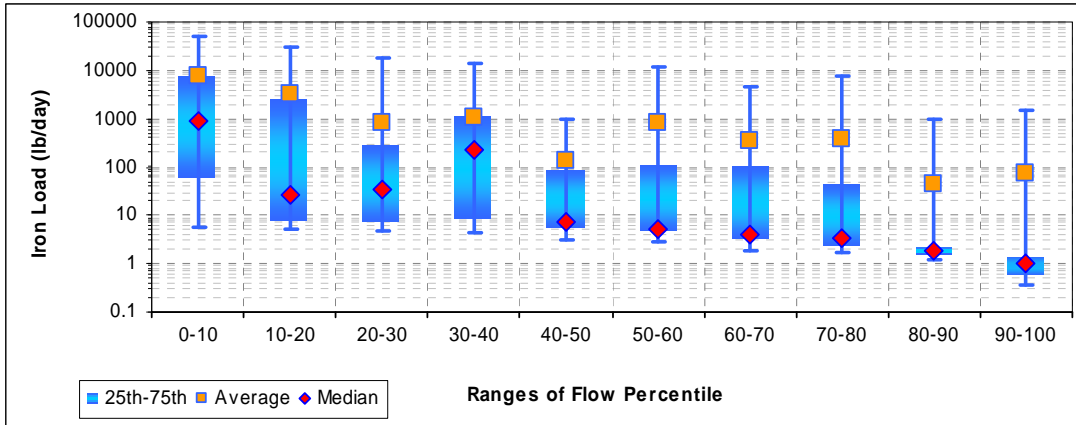


Figure J-149. Iron loads by flow percentile for Mill Run (MIL0001/WM-111)

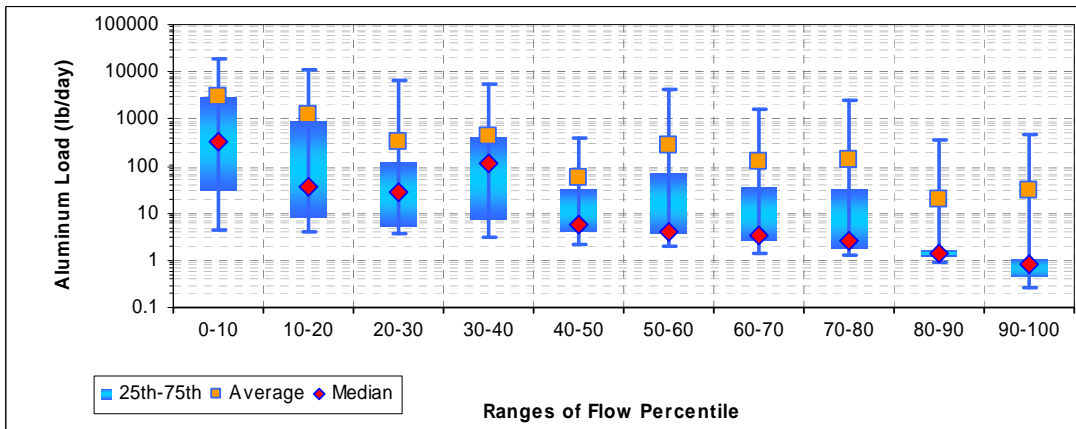


Figure J-150. Aluminum loads by flow percentile for Mill Run (MIL0001/WM-111)

FINAL

Table J-146. Ammonium loads (lb/d) by flow percentile for Mill Run (MIL0001/WM-111)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	108.0	47.6	32.3	26.4	12.7	12.3	10.5	6.5	3.7	2.0
Average	633.0	196.1	159.0	150.4	58.2	120.0	82.8	54.4	16.0	43.6
Maximum	6,924.5	813.6	1,020.0	1,015.2	210.4	1,533.9	1,063.1	653.3	99.4	1,060.1
Median	345.2	120.5	103.9	80.9	41.1	23.2	16.9	16.2	9.6	4.0
25th	203.1	82.8	61.1	60.2	30.8	18.2	13.1	10.1	6.6	2.8
75th	715.5	194.8	194.0	146.3	73.5	57.8	27.2	36.0	12.5	6.1

Table J-147. Nitrate loads (lbs/d) by flow percentile for Mill Run (MIL0001/WM-111)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	227.5	159.9	103.5	73.5	34.8	27.9	24.9	14.6	9.8	4.2
Average	1,660.3	540.4	387.2	404.6	145.8	226.7	158.8	86.8	32.6	32.7
Maximum	10,958.7	2,897.9	2,221.2	2,610.1	376.4	2,943.1	2,332.4	794.0	201.1	671.9
Median	1,181.4	398.7	269.1	228.4	114.5	59.3	42.5	35.9	23.6	9.3
25th	713.3	262.0	189.4	167.5	68.5	49.2	34.5	25.6	17.1	7.1
75th	1,739.1	549.4	431.7	399.6	200.6	131.4	61.4	71.9	35.9	13.5

Table J-148. Sulfate loads (lbs/d) by flow percentile for Mill Run (MIL0001/WM-111)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	686	542	457	365	252	212	173	146	91	28
Average	15,152	6,363	2,558	2,581	740	1,831	1,074	917	287	381
Maximum	94,367	60,280	31,110	20,883	2,377	19,123	11,105	10,159	2,509	3,878
Median	4,243	1,421	1,132	1,210	525	388	312	242	140	73
25th	2,456	1,031	635	707	449	345	266	187	117	44
75th	15,541	5,537	1,877	3,055	697	868	446	558	164	100

Table J-149. Iron loads (lbs/d) by flow percentile for Mill Run (MIL0001/WM-111)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	5.8	5.3	4.8	4.2	3.0	2.7	1.9	1.7	1.2	0.3
Average	7,368.0	3,166.2	810.5	1,059.3	130.7	794.0	353.8	384.5	46.1	71.9
Maximum	50,901.0	30,300.0	18,389.4	14,180.4	956.9	11,846.4	4,633.1	7,583.7	943.5	1,448.8
Median	858.3	26.7	33.5	225.0	7.2	5.3	4.2	3.3	1.8	1.0
25th	63.9	7.9	7.2	8.8	5.7	4.7	3.5	2.3	1.6	0.6
75th	7,592.6	2,409.8	287.2	1,178.9	89.0	117.3	106.2	45.6	2.3	1.4

Table J-150. Aluminum loads (lbs/d) by flow percentile for Mill Run (MIL0001/WM-111)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4.3	4.0	3.6	3.2	2.3	2.0	1.4	1.3	0.9	0.3
Average	2,845.1	1,240.9	316.3	420.3	56.0	286.8	124.4	133.6	18.8	30.3
Maximum	19,395.4	11,332.5	6,632.3	5,289.9	408.3	4,042.6	1,608.6	2,521.6	350.8	481.9
Median	330.9	37.0	27.5	113.3	5.8	4.1	3.2	2.6	1.4	0.8
25th	30.5	8.4	5.4	7.3	4.2	3.6	2.6	1.8	1.2	0.4
75th	2,852.6	971.3	125.1	436.8	32.0	75.5	36.0	33.9	1.7	1.0

Jackson Run (WM-113/JAC0001) plots and tables

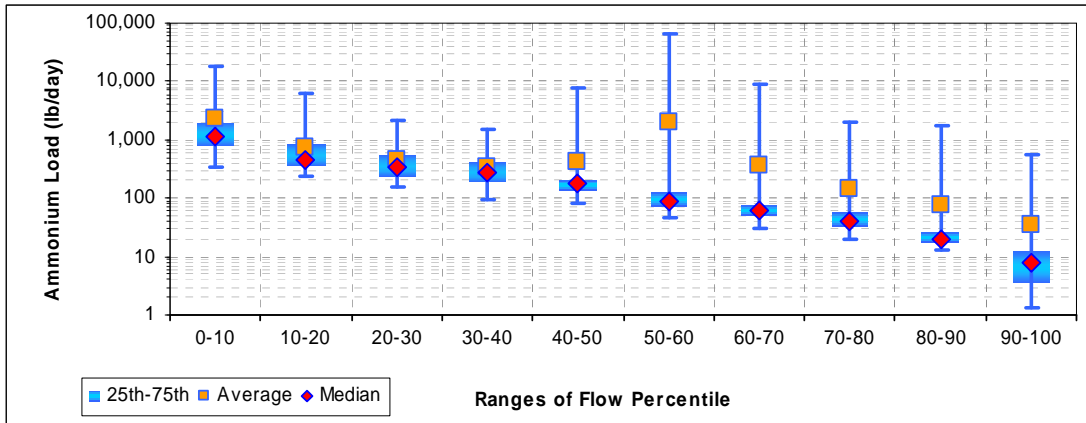


Figure J-151. Ammonium loads by flow percentile for Jackson Run (JAC0001/WM-113)

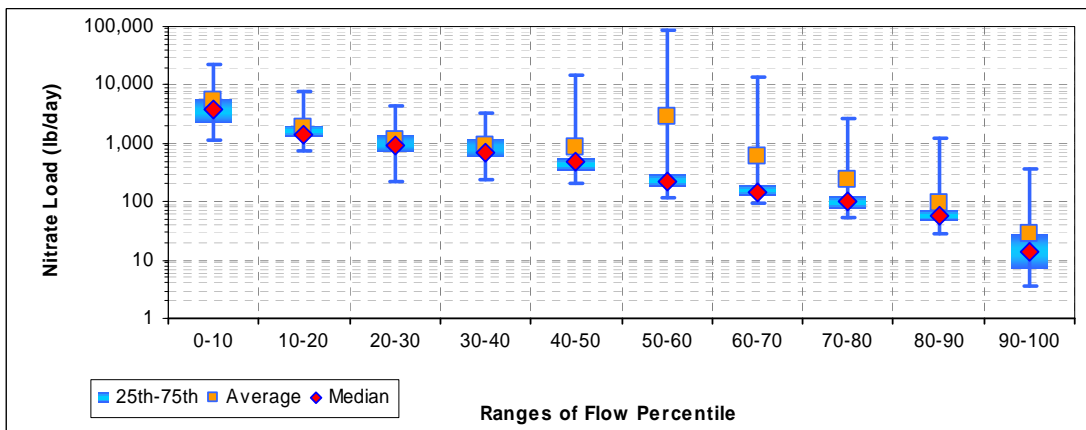


Figure J-152. Nitrate loads by flow percentile for Jackson Run (JAC0001/WM-113)

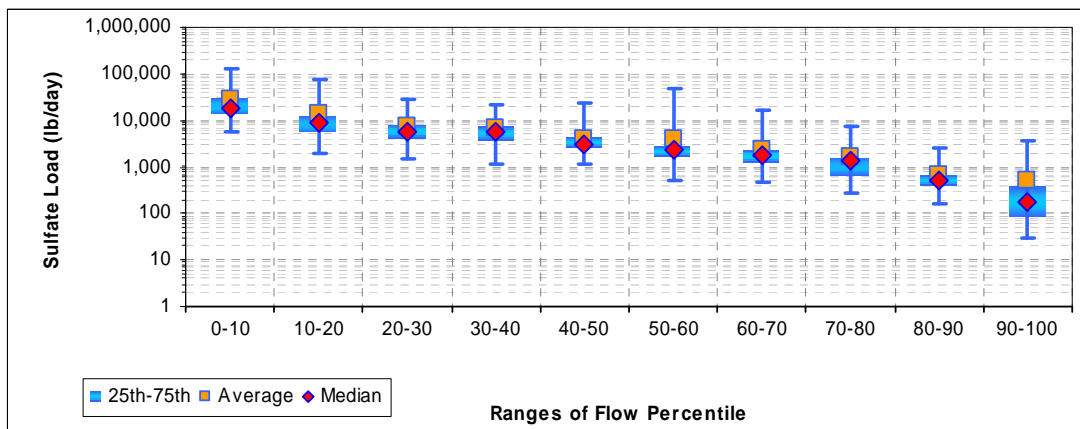


Figure J-153. Sulfate loads by flow percentile for Jackson Run (JAC0001/WM-113)

** Plots include upstream loads from UT to Jackson Run (WM-118/UJB0000) and Jackson Run (WM-125/JAC0

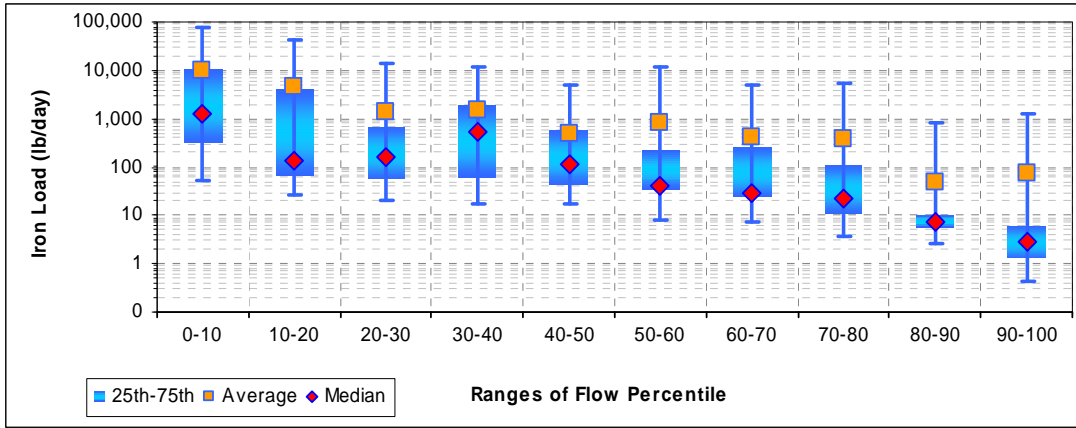


Figure J-154. Iron loads by flow percentile for Jackson Run (JAC0001/WM-113)

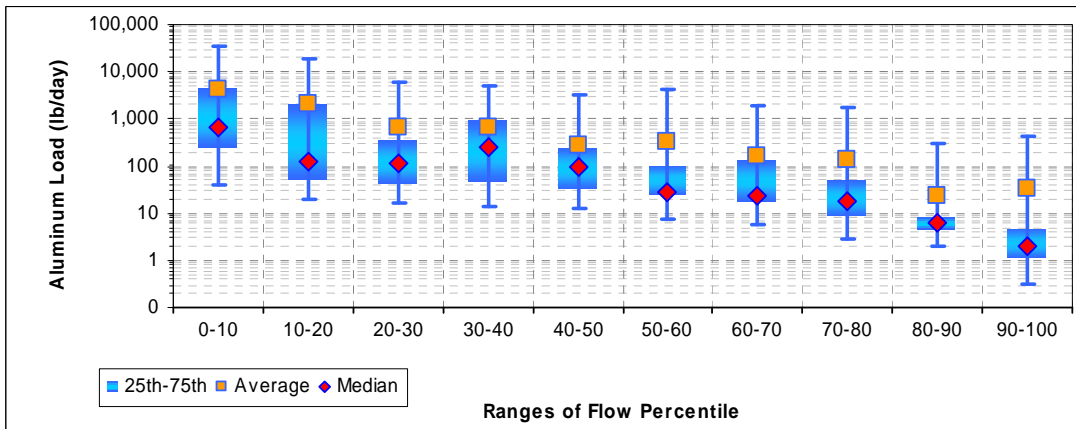


Figure J-155. Aluminum loads by flow percentile for Jackson Run (JAC0001/WM-113)

** Plots include upstream loads from UT to Jackson Run (WM-118/UJB0000) and Jackson Run (WM-125/JAC0

Table J-151. Ammonium loads (lb/d) by flow percentile for Jackson Run (JAC0001/WM-113)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	350.0	235.2	155.2	92.1	82.6	46.5	29.7	19.9	12.6	1.4
Average	2,274.7	760.7	460.6	350.5	421.7	2,018.0	372.5	146.2	75.8	34.8
Maximum	18,791.4	6,148.4	2,228.2	1,554.0	7,601.6	67,213.6	8,790.4	2,074.4	1,769.2	573.5
Median	1,121.2	441.1	349.4	269.7	172.9	90.6	63.4	40.4	20.3	7.7
25th	801.0	365.4	242.2	193.0	135.0	72.1	49.6	31.9	17.6	3.6
75th	2,073.5	833.1	569.2	422.2	208.1	122.2	77.7	56.6	25.8	13.3

Table J-152. Nitrate loads (lbs/d) by flow percentile for Jackson Run (JAC0001/WM-113)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,139.7	765.4	215.6	236.7	200.2	120.7	93.4	52.3	28.3	3.5
Average	5,301.6	1,853.2	1,173.5	923.8	876.2	2,792.3	590.1	231.4	96.5	28.8
Maximum	21,742.5	8,016.3	4,430.4	3,396.9	14,809.5	88,918.8	13,465.8	2,624.3	1,256.6	377.0
Median	3,722.4	1,414.6	930.2	714.5	476.3	221.5	143.4	98.5	55.7	14.0
25th	2,338.6	1,272.4	748.8	588.9	341.8	180.3	123.2	78.7	46.3	7.2
75th	5,624.7	1,953.9	1,386.7	1,232.1	564.4	287.8	188.5	123.3	69.2	28.1

Table J-153. Sulfate loads (lbs/d) by flow percentile for Jackson Run (JAC0001/WM-113)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	5,634	1,995	1,491	1,184	1,124	535	485	281	167	29
Average	28,205	13,497	7,658	6,572	3,914	3,939	2,328	1,566	666	493
Maximum	132,640	72,998	28,013	22,118	22,649	47,566	16,036	7,403	2,624	3,550
Median	17,840	8,718	5,540	5,631	2,986	2,262	1,852	1,418	522	177
25th	13,450	5,533	4,087	3,624	2,528	1,682	1,290	667	387	83
75th	29,914	13,096	8,018	7,765	4,272	2,718	2,252	1,686	675	390

Table J-154. Iron loads (lbs/d) by flow percentile for Jackson Run (JAC0001/WM-113)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	52.7	26.9	20.3	17.6	17.3	8.1	7.5	3.8	2.6	0.4
Average	9,711.3	4,520.8	1,406.1	1,502.1	503.6	787.0	427.4	367.0	47.6	72.2
Maximum	79,526.5	43,939.7	14,137.4	11,737.9	5,121.0	11,266.4	5,143.1	5,187.8	837.2	1,306.8
Median	1,262.3	129.8	159.1	534.4	116.3	38.9	29.2	23.0	7.6	2.7
25th	306.0	66.1	56.2	64.4	42.9	33.6	24.2	11.3	5.8	1.3
75th	10,615.8	4,288.5	691.2	1,967.3	557.1	226.2	264.9	112.8	9.9	6.0

Table J-155. Aluminum loads (lbs/d) by flow percentile for Jackson Run (JAC0001/WM-113)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	39.8	19.3	16.2	13.3	13.1	7.3	5.8	2.8	1.9	0.3
Average	4,269.5	2,052.4	635.9	675.3	264.2	315.9	163.1	138.9	22.6	33.5
Maximum	34,664.1	19,202.1	5,736.0	5,000.1	3,154.0	4,397.8	1,833.0	1,763.7	313.7	436.7
Median	680.3	123.3	110.4	257.0	93.6	28.4	22.5	18.2	6.1	2.1
25th	254.7	54.0	43.7	48.0	32.4	25.4	18.3	8.6	4.5	1.2
75th	4,655.3	2,096.3	352.1	973.3	251.5	100.6	138.2	49.5	8.0	4.9

** These tables include upstream loads from UT to Jackson Run (WM-118/UJB0000) and Jackson Run (WM-125/JAC0006).

1006).

Matthew Run (WM-116/MTH000) plots and tables

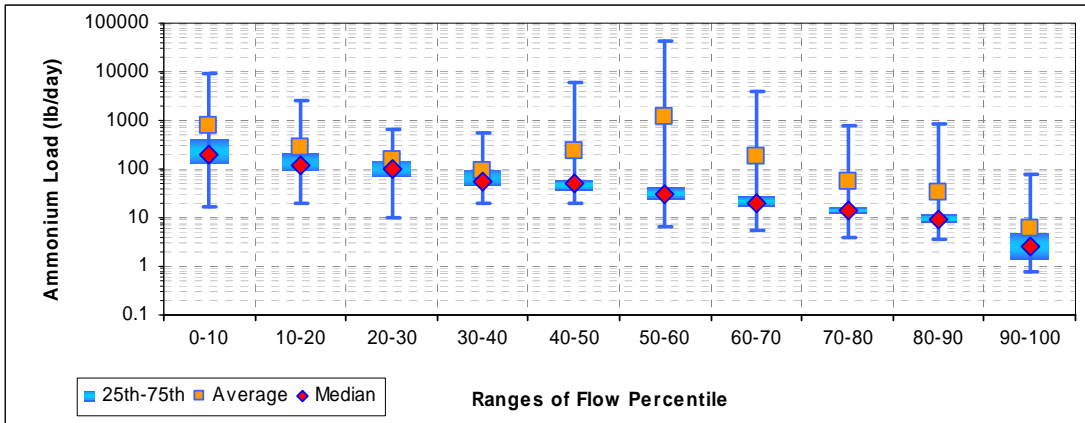


Figure J-156. Ammonium loads by flow percentile for Matthew Run (MTH0000/WM-116)

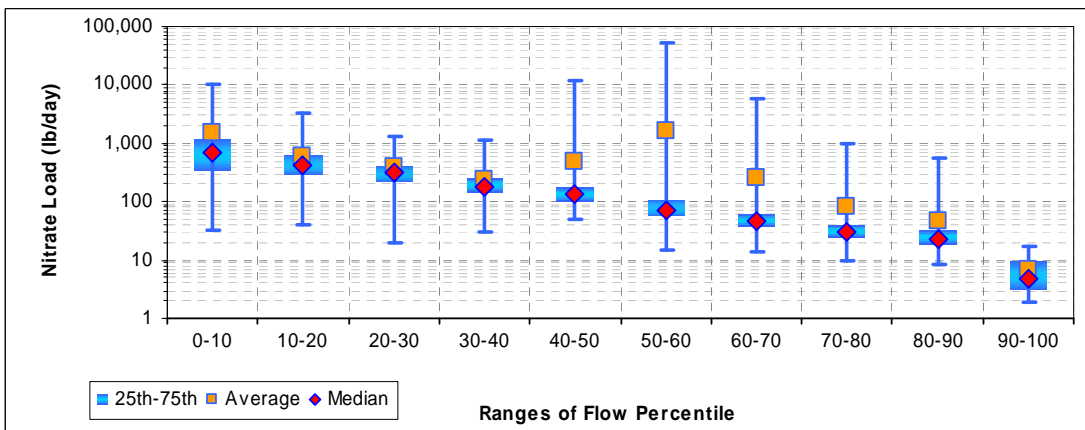


Figure J-157. Nitrate loads by flow percentile for Matthew Run (MTH0000/WM-116)

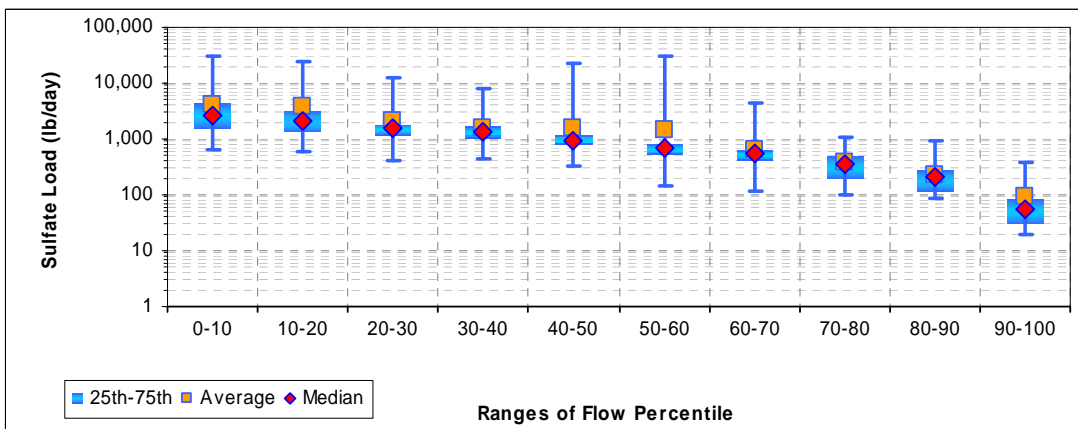


Figure J-158. Sulfate loads by flow percentile for Matthew Run (MTH0000/WM-116)

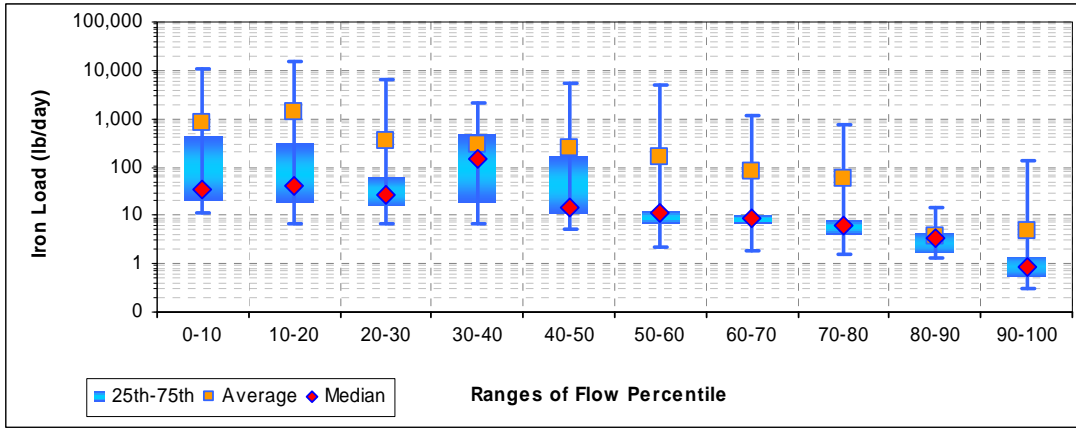


Figure J-159. Iron loads by flow percentile for Matthew Run (MTH0000/WM-116)

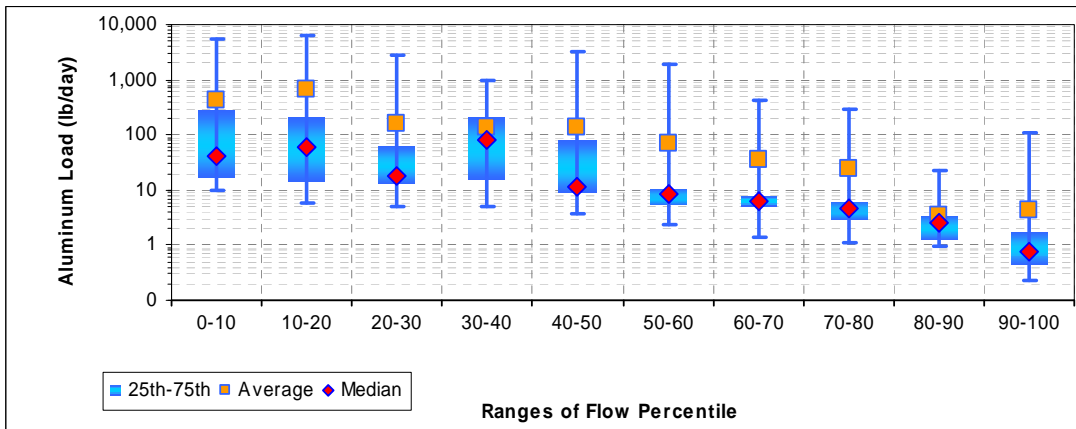


Figure J-160. Aluminum loads by flow percentile for Matthew Run (MTH0000/WM-116)

FINAL

Table J-156. Ammonium loads (lb/d) by flow percentile for Matthew Run (MTH0000/WM-116)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	17.0	19.5	9.8	19.8	20.4	6.3	5.4	4.0	3.7	0.8
Average	770.3	271.8	155.7	91.5	236.6	1,199.1	174.7	54.6	33.9	5.8
Maximum	9,082.6	2,609.5	627.6	565.7	6,038.5	41,330.2	4,065.3	795.4	816.0	79.6
Median	195.3	122.7	102.7	55.9	49.9	29.5	20.4	13.6	9.3	2.6
25th	124.8	90.6	68.5	47.9	36.6	24.3	17.2	11.9	8.0	1.4
75th	414.8	222.5	159.3	98.7	59.4	41.1	28.6	16.3	12.0	5.0

Table J-157. Nitrate loads (lbs/d) by flow percentile for Matthew Run (MTH0000/WM-116)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	32.5	39.9	19.9	29.6	48.8	14.7	13.4	9.5	8.6	1.9
Average	1,484.9	615.8	388.3	233.9	468.4	1,608.3	248.3	83.7	45.1	6.7
Maximum	10,048.2	3,306.1	1,347.2	1,176.7	11,665.3	53,855.5	5,824.7	1,014.0	566.0	17.7
Median	693.9	422.5	309.9	176.0	136.4	71.2	47.2	30.5	23.4	4.8
25th	332.5	294.4	224.5	141.3	98.9	55.9	36.8	24.8	18.8	3.0
75th	1,185.1	655.6	411.5	247.4	175.2	110.5	60.1	39.8	32.6	9.9

Table J-158. Sulfate loads (lbs/d) by flow percentile for Matthew Run (MTH0000/WM-116)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	665	585	420	453	328	140	116	98	84	20
Average	4,157	3,847	2,083	1,564	1,540	1,492	660	391	231	91
Maximum	31,580	24,934	12,793	7,783	22,666	31,422	4,563	1,071	916	388
Median	2,603	2,084	1,547	1,323	935	688	540	364	214	53
25th	1,534	1,347	1,175	1,037	774	495	423	194	113	31
75th	4,522	3,323	1,840	1,633	1,174	774	624	495	286	89

Table J-159. Iron loads (lbs/d) by flow percentile for Matthew Run (MTH0000/WM-116)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	11.7	6.8	6.5	6.6	5.1	2.1	1.8	1.5	1.3	0.3
Average	816.0	1,397.6	335.0	287.4	245.5	167.3	84.0	55.3	3.7	5.0
Maximum	10,679.4	14,674.3	6,221.7	2,095.4	5,198.5	4,916.8	1,141.6	740.2	15.1	139.0
Median	34.2	41.0	25.9	145.4	15.0	10.9	8.6	6.2	3.2	0.9
25th	20.5	18.9	16.5	18.9	11.7	6.9	6.5	3.8	1.6	0.5
75th	448.7	320.9	65.1	485.4	169.6	12.2	9.9	8.0	4.4	1.4

Table J-160. Aluminum loads (lbs/d) by flow percentile for Matthew Run (MTH0000/WM-116)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	9.8	5.6	4.9	5.0	3.8	2.4	1.4	1.2	1.0	0.2
Average	424.6	646.0	161.1	141.8	137.8	68.2	35.5	24.2	3.4	4.3
Maximum	5,475.7	6,510.5	2,712.9	969.2	3,216.6	1,927.5	429.9	297.7	23.3	107.8
Median	40.3	60.0	18.2	81.1	11.4	8.2	6.5	4.7	2.5	0.8
25th	16.7	14.4	13.4	15.6	8.8	5.4	4.9	2.9	1.3	0.4
75th	293.3	208.3	65.4	219.4	83.1	10.5	7.8	6.1	3.4	1.8

Staub Run (WM-117/STA0024) plots and tables

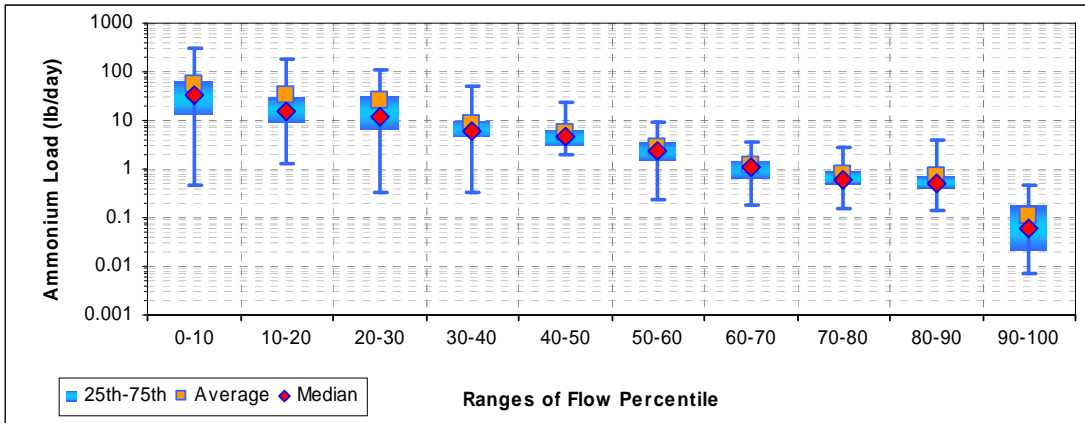


Figure J-161. Ammonium loads by flow percentile for Staub Run (STA0024/WM-117)

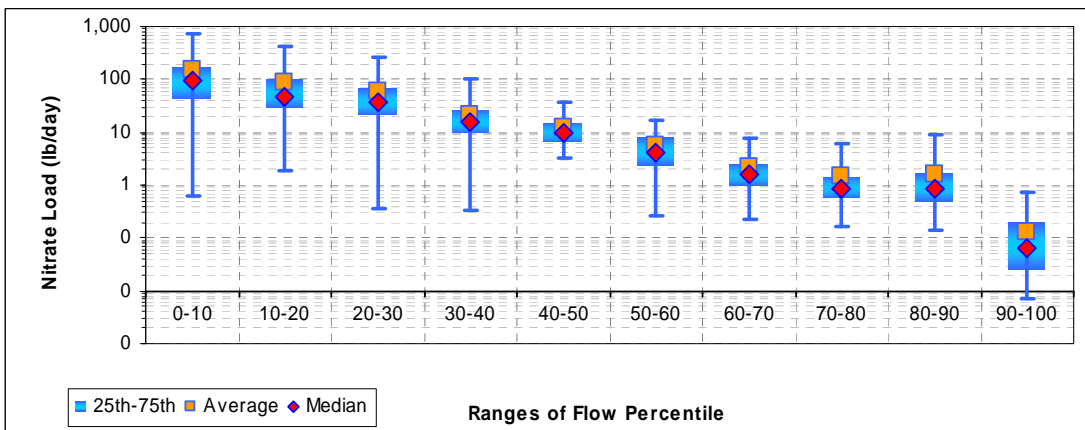


Figure J-162. Nitrate loads by flow percentile for Staub Run (STA0024/WM-117)

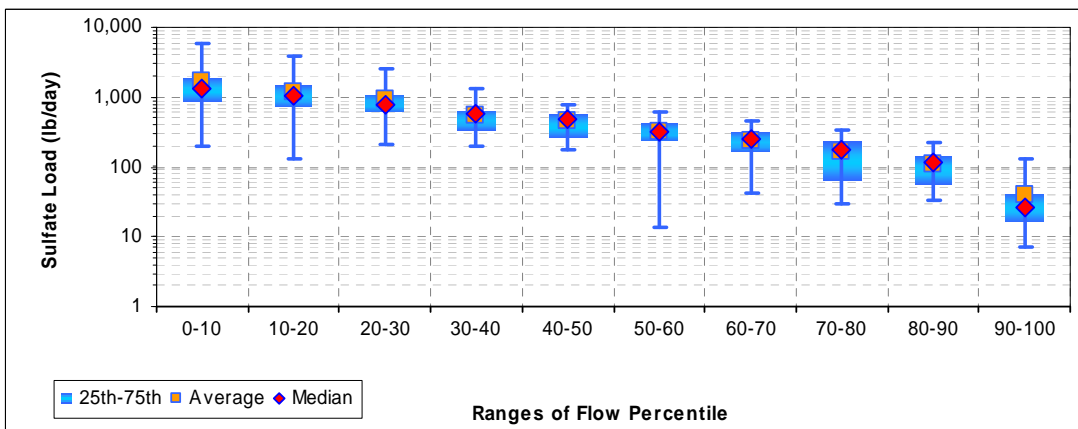


Figure J-163. Sulfate loads by flow percentile for Staub Run (STA0024/WM-117)

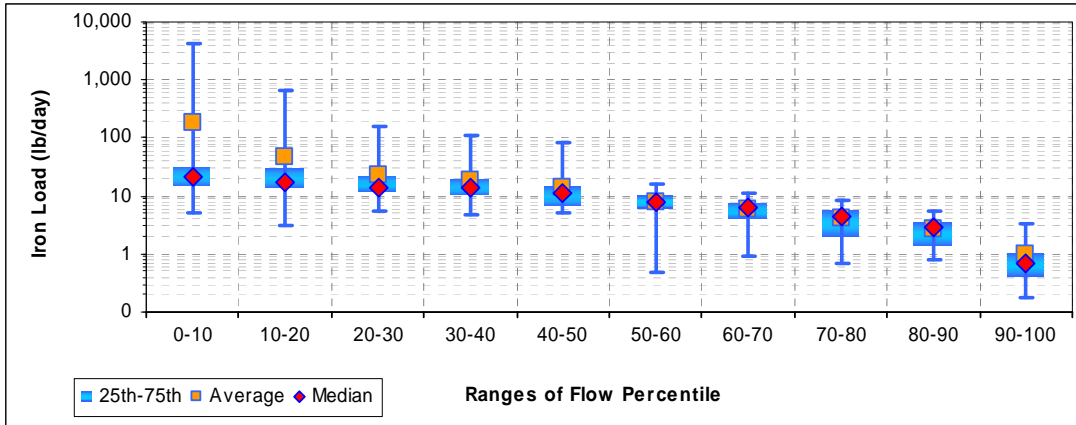


Figure J-164. Iron loads by flow percentile for Staub Run (STA0024/WM-117)

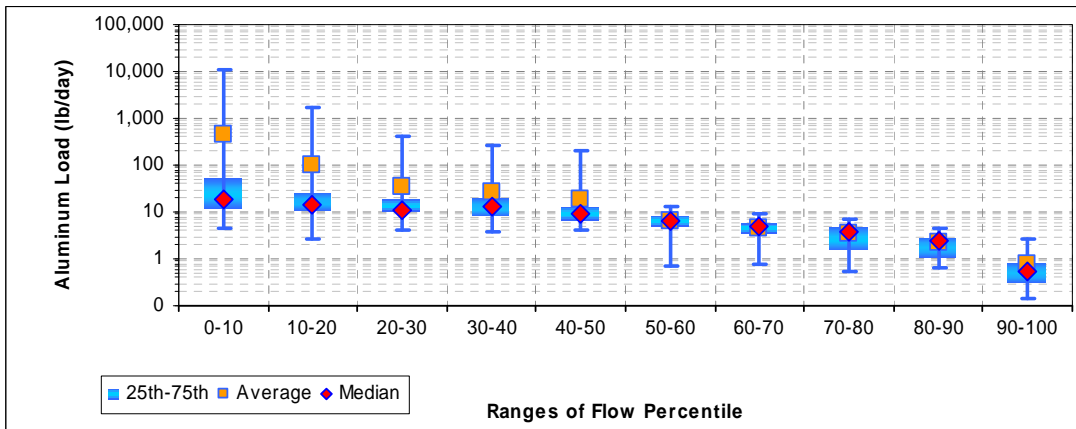


Figure J-165. Aluminum loads by flow percentile for Staub Run (STA0024/WM-117)

FINAL

Table J-161. Ammonium loads (lb/d) by flow percentile for Staub Run (STA0024/WM-117)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	0.5	1.3	0.3	0.3	2.0	0.2	0.2	0.2	0.1	0.0
Average	53.0	33.3	24.9	8.6	5.7	2.9	1.2	0.8	0.7	0.1
Maximum	299.0	179.7	108.4	51.0	23.0	9.4	3.7	2.7	3.9	0.5
Median	34.2	15.1	12.2	6.2	4.5	2.4	1.1	0.6	0.5	0.1
25th	12.9	9.2	6.7	4.5	2.9	1.6	0.7	0.5	0.4	0.0
75th	63.3	29.9	32.2	10.0	6.3	3.7	1.5	0.9	0.7	0.2

Table J-162. Nitrate loads (lbs/d) by flow percentile for Staub Run (STA0024/WM-117)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	0.6	1.9	0.4	0.3	3.2	0.3	0.2	0.2	0.1	0.0
Average	151.9	88.5	57.8	21.4	12.7	5.6	2.1	1.4	1.7	0.1
Maximum	718.6	432.6	260.4	106.3	38.1	17.2	7.8	6.0	9.0	0.7
Median	92.5	48.6	37.3	15.9	10.1	4.3	1.6	0.9	0.9	0.1
25th	43.6	29.5	20.8	9.9	6.4	2.5	1.0	0.6	0.5	0.0
75th	180.8	103.7	68.7	27.1	15.6	8.3	2.6	1.5	1.8	0.2

Table J-163. Sulfate loads (lbs/d) by flow percentile for Staub Run (STA0024/WM-117)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	197	129	214	197	174	14	42	30	32	7
Average	1,725	1,203	903	557	446	325	236	166	107	39
Maximum	6,034	3,826	2,488	1,325	780	626	447	348	228	128
Median	1,333	1,029	796	561	486	319	255	172	117	27
25th	867	720	619	340	268	237	171	66	57	16
75th	1,930	1,474	1,080	656	580	432	312	241	146	42

Table J-164. Iron loads (lbs/d) by flow percentile for Staub Run (STA0024/WM-117)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	5.0	3.2	5.3	4.9	5.0	0.5	0.9	0.7	0.8	0.2
Average	179.1	48.1	22.3	18.5	14.2	7.8	5.9	4.2	2.7	1.0
Maximum	4,094.1	658.3	160.8	112.6	84.9	15.6	11.2	8.7	5.7	3.2
Median	21.8	17.4	13.6	14.1	11.4	7.7	6.3	4.3	2.9	0.7
25th	14.5	13.7	12.0	10.3	6.7	5.9	4.3	2.0	1.4	0.4
75th	33.9	30.8	23.1	19.7	14.9	10.1	7.6	6.0	3.6	1.1

Table J-165. Aluminum loads (lbs/d) by flow percentile for Staub Run (STA0024/WM-117)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4.3	2.6	4.3	3.9	4.0	0.7	0.8	0.6	0.6	0.1
Average	445.9	99.9	33.2	27.2	18.6	6.4	4.7	3.4	2.1	0.8
Maximum	10,821.7	1,773.3	401.9	271.7	202.0	12.5	8.9	7.0	4.5	2.6
Median	18.6	14.0	11.0	12.8	9.3	6.2	5.1	3.6	2.3	0.5
25th	11.7	10.9	9.6	8.6	6.2	4.7	3.4	1.6	1.1	0.3
75th	54.5	27.5	19.4	19.9	13.4	8.1	6.1	4.8	2.9	0.8

UT to Jackson Run (WM-118/UJB0000) plots and tables

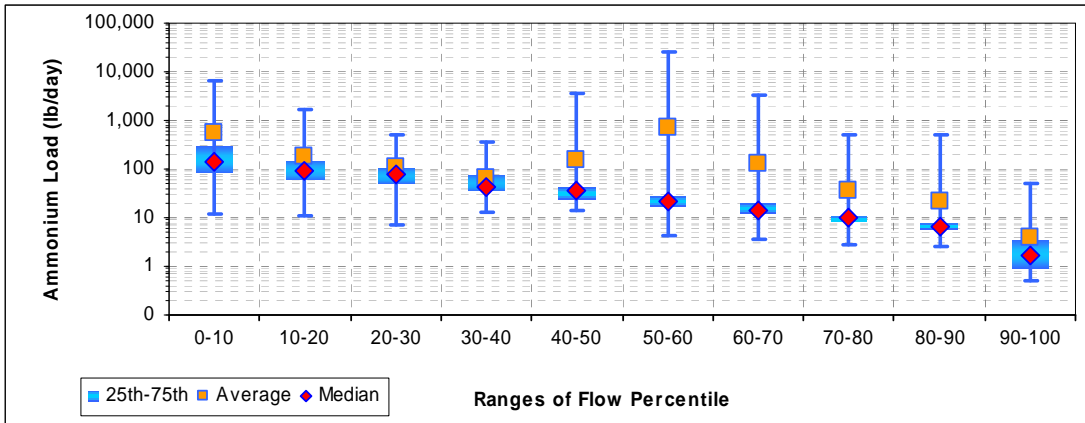


Figure J-166. Ammonium loads by flow percentile for UT to Jackson Run (UJB0000/WM-118)

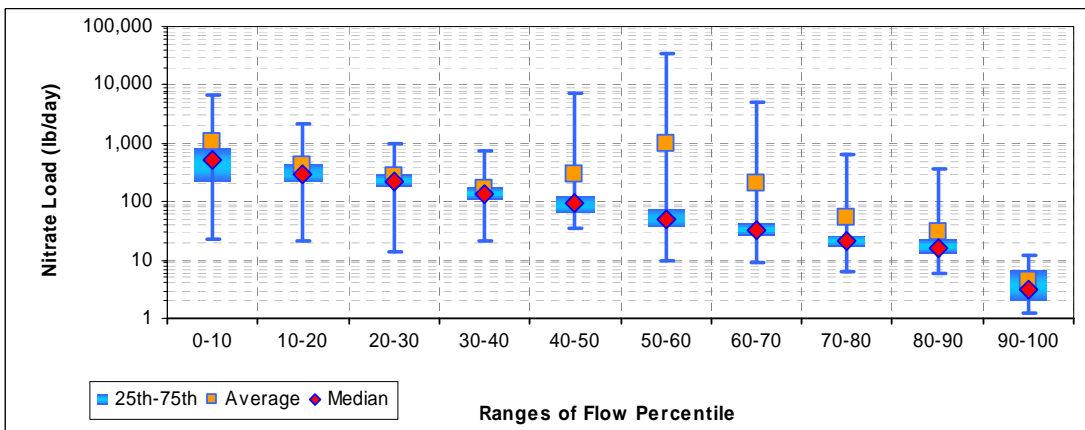


Figure J-167. Nitrate loads by flow percentile for UT to Jackson Run (UJB0000/WM-118)

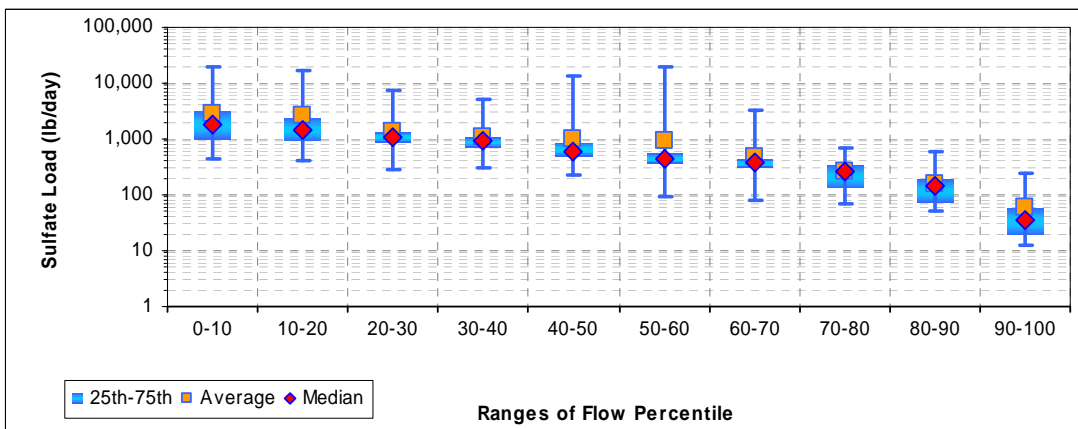


Figure J-168. Sulfate loads by flow percentile for UT to Jackson Run (UJB0000/WM-118)

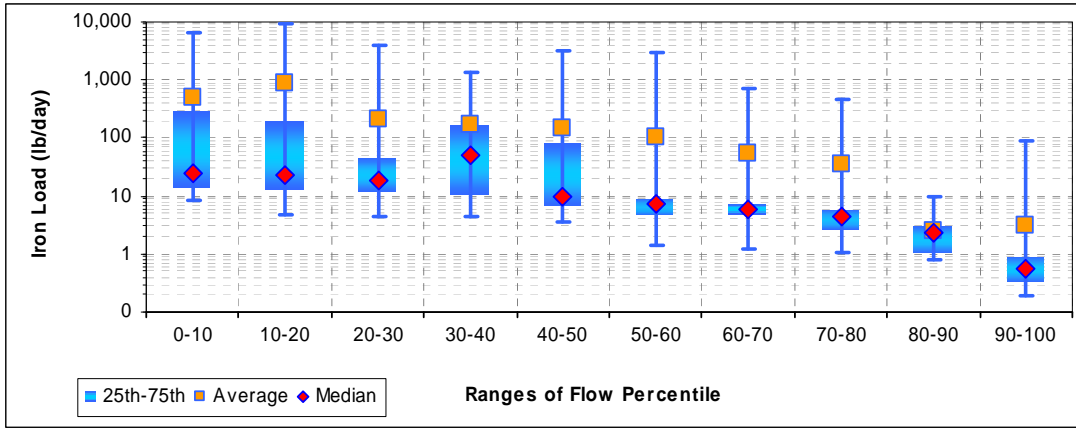


Figure J-169. Iron loads by flow percentile for UT to Jackson Run (UJB0000/WM-118)

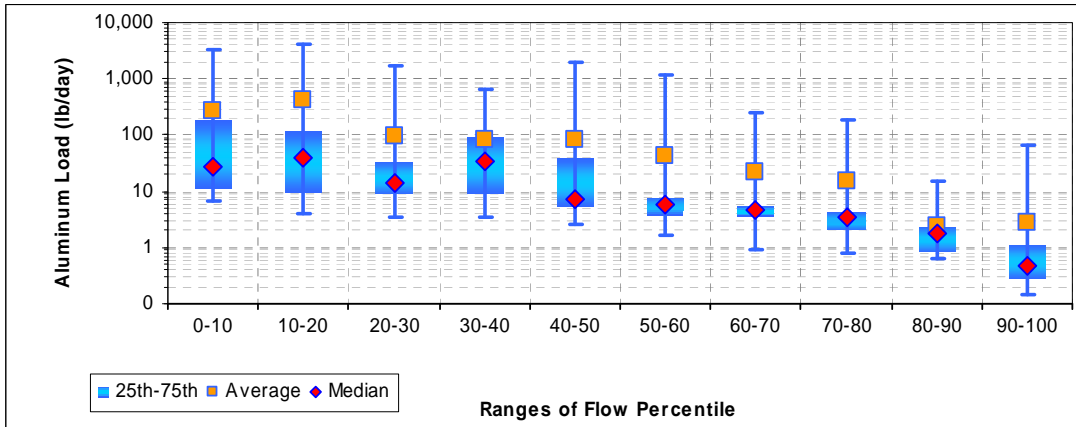


Figure J-170. Aluminum loads by flow percentile for UT to Jackson Run (UJB0000/WM-118)

Table J-166. Ammonium loads (lb/d) by flow percentile for UT to Jackson Run (UJB0000/WM-118)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	11.7	11.3	6.9	13.5	14.2	4.3	3.7	2.7	2.5	0.5
Average	532.5	187.4	111.2	66.0	148.2	740.7	133.6	35.6	22.0	3.8
Maximum	6,393.6	1,686.2	492.9	361.1	3,648.1	25,450.2	3,341.6	512.1	518.4	51.1
Median	137.6	94.1	75.9	42.0	36.7	20.8	14.6	9.8	6.5	1.7
25th	87.4	59.8	49.8	34.5	24.5	16.9	12.3	8.4	5.3	0.9
75th	315.8	158.9	106.1	80.3	43.6	28.5	20.3	11.2	8.0	3.6

Table J-167. Nitrate loads (lbs/d) by flow percentile for UT to Jackson Run (UJB0000/WM-118)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	22.9	21.1	13.9	21.0	33.8	10.0	9.2	6.5	5.9	1.2
Average	1,031.3	430.1	276.2	172.1	295.7	998.7	202.0	55.0	30.0	4.5
Maximum	6,633.7	2,141.5	1,010.3	752.1	7,058.9	33,270.1	5,175.2	653.3	361.6	12.1
Median	521.8	300.2	224.3	132.1	96.1	51.1	33.3	20.6	16.0	3.2
25th	227.7	226.7	176.0	105.1	67.4	36.5	25.8	17.6	13.2	2.0
75th	831.7	460.3	291.0	178.9	124.2	77.8	42.5	26.0	22.3	7.0

Table J-168. Sulfate loads (lbs/d) by flow percentile for UT to Jackson Run (UJB0000/WM-118)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	457	402	288	312	228	95	80	67	53	13
Average	2,816	2,580	1,382	1,060	1,010	959	458	268	159	61
Maximum	20,042	16,298	7,437	5,100	13,702	19,327	3,246	697	599	246
Median	1,846	1,491	1,067	908	613	442	377	259	147	35
25th	1,036	903	857	681	466	342	298	134	73	20
75th	3,184	2,401	1,313	1,080	848	554	445	347	199	59

Table J-169. Iron loads (lbs/d) by flow percentile for UT to Jackson Run (UJB0000/WM-118)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	8.2	4.8	4.5	4.6	3.5	1.4	1.2	1.0	0.8	0.2
Average	509.3	899.5	208.2	164.9	151.2	103.9	53.4	35.4	2.5	3.2
Maximum	6,628.8	9,497.0	4,046.0	1,384.2	3,137.0	3,019.4	713.0	468.7	9.7	88.0
Median	25.1	22.3	18.3	51.9	9.4	7.2	6.1	4.3	2.3	0.6
25th	13.9	12.9	11.6	10.2	7.0	4.8	4.7	2.7	1.1	0.3
75th	294.4	197.3	46.9	166.4	85.0	8.8	7.1	5.7	3.2	0.9

Table J-170. Aluminum loads (lbs/d) by flow percentile for UT to Jackson Run (UJB0000/WM-118)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	6.9	3.9	3.4	3.5	2.7	1.6	0.9	0.8	0.6	0.1
Average	265.1	417.2	98.5	81.1	84.5	42.5	22.4	15.6	2.3	2.7
Maximum	3,426.2	4,221.8	1,703.7	655.3	1,941.8	1,184.2	258.6	188.5	15.0	68.2
Median	27.5	38.2	14.2	33.2	7.1	5.7	4.6	3.4	1.7	0.5
25th	11.2	9.7	9.2	8.7	5.5	3.7	3.5	2.1	0.8	0.3
75th	182.5	119.6	34.0	92.7	38.9	7.6	5.5	4.3	2.4	1.2

Winebrenner Run (WM-119/WBN002) plots and tables

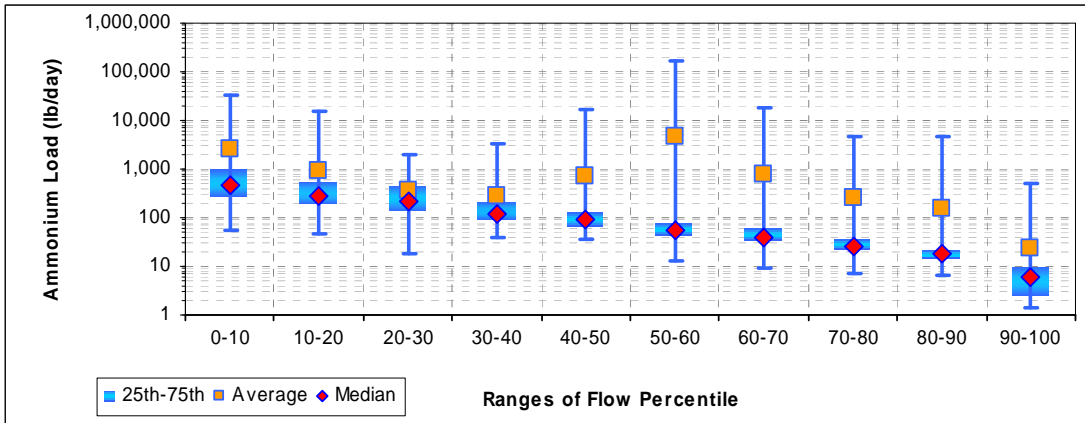


Figure J-171. Ammonium loads by flow percentile for Winebrenner Run (WBN0002/WM-119)

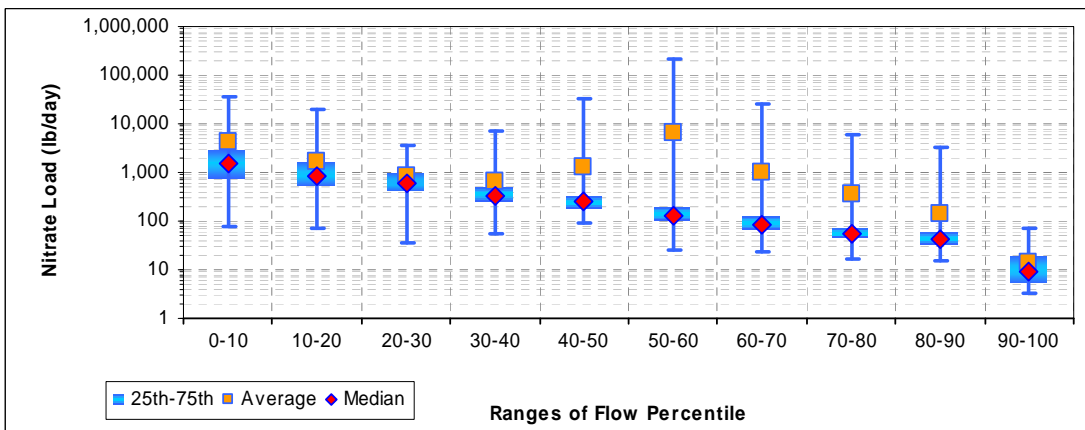


Figure J-172. Nitrate loads by flow percentile for Winebrenner Run (WBN0002/WM-119)

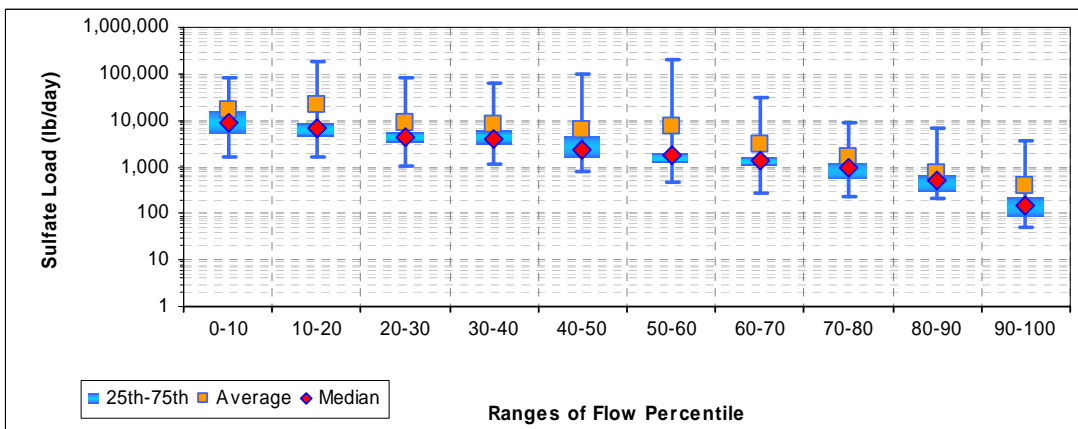


Figure J-173. Sulfate loads by flow percentile for Winebrenner Run (WBN0002/WM-119)

** These plots include upstream loads from Winebrenner Run (WM-120/WBN0010).

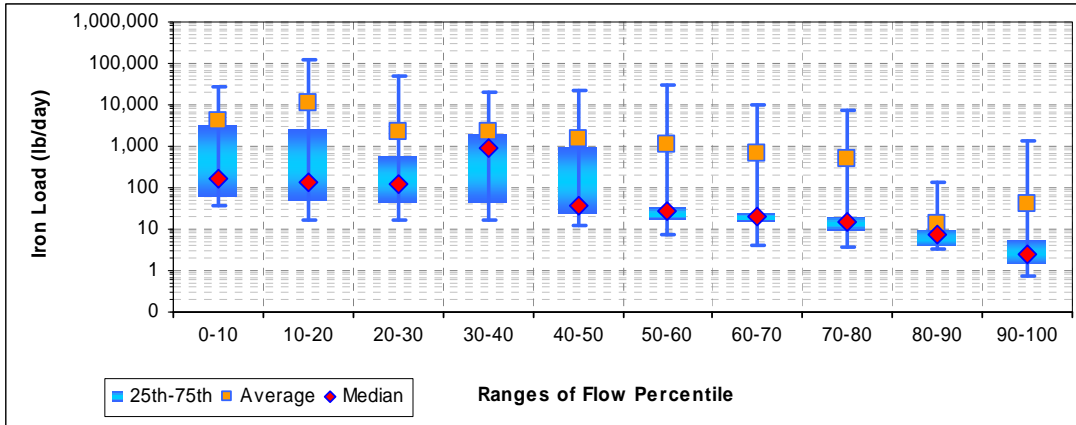


Figure J-174. Iron loads by flow percentile for Winebrenner Run (WBN0002/WM-119)

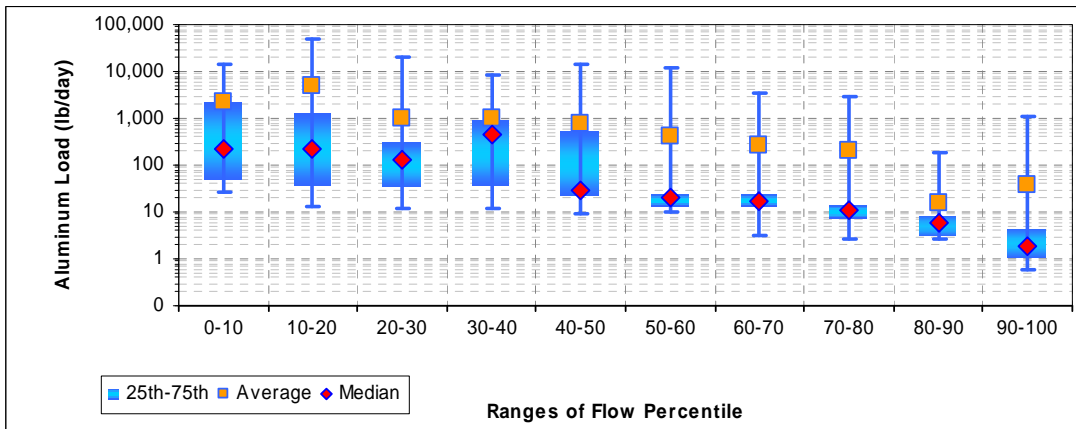


Figure J-175. Aluminum loads by flow percentile for Winebrenner Run (WBN0002/WM-119)

** These plots include upstream loads from Winebrenner Run (WM-120/WBN0010).

Table J-171. Ammonium loads (lb/d) by flow percentile for Winebrenner Run (WBN0002/WM-119)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	55.6	44.7	18.0	40.0	36.9	12.4	9.2	6.9	6.4	1.4
Average	2,550.3	886.8	372.2	280.6	711.7	4,730.4	776.8	264.7	152.1	23.1
Maximum	34,085.0	15,185.2	1,934.0	3,388.6	16,899.3	164,129.0	17,597.1	4,610.4	4,675.7	488.7
Median	454.3	269.8	207.7	114.0	92.1	56.5	38.5	25.6	17.5	5.8
25th	275.5	195.4	140.7	94.0	66.6	43.9	31.8	22.3	14.0	2.6
75th	1,021.8	556.8	468.2	221.4	128.0	79.3	58.5	34.7	22.3	9.6

Table J-172. Nitrate loads (lbs/d) by flow percentile for Winebrenner Run (WBN0002/WM-119)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	75.5	72.8	36.5	56.5	88.0	26.3	23.2	16.5	14.9	3.4
Average	4,147.1	1,671.8	874.3	628.3	1,282.1	6,305.0	1,028.9	363.1	143.2	14.6
Maximum	35,518.2	19,203.6	3,641.7	7,133.8	32,645.8	214,781.6	25,237.3	5,861.8	3,166.4	72.8
Median	1,533.8	846.3	620.2	322.8	262.3	129.0	87.7	55.2	41.9	8.9
25th	798.9	567.4	438.8	265.9	179.9	98.6	67.1	46.2	34.1	5.7
75th	2,919.8	1,621.9	1,031.6	506.9	337.1	204.9	133.3	72.0	62.0	19.4

Table J-173. Sulfate loads (lbs/d) by flow percentile for Winebrenner Run (WBN0002/WM-119)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,670	1,570	1,026	1,120	798	489	268	227	217	51
Average	15,938	21,991	8,666	7,787	6,204	7,568	3,004	1,642	758	393
Maximum	84,718	190,289	86,026	61,459	99,094	201,717	31,747	8,615	7,064	3,598
Median	8,759	6,606	4,217	3,939	2,322	1,708	1,376	917	517	142
25th	5,394	4,357	3,390	2,957	1,696	1,202	1,085	576	297	86
75th	17,226	9,236	5,588	6,172	4,616	2,013	1,589	1,242	692	236

Table J-174. Iron loads (lbs/d) by flow percentile for Winebrenner Run (WBN0002/WM-119)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	36.1	16.4	15.9	16.3	12.3	7.1	4.2	3.5	3.4	0.8
Average	4,151.4	11,503.3	2,282.9	2,158.9	1,477.1	1,099.7	666.1	497.4	13.0	40.7
Maximum	28,510.3	118,787.3	47,847.4	20,508.3	22,934.2	31,514.6	9,980.2	7,086.9	129.7	1,347.6
Median	157.2	134.3	117.2	932.1	36.1	26.4	20.9	14.9	7.6	2.4
25th	58.3	48.3	44.1	45.5	25.5	16.5	15.5	8.9	4.2	1.5
75th	3,405.2	2,601.6	582.0	2,035.6	1,040.2	32.9	24.7	19.6	10.3	5.5

Table J-175. Aluminum loads (lbs/d) by flow percentile for Winebrenner Run (WBN0002/WM-119)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	27.3	13.3	12.0	12.3	9.3	10.1	3.1	2.7	2.5	0.6
Average	2,154.3	4,962.6	1,031.0	970.2	747.8	427.4	268.4	206.4	15.6	36.9
Maximum	14,690.7	50,450.8	20,153.4	8,681.9	14,161.1	12,133.2	3,607.9	2,841.8	193.2	1,084.7
Median	220.5	223.3	129.2	467.2	29.4	19.9	16.5	11.4	5.7	1.9
25th	50.6	36.5	34.3	37.5	22.3	12.7	13.1	6.7	3.2	1.1
75th	2,239.4	1,309.4	304.0	948.5	520.6	25.3	25.1	14.8	8.1	4.7

** These tables include upstream loads from Winebrenner Run (WM-120/WBN0010).

Winebrenner Run (WM-120/WBN0010) plots and tables

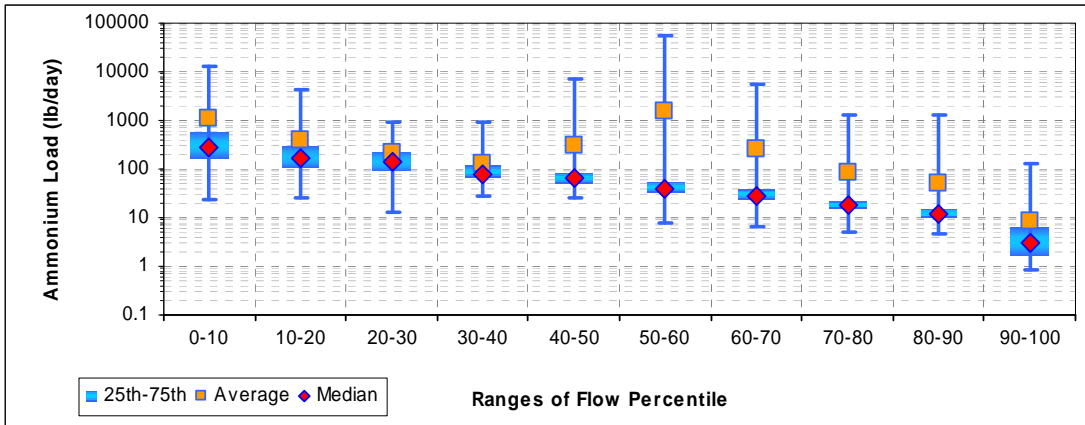


Figure J-. Ammonium loads by flow percentile for Winebrenner Run (WBN0010/WM-120)

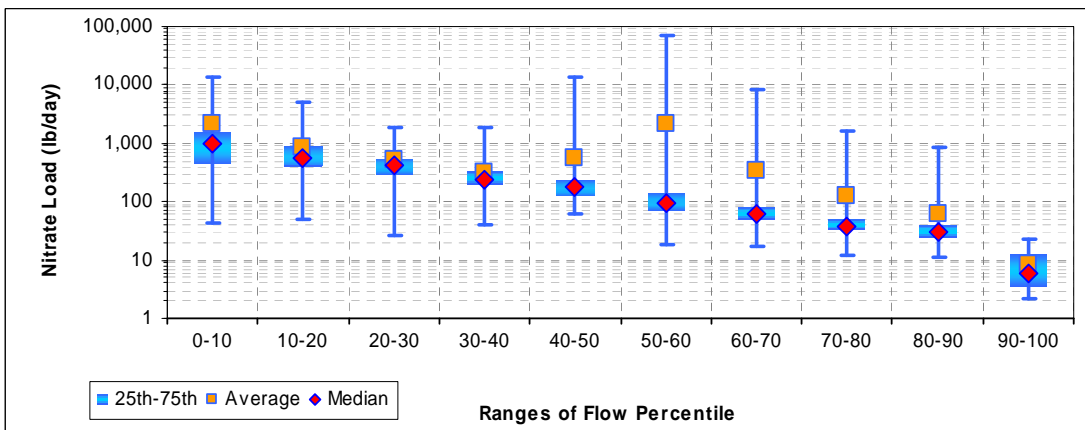


Figure J-1. Nitrate loads by flow percentile for Winebrenner Run (WBN0010/WM-120)

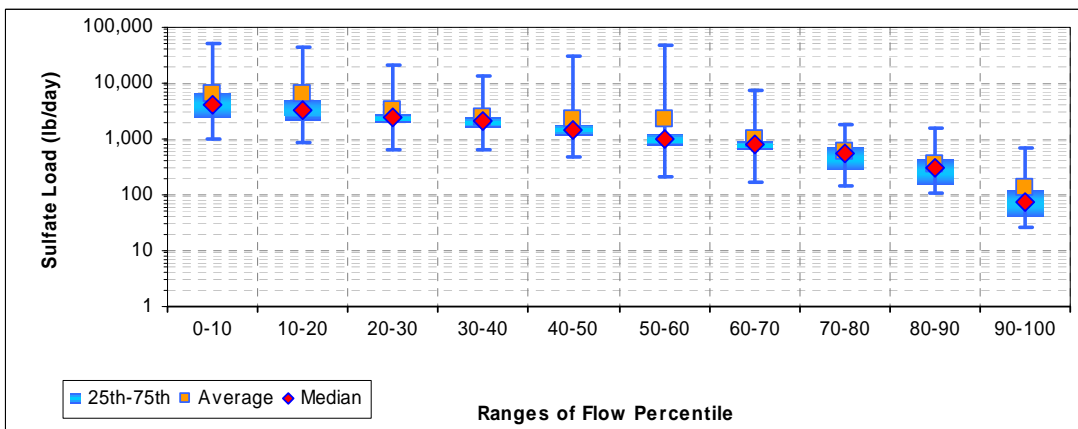


Figure J-2. Sulfate loads by flow percentile for Winebrenner Run (WBN0010/WM-120)

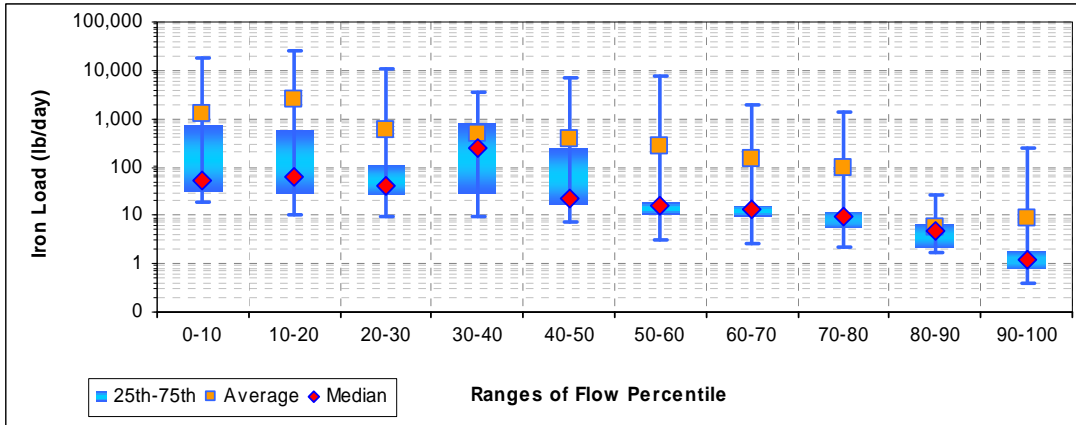


Figure J-3. Iron loads by flow percentile for Winebrenner Run (WBN0010/WM-120)

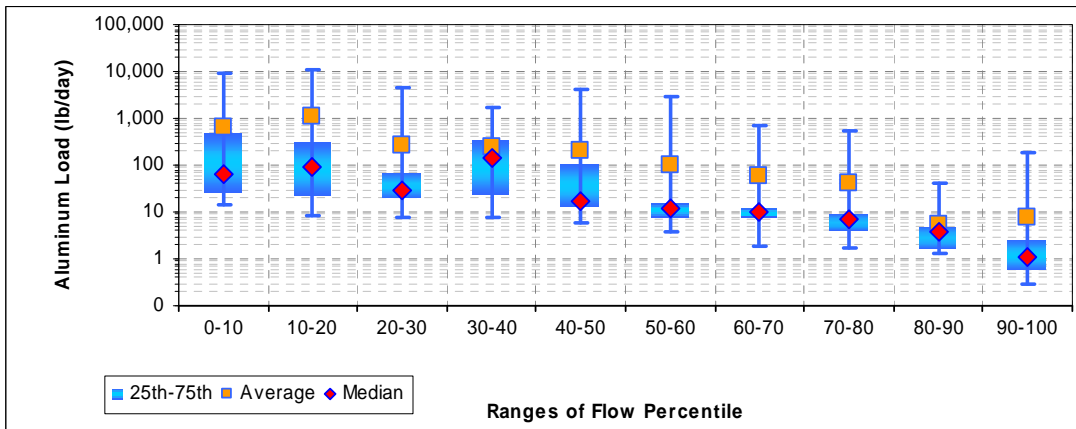


Figure J-4. Aluminum loads by flow percentile for Winebrenner Run (WBN0010/WM-120)

FINAL

Table J-. Ammonium loads (lb/d) by flow percentile for Winebrenner Run (WBN0010/WM-120)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	24.2	26.0	12.9	28.7	26.4	7.9	6.7	5.0	4.6	0.9
Average	1,114.0	386.2	213.1	124.6	292.6	1,586.0	248.5	81.8	49.7	8.1
Maximum	13,037.7	4,117.5	881.0	885.4	6,968.7	54,536.2	5,610.3	1,247.7	1,282.8	124.6
Median	267.9	166.2	137.3	75.1	67.1	38.9	27.0	18.2	12.0	3.1
25th	168.1	111.8	95.7	63.5	48.8	31.6	22.8	15.8	9.7	1.7
75th	576.8	302.7	225.6	120.2	81.6	53.2	37.9	21.2	14.7	6.6

Table J-1. Nitrate loads (lbs/d) by flow percentile for Winebrenner Run (WBN0010/WM-120)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	44.5	51.6	26.1	40.8	63.1	18.4	16.8	11.9	10.8	2.2
Average	2,105.2	856.4	526.5	311.8	573.1	2,129.8	347.7	122.0	61.3	8.5
Maximum	14,151.9	5,213.0	1,862.6	1,840.9	13,466.5	71,145.2	8,037.6	1,588.3	884.5	22.2
Median	953.6	573.7	412.7	235.9	179.7	95.6	61.5	38.2	29.6	5.9
25th	446.1	391.1	302.5	190.2	126.8	73.3	48.4	33.3	24.2	3.6
75th	1,620.1	912.9	558.9	331.1	230.2	144.3	80.6	48.2	40.7	12.9

Table J-2. Sulfate loads (lbs/d) by flow percentile for Winebrenner Run (WBN0010/WM-120)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,036	863	628	664	488	209	166	140	108	26
Average	6,562	6,361	3,327	2,521	2,254	2,262	1,035	612	346	138
Maximum	51,060	42,913	21,775	13,553	29,900	47,346	7,172	1,860	1,575	689
Median	4,020	3,258	2,385	2,103	1,418	1,033	816	547	310	74
25th	2,394	2,080	1,883	1,553	1,161	720	635	279	152	42
75th	7,097	5,184	2,865	2,495	1,812	1,212	952	757	426	124

Table J-3. Iron loads (lbs/d) by flow percentile for Winebrenner Run (WBN0010/WM-120)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	18.1	10.1	9.7	9.7	7.5	3.1	2.6	2.2	1.7	0.4
Average	1,278.2	2,431.9	575.2	491.2	367.8	258.0	141.0	98.2	5.6	8.5
Maximum	17,322.6	25,490.1	10,665.8	3,541.8	6,860.2	7,403.9	1,925.8	1,331.2	26.5	249.9
Median	52.2	60.3	40.8	255.2	22.7	16.3	13.0	9.5	4.8	1.2
25th	30.7	28.3	25.9	29.1	17.6	10.1	9.8	5.7	2.2	0.8
75th	770.5	562.6	118.2	795.0	237.5	18.8	15.3	12.2	6.6	1.9

Table J-4. Aluminum loads (lbs/d) by flow percentile for Winebrenner Run (WBN0010/WM-120)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	14.6	8.3	7.4	7.4	5.7	3.8	1.9	1.6	1.3	0.3
Average	662.8	1,102.9	270.4	241.3	200.0	104.3	59.1	42.4	5.3	7.4
Maximum	8,875.9	11,154.6	4,652.7	1,637.9	4,242.8	2,885.6	697.0	534.9	40.2	193.7
Median	65.8	88.5	30.2	138.3	17.3	12.5	9.9	7.2	3.6	1.1
25th	26.6	21.4	20.4	24.1	13.3	7.8	7.4	4.3	1.7	0.6
75th	504.5	306.6	70.5	346.6	108.7	16.3	11.9	9.2	5.0	2.7

UT to Moores Run (WM-122/UMD0000) plots and tables

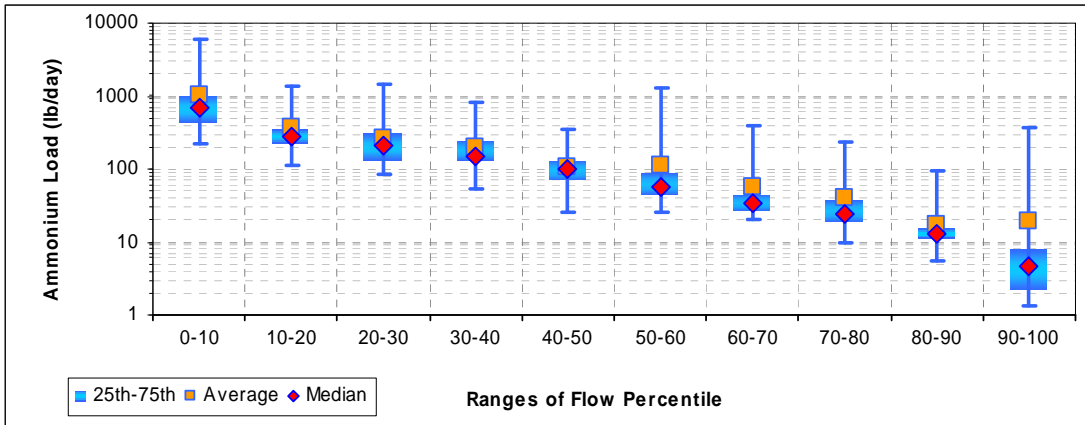


Figure J-181. Ammonium loads by flow percentile for UT to Moores Run (UMD0000/WM-122)

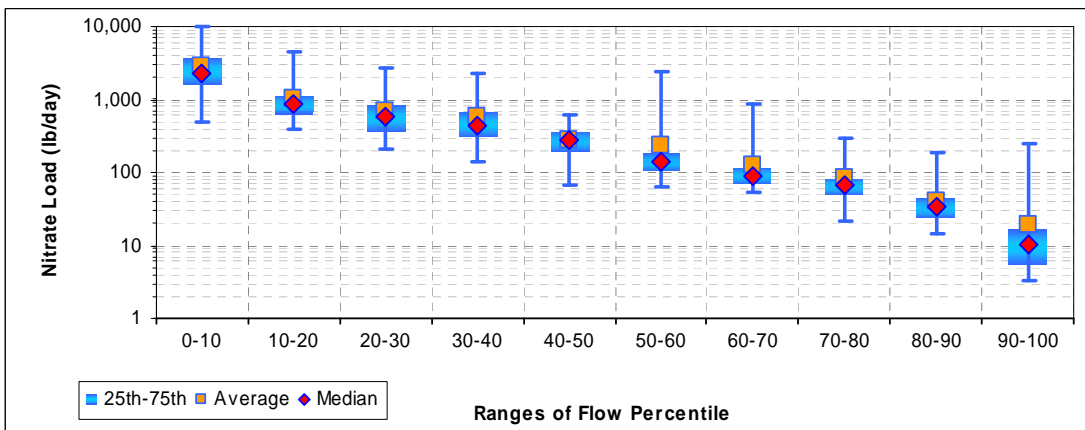


Figure J-182. Nitrate loads by flow percentile for UT to Moores Run (UMD0000/WM-122)

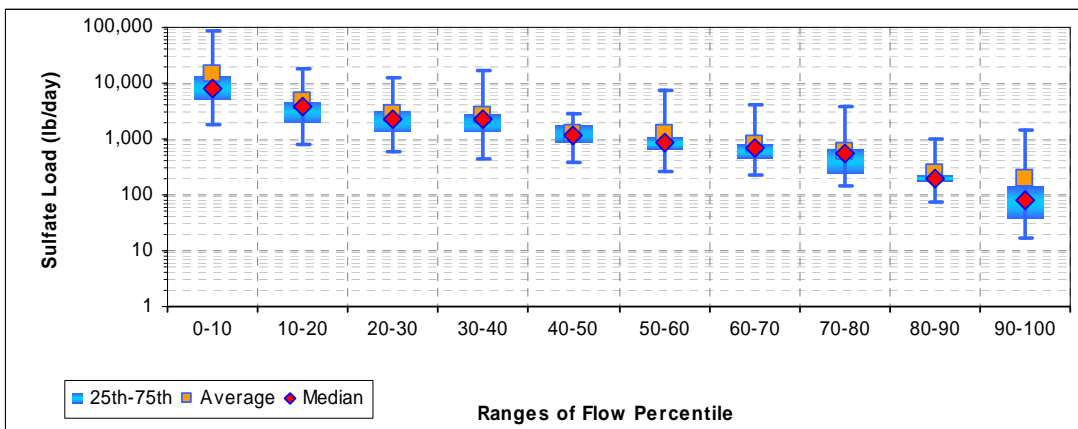


Figure J-183. Sulfate loads by flow percentile for UT to Moores Run (UMD0000/WM-122)

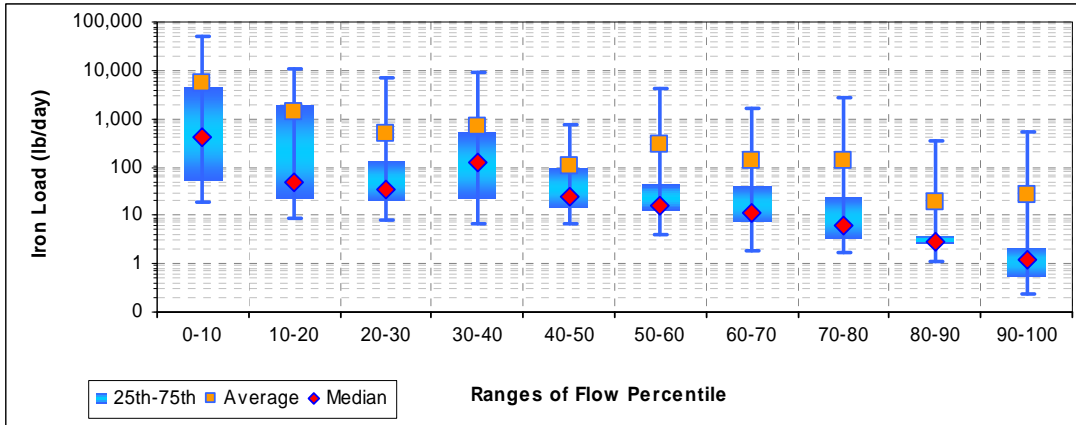


Figure J-184. Iron loads by flow percentile for UT to Moores Run (UMD0000/WM-122)

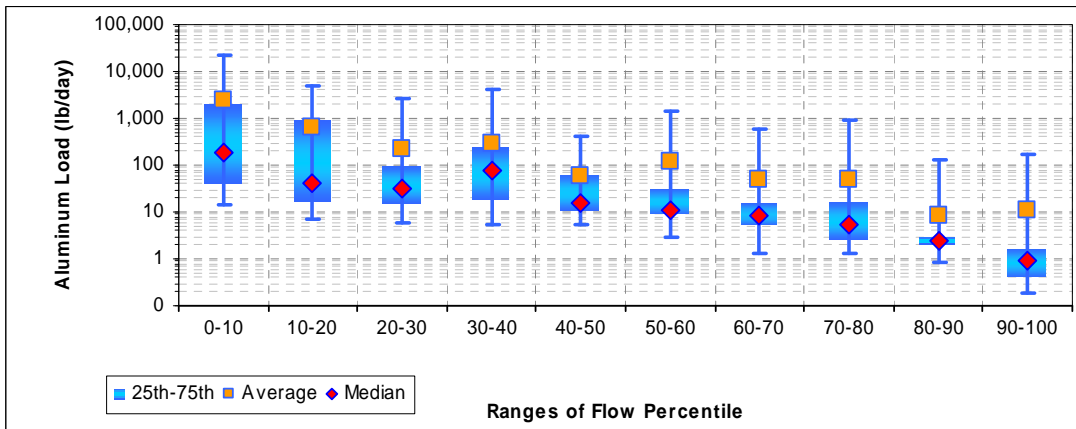


Figure J-185. Aluminum loads by flow percentile for UT to Moores Run (UMD0000/WM-122)

FINAL

Table J-181. Ammonium loads (lb/d) by flow percentile for UT to Moores Run (UMD0000/WM-122)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	217.6	109.7	82.5	53.0	25.5	26.0	19.9	9.5	5.6	1.3
Average	1,025.9	363.2	269.0	203.2	107.5	110.6	55.5	41.1	17.4	19.3
Maximum	5,903.5	1,384.7	1,447.5	839.0	342.6	1,287.1	385.1	239.1	92.9	375.1
Median	702.3	270.5	213.7	147.8	98.9	55.9	34.7	24.7	12.7	4.5
25th	449.6	216.9	135.2	129.4	72.0	44.7	27.7	19.2	10.6	2.2
75th	1,003.6	356.0	304.5	255.2	130.7	90.5	44.9	37.4	15.6	8.3

Table J-182. Nitrate loads (lbs/d) by flow percentile for UT to Moores Run (UMD0000/WM-122)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	489.9	384.5	207.9	138.8	69.0	63.0	52.1	22.1	14.2	3.3
Average	2,907.7	1,046.7	700.3	571.0	282.8	234.9	125.9	85.4	39.4	18.9
Maximum	9,932.9	4,631.5	2,743.6	2,226.6	623.4	2,391.7	843.3	299.3	187.4	247.1
Median	2,234.0	875.7	590.6	436.6	275.4	140.5	88.5	67.6	33.3	10.1
25th	1,613.5	630.8	364.0	303.2	192.4	106.3	70.4	51.9	24.2	5.5
75th	3,806.9	1,131.8	863.4	707.0	365.4	191.0	115.6	83.0	44.2	17.5

Table J-183. Sulfate loads (lbs/d) by flow percentile for UT to Moores Run (UMD0000/WM-122)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,754	780	582	438	389	268	234	148	77	17
Average	14,414	4,828	2,885	2,697	1,285	1,253	798	608	250	190
Maximum	84,808	18,473	12,905	16,654	2,928	7,495	3,991	3,780	1,022	1,398
Median	7,971	3,800	2,339	2,334	1,127	872	687	544	199	77
25th	5,275	2,016	1,375	1,313	886	619	432	236	167	37
75th	13,489	4,715	3,322	2,911	1,762	1,112	789	668	235	143

Table J-184. Iron loads (lbs/d) by flow percentile for UT to Moores Run (UMD0000/WM-122)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	19.5	8.5	7.7	6.6	6.9	3.9	1.8	1.8	1.1	0.2
Average	5,581.9	1,389.3	481.8	677.2	107.7	298.8	131.7	137.3	18.6	26.2
Maximum	49,772.6	10,945.4	6,904.4	9,365.3	725.1	4,327.3	1,627.9	2,699.1	335.9	513.1
Median	414.2	46.4	34.8	121.9	24.8	15.3	10.9	5.9	3.0	1.2
25th	54.7	21.9	19.8	21.7	15.1	12.7	7.1	3.5	2.5	0.6
75th	4,620.9	1,870.7	139.3	529.9	93.4	45.8	41.3	23.3	3.5	2.2

Table J-185. Aluminum loads (lbs/d) by flow percentile for UT to Moores Run (UMD0000/WM-122)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	14.8	7.0	5.8	5.3	5.2	2.9	1.4	1.3	0.9	0.2
Average	2,433.2	638.5	222.8	302.3	58.0	115.1	49.4	50.7	8.5	11.4
Maximum	22,019.9	4,917.1	2,724.8	3,956.5	406.2	1,482.3	567.2	918.0	126.0	171.9
Median	188.9	42.7	31.0	73.4	15.4	10.8	8.2	5.5	2.3	0.9
25th	40.7	16.9	14.9	18.5	11.3	9.3	5.5	2.7	2.0	0.4
75th	2,016.5	909.3	98.6	239.7	61.8	32.4	15.8	16.4	3.0	1.7

Jackson Run (WM-125/JAC0006) plots and tables

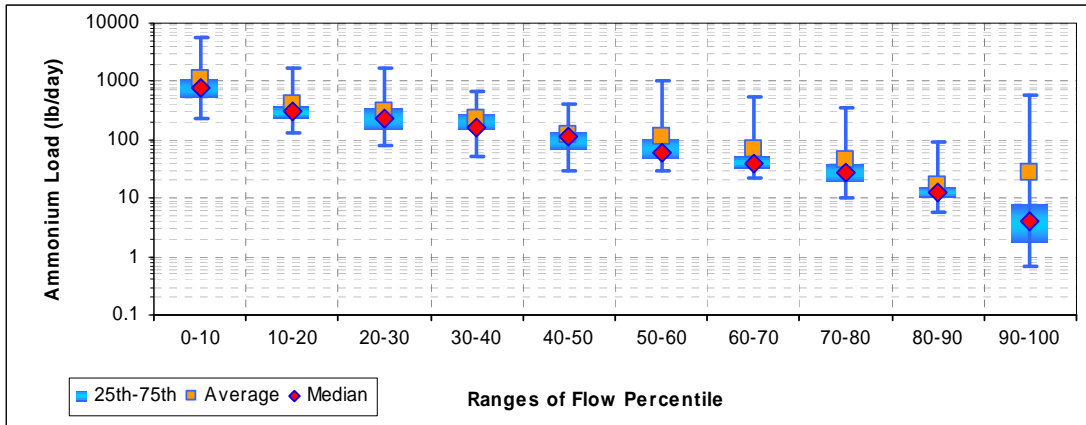


Figure J-186. Ammonium loads by flow percentile for Jackson Run (JAC0006/WM-125)

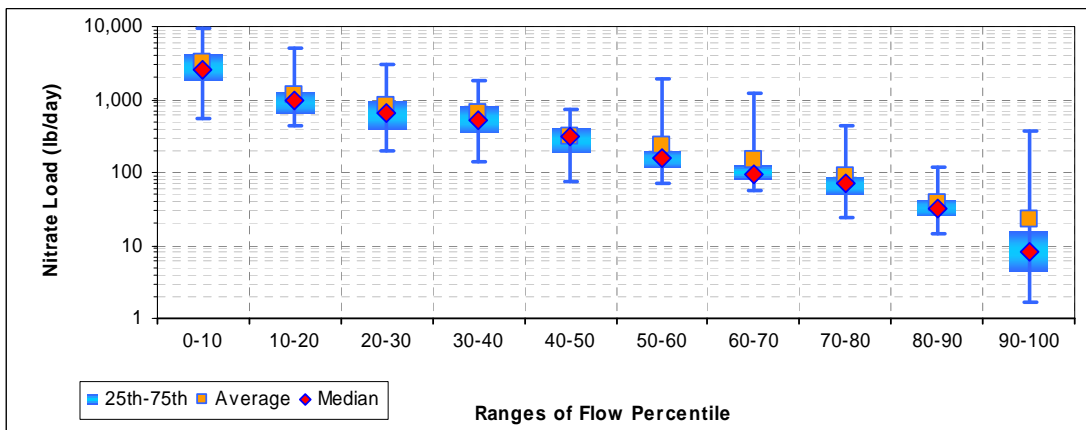


Figure J-187. Nitrate loads by flow percentile for Jackson Run (JAC0006/WM-125)

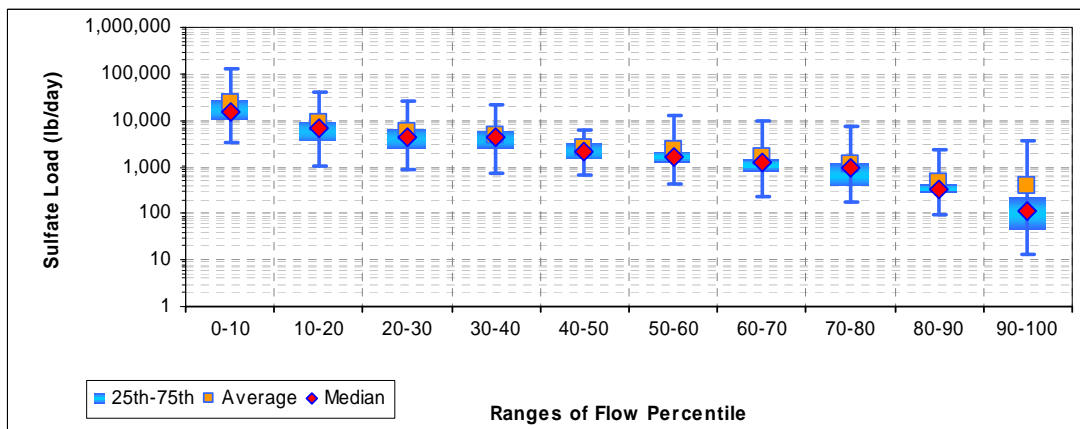


Figure J-188. Sulfate loads by flow percentile for Jackson Run (JAC0006/WM-125)

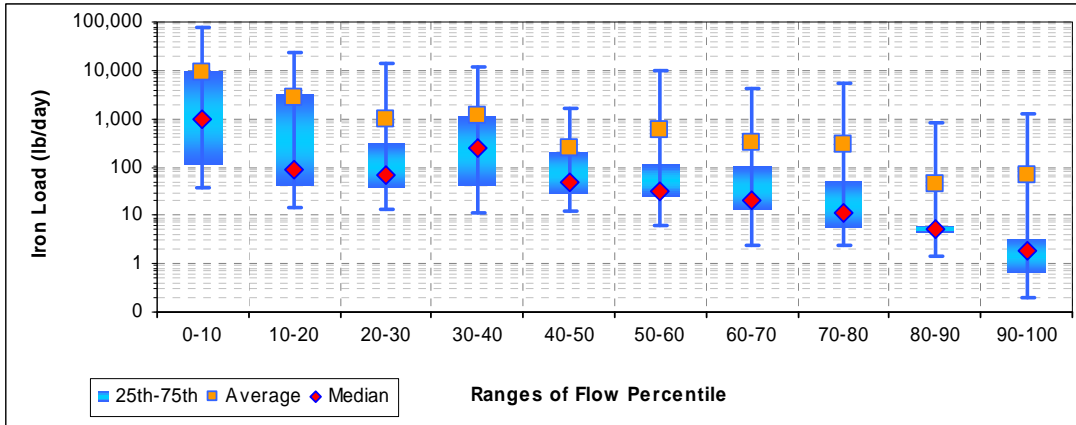


Figure J-189. Iron loads by flow percentile for Jackson Run (JAC0006/WM-125)

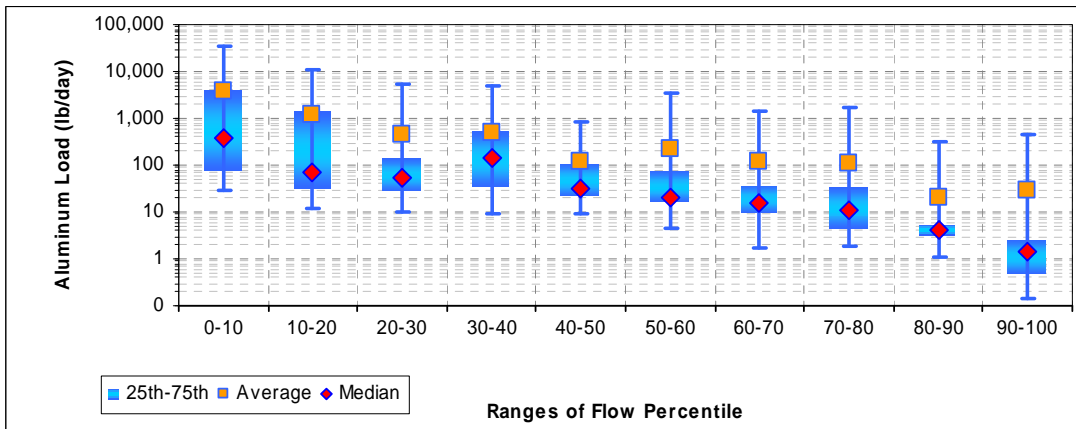


Figure J-190. Aluminum loads by flow percentile for Jackson Run (JAC0006/WM-125)

Table J-186. Ammonium loads (lb/d) by flow percentile for Jackson Run (JAC0006/WM-125)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	236.3	127.0	80.4	52.4	28.5	30.1	22.1	10.4	5.9	0.7
Average	1,128.6	399.0	306.2	227.8	118.5	111.3	66.8	44.9	17.1	26.5
Maximum	5,680.6	1,637.0	1,657.0	688.2	403.5	1,057.5	549.6	350.9	93.4	569.3
Median	770.0	309.3	223.4	167.5	112.2	60.1	38.8	27.0	12.5	4.1
25th	524.9	234.7	153.0	148.1	67.9	47.7	30.6	19.4	10.3	1.7
75th	1,090.5	386.8	350.3	288.8	135.8	102.7	50.6	38.6	15.1	8.2

Table J-187. Nitrate loads (lbs/d) by flow percentile for Jackson Run (JAC0006/WM-125)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	544.9	443.2	198.6	137.6	77.2	70.9	57.8	23.8	14.4	1.6
Average	3,197.8	1,149.4	798.1	638.0	309.7	237.8	147.1	89.4	37.3	22.2
Maximum	9,623.5	4,926.9	3,050.9	1,833.4	730.6	1,968.2	1,203.1	429.0	116.3	368.7
Median	2,605.0	995.8	646.5	519.3	309.6	154.9	95.3	70.2	32.4	8.3
25th	1,835.1	658.0	388.8	343.0	186.3	117.2	78.0	51.6	25.1	4.3
75th	4,345.5	1,277.6	971.1	819.8	407.9	200.7	127.3	91.5	43.8	16.4

Table J-188. Sulfate loads (lbs/d) by flow percentile for Jackson Run (JAC0006/WM-125)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3,246	1,075	900	743	668	410	230	179	97	13
Average	24,412	9,224	5,743	4,943	2,494	2,389	1,659	1,190	464	406
Maximum	129,501	40,552	25,987	21,461	5,965	12,691	9,731	7,208	2,428	3,526
Median	15,252	6,823	4,261	4,482	2,130	1,664	1,303	961	342	117
25th	10,173	3,765	2,649	2,453	1,478	1,269	794	391	276	46
75th	27,990	9,543	6,524	6,146	3,451	2,129	1,519	1,237	431	223

Table J-189. Iron loads (lbs/d) by flow percentile for Jackson Run (JAC0006/WM-125)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	36.7	14.4	13.1	11.4	12.4	6.2	2.3	2.4	1.4	0.2
Average	8,898.6	2,618.6	1,013.0	1,134.9	242.2	585.2	323.3	287.6	44.5	65.7
Maximum	78,325.7	24,262.8	14,116.4	11,655.0	1,563.3	9,872.8	4,034.2	5,184.8	834.2	1,305.0
Median	972.5	88.3	68.7	249.8	48.7	30.1	20.5	10.8	5.2	1.8
25th	117.5	42.0	38.1	41.8	28.6	24.4	13.1	5.8	4.3	0.7
75th	9,924.5	3,343.7	328.9	1,167.3	216.3	112.4	101.3	53.6	6.3	3.5

Table J-190. Aluminum loads (lbs/d) by flow percentile for Jackson Run (JAC0006/WM-125)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	27.7	11.4	9.9	9.0	9.4	4.7	1.8	1.8	1.1	0.1
Average	3,846.1	1,184.9	455.4	507.1	123.7	223.3	118.7	105.3	19.4	28.0
Maximum	34,063.1	10,880.2	5,561.5	4,955.2	850.6	3,372.3	1,400.8	1,761.5	311.4	435.3
Median	394.2	68.2	54.4	141.5	31.9	21.1	15.6	11.2	4.0	1.4
25th	76.8	32.2	28.8	34.2	22.1	17.7	10.4	4.4	3.2	0.5
75th	4,251.6	1,443.9	143.0	523.6	111.7	74.2	36.7	35.7	5.4	2.6

Meadow Run (WM-135/MDW0008) plots and tables

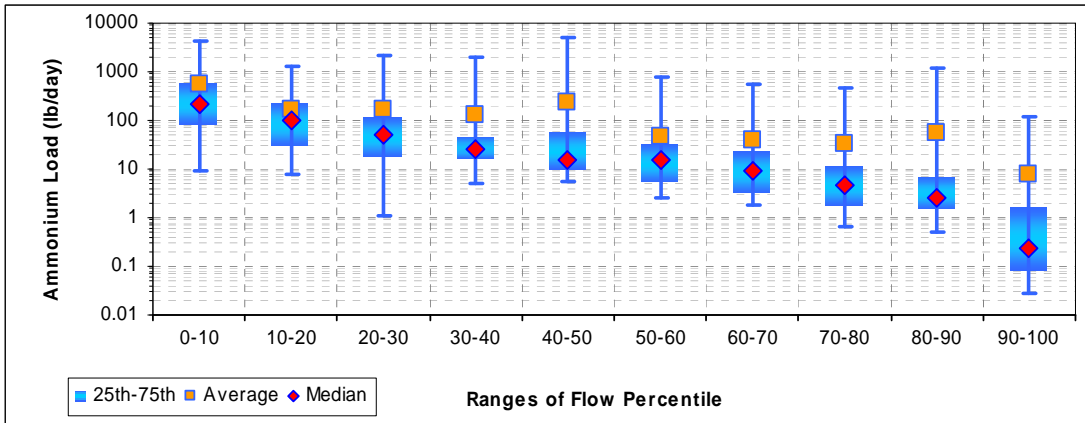


Figure J-191. Ammonium loads by flow percentile for Meadow Run (MDW0008/WM-135)

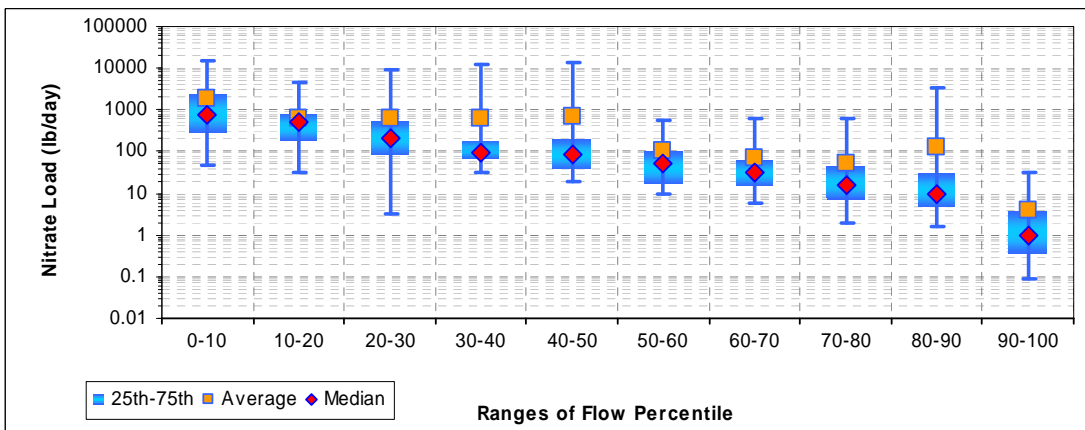


Figure J-192. Nitrate loads by flow percentile for Meadow Run (MDW0008/WM-135)

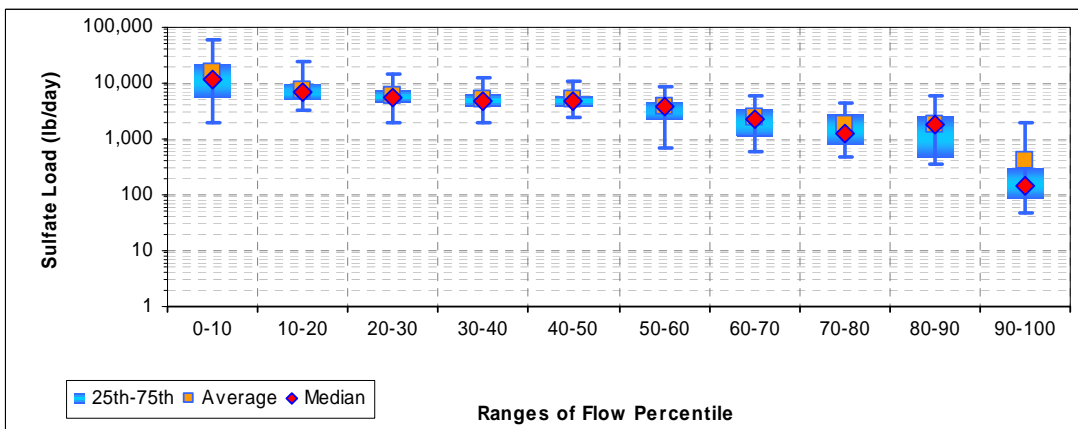


Figure J-193. Sulfate loads by flow percentile for Meadow Run (MDW0008/WM-135)

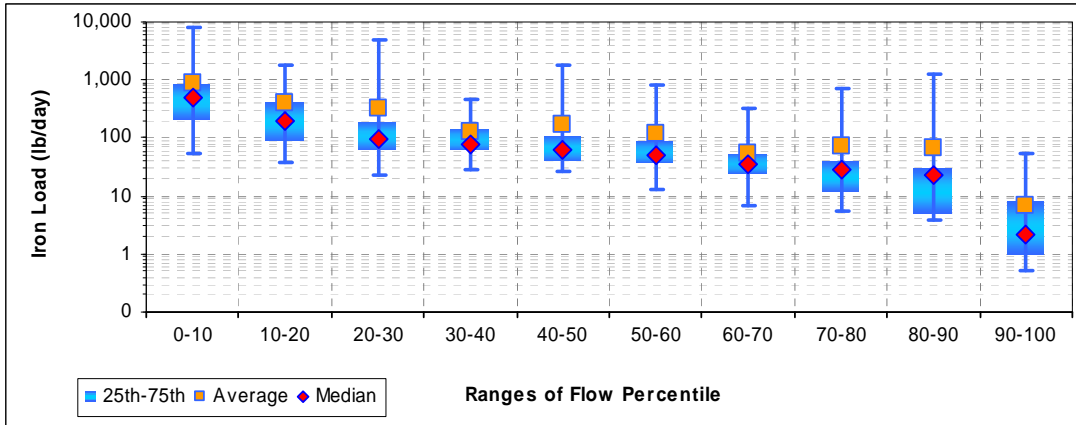


Figure J-194. Iron loads by flow percentile for Meadow Run (MDW0008/WM-135)

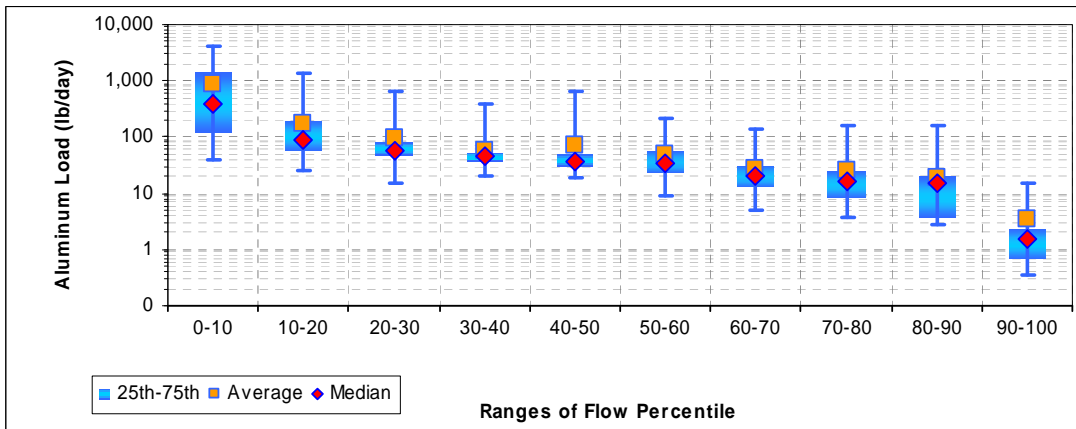


Figure J-195. Aluminum loads by flow percentile for Meadow Run (MDW0008/WM-135)

FINAL

Table J-191. Ammonium loads (lb/d) by flow percentile for Meadow Run (MDW0008/WM-135)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	8.9	7.6	1.1	5.1	5.6	2.5	1.8	0.6	0.5	0.0
Average	546.5	172.9	164.3	127.8	229.5	47.3	37.8	32.8	55.6	7.6
Maximum	4,131.1	1,266.0	2,221.1	2,040.7	5,249.6	759.1	564.6	457.9	1,215.8	118.0
Median	213.9	100.6	52.7	26.5	15.4	15.0	8.8	4.7	2.5	0.2
25th	82.4	30.5	17.6	16.4	10.0	5.4	3.3	1.9	1.5	0.1
75th	582.3	238.3	123.6	47.5	61.8	32.1	22.5	12.3	6.9	1.7

Table J-192. Nitrate loads (lbs/d) by flow percentile for Meadow Run (MDW0008/WM-135)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	47.2	30.1	3.3	31.5	20.1	9.5	6.0	2.0	1.6	0.1
Average	1,850.7	613.6	609.7	614.0	695.0	106.0	70.3	51.3	133.8	4.0
Maximum	14,864.3	4,567.0	9,519.7	12,040.4	13,644.3	565.5	597.1	601.3	3,388.6	31.4
Median	794.4	500.9	213.3	98.9	88.7	52.3	32.4	15.7	9.4	1.0
25th	289.4	192.8	86.3	70.5	38.9	17.2	16.2	7.1	4.9	0.4
75th	2,605.8	804.4	540.4	196.9	209.2	108.9	60.7	45.9	30.1	3.9

Table J-193. Sulfate loads (lbs/d) by flow percentile for Meadow Run (MDW0008/WM-135)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,927	3,208	2,002	2,016	2,417	682	576	494	356	46
Average	15,508	7,667	6,130	5,177	5,111	3,835	2,520	1,827	1,820	402
Maximum	57,849	24,871	14,149	12,325	10,794	8,562	6,069	4,491	5,757	1,918
Median	11,608	6,920	5,558	4,738	4,630	3,861	2,257	1,233	1,866	150
25th	5,714	5,072	4,556	3,948	3,713	2,241	1,056	821	482	83
75th	22,967	9,689	7,637	6,460	5,813	4,865	3,519	2,858	2,648	303

Table J-194. Iron loads (lbs/d) by flow percentile for Meadow Run (MDW0008/WM-135)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	54.5	38.7	22.3	29.0	26.7	13.2	6.9	5.4	3.9	0.5
Average	874.2	389.2	318.1	123.1	174.0	117.7	55.5	70.7	65.1	7.0
Maximum	8,174.2	1,841.7	4,921.5	452.6	1,734.8	839.8	329.2	694.1	1,295.9	53.5
Median	493.4	201.2	95.8	80.0	60.4	49.5	34.2	29.4	22.9	2.2
25th	212.8	89.4	61.9	61.6	40.5	37.5	24.0	11.9	5.2	1.0
75th	883.0	429.5	189.6	142.0	108.1	89.9	54.9	41.2	29.9	8.3

Table J-195. Aluminum loads (lbs/d) by flow percentile for Meadow Run (MDW0008/WM-135)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	38.0	25.1	15.6	20.2	18.6	9.2	4.8	3.7	2.7	0.4
Average	898.5	174.6	96.7	55.8	70.0	47.6	27.1	26.0	18.9	3.4
Maximum	4,196.9	1,324.2	650.3	402.8	667.6	212.8	143.2	161.1	166.1	15.3
Median	401.7	90.4	56.6	45.6	37.9	34.5	20.8	15.9	15.4	1.5
25th	118.0	55.3	44.5	35.9	28.4	24.0	12.9	8.3	3.6	0.7
75th	1,439.6	206.8	80.2	52.3	50.9	57.5	31.5	25.7	20.8	2.4

Little Laurel Run (WM-137/LLR0024) plots and tables

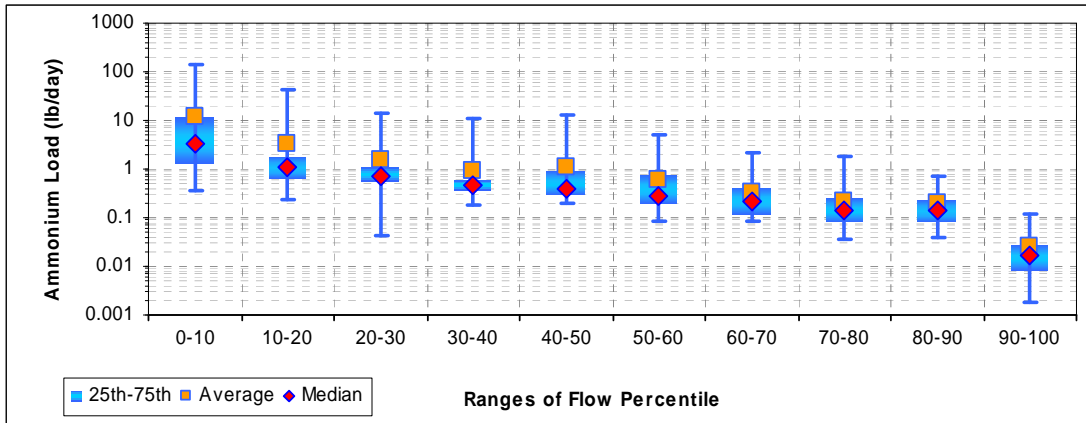


Figure J-196. Ammonium loads by flow percentile for Little Laurel Run (LLR0024/WM-137)

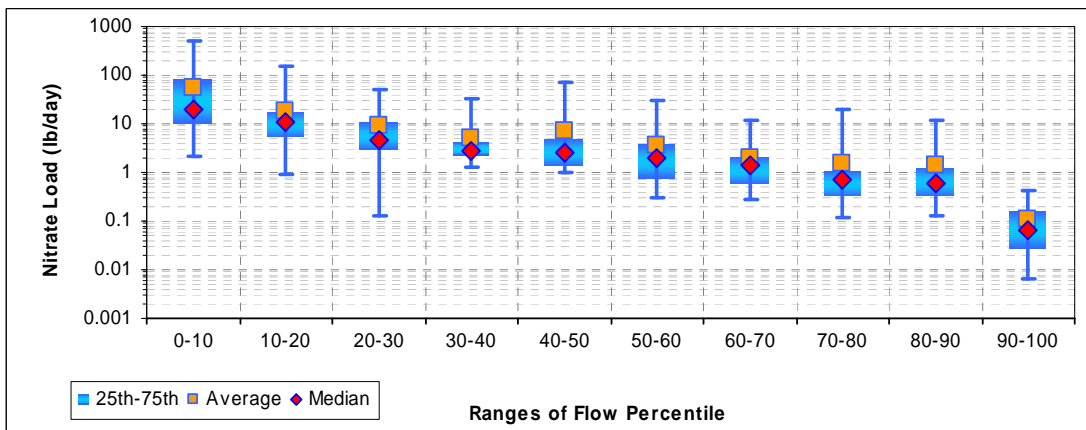


Figure J-197. Nitrate loads by flow percentile for Little Laurel Run (LLR0024/WM-137)

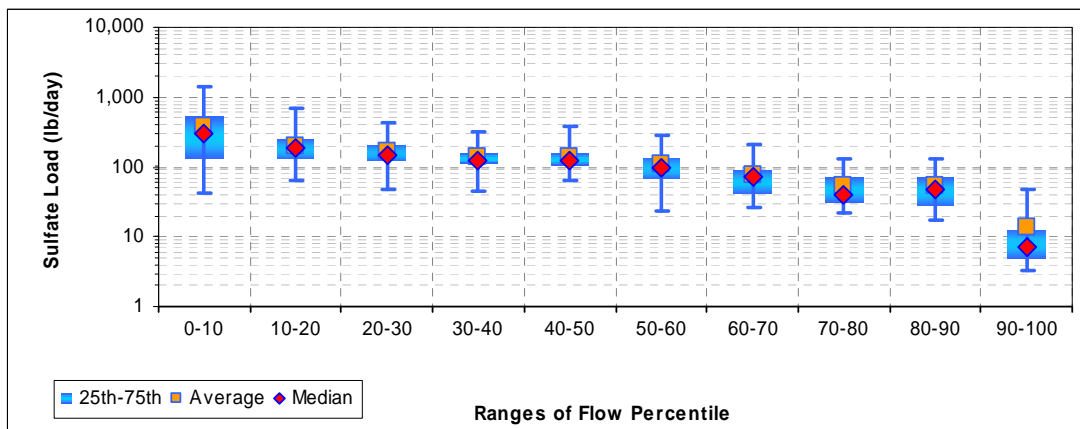


Figure J-198. Sulfate loads by flow percentile for Little Laurel Run (LLR0024/WM-137)

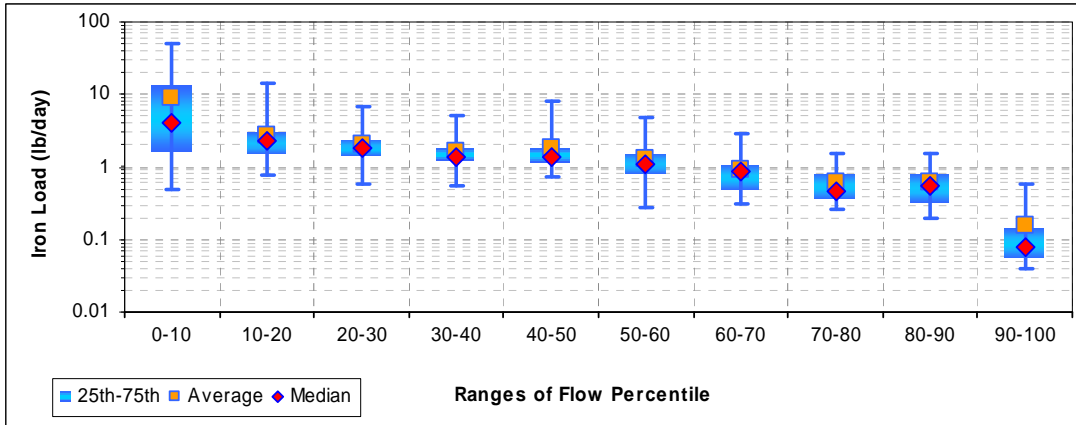


Figure J-199. Iron loads by flow percentile for Little Laurel Run (LLR0024/WM-137)

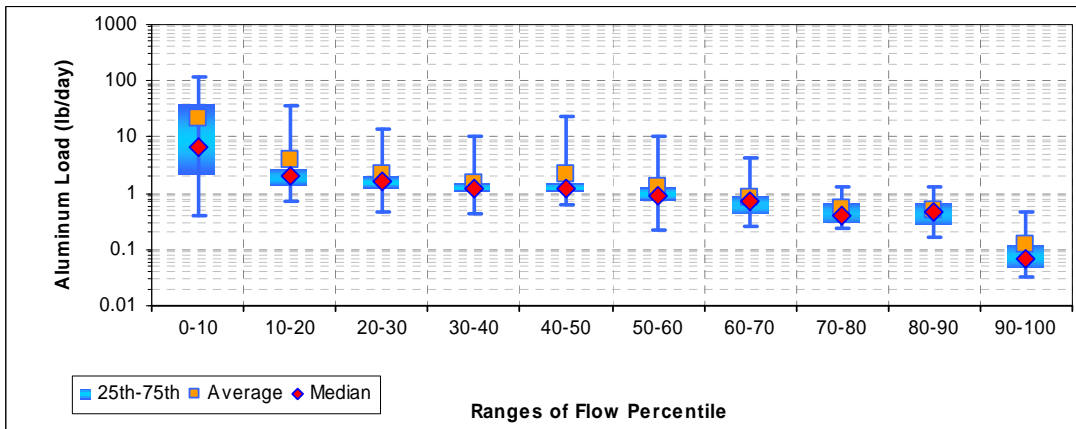


Figure J-200. Aluminum loads by flow percentile for Little Laurel Run (LLR0024/WM-137)

FINAL

Table J-196. Ammonium loads (lb/d) by flow percentile for Little Laurel Run (LLR0024/WM-137)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	0.3	0.2	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.0
Average	11.7	3.2	1.5	0.9	1.1	0.6	0.3	0.2	0.2	0.0
Maximum	141.6	43.6	13.9	10.7	13.2	4.9	2.1	1.8	0.7	0.1
Median	3.4	1.1	0.7	0.5	0.4	0.3	0.2	0.1	0.1	0.0
25th	1.3	0.6	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.0
75th	11.8	1.8	1.1	0.6	1.0	0.8	0.4	0.3	0.2	0.0

Table J-197. Nitrate loads (lbs/d) by flow percentile for Little Laurel Run (LLR0024/WM-137)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.2	0.9	0.1	1.2	1.0	0.3	0.3	0.1	0.1	0.0
Average	56.1	18.5	9.3	5.0	7.0	3.6	2.1	1.5	1.4	0.1
Maximum	500.3	155.0	49.6	33.4	70.3	31.1	12.0	19.7	11.9	0.4
Median	19.8	10.7	4.8	2.9	2.7	1.9	1.4	0.7	0.6	0.1
25th	9.8	5.7	3.2	2.1	1.4	0.8	0.6	0.3	0.3	0.0
75th	85.0	17.5	10.9	4.1	5.2	3.9	2.2	1.1	1.3	0.2

Table J-198. Sulfate loads (lbs/d) by flow percentile for Little Laurel Run (LLR0024/WM-137)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	42	66	48	46	63	23	26	22	17	3
Average	374	202	168	138	142	109	79	54	54	13
Maximum	1,423	675	419	310	386	279	207	128	133	49
Median	305	189	143	120	120	94	74	39	49	7
25th	129	130	124	106	101	68	42	32	29	5
75th	540	249	208	160	158	135	93	72	72	13

Table J-199. Iron loads (lbs/d) by flow percentile for Little Laurel Run (LLR0024/WM-137)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	0.5	0.8	0.6	0.5	0.7	0.3	0.3	0.3	0.2	0.0
Average	9.0	2.8	2.1	1.6	1.8	1.3	0.9	0.6	0.6	0.2
Maximum	51.4	13.9	6.7	5.1	8.1	4.7	2.8	1.5	1.5	0.6
Median	4.1	2.3	1.8	1.4	1.4	1.1	0.9	0.5	0.6	0.1
25th	1.6	1.5	1.5	1.3	1.2	0.8	0.5	0.4	0.3	0.1
75th	13.3	3.0	2.4	1.9	1.8	1.6	1.1	0.8	0.8	0.2

Table J-200. Aluminum loads (lbs/d) by flow percentile for Little Laurel Run (LLR0024/WM-137)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	0.4	0.7	0.5	0.4	0.6	0.2	0.2	0.2	0.2	0.0
Average	21.2	4.0	2.2	1.5	2.1	1.3	0.8	0.5	0.5	0.1
Maximum	116.2	37.4	13.4	10.6	22.4	10.3	4.3	1.3	1.3	0.5
Median	6.6	2.1	1.7	1.2	1.2	0.9	0.7	0.4	0.5	0.1
25th	2.1	1.4	1.2	1.0	1.0	0.7	0.4	0.3	0.3	0.0
75th	37.9	2.7	2.1	1.5	1.5	1.3	0.9	0.7	0.7	0.1

Spiker Run (WM-138/SPI0018) plots and tables

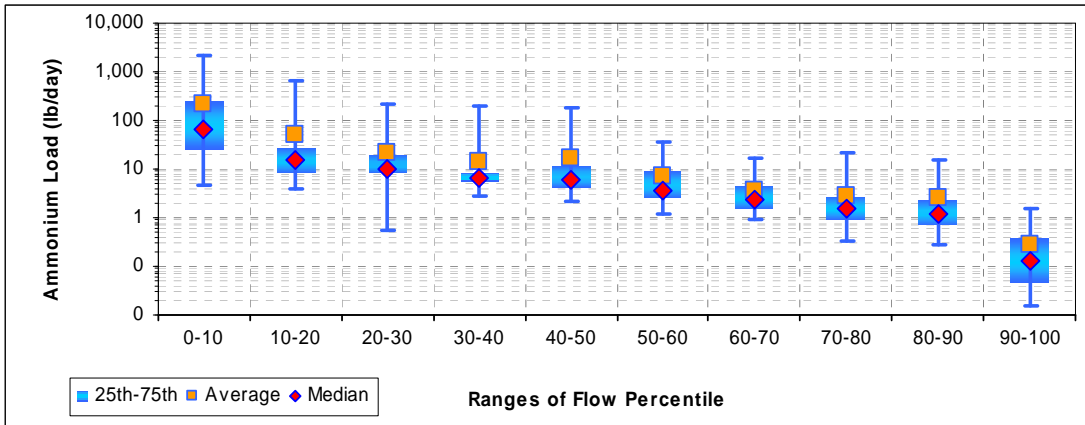


Figure J-201. Ammonium loads by flow percentile for Spiker Run (SPI0018/WM-138)

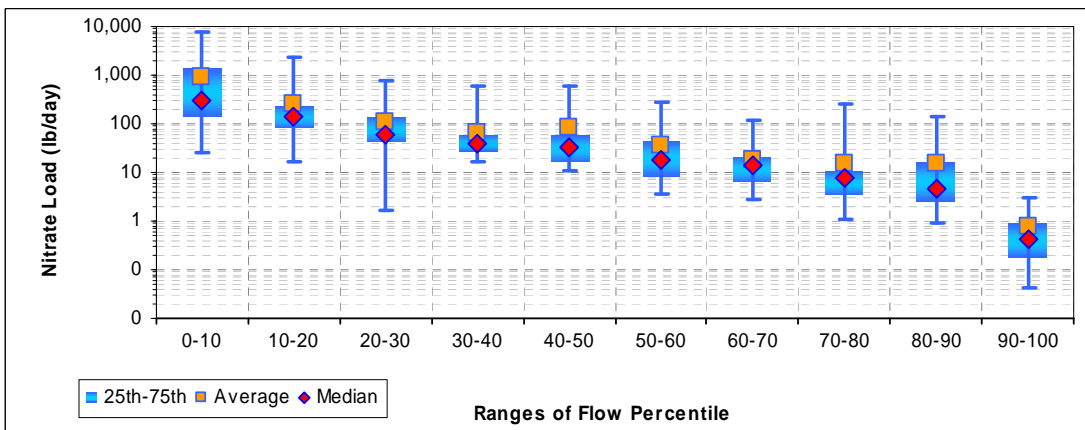


Figure J-202. Nitrate loads by flow percentile for Spiker Run (SPI0018/WM-138)

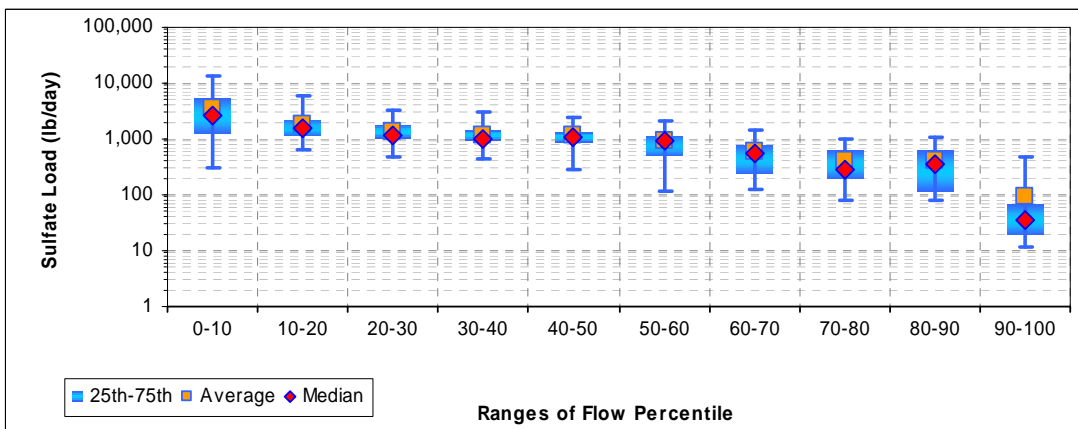


Figure J-203. Sulfate loads by flow percentile for Spiker Run (SPI0018/WM-138)

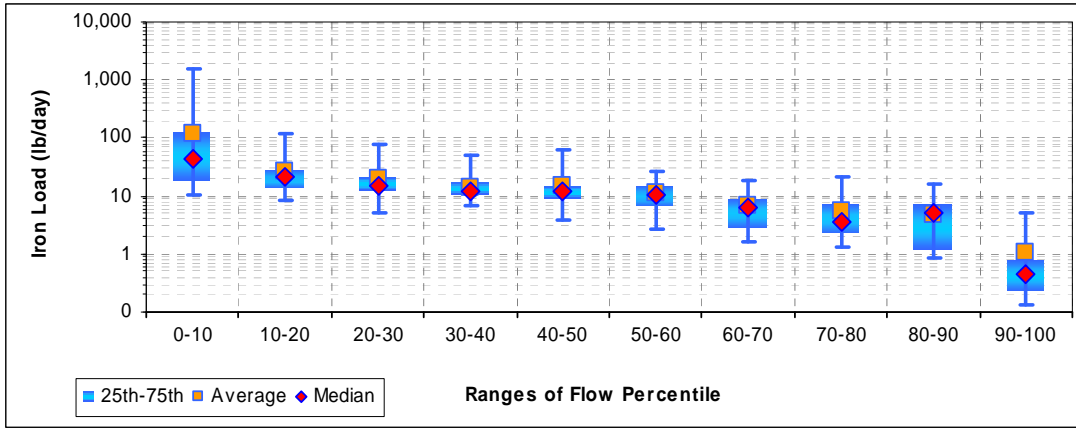


Figure J-204. Iron loads by flow percentile for Spiker Run (SPI0018/WM-138)

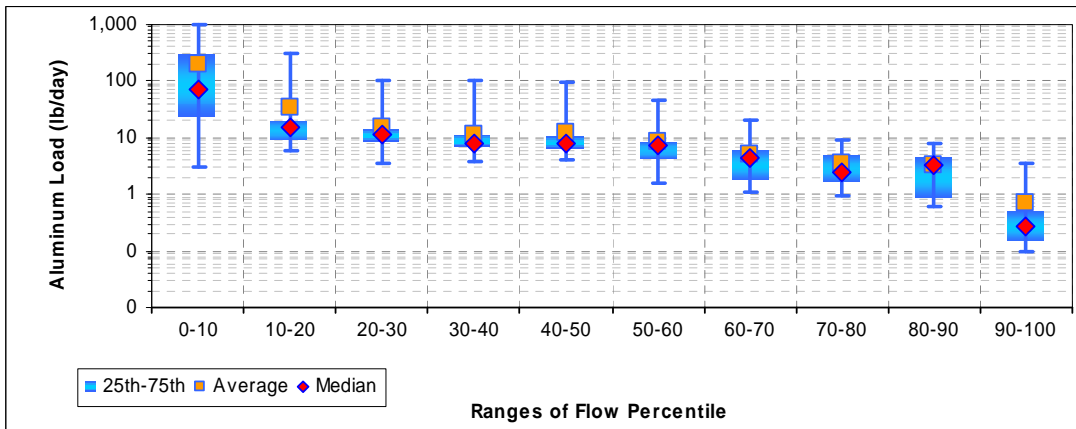


Figure J-205. Aluminum loads by flow percentile for Spiker Run (SPI0018/WM-138)

Table J-201. Ammonium loads (lb/d) by flow percentile for Spiker Run (SPI0018/WM-138)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4.8	4.1	0.6	2.7	2.2	1.2	0.9	0.3	0.3	0.0
Average	208.5	50.1	21.1	14.2	16.0	7.1	3.6	2.8	2.5	0.3
Maximum	2,183.0	669.1	210.3	201.8	185.0	35.5	17.0	21.9	15.7	1.6
Median	64.8	15.6	10.1	6.4	5.8	3.4	2.4	1.5	1.1	0.1
25th	25.1	8.7	8.3	5.5	4.3	2.5	1.5	0.9	0.7	0.0
75th	263.1	26.8	20.2	8.8	11.4	9.5	4.7	2.7	2.4	0.4

Table J-202. Nitrate loads (lbs/d) by flow percentile for Spiker Run (SPI0018/WM-138)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	26.2	16.5	1.7	16.7	10.6	3.6	2.9	1.1	0.9	0.0
Average	887.0	245.6	112.6	68.0	84.8	37.1	18.6	15.6	14.8	0.8
Maximum	7,836.4	2,408.2	756.6	595.2	588.8	283.1	113.9	245.9	146.2	3.1
Median	293.3	144.6	61.7	38.2	34.2	18.6	14.3	7.5	4.6	0.4
25th	135.0	85.0	41.5	26.8	16.9	8.2	6.7	3.6	2.5	0.2
75th	1,380.6	244.2	141.3	58.3	60.6	44.5	22.1	10.9	16.2	0.9

Table J-203. Sulfate loads (lbs/d) by flow percentile for Spiker Run (SPI0018/WM-138)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	302	660	470	442	288	114	129	80	79	11
Average	3,535	1,750	1,375	1,150	1,148	895	593	419	409	94
Maximum	13,631	5,893	3,371	3,002	2,438	2,088	1,452	1,018	1,066	459
Median	2,649	1,546	1,136	992	1,040	902	535	292	358	35
25th	1,285	1,118	982	896	845	501	244	193	113	19
75th	5,495	2,278	1,746	1,431	1,355	1,130	812	621	636	68

Table J-204. Iron loads (lbs/d) by flow percentile for Spiker Run (SPI0018/WM-138)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	10.5	8.5	5.2	6.9	3.9	2.6	1.7	1.3	0.9	0.1
Average	121.8	27.3	19.5	14.3	14.8	11.1	6.9	5.3	4.9	1.1
Maximum	1,578.7	122.5	76.9	50.2	64.5	26.9	17.9	21.2	16.1	5.0
Median	44.1	21.5	15.4	12.2	12.4	10.5	6.3	3.6	5.3	0.5
25th	17.9	14.3	12.0	10.7	9.2	6.9	2.8	2.3	1.2	0.2
75th	129.7	29.4	21.7	17.0	15.0	14.9	9.2	7.5	7.1	0.8

Table J-205. Aluminum loads (lbs/d) by flow percentile for Spiker Run (SPI0018/WM-138)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	3.2	5.7	3.7	3.7	4.2	1.6	1.1	0.9	0.6	0.1
Average	195.0	33.2	15.2	11.2	11.9	8.2	5.0	3.5	3.2	0.7
Maximum	983.8	310.7	106.1	101.8	95.9	45.1	20.4	9.1	8.2	3.5
Median	69.4	15.5	11.3	8.0	8.1	7.1	4.3	2.5	3.4	0.3
25th	24.4	9.4	8.4	7.1	6.4	4.5	1.8	1.8	0.9	0.2
75th	312.3	20.8	14.7	11.1	10.4	8.7	6.3	5.2	4.9	0.5

Little Laurel Run (WM-141/LLR009) plots and tables

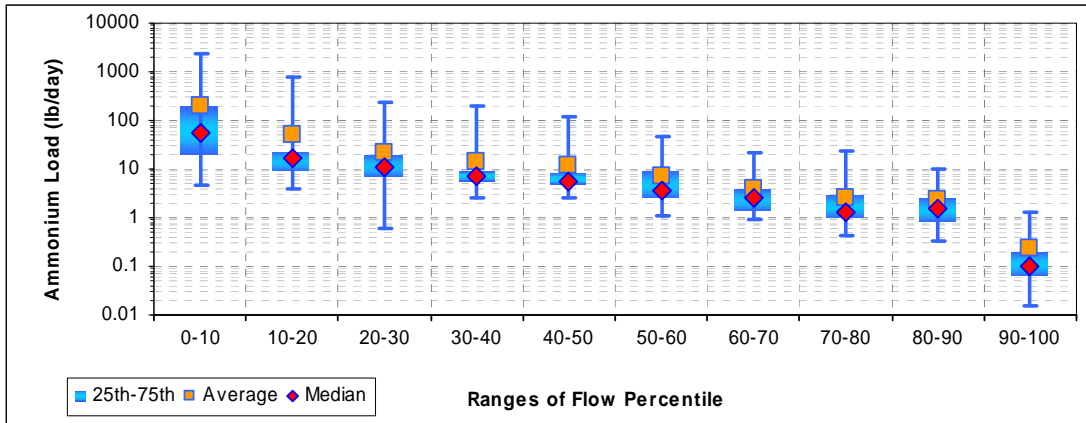


Figure J-206. Ammonium loads by flow percentile for Little Laurel Run (LLR009/WM-141)

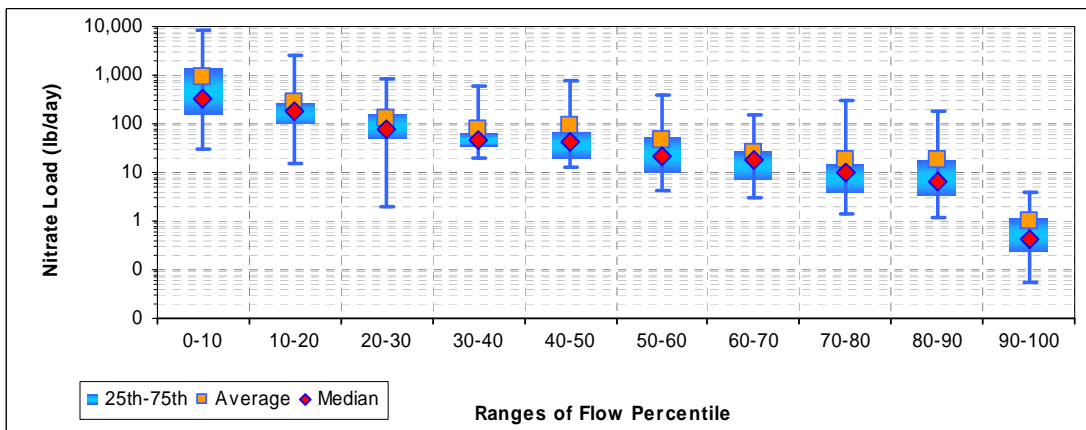


Figure J-207. Nitrate loads by flow percentile for Little Laurel Run (LLR009/WM-141)

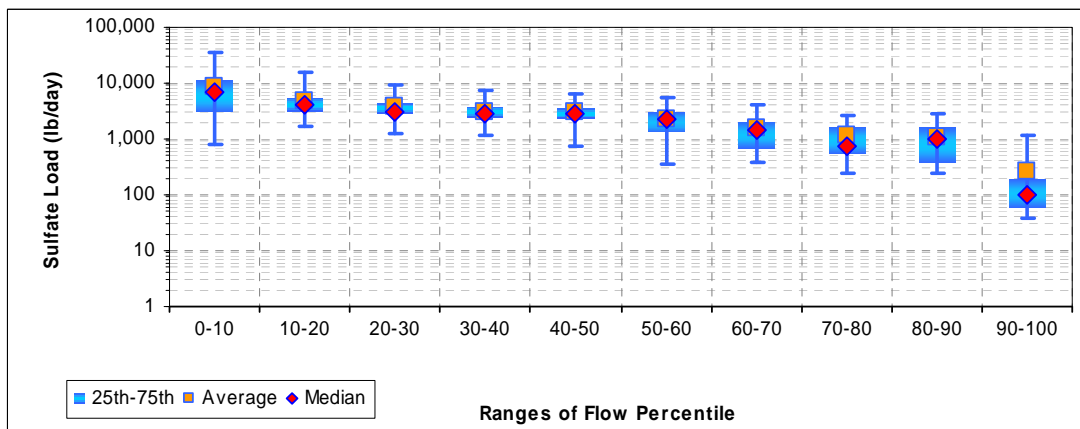


Figure J-208. Sulfate loads by flow percentile for Little Laurel Run (LLR009/WM-141)

** These plots include upstream loads from Little Laurel Run (WM-137/LLR0024).

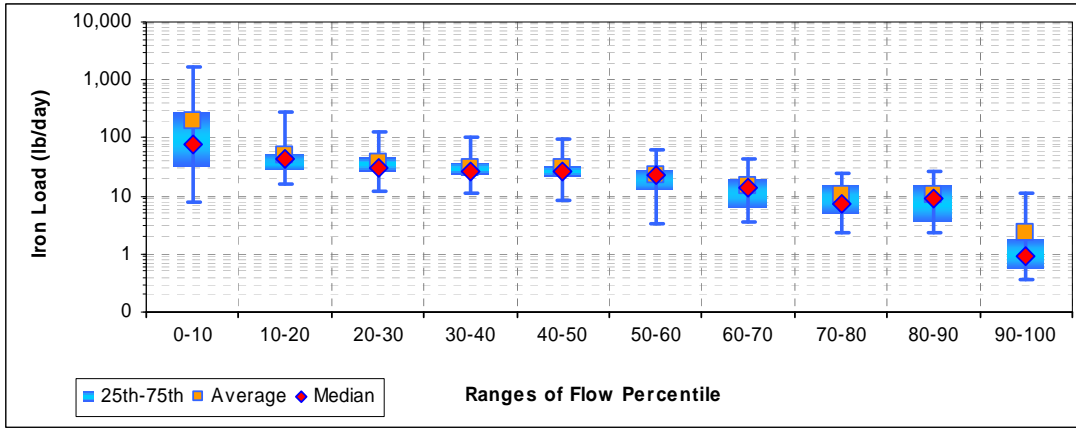


Figure J-209. Iron loads by flow percentile for Little Laurel Run (LLR0009/WM-141)

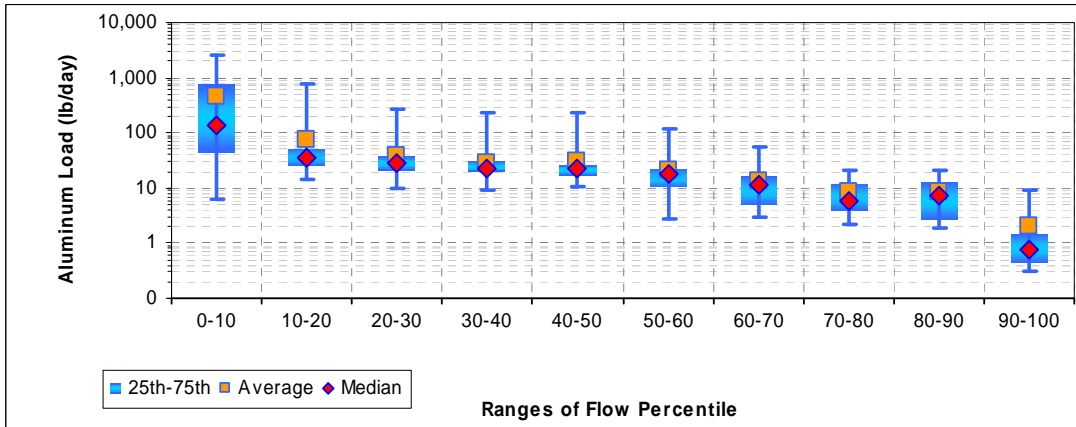


Figure J-210. Aluminum loads by flow percentile for Little Laurel Run (LLR0009/WM-141)

** These plots include upstream loads from Little Laurel Run (WM-137/LLR0024).

FINAL

Table J-206. Ammonium loads (lb/d) by flow percentile for Little Laurel Run (LLR0009/WM-141)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	4.5	3.9	0.6	2.6	2.5	1.1	0.9	0.4	0.3	0.0
Average	201.0	51.3	21.7	13.8	12.3	7.0	3.9	2.5	2.4	0.2
Maximum	2,426.2	744.4	234.5	192.0	114.0	44.8	22.0	23.4	10.3	1.2
Median	55.7	16.1	10.9	7.0	5.7	3.6	2.6	1.3	1.5	0.1
25th	20.2	9.5	7.2	5.4	4.7	2.5	1.4	1.0	0.8	0.1
75th	200.3	24.3	19.7	8.8	8.3	9.2	4.0	3.0	2.5	0.2

Table J-207. Nitrate loads (lbs/d) by flow percentile for Little Laurel Run (LLR0009/WM-141)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	31.1	15.0	2.0	19.4	12.8	4.3	3.1	1.4	1.1	0.1
Average	947.3	279.6	133.9	78.7	90.1	45.6	24.9	18.9	18.1	1.0
Maximum	8,622.9	2,660.0	842.1	608.5	773.4	376.6	155.2	301.4	183.1	4.0
Median	328.8	175.4	74.3	44.7	42.2	22.1	18.6	10.0	6.4	0.4
25th	149.8	96.0	49.0	32.6	20.3	10.0	7.2	4.1	3.4	0.2
75th	1,459.2	272.6	168.2	66.4	68.2	54.3	28.7	15.0	17.4	1.2

Table J-208. Sulfate loads (lbs/d) by flow percentile for Little Laurel Run (LLR0009/WM-141)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	812	1,653	1,237	1,164	745	346	388	249	243	37
Average	8,869	4,589	3,704	3,118	3,057	2,345	1,606	1,120	1,097	254
Maximum	35,459	15,601	9,079	7,510	6,233	5,370	4,029	2,688	2,810	1,180
Median	6,753	4,185	3,152	2,777	2,855	2,325	1,499	768	965	97
25th	3,156	2,947	2,729	2,439	2,250	1,367	676	539	371	58
75th	11,982	5,620	4,583	3,922	3,489	3,007	2,115	1,639	1,674	191

Table J-209. Iron loads (lbs/d) by flow percentile for Little Laurel Run (LLR0009/WM-141)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	7.7	16.0	11.9	11.1	8.6	3.3	3.7	2.3	2.3	0.4
Average	201.9	51.4	36.9	30.5	30.2	22.7	15.4	10.6	10.4	2.4
Maximum	1,624.0	281.9	126.9	104.7	96.1	64.0	42.9	25.3	26.4	11.1
Median	78.2	42.2	31.6	26.6	27.3	22.2	14.3	7.2	9.1	0.9
25th	32.5	28.3	25.8	23.0	21.1	13.0	6.4	5.1	3.5	0.6
75th	279.3	56.0	45.6	37.2	33.3	28.6	20.2	15.7	15.8	1.8

Table J-210. Aluminum loads (lbs/d) by flow percentile for Little Laurel Run (LLR0009/WM-141)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	6.3	14.6	9.6	9.1	11.0	2.8	3.0	2.2	1.9	0.3
Average	454.8	76.8	38.3	29.0	30.4	20.7	13.4	8.7	8.4	2.0
Maximum	2,535.4	803.5	276.6	227.6	237.8	120.9	55.7	21.0	21.6	9.1
Median	139.6	36.6	28.9	22.2	22.2	18.1	11.6	5.9	7.4	0.7
25th	44.9	25.6	21.3	18.7	17.2	10.6	5.2	4.1	2.8	0.5
75th	777.6	52.2	38.7	30.3	27.1	23.3	16.5	12.8	12.8	1.5

** These tables include upstream loads from Little Laurel Run (WM-137/LLR0024).

North Branch Casselman River (WM-142/NBC0072) plots and tables

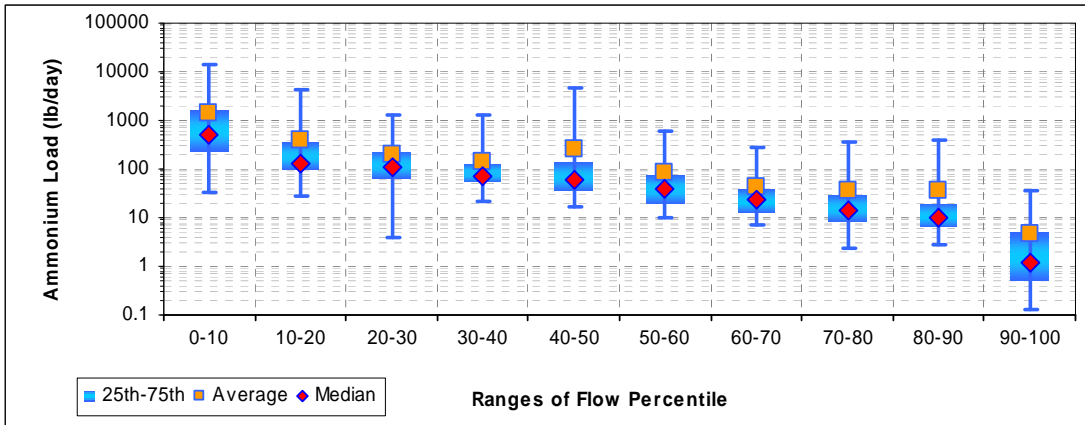


Figure J-211. Ammonium loads by flow percentile for North Branch Casselman River (NBC0072/WM-142)

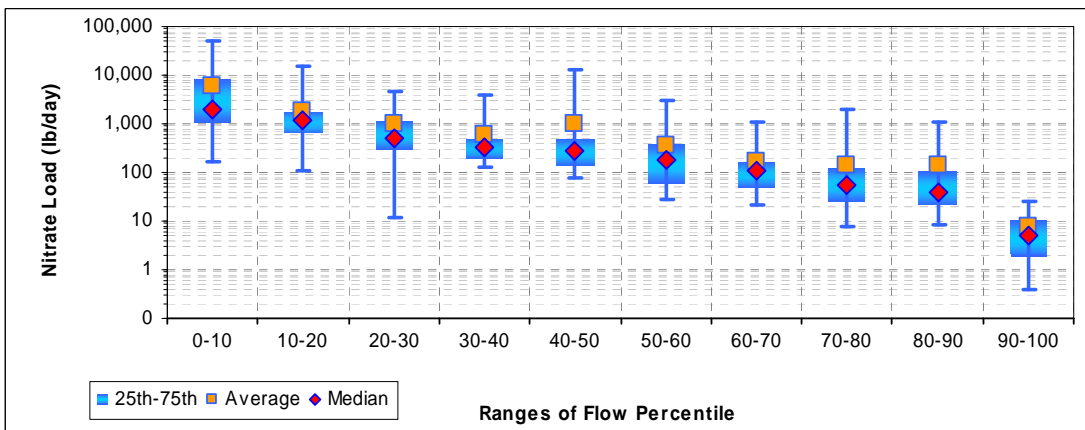


Figure J-212. Nitrate loads by flow percentile for North Branch Casselman River (NBC0072/WM-142)

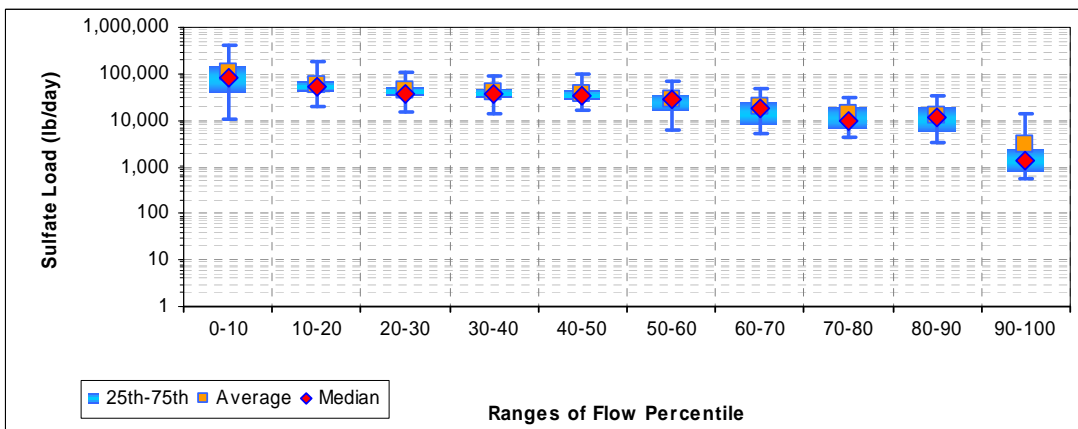


Figure J-213. Sulfate loads by flow percentile for North Branch Casselman River (NBC0072/WM-142)

** These plots include upstream loads from (WM-145/NBC0090) and (WM-151/UNA0015).

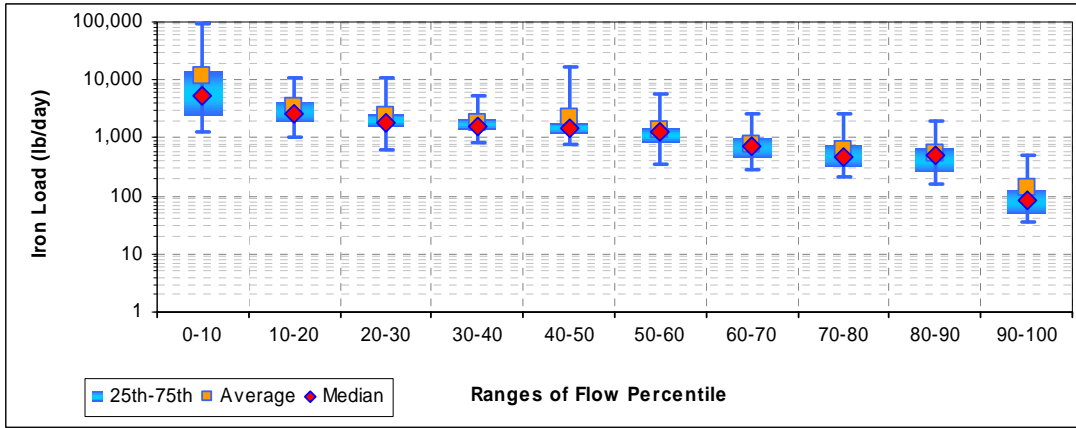


Figure J-214. Iron loads by flow percentile for North Branch Casselman River (NBC0072/WM-142)

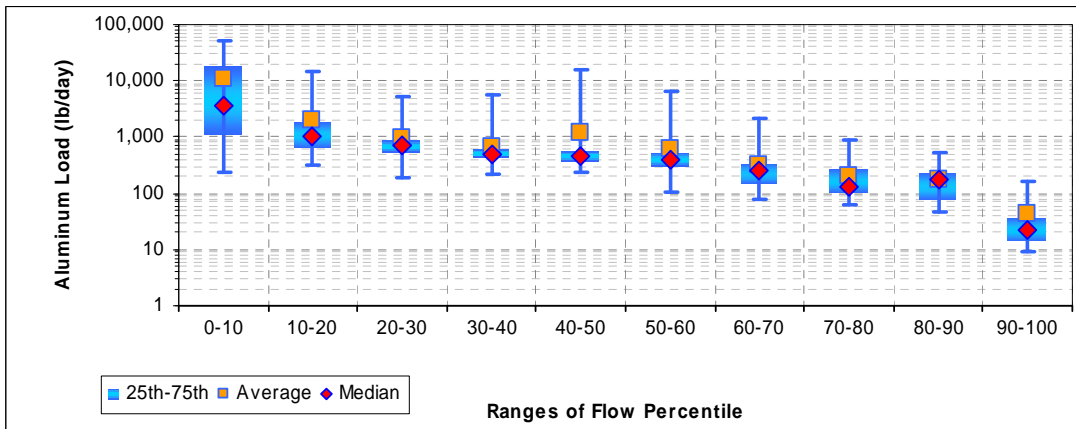


Figure J-215. Aluminum loads by flow percentile for North Branch Casselman River (NBC0072/WM-142)
 ** These plots include upstream loads from (WM-145/NBC0090) and (WM-151/UNA0015).

FINAL

Table J-211. Ammonium loads (lb/d) by flow percentile for North Branch Casselman River (NBC0072/WM-142)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	33.6	28.2	3.9	22.4	16.9	10.0	7.2	2.4	2.7	0.1
Average	1,466.3	387.3	200.8	139.1	264.3	84.3	44.2	37.1	36.8	4.8
Maximum	13,686.9	4,207.0	1,333.2	1,252.1	4,840.5	613.4	275.9	362.6	406.0	35.9
Median	491.5	133.9	106.3	72.3	57.9	39.1	23.0	14.1	10.1	1.2
25th	233.7	96.9	67.0	53.5	35.5	19.1	13.4	8.3	6.6	0.5
75th	1,686.5	368.7	226.2	134.6	139.7	74.7	40.1	30.5	19.4	5.1

Table J-212. Nitrate loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0072/WM-142)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	166.7	107.8	11.6	126.9	78.3	28.8	22.3	7.5	8.2	0.4
Average	6,153.3	1,841.3	969.8	599.1	1,009.0	353.0	172.8	139.1	142.0	7.5
Maximum	49,200.3	15,152.8	4,790.3	3,780.8	13,108.4	2,947.3	1,092.1	1,914.2	1,061.0	24.5
Median	2,038.0	1,139.6	499.0	338.2	289.7	175.7	113.4	55.6	37.9	5.1
25th	1,056.8	628.6	292.7	198.9	145.9	61.1	48.8	25.9	21.3	1.8
75th	8,690.7	1,865.7	1,197.7	518.8	497.5	400.1	173.8	134.7	106.5	11.1

Table J-213. Sulfate loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0072/WM-142)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	10,584	20,393	14,771	14,432	17,139	6,441	5,220	4,525	3,301	560
Average	110,624	56,856	45,948	39,231	38,566	28,819	19,139	13,545	13,192	3,161
Maximum	421,758	185,768	108,209	90,257	97,057	67,837	48,501	31,912	32,809	13,736
Median	85,656	52,128	38,641	35,535	34,475	28,487	17,560	9,311	11,155	1,353
25th	38,722	38,864	35,194	30,321	28,633	16,381	8,483	7,064	5,724	807
75th	160,430	68,714	55,189	47,708	44,042	38,255	25,775	19,609	19,274	2,621

Table J-214. Iron loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0072/WM-142)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,264.4	1,036.4	606.1	815.9	752.2	358.5	274.7	219.7	160.6	34.7
Average	11,579.0	3,356.1	2,393.9	1,790.3	2,180.4	1,369.6	792.9	612.7	534.5	140.0
Maximum	92,747.1	11,100.0	11,220.8	5,358.7	16,406.3	5,799.7	2,608.3	2,516.5	1,960.8	493.8
Median	5,155.9	2,671.6	1,811.6	1,602.4	1,514.3	1,307.9	724.4	469.6	490.2	86.5
25th	2,372.4	2,016.8	1,576.1	1,375.9	1,191.2	826.5	476.2	337.4	267.8	52.5
75th	14,290.3	4,251.9	2,521.8	2,051.1	1,810.3	1,514.3	1,039.7	787.8	679.7	131.4

Table J-215. Aluminum loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0072/WM-142)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	242.9	314.7	188.3	222.6	233.5	102.5	75.6	63.8	45.9	9.3
Average	11,092.9	2,038.0	970.5	645.1	1,219.7	627.4	315.2	210.4	172.7	41.6
Maximum	51,296.4	15,027.5	5,140.5	5,485.8	16,087.3	6,323.7	2,207.7	871.8	520.4	161.9
Median	3,698.6	1,030.7	689.6	500.5	460.0	401.6	246.9	133.9	174.4	22.0
25th	1,148.5	668.0	514.1	420.8	379.4	292.2	152.4	104.3	79.1	14.0
75th	18,364.6	1,866.5	917.7	615.1	559.1	523.3	335.6	278.7	239.4	37.1

** Tables include upstream loads from (WM-145/NBC0090) and (WM-151/UNA0015).

South Branch Casselman River (WM-143/SCA0067) plots and tables

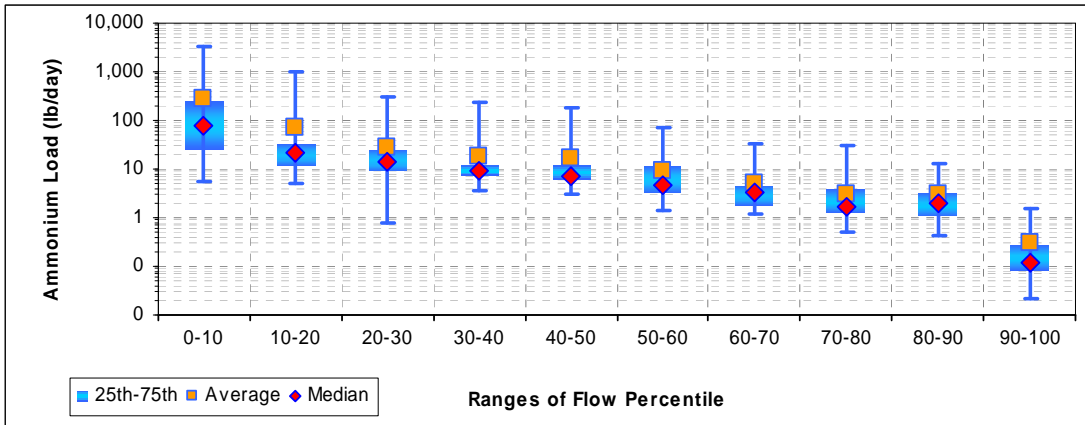


Figure J-216. Ammonium loads by flow percentile for South Branch Casselman River (SCA0067/WM-143)

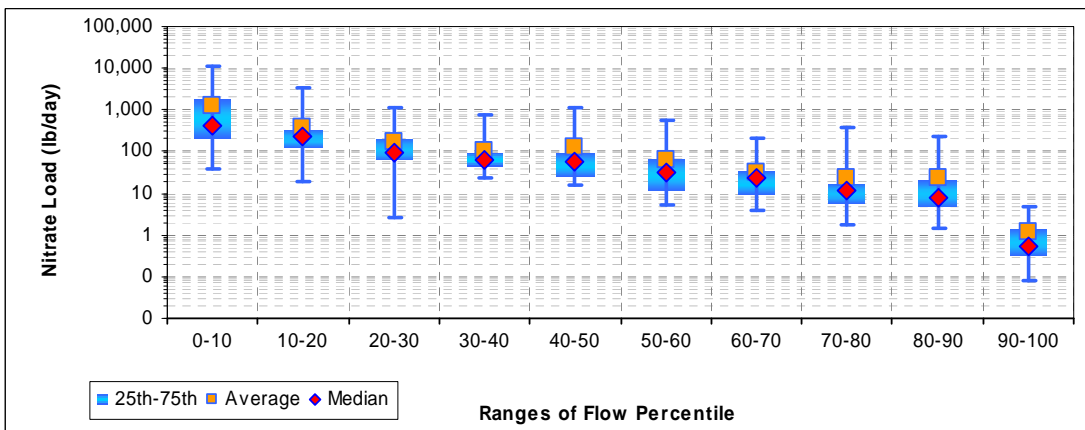


Figure J-217. Nitrate loads by flow percentile for South Branch Casselman River (SCA0067/WM-143)

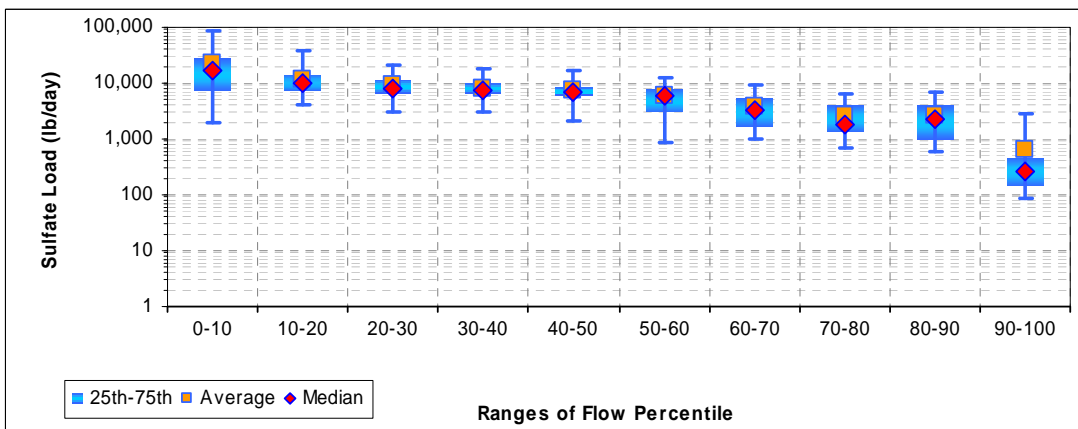


Figure J-218. Sulfate loads by flow percentile for South Branch Casselman River (SCA0067/WM-143)

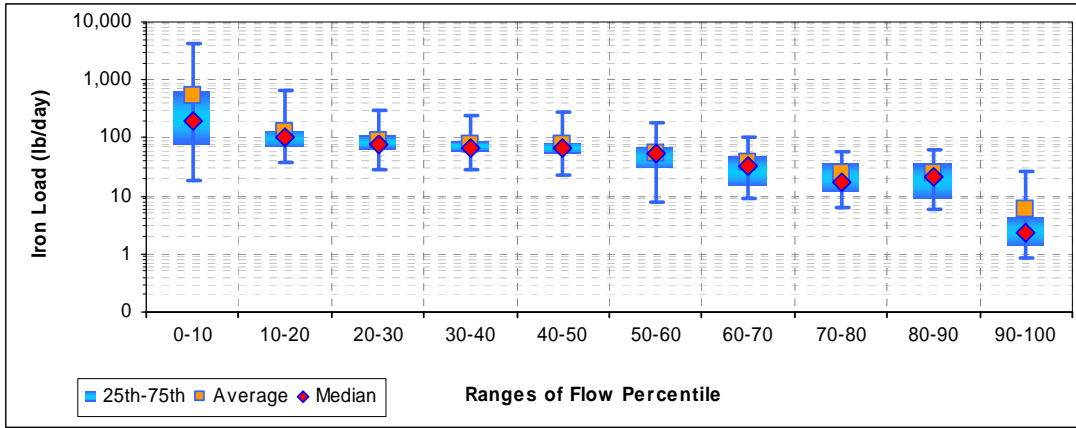


Figure J-219. Iron loads by flow percentile for South Branch Casselman River (SCA0067/WM-143)

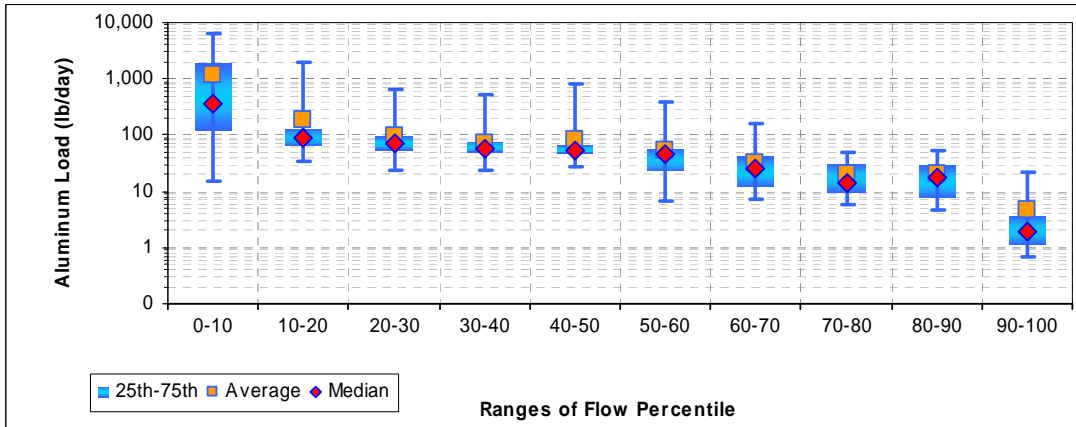


Figure J-220. Aluminum loads by flow percentile for South Branch Casselman River (SCA0067/WM-143)

Table J-216. Ammonium loads (lb/d) by flow percentile for South Branch Casselman River (SCA0067/WM-143)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	5.6	4.9	0.8	3.5	3.1	1.4	1.2	0.5	0.4	0.0
Average	271.4	68.8	28.9	18.3	17.2	9.5	5.0	3.1	3.1	0.3
Maximum	3,191.5	977.8	306.9	240.1	186.1	72.9	31.9	29.1	12.9	1.5
Median	79.5	20.9	14.6	9.3	7.3	4.5	3.2	1.7	1.9	0.1
25th	25.7	12.4	9.3	7.2	6.1	3.2	1.8	1.2	1.1	0.1
75th	266.6	33.8	24.5	11.7	12.1	12.1	4.8	3.8	3.2	0.3

Table J-217. Nitrate loads (lbs/d) by flow percentile for South Branch Casselman River (SCA0067/WM-143)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	39.5	18.9	2.6	24.5	16.1	5.4	4.0	1.8	1.5	0.1
Average	1,282.2	367.5	178.1	106.6	121.5	60.8	31.6	24.0	23.0	1.2
Maximum	11,330.9	3,489.3	1,100.5	763.8	1,147.1	543.0	213.0	377.7	230.6	4.8
Median	419.9	224.0	95.8	61.4	56.7	30.5	22.8	12.2	8.2	0.6
25th	205.7	123.7	62.0	42.9	26.3	12.3	9.1	5.7	4.6	0.3
75th	1,883.1	355.5	218.6	90.1	94.0	70.1	36.3	17.9	22.1	1.4

Table J-218. Sulfate loads (lbs/d) by flow percentile for South Branch Casselman River (SCA0067/WM-143)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,964	3,994	3,043	3,003	2,050	880	968	710	616	86
Average	22,048	11,345	9,157	7,931	7,640	5,754	3,816	2,707	2,649	629
Maximum	86,945	37,523	21,418	17,813	16,893	12,859	9,444	6,410	6,723	2,875
Median	16,867	10,157	7,915	7,257	7,028	5,885	3,378	1,863	2,272	257
25th	7,617	7,648	6,637	6,201	5,884	3,155	1,658	1,315	1,011	150
75th	29,181	14,026	11,226	9,750	8,930	7,774	5,323	4,025	3,970	491

Table J-219. Iron loads (lbs/d) by flow percentile for South Branch Casselman River (SCA0067/WM-143)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	18.5	38.3	28.9	28.5	23.2	8.1	9.0	6.6	5.7	0.8
Average	520.6	126.7	90.5	76.7	76.0	55.7	36.5	25.4	24.7	5.9
Maximum	4,143.7	684.1	301.9	246.1	287.7	176.1	105.6	59.7	62.5	26.9
Median	194.4	100.9	79.7	68.7	66.6	55.7	31.7	17.4	21.3	2.4
25th	78.8	73.6	61.3	59.7	54.7	29.8	15.3	12.2	9.3	1.4
75th	676.2	138.5	107.4	92.2	83.1	71.9	50.4	38.2	37.2	4.6

Table J-220. Aluminum loads (lbs/d) by flow percentile for South Branch Casselman River (SCA0067/WM-143)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	15.0	33.6	23.5	23.1	26.4	6.8	7.3	5.8	4.7	0.7
Average	1,168.5	192.3	94.5	72.2	81.2	53.2	32.7	20.7	20.1	4.8
Maximum	6,269.2	1,979.4	675.2	535.2	792.1	389.2	160.1	49.4	51.2	21.9
Median	370.1	88.7	71.6	57.0	54.1	45.3	25.8	14.1	17.3	2.0
25th	117.6	66.8	51.1	49.0	44.5	24.2	12.5	9.9	7.5	1.1
75th	2,017.0	129.0	93.9	75.0	67.6	58.6	41.0	31.1	30.3	3.7

Alexander Run (WM-144/ALE0011) plots and tables

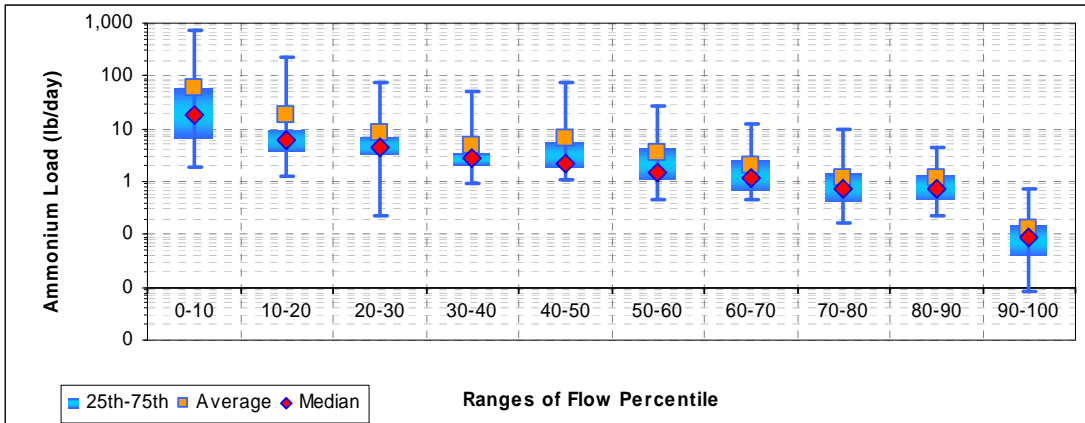


Figure J-221. Ammonium loads by flow percentile for Alexander Run (ALE0011/WM-144)

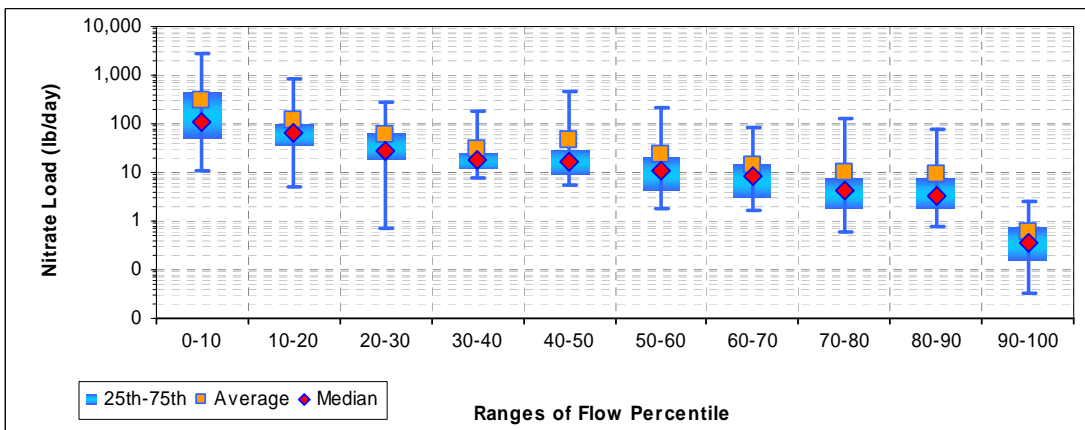


Figure J-222. Nitrate loads by flow percentile for Alexander Run (ALE0011/WM-144)

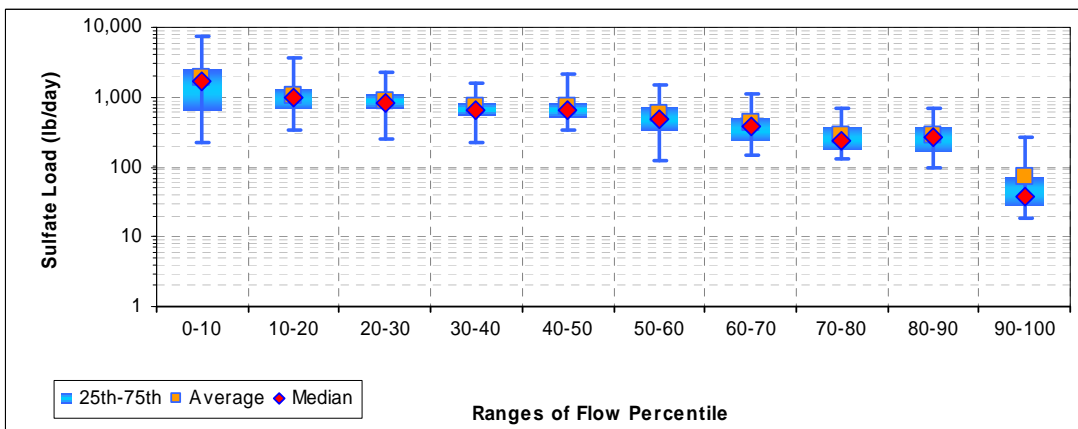


Figure J-223. Sulfate loads by flow percentile for Alexander Run (ALE0011/WM-144)

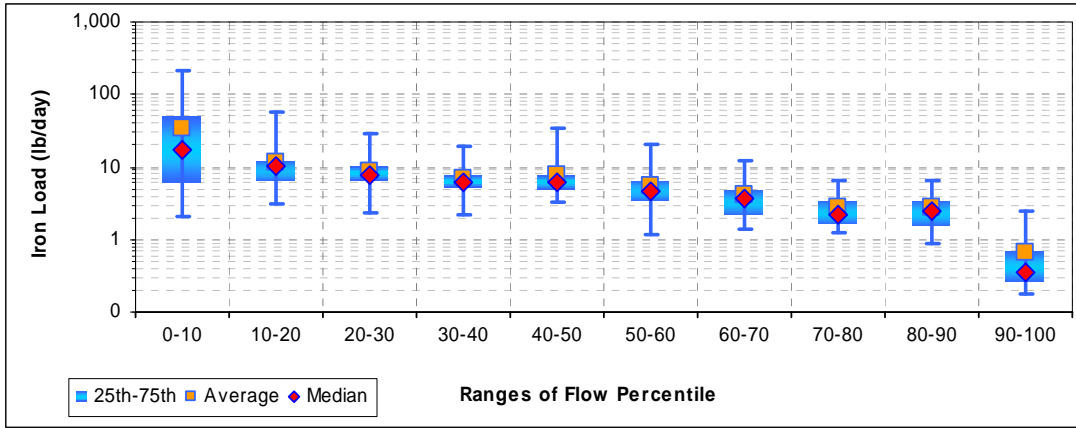


Figure J-224. Iron loads by flow percentile for Alexander Run (ALE0011/WM-144)

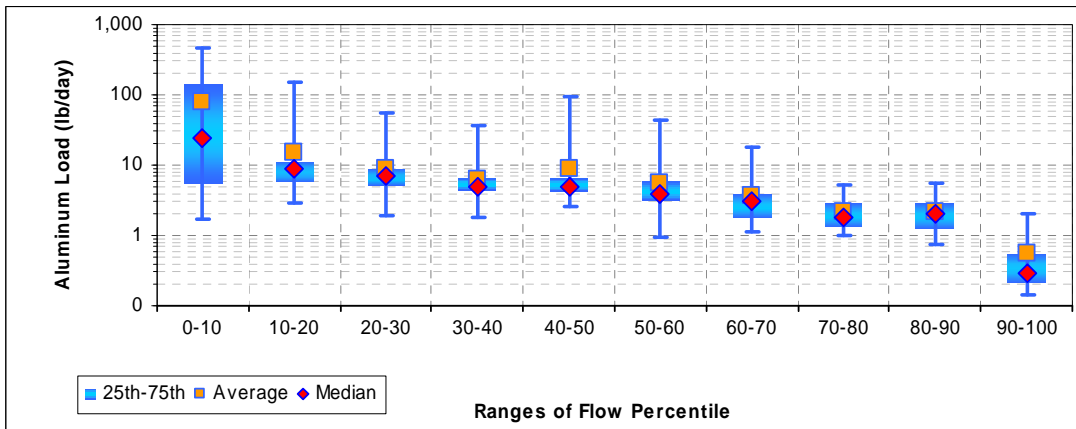


Figure J-225. Aluminum loads by flow percentile for Alexander Run (ALE0011/WM-144)

Table J-221. Ammonium loads (lb/d) by flow percentile for Alexander Run (ALE0011/WM-144)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1.9	1.3	0.2	0.9	1.1	0.4	0.5	0.2	0.2	0.0
Average	61.4	18.0	8.4	4.9	6.6	3.5	2.0	1.2	1.2	0.1
Maximum	753.4	233.2	75.1	50.0	76.3	27.9	12.5	10.1	4.5	0.7
Median	17.6	6.0	4.3	2.7	2.2	1.5	1.2	0.7	0.7	0.1
25th	6.7	3.8	3.2	2.1	1.8	1.1	0.7	0.4	0.5	0.0
75th	60.1	9.7	7.2	3.4	5.5	4.5	2.5	1.5	1.4	0.2

Table J-222. Nitrate loads (lbs/d) by flow percentile for Alexander Run (ALE0011/WM-144)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	11.0	5.2	0.7	7.6	5.5	1.8	1.6	0.6	0.7	0.0
Average	312.5	114.4	57.8	31.1	45.3	23.5	13.6	9.8	8.8	0.6
Maximum	2,728.6	850.9	275.7	175.6	479.9	215.5	84.6	131.6	79.2	2.6
Median	112.2	66.2	28.3	18.2	16.5	10.9	8.7	4.4	3.2	0.4
25th	51.0	36.0	18.0	12.3	8.9	4.4	3.0	1.8	1.8	0.1
75th	481.1	102.4	62.6	26.6	31.3	21.7	15.2	7.5	7.8	0.8

Table J-223. Sulfate loads (lbs/d) by flow percentile for Alexander Run (ALE0011/WM-144)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	226	332	250	228	341	122	145	129	96	19
Average	1,896	1,059	898	730	751	573	424	287	291	71
Maximum	7,290	3,555	2,257	1,546	2,100	1,528	1,138	677	697	259
Median	1,640	1,009	809	650	647	482	385	231	269	38
25th	667	687	671	559	523	346	232	173	163	28
75th	2,606	1,290	1,079	839	841	718	520	378	380	73

Table J-224. Iron loads (lbs/d) by flow percentile for Alexander Run (ALE0011/WM-144)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.1	3.2	2.4	2.2	3.2	1.2	1.4	1.2	0.9	0.2
Average	35.1	11.3	8.8	7.0	7.6	5.6	4.0	2.7	2.7	0.7
Maximum	219.4	57.4	28.5	19.3	35.1	20.5	12.5	6.3	6.5	2.4
Median	17.7	10.1	7.9	6.1	6.1	4.5	3.6	2.1	2.5	0.4
25th	6.3	6.6	6.4	5.3	4.9	3.5	2.2	1.6	1.5	0.3
75th	51.2	12.3	10.2	7.9	7.9	6.6	4.9	3.5	3.6	0.7

Table J-225. Aluminum loads (lbs/d) by flow percentile for Alexander Run (ALE0011/WM-144)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1.7	2.9	1.9	1.8	2.6	0.9	1.1	1.0	0.7	0.1
Average	79.2	15.4	9.0	6.3	8.9	5.5	3.6	2.2	2.2	0.5
Maximum	460.6	149.3	54.1	35.7	95.0	43.6	18.2	5.4	5.4	2.0
Median	24.8	8.7	7.2	5.0	5.0	3.9	3.0	1.8	2.0	0.3
25th	5.5	5.7	5.2	4.3	4.2	3.1	1.8	1.3	1.2	0.2
75th	143.9	11.0	9.0	6.5	6.5	5.9	4.0	2.9	2.9	0.6

North Branch Casselman River (WM-145/NBC0090) plots and tables

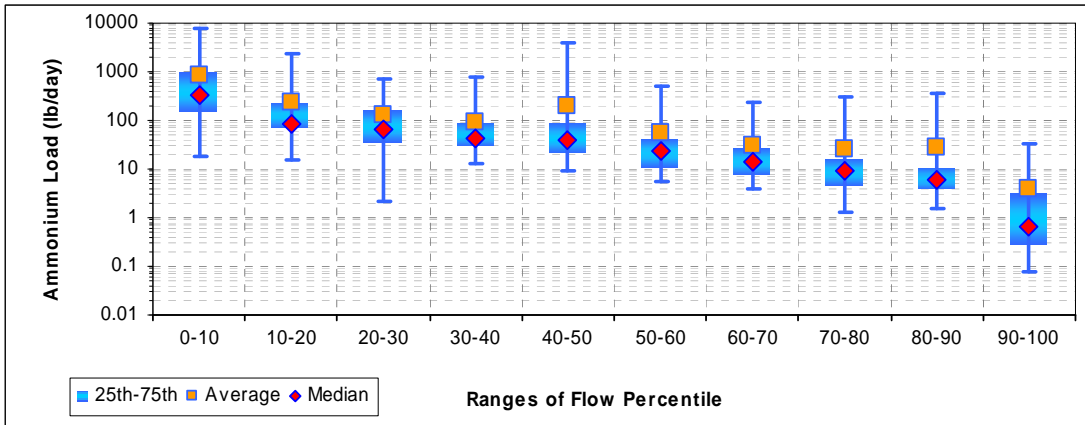


Figure J-226. Ammonium loads by flow percentile for North Branch Casselman River (NBC0090/WM-145)

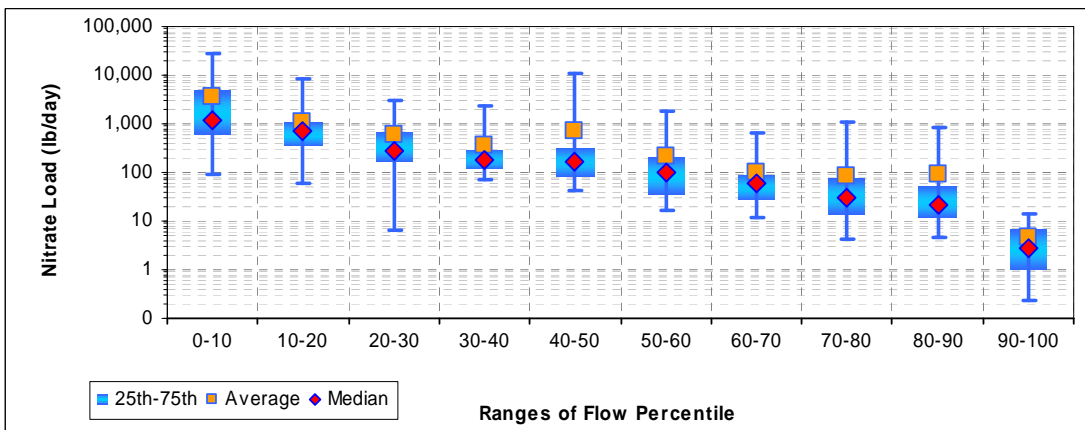


Figure J-227. Nitrate loads by flow percentile for North Branch Casselman River (NBC0090/WM-145)

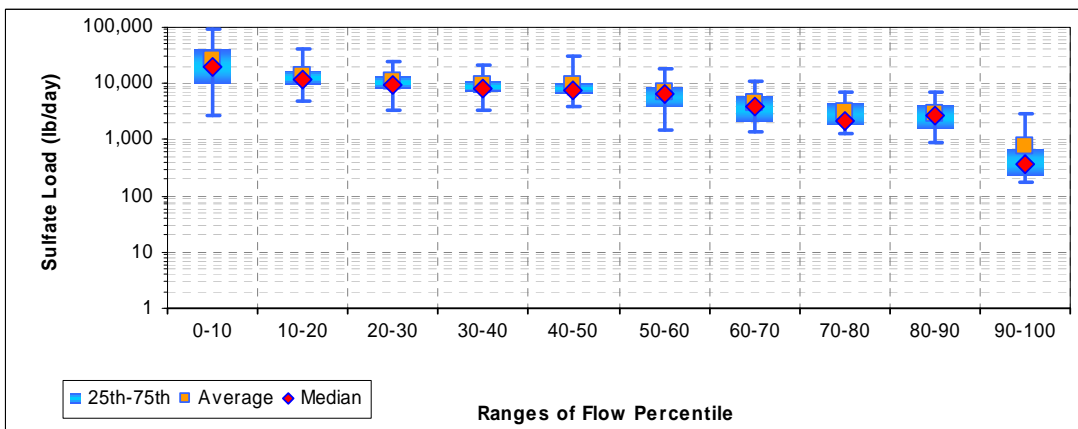


Figure J-228. Sulfate loads by flow percentile for North Branch Casselman River (NBC0090/WM-145)

** These plots include upstream loads from North Branch Casselman River (WM-148/NBC0106).

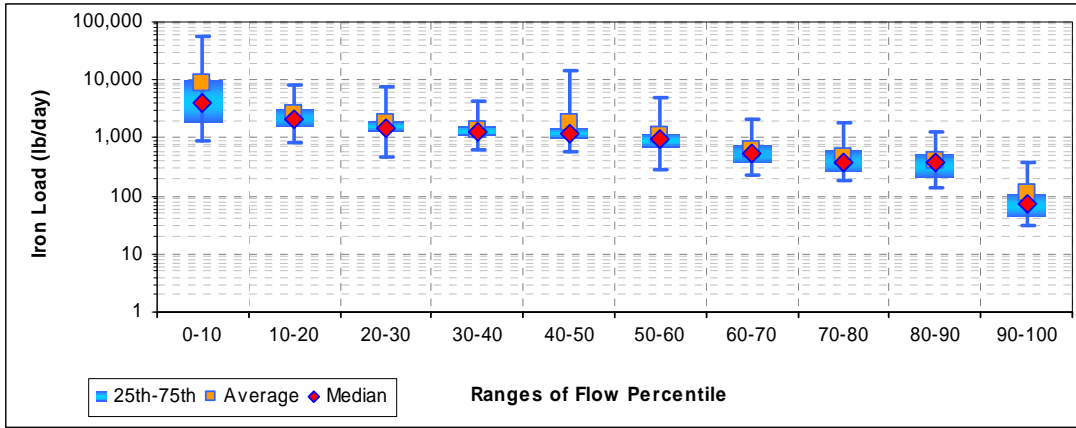


Figure J-229. Iron loads by flow percentile for North Branch Casselman River (NBC0090/WM-145)

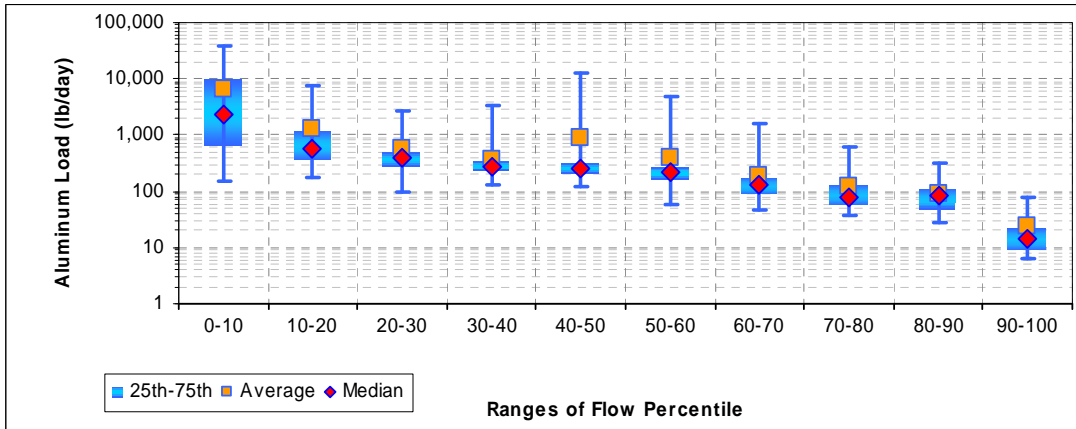


Figure J-230. Aluminum loads by flow percentile for North Branch Casselman River (NBC0090/WM-145)
 ** These plots include upstream loads from North Branch Casselman River (WM-148/NBC0106).

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Table J-226. Ammonium loads (lb/d) by flow percentile for North Branch Casselman River (NBC0090/WM-145)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	18.9	15.9	2.2	12.6	9.4	5.5	3.9	1.3	1.5	0.1
Average	879.4	241.7	132.3	92.0	196.3	57.4	30.2	26.7	27.6	3.8
Maximum	7,563.4	2,322.9	735.2	781.2	3,943.4	495.0	240.2	296.5	344.6	33.8
Median	316.8	87.6	66.9	44.3	37.6	24.0	14.2	8.8	5.8	0.7
25th	153.8	68.6	37.4	30.7	21.8	11.3	7.5	4.5	3.8	0.3
75th	1,009.0	234.3	164.6	94.9	89.5	43.2	26.8	16.1	10.8	3.3

Table J-227. Nitrate loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0090/WM-145)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	94.3	60.9	6.5	70.0	43.0	16.9	12.3	4.1	4.6	0.2
Average	3,602.7	1,081.7	587.8	365.2	684.3	216.2	101.8	82.6	90.6	4.6
Maximum	27,143.0	8,352.3	3,134.5	2,333.4	10,636.3	1,781.4	642.0	1,090.5	866.5	14.5
Median	1,138.6	688.6	284.6	188.4	160.5	98.5	62.3	30.2	20.8	2.8
25th	593.9	374.4	164.3	121.8	81.5	34.7	28.3	14.4	11.5	1.0
75th	4,996.8	1,075.4	696.4	297.4	319.5	220.2	94.9	79.6	57.0	7.2

Table J-228. Sulfate loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0090/WM-145)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2,601	5,017	3,354	3,413	4,027	1,524	1,353	1,269	891	171
Average	27,130	13,619	10,761	9,203	9,367	6,770	4,345	3,110	2,976	763
Maximum	94,440	41,532	24,178	21,823	31,652	18,574	11,329	7,113	7,072	2,986
Median	19,107	12,054	9,105	8,121	7,679	6,606	3,988	2,195	2,605	377
25th	10,136	9,177	8,147	7,267	6,689	3,953	2,201	1,806	1,571	234
75th	41,877	16,960	13,510	11,014	10,060	8,605	5,958	4,430	4,054	714

Table J-229. Iron loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0090/WM-145)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	869.1	823.0	479.2	643.5	595.3	284.5	221.9	182.3	134.5	30.2
Average	8,656.4	2,633.5	1,840.2	1,402.8	1,770.4	1,076.1	615.7	468.1	406.0	112.2
Maximum	58,372.4	8,194.2	7,832.3	4,276.5	14,127.5	5,033.9	2,134.7	1,815.2	1,308.4	376.5
Median	3,960.9	2,140.5	1,441.6	1,254.6	1,199.8	984.3	549.8	373.9	387.7	73.7
25th	1,804.3	1,538.3	1,274.2	1,082.2	950.9	652.4	382.4	262.5	218.5	44.6
75th	9,943.4	3,292.9	2,006.7	1,609.5	1,444.5	1,159.7	771.3	614.6	527.5	110.7

Table J-230. Aluminum loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0090/WM-145)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	146.0	169.6	99.8	127.1	124.1	58.2	45.1	37.7	27.6	6.1
Average	6,709.5	1,292.3	582.2	365.4	892.2	409.4	185.9	120.9	92.3	23.1
Maximum	37,686.8	7,700.2	2,645.5	3,442.9	12,999.4	4,895.8	1,608.2	626.5	322.4	80.0
Median	2,319.1	580.3	400.4	270.8	249.0	223.3	131.0	77.2	83.7	14.8
25th	674.6	370.6	280.5	227.4	208.9	158.7	88.6	57.0	45.0	9.0
75th	10,416.2	1,223.0	487.9	345.3	305.1	277.8	173.1	129.4	116.2	22.6

** These tables include upstream loads from North Branch Casselman River (WM-148/NBC0106).

Tarkiln Run (WM-146/TAR0003) plots and tables

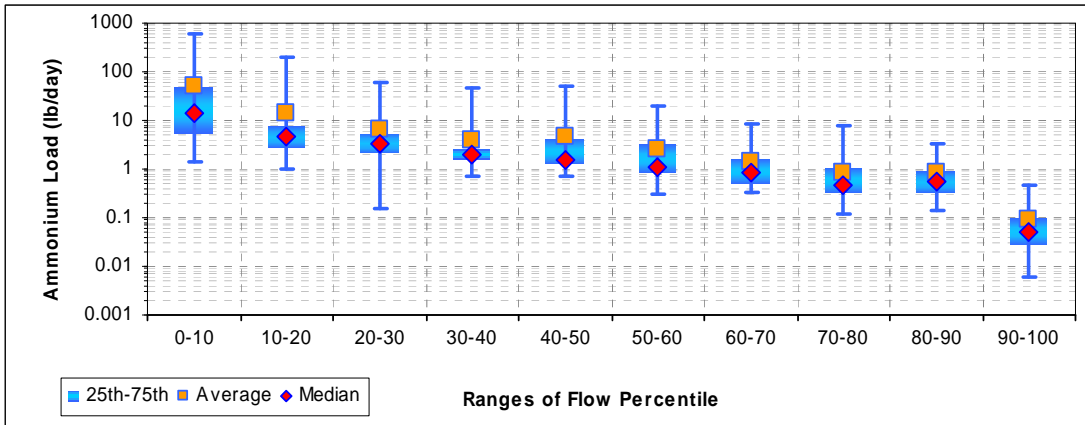


Figure J-231. Ammonium loads by flow percentile for Tarkiln Run (TAR0003/WM-146)

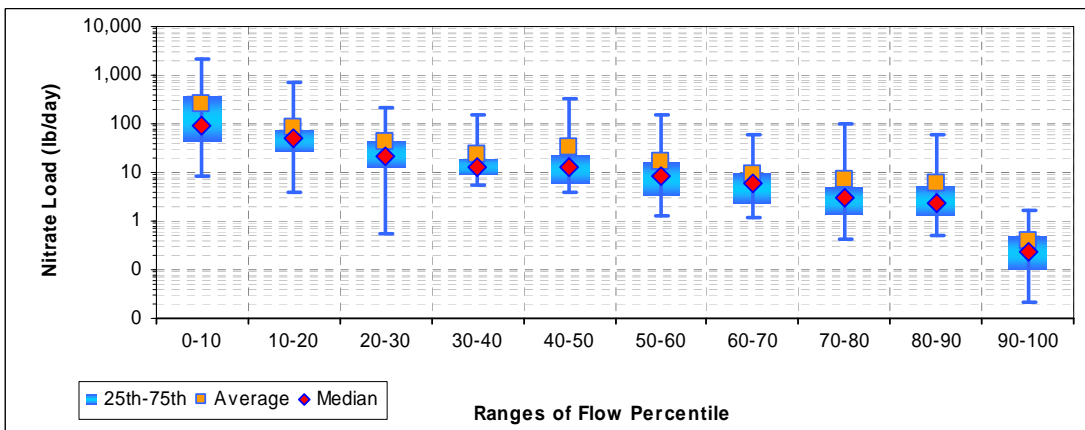


Figure J-232. Nitrate loads by flow percentile for Tarkiln Run (TAR0003/WM-146)

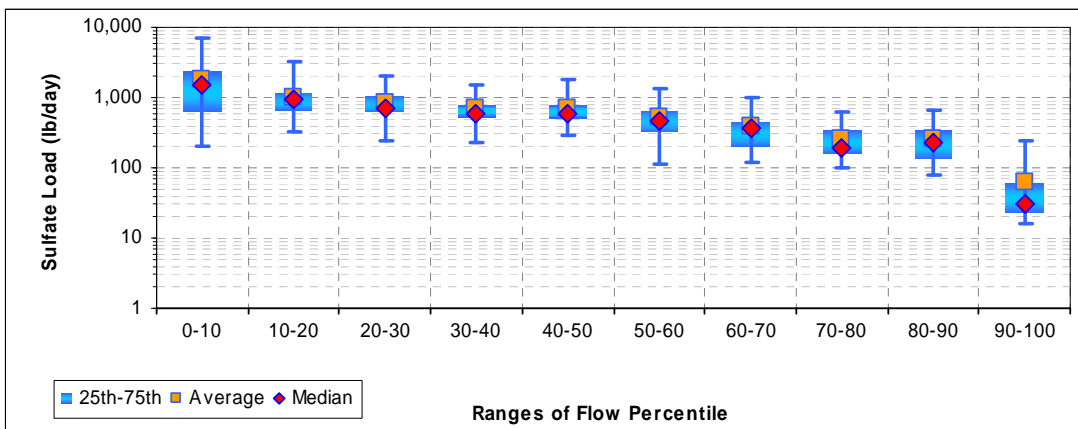


Figure J-233. Sulfate loads by flow percentile for Tarkiln Run (TAR0003/WM-146)

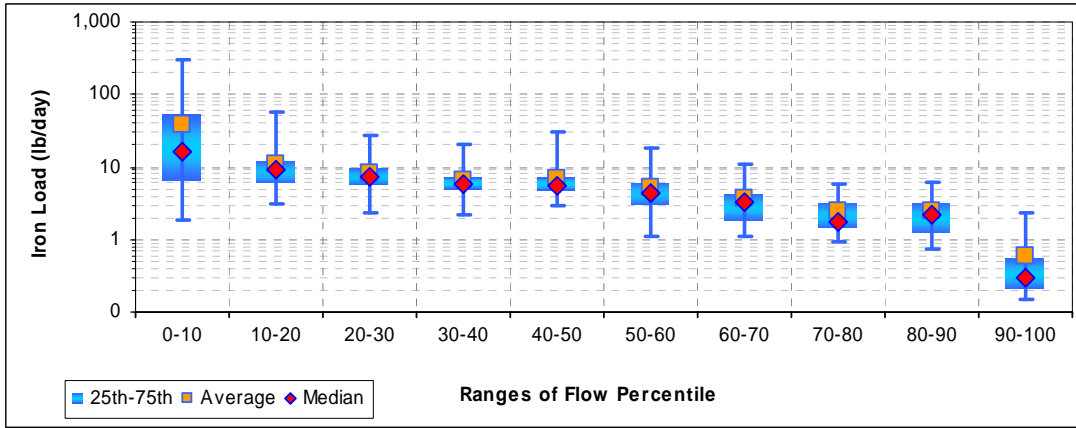


Figure J-234. Iron loads by flow percentile for Tarkiln Run (TAR0003/WM-146)

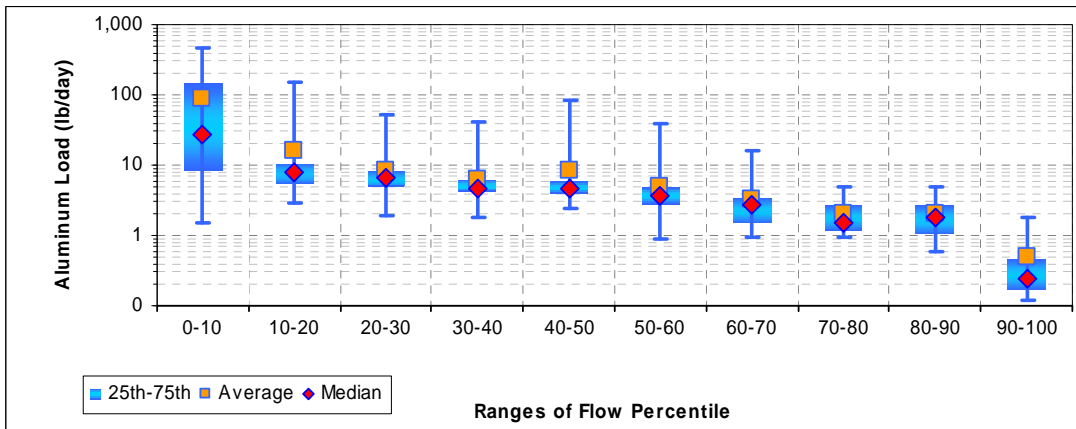


Figure J-235. Aluminum loads by flow percentile for Tarkiln Run (TAR0003/WM-146)

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Table J-231. Ammonium loads (lb/d) by flow percentile for Tarkiln Run (TAR0003/WM-146)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1.4	1.0	0.2	0.7	0.7	0.3	0.3	0.1	0.1	0.0
Average	52.2	14.3	6.5	3.9	4.6	2.5	1.4	0.9	0.8	0.1
Maximum	621.3	191.3	60.9	47.9	52.6	19.4	8.6	7.6	3.2	0.5
Median	14.4	4.5	3.2	2.0	1.6	1.1	0.9	0.5	0.5	0.1
25th	5.6	2.8	2.1	1.5	1.3	0.8	0.5	0.3	0.3	0.0
75th	51.8	7.5	5.6	2.5	4.2	3.4	1.7	1.1	0.9	0.1

Table J-232. Nitrate loads (lbs/d) by flow percentile for Tarkiln Run (TAR0003/WM-146)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	8.5	4.0	0.5	5.6	3.8	1.3	1.2	0.4	0.5	0.0
Average	256.3	84.1	43.3	23.7	31.9	16.5	9.2	6.9	6.2	0.4
Maximum	2,231.4	691.6	221.2	155.8	326.3	147.6	57.7	97.1	57.6	1.6
Median	88.9	51.5	21.0	13.2	12.7	8.5	6.0	3.0	2.3	0.2
25th	42.4	27.6	13.4	9.2	5.8	3.4	2.3	1.4	1.3	0.1
75th	398.2	78.3	47.4	19.8	24.1	17.3	10.2	5.0	5.7	0.5

Table J-233. Sulfate loads (lbs/d) by flow percentile for Tarkiln Run (TAR0003/WM-146)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	200	327	244	231	292	115	122	103	79	16
Average	1,838	994	826	683	694	531	379	261	262	64
Maximum	7,113	3,318	2,032	1,526	1,833	1,332	987	621	642	242
Median	1,502	924	695	603	582	465	358	189	229	31
25th	641	647	615	526	497	332	201	158	136	22
75th	2,497	1,214	1,036	795	782	671	454	354	355	61

Table J-234. Iron loads (lbs/d) by flow percentile for Tarkiln Run (TAR0003/WM-146)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1.9	3.1	2.3	2.2	3.0	1.1	1.1	0.9	0.7	0.1
Average	38.7	10.9	8.2	6.6	7.0	5.2	3.6	2.4	2.4	0.6
Maximum	293.0	56.0	26.6	20.3	31.1	18.2	10.9	5.8	6.0	2.3
Median	16.4	9.2	7.1	5.7	5.5	4.4	3.4	1.7	2.1	0.3
25th	6.4	6.2	5.8	5.0	4.7	3.1	1.9	1.5	1.3	0.2
75th	54.7	12.2	9.5	7.5	7.3	6.2	4.3	3.3	3.3	0.6

Table J-235. Aluminum loads (lbs/d) by flow percentile for Tarkiln Run (TAR0003/WM-146)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1.5	2.9	1.9	1.8	2.4	0.9	0.9	0.9	0.6	0.1
Average	86.5	15.7	8.5	6.1	8.2	5.1	3.3	2.0	2.0	0.5
Maximum	473.3	151.8	53.7	41.9	85.2	39.4	16.3	5.0	5.0	1.8
Median	26.7	8.1	6.7	4.7	4.7	3.7	2.8	1.5	1.8	0.2
25th	8.6	5.6	4.9	4.1	3.9	2.8	1.6	1.2	1.0	0.2
75th	154.0	10.8	8.2	6.1	6.0	5.0	3.5	2.7	2.7	0.5

Pleasant Valley Run (WM-147/PLE0008) plots and tables

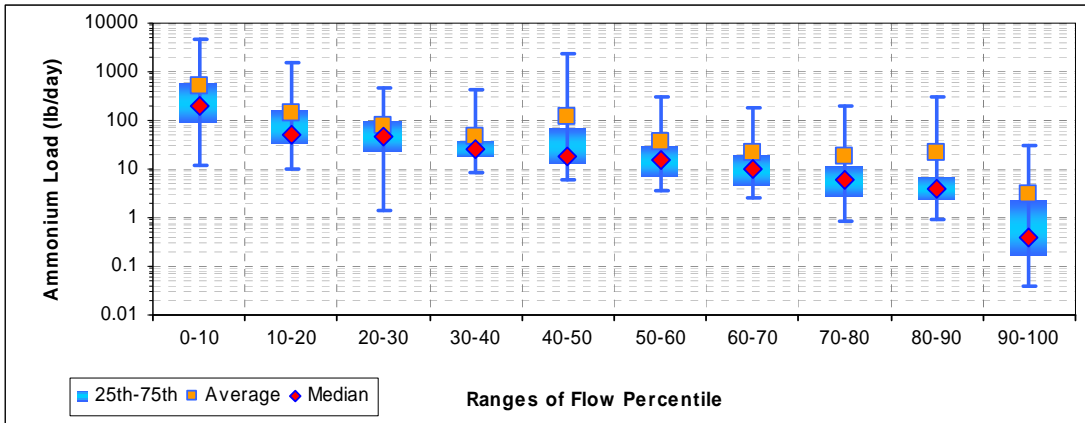


Figure J-236. Ammonium loads by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

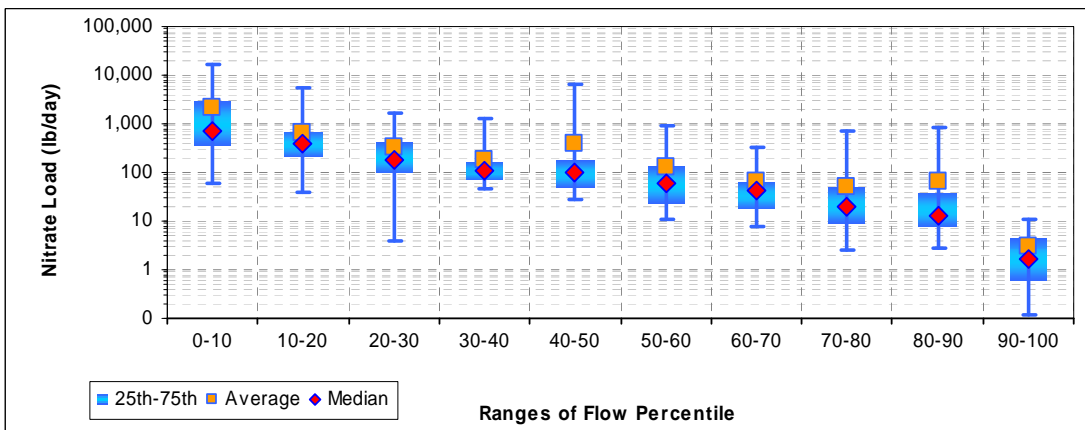


Figure J-237. Nitrate loads by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

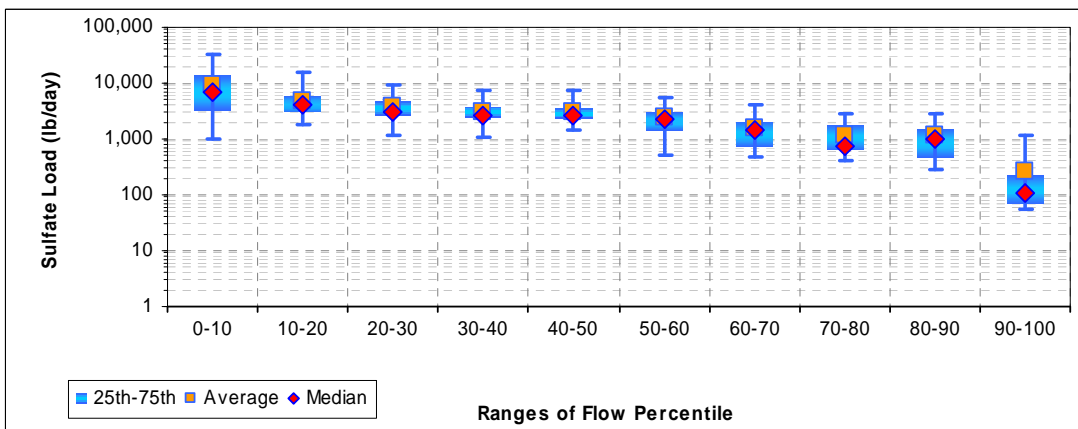


Figure J-238. Sulfate loads by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

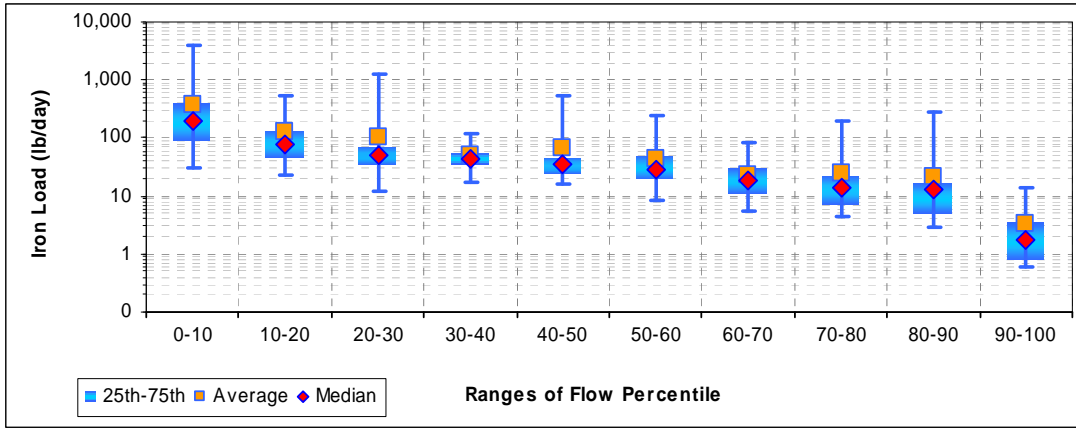


Figure J-239. Iron loads by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

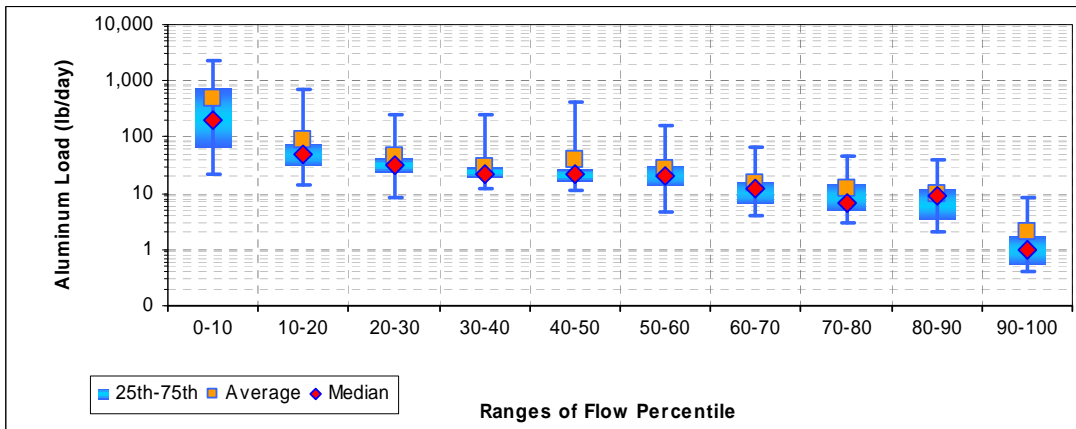


Figure J-240. Aluminum loads by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

Table J-236. Ammonium loads (lb/d) by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	12.1	10.1	1.3	8.6	6.2	3.5	2.6	0.8	0.9	0.0
Average	507.0	143.8	79.3	48.1	117.6	34.8	20.8	17.9	21.3	2.9
Maximum	4,830.5	1,486.5	471.9	442.6	2,402.7	314.2	187.3	205.4	299.4	30.8
Median	192.4	50.3	45.4	26.2	17.7	15.5	9.7	6.1	3.8	0.4
25th	90.9	33.3	23.8	17.4	13.0	7.3	4.7	2.9	2.4	0.2
75th	594.2	163.2	100.9	39.2	68.5	31.2	20.1	11.4	7.4	2.3

Table J-237. Nitrate loads (lbs/d) by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	59.1	38.1	4.0	45.3	27.4	11.3	7.7	2.5	2.7	0.1
Average	2,108.3	641.8	335.9	182.5	398.2	124.4	65.1	52.0	65.8	3.0
Maximum	17,168.0	5,290.7	1,674.1	1,324.6	6,336.0	890.1	342.1	706.2	810.0	11.2
Median	735.4	376.5	181.1	106.9	96.9	62.4	41.6	20.6	13.5	1.6
25th	366.3	221.2	101.5	68.4	50.2	22.5	17.6	9.1	7.7	0.6
75th	3,117.6	697.1	412.4	168.0	177.5	138.8	64.3	52.6	39.4	4.7

Table J-238. Sulfate loads (lbs/d) by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	980	1,752	1,162	1,112	1,429	511	459	416	283	55
Average	9,061	4,616	3,690	3,045	3,121	2,404	1,612	1,140	1,126	263
Maximum	33,934	15,227	9,018	7,578	7,594	5,464	4,040	2,759	2,802	1,139
Median	7,045	4,078	3,145	2,595	2,645	2,261	1,497	764	976	110
25th	3,283	3,001	2,711	2,364	2,222	1,419	722	621	489	70
75th	13,979	5,817	4,673	3,817	3,550	3,046	2,038	1,768	1,616	223

Table J-239. Iron loads (lbs/d) by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	31.4	23.7	12.5	17.5	15.7	8.1	5.7	4.3	3.0	0.6
Average	366.4	125.7	100.9	50.2	64.7	45.0	23.4	24.4	21.0	3.4
Maximum	4,029.3	538.0	1,229.4	120.8	543.5	239.9	80.3	197.3	288.9	14.2
Median	195.2	77.8	49.7	42.6	34.1	29.4	18.7	13.7	12.7	1.7
25th	89.7	46.6	35.3	35.3	24.7	20.0	11.0	7.3	5.1	0.8
75th	389.2	134.0	69.8	54.6	47.7	52.0	30.3	22.1	17.5	3.5

Table J-240. Aluminum loads (lbs/d) by flow percentile for Pleasant Valley Run (PLE0008/WM-147)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	21.9	14.4	8.7	12.0	10.9	4.6	4.0	3.0	2.1	0.4
Average	481.1	91.9	46.7	29.8	40.6	26.9	14.8	12.0	9.5	2.0
Maximum	2,257.5	718.2	249.6	241.8	405.7	156.9	64.7	45.5	39.3	8.3
Median	202.8	48.1	32.3	21.8	21.5	19.9	12.1	6.6	9.2	1.0
25th	67.4	31.2	23.7	19.5	16.5	13.9	6.8	5.0	3.5	0.6
75th	758.1	79.2	42.4	29.4	26.4	30.6	16.4	15.0	12.4	1.8

North Branch Casselman River (WM-148/NBC0106) plots and tables

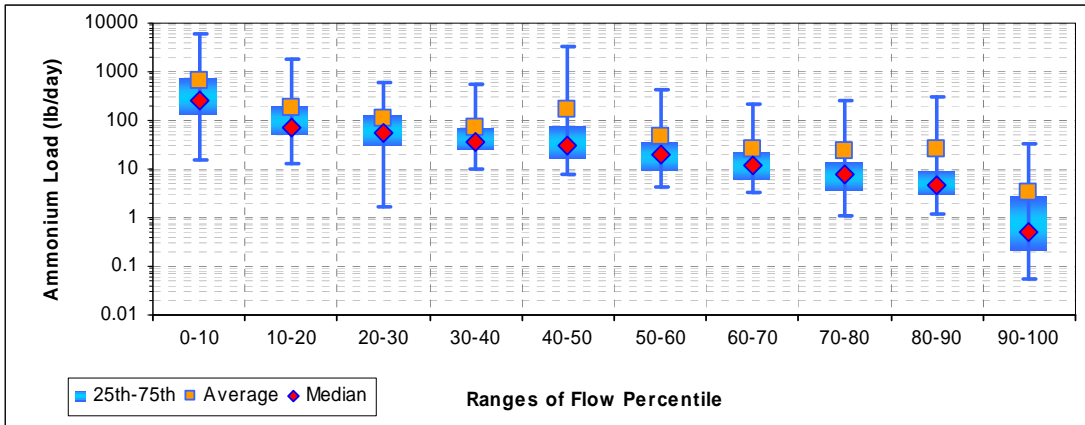


Figure J-241. Ammonium loads by flow percentile for North Branch Casselman River (NBC0106/WM-148)

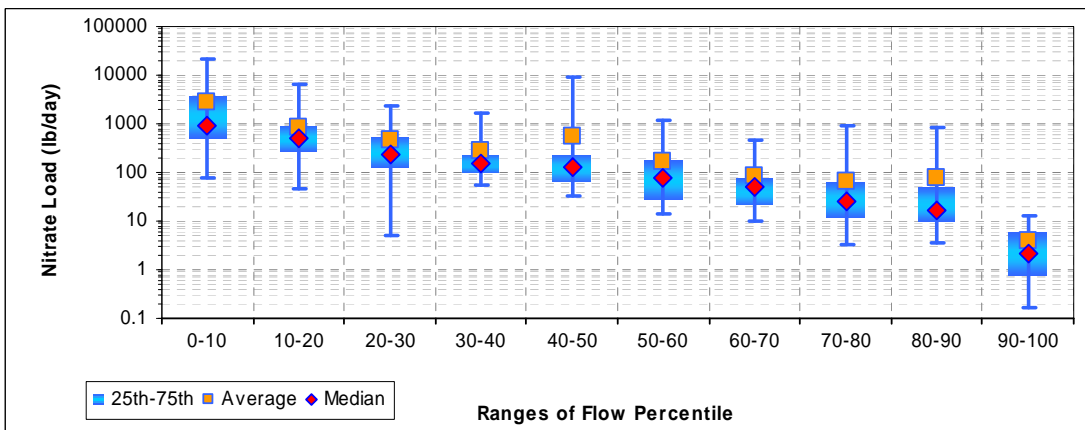


Figure J-242. Nitrate loads by flow percentile for North Branch Casselman River (NBC0106/WM-148)

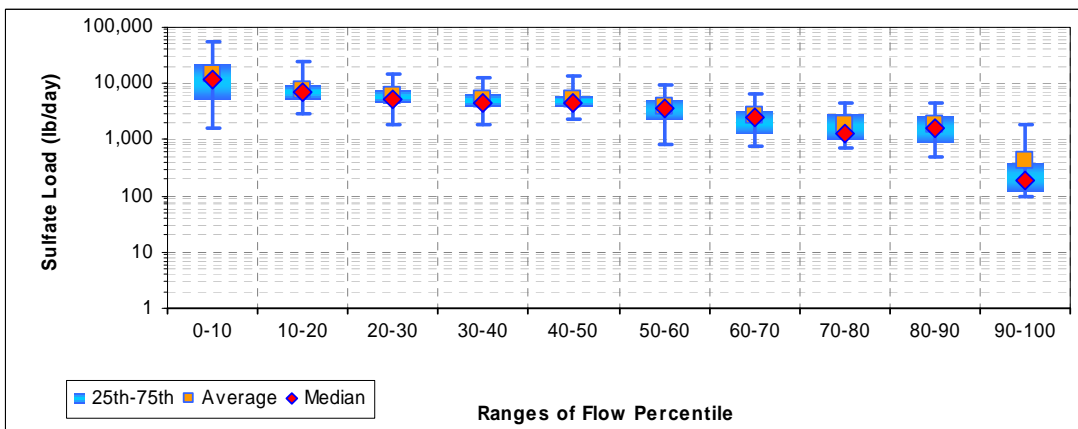


Figure J-243. Sulfate loads by flow percentile for North Branch Casselman River (NBC0106/WM-148)

** These plots include upstream loads from (WM-147/PLE0008) and (WM-149/ZWN0003).

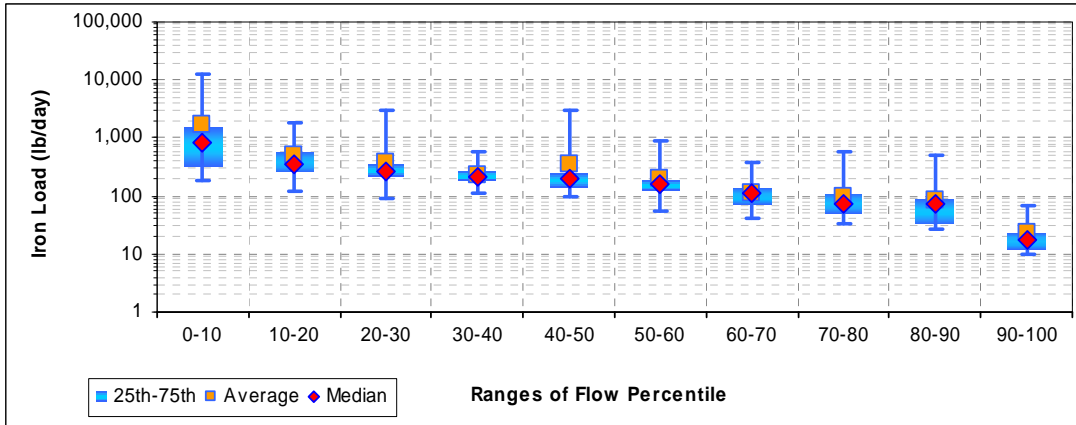


Figure J-244. Iron loads by flow percentile for North Branch Casselman River (NBC0106/WM-148)

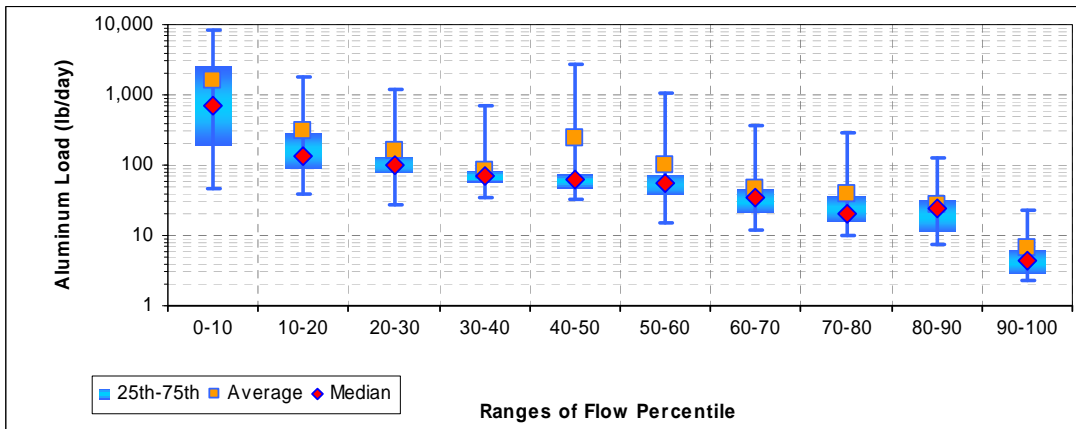


Figure J-245. Aluminum loads by flow percentile for North Branch Casselman River (NBC0106/WM-148)
 ** These plots include upstream loads from (WM-147/PLE0008) and (WM-149/ZWN0003).

FINAL

Table J-241. Ammonium loads (lb/d) by flow percentile for North Branch Casselman River (NBC0106/WM-148)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	15.1	12.7	1.7	10.4	7.6	4.4	3.3	1.0	1.2	0.1
Average	660.7	187.6	106.4	72.0	162.4	46.0	25.6	22.9	24.9	3.4
Maximum	6,062.2	1,865.5	592.2	560.7	3,442.6	428.6	222.3	265.7	314.0	32.8
Median	248.0	68.9	56.3	35.5	31.3	19.2	12.1	7.5	4.7	0.5
25th	129.6	51.7	30.0	24.5	17.0	9.2	6.0	3.7	3.1	0.2
75th	771.7	195.8	132.1	72.9	79.7	37.3	24.1	13.9	9.0	2.8

Table J-242. Nitrate loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0106/WM-148)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	74.4	48.0	5.1	56.1	34.3	13.9	9.7	3.2	3.5	0.2
Average	2,717.7	833.1	459.7	279.2	552.0	165.7	82.2	67.3	78.5	3.8
Maximum	21,640.6	6,670.8	2,380.8	1,680.1	9,270.9	1,216.4	458.0	913.2	845.6	13.2
Median	932.6	510.8	226.9	149.0	126.1	77.9	52.0	25.5	16.9	2.2
25th	490.1	287.0	129.3	96.3	64.1	28.2	22.3	11.6	9.6	0.8
75th	3,883.7	883.1	541.4	232.3	234.0	176.2	79.3	67.1	48.7	6.0

Table J-243. Sulfate loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0106/WM-148)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,620	2,842	1,923	1,873	2,334	842	772	710	486	96
Average	14,982	7,667	6,182	5,164	5,250	3,969	2,631	1,874	1,838	440
Maximum	55,228	24,883	14,795	12,217	13,747	9,332	6,641	4,516	4,530	1,837
Median	11,588	6,817	5,392	4,510	4,415	3,739	2,464	1,244	1,579	195
25th	5,270	5,151	4,623	3,999	3,835	2,344	1,270	1,045	875	123
75th	22,151	9,577	7,729	6,295	5,880	5,186	3,381	2,831	2,595	385

Table J-244. Iron loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0106/WM-148)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	182.6	118.6	92.0	112.0	93.9	56.2	42.0	33.6	26.3	9.5
Average	1,684.2	492.2	372.6	228.5	360.0	199.1	115.6	99.8	81.5	23.9
Maximum	12,473.0	1,875.3	2,952.8	599.8	2,937.3	915.2	387.0	597.1	498.4	68.5
Median	811.8	363.2	266.0	218.6	194.1	157.6	115.3	71.4	71.5	17.6
25th	324.1	264.7	218.2	182.0	134.7	117.8	71.8	51.6	33.9	12.2
75th	1,619.8	572.7	348.7	263.1	240.4	190.9	139.9	112.9	92.2	23.9

Table J-245. Aluminum loads (lbs/d) by flow percentile for North Branch Casselman River (NBC0106/WM-148)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	47.1	38.6	27.6	35.4	32.7	15.1	12.1	10.0	7.5	2.3
Average	1,563.4	298.4	162.0	84.9	240.8	101.6	47.2	38.1	27.9	6.7
Maximum	8,167.2	1,799.1	1,201.2	681.7	2,733.0	1,052.7	359.7	282.6	130.1	22.6
Median	683.1	137.8	99.9	70.0	62.7	55.0	35.1	19.9	24.3	4.3
25th	192.4	91.2	76.7	56.2	46.3	38.4	21.1	15.9	11.2	2.9
75th	2,544.0	285.4	130.5	83.3	73.4	73.2	46.7	37.2	32.7	6.2

** These tables include upstream loads from (WM-147/PLE0008) and (WM-149/ZWN0003).

UT to North Branch Casselman River (WM-149/ZWN003) plots and tables

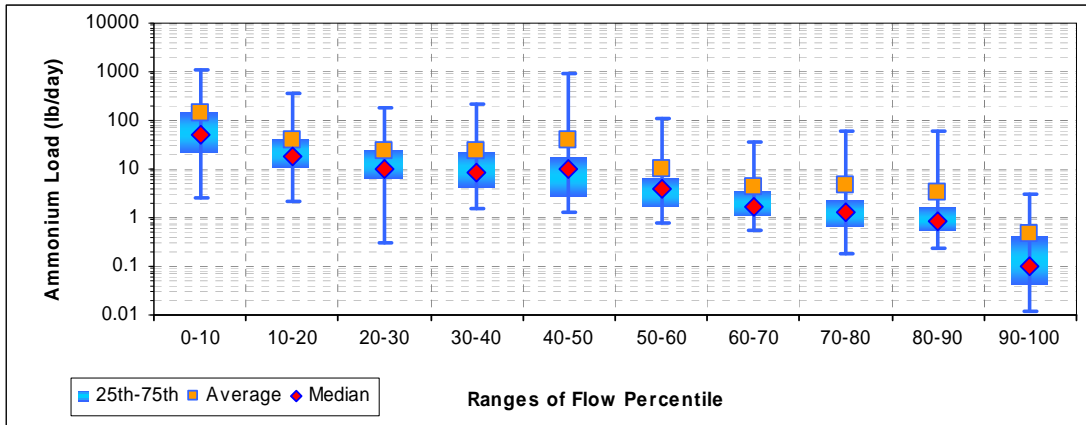


Figure J-246. Ammonium loads by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-149)

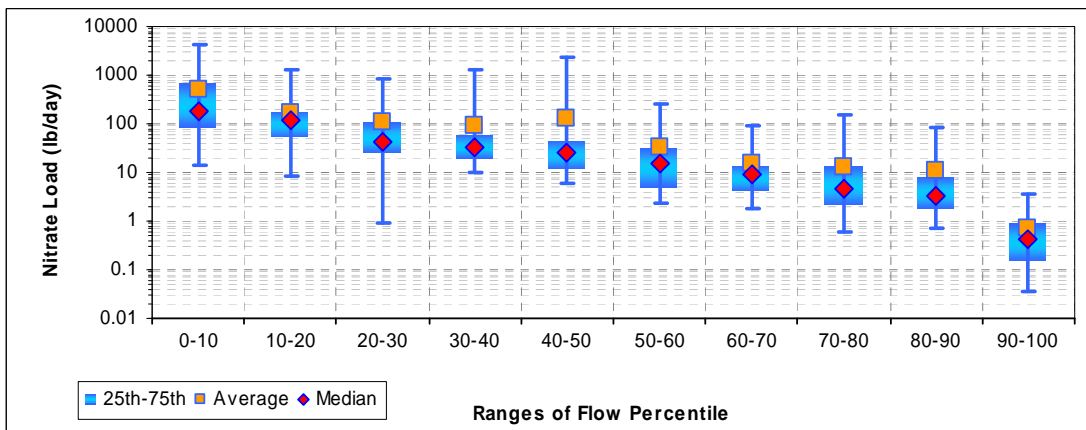


Figure J-247. Nitrate loads by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-149)

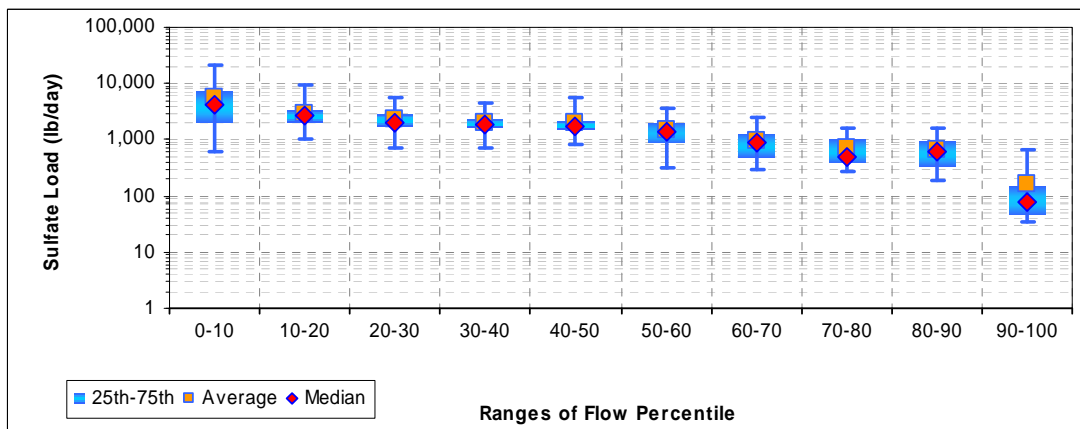


Figure J-248. Sulfate loads by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-149)

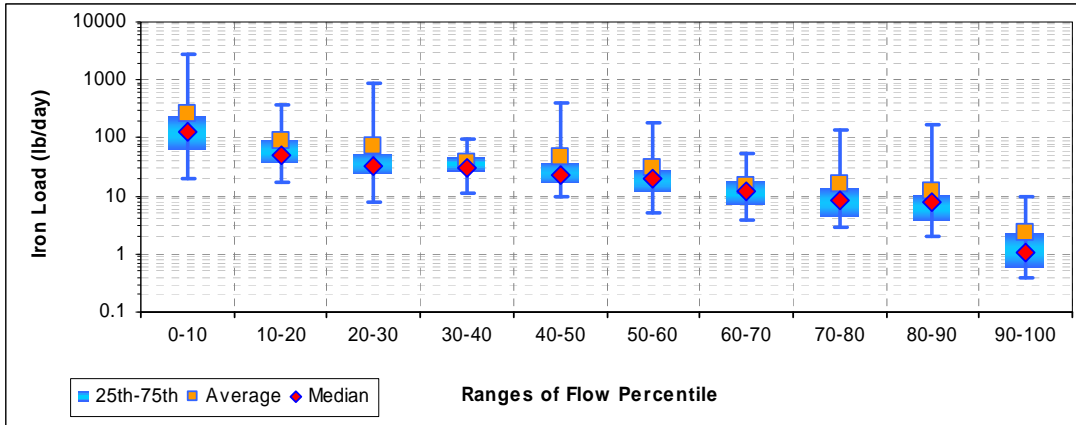


Figure J-249. Iron loads by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-149)

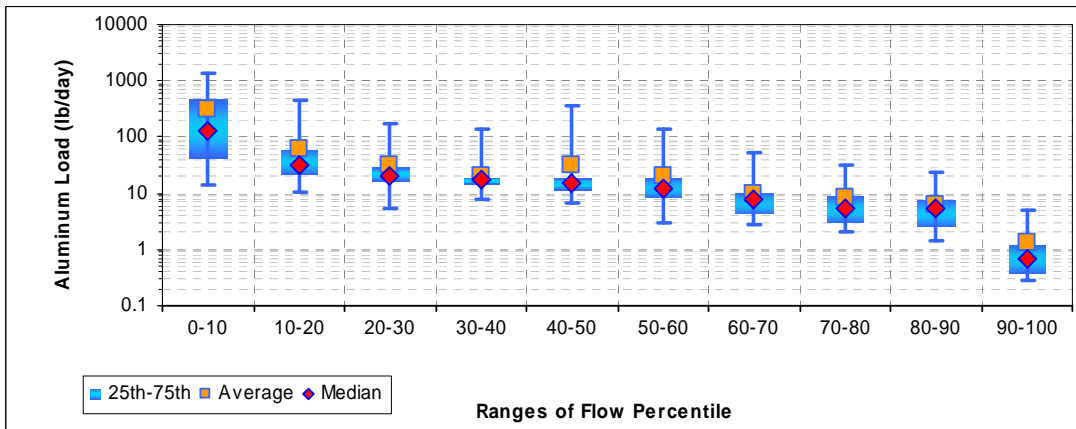


Figure J-250. Aluminum loads by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-149)

FINAL

Table J-246. Ammonium loads (lb/d) by flow percentile for UT to North Branch Casselman River (ZWN0003/W

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	2.6	2.2	0.3	1.6	1.3	0.8	0.5	0.2	0.2	0.0
Average	135.2	38.0	23.5	22.7	38.9	9.7	4.4	4.5	3.3	0.4
Maximum	1,129.0	347.2	187.3	214.5	902.1	107.6	34.7	60.0	58.5	3.1
Median	49.7	18.0	10.2	8.2	9.6	3.8	1.6	1.3	0.8	0.1
25th	21.0	10.9	6.4	4.4	2.8	1.6	1.1	0.6	0.5	0.0
75th	149.9	42.4	24.5	22.9	18.8	6.6	3.5	2.4	1.7	0.4

Table J-247. Nitrate loads (lbs/d) by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-1

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	13.8	8.8	1.0	9.7	6.1	2.4	1.8	0.6	0.7	0.0
Average	524.3	165.3	107.9	91.7	128.6	34.0	15.2	13.0	11.2	0.7
Maximum	4,093.3	1,262.2	833.7	1,269.9	2,375.8	250.1	91.5	152.7	83.7	3.7
Median	180.1	121.8	42.2	32.5	25.2	15.0	9.5	4.7	3.4	0.4
25th	85.1	53.8	25.8	19.1	12.3	5.2	4.3	2.2	1.9	0.2
75th	690.1	186.1	108.0	60.3	47.8	33.1	14.1	13.7	8.8	0.9

Table J-248. Sulfate loads (lbs/d) by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	609	1,040	715	711	855	306	293	274	188	35
Average	5,617	2,898	2,370	2,027	2,007	1,492	969	696	679	165
Maximum	20,505	9,306	5,569	4,438	5,491	3,595	2,460	1,621	1,638	664
Median	4,320	2,613	2,037	1,831	1,686	1,399	901	493	606	76
25th	1,951	2,013	1,776	1,587	1,444	922	488	391	351	46
75th	7,808	3,437	2,902	2,346	2,224	1,989	1,267	1,019	936	149

Table J-249. Iron loads (lbs/d) by flow percentile for UT to North Branch Casselman River (ZWN0003/WM-149

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	19.6	17.8	8.0	10.9	9.9	5.0	3.9	3.0	2.1	0.4
Average	259.8	86.9	70.2	39.1	45.8	30.2	14.5	16.4	12.3	2.3
Maximum	2,826.4	381.7	891.9	96.8	409.2	183.9	55.2	139.5	171.9	10.1
Median	128.8	49.5	32.0	31.6	23.1	19.4	12.2	8.7	8.0	1.1
25th	63.2	36.7	25.4	25.7	16.6	12.3	7.1	4.6	3.8	0.6
75th	250.1	92.8	53.4	45.8	37.5	28.8	17.9	14.0	10.5	2.4

Table J-250. Aluminum loads (lbs/d) by flow percentile for UT to North Branch Casselman River (ZWN0003/W

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	13.6	10.5	5.6	7.6	6.9	3.0	2.7	2.1	1.4	0.3
Average	308.1	59.3	32.0	20.6	30.6	19.7	9.8	8.2	6.0	1.3
Maximum	1,409.2	449.3	169.3	142.1	348.7	138.8	52.2	32.2	23.6	5.1
Median	127.5	32.6	20.8	16.9	15.1	12.5	7.9	5.3	5.6	0.7
25th	43.4	22.3	16.9	13.8	11.2	8.4	4.3	3.0	2.6	0.4
75th	501.3	61.2	28.5	19.5	19.0	19.3	10.4	9.1	7.9	1.2

UT to North Branch Casselman River (WM-151/UNA0015) plots and tables

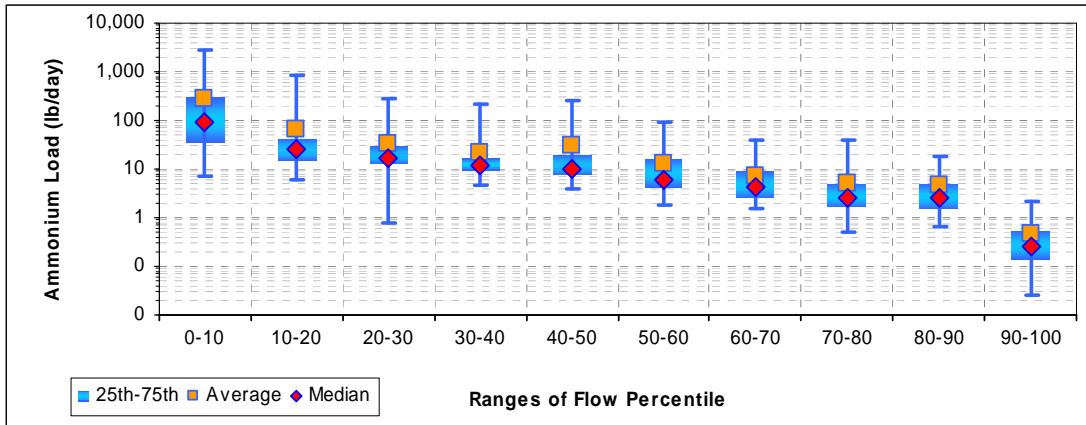


Figure J-251. Ammonium loads by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

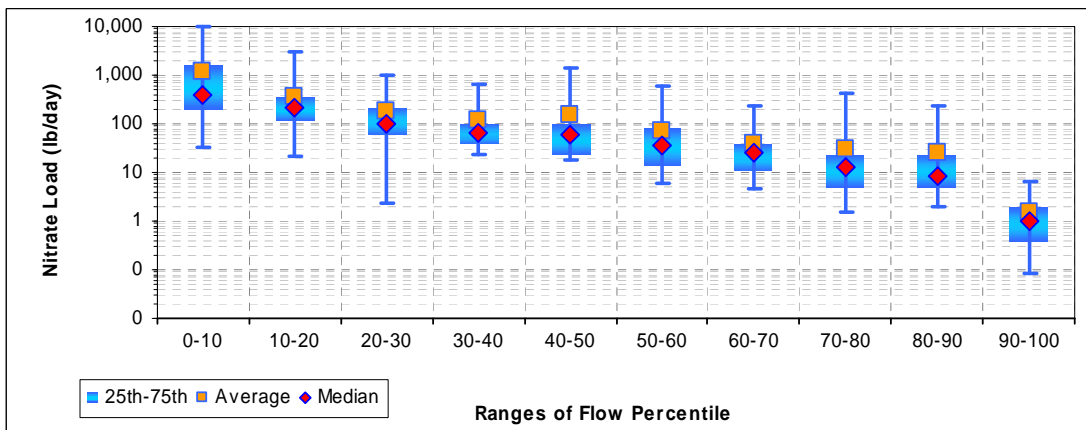


Figure J-252. Nitrate loads by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

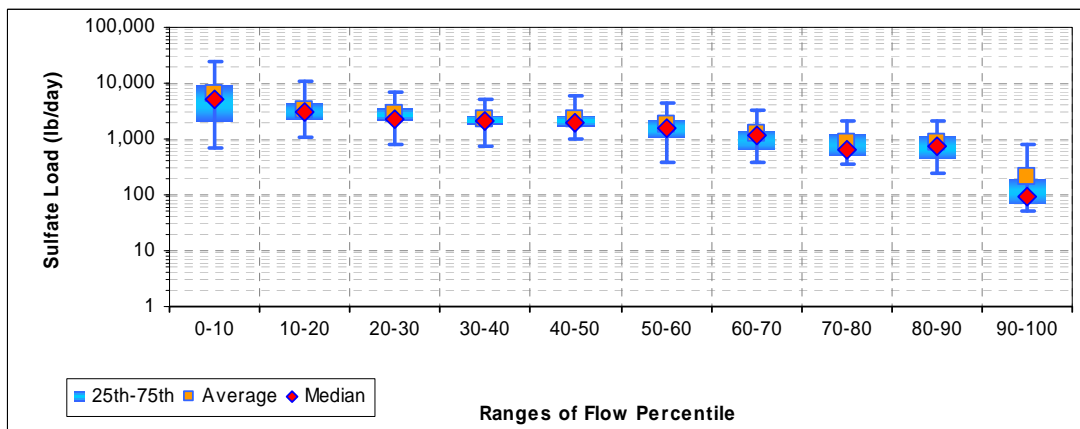


Figure J-253. Sulfate loads by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

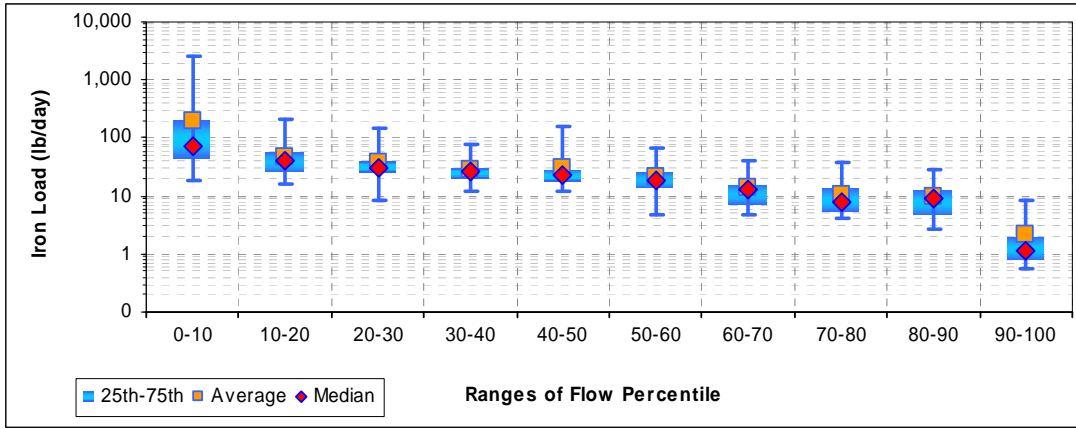


Figure J-254. Iron loads by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

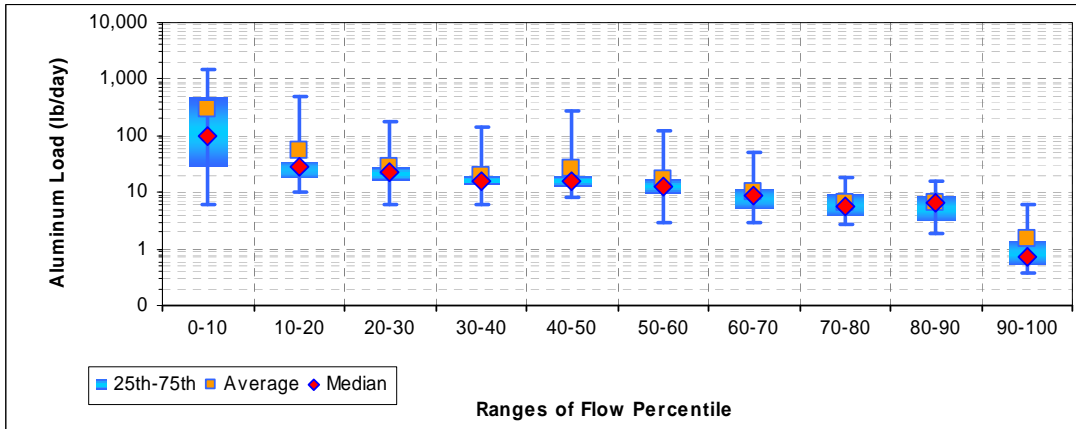


Figure J-255. Aluminum loads by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

Table J-251. Ammonium loads (lb/d) by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	7.1	5.9	0.8	4.8	3.8	1.8	1.6	0.5	0.7	0.0
Average	287.6	66.9	32.6	22.4	29.4	13.2	7.0	4.9	4.5	0.5
Maximum	2,722.9	840.4	268.9	206.5	259.1	91.5	40.4	39.0	18.7	2.2
Median	90.0	24.8	16.3	12.1	10.0	5.9	4.4	2.6	2.5	0.3
25th	35.3	15.9	13.0	9.4	7.4	4.1	2.5	1.7	1.5	0.1
75th	291.9	41.8	29.4	16.6	19.9	16.4	9.0	5.2	5.1	0.6

Table J-252. Nitrate loads (lbs/d) by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	33.3	21.7	2.3	24.3	17.7	5.8	4.8	1.6	2.0	0.1
Average	1,184.7	358.2	185.6	115.3	150.9	69.8	37.6	29.2	26.2	1.5
Maximum	9,774.7	3,020.6	961.9	643.7	1,390.0	622.6	238.6	420.7	243.0	6.4
Median	383.8	216.9	101.1	63.9	60.0	36.4	25.2	12.9	8.7	1.0
25th	206.2	123.2	60.8	40.1	23.9	14.1	10.6	5.1	5.0	0.4
75th	1,694.7	355.4	210.9	104.1	99.4	82.5	40.0	23.7	23.9	1.9

Table J-253. Sulfate loads (lbs/d) by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	679.5	1,101.1	804.5	770.8	1,034.1	375.3	390.7	340.7	252.8	50.4
Average	6,466.4	3,355.5	2,770.0	2,299.9	2,332.7	1,775.7	1,253.9	862.5	866.2	206.7
Maximum	23,955.5	11,113.3	6,771.7	5,140.2	6,121.9	4,449.7	3,302.3	2,084.8	2,151.2	801.3
Median	5,079.1	3,125.9	2,342.6	2,053.1	1,981.0	1,550.6	1,176.0	624.1	757.0	95.1
25th	2,179.8	2,226.1	2,059.5	1,760.1	1,673.0	1,096.0	660.4	507.2	440.8	69.1
75th	9,045.0	4,312.8	3,443.4	2,660.7	2,591.3	2,284.2	1,496.2	1,212.1	1,177.1	194.4

Table J-254. Iron loads (lbs/d) by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	18.2	15.9	8.6	11.9	11.9	4.7	4.6	4.0	2.6	0.5
Average	198.2	48.5	37.0	27.6	29.5	21.2	13.9	10.3	9.7	2.2
Maximum	2,565.2	206.6	145.4	76.4	153.7	66.9	40.7	38.8	28.2	8.7
Median	73.1	41.1	30.0	26.0	23.1	18.3	13.1	7.9	9.2	1.2
25th	43.2	26.5	24.3	20.1	17.5	13.6	7.5	5.5	4.6	0.8
75th	203.0	56.5	40.4	31.1	27.7	27.3	16.6	14.3	13.1	2.0

Table J-255. Aluminum loads (lbs/d) by flow percentile for UT to North Branch Casselman River (UNA0015/WM-151)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	6.3	10.4	6.0	6.2	7.9	2.9	2.9	2.8	1.8	0.4
Average	293.4	53.6	28.5	20.1	27.1	16.9	10.5	6.8	6.4	1.5
Maximum	1,535.9	492.1	173.7	138.8	283.4	125.8	52.1	18.1	16.1	5.9
Median	96.2	29.3	22.6	15.9	15.4	12.5	8.9	5.5	6.3	0.7
25th	29.4	18.5	16.2	13.6	12.4	9.4	5.2	3.8	3.2	0.5
75th	500.8	36.2	27.4	20.0	19.5	17.5	11.5	9.6	8.6	1.4

Little Shade Run (WM-155/LSR0015) plots and tables

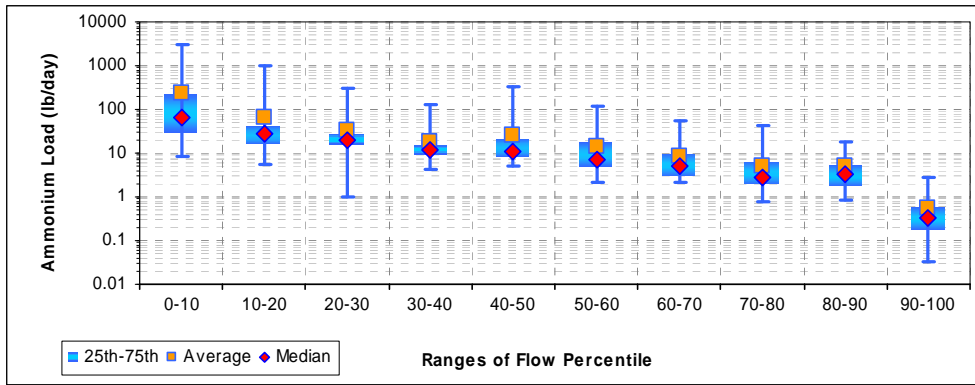


Figure J-256. Ammonium loads by flow percentile for Little Shade Run (LSR0015/WM-155)

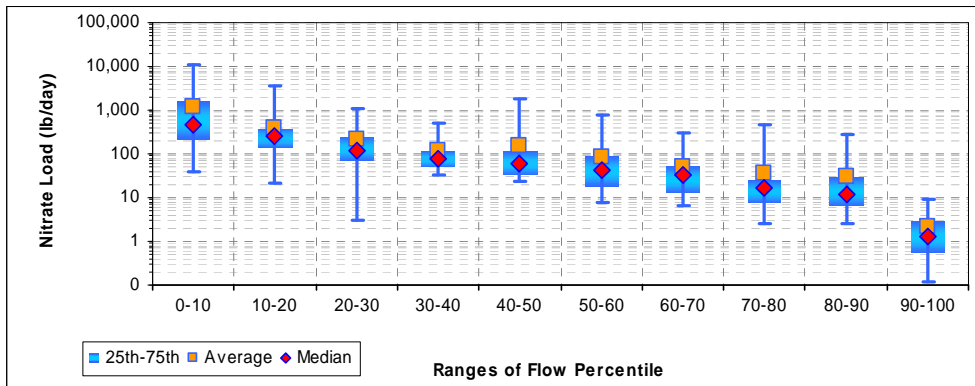


Figure J-257. Nitrate loads by flow percentile for Little Shade Run (LSR0015/WM-155)

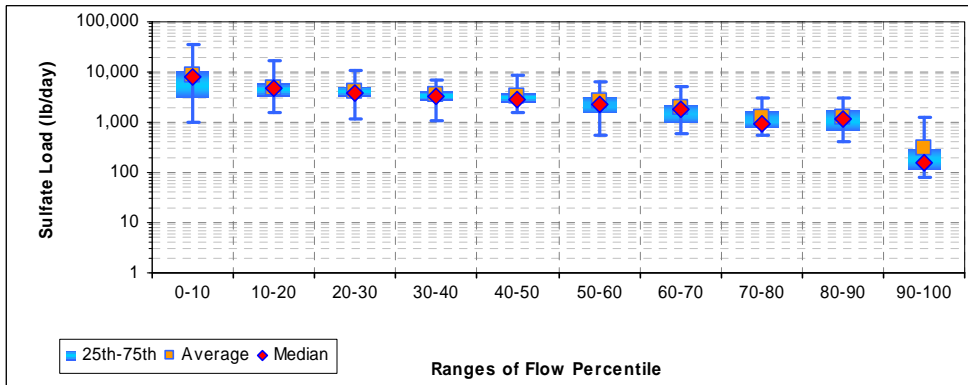


Figure J-258. Sulfate loads by flow percentile for Little Shade Run (LSR0015/WM-155)

FINAL

Table J-256. Ammonium loads (lb/d) by flow percentile for Little Shade Run (LSR0015/WM-155)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	8.2	5.5	1.0	4.4	5.1	2.1	2.2	0.8	0.8	0.0
Average	243.6	67.5	33.6	18.8	25.8	14.3	8.5	5.0	4.9	0.5
Maximum	3,109.8	965.0	312.7	125.8	329.3	122.4	54.4	42.3	18.6	2.7
Median	66.7	27.0	19.0	12.3	10.5	6.9	4.9	2.9	3.2	0.3
25th	29.4	16.5	15.5	9.5	8.1	5.0	3.1	2.0	1.9	0.2
75th	237.9	42.9	27.6	15.4	22.0	18.2	10.2	6.5	5.6	0.6

Table J-257. Nitrate loads (lbs/d) by flow percentile for Little Shade Run (LSR0015/WM-155)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	38.5	20.9	3.1	32.9	23.3	8.1	6.7	2.5	2.6	0.1
Average	1,211.9	400.9	210.9	115.3	157.7	84.4	50.6	34.6	31.5	2.2
Maximum	11,155.0	3,471.8	1,121.5	489.2	1,745.0	796.0	310.9	467.5	277.9	9.0
Median	448.3	260.8	114.4	75.3	61.5	42.2	33.5	16.6	12.3	1.3
25th	212.3	142.4	72.5	51.7	32.9	17.6	13.2	7.5	6.8	0.5
75th	1,669.3	402.3	264.5	113.7	117.5	92.3	53.6	26.2	29.5	3.0

Table J-258. Sulfate loads (lbs/d) by flow percentile for Little Shade Run (LSR0015/WM-155)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	1,011.8	1,535.2	1,195.6	1,063.3	1,520.0	565.0	604.0	547.6	401.5	77.8
Average	8,586.6	4,853.1	4,152.8	3,411.6	3,392.6	2,550.0	1,893.5	1,275.8	1,276.2	309.4
Maximum	34,154.8	16,570.7	10,490.6	6,669.9	8,713.5	6,629.6	5,088.3	2,960.0	3,036.1	1,216.8
Median	7,757.7	4,807.3	3,754.4	3,245.2	2,906.2	2,190.5	1,776.9	955.3	1,143.7	160.8
25th	3,093.3	3,232.9	3,163.8	2,602.4	2,451.2	1,599.5	997.9	773.0	688.7	112.0
75th	10,783.3	5,867.5	4,945.4	3,958.1	3,936.6	3,308.5	2,298.5	1,661.5	1,748.5	306.5

Table J-259. Iron loads (lbs/d) by flow percentile for Little Shade Run (LSR0015/WM-155)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	8.9	13.7	10.6	9.4	13.8	5.0	5.2	5.0	3.5	0.7
Average	146.1	47.9	37.9	30.2	31.7	23.0	16.8	11.2	11.1	2.7
Maximum	974.0	249.3	123.7	70.3	127.5	78.7	50.6	26.0	26.4	10.7
Median	77.7	43.1	34.3	28.7	25.4	19.4	15.8	8.4	9.9	1.4
25th	27.4	29.0	27.7	23.1	21.2	14.4	8.8	6.8	5.9	1.0
75th	192.2	52.0	43.5	34.9	33.9	28.5	20.3	14.5	15.3	2.7

Table J-260. Aluminum loads (lbs/d) by flow percentile for Little Shade Run (LSR0015/WM-155)

	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Minimum	7.2	12.1	8.7	7.7	11.3	4.1	4.3	4.3	2.8	0.6
Average	316.9	63.4	37.9	26.0	35.0	22.1	14.9	9.2	9.1	2.2
Maximum	2,023.2	655.4	237.2	107.1	337.4	156.4	68.9	22.7	22.3	8.7
Median	100.7	36.5	31.4	23.4	22.2	16.1	13.2	7.1	8.2	1.1
25th	23.2	23.8	23.0	18.9	18.3	13.1	7.4	5.5	4.8	0.8
75th	513.4	46.8	37.8	28.4	28.6	23.4	16.6	11.8	12.4	2.2