

## How to Obtain Target Loads

1. Complete the Load Duration Curve as instructed for your site.
2. Use the Load Duration Curve to determine for what flow range you wish to obtain target loads:
  - High Flows: 0-10%
  - Moist Conditions: 10% to 40%
  - Mid-Range: 40% to 60%
  - Dry conditions: 60% to 80%
  - Low Flows: 90% to 100%
3. Refer to the "Load\_Duration\_Target" worksheet within the Load Duration Curve Excel Spreadsheet [!WQ Tool(Template).xls].
4. Column A contains the percent flow, Column B contains the actual flow in cubic feet per second at that percent flow based on your data, and Column D contains the Load for that percent flow. The "WQ Criteria" (Water Quality Criteria) listed in cell F10 and the calculation in Column D will need to be changed according to the parameter of concern. Equations are in Column F for reference. Once the appropriate equation has been entered in Column D and copied down, the target loads will be listed in Column D. Additionally, Columns E through I contain the target loads for the mid-points for each flow range.
5. If you wish to calculate target loads for a specific flow, use the equations in Column D and plug in the specific flow for which you need to know the target load.

Galena LDC Calculations Site 2.xls [Compatibility Mode] - Microsoft Excel

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D13  $=\$F\$10*B13*(28317/100)*60*60*24$

LOAD DURATION SUMMARY				Station ID: 04094000				
<u>Peak to Low</u>				Station name: Little Calumet River at Porter, IN				
	<u>cfs</u>	<u>mm</u>	<u>Load</u>	66.2 = <u>Drainage Area</u> (square miles)				
				High	Moist	Mid	Dry	Low
0.004%	1068	15.238	6139614808256.2					
0.01%	755	10.768	4338846365288.6	57	20	12.7	9.1	6.5
0.10%	214	3.048	1228041649002.1	0.819	0.285	0.182	0.130	0.093
1%	135	1.930	777729357085.7	330135005504.77	115024413682.66	73197354161.69	52283824401.21	37345588858.01
5%	57	0.819	330135005504.8					
10%	36	0.519	209135297604.8					
15%	28	0.397	159839120312.3		235	<u>WQ Criteria</u>		
20%	23	0.330	132950296334.5					
25%	20	0.285	115024413682.7					
30%	18	0.256	103073825248.1					
35%	16	0.234	94110883922.2					
40%	15	0.211	85147942596.3					
45%	14	0.196	79172648379.0					
50%	13	0.182	73197354161.7					
55%	12	0.171	68715883498.7					
60%	11	0.159	64234412835.8					
65%	10	0.148	59752942172.8					
70%	10	0.141	56765295064.2					
75%	9	0.130	52283824401.2					
80%	9	0.122	49296177292.6					
85%	8	0.111	44814706629.6					
90%	7	0.104	41827059521.0					
95%	6	0.093	37345588858.0					
99%	5	0.078	31370294640.7					
100%	4	0.063	25395000423.4					

**Key Loading Equations**

$Load (lb/day) = Criteria * Flow * (5.3945)$

**TSS Load (tons/day)**

$= Criteria * Flow * (5.3945/2000)$

**Bacteria Load (counts/day)**

$= Criteria * Flow * ((28317/100)*60*60*24)$

**Note: 1 ft<sup>3</sup> = 28,317 mL**

Flow\_Duration Load\_Duration\_Target WQ\_Data Calc\_Percentile Sample\_Data Flow\_Data AIMS

Ready 100%