

Estimated Available Nutrient Credits

Maryland Department of the Environment
Science Services Administration

For Presentation at WQTAC
5/19/2016

Credit Supply Assumptions

- Credits calculated for **County-owned** and **Municipally-owned** facilities only
- Credits are summed by county
 - Restrictive geography
 - Credits may be more easily accessible within the County
- All facilities are assumed to be performing at ENR, even if the facility has not completed the upgrade process.
- Total Flow is based on a 10-year average flow adjusted for 2015 population estimates (MDE Supplemental Indicator 2015 Flow).
 - www.mde.state.md.us/programs/Water/TMDL/ChesapeakeBayTMDL/Pages/Supplemental_Wastewater_Indicator.aspx

Draft MD Trading and Offset Policy and Guidance Manual

- Estimated # of SW Credits Needed

Table 3. Estimated Total Number of Credits Needed to Meet 2015 Phase I MS4 Impervious Area Restoration Requirement

Phase I MS4 Permittee	10% of impervious acres	TN credits	TP credits	TSS credits
Anne Arundel	1,488	18,243	2,411	789
Baltimore City	2,337	28,652	3,786	1,239
Baltimore County	2,898	35,529	4,695	1,536
Carroll	929	11,390	1,505	492
Charles	261	3,200	423	138
Frederick	673	8,251	1,090	357
Harford	831	10,188	1,346	440
Howard	1,145	14,038	1,855	607
Montgomery	2,146	26,310	3,567	1,138
Prince George's	2,202	26,997	3,567	1,167
SHA	2,230	27,340	3,013	1,182
TOTAL	17,140	210,136	27,767	9,084

Estimated Credits Generated by ENR facilities with a 4mg/L Nitrogen Permit Limit

This table is intended for planning purposes only. Flow presented is a sum of long-term average flow that does not include weather or future population growth. The values presented in this table are not representative of actual credits available.

Wastewater credits exceed stormwater need
 Stormwater need exceeds wastewater credits

<i>Baseline = 4 mg/L N</i>		<i>Credits Earned based on performance level (Baseline - Performance Load)</i>					Estimated # of SW Credits Needed
County	Number of Facilities	Total Flow (MGD)	3.75 mg/L Performance	3.5 mg/L Performance	3.25 mg/L Performance	3 mg/L Performance	
Anne Arundel	7	32.5	24,714	49,428	74,143	98,857	18,243
Baltimore City	2	94.4	71,838	143,676	215,513	287,351	28,652
Baltimore County*		114.8	87,420	174,839	262,259	349,679	35,529
Carroll	5	9.1	6,954	13,908	20,862	27,816	11,390
Charles	4	12.4	9,406	18,812	28,218	37,624	3,200
Frederick	5	14.2	10,780	21,561	32,341	43,122	8,251
Harford	5	17.2	13,081	26,162	39,243	52,324	10,188
Howard	1	19.2	14,615	29,230	43,845	58,461	14,038
Montgomery**	3	17.6	13,391	26,783	40,174	53,566	26,310
Prince George's**	4	51.5	39,217	78,433	117,650	156,867	26,997
TOTAL	36	383	291,416	582,833	874,249	1,165,666	182,798

* Baltimore County Total Flow includes the portion of Patapsco WWTP flow assigned to Howard and Anne Arundel Counties.

** Facilities listed under Montgomery and Prince Georges Counties include WSSC Owned facilities.

Estimated Credits Generated by ENR facilities with a 0.3mg/L Phosphorus Permit Limit***

This table is intended for planning purposes only. Flow presented is a sum of long-term average flow that does not include weather fluctuations or future population growth. The values presented in this table are not representative of actual credits available.

Wastewater credits exceed stormwater need
 Stormwater need exceeds wastewater credits

<i>Baseline = 0.3 mg/L P</i>		<i>Credits Earned based on performance level (Baseline - Performance Load)</i>					Estimated # of SW Credits Needed
County	Number of Facilities	Total Flow (MGD)	0.275 mg/L Performance	0.25 mg/L Performance	0.225 mg/L Performance	0.2 mg/L Performance	
Anne Arundel	7	32.5	2,475	4,949	7,424	9,898	2,411
Baltimore City	1	18.2	1,386	2,771	4,157	5,543	3,786
Baltimore County*		38.7	2,947	5,893	8,840	11,786	4,695
Carroll	5	9.1	693	1,386	2,079	2,771	1,505
Charles	3	1.6	122	244	365	487	423
Frederick	5	14.2	1,081	2,162	3,244	4,325	1,090
Harford	5	17.2	1,310	2,619	3,929	5,238	1,346
Howard	1	19.2	1,462	2,924	4,386	5,847	1,855
Montgomery**	3	17.6	1,339	2,678	4,017	5,357	3,567
Prince George's**	3	29.0	2,208	4,416	6,624	8,832	3,567
TOTAL	33	181	13,796	27,593	41,389	55,186	24,245

* Baltimore County Total Flow includes the portion of Patapsco WWTP flow assigned to Howard and Anne Arundel Counties.

** Facilities listed under Montgomery and Prince Georges Counties include WSSC Owned facilities.

*** Excluded from this table are Mattawoman WWTP (Charles County), Back River WWTP (Baltimore City and Baltimore County) and Piscataway WWTP (Prince George's County). These facilities have a phosphorus permit limit at or below 0.2 mg/L P and can not generate credit until performance is below that level.

Estimated Credits Generated by ENR facilities Including Facilities with a Phosphorus Permit Limit of <0.2mg/L***

This table is intended for planning purposes only. Flow presented is a sum of long-term average flow that does not include weather fluctuations or future population growth. The values presented in this table are not representative of actual credits available.

Wastewater credits exceed stormwater need
 Stormwater need exceeds wastewater credits

<i>Baseline = 0.3 mg/L P or lower ***</i>		<i>Credits Earned based on performance level (Baseline - Performance Load)</i>				Estimated # of SW Credits Needed
County	Number of Facilities	Total Flow (MGD)	0.175 mg/L Performance	0.15 mg/L Performance	0.125 mg/L Performance	
Anne Arundel	7	32.5	12,357	14,829	17,300	2,411
Baltimore City	2	94.4	12,724	19,908	27,092	3,786
Baltimore County*		114.8	20,515	29,257	37,999	4,695
Carroll	5	9.1	3,477	4,172	4,868	1,505
Charles	4	12.4	784	1,725	2,665	423
Frederick	5	14.2	5,390	6,468	7,546	1,090
Harford	5	17.2	6,540	7,849	9,157	1,346
Howard	1	19.2	7,308	8,769	10,231	1,855
Montgomery**	3	17.6	6,696	8,035	9,374	3,567
Prince George's**	4	51.5	19,608	23,530	27,452	3,567
TOTAL	36	383	95,400	124,541	153,683	24,245

* Baltimore County Total Flow includes the portion of Patapsco WWTP flow assigned to Howard and Anne Arundel Counties.

** Facilities listed under Montgomery and Prince Georges Counties include WSSC Owned facilities.

*** This table includes Mattawoman WWTP (Charles County), Back River WWTP (Baltimore City and Baltimore County) and Piscataway WWTP (Prince George's County). These facilities have a phosphorus permit limit at or below 0.2 mg/L and will generate credit as the performance levels in this table are less then 0.2 mg/L P. Credit for these facilities is calculated as the *Facility Permit Limit Load – Performance Level Load*.

Updated: 6/14/2016