

Chesapeake Bay Program Office Most Effective Basins Funding Guidance

This document describes the methodology EPA followed to establish the most effective use of these funds and the best locations for these practices to be implemented to make the greatest progress toward achieving water quality standards in the Chesapeake Bay. This document, updated in March 2023 to reflect a simplified methodology for implementing Most Effective Basins (MEB) funding, supersedes all previous versions.

FY 2023 Most Effective Basins Funding Allocations

In the U.S. Environmental Protection Agency’s (EPA) Fiscal Year (FY) 2023 Appropriations Conference Report, \$8 million was targeted to the Chesapeake Bay Program (CBP) Budget for “state-based implementation in the most effective basins.” Additionally, the Infrastructure Investment and Jobs Act (Infrastructure), signed into law on November 15, 2021, has authorized significant additional funding for Chesapeake Bay restoration. For Fiscal Year (FY) 2023, EPA is providing \$15 million in Infrastructure funding for areas in the Chesapeake Bay Watershed that are most effective for nitrogen reduction. This results in an unprecedented \$23 million for MEB in FY 2023.

This funding is being allocated based on jurisdictions’ commitments to reduce nitrogen from all sources to meet their 2025 Planning Targets. Pennsylvania’s nitrogen load reduction is based on their commitment to meet their Phase 3 Watershed Implementation Plan. Table 1 shows the nitrogen reduction commitment from each jurisdiction for all sources from 2021 to the relevant 2025 goal, and the percentage of the total watershed-wide reduction among jurisdictions. There is also a minimum amount of funding, set at three percent of the total funding allocated for MEB, for each jurisdiction. Combining the minimum allocation with the nitrogen reduction commitments results in the final allocation shown in the Table 1. This funding is split between the annual appropriation allocation and the infrastructure allocation.

Table 1: MEB Funding Allocations

	Nitrogen Commitment (millions of lbs)	Percent Total Nitrogen Commitment	Fund Totals w/ Minimum Funding Levels Added	Percent of Funds w/ Minimum Funding Levels Added	Allocation – CBPO Annual Appropriation	Allocation – Infrastructure Act Funding
DC	0	0%	\$650,000	3%	\$226,087	\$423,913
DE	1.8	6%	\$1,187,669	5%	\$413,102	\$774,567
MD	4.9	15%	\$3,170,019	14%	\$1,102,615	\$2,067,404
NY	0.8	2%	\$650,000	3%	\$226,087	\$423,913
PA	22.2	66%	\$14,310,129	62%	\$4,977,436	\$9,332,693
VA	3.7	11%	\$2,382,183	10%	\$828,586	\$1,553,597
WV	0	0%	\$650,000	3%	\$226,087	\$423,913
Total	33.4	100%	\$23,000,000	100%	\$8,000,000	\$15,000,000

This allocation will fund implementation in MEBs, based on load effectiveness. Load effectiveness is a measure of the ability of management practices implemented in a given area (basin) to have a positive effect on dissolved

oxygen in the Chesapeake Bay.¹ Load effectiveness is the combination of three factors: land to water, delivery, and dissolved oxygen response. The scale used to determine load effectiveness is the State-River basin segmentation that is described in the EPA's [Chesapeake Bay Effectiveness Rationale](#).

In January 2021, Executive Order 14008, [Tackling the Climate Crisis at Home and Abroad](#), announced Justice40, which mandates that at least 40% of the benefits of certain federal programs must flow to disadvantaged communities. Consistent with this Executive Order 14008, 40% of these funds should support projects that provide direct benefits to disadvantaged communities, as described below. The selection of MEBs to increase benefits in disadvantaged communities considers two factors: load effectiveness and disadvantaged communities.

Disadvantaged communities are identified based on demographic metrics from the American Community Survey. Disadvantaged communities are identified by the following variables. All variables except percent low income utilize the 80th percentile as the threshold to be included in that group:

- Percent Low income: Defined as ratio of income to cost of living that is less than two. Data is presented as a census block group with a percentage of population that is low income $\geq 50\%$. This definition comes from work completed by the CBP Diversity Workgroup based on "best professional judgement" in terms of interpreting this metric.
- Percent Unemployment: All those who did not have a job at all during the reporting period, made at least one specific active effort to find a job during the prior 4 weeks, and were available for work (unless temporarily ill).
- Percent in linguistic isolation: Percent of households in which no one age 14 and over speaks English "very well" or speaks English only (as a fraction of households).
- Percent less than high school education: Percent of individuals age 25 and over with less than high school degree.
- Percent under age 5: Percent of individuals under age 5 as a fraction of population.
- Percent over age 64: Percent of individuals over age 64 as a fraction of the population.

Eligible Uses and Recipients

This funding is intended for use by state and local entities. After a Bay watershed jurisdiction or other grantee is awarded MEB funding, the grantee is expected to provide this funding directly to support implementation projects, or through contracts or subgrants to state and/or local entities, based on the state and local entities' ability to reduce nutrient loading while minimizing the impacts from impervious surfaces. Up to 25% of this funding can be used to support technical assistance directly to local communities and to develop plans and projects that will lead to direct implementation. This money can be used to fund both proven and new, innovative practices.

The most effective basins for focusing this funding are identified [below](#) in Table 2 of this guidance. The 40% of funding that is to be directed toward disadvantaged communities is intended to focus on the census block groups that were identified by the criteria list above. These census block groups can be seen on the [MEB map](#)

¹ Load effectiveness is the same measure known as relative effectiveness used to calculate allocations as described in Section 6.3 of the 2010 Bay TMDL. It was also used to calculate Phase WIP III nitrogen planning targets in 2017.

[viewer](#) and associated [story map](#). Where a jurisdiction chooses to award these funds to state or local entities, Bay watershed jurisdictions must describe in their grant work plan the mechanisms they will use to distribute their share of this funding for implementation of projects in the disadvantaged communities in these basins.

Implementation activities in the most effective basins will be in support of the 2014 Chesapeake Watershed Agreement, including Bay watershed jurisdictions' Watershed Implementation Plans (WIPs). Jurisdictions should give priority to funding those activities that will accelerate the pace for meeting WIP commitments while addressing co-benefits beyond water quality improvements. In deciding which implementation activities to fund, jurisdictions should also consider the timeliness and cost-effectiveness of the activities in contributing to nitrogen reduction.

Jurisdictions are expected to be able to track BMP implementation activities funded with this money. Jurisdictions should submit these practice implementation data to CBPO through the National Environmental Information Exchange Network (NEIEN), in accordance with Attachment 4 of the [Grant Guidance](#). Jurisdictions should use their existing CBRAP funding if they need to improve tracking, verification, and reporting of these implementation activities.

Award Process and Budget Guidance

General Award and Workplan Requirements

MEB allocations funded through CBPO's annual appropriation will be awarded as part of each jurisdiction's CBIG grant². For tracking and reporting purposes, MEB funds must be included in each jurisdiction's CBIG workplan as a separate objective.

As required by EPA policy, MEB allocations funded via the Infrastructure Act will be issued as a separate award from each jurisdictions' other CWA 117(e) implementation grants. The introduction section of the workplan must include the following statement: "This project is funded by the Infrastructure Investment and Jobs Act." In addition, the introduction section should provide a general description of the objectives covered by the grant and a description of the relationship to the WIP and/or two-year milestones, where applicable, or to Management Strategies and two-year Logic & Action Plans of other goals and outcomes from the 2014 Chesapeake Bay Watershed Agreement.

Match Waiver and Reduction Options for Unfractured-Funded MEB Grants

To advance equitability in the grantmaking process, the Infrastructure Act language provides EPA discretion to waive or reduce statutorily required non-federal cost shares on these funds³. Accordingly, jurisdictions may submit a written request to CBPO to either a) waive the 50% cost-share or b) reduce the 50% cost share for their Infrastructure MEB grant for FY 2023-26. Jurisdictions requesting a reduction of match must clearly identify the requested match level in their request.

EPA will consider requests to waive or reduce match where any of the following apply:

² On a limited basis, CBPO management may approve the for MEB – CBPO Annual Appropriation funds to be awarded as part of a jurisdictions' CBRAP grant.

³ This match waiver or reduction authority applies only to grants funded via the Infrastructure Act only.

- Waiving or reducing the non-federal share will accelerate the implementation of projects that provide direct or indirect benefits to disadvantaged communities;
- MEB funds will be awarded to a federally recognized tribe or intertribal consortia comprised of federally recognized tribes; or
- *Not* waiving or reducing the non-federal share requirement will limit meaningful competition of funds or prevent projects from moving forward due to lack of available matching funds.

Requests must be submitted in writing to the CBPO Infrastructure Coordinator, Matt Robinson (robinson.matthew@epa.gov), with a cc to the EPA project officer for the Infrastructure MEB grant. To ensure timely processing for the FY 2023 award cycle, jurisdictions are requested to submit their request as soon as practicable, but no later than Friday, April 14, 2023.

Additional Reporting Requirements for Infrastructure-Funded Grants

Project-Level Reporting

Infrastructure funded grants include additional post-award reporting requirements that help maintain accountability to taxpayers and advance equity. All Infrastructure-related grant and cooperative agreement programs must track and report post-award information on the status of award-specific goals and objectives, including 1) project-level location data and 2) the phase of project level implementation. CBPO is currently finalizing procurement of a reporting system for location-based project data and expects to release additional information to partners in summer 2023. In the interim, recipients should track and retain this information within their grant files.

USA Spending

Recipients are reminded of the requirement as established by the Federal Funding Accountability and Transparency Act for reporting on subawards and executive compensation. We expect that there will be enhanced monitoring of recipient compliance with these requirements. More information can be found in the [EPA General Terms and Conditions](#) (subsection Reporting Subawards and Executive Compensation).

List of Most Effective Basins

Table 2 below lists the most effective basins in which implementation using these funds is to occur. Where work in the identified basins is not feasible, EPA will consider on a limited, case-by-case basis expansion to additional basins not identified in this list. To request consideration for additional basins, a jurisdiction must submit a request in writing to Lee McDonnell (mcdonnell.lee@epa.gov), Chief of the CBPO Science, Analysis, and Implementation Branch, with a cc to the EPA project officer. The request must identify the specific basins requested for consideration and the rationale explaining how implementation in this basin will advance the jurisdiction's nutrient reduction efforts.

Table 2: MEBs Ranked by Total Nitrogen (TN) Reduction Effectiveness

Rank ⁴	Jurisdiction	State-Rivers	TN Effectiveness	TN Reductions Made to Date	TN Load Remaining to Reduce	Watershed Size (sq. mi.)
1	PA	York Indian Rock Dam	22.87	14,237	218,825	21
2	PA	Black Creek	19.39	27,953	63,440	62
3	PA	Codorus Creek	19.11	9,916	367,864	66
4	PA	Safe Harbor Dam	17.51	107,726	799,160	114
5	PA	Chiques Creek	17.16	551,740	1,857,828	126
6	PA	Conestoga Creek	16.68	953,008	3,007,086	278
7	PA	Little Swatara Creek	16.34	0	1,110,781	99
8	PA	Pequea Creek	16.12	403,680	1,865,801	155
9	PA	Shamokin Creek	16.08	12,615	332,191	137
10	PA	Mahanoy Creek	15.96	17,014	382,719	157
11	PA	Mill Creek	15.58	220,956	668,640	56
12	PA	Octoraro Creek	15.11	259,512	1,974,658	176
13	PA	Deer Creek	15.06	25,340	218,681	25
14	PA	Catawissa Creek	14.86	21,243	301,544	153
15	WV	Stony River	14.59	2,004	10,285	10
16	PA	Codorus Creek West Branch	14.58	31,409	308,201	50
17	MD	Little Pipe Creek	14.42	304,558	517,846	83
18	PA	Swatara Creek	14.32	219,465	1,600,423	396
19	MD	Deer Creek	14.11	201,343	626,682	146
20	PA	Cocalico Creek	14.1	303,655	1,094,543	140
21	PA	Mahantango Creek	14.08	124,321	793,410	165
22	PA	Roaring Creek	13.84	27,979	330,495	88
23	PA	Nescopeck Creek	13.83	94,098	167,141	112
24	PA	Wiconisco Creek	13.8	181,818	368,808	116
25	MD	Bloomington/Jennings Randolph	13.64	10,882	41,235	63
26	PA	Middle Creek	13.64	0	817,242	177
27	WV	Mt. Storm Power Station Dam/Stony River Dam	13.53	9,634	58,170	49
28	MD	Susquehanna River	13.37	9,581	65,361	28
29	PA	East Licking Creek	13.37	10,549	76,561	46
30	VA	Lower Eastern Shore Tidal Drainage	13.26	145,008	1,224,541	219
31	MD	Savage River Dam	13.25	13,567	30,384	56
32	PA	Tuscarora Creek	13.08	38,911	590,526	224
33	PA	Sherman Creek	12.93	0	778,438	276

⁴ Basins ranked below 198 reflect approved expansions to the MEB list.

34	MD	Octoraro Creek	12.84	51,357	123,333	35
35	PA	Codorus Creek South Branch	12.81	45,232	703,913	117
36	PA	Buffalo Creek	12.79	28,828	859,729	207
37	PA	Alvin R. Bush Dam	12.78	1,196	18,824	95
38	PA	Juniata River	12.71	207,199	1,992,742	767
39	PA	Larrys Creek	12.69	32,513	83,963	89
40	PA	Susquehanna River	12.62	1,360,081	4,779,581	2262
41	PA	Penns Creek	12.59	107,376	1,115,206	377
42	PA	Fishing Creek	12.5	96,073	653,637	271
43	MD	Potomac River North Branch	12.36	62,959	136,977	157
44	MD	Conowingo Dam	12.24	13,275	42,727	23
45	WV	Bloomington/Jennings Randolph	12.21	1,663	70,956	81
46	MD	Muddy Creek	12.08	1,003	4,615	2
47	WV	Potomac River North Branch	12.06	18,036	160,819	162
48	MD	Monocacy River	11.99	1,008,035	1,657,042	448
49	PA	Sinnemahoning Creek	11.99	5,284	11,534	72
50	MD	Lingamore Creek	11.88	212,204	380,907	89
51	PA	Chillisquaque Creek	11.87	77,137	545,406	112
52	PA	Warrior Ridge Dam	11.87	15,990	129,815	78
53	PA	Susquehanna River West Branch	11.78	348,229	2,137,577	1745
54	PA	Holtwood Dam	11.73	9,014	242,256	50
55	PA	Bald Eagle Creek	11.71	151,794	600,282	383
56	PA	Aughwick Creek	11.7	9,009	94,102	47
57	VA	Pocomoke River	11.67	5,584	108,298	24
58	MD	Jones Falls	11.66	5,654	170,604	58
59	PA	Muddy Creek	11.66	50,272	855,327	137
60	MD	Lower Western Shore Tidal Drainage	11.64	27,704	714,109	275
61	MD	Savage River	11.64	17,958	42,274	60
62	PA	White Deer Creek	11.52	0	20,073	45
63	PA	Broad Creek	11.51	99	2,602	1
64	MD	Big Pipe Creek	11.48	281,098	507,253	109
65	PA	Cush Creek	11.46	94,404	608,556	191
66	MD	Middle Western Shore Tidal Drainage	11.42	7,177	332,988	118
67	PA	Foster Joseph Sayers Dam	11.42	26,444	120,565	73
68	MD	Broad Creek	11.34	62,779	140,252	40
69	PA	Beech Creek	11.32	6,483	72,132	171
70	PA	George B. Stevenson Dam	11.25	1,764	2,925	27

71	PA	Little Juniatta River	11.1	68,670	728,326	343
72	DE	Nanticoke River	11	112,513	1,009,792	91
73	PA	Blacklog Creek	10.98	6,420	77,292	73
74	DE	Lower Eastern Shore Tidal Drainage	10.96	100,031	2,012,862	232
75	PA	Conowingo Dam	10.9	109,679	850,259	102
76	MD	Wills Creek	10.88	14,380	44,297	61
77	PA	Conogoguinet Creek	10.84	0	2,397,677	458
78	PA	Huntington Creek	10.82	72,545	114,179	114
79	PA	Big Elk Creek	10.73	88,005	349,503	42
80	PA	Wills Creek	10.73	39,775	283,946	193
81	PA	Bennette Branch	10.54	24,401	96,810	377
82	PA	Quittapahilla Creek	10.39	23,640	643,461	77
83	PA	Conococheague Creek West Branch	10.37	0	1,212,735	198
84	PA	Texas Creek	10.36	45,659	117,707	180
85	PA	Muncy Creek	10.32	119,615	318,205	204
86	VA	Great Wicomico River	10.26	59,620	370,341	128
87	PA	Meshoppen Creek	10.15	126,494	132,856	115
88	PA	Yellow Breeches Creek	10.05	0	744,883	220
89	WV	Back Creek	10	0	109,425	106
90	MD	Little Conococheague Creek	9.97	24,013	57,469	17
91	PA	Kettle Creek	9.97	3,104	56,482	152
92	PA	Moshannon Creek	9.95	16,234	149,836	274
93	PA	Driftwood Branch	9.94	34,099	14,962	95
94	MD	Tonoloway Creek	9.9	623	3,070	2
95	MD	Licking Creek	9.87	7,539	29,706	27
96	PA	Conococheague Creek	9.84	891	1,981,838	304
97	PA	Juniata River Frankstown Branch	9.81	1,887	935,455	396
98	NY	Owego Creek	9.72	14,266	21,236	13
99	MD	Nanticoke River	9.71	53,543	120,930	20
100	MD	Winters Run	9.7	18,598	186,226	58
101	PA	Bowman Creek	9.7	50,820	60,678	120
102	MD	Conococheague Creek	9.63	102,907	282,130	66
103	WV	Sleepy Creek	9.63	16,944	86,747	125
104	DE	Middle Eastern Shore Tidal Drainage	9.61	15,869	124,020	19
105	PA	Lycoming Creek	9.61	42,472	199,800	273
106	MD	Potomac River	9.6	320,501	799,081	373
107	MD	Big Elk Creek	9.56	4,727	24,146	11
108	PA	Branch Creek	9.56	0	214,490	46

109	PA	Wallis Run	9.55	5,586	19,906	37
110	PA	Cayuta Creek	9.53	2,067	5,048	2
111	MD	Great Seneca Creek	9.35	122,870	214,447	102
112	PA	Sinnemahoning Creek First Fork	9.33	7,362	77,126	240
113	MD	Antietam Creek East Branch	9.32	9,267	22,410	8
114	PA	Potomac River	9.3	1,140	12,444	3
115	PA	Wyalusing Creek	9.3	222,476	245,752	220
116	MD	Upper Western Shore Tidal Drainage	9.29	42,521	264,224	141
117	PA	Pine Creek	9.24	57,915	219,806	599
118	PA	Sideling Hill Creek	9.23	19,918	384,431	284
119	MD	Middle Eastern Shore Tidal Drainage	9.2	638,248	1,771,391	348
120	PA	Licking Creek	9.19	27,154	407,836	186
121	PA	Conewago Creek	9.11	282,392	1,775,750	510
122	PA	Lackawanna River	9.07	33,808	206,810	348
123	DC	Bull Run	8.93	0	4,086	20
124	MD	Gunpowder Falls	8.92	84,899	376,374	175
125	PA	Little Northeast Creek	8.9	2,852	66,473	8
126	PA	Loyalsock Creek	8.9	43,639	204,007	377
127	MD	Georges Creek	8.75	14,601	37,387	75
128	MD	Choptank River	8.73	139,913	551,765	108
129	MD	Lower Patuxent Tidal Drainage	8.65	75,751	562,738	300
130	WV	Cacapon River	8.63	3,814	22,942	61
131	MD	Antietam Creek	8.58	262,951	641,720	178
132	MD	Marshyhope Creek	8.52	221,074	589,651	119
133	VA	Sleepy Creek	8.52	0	15,459	20
134	MD	Loch Raven Dam	8.43	3,790	45,168	31
135	VA	South Branch Potomac	8.39	0	69,628	59
136	MD	Seneca Creek	8.38	38,860	75,753	27
137	PA	Mehoopany Creek	8.38	28,506	41,128	123
138	DE	Deep Creek	8.37	3,913	233,516	30
139	WV	Potomac River	8.37	53,672	433,956	320
140	MD	Western Run	8.32	83,020	295,407	118
141	PA	Little Conococheague Creek	8.32	0	517	1
142	PA	Spring Creek	8.29	94,318	363,288	146
143	WV	Potomac River South Branch	8.26	107,838	573,565	543
144	MD	Evitts Creek	8.2	5,098	20,560	31
145	NY	Nanticoke Creek	8.2	78,095	106,981	114

146	MD	Little Northeast Creek	8.19	59,312	161,058	48
147	PA	Curwensville Dam	8.18	11,604	27,207	53
148	MD	Hunting Creek	8.16	203	44,248	26
149	NY	Tioughnioga River West Branch	8.15	192,589	180,026	104
150	WV	Opequon Creek	8.13	31,496	403,725	192
151	VA	Potomac River South Branch North Fork	8.11	577	7,336	38
152	DC	Potomac River	8.09	401	30,511	14
153	MD	Marsh Run	8.06	26,001	78,497	21
154	MD	Lower Potomac Tidal Drainage	8.05	60,460	716,945	428
155	PA	Antietam Creek East Branch	7.97	0	429,574	86
156	NY	Tioughnioga River	7.95	243,695	220,389	208
157	MD	Middle Patuxent River	7.92	89,327	148,208	58
158	WV	North River	7.89	13,878	198,766	206
159	NY	Tioughnioga Creek	7.88	227,968	239,600	193
160	VA	Lower Potomac Tidal Drainage	7.87	83,589	563,421	470
161	MD	Marsh Creek	7.83	22,088	40,985	11
162	MD	Nassawango Creek	7.82	129,103	130,002	68
163	WV	Reeds Creek	7.73	1,563	18,853	65
164	NY	Susquehanna River	7.72	682,455	751,626	890
165	DC	Anacostia River	7.71	1,380	37,452	18
166	MD	Lower Eastern Shore Tidal Drainage	7.67	805,230	1,713,780	454
167	PA	Tonoloway Creek	7.67	13,483	261,108	112
168	MD	North East Branch Anacostia River	7.61	7,435	103,822	75
169	WV	Potomac River South Branch North Fork	7.5	16,538	113,755	212
170	MD	Chester River	7.49	70,737	161,788	35
171	PA	Chest Creek	7.45	42,823	152,933	129
172	MD	Patuxent River	7.43	70,154	259,029	176
173	PA	Fifteen Mile Creek	7.43	788	8,244	12
174	MD	Tuckahoe River	7.42	222,241	657,718	150
175	NY	Owego Creek East Branch	7.4	88,049	97,821	101
176	NY	Chenango River	7.37	621,464	577,651	614
177	NY	Catatonk Creek	7.36	105,054	135,579	151
178	MD	Patapsco River	7.35	96,286	355,979	204
179	PA	Antietam Creek	7.33	0	155,266	20
180	PA	Monocacy River	7.29	10,592	116,224	67
181	PA	Little Tonoloway Creek	7.28	0	12,888	10

182	MD	Pocomoke River	7.19	817,630	915,510	301
183	MD	Upper Eastern Shore Tidal Drainage	7.19	1,181,710	2,867,947	748
184	MD	Catoctin Creek	7.16	178,014	314,785	120
185	VA	Shenandoah River South Fork	7.14	38,566	1,299,039	618
186	DC	Rock Creek	7.1	134	15,957	10
187	DE	Upper Eastern Shore Tidal Drainage	7.09	51,447	148,987	36
188	PA	Little Loyalsock Creek	7.08	25,054	85,224	82
189	WV	Shenandoah River	7.08	12,912	48,460	103
190	MD	Fifteen Mile Creek	7.07	1,606	15,025	50
191	PA	Marsh Creek	7.06	86,013	488,599	161
192	WV	South Branch Potomac	7.06	43,742	188,358	208
193	PA	Sugar Creek	7.04	176,783	262,318	190
194	MD	Conococheague Creek West Branch	7	0	98	0
195	VA	Back Creek	6.98	751	155,817	309
196	VA	Shenandoah River	6.98	12,912	48,460	249
197	MD	Little Tonoloway Creek	6.96	5,857	18,895	15
198	NY	Owego Creek West Branch	6.95	49,514	64,209	77
201	VA	Lower Rappahannock Tidal Drainage	6.8	157,795	920,193	493
202	VA	Opequon Creek	6.8	0	285,409	151
225	VA	North River	6.3	9,180	234,747	53
228	VA	Cat Point Creek	6.2	25,753	122,328	72
229	VA	Piscataway Creek	6.1	13,600	83,603	53
233	VA	Shenandoah River North Fork	5.9	1,239	1,926,715	860