

Appendix 3–2. Reach average pebble-count data

Tables 3–2–1 through 3–2–36—Reach average pebble-count data collected at U.S. Geological Survey streamgage stations:

3–2–1.	04033000	Middle Branch Ontonagon River near Paulding, Michigan
3–2–2.	04046000	Black River near Garnet, Michigan
3–2–3.	04096015	Galien River near Sawyer, Michigan
3–2–4.	04096340	St. Joseph River at Clarendon, Michigan
3–2–5.	04096400	St. Joseph River near Burlington, Michigan
3–2–6.	04096405	St. Joseph River at Burlington, Michigan
3–2–7.	04096515	South Branch Hog Creek near Allen, Michigan
3–2–8.	04096600	Coldwater River near Hodunk, Michigan
3–2–9.	04097170	Portage River at W Avenue near Vicksburg, Michigan
3–2–10.	04097370	Flowerfield Creek near Flowerfield, Michigan
3–2–11.	04097540	Prairie River near Nottawa, Michigan
3–2–12.	04102776	Middle Branch Black River near South Haven, Michigan
3–2–13.	04103010	Kalamazoo River near Marengo, Michigan
3–2–14.	04104945	Wanadoga Creek near Battle Creek, Michigan
3–2–15.	04105700	Augusta Creek near Augusta, Michigan
3–2–16.	04108600	Rabbit River near Hopkins, Michigan
3–2–17.	04111379	Red Cedar River near Williamston, Michigan
3–2–18.	04111500	Deer Creek near Dansville, Michigan
3–2–19.	04114498	Looking Glass River near Eagle, Michigan
3–2–20.	04117500	Thornapple River near Hastings, Michigan
3–2–21.	04122230	North Branch Pentwater River near Pentwater, Michigan
3–2–22.	04123000	Big Sable River near Freesoil, Michigan
3–2–23.	04124500	East Branch Pine River near Tustin, Michigan
3–2–24.	04128000	Sturgeon River near Wolverine, Michigan
3–2–25.	04129500	Pigeon River at Afton, Michigan
3–2–26.	04135700	South Branch Au Sable River near Luzerne, Michigan
3–2–27.	04146063	South Branch Flint River near Columbiaville, Michigan
3–2–28.	04150500	Cass River near Cass City, Michigan
3–2–29.	04159900	Mill Creek near Avoca, Michigan
3–2–30.	04160600	Belle River at Memphis, Michigan
3–2–31.	04160800	Sashabaw Creek near Drayton Plains, Michigan
3–2–32.	04161580	Stony Creek near Romeo, Michigan
3–2–33.	04161760	West Branch Stony Creek near Washington, Michigan
3–2–34.	04164050	North Branch Clinton River at 33 Mile Road near Romeo, Michigan
3–2–35.	04164150	North Branch Clinton River near Meade, Michigan
3–2–36.	04172500	Portage River at Tiplady Road near Pinckney, Michigan

Table 3–2–1. 04033000 Middle Branch Ontonagon River near Paulding, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	5	5	5
0.062 – 0.125	0	0	5
0.125 – 0.25	3	3	8
0.25 – 0.50	12	12	20
0.50 – 1.0	11	11	31
1.0 – 2.0	1	1	32
2.0 – 4.0	4	4	36
4.0 – 5.7	2	2	38
5.7 – 8.0	1	1	39
8.0 – 11.3	4	4	43
11.3 – 16.0	2	2	45
16.0 – 22.6	3	3	48
22.6 – 32.0	7	7	55
32 – 45	3	3	58
45 – 64	11	11	69
64 – 90	7	7	76
90 – 128	6	6	82
128 – 180	9	9	91
180 – 256	5	5	96
256 – 362	0	0	96
362 – 512	0	0	96
512 – 1024	1	1	97
1024 – 2048	3	3	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–2. 04046000 Black River near Garnet, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	0	0	0
0.062 – 0.125	0	0	0
0.125 – 0.25	2	2	2
0.25 – 0.50	6	6	8
0.50 – 1.0	2	2	10
1.0 – 2.0	1	1	11
2.0 – 4.0	0	0	11
4.0 – 5.7	0	0	11
5.7 – 8.0	0	0	11
8.0 – 11.3	0	0	11
11.3 – 16.0	1	1	12
16.0 – 22.6	1	1	13
22.6 – 32.0	0	0	13
32 – 45	4	4	17
45 – 64	11	11	28
64 – 90	14	14	42
90 – 128	15	15	56
128 – 180	14	14	70
180 – 256	9	9	79
256 – 362	8	8	87
362 – 512	5	5	92
512 – 1024	6	6	98
1024 – 2048	2	2	100
Bedrock	0	0	100
Total particles	101		

Table 3–2–3. 04096015 Galien River near Sawyer, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	20	20	20
0.062 – 0.125	17	17	37
0.125 – 0.25	23	23	60
0.25 – 0.50	19	19	79
0.50 – 1.0	15	15	94
1.0 – 2.0	3	3	97
2.0 – 4.0	0	0	97
4.0 – 5.7	0	0	97
5.7 – 8.0	2	2	99
8.0 – 11.3	1	1	100
11.3 – 16.0	0	0	100
16.0 – 22.6	0	0	100
22.6 – 32.0	0	0	100
32 – 45	0	0	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–4. 04096340 St. Joseph River at Clarendon, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	5	5	5
0.062 – 0.125	7	7	12
0.125 – 0.25	14	14	26
0.25 – 0.50	9	9	35
0.50 – 1.0	15	15	50
1.0 – 2.0	11	11	61
2.0 – 4.0	2	2	63
4.0 – 5.7	2	2	65
5.7 – 8.0	9	9	74
8.0 – 11.3	7	7	81
11.3 – 16.0	7	7	88
16.0 – 22.6	3	3	91
22.6 – 32.0	4	4	95
32 – 45	2	2	97
45 – 64	2	2	99
64 – 90	0	0	99
90 – 128	1	1	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–5. 04096400 St. Joseph River near Burlington, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	22	22	22
0.062 – 0.125	6	6	28
0.125 – 0.25	3	3	31
0.25 – 0.50	14	14	45
0.50 – 1.0	8	8	52
1.0 – 2.0	6	6	58
2.0 – 4.0	1	1	59
4.0 – 5.7	3	3	62
5.7 – 8.0	4	4	66
8.0 – 11.3	5	5	71
11.3 – 16.0	6	6	77
16.0 – 22.6	9	9	86
22.6 – 32.0	5	5	91
32 – 45	6	6	97
45 – 64	3	3	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	101		

Table 3–2–6. 04096405 St. Joseph River at Burlington, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	5	5	5
0.062 – 0.125	3	3	8
0.125 – 0.25	10	10	18
0.25 – 0.50	1	1	19
0.50 – 1.0	3	3	22
1.0 – 2.0	2	2	24
2.0 – 4.0	0	0	24
4.0 – 5.7	0	0	24
5.7 – 8.0	3	3	27
8.0 – 11.3	7	7	34
11.3 – 16.0	11	11	45
16.0 – 22.6	6	6	51
22.6 – 32.0	16	16	67
32 – 45	18	18	85
45 – 64	9	9	94
64 – 90	6	6	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–7. 04096515 South Branch Hog Creek near Allen, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	16	16	16
0.062 – 0.125	2	2	18
0.125 – 0.25	8	8	26
0.25 – 0.50	9	9	35
0.50 – 1.0	5	5	40
1.0 – 2.0	0	0	40
2.0 – 4.0	1	1	41
4.0 – 5.7	1	1	42
5.7 – 8.0	3	3	45
8.0 – 11.3	6	6	51
11.3 – 16.0	18	18	69
16.0 – 22.6	20	20	89
22.6 – 32.0	9	9	98
32 – 45	2	2	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–8. 04096600 Coldwater River near Hodunk, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	4	4	4
0.062 – 0.125	2	2	6
0.125 – 0.25	17	17	23
0.25 – 0.50	3	3	26
0.50 – 1.0	7	7	33
1.0 – 2.0	0	0	33
2.0 – 4.0	0	0	33
4.0 – 5.7	1	1	34
5.7 – 8.0	0	0	34
8.0 – 11.3	1	1	35
11.3 – 16.0	3	3	38
16.0 – 22.6	4	4	42
22.6 – 32.0	10	10	52
32 – 45	12	12	64
45 – 64	15	15	79
64 – 90	13	13	92
90 – 128	6	6	98
128 – 180	2	2	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–9. 04097170 Portage River at W Avenue near Vicksburg, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	33	33	33
0.062 – 0.125	0	0	33
0.125 – 0.25	1	1	34
0.25 – 0.50	5	5	39
0.50 – 1.0	6	6	45
1.0 – 2.0	12	12	57
2.0 – 4.0	1	1	58
4.0 – 5.7	2	2	60
5.7 – 8.0	4	4	64
8.0 – 11.3	14	14	78
11.3 – 16.0	2	2	80
16.0 – 22.6	6	6	86
22.6 – 32.0	3	3	89
32 – 45	4	4	93
45 – 64	4	4	97
64 – 90	2	2	99
90 – 128	1	1	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–10. 04097370 Flowerfield Creek near Flowerfield, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	21	21	21
0.062 – 0.125	17	17	38
0.125 – 0.25	8	8	46
0.25 – 0.50	19	19	65
0.50 – 1.0	19	19	84
1.0 – 2.0	5	5	89
2.0 – 4.0	1	1	90
4.0 – 5.7	0	0	90
5.7 – 8.0	4	4	94
8.0 – 11.3	1	1	95
11.3 – 16.0	5	5	100
16.0 – 22.6	0	0	100
22.6 – 32.0	0	0	100
32 – 45	0	0	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–11. 04097540 Prairie River near Nottawa, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	4	3.96	3.96
0.062 – 0.125	12	11.88	15.84
0.125 – 0.25	25	24.75	40.59
0.25 – 0.50	22	21.78	62.38
0.50 – 1.0	11	10.89	73.27
1.0 – 2.0	7	6.93	80.2
2.0 – 4.0	2	1.98	82.18
4.0 – 5.7	1	0.99	83.17
5.7 – 8.0	3	2.97	86.14
8.0 – 11.3	1	0.99	87.13
11.3 – 16.0	8	7.92	95.05
16.0 – 22.6	4	3.96	99.01
22.6 – 32.0	1	0.99	100
32 – 45	0	0	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	101		

Table 3–2–12. 04102776 Middle Branch Black River near South Haven, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	14	14	14
0.062 – 0.125	43	43	57
0.125 – 0.25	38	38	95
0.25 – 0.50	5	5	100
0.50 – 1.0	0	0	100
1.0 – 2.0	0	0	100
2.0 – 4.0	0	0	100
4.0 – 5.7	0	0	100
5.7 – 8.0	0	0	100
8.0 – 11.3	0	0	100
11.3 – 16.0	0	0	100
16.0 – 22.6	0	0	100
22.6 – 32.0	0	0	100
32 – 45	0	0	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–13. 04103010 Kalamazoo River near Marengo, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	20	20	20
0.062 – 0.125	4	4	24
0.125 – 0.25	6	6	30
0.25 – 0.50	6	6	36
0.50 – 1.0	13	13	49
1.0 – 2.0	4	4	53
2.0 – 4.0	1	1	54
4.0 – 5.7	2	2	56
5.7 – 8.0	5	5	61
8.0 – 11.3	7	7	68
11.3 – 16.0	11	11	79
16.0 – 22.6	2	2	81
22.6 – 32.0	5	5	86
32 – 45	6	6	92
45 – 64	7	7	99
64 – 90	1	1	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–14. 04104945 Wanadoga Creek near Battle Creek, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	46	46	46
0.062 – 0.125	6	6	52
0.125 – 0.25	14	14	66
0.25 – 0.50	14	14	80
0.50 – 1.0	6	6	86
1.0 – 2.0	1	1	87
2.0 – 4.0	3	3	90
4.0 – 5.7	0	0	90
5.7 – 8.0	1	1	91
8.0 – 11.3	1	1	92
11.3 – 16.0	0	0	92
16.0 – 22.6	3	3	95
22.6 – 32.0	1	1	96
32 – 45	1	1	97
45 – 64	1	1	98
64 – 90	2	2	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–15. 04105700 Augusta Creek near Augusta, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	13	13	13
0.062 – 0.125	4	4	17
0.125 – 0.25	10	10	27
0.25 – 0.50	3	3	30
0.50 – 1.0	1	1	31
1.0 – 2.0	1	1	32
2.0 – 4.0	5	5	37
4.0 – 5.7	3	3	40
5.7 – 8.0	3	3	43
8.0 – 11.3	6	6	49
11.3 – 16.0	10	10	59
16.0 – 22.6	16	16	75
22.6 – 32.0	13	13	88
32 – 45	8	8	96
45 – 64	4	4	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–16. 04108600 Rabbit River near Hopkins, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	11	11	11
0.062 – 0.125	9	9	20
0.125 – 0.25	23	23	43
0.25 – 0.50	23	23	66
0.50 – 1.0	7	7	73
1.0 – 2.0	6	6	79
2.0 – 4.0	2	2	81
4.0 – 5.7	1	1	82
5.7 – 8.0	5	5	87
8.0 – 11.3	5	5	92
11.3 – 16.0	2	2	94
16.0 – 22.6	3	3	97
22.6 – 32.0	1	1	98
32 – 45	1	1	99
45 – 64	0	0	99
64 – 90	1	1	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–17. 04111379 Red Cedar River near Williamston, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	4	4	4
0.062 – 0.125	27	27	31
0.125 – 0.25	14	14	45
0.25 – 0.50	10	10	55
0.50 – 1.0	10	10	65
1.0 – 2.0	17	17	82
2.0 – 4.0	0	0	82
4.0 – 5.7	0	0	82
5.7 – 8.0	0	0	82
8.0 – 11.3	1	1	83
11.3 – 16.0	2	2	85
16.0 – 22.6	2	2	87
22.6 – 32.0	2	2	89
32 – 45	2	2	91
45 – 64	3	3	94
64 – 90	2	2	96
90 – 128	0	0	96
128 – 180	2	2	98
180 – 256	1	1	99
256 – 362	1	1	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–18. 04111500 Deer Creek near Dansville, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	1	1	1
0.062 – 0.125	8	8	9
0.125 – 0.25	23	23	32
0.25 – 0.50	27	27	59
0.50 – 1.0	8	8	67
1.0 – 2.0	5	5	72
2.0 – 4.0	0	0	72
4.0 – 5.7	1	1	73
5.7 – 8.0	8	8	81
8.0 – 11.3	4	4	85
11.3 – 16.0	7	7	92
16.0 – 22.6	5	5	97
22.6 – 32.0	3	3	100
32 – 45	0	0	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–19. 04114498 Looking Glass River near Eagle, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	6	5.94	5.94
0.062 – 0.125	0	0	5.94
0.125 – 0.25	4	3.96	9.9
0.25 – 0.50	0	0	9.9
0.50 – 1.0	1	0.99	10.89
1.0 – 2.0	3	2.97	13.86
2.0 – 4.0	0	0	13.86
4.0 – 5.7	1	0.99	14.85
5.7 – 8.0	6	5.94	20.79
8.0 – 11.3	9	8.91	29.7
11.3 – 16.0	14	13.86	43.56
16.0 – 22.6	7	6.93	50.5
22.6 – 32.0	11	10.89	61.39
32 – 45	15	14.85	76.24
45 – 64	8	7.92	84.16
64 – 90	8	7.92	92.08
90 – 128	4	3.96	96.04
128 – 180	1	0.99	97.03
180 – 256	0	0	97.03
256 – 362	2	1.98	99.01
362 – 512	0	0	99.01
512 – 1024	1	0.99	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	101		

Table 3–2–20. 04117500 Thornapple River near Hastings, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	3	2.91	2.91
0.062 – 0.125	1	0.97	3.88
0.125 – 0.25	3	2.91	6.80
0.25 – 0.50	0	0.00	6.80
0.50 – 1.0	5	4.85	11.65
1.0 – 2.0	3	2.91	14.56
2.0 – 4.0	0	0.00	14.56
4.0 – 5.7	2	1.94	16.50
5.7 – 8.0	1	0.97	17.48
8.0 – 11.3	7	6.80	24.27
11.3 – 16.0	8	7.77	32.04
16.0 – 22.6	6	5.83	37.86
22.6 – 32.0	9	8.74	46.60
32 – 45	16	15.53	62.14
45 – 64	11	10.68	72.82
64 – 90	15	14.56	87.38
90 – 128	5	4.85	92.23
128 – 180	8	7.77	100.00
180 – 256	0	0.00	100.00
256 – 362	0	0.00	100.00
362 – 512	0	0.00	100.00
512 – 1024	0	0.00	100.00
1024 – 2048	0	0.00	100.00
Bedrock	0	0.00	100.00
Total particles	103		

Table 3–2–21. 04122230 North Branch Pentwater River near Pentwater, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	11	11	11
0.062 – 0.125	19	19	30
0.125 – 0.25	16	16	46
0.25 – 0.50	27	27	73
0.50 – 1.0	26	26	99
1.0 – 2.0	1	1	100
2.0 – 4.0	0	0	100
4.0 – 5.7	0	0	100
5.7 – 8.0	0	0	100
8.0 – 11.3	0	0	100
11.3 – 16.0	0	0	100
16.0 – 22.6	0	0	100
22.6 – 32.0	0	0	100
32 – 45	0	0	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–22. 04123000 Big Sable River near Freesoil, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	7	7	7
0.062 – 0.125	9	9	16
0.125 – 0.25	20	20	36
0.25 – 0.50	37	37	73
0.50 – 1.0	17	17	90
1.0 – 2.0	4	4	94
2.0 – 4.0	0	0	94
4.0 – 5.7	0	0	94
5.7 – 8.0	1	1	95
8.0 – 11.3	0	0	95
11.3 – 16.0	1	1	96
16.0 – 22.6	2	2	98
22.6 – 32.0	1	1	99
32 – 45	0	0	99
45 – 64	0	0	99
64 – 90	1	1	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–23. 04124500 East Branch Pine River near Tustin, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	3	3	3
0.062 – 0.125	7	7	10
0.125 – 0.25	9	9	19
0.25 – 0.50	5	5	24
0.50 – 1.0	3	3	26
1.0 – 2.0	0	0	26
2.0 – 4.0	0	0	26
4.0 – 5.7	0	0	26
5.7 – 8.0	1	1	27
8.0 – 11.3	1	1	28
11.3 – 16.0	5	5	33
16.0 – 22.6	3	3	36
22.6 – 32.0	10	10	46
32 – 45	11	11	57
45 – 64	14	14	71
64 – 90	5	5	75
90 – 128	10	10	85
128 – 180	7	7	92
180 – 256	5	5	97
256 – 362	3	3	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	102		

Reach average pebble count data was not collected for 04125460 Pine River at High

School Bridge near Hoxeyville, Michigan.

Table 3–2–24. 04128000 Sturgeon River near Wolverine, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	6	6	6
0.062 – 0.125	3	3	9
0.125 – 0.25	2	2	11
0.25 – 0.50	6	6	17
0.50 – 1.0	3	3	20
1.0 – 2.0	0	0	20
2.0 – 4.0	4	4	24
4.0 – 5.7	3	3	26
5.7 – 8.0	0	0	26
8.0 – 11.3	3	3	29
11.3 – 16.0	4	4	33
16.0 – 22.6	6	6	39
22.6 – 32.0	10	10	49
32 – 45	11	11	60
45 – 64	8	8	68
64 – 90	11	11	78
90 – 128	7	7	85
128 – 180	9	9	94
180 – 256	1	1	95
256 – 362	0	0	95
362 – 512	0	0	95
512 – 1024	3	3	98
1024 – 2048	2	2	100
Bedrock	0	0	100
Total particles	102		

Table 3–2–25. 04129500 Pigeon River near Afton, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	2	2	2
0.062 – 0.125	5	5	7
0.125 – 0.25	4	4	11
0.25 – 0.50	4	4	15
0.50 – 1.0	4	4	19
1.0 – 2.0	4	4	23
2.0 – 4.0	0	0	23
4.0 – 5.7	0	0	23
5.7 – 8.0	3	3	26
8.0 – 11.3	4	4	30
11.3 – 16.0	7	7	37
16.0 – 22.6	8	8	45
22.6 – 32.0	6	6	51
32 – 45	14	14	65
45 – 64	14	14	79
64 – 90	12	12	91
90 – 128	6	6	97
128 – 180	1	1	98
180 – 256	1	1	99
256 – 362	1	1	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–26. 04135700 South Branch Au Sable River near Luzerne, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	2	2	2
0.062 – 0.125	2	2	4
0.125 – 0.25	3	3	7
0.25 – 0.50	11	11	18
0.50 – 1.0	4	4	22
1.0 – 2.0	3	3	25
2.0 – 4.0	0	0	25
4.0 – 5.7	0	0	25
5.7 – 8.0	1	1	26
8.0 – 11.3	3	3	29
11.3 – 16.0	10	10	39
16.0 – 22.6	8	8	47
22.6 – 32.0	12	12	60
32 – 45	16	16	76
45 – 64	5	5	81
64 – 90	13	13	94
90 – 128	3	3	97
128 – 180	3	3	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	99		

Table 3–2–27. 04146063 South Branch Flint River near Columbiaville, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	9	9	9
0.062 – 0.125	12	12	21
0.125 – 0.25	4	4	25
0.25 – 0.50	5	5	30
0.50 – 1.0	6	6	36
1.0 – 2.0	8	8	44
2.0 – 4.0	0	0	44
4.0 – 5.7	3	3	47
5.7 – 8.0	5	5	52
8.0 – 11.3	5	5	57
11.3 – 16.0	2	2	59
16.0 – 22.6	8	8	67
22.6 – 32.0	2	2	69
32 – 45	4	4	73
45 – 64	4	4	77
64 – 90	13	13	90
90 – 128	7	7	97
128 – 180	2	2	99
180 – 256	1	1	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–28. 04150500 Cass River at Cass City, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	5	4.95	4.95
0.062 – 0.125	0	0	4.95
0.125 – 0.25	0	0	4.95
0.25 – 0.50	0	0	4.95
0.50 – 1.0	0	0	4.95
1.0 – 2.0	4	3.96	8.91
2.0 – 4.0	0	0	8.91
4.0 – 5.7	0	0	8.91
5.7 – 8.0	0	0	8.91
8.0 – 11.3	2	1.98	10.89
11.3 – 16.0	1	0.99	11.88
16.0 – 22.6	3	2.97	14.85
22.6 – 32.0	0	0	14.85
32 – 45	5	4.95	19.8
45 – 64	11	10.89	30.69
64 – 90	19	18.81	49.5
90 – 128	25	24.75	74.26
128 – 180	16	15.84	90.1
180 – 256	9	8.91	99.01
256 – 362	0	0	99.01
362 – 512	1	0.99	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	101		

Table 3–2–29. 04159900 Mill Creek near Avoca, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	20	20	20
0.062 – 0.125	12	12	32
0.125 – 0.25	2	2	34
0.25 – 0.50	0	0	34
0.50 – 1.0	11	11	45
1.0 – 2.0	4	4	49
2.0 – 4.0	4	4	53
4.0 – 5.7	4	4	57
5.7 – 8.0	1	1	58
8.0 – 11.3	4	4	62
11.3 – 16.0	9	9	71
16.0 – 22.6	4	4	75
22.6 – 32.0	5	5	80
32 – 45	4	4	84
45 – 64	5	5	89
64 – 90	5	5	94
90 – 128	4	4	98
128 – 180	1	1	99
180 – 256	0	0	99
256 – 362	0	0	99
362 – 512	1	1	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–30. 04160600 Belle River at Memphis, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	10	10	10
0.062 – 0.125	0	0	10
0.125 – 0.25	21	21	30
0.25 – 0.50	1	1	31
0.50 – 1.0	4	4	35
1.0 – 2.0	0	0	35
2.0 – 4.0	4	4	39
4.0 – 5.7	1	1	40
5.7 – 8.0	5	5	45
8.0 – 11.3	3	3	48
11.3 – 16.0	8	8	56
16.0 – 22.6	0	0	56
22.6 – 32.0	14	14	70
32 – 45	5	5	75
45 – 64	3	3	77
64 – 90	4	4	81
90 – 128	0	0	81
128 – 180	2	2	83
180 – 256	3	3	86
256 – 362	2	2	88
362 – 512	1	1	89
512 – 1024	1	1	90
1024 – 2048	0	0	90
Bedrock	10	10	100
Total particles	102		

Table 3–2–31. 04160800 Sashabaw Creek near Drayton Plains, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	19	19	19
0.062 – 0.125	11	11	30
0.125 – 0.25	10	10	40
0.25 – 0.50	1	1	41
0.50 – 1.0	2	2	43
1.0 – 2.0	0	0	43
2.0 – 4.0	3	3	46
4.0 – 5.7	5	5	51
5.7 – 8.0	8	8	58
8.0 – 11.3	16	16	74
11.3 – 16.0	16	16	90
16.0 – 22.6	6	6	96
22.6 – 32.0	3	3	99
32 – 45	0	0	99
45 – 64	1	1	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	101		

Table 3–2–32. 04161580 Stony Creek near Romeo, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	0	0	0
0.062 – 0.125	7	7	7
0.125 – 0.25	2	2	9
0.25 – 0.50	1	1	10
0.50 – 1.0	9	9	19
1.0 – 2.0	4	4	23
2.0 – 4.0	1	1	24
4.0 – 5.7	0	0	24
5.7 – 8.0	4	4	28
8.0 – 11.3	9	9	37
11.3 – 16.0	6	6	43
16.0 – 22.6	13	13	56
22.6 – 32.0	7	7	63
32 – 45	12	12	75
45 – 64	10	10	85
64 – 90	11	11	96
90 – 128	3	3	99
128 – 180	1	1	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–33. 04161760 West Branch Stony Creek near Washington, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	7	7	7
0.062 – 0.125	16	16	23
0.125 – 0.25	3	3	26
0.25 – 0.50	3	3	29
0.50 – 1.0	2	2	31
1.0 – 2.0	6	6	37
2.0 – 4.0	0	0	37
4.0 – 5.7	0	0	37
5.7 – 8.0	3	3	40
8.0 – 11.3	2	2	42
11.3 – 16.0	12	12	54
16.0 – 22.6	5	5	59
22.6 – 32.0	6	6	65
32 – 45	13	13	78
45 – 64	12	12	90
64 – 90	6	6	96
90 – 128	3	3	99
128 – 180	1	1	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–34. 04164050 North Branch Clinton River at 33 Mile Road near Romeo, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	21	21	21
0.062 – 0.125	2	2	23
0.125 – 0.25	4	4	27
0.25 – 0.50	2	2	29
0.50 – 1.0	3	3	32
1.0 – 2.0	3	3	35
2.0 – 4.0	3	3	38
4.0 – 5.7	0	0	38
5.7 – 8.0	2	2	40
8.0 – 11.3	4	4	44
11.3 – 16.0	1	1	45
16.0 – 22.6	5	5	50
22.6 – 32.0	3	3	53
32 – 45	5	5	58
45 – 64	3	3	61
64 – 90	13	13	74
90 – 128	19	19	93
128 – 180	3	3	96
180 – 256	2	2	98
256 – 362	0	0	98
362 – 512	1	1	99
512 – 1024	1	1	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–35. 04164150 North Branch Clinton River near Meade, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	1	1	1
0.062 – 0.125	7	7	8
0.125 – 0.25	10	10	18
0.25 – 0.50	0	0	18
0.50 – 1.0	0	0	18
1.0 – 2.0	11	11	29
2.0 – 4.0	6	6	35
4.0 – 5.7	0	0	35
5.7 – 8.0	8	8	43
8.0 – 11.3	10	10	53
11.3 – 16.0	22	22	75
16.0 – 22.6	15	15	90
22.6 – 32.0	5	5	95
32 – 45	3	3	98
45 – 64	0	0	98
64 – 90	1	1	99
90 – 128	1	1	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		

Table 3–2–36. 04172500 Portage River at Tiplady Road near Pinckney, Michigan.

[mm, millimeters]

Pebble size (mm)	Number of pebbles in size class	Percent of pebbles in size class	Cumulative percent
0 – 0.062	5	5	5
0.062 – 0.125	20	20	25
0.125 – 0.25	16	16	41
0.25 – 0.50	9	9	50
0.50 – 1.0	11	11	61
1.0 – 2.0	4	4	65
2.0 – 4.0	2	2	67
4.0 – 5.7	4	4	71
5.7 – 8.0	8	8	79
8.0 – 11.3	7	7	86
11.3 – 16.0	5	5	91
16.0 – 22.6	5	5	96
22.6 – 32.0	2	2	98
32 – 45	2	2	100
45 – 64	0	0	100
64 – 90	0	0	100
90 – 128	0	0	100
128 – 180	0	0	100
180 – 256	0	0	100
256 – 362	0	0	100
362 – 512	0	0	100
512 – 1024	0	0	100
1024 – 2048	0	0	100
Bedrock	0	0	100
Total particles	100		