

Efficiency Recommendation for Urban BMPs

n represents the number of studies

Urban wetlands and wet ponds

Table 1. Summary of removal efficiency (%) for stormwater wetlands and wet ponds evaluated in single-site studies.

Statistic	TSS (Total Suspended Solids)	TN (Total Nitrogen)	TP (Total Phosphorus)
Mean	56	17	45
Standard deviation	36.5	29.3	25.7
Standard error	4.5	4.5	3.3
Median	64	20	45
Minimum	-78	-81	-42
Maximum	99	65	86
n (UMD project review)	62	40	58
n (current efficiency)	4	3	5
Efficiency Recommendation			
Current	80	30	50
Developer	60	20	45
New CBP Efficiency	60	20	45

The developer and MAWP recommended very similar efficiencies. We proposed slight adjustments based on discussions with the developer indicating he had not considered variability with widespread implementation. The efficiencies proposed are actually less than the 25% reduction from research to widespread implementation proposed elsewhere.

Urban Erosion and Sediment Control

Table 2. Summary of literature on the pollutant removal effectiveness (%) of single-site studies and multi-site studies of urban erosion and sediment controls as Best Management Practices for urban and mixed open land uses.

Statistic	TSS	TN	TP
Mean	74		
Minimum	0		
Maximum	99		
n (UMD project review)	23	0	1*
n (current efficiency)	0 (best professional judgment)	0 (best professional judgment)	0 (best professional judgment)
Efficiency			

Recommendation			
Current	50	30	50
Developer	Current efficiency too high – but data not sufficient to recommend efficiency	No info available to recommend efficiency	Current efficiency too high – but data not sufficient to recommend efficiency
New CBP Efficiency	40	25	40

* The value from this one study is 20% reduction efficiency.

Dry extended detention basins

Table 3. Summary of literature on the pollutant removal effectiveness (%) of single-site studies and multi-site studies of dry extended detention basins Best Management Practices for urban and mixed open land uses.

Statistic	TSS	TN	TP
Mean	60	25	30
Minimum	30	15	15
Maximum	85	34	57
n (UMD project review)	5	5	5
n (current efficiency)	1*	0	0
Efficiency Recommendation			
Current	60	30	20
New CBP Efficiency	60	20	20

* data based on fewer than 5 data points

Dry detention ponds/basins and hydrodynamic structures

Table 4. Summary of literature on the pollutant removal effectiveness (%) of single-site studies and multi-site studies for dry detention basins and hydrodynamic structures.

Statistic	TSS (Total Suspended Solids)	TN (Total Nitrogen)	TP (Total Phosphorus)
Average	54	13	43
Standard Deviation	47.6	31.2	27.8
Standard Error	10.9	12.7	7.2
Median	75	18	38
Minimum	-52	-30	-3
Maximum	98	44	88
n (UMD project review)	9	6	15
n (current)	1	1	1
Recommended			

Efficiency			
Current	10	5	10
Developer	50	15	35
New CBP Efficiency	10	5	10