| Stormwater Model and Calculator Comparisons | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model Name | BMP Category | | | | | | Does the Model Assess Total Phosphorus Removal? | Does the Model Assess TSS Removal? | Does the Model Assess Volume Reduction from BMPs? | Comments | Web Address |
| Constructed Basin BMPs | Filter BMPs | Infiltrator BMPs | Swale or Strip BMPs | Reuse | Manufactured Devices |
| Center for Neighborhood Technology Green Values National Stormwater Management Calculator |  |  |  |  |  |  | No | No | Yes | Does not compute volume reduction for some BMPs, including cisterns and tree trenches. | <http://greenvalues.cnt.org/national/calculator.php> |
| CivilStorm |  |  |  |  |  |  | Yes | Yes | Yes | CivilStorm has an engineering library with many different types of BMPs to choose from. This list changes as new information becomes available. | <http://www.bentley.com/en-US/Products/CivilStorm/> |
| EPA National Stormwater Calculator |  |  |  |  |  |  | No | No | Yes | Primary purpose is to assess reductions in stormwater volume. | <http://www.epa.gov/nrmrl/wswrd/wq/models/swc/> |
| EPA SWMM |  |  |  |  |  |  | Yes | Yes | Yes | User defines parameter that can be used to simulate generalized constituents. | <http://www.epa.gov/nrmrl/wswrd/wq/models/swmm/> |
| HydroCAD |  |  |  |  |  |  | No | No | Yes | Will assess hydraulics, volumes, and pollutant loading, but not pollutant reduction. | <http://www.hydrocad.net/> |
| InfoSWMM |  |  |  |  |  |  | Yes | Yes | Yes | User defines parameter that can be used to simulate generalized constituents. | <http://www.innovyze.com/products/infoswmm/> |
| InfoWorks ICM |  |  |  |  |  |  | Yes | Yes | Yes |  | <http://www.innovyze.com/products/infoworks_icm/> |
| i-Tree Hydro |  |  |  |  |  |  | No | No | Yes | Includes simple calculator for rain gardens. | <http://www.itreetools.org/hydro/index.php> |
| i-Tree Streets |  |  |  |  |  |  | No | No | Yes | Computes volume reduction for trees, only. | <http://www.itreetools.org/streets/index.php> |
| LSPC |  |  |  |  |  |  | Yes | Yes | Yes | Though developed for HSPF, the USEPA BMP Web Toolkit can be used with LSPC to model structural BMPs such as detention basins, or infiltration BMPs that represent source control facilities, which capture runoff from small impervious areas (e.g., parking lots or rooftops). | <http://www.epa.gov/athens/wwqtsc/html/lspc.html> |
| MapShed |  |  |  |  |  |  | Yes | Yes | Yes | Region-specific input data not available for Minnesota but user can create this data for any region. | <http://www.mapshed.psu.edu/overview.htm> |
| MCWD/MWMO Stormwater Reuse Calculator |  |  |  |  |  |  | Yes | No | Yes | Computes storage volume for stormwater reuse systems | <http://minnehahacreek.org/sites/minnehahacreek.org/files/Stormwater%20Harvesting%20and%20Reuse%20Model_v2.0.xlsx> |
| Metropolitan Council Stormwater Reuse Guide Excel Spreadsheet |  |  |  |  |  |  | No | No | Yes | Computes storage volume for stormwater reuse systems. Uses 30-year precipitation data specific to Twin Cites region of Minnesota. | http://www.metrocouncil.org/Wastewater-Water/Planning/Water-Supply-Planning.aspx |
| MIDS Calculator |  |  |  |  |  |  | Yes | Yes | Yes | Includes user-defined feature that can be used for manufactured devices and other BMPs. | <http://stormwater.pca.state.mn.us/index.php/MIDS_calculator> |
| MIKE URBAN (SWMM or MOUSE) |  |  |  |  |  |  | Yes | Yes | Yes | User defines parameter that can be used to simulate generalized constituents. | <http://www.mikebydhi.com/Products/Cities/MIKEURBAN.aspx> |
| P8 |  |  |  |  |  |  | Yes | Yes | Yes |  | <http://wwwalker.net/p8/> |
| PCSWMM |  |  |  |  |  |  | Yes | Yes | Yes | User defines parameter that can be used to simulate generalized constituents. | <http://www.chiwater.com/Software/PCSWMM/> |
| PLOAD |  |  |  |  |  |  | Yes | Yes | No | User-defined practices with user-specified removal percentages. | <http://water.epa.gov/scitech/datait/models/basins/framework.cfm#models> |
| PondNet |  |  |  |  |  |  | Yes | No | Yes | Flow and phosphorus routing in pond networks. | <http://wwwalker.net/> |
| PondPack |  |  |  |  |  |  | No | No | Yes | PondPack can calculate first-flush volume, but does not model pollutants. It can be used to calculate pond infiltration. | <http://www.bentley.com/en-US/Products/PondPack/> |
| RECARGA |  |  |  |  |  |  | No | No | Yes |  | <http://dnr.wi.gov/topic/stormwater/standards/recarga.html> |
| SELECT |  |  |  |  |  |  | Yes | Yes | Yes | User defines parameter that can be used to simulate generalized constituents. | <http://www.werf.org/i/c/Tools/SELECT.aspx> |
| SHSAM |  |  |  |  |  |  | No | Yes | No | Several flow-through structures including standard sumps, and proprietary systems such as CDS, Stormceptors, and Vortechs systems | <https://www.barr.com/services/269/stormwater-management> |
| SUSTAIN |  |  |  |  |  |  | Yes | Yes | Yes | Categorizes BMPs into Point BMPs, Linear BMPs, and Area BMPs | <http://www.epa.gov/nrmrl/wswrd/wq/models/sustain/> |
| SWAT |  |  |  |  |  |  | Yes | Yes | Yes | Model offers many agricultural BMPs and practices, but limited urban BMPs at this time. | <http://swat.tamu.edu/> |
| Virginia Runoff Reduction Method |  |  |  |  |  |  | Yes | No | Yes | Users input Event Mean Concentration (EMC) pollutant removal percentages for manufactured devices. | <http://www.vwrrc.vt.edu/swc/Virginia%20Runoff%20Reduction%20Method.html> |
| WARMF |  |  |  |  |  |  | Yes | Yes | Yes | Includes agriculture BMP assessment tools. Compatible with USEPA Basins | <http://www.epa.gov/athens/wwqtsc/html/warmf.html> |
| WinHSPF |  |  |  |  |  |  | Yes | Yes | Yes | USEPA BMP Web Toolkit available to assist with implementing structural BMPs such as detention basins, or infiltration BMPs that represent source control facilities, which capture runoff from small impervious areas (e.g., parking lots or rooftops). | <http://www.aquaterra.com/resources/hspfsupport/index.php> |
| WinSLAMM |  |  |  |  |  |  | Yes | Yes | Yes |  | <http://winslamm.com/> |
| xpswmm |  |  |  |  |  |  | Yes | Yes | Yes | User defines parameter that can be used to simulate generalized constituents. | <http://www.xpsolutions.com/software/xpswmm/> |