

Riparian Buffer Planting Estimated Phosphorus Reduction Calculator

Total Phosphorus Reduction = buffer area land use change P reduction + drainage area overlaid flow P reduction

Buffer area land use change P reduction = (TMDL Drainage Area land use loading rate for prior land use (kg/acre)* acres of buffer restored) - (TMDL Drainage Area land use loading rate for forest land (kg/acre)* acres of buffer restored)

Drainage area overlaid flow P reduction = TMDL Drainage Area land use loading rate (kg/acre) * drainage area acres * 40% P reduction efficiency

Variable	Value	Unit	Land Use Definition:	Notes:
Buffer drainage area	5	times the planted buffer area	Developed Pervious = lawn, turfgrass, unmowed meadow with no agricultural use Developed Impervious = paved and unpaved roads, driveways, parking lots Pasture = hayfield with manure application, livestock grazing area Cropped = cultivated land with corn, rice crops, specialty crops Mixed Forest = deciduous, coniferous and mixed forest land	If any impervious land use is known to drain to a storm drain and not to the buffer, exclude it from the calculation of drainage area. Buffer area with developed impervious land use prior to restoration is accounted for in the buffer area land use change calculation.
Phosphorus reduction efficiency	40%	percent of load		For more detail on the accounting methods and metrics, please see Standard Operating Procedures for Tracking &

assumed no manure spreading on hay - calling it developed pervious

Input*	Dropdown*	Input Acres*	Dropdown*	Dropdown*	Input Percent*	Dropdown	Input Percent	Dropdown	Input Percent	Input Error Check	Output value	Output value	Output value	Output value
Project Identifier	Project Location TMDL Drainage Area	Riparian Buffer Area Planted (Acres)	Prior Land Use of Buffer Planting Area	Buffer Drainage Area Land Use 1	Land Use 1 Percent of Drainage Area	Buffer Drainage Area Land Use 2	Land Use 2 Percent of Drainage Area	Buffer Drainage Area Land Use 3	Land Use 3 Percent of Drainage Area	Total Percent Drainage Area (must equal 100%)	Total Buffer Drainage Area	Estimated P Reduction from Drainage Area (kg/yr)	Estimated P Reduction from Land Use Change (kg/yr)	Estimated Total P Reduction (kg/yr)
ST-5	Northeast Arm Direct Drainage	0.48	Developed Pervious	Developed Pervious	55%	Developed Impervious	45%		100%		2.4	0.65	0.08	0.74