

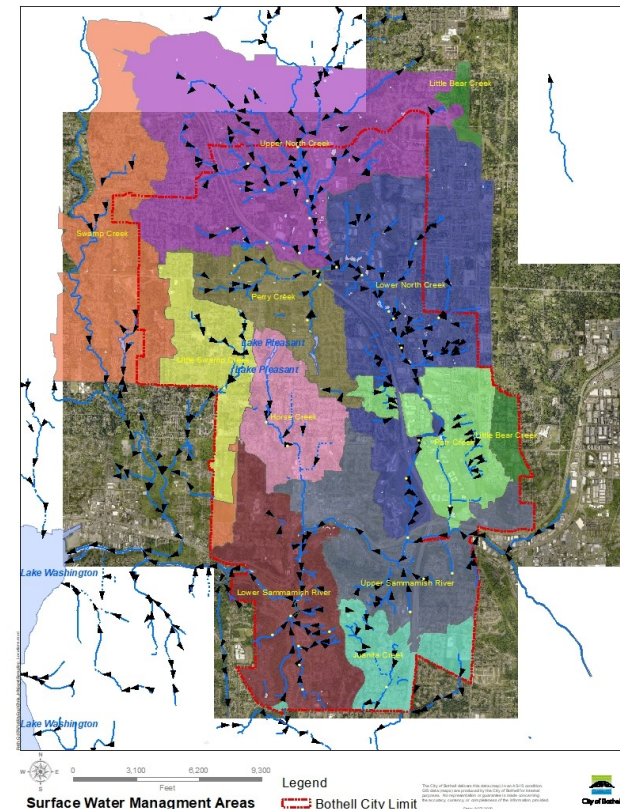
Data Dictionary for City of Bothell's Watershed Analysis

Surface Water Management Areas (SWMAs) and relevant data were developed using internal GIS datasets using ArcGIS. The following data dictionary provides an overview of the datasets and how they were developed.

This guide briefly describes the data values in the results spreadsheet of the City of Bothell's watershed (monitoring basin) analysis. The goal is for this analysis to *assist in* prioritization of surface water infrastructure improvements among these monitoring basins. For a more complete explanation of how each value was derived using ArcGIS Desktop 10.6.1 (advanced license), please refer to the workflow guide at www.bothellwa.gov/swmaworkflow.

It's also important to note that this data dictionary is based on GIS data at coarse scale and is NOT intended to represent a scientific or survey-grade study of drainage or other phenomena and that:

GIS data (maps) are produced by the City of Bothell for internal purposes. No representation or guarantee is made concerning the accuracy, currency, or completeness of the information provided.



Data Value	Units	Description
Area		
Total Area	sqmi	The total area of the monitoring basin that is covered by the catchments of tributaries that intersect Bothell's city limits (see PDF map).
Bothell City Portion	sqmi	The area of the monitoring basin that is within Bothell's city limits.
Bothell City Portion	%	The percentage of the monitoring basin that is within Bothell's city limits.
Land Use		
Single Family Residential	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Single Family Residential" land use. <u>Single Family Residential</u> : includes: houses, townhomes, mobile homes, & manufactured homes
Multi-Family Residential	%	The percentage of the monitoring basin within Bothell's city limits that is covered by "Multi-Family Residential" land use. <u>Multifamily Residential</u> : includes apartments and condos where no commercial use on ground floor exists
Total Residential	%	<i>Sum of the above two percentages.</i>

Data Value	Units	Description
High Use Commercial	%	The percentage of the monitoring basin within Bothell city limits that is covered by "High Use Commercial" land use. <u>High Use Commercial</u> : includes areas with oil water separators such as restaurants, gas stations, etc. Oil water separators are in storm site layers.
General Use Commercial	%	The percentage of the monitoring basin within Bothell city limits that is covered by "General Use Commercial" land use. <u>General Commercial</u> : includes office, retail, public facilities, schools, churches, etc.
Industrial	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Industrial" land use. <u>Industrial</u> : includes sites such as Romac, Philips Healthcare, Seattle Times Printing Plant, etc.
Total Commercial	%	<i>Sum of the above three percentages.</i>
Mixed Use (Residential and Commercial)	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Mixed Use (Residential and Commercial)" land use. <u>Mixed Use</u> : Includes areas where residential buildings are on top of commercial such as SHAG.
Active Use Parks	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Active Use Parks" land use. <u>Active Use</u> : Includes ballfields, areas with restrooms, playgrounds, etc.

Data Value	Units	Description
Passive Use Parks	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Passive Use Parks" land use. <u>Passive Use</u> : Areas of passive recreation
Total Parks and Open Space	%	Sum of the above two percentages.
Natural Areas (Streams, wetlands, and buffers)	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Natural Areas (Streams, wetlands, and buffers)" land use. <u>Natural Areas</u> : Includes streams, wetlands, and buffers
Undeveloped	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Undeveloped" land use. <u>Undeveloped</u> : Use the vacant layer for this category to find areas with potential of future development
Right-of-Way	%	The percentage of the monitoring basin within Bothell city limits that is covered by "Right-of-Way" land use. <u>Right-of-Way</u> : As land use was defined at the parcel level, the "right-of-way" land use fills in the gaps between parcels within the Bothell city limits.
Land Cover		
Impervious	%	The percentage of the monitoring basin within Bothell city limits that is covered by an impervious surface. This includes all impervious surfaces of roadways (below), buildings, parking lots, driveways, walkways, patios, decks, and miscellaneous.

Data Value	Units	Description
Limited Access Roads	%	The percentage of the monitoring basin within Bothell city limits that is covered by <i>impervious</i> road surface that is part of a limited access highway. This includes I-405, the eastern portion of SR 522, and all associated on-ramps and off-ramps.
Arterial Roads	%	The percentage of the monitoring basin within Bothell city limits that is covered by <i>impervious</i> road surface that is part of an arterial roadway. This includes all major, minor, and collector arterials that aren't classified as limited access highways.
Local Roads	%	The percentage of the monitoring basin within Bothell city limits that is covered by <i>impervious</i> road surface that is part of a local roadway. This includes every road that is not classified as either a limited access highway or arterial roadway.
Total Road Surface	%	<i>Sum of the above three percentages.</i>
Tree Canopy	%	The percentage of the monitoring basin within Bothell city limits that is covered by tree canopy. This may overlap with impervious surface in some areas.
Physical Geography		
Very Severely Erosive Soils (Class V) on Slopes over 40%	%	The percentage of the monitoring basin within Bothell city limits that is covered by "very severely erosive" soil (Class V) and is on a steep slope over 40%.
Natural Areas		

Data Value	Units	Description
Wetland Area	%	The percentage of the monitoring basin within Bothell city limits that is covered by wetlands.
Wetland Area + Buffers	%	The percentage of the monitoring basin within Bothell city limits that is covered by wetlands or their associated buffers.
Rivers and Streams	mi/sqmi	The density of rivers and streams (including piped streams) within the portion of the monitoring basin within Bothell city limits.
Storm Infrastructure		
Pipes and Culverts	mi/sqmi	The density of pipes and culverts (including piped streams and detention pipes, but not piped trenches) within the portion of the monitoring basin within Bothell city limits.
Ditches	mi/sqmi	The density of stormwater ditches (not bioswales) within the portion of the monitoring basin within Bothell city limits.
BioSwales	mi/sqmi	The density of bioswales within the portion of the monitoring basin within Bothell city limits.
Trenches	mi/sqmi	The density of trenches (including infiltration, dispersion, and interceptor trenches, and trenches with pipes) within the portion of the monitoring basin within Bothell city limits.
Total Conveyance	mi/sqmi	<i>Sum of the above four densities.</i>
Catch Basins	#/sqmi	The density of catch basins within the portion of the monitoring basin within Bothell city limits.

Data Value	Units	Description
Control Structures (some in vaults, detention ponds, etc.)	#/sqmi	The density of control structures (including those in vaults, detention ponds, etc.) within the portion of the monitoring basin within Bothell city limits.
Detention Pipes	#/sqmi	The density of detention pipes within the portion of the monitoring basin within Bothell city limits.
Detention Ponds	#/sqmi	The density of detention ponds within the portion of the monitoring basin within Bothell city limits.
Vaults	#/sqmi	The density of vaults within the portion of the monitoring basin within Bothell city limits.
Filters	#/sqmi	The density of filters (in catch basins, control structures, and vaults) within the portion of the monitoring basin within Bothell city limits. Filters include oil/water separators.
Total Number of Water Quality Treatment Facilities	#/sqmi	Sum of the above four densities.
Pervious Pavement	#/sqmi	The density of pervious pavement installations within the portion of the monitoring basin within Bothell city limits.
Bioretention	#/sqmi	The density of bioretention (or rain garden) installations within the portion of the monitoring basin within Bothell city limits.
Tree Boxes	#/sqmi	The density of tree box (or Filterra) installations within the portion of the monitoring basin within Bothell city limits.

Data Value	Units	Description
<i>Total Number of LID Facilities</i>	<i>#/sqmi</i>	<i>Sum of the above three densities.</i>
Population		
Population Density	people/sqmi	An <i>estimate</i> of population density within the portion of the monitoring basin within Bothell city limits. Washington State Office of Financial Management estimates of average household size based on the number of units within a building were combined with the City of Bothell's building and address layers to estimate the population on each address point. Address points that were likely residences were then intersected with the monitoring basins.