

**Attribute file metadata for *Watershed* shapefile available for download from WWAT
September 22, 2011**

<u>Field name</u>	<u>Contents description</u>
ADJ_SEGMNT	Valley segment (watershed) ID number assigned by MDNR
QE50	Index flow (<i>i.e.</i> , median flow for low-flow summer month) in Cubic Feet per Second
ADJ_NAME	Name of segment (watershed) assigned by MDNR
SHORELINE	Flag field: 0 = not a shoreline 1 = shoreline line segment or catchment, water assumed to come out of the Great Lakes (automatic A zone)
TOTALWELLS	Total number of wells from Wellogis in the valley segment catchment (static data, as of date of version)
PCTDRIFT	Percent of the wells from Wellogis in the valley segment catchment that withdraw water from a glacial aquifer (static data, as of date of version)
PCTROCK	Percent of the wells from Wellogis in the valley segment catchment that withdraw water from a bedrock aquifer (static data, as of date of version)
PCTUNKNOWN	Percent of the wells from Wellogis in the valley segment catchment that have an unknown aquifer type (static data, as of date of version)
DPH_ZONED	Mean depth of the wells (to top of screen for glacial wells or top of rock for bedrock wells) estimated from a gridded surface processed from Wellogis (static data, as of date of version)
BASIN	Drainage basin containing the valley segment from MDEQ (equivalent to USGS <i>Cataloging Unit</i> [an 8-digit Hydrologic Unit Code])
SUBBASIN	Subbasin containing the valley segment from MDEQ (often defined by the catchments of stream gauges, which are usually not whole watersheds)
EST_DPH_BR	Mean depth to the top of bedrock for the valley segment watershed (estimated from the gridded bedrock surface map from MSU, RSGIS)
BDRK_FLAG	Flag field designating how bedrock wells within the watershed are evaluated: -1 = automatic pass, groundwater may be saline (not currently reported to registrant) 0 = bedrock typically not used as an aquifer in this watershed 1 = automatic pass 2 = bedrock well evaluated
BDRK_T	If BDRK_FLAG = 2, the transmissivity used for the bedrock aquifer (square feet/day)
MEDIAN_T	Median transmissivity (square feet/day) in the watershed

EST_KV_W	[(median transmissivity/well depth provided by user)*streamwidth/10] -- see Reeves et al. (2009)
TYPE	Stream type: cold small river, cold stream, cold transitional large river, cold transitional small river, cold transitional stream, cool large river, cool small river, cool stream, warm large river, warm small river, or warm stream – see Zorn et al. (2008)
A_CUT_OFF	[(Index flow converted to GPM/2.0) * a-line cut off (%)] from Groundwater Conservation Advisory Council (2007) [NOTE: this value is static , representing the starting point, including the 50% “safety factor,” as specified by Part 327, P.A. 451 of 1994, as amended] – see Groundwater Conservation Advisory Council (2007)
B_CUT_OFF	[(Index flow converted to GPM/2.0) * b-line cut off (%)] from Groundwater Conservation Advisory Council (2007) [NOTE: this value is static , representing the starting point, including the 50% “safety factor,” as specified by Part 327, P.A. 451 of 1994, as amended] – see Groundwater Conservation Advisory Council (2007)
C_CUT_OFF	[(Index flow converted to GPM/2.0) * c-line cut off (%)] from Groundwater Conservation Advisory Council (2007) [NOTE: this value is static , representing the starting point, including the 50% “safety factor,” as specified by Part 327, P.A. 451 of 1994, as amended] – see Groundwater Conservation Advisory Council (2007)
VERSION	Version of the shapefile set (vector polygons and attributes). Version 9 was current as of May 26, 2011.

The authoritative description of the WWAT and the data and processes within it are provided in [Hamilton and Seelbach \(2011\)](#).

References

- Groundwater Conservation Advisory Council. 2007. Report to the Michigan Legislature in response to 2006 Public Act 34. July 2007. 37p. (http://www.michigan.gov/documents/deq/Groundwater_report_206809_7.pdf).
- Reeves, H.W., Hamilton, D.A., Seelbach, P.W., and Asher, A.J. 2009. Ground-water-withdrawal component of the Michigan water-withdrawal screening tool. U.S. Geological Survey Scientific Investigations Report 2009–5003, 36p.
- Zorn, T. G., P. W. Seelbach, E. S. Rutherford, T. C. Wills, S.-T. Cheng, and M. J. Wiley. 2008. A regional-scale habitat suitability model to assess the effects of flow reduction on fish assemblages in Michigan streams. Ann Arbor, MI: Michigan Department of Natural Resources, Fisheries Research Report 2089, 46p.