



MAPPED KARST GROUNDWATER BASINS IN THE TELL CITY  
AND PART OF THE JASPER 30x60 MINUTE QUADRANGLES

Joseph A. Ray (retired), Jack R. Moody (retired), and Robert J. Blair  
Kentucky Energy and Environment Cabinet-  
Division of Water  
James C. Currans and Randall L. Paylor  
Kentucky Geological Survey

LEGEND

- Area of potential karst groundwater basin development
- Area of limited karst groundwater basin development
- Inferred perennial groundwater flow route
- Subsurface overflow (high-flow) route
- Surface overflow (high-flow) route
- Groundwater basin catchment boundary
- Groundwater basin catchment sub-boundary
- Stream sink or swallet
- Underflow spring (perennial)
- Overflow spring (high flow)
- Karst window or sinking spring
- Cave stream
- Other tracer-injection point
- Kentucky Division of Water AKGWA spring identification number
- Spring name

EXPLANATION

This map shows karst groundwater basins in the Tell City quadrangle and part of the Jasper quadrangle, determined primarily by groundwater tracer studies. It can be used to quickly identify the groundwater basins and springs to which a site may drain. Major springs and the relative size of their catchment areas can be evaluated for potential as water supplies. The map also serves as a geographic index to literature on karst groundwater in the area. This map is designed for regional and preliminary hydrologic investigations. Features such as springs and swallets are much too small to precisely locate on this map at a scale small enough to show regional relationships. See the literature cited in the "References Cited" for detailed site descriptions. The data used to compile this map were obtained by numerous investigators over the last 38 years. The underflow spring draining a groundwater basin is assigned a unique identification number, referred to as the AKGWA number (Assembled Kentucky Ground Water Database). Individual basins are identified by the underflow spring name and AKGWA number. The authors of tracer data are identified by number in the "Data Source" column of the key, and are listed in "References Cited" in order of publication or research date. Although groundwater flow routes shown here have been established by tracer studies, with the exception of mapped cave streams, the precise flow paths are unknown and are inferred or interpreted using water-level data, geologic structure, or surface features. Arrows show the direction of groundwater flow and tracer recovery locations. Conduit flow is illustrated as either thick trunk-flow lines or thin tributary-flow lines. The locations of some groundwater basins are inferred, based on the existence of a significant spring system and the delineation of adjacent basins. The position of groundwater basin boundaries should be considered approximate because of the map's scale and because boundaries can shift during high-water conditions. Also, excess flow may exit or enter a basin via surface or subsurface overflow routes. There are probably additional overflow routes. Although most of the results of groundwater tracing shown on this map were obtained during moderate- or high-flow conditions, the groundwater basins are illustrated in base flow because base flow is the most common flow condition. The main spring draining the basin is assumed to be an underflow spring that preferentially drains base flow. Overflow springs discharge during high flow. Generally, names of groundwater basins are derived from these main springs. Not all additional springs are shown because of the small map scale.

**DISCLAIMER:** This map is subject to revision upon receipt of new hydrologic data. The unshaded area (shown in white on the map) is karst. The shaded area (shown in light brown) is largely underlain by noncarbonate rocks and has minimal development of karst. Karst features are only shown in those areas where tracer tests have been conducted. Consult the "References Cited" for additional information.

<sup>1</sup>Worthington, S.R.H., 1991. Karst hydrogeology of the Canadian Rocky Mountains: Hamilton, Ontario, McMaster University, Ph.D. dissertation, 380 p.

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Grottoes are local chapters of the National Speleological Society.

AKGWA No. Spring Name Data Source

0002 Mahurin (14, 16, 17)

0003 Parke (14, 16, 17)

0004 Bowling (12, 24, 12, 15, 19)

0005 Head Park (Whisper Bluehole) (21, 28)

0006 Flat Rock (1, 2, 23, 26, 28, 33)

0007 Sharp Fork (21, 28)

0008 Head of Spring Creek (18, 29)

0009 White Mills (20, 24, 29)

0010 Mad Mountain (No. 11) (11)

0011 Head of Doe Run (Schenley) (19, 23, 26, 28)

0012 Hamilton Hill Bluehole (18, 21, 23, 28)

0013 Dry Branch (22, 25)

0014 Dry Branch Bluehole (No. 10) (22, 25)

0015 Leaning Cedar (No. 12) (22, 25, 30)

0016 Buttermilk Falls (21, 28)

0017 Buttermilk Falls (21, 28)

0018 Head of Buffalo Creek (21, 28)

0019 Head of Buffalo Creek (21, 28)

0020 McCracken (19, 26)

0021 O'Reilly (21, 28)

0022 O'Reilly (21, 28)

0023 Willoughby (21, 28)

0024 Head of Wolf Creek (18, 10, 13)

0025 Head of Wolf Creek (18, 10, 13)

0026 Dowlit (21)

0027 Dowlit No. 2 (21)

0028 Thornhill (18)

0029 Hawkins Bluehole (32)

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