

# Dix River-Herrington Lake watershed (051002-05-170)

**Geography.** The Dix River-Herrington Lake watershed includes the western edge of Garrard County, part of northern Lincoln County, and eastern portions of Boyle and Mercer Counties. The land is in the inner subregion of the Bluegrass physiographic region, characterized by undulating terrain and moderate rates of both surface runoff and groundwater drainage. Most of the watershed lies above thick layers of easily dissolved limestone that form carbonate aquifers. Groundwater flows through channels in the limestone, so caves and springs are common in regions with this geology. Some areas lie above interbedded limestones and shales (>20% limestone, allowing groundwater flow where clay content is low enough).

**Waterways.** The Dix River-Herrington Lake watershed includes the river itself from the mouth of Gilberts Creek (southwest of Lancaster) to its confluence with the Kentucky River (close to High Bridge). Herrington Lake makes up much of this stretch of the Dix River. Among the creeks that feed the river within this watershed are Hawkins Branch, Boone Creek, White Oak Creek, McKecknie Creek, Tanyard Branch, Cane Run, and Rocky Fork. The watershed also receives water from the Dix River headwaters, Logan Creek, Hanging Fork Creek, Clarks Run, and Spears Creek & Mocks Branch watersheds.

**Land and water use.** Land in the watershed is almost 90% agricultural and almost 5% residential. The surface waters of the watershed supply the drinking water for the municipal systems in Lancaster and Danville. Eleven businesses and organizations hold permits for discharges into the creeks. See the 2000 Assessment Report for full details.

**Agency data assessment.** The assessed river segments in this watershed fully support their designated uses, based on biological and/or water-quality data. Herrington Lake does not support its designated uses, because of excess nutrient enrichment from a variety of sources. See the 2000 Assessment Report or 2000 305(b) list and the 2002 303(d) list of impaired streams for full details.

**Kentucky River Basin Management Plan, 2002.** Information is from the first basin cycle (1997-2002), including the 1998-1999 monitoring effort and the 2000 Assessment Report. See [kywatersheds.org](http://kywatersheds.org) or [www.uky.edu/WaterResources/Watersheds](http://www.uky.edu/WaterResources/Watersheds) for the complete Assessment Report and Management Plan.

| Watershed Restoration Ranking |                          |                      | Watershed Protection Rank | Overall Watershed Rank | Framework Mobilization Category |
|-------------------------------|--------------------------|----------------------|---------------------------|------------------------|---------------------------------|
| <i>Observed Impacts</i>       | <i>Potential Impacts</i> | <i>Combined Rank</i> |                           |                        |                                 |
| Low                           | High                     | Low                  | High                      | Low                    | III                             |

## Watershed Highlights

Watershed covers 92 square miles.  
 Provides drinking water for Lancaster and Danville.  
 Part of source water protection zones 1, 2, and 3 for the Harrodsburg water system.  
 Lancaster and Perryville discharge treated sewage into the watershed.  
 Aquatic life in Herrington Lake is impaired by overenrichment and low dissolved oxygen; a TMDL is in progress.  
 DOW plans to delist a Garrard County segment of the Dix River previously listed as impaired by pathogens.  
 Groundwater is substantially more sensitive than the basin average.  
 Livestock density is substantially higher than the basin average.  
 Clean Water Action Plan (CWAP) watershed.  
 The Garrard and Lincoln County portions of the watershed are in the PRIDE region. PRIDE identified 45 straight pipes or failing septic systems in that area.



Dix River Region



See the color map of this region on p. 131.

### LEGEND

- Area of this watershed
- Sewage plants
- Public water supplies
- Other water withdrawals
- Locks & dams
- Cities and towns
- Rivers and larger streams
- Smaller streams
- County borders

