

Dix River Region

Dix River headwaters watershed (051002-05-150)

Geography. The Dix River headwaters watershed covers southern Garrard County, western Rockcastle County, and northeastern Lincoln County. The land is in the outer subregion of the Bluegrass physiographic region, which is characterized by undulating terrain, moderate to rapid surface runoff, and moderate rates of ground-water drainage. The watershed lies partly above fractured shales through which groundwater can easily move but which stores very little water. Other sections of the watershed lie over easily weathered clay shales that store water but allow little groundwater flow. There are also areas of interbedded shales and limestones (these are 20% limestone; water conduction is poor because of the clay content of the shale) and areas of interbedded limestones and shales (>20% limestone, allowing groundwater flow where the clay content is low enough). Interbedded clay shales and siltstones underlie the rest of the area.

Waterways. The headwaters watershed of the Dix River includes the drainage of the river from its headwaters down to the mouth of Gilberts Creek just west of Gilbert (at US 27 between Lancaster and Stanford). Among the creeks that feed it are Negro Creek, Turkey Creek, Copper Creek, Fall Lick, Drakes Creek, Harmons Lick, Walnut Flat Creek, Cedar Creek, Stingy Creek, Turkey Creek, and Gilberts Creek.

Land and water use. Land in the watershed is 60% agricultural and almost 40% rural and wooded. Three businesses and organizations hold permits for discharges into the creeks. See the 2000 Assessment Report for full details.

Agency data assessment. The assessed creek segments in this watershed include one segment that only partially supports its designated uses, based on biological and/or water-quality data. Siltation contributes to the impairment of the stream. 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 or 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	Medium	Low	III

Watershed Highlights

Watershed covers 175 square miles.

Brodhead and Crab Orchard discharge treated sewage into the watershed.

Aquatic life partially impaired by sedimentation in Copper Creek from its mouth to 1.5 miles upstream (2nd priority TMDL 2002).

Livestock density is substantially higher than the basin average.

Watershed is in PRIDE service region. PRIDE identified 144 straight pipes or failing septic systems in the watershed.




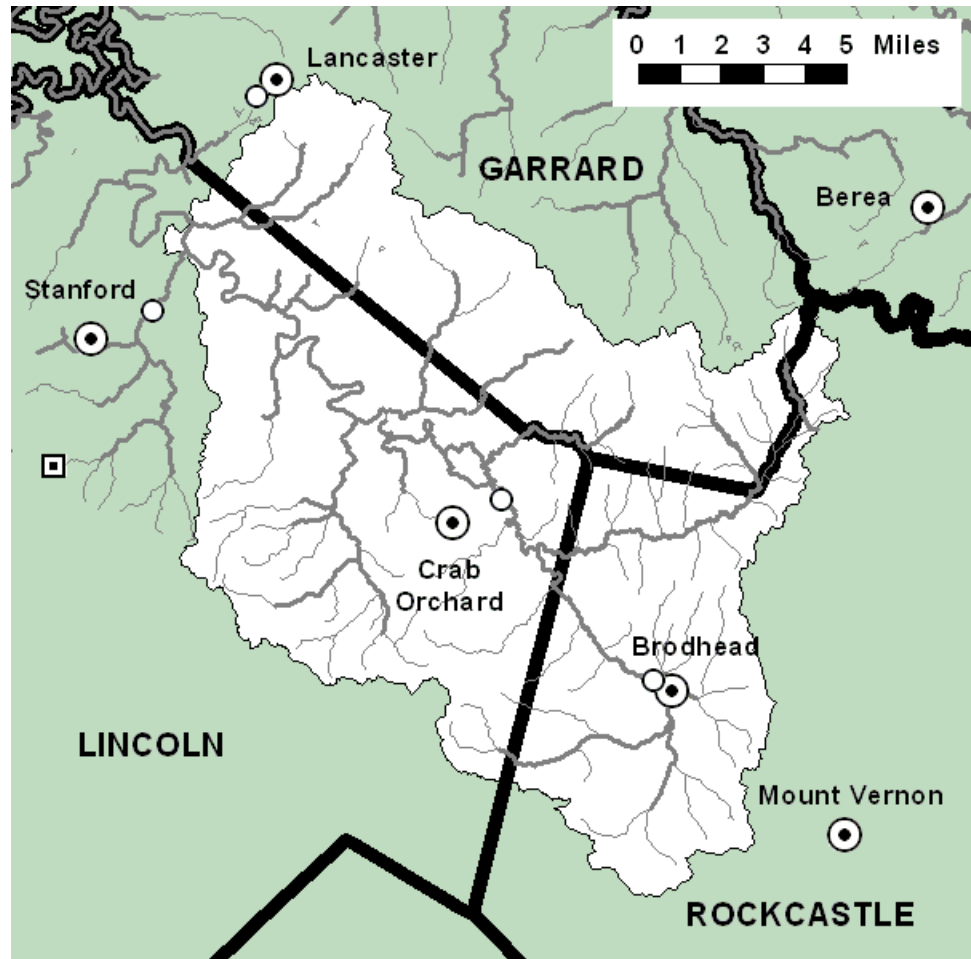
Dix River Region



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 



Logan Creek watershed (051002-05-160)

Geography. The Logan Creek watershed lies in central Lincoln County. The land is in the outer subregion of the Bluegrass physiographic region, characterized by undulating terrain, moderate to rapid surface runoff, and moderate rates of groundwater drainage. The watershed lies partly above fractured shales through which groundwater can easily move but which stores very little water. Other sections of the watershed lie over easily weathered clay shales that store water but allow little groundwater flow. There are also areas of interbedded shales and limestones (these are 20% limestone; water conduction is poor because of the clay content of the shale) and areas of interbedded limestones and shales (>20% limestone, allowing groundwater flow where the clay content is low enough). Interbedded clay shales and siltstones underlie the rest of the area.

Waterways. Logan Creek empties into the Dix River northeast of Stanford, near Logantown. Among the creeks that feed it are Saint Asaph Creek and Neals Creek.

Land and water use. Land in the watershed is about 70% agricultural, 20% rural and wooded, and 10% residential or commercial. The surface waters of the watershed supply the drinking water for the municipal system in Stanford. Two businesses and organizations hold permits for discharges into the creeks. See the 2000 Assessment Report for full details.

Agency data assessment. The assessed waters in this watershed include Stanford Lake, which only partially supports its use as a drinking water supply, based on biological and/or water-quality data. Excess nutrient enrichment contributes to impairment of the lake. See the 2000 Assessment Report or 2000 305(b) list and the 2002 303(d) list of impaired streams for full details.

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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	Medium	Low	Low	Low	IV

Watershed Highlights

Watershed covers 25 square miles.

Contains Stanford reservoir, which only partially supports use as a drinking water supply because of excessive nutrients [2000 305(b), 2nd priority TMDL 1996].

Stanford discharges treated sewage into the watershed.

Livestock density is substantially higher than the basin average.

Watershed is in PRIDE service region. PRIDE identified 36 straight pipes or failing septic systems in the watershed.









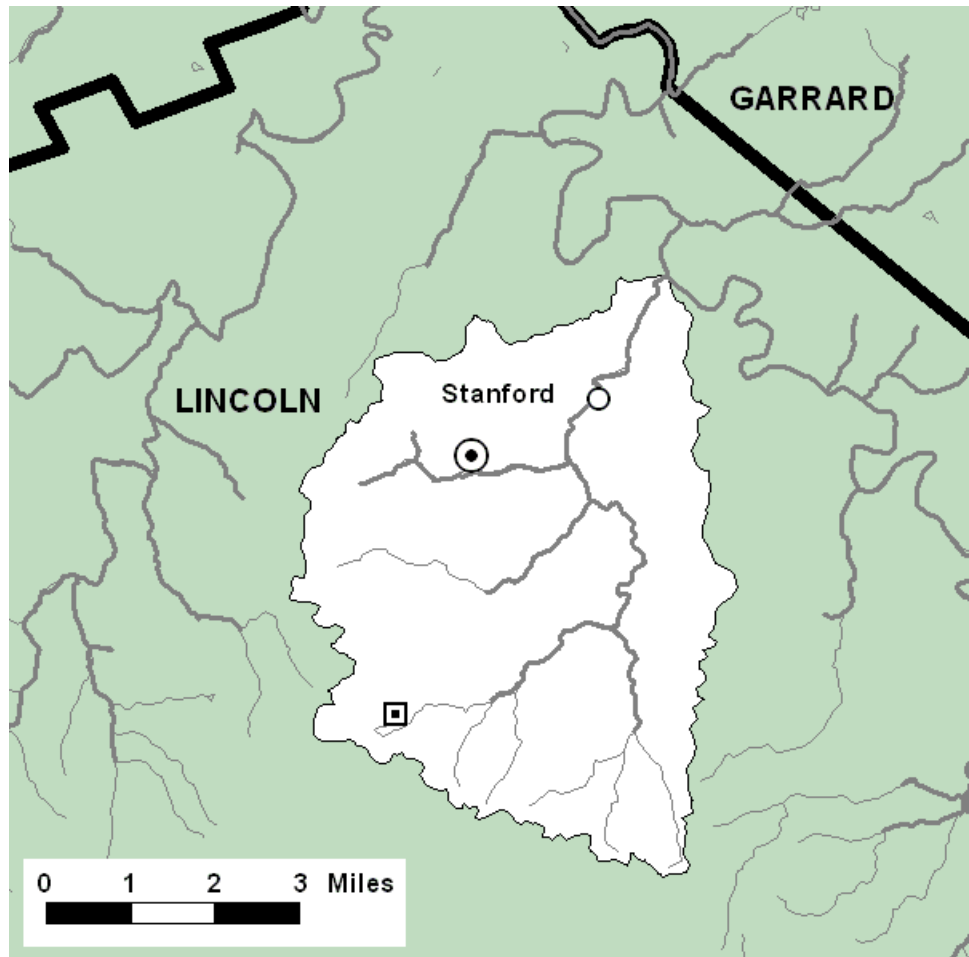
Dix River Region



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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 



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.

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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.











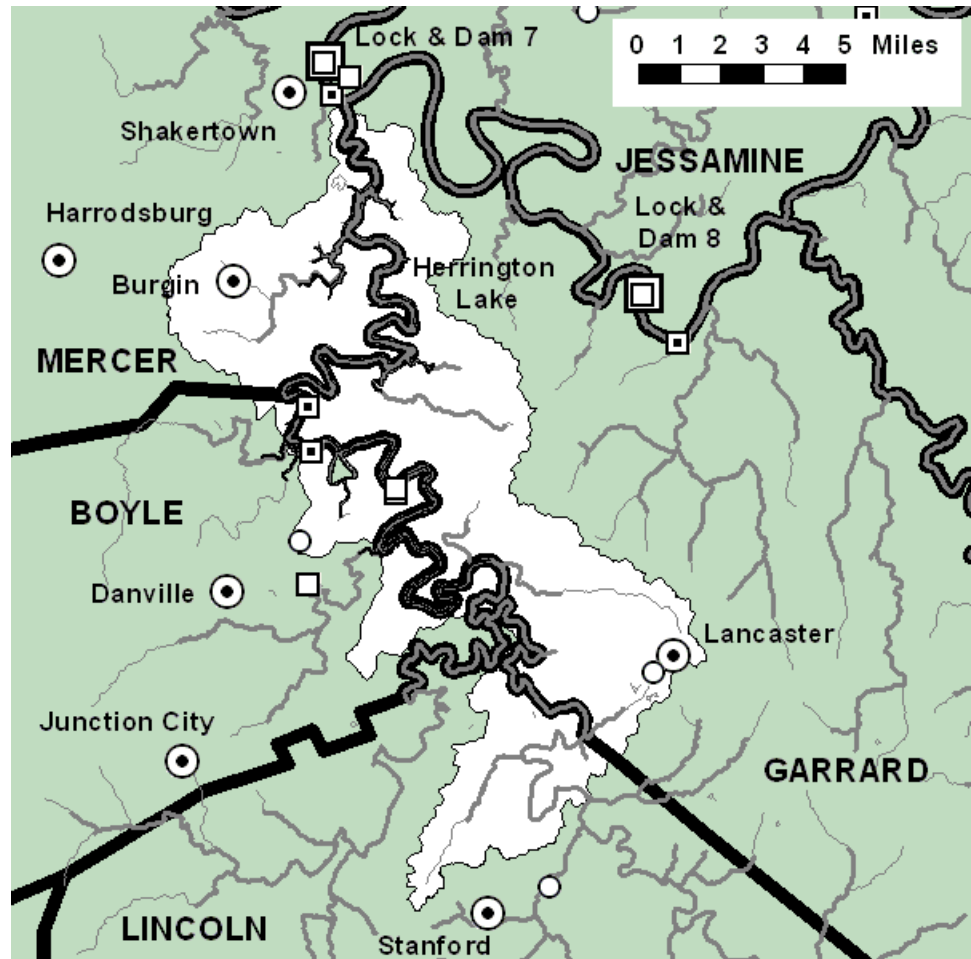
Dix River Region



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 



Hanging Fork Creek watershed (051002-05-180)

Geography. The Hanging Fork Creek watershed covers northwestern Lincoln County and includes adjacent parts of Casey and Boyle Counties. The land is in the outer subregion of the Bluegrass physiographic region, which is characterized by undulating terrain, moderate to rapid surface runoff, and moderate rates of groundwater drainage. The watershed lies partly above fractured shales through which groundwater can easily move but which stores very little water. Other sections lie over interbedded clay shales and siltstones. There are also areas of interbedded shales and limestones (these are 20% limestone; water conduction is poor because of the clay content of the shale).

Waterways. Hanging Fork Creek empties into the Dix River west of Lancaster, near Hedgeville. Among the creeks that feed it are Baughman Creek, McKinney Branch, Peyton Creek, Blue Lick Creek, White Oak Creek, Harris Creek, and Knoblick Creek.

Land and water use. Land in the watershed is almost 80% agricultural, 16% rural and wooded, and 4% residential. Three businesses and organizations hold permits for discharges into the creeks. See the 2000 Assessment Report for full details.

Agency data assessment. The assessed creek segments in this watershed include one part of Hanging Fork Creek that does not support some or all of its designated uses, based on biological and/or water-quality data. Pathogens from agricultural sources contribute to the impairment of these streams. See the 2000 Assessment Report or 2000 305(b) list and the 2002 303(d) list of impaired streams for full details.

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

Watershed Highlights

Watershed covers 96 square miles.

Pathogens make contact recreation unsafe in Hanging Fork Creek from its mouth to Knoblick Creek (1st priority TMDL 2002).

Livestock density is substantially higher than the basin average.

Except for the Boyle County section, the watershed is in PRIDE service region. PRIDE identified 47 straight pipes or failing septic systems in the PRIDE part of the watershed.



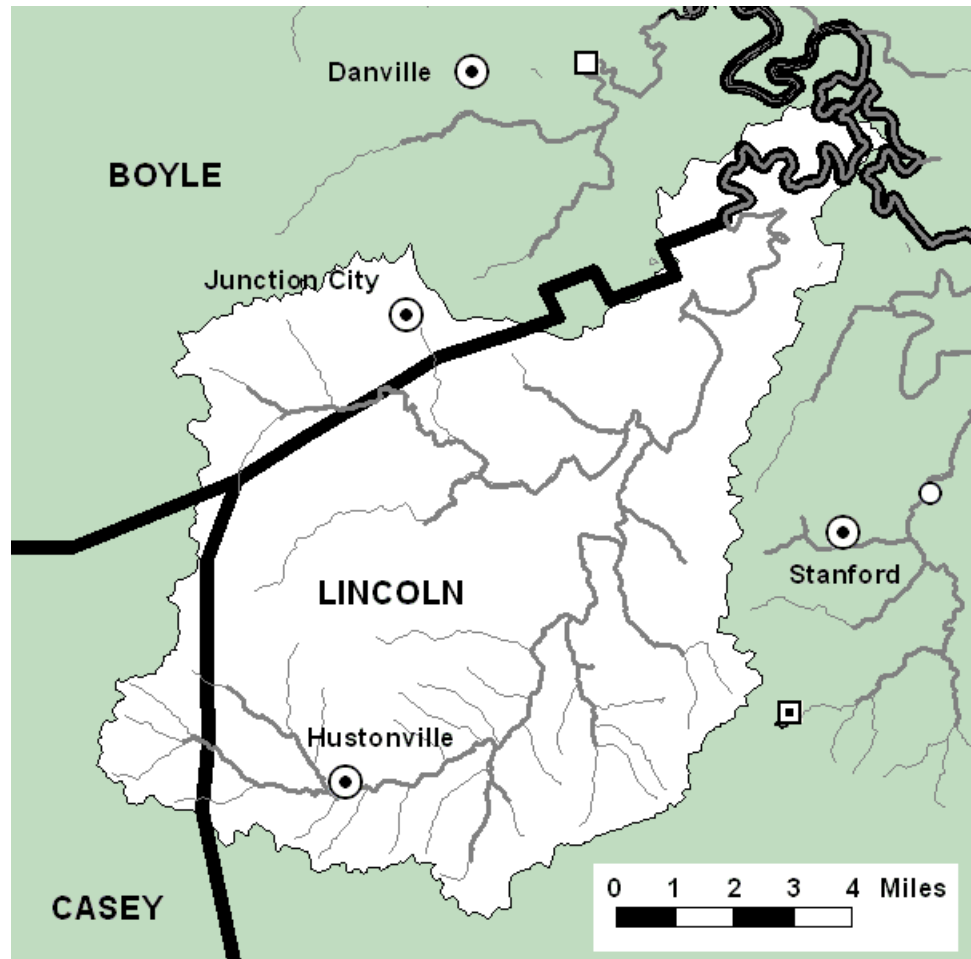
Dix River Region



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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



Clarks Run watershed (051002-05-190)

Geography. The Clarks Run watershed is in southeastern Boyle County and an adjacent edge of Lincoln County. 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. The watershed lies partly above fractured shales through which groundwater can easily move but which stores very little water. Other parts lie over interbedded clay shales and siltstones. There are also areas of interbedded shales and limestones (these are 20% limestone; water conduction is poor because of the clay content of the shale) and areas of interbedded limestones and shales (>20% limestone, allowing groundwater flow where the clay content is low enough).

Waterways. Clarks Run empties into the Dix River east of Danville, near Little Needmore. Among the creeks that feed it is Balls Branch.

Land and water use. Land in the watershed is more than 80% agricultural. It includes the southern half of Danville, and therefore is about 8% residential, and about 8% commercial or industrial. Five businesses and organizations hold permits for discharges into the creeks. See the 2000 Assessment Report for full details.

Agency data assessment. Three assessed segments of Clarks Run include one that does not support its designated uses, based on biological and/or water-quality data. One fully supports uses, and one only partially supports uses. Organic enrichment from municipal point sources and urban runoff contribute to the impairment of these streams. Pesticides from urban runoff also contribute in the nonsupporting segment. See the 2000 Assessment Report or 2000 305(b) list and the 2002 303(d) list of impaired streams for full details.

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Watershed Restoration Ranking			Watershed Protection Rank	Overall Watershed Rank	Framework Mobilization Category
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Low	Medium	Low	Medium	Low	IV

Watershed Highlights

Watershed covers 28 square miles.

Danville discharges treated sewage into the watershed.

Aquatic life fully or partially impaired by overenrichment and pesticides in Clarks Run below sewage plant (1st and 2nd priority TMDL 2002).

Groundwater is substantially more sensitive than the basin average.

This is a Watershed Watch Citizen Action Plan watershed.



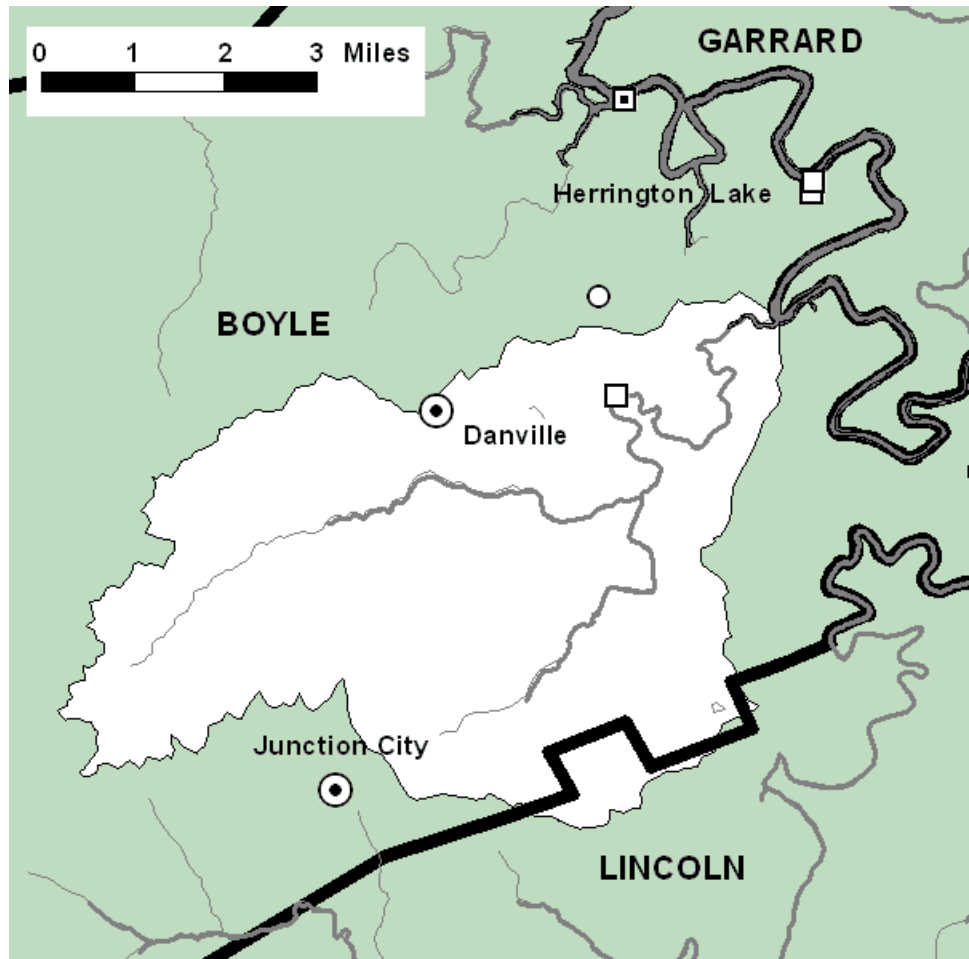
Dix River Region



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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



Spears Creek & Mocks Branch watershed (051002-05-200)

Geography. The Spears Creek & Mocks Branch watershed occupies northeastern Boyle County and part of southern Mercer County. The land is in the inner sub-region 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 inter-bedded limestones and shales (>20% limestone, allowing groundwater flow where the clay content is low enough).

Waterways. Both Spears Creek and Mocks Branch flow into Herrington Lake (the Dix River) at Gwinn Island, northeast of Danville.

Land and water use. Land in the watershed is 92% agricultural, and most of the rest is residential or commercial (Spears Creek drains the northern half of Danville). Three businesses and organizations hold permits for discharges into the creeks. See the 2000 Assessment Report for full details.

Agency data assessment. No creeks were assessed in this watershed.

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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	Medium	Low	Medium	Low	III

Watershed Highlights

Watershed covers 26 square miles.

Mocks Branch watershed is part of source water protection zone 3 for the Harrodsburg water system.

Groundwater is substantially more sensitive than the basin average.

Livestock density is substantially higher than the basin average.

NRCS has conducted a special project to address nonpoint source pollution concerns in the watershed for the past five years, implementing a wide variety of best management practices.

The Agriculture Watershed Awareness Program (AWAP) trained volunteers and tested 12 sites in the watershed on four dates during 2001.




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