

MILLVILLE CREEK WATERSHED (LW01)

The Millville Creek Watershed is located in the southwestern corner of Crawford County and the northwestern corner of Grant County. The watershed includes all streams in Crawford and Grant counties that flow into the Wisconsin River from just downstream of Wauzeka to the mouth of the Wisconsin River. Steep gradient streams are common in this watershed. The gradients of Bush, Gran Grae, and Little Kickapoo Creeks decrease significantly on their lower end where wetlands extend from the railroad tracks down to the Wisconsin River.

The city of Prairie du Chien lies just north of the watershed where the Wisconsin River joins the Mississippi River. The only municipality in the watershed, however, is the village of Wauzeka. Overall population in the watershed is estimated to be around 2,600. Wauzeka has experienced a 29% population growth over the last decade from a population of 595 to 768.

Due to the steep topography in the area, much of the acreage in the watershed is forested. The remainder is either in agriculture or private property that is not farmed. There are significant wetlands in the floodplain near the mouth of the Wisconsin River.

Table 1: Land Cover in the Watershed

<i>Land Cover</i>	<i>Percent of Watershed</i>
Forest (Total)	48.3%
<i>Broad-Leaf Deciduous</i>	<i>47.4%</i>
<i>Coniferous</i>	<i>0.9%</i>
Agriculture	33.6%
Wetland (Total)	8.3%
<i>Forested</i>	<i>4.6%</i>
<i>Emergent/Wet Meadow</i>	<i>3.7%</i>
<i>Lowland Shrub</i>	<i>0.04%</i>
Grassland	6.3%
Open Water	2.2%
Development	0.2%
Other	1.0%

Overall, nonpoint source pollution is considered the primary cause of water quality problems in streams in the watershed. However, since there is very little data to reflect current conditions, no overall watershed nonpoint source priority ranking has been assigned. A

Watershed At A Glance

Drainage Area (m²): 125.0

Total Stream Miles: 49.4

Trout Stream Miles: 20.2

Sport Fishery Miles: none

Lakes: Walnut Eddy

Exceptional/Outstanding Resource Waters: none

Municipalities: Wauzeka

Major Public Lands:

- ◆ Wyalusing State Park
- ◆ Wyalusing Unit of the LWSR
- ◆ Millville Unit of the LWSR
- ◆ Kickapoo River State Wildlife Area – Wauzeka Unit of the LWSR

Concerns and Issues:

- ◆ Nonpoint source pollution
- ◆ Ditching
- ◆ Atrazine

Initiatives and Projects:

- ◆ Wild trout reintroduction

portion of the watershed on the Lower Wisconsin River Valley is in an atrazine prohibition area. These areas indicate that elevated levels of atrazine, an herbicide used on corn, has been found in some tested private water wells. Soils are permeable which has allowed atrazine to reach groundwater in some locations. See [Appendix B](#). There are no permitted point source discharges in the basin.

The Millville Creek Watershed has a variety of good quality habitats and rare plant communities. One example of these are the Mississippi River floodplain and terraces that provide important habitat to migratory birds and reptiles and amphibians. In addition, there are several other important and rare plant communities in the watershed that are listed on the state's Natural Heritage Inventory (NHI), kept by the Bureau of Endangered Resources. These communities:

- ◆ Cedar glade
- ◆ Moist cliff
- ◆ Oak barrens
- ◆ Oak opening
- ◆ Pine relict
- ◆ Southern dry forest
- ◆ Southern dry-mesic forest
- ◆ Southern mesic forest
- ◆ Emergent aquatic
- ◆ Floodplain forest
- ◆ Southern sedge meadow
- ◆ Springs and spring runs, hard
- ◆ Wet-mesic prairie

In addition to these special communities, the watershed is also home for a variety of rare plant and animal species including; 7 species of birds, 2 species of butterflies, 7 species of dragonflies, 15 species of fish, 1 species of frog, 1 species of mayfly, 13 species of mussels, 27 plant species, 2 species of snails, 3 species of snakes, and 1 species of turtle. These plants and animals are also listed on the state's NHI.

The watershed contains public land that can be used for a variety of recreational purposes from fishing and boating to hiking and birdwatching. The Wyalusing, Millville, and Wauzeka Units of the Lower Wisconsin Riverway contain 7,850 acres of state-owned land (690, 3,625, and 3,535 acres respectively). Much of the WDNR owned land along the riverway is bordered by private property, so watch for property boundary signs and consult county plat books for specific land ownership parcels. A small portion of the Kickapoo River State Wildlife Area – Wauzeka Unit is located in the northeast portion of this watershed. Hunting and fishing and other recreational opportunities exist in this area. The Wyalusing State Park is located on the south side of the Wisconsin River where it meets the Mississippi River. This park contains miles of hiking and cross country ski trails as well camping sites, shelters, and stunning views atop the bluffs along the Mississippi and Wisconsin Rivers.

Streams in the Watershed

Bush Creek

Bush Creek, located in southern Crawford County, flows approximately four miles before reaching the Wisconsin River near Wauzeka. Bush Creek has a gradient of 30 feet per mile and drains forested and agricultural lands. Bush Creek is not a classified trout stream. A fish and habitat survey should be conducted of Bush Creek, since no biological data has been collected from this stream. Public access to Bush Creek is within Lower Wisconsin River State Wildlife Area near the mouth of the stream. A rare aquatic species has been noted in this stream.

Dutch Hollow Creek

The creek flows north to enter into the Wisconsin River just west of Millville. The creek is spring-fed and supports smaller forage fish species. There is access to the creek from the Millville Recreation Area.

Gran Grae Creek

Gran Grae Creek flows approximately five miles in a southerly direction in Crawford County and empties into the Wisconsin River. This stream has a gradient of 32 feet per mile and drains mostly forested land although there is some agriculture in the valleys. Several springs provide cold water to the creek. Gran Grae Creek is currently a Class II trout stream for the upper 4.9 miles. The stream was stocked by the WDNR with both brook and brown trout until 1978. Flooding, ditching and intensive livestock grazing limit habitat in Gran Grae Creek. A fish and habitat survey should be conducted on Gran Grae Creek to confirm the stream classification and determine if changes in land management have occurred which may have resulted in an improved fishery. The stream has been ranked as a high priority for nonpoint pollution reduction and has potential as a small-scale nonpoint source pollution abatement project. A rare aquatic species has been noted in this stream. Public access to Gran Grae Creek is located at the four road crossings and the Lower Wisconsin River State Wildlife Area near the mouth of the stream.

Lane Creek

Lane Creek is a spring fed tributary to the Wisconsin River. The creek is currently managed as a Class II trout stream. The stream has little in-stream habitat for trout and has some problems with streambank pasturing and erosion.

Little Kickapoo Creek

Little Kickapoo Creek flows in a southerly direction for approximately five miles before emptying into the Wisconsin River. Springs contribute to cool summer stream temperatures. This stream has a gradient of 33 feet per mile, but after the creek passes under the railroad tracks near HWY 61, the gradient decreases rapidly. Little Kickapoo Creek is a Class II trout stream for one mile downstream of Dutch Ridge Road and Class III for 1.5 miles upstream of Dutch Ridge Road.

Wisconsin River fish are likely inhabitants of this lower portion of Little Kickapoo Creek for at least part of the year. Brook trout were stocked in 1977 and the stream was surveyed in 1980. At the time of the survey, natural reproduction was evident by the brook trout fingerlings documented, however the total number of brook trout was very low. Only forage fish were documented during a survey conducted in 2000. The stream bottom in the upper portion of the stream consisted mostly of gravel, cobble, with lesser amounts of boulder and sand. In contrast, the station surveyed in the lower portion of the stream consisted almost entirely of sand, silt and clay. In-stream habitat for adult fish in the upper portion of Little Kickapoo Creek consisted mostly of woody debris, with some overhanging vegetation and undercut banks. The only fish habitat noted in the lower portion of this stream was woody vegetation. Little Kickapoo Creek should be stocked with wild brook trout fingerlings and their progress tracked over time with fishery surveys. Access to Little Kickapoo Creek is from three road crossings.

Millville Creek

Millville Creek is a spring fed stream that enters the Wisconsin River. The stream is a Class II trout stream and has the potential to be a Class I if natural resource problems are addressed. The stream supports some naturally reproducing brown trout. In-stream habitat is good and there is adequate streambank cover. A rare aquatic species has been noted in this stream.

Warner Creek

Warner Creek is a short, spring-fed tributary to Millville Creek. The creek is considered a Class II trout fishery. The creek experiences nonpoint source pollution from cropland erosion, streambank pasturing and streambank erosion.

Wisconsin River

The most downstream portion of the Wisconsin River flows through this watershed. For more information on the Wisconsin River see page 90.

Lakes in the Watershed

Walnut Eddy

Walnut Eddy is a main meander of the Wisconsin River. The eddy is located in the northwestern corner of Grant County and is part of the boundary of the Wyalusing State Park. The fishery in the eddy consists of northern pike, walleye, smallmouth bass, panfish and catfish. Walnut Eddy is approximately 58 acres and has a maximum depth of 10 feet although it may be difficult to navigate at times due to a swift current and sandbars.

RECOMMENDATIONS (LW01)

- ◆ Conduct baseline monitoring on **Bush, Lane, Millville and Warner Creeks**.
- ◆ **Bush, Gran Grae and Millville Creeks** should be surveyed to determine if rare aquatic elements previously found in the streams are still present.
- ◆ **Little Kickapoo Creek** should be stocked with wild brook trout fingerlings and their progress tracked over time with fishery surveys.
- ◆ Pursue a Targeted Runoff Management grant for **Gran Grae Creek** or some other nonpoint source pollution reduction project.
- ◆ A fishery and habitat survey should be conducted on **Gran Grae Creek** to confirm the stream classification and determine if changes in land management have occurred which may improve the fishery.
- ◆ Conduct stream assessment on **Millville Creek** to determine if it should be upgraded to a Class I trout stream and subsequently an ERW.
- ◆ Conduct stream monitoring to see if **Warner Creek** has naturally reproducing brook trout.

Watershed Map

Streams in the Millville Creek Watershed (LW01) Crawford and Grant Counties Area: 125 square miles

Stream Name	WBIC	Length (miles)	Existing Use	Potential Use	Supporting Potential Use	Codified Use and Trout Stream Classification	Proposed Codified Use	303(d) Status	Rare Aquatic Species	Use Impairment		NPS Rank	Monitored/ Evaluated/ Unassessed	Data Level	Trend	Ref.*	
										Source	Impact						
Bush Creek	1181400	4.1	U	U	U	DEF	same	N	Y	HM,NPS	HAB	NR	U	U	U	9	
Dutch Hollow Cr.	1181500	2	COLD	same	THR	DEF	same	N	N	NPS	HAB	NR	U	U	U	9	
Gran Grae Creek	1181300	0-1.1	U	U	U	DEF	same	N	Y	HM,NPS	HAB	H	E	U	U	4, 10, 14	
		1.1-6	COLD II	COLD I	PART	COLD II	same	N	N								
Lane Creek	1180600	6.8	COLD II	same	THR	COLD II	same	N	N	HM,PSB, SB	HAB	NR	E	U	U	4, 14, 17	
Little Kickapoo Cr.	1182300	0-1.0	U	U	U	DEF	same	N	N	BDAM	HAB, TEMP	M	M	B4, H4	I	10, 14	
		1.0-2.0	COLD II	COLD I	PART	DEF	COLD II	same	N	N							
		2.0-3.5	COLD III	COLD II	PART	DEF	COLD III	same	N	N							
Millville Creek	1181600	0-5.5	COLD II	COLD I	PART	COLD II	same	N	Y	HM, BDAM	HAB	NR	E	U	U	4, 14, 17	
		5.5-9	COLD	same	THR	DEF	same	same	N	N							
Warner Creek	1181700	0-0.5	COLD II	same	THR	COLD II	same	N	N	CL,PSB, SB	HAB	NR	E	U	U	4, 14	
		0.5-1	U	U	U	DEF	same	same	N	N							
Unnamed Streams (11)		17				DEF											
Total Stream Miles		49.4															
		COLD	5.5														
		COLD II	18.7														
		COLD III	1.5														
		U	23.7														

***The numbers in this column refer to the References found in the corresponding Watershed Narrative. See Appendix J: "How to Read the Stream Tables," in Chapter 7 of the State of the Lower Wisconsin River Basin Report.**

Lakes in the Millville Creek Watershed (LW01)

Lakes in the Millville Creek Watershed (LW01)										Crawford and Grant Counties					
Lake Name	WBIC	County	Surface Area (Acres)	Max Depth	Lake Type	Winterkill	Access	SH	Hg	MAC	LMO	TSI	Lake Plan or Prot	P Sens	Comments
Walnut Eddy	1180100	Grant	58	10	DG	N	NW							2	

See Appendix K: "How to Read the Lake Tables," in Chapter 7 of the Lower Wisconsin State of the Basin Report.

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