

UPPER KICKAPOO RIVER WATERSHED (LW06)

The Upper Kickapoo River Watershed is located in south central Monroe County. This watershed includes all streams that flow to the Kickapoo River upstream of Ontario. The topography of the Upper Kickapoo River Watershed differs from other Kickapoo River watersheds in that the valleys are much wider and the slopes not quite as steep. Consequently, this watershed ranks second behind the West Fork of the Kickapoo River Watershed in percent of land in agriculture. Fish surveys dating back to the 1950's document an abundance of forage fish in Upper Kickapoo River Watershed streams. Domestic trout stocked in these streams over the years have not resulted in self-sustaining populations. At this time we believe the streams in this watershed are not capable of sustaining trout due to higher than desirable water temperatures. It is interesting to note that the Upper Kickapoo River Watershed is surrounded by watersheds with similar land use patterns but by contrast contain abundant trout streams. We believe this watershed has less cold water influence to streams due to a unique confining rock layer. This rock layer impedes deep infiltration of rainwater and snowmelt preventing it from cooling adequately before returning to a stream as groundwater or springs.

Population of the Upper Kickapoo River Watershed for the year 2000 was estimated at approximately 3,610, which includes portions of four townships and three villages. The fastest growing community in this watershed is Ontario at nearly 17%.

Table 1: Growth in Municipalities in the Watershed

<i>Municipality</i>	<i>1990</i>	<i>2000</i>	<i>% Change</i>
Norwalk	564	653	15.8%
Ontario (part)	407	476	16.9%
Wilton	478	519	8.6%

Norwalk, Norwalk-Ontario Schools, Wilton and Valley Pride Pack each have Wisconsin Pollutant Discharge Elimination System (WPDES) permits to discharge treated wastewater to streams in this watershed. Part of the the Village of Norwalk's original treatment plant is very old and in need of upgrading. A wastewater treatment facility operated by Norwalk-Ontario Schools is located just north of the intersection of County Highway T and State Highway 131 in Southern Monroe County. The school was formally known as Brookwood High School, but in 1995 a new elementary school was built on the site, hence the name change. The original treatment system was constructed 1961 and the seepage cell was supposed to function as a non-aerated lagoon. The liner leaked and therefore all effluent seeps to groundwater.

Watershed At A Glance

Drainage Area (m²): 117

Total Stream Miles: 114.4

Trout Stream Miles: 7.6

Sport Fishery Miles: 0

Lakes: Tri-Creek Impoundment

Exceptional/Outstanding Resource Waters: None

Municipalities: Norwalk, Ontario, Wilton

Major Public Lands:

- ◆ Elroy - Sparta State Trail
- ◆ Monroe County Land

Concerns and Issues:

- ◆ Nonpoint source pollution

Initiatives and Projects:

- ◆ Continuous water temperature monitoring
- ◆ Fish and habitat surveys

The existing system has reaching the end of its useful life and the system is also nearing design capacity. The School District should consider going into facility planning to determine how the School will provide wastewater treatment in the coming years. Valley Pride Pack, Inc. discharges to Morris Creek in the Upper Kickapoo River Watershed (LW06). The department has referred this facility to the Department of Justice for landspreading and effluent violations four times in the past fifteen years.

Overall, nonpoint source pollution is considered the primary cause of water quality problems in streams of this watershed. Overgrazing of livestock on streambanks, cropland erosion, and streambank erosion are the primary nonpoint source problems in the Upper Kickapoo River Watershed. Consequently the stream ranking of high has been assigned for nonpoint source pollution abatement efforts.

Table 2: Land Cover in the Watershed

<i>Land Cover</i>	<i>Percent of Watershed</i>
Agriculture	46.9%
Forest (Total)	36.0%
<i>Broad-Leaf Deciduous</i>	35.0%
<i>Coniferous</i>	1.0%
Grassland	14.5%
Wetland (Total)	0.93%
<i>Emergent/Wet Meadow</i>	0.61%
<i>Forested</i>	0.25%
<i>Lowland Shrub</i>	0.07%
Other	1.42%
Development	0.20%

The Upper Kickapoo River Watershed has a variety of good quality habitats and rare plant communities that are listed on the state’s Natural Heritage Inventory, (NHI), kept by the Bureau of Endangered Resources. These communities include:

- ◆ Dry cliff
- ◆ Hemlock relict
- ◆ Moist cliff
- ◆ Northern mesic forest
- ◆ Pine relict
- ◆ Southern dry-mesic forest
- ◆ Southern mesic forest
- ◆ Alder thicket
- ◆ Forested seep
- ◆ Southern sedge meadow

In addition to these special communities, the watershed is also home for a variety of rare plant and animal species including; 3 bird species, 1 species of beetle, 1 species of fish, and 5 plant species. These plants and animals are listed on the state’s NHI.

Public lands in the Upper Kickapoo River Watershed are few. Monroe County owns just over 1,000 acres in numerous parcels within the watershed. This county land is concentrated in the headwaters of Morris Creek and the Tri-Creek Impoundment. The Elroy-Sparta State Trail

traverses this watershed from east to west. This former railroad bed has been converted to a trail that crosses the Kickapoo River, Sleighton Creek and Morris Creek and contains three tunnels.

STREAMS AND RIVERS IN THE WATERSHED

Cook Creek

Cook Creek, located in south central Monroe County, flows in a southeasterly direction for 5.5 miles before reaching the Kickapoo River near Ontario. This stream has a gradient of 68 feet per mile and drains agricultural land with wooded hillsides. Cook Creek is a Class III trout stream for its entire length.

The most recent survey, conducted in 1968, documented brook trout and brown trout as well as numerous forage fish species. The stream bottom was dominated by sand with some gravel. A fish and habitat survey of Cook Creek should be conducted to determine existing conditions. Temperature monitoring should be able to determine if Cook Creek is appropriate for introducing wild strains of trout which have a better chance of establishing a self sustaining population than traditional stocked trout. WDNR records indicate that Cook Creek has been stocked with both brook and brown trout consistently since 1960. Access to Cook Creek is from four road crossings.

Kickapoo River

A total of 22 miles from the headwaters down to Ontario flow through the Upper Kickapoo River Watershed. For information on the entire Kickapoo River see page 98.

Morris Creek

Morris Creek, also known as Moore Creek, is located in south central Monroe County. This stream flows in a southeasterly direction for 7.5 miles before reaching the Kickapoo River north of Ontario. Morris Creek has a gradient of 26 feet per mile and drains the Village of Norwalk, agricultural lands with wooded hillsides. Morris Creek receives treated wastewater from the Village of Norwalk and Valley Pride Pack, an animal rendering plant. Morris Creek is not a classified trout stream.

The most recent survey, conducted in 1997, documented brook trout and numerous forage fish species. The stream bottom was comprised of equal amounts of gravel, rubble, sand and silt. In-stream cover included woody debris, boulders and some undercut banks. Temperature monitoring should be able to determine if Morris Creek is appropriate for introducing wild strains of trout to establish a self sustaining population. WDNR records indicate that Morris Creek has been stocked with brook trout regularly since 1994. Access to Morris Creek is from six road crossings, Monroe County land, and the Elroy-Sparta State Trail.

Poe Creek

Poe Creek, located in south central Monroe County, flows in a westerly direction for 4.3 miles before reaching the Kickapoo River south of Wilton. This stream has a gradient of 42 feet per mile and drains agricultural valleys with wooded hillsides. Poe Creek is not a classified trout stream.

The most recent survey, conducted in 1968, documented a forage fishery and a stream bottom comprised mainly of sand with some gravel and cobble. A fish and habitat survey should be conducted of Poe Creek to determine existing conditions. Temperature monitoring should be able to determine if Poe Creek is appropriate for trout. WDNR records indicate that Poe Creek has not been stocked with trout. Access to Poe Creek is from six road crossings.

Posey Creek

Posey Creek, located in south central Monroe County, flows in an easterly direction for 2.3 miles before reaching the Kickapoo River south of Wilton. This stream has a gradient of 87 feet per mile and drains agricultural land with wooded hillsides. Posey Creek is not a classified trout stream.

The most recent survey, conducted in 1968, documented numerous forage fish species and a stream bottom dominated by sand with some gravel. A fish and habitat survey should be conducted of Posey Creek to determine existing conditions. Temperature monitoring should be able to determine if Posey Creek is appropriate for trout. WDNR records indicate that Posey Creek has not been stocked with trout. Access to Posey Creek is from three road crossings.

Sleighton Creek

Sleighton Creek, located in south central Monroe County, flows in a southerly direction for 5.0 miles before reaching the Kickapoo River in Wilton. This stream has a gradient of 45 feet per mile and drains agricultural land with some wooded hillsides. Sleighton Creek is not a classified trout stream.

The most recent survey, conducted in 1998, documented an abundance of forage fish species. The stream bottom consisted primarily of cobble and sand. In-stream cover included woody debris, some undercut banks and overhanging grasses. Surveys conducted since 1951 have consistently documented only forage fish species in Sleighton Creek. Continuous temperature monitoring of Sleighton Creek should reveal whether this stream is suitable for trout. WDNR records indicate that Sleighton Creek has not been stocked with trout. Access to Sleighton Creek is from four road crossings. A rare aquatic species has been found in the creek.

Spring Valley Creek

Spring Valley Creek (Creek 10-2), located in south central Monroe County, flows in an easterly direction for 4.2 miles before reaching Morris Creek. This stream has a gradient of 70 feet per mile and drains agricultural land with forested hillsides. Spring Valley Creek is not a classified trout stream.

The most recent survey, conducted in 1997, documented only one brook trout and an abundance of forage fish. The stream bottom consisted primarily of gravel and cobble, however silt comprised much of the substrate also. Streambank pasturing and barnyard runoff were contributing sediment and nutrients to this stream. Continuous temperature monitoring of Spring Valley Creek should reveal whether this stream is suitable for trout. WDNR records indicate that Spring Valley Creek has been stocked with brook trout from 1994 to 2001. A fish and habitat survey should be conducted to determine if stocking has produced a self

sustaining brook trout population. Access to Spring Valley Creek is from two road crossings. A rare aquatic species has been found in the creek.

Creek 21-6

Unnamed Creek 21-6, located in south central Monroe County, flows in a southeasterly direction for 0.7 miles before reaching the Tri-Creek Impoundment north of Norwalk. This stream parallels the Elroy - Sparta State Trail and has a gradient of 80 feet per mile. Creek 21-6 drains agricultural land and forested hillsides. Creek 21-6 is a Class I trout stream for its entire length.

The most recent survey, conducted in 1997, documented brook trout and several forage fish species including mottled sculpin. Gravel and cobble dominated the stream bottom. In-stream cover consisted of undercut banks and woody debris. A beaver dam was limiting upstream migration of fish. Temperature monitoring should be conducted to document existing stream conditions. WDNR stocking records indicate Creek 21-6 was last stocked in 1986 with brown trout, however the downstream impoundment was stocked with brook, brown and rainbow trout from 1999 to present. Access to Creek 21-6 is from Monroe County owned land and the Tri-Creek Impoundment.

Creek 28-16

Unnamed Creek 28-16, located in south central Monroe County, flows in a southeasterly direction for 0.5 miles before reaching Morris Creek on the south side of Norwalk. This stream has a gradient of 40 feet per mile and drains agricultural land and a portion of Norwalk. Creek 28-16 is a Class II trout stream for its entire length.

The most recent survey, conducted in 1997, documented brook trout and brook stickleback. Gravel and cobble dominated the stream bottom. In-stream cover consisted of overhanging grasses, boulders and undercut banks. The lower portion of Creek 28-16 has been ditched. Temperature monitoring should be conducted to document existing stream conditions. WDNR records indicate that Creek 28-16 was last stocked with brown trout in 1986. Access to Creek 28-16 is from one road crossing.

Creek 34-6

Unnamed Creek 34-6, located in south central Monroe County, flows in a southwesterly direction for 0.9 miles before reaching Morris Creek southeast of Norwalk. This stream has a steep gradient of 114 feet per mile and drains agricultural land with forested hillsides. Creek 34-6 is a Class II trout stream for its entire length.

The most recent survey, conducted in 1997, documented brook trout and numerous forage fish species. Gravel and cobble dominated the stream bottom, however overgrazing of livestock on the streambank was contributing silt to the stream. In-stream cover consisted of woody debris, overhanging grasses, boulders and undercut banks. Temperature monitoring should be conducted to document existing stream conditions. WDNR records indicate that Creek 34-6 was last stocked in 1986 with brown trout. Since a brook trout fishery has established itself in this stream, only brook trout should be stocked in the future. Access to Creek 34-6 is from four road crossings.

LAKES IN THE WATERSHED

Tri-Creek Impoundment

The Tri-Creek Impoundment is a rare lake resource located in southern Monroe County and is the result of a flood control structure built in the early 1970's on a tributary to Morris Creek. This 24-acre impoundment is located on Monroe County land just west of Norwalk near the Elroy - Sparta State Trail. Algae blooms and excessive aquatic plant growth plague this impoundment. A water quality assessment of Tri-Creek Impoundment should be conducted to determine existing conditions. WDNR records indicate the Tri-Creek Impoundment has been stocked annually since 1976. In the last five years, largemouth bass, brown trout, rainbow trout, and brook trout have been stocked. An unimproved access to the Tri-Creek Impoundment is located on the northwest side of the lake on Monroe County land.

RECOMMENDATIONS (LW06)

- ◆ Continuous temperature monitoring of **Cook Creek, Morris Creek, Poe Creek, Posey Creek, Sleighton Creek, Spring Valley Creek, Creek 21-6, 28-16 and Creek 34-6** should be conducted to determine suitability for trout.
- ◆ Fish and habitat surveys should be conducted on **Cook Creek, Poe Creek, Posey Creek, and Spring Valley Creek** to determine existing conditions.
- ◆ Stocking of **Creek 21-6, Creek 28-18 and Creek 34-6** should be done with wild brook trout.
- ◆ A water quality assessment of **Tri-Creek Impoundment** should be conducted to determine existing conditions.
- ◆ **Sleighton Creek, Spring Valley Creek** and the **Kickapoo River** should be surveyed to determine if rare aquatic species previously found in the stream are still present.
- ◆ A facility plan is needed to determine what upgrades are needed at the Village of Norwalk's treatment facility.
- ◆ The Norwalk-Ontario School District should consider conducting facility planning to determine how the School will provide wastewater treatment in the coming years.
- ◆ WDNR should continue to watch discharge from Valley Pride Pack. If discharge does not comply with the existing permit, the Department should revoke the facility's WPDES permit.

Watershed

Map

Streams in the Upper Kickapoo River Watershed (LW06)

Monroe County

Area: 117 sq 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					
Cook Creek	1199600	0-5.5	COLD III	U	U	COLD	same	N	N	SB	HAB	NR	E	B2, H2	U	1,2,10,13
Kickapoo River	1182400	108-130	WWFF	COLD II	Not	DEF	same	N	Y	SB, FL	HAB	H	E	B3, H2	U	1,9,10
Morris Creek	1200000	0-7.5	WWFF	COLD II	Not	DEF	same	N	N	SB, PSB	HAB	H	M	B4, H3	S	1,7,10
Poe Creek	1202200	0-4.3	WWFF	U	U	DEF	same	N	N			NR	E	B2, H2	U	1,10,14
Posey Creek	1202700	0-2.3	WWFF	U	U	DEF	same	N	N			NR	E	B2, H2	U	1,10,12
Sleighton Creek	1202900	0-5.0	WWFF	COLD II	Not	DEF	same	N	Y	SB, PSB	HAB	H	M	B4, H3	S	1,6,10
Spring Valley Creek (Creek 10-2)	1200200	0-4.2	WWFF	COLD II	U	DEF	same	N	Y	PSB, BY	HAB	H	M	B4, H3	S	1,3,10
Creek 21-6		0-0.7	COLD I	same	Thr	DEF	COLD I	N	N	BDAM		H	M	B4, H3	I	1,4,10
Creek 28-16	1201000	0-0.5	COLD II	COLD I	Part	DEF	COLD II	N	N	PSB, SB	HAB	H	M	B4, H3	I	1,5,10
Creek 34-6	1200900	0-0.9	COLD II	COLD I	Part	DEF	COLD II	N	N	PSB	HAB	H	M	B4, H3	I	1,8,10
34 Unnamed Streams		61.5														
Total Stream Miles		114.4														
		COLD I	0.7													
		COLD II	1.4													
		COLD III	5.5													
		WWFF	45.3													
		U	61.5													

***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.**

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