

Appendix C



Introduction

The South Branch Kawkawlin River, a tributary to the Kawkawlin River and Saginaw Bay is located in western Bay County and flows into the Mainstem Kawkawlin near Bay City, Michigan. The Kawkawlin River drains nearly 250 square miles of land in Bay, Midland, Gladwin, and Saginaw Counties. The South Branch originates from many small drains around the Bay-Midland County line. Geology of the area is considered part of the Huron-Erie Lake Plain and is dominated by soils of medium to low permeability. The Kawkawlin watershed is dominated by flat, lucustine clay soils that have been largely artificially drained for agricultural purposes. Over 85% of the naturally occurring soils in the watershed area are classified by the US Dept. of Agriculture as poorly drained.

Topography of the area is described as generally flat resulting in low stream gradient. Land use is dominated by agriculture (corn, soybean, sugar beets) and many fields have been tilled. There are also several areas where cattle are grazed. The riparian corridor varies from flowing through open fields to having some forest buffers.

The South Branch Kawkawlin is a medium sized warm water tributary dominated by surface water inputs and very little ground water influence with generally low flow during the late summer. Widths ranged from 10.5 to 50 feet and averaged 24.69 feet. Water depths averaged around 1.6 feet and ranged from 0-4 feet. In-stream fish habitat consisted of aquatic vegetation, and some logs. Thermal characteristics, based on actual temperature data collected in 2008 on the Kawkawlin just below the confluence with the North Branch, indicate a warm stream with a mean July water temperature of 72.4°F and a temperature range of 64.58°F and 81.02°F.

Past Fisheries Management

Fisheries management has been limited to commenting and providing support on permit reviews and supporting nutrient management and reductions in sedimentation. No past fisheries surveys have been conducted by the MDNR in the South Branch Kawkawlin. MDEQ Water Bureau has done some water quality reports.

Survey Objective

This survey was conducted on August 6, 2008, as part of Fisheries Division's "Status and Trends" random stream monitoring program. Status and Trends monitoring uses a Valley Segment Ecological Classification system where common attributes such as land cover, hydrology, channel shape, valley shape, surficial geology, and water temperature identify similar types of water bodies and reaches of streams. The program then implements standardized procedures for fish collection and habitat evaluation. Ultimately, streams monitored under the Status and Trends Program will allow for comparisons on a statewide basis.

South Branch Kawkawlin at Wilder Road/ 7 Mile (VSEC 3222)

This location was selected as a representative and shockable site within Valley Segment 3222. It is located approximately 4 miles west of I75 and 7 miles west and 3 miles north of Bay City. It is above the confluence with the North Branch. The sampling station started along Wilder Road where the road curves just west of the bridge at 7 Mile Road. A 1200 foot station was sampled using a stream shocker with 2 probes.

Within the sampling boundaries, the stream corridor is forested immediately but farm fields surround the forests. Flooded vegetation was common. The stream bank stability was rated as excellent to good in this reach. At the time of sampling, flows were extremely low. In-stream habitat was considered moderate with occasional occurrence of small brush accumulations, aquatic vegetation and logs.

Habitat sampling indicated the average wetted width of the station was 24.7 feet and depth was 1.6 feet. Stream discharge was less than 4.12 cfs. The entire station was considered moderate run habitat. At the time of the survey, water temperature was 69-71 F. Stream substrate was calculated to consist of 46% sand, 1.5% detritus/silt, 38% gravel, 3% clay, 7% small cobble, 1.5% boulder, and 1.5 % wood. A surprising amount of gravel was not imbedded.

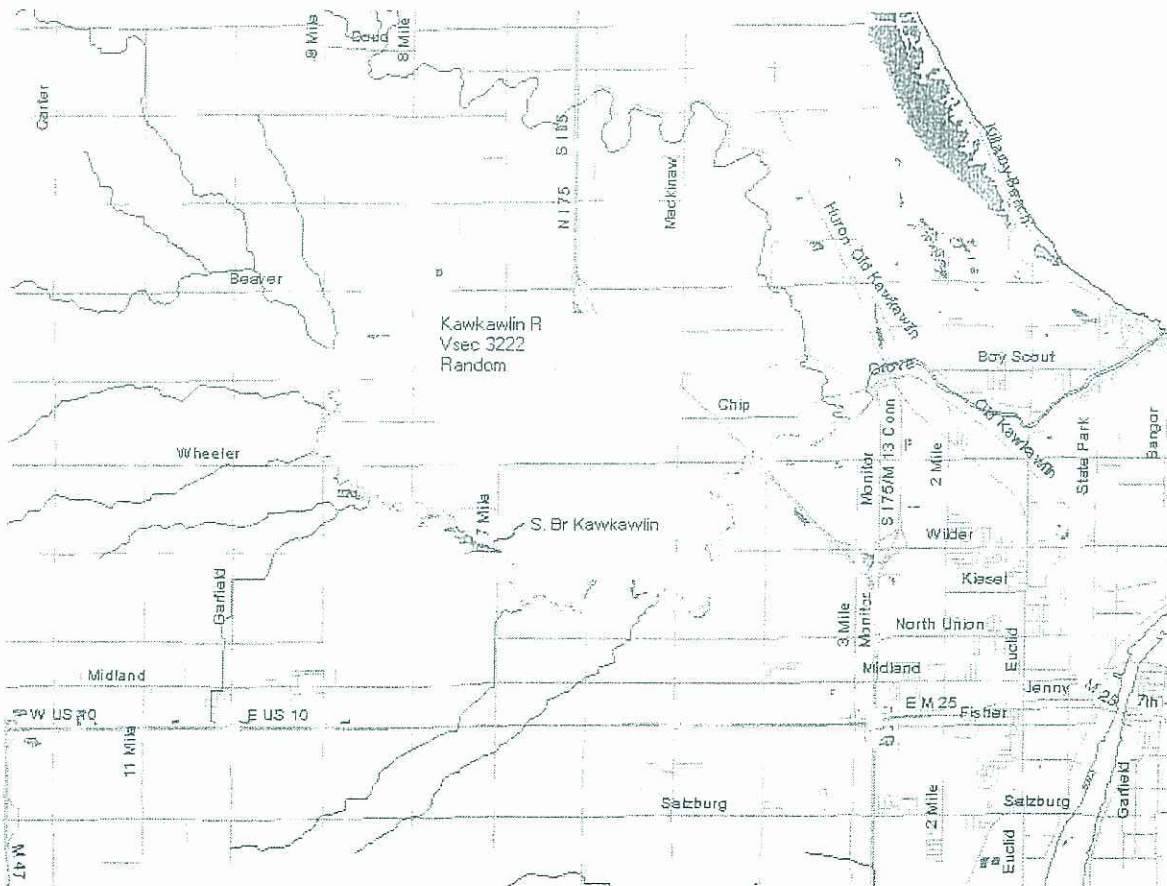
A total of 639 fish representing 17 species were collected at this site. The most common species in the survey was round gobies. The 286 captured, represented 45% of the survey catch. Yellow bullheads were also quite numerous, comprising 21% of the survey catch. Green sunfish and bluegill were also abundant. Also captured in the survey

catch were black crappie, bluntnose minnow, blackside darter, golden shiner, largemouth bass, logperch, central mudminnow, northern pike, pirate perch, pumpkinseed sunfish, rock bass, stonecat, and yellow perch.

Discussion

The fish community found at this location is typical of medium warm water streams in this area of Michigan. The species richness is probably higher because of the Kawkawlin's proximity and connectivity with Saginaw Bay. The Kawkawlin has issues of sedimentation and excessive nutrient inputs. There have been extensive efforts and improvement projects targeting the Kawkawlin. Continue to protect the watershed and limit nutrient inputs where feasible.

Figure 1. Location of the station on the South Branch Kawkawlin.





Water: Kawkawlin River

Discharge county: Bay

Survey begin: 08/06/2008

end: 08/06/2008

T/R/S:

Survey type: Inland Stream

Status: Approved

Primary purpose: Status & Trends

Valley seg: 322

Note: Random, KawKawlin R. Wilder Road

Species/strain	Inch group	No. caught	Lbs. caught
Black crappie	6	1	0.14
Avg. length: 6.5 in.	Sample totals:	1	0.14
Bluegill	2	8	0.07
	3	2	0.05
	4	6	0.35
	5	1	0.11
	Sample totals:	17	0.58
Avg. length: 3.5 in.			
Bluntnose minnow	1	6	0.01
	2	2	0.01
	Sample totals:	8	0.02
Avg. length: 1.8 in.			
Blackside darter	2	1	0
	3	1	0.01
	Sample totals:	2	0.01
Avg. length: 3 in.			
Gobies (Family)	1	185	
	2	40	
	3	38	
	4	21	
	5	2	
	Sample totals:	286	0
Avg. length: 2.2 in.			
Golden shiner	3	2	0.03
	Sample totals:	2	0.03
Avg. length: 3.5 in.			
Green sunfish	1	1	0
	2	27	0.26
	3	21	0.58
	4	3	0.18
	5	2	0.23
	6	1	0.2
	Sample totals:	55	1.45
Avg. length: 3.2 in.			
Largemouth bass	1	2	0
	2	6	0.04
	3	1	0.02
	Sample totals:	9	0.06
Avg. length: 2.4 in.			
Logperch	3	1	0.01
	4	1	0.03
	Sample totals:	2	0.04
Avg. length: 4 in.			



Fish Collection System

All Gear Combined

Produced: September 1, 2009

Species/strain	Inch group	No. caught	Lbs. caught
Central mudminnow	1	1	0
Avg. length: 1.5 in.	Sample totals:	1	0
Northern pike	4	1	0.02
	5	1	0.03
	6	3	0.15
	7	2	0.16
	8	2	0.23
	9	1	0.17
	16	2	1.87
	17	2	2.25
	18	1	1.34
	20	1	1.85
Avg. length: 11.1 in.	Sample totals:	16	8.07
Pirate perch (Family)	1	13	
	2	21	
	3	40	
	4	5	
Avg. length: 3 in.	Sample totals:	79	0
Pumpkinseed	2	3	0.03
	3	4	0.12
	4	6	0.42
	5	2	0.26
Avg. length: 4 in.	Sample totals:	15	0.83
Rock bass	1	1	0
	2	1	0.01
	4	2	0.13
Avg. length: 3.3 in.	Sample totals:	4	0.14
Stonecat	1	1	0
	2	3	0.02
	3	1	0.02
Avg. length: 2.5 in.	Sample totals:	5	0.04
Yellow Perch	2	1	0.01
	4	1	0.03
Avg. length: 3.5 in.	Sample totals:	2	0.04
Yellow bullhead	1	1	0
	3	3	0.07
	4	25	1.18
	5	37	3.12
	6	33	4.51
	7	13	2.69



Fish Collection System

All Gear Combined
Produced: September 1, 2009

Species/strain	Inch group	No. caught	Lbs. caught
Yellow bullhead	8	14	4.15
	9	7	2.86
	10	2	1.09
Avg. length: 6.3 in.	Sample totals:	135	19.67