

2004 Baseline Survey of Cottage Inn Branch

Middle Pecatonica River Watershed (SP08), Sugar Pecatonica Basin

Lafayette County

WBIC 927100

September 27, 2004

Jim Amrhein, Watershed Specialist
South Central Region

Cottage Inn Branch begins in northwestern Lafayette County and flows 7 miles southeast where it joins Bonner Branch. In 1970 the stream was impounded about 3 miles from its headwaters forming Joy Lake. Whiteside Branch joins Cottage Inn Branch about a mile downstream from Joy Lake. According to the fish manager, Cottage Inn Branch is a degraded warm water sport fishery. It was once reported to hold good populations of channel catfish and smallmouth bass (Surface Waters of Lafayette County, WDNR, 1967). The stream is habitat impaired due to nonpoint source pollution from barnyards, pasturing, and runoff from croplands.

The stream was surveyed on September 27, 2004 above Cottage Inn Road. A 445 meter stretch was shocked using a 240 volt stream shocker with 2 probes. An attempt was made to collect all fish species in order to determine an Index of Biotic Integrity (IBI). A habitat and macroinvertebrate evaluation was also conducted at this site, but those results are not yet available.

Cottage Inn Branch at this site averaged 5.8 meters wide and 0.3 meters deep. Flow was measured at 3.5 ft³/second (0.099 m³/second). The depth varied quite a bit between the riffles and the pools. This section was entirely in pasture. Bank height varied from 0 to 6 feet with the outside bends being high and raw. The stream bottom was mostly gravel and rubble/cobble. There are some areas of silt, but the gradient is high enough to keep most of the bottom clean. There were periodic areas of curlyleaf pondweed and sago pondweed.

The following non-game species were collected:

Species	Number*
Common Shiner	284
Bluntnose Minnow	310
Hornyhead Chub	420
White Sucker	60
Fantail Darter	233
Creek Chub	83
Southern Redbelly Dace	70
Johnny Darter	154
Central Stoneroller	364
Sand Shiner	7
Suckermouth Minnow	3
Fathead Minnow	7
Stonecat	7
Banded Darter	11

* In pools at the base of riffles, fish were so numerous that not all specimens could be collected.

Additionally, the following game and panfish species were collected:

Species	Length (in.)	Species	Length (in.)
Largemouth Bass	2.8	Black Crappie	7.4
Largemouth Bass	3.1	Black Crappie	7.4
Smallmouth Bass	5.6	Black Crappie	7.2
Smallmouth Bass	5.7	Bluegill	2.4
Black Crappie	7.3	Bluegill	2.3
Rock Bass	7.2		

The warm water IBI for this section of stream was 35 (fair).

Summary

The numbers and diversity of fish species generally reflect the stream size and they type of habitat. This survey was conducted at the end of a cool, wet summer. It is interesting to note that this was historically considered a decent fishery for smallmouth bass and catfish and it was a bit surprising that more gamefish such as smallmouth bass were not found. Sampling by Fago et. al. in 1976 and 1994 yielded generally the same list of species as was noted in the 2004 survey. It is not known what impact the damming of the stream and formation of Joy Lake in 1970 had on the quality of the fishery. The affects of agriculture (heavy pasturing) in this area and lack of habitat (except for depth) for larger fish may also be a factor limiting the amount of game species.

Management Recommendations

Employ agricultural best management practices in the watershed to mitigate nonpoint source pollution.

Slope and stabilize stream banks along the length of the stream.

Add habitat such as anchored logs or boulders in selected (deeper) sections of the stream.

Reevaluate the potential of the stream to determine the realistic potential for the stream (forage fish vs. sport fish) and evaluate adding this site to the state's list of impaired waters [303(d)].