

Wisconsin Water Quality Handout

Middle Apple Creek 2015 (EGAD 3200-2018-69)



Watershed Details

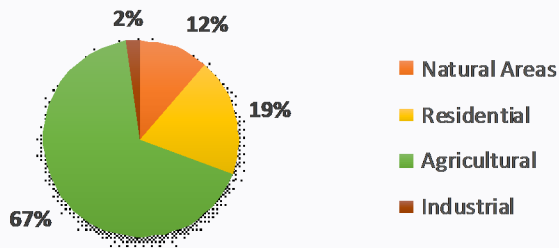
The upper portion of Apple Creek in Outagamie County flows primarily through an agricultural landscape before flowing into the Fox River near Wrightstown. In 1996, a priority watershed plan was developed for the Duck, Apple, and Ashwaubenon watersheds to address potential nonpoint sources of phosphorus and sediment.

Monthly water chemistry samples were collected by citizen monitoring volunteers from May to October. In addition, habitat, fish and macroinvertebrates surveys were conducted by the Wisconsin DNR at sites throughout the watershed to assess the physical and biological conditions of streams in the watershed.



UNT to Apple Creek on Farrell Road.

Apple Creek Watershed Land Use



Physical Habitat

Streams in the Middle Apple run through a heavily agricultural landscape. Habitat ratings were fair at all four sites with limited pools and riffles, extensive fine sediment, and limited cover for fish which lowered the scores.

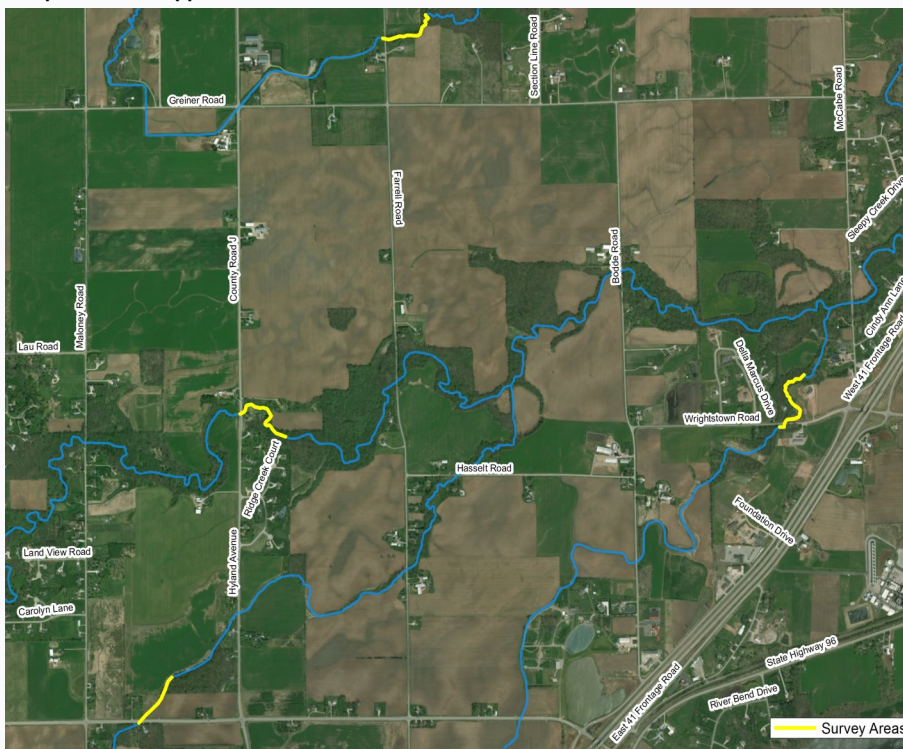
Chemical

Total Phosphorus concentrations at CTH J were 2.5-5 times higher than Wisconsin's Water Quality Standard of 0.075mg/L throughout the growing season.

Biological

The four survey locations of the Middle Apple Creek had a total of 11 fish species, all of which are at least moderately tolerant to environmental degradation. A non-native invasive species, the Round Goby, was found in Apple Creek at CTH J. A few young of the year Large-mouth Bass were also captured at CTH J. Indexes of biological integrity (IBI) of fish data were calculated to be fair to good. Macroinvertebrate samples were collected at all four locations and the Macroinvertebrate IBI scores rated from fair to good.

Map Of Middle Apple Creek



Andrew Hudak
Water Resources Biologist
Phone: (920) 662-5117
Andrew.hudak@wisconsin.gov



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Management Recommendations

Soil Health principles should be adopted to improve infiltration along with sediment and nutrient retention on agricultural lands in the watershed. Construction site erosion control needs to be properly planned and maintained to adequately prevent erosion and soil loss during events. Urban storm water best management practices should continue to properly site treatment ponds and consider additional infiltration practices to reduce the rate of storm water delivery to the streams. Additionally, vegetative buffer widths should be expanded to prevent soil loss and to increase distances between nutrient application and waterways. Conservation practices to address dissolved phosphorous should be a high priority in this sub watershed.

Apple Creek at CTH J	May	Jun.	Jul.	Aug.	Sep.	Oct.	90% LCI-M*	WI WQ-STD
Total Phosphorus mg/L	0.358	0.252	0.330	0.215	0.207	0.249	0.230	0.075

*Wisconsin applies the lower 90% confidence interval around the median for Total Phosphorus impairment decisions.



Fish and Habitat Ratings			
Stream Site	Fish IBI	Habitat Rating	Macro invertebrate IBI
Unnamed Tributary to Apple Creek at Wrightstown Road	Fair	Fair	Fair
Unnamed Tributary to Apple Creek at Farrell Road	Good	Fair	Fair
Apple Creek at CTH J	Fair	Fair	Good
Unnamed Tributary to Apple Creek at CTH JJ	Fair	Fair	Fair



Top: UNT to Apple at CTH JJ.

Middle: UNT to Apple at Wrightstown Road.

Right: Round Goby found on Apple Creek at CTH J.



Apple Creek at CTH J