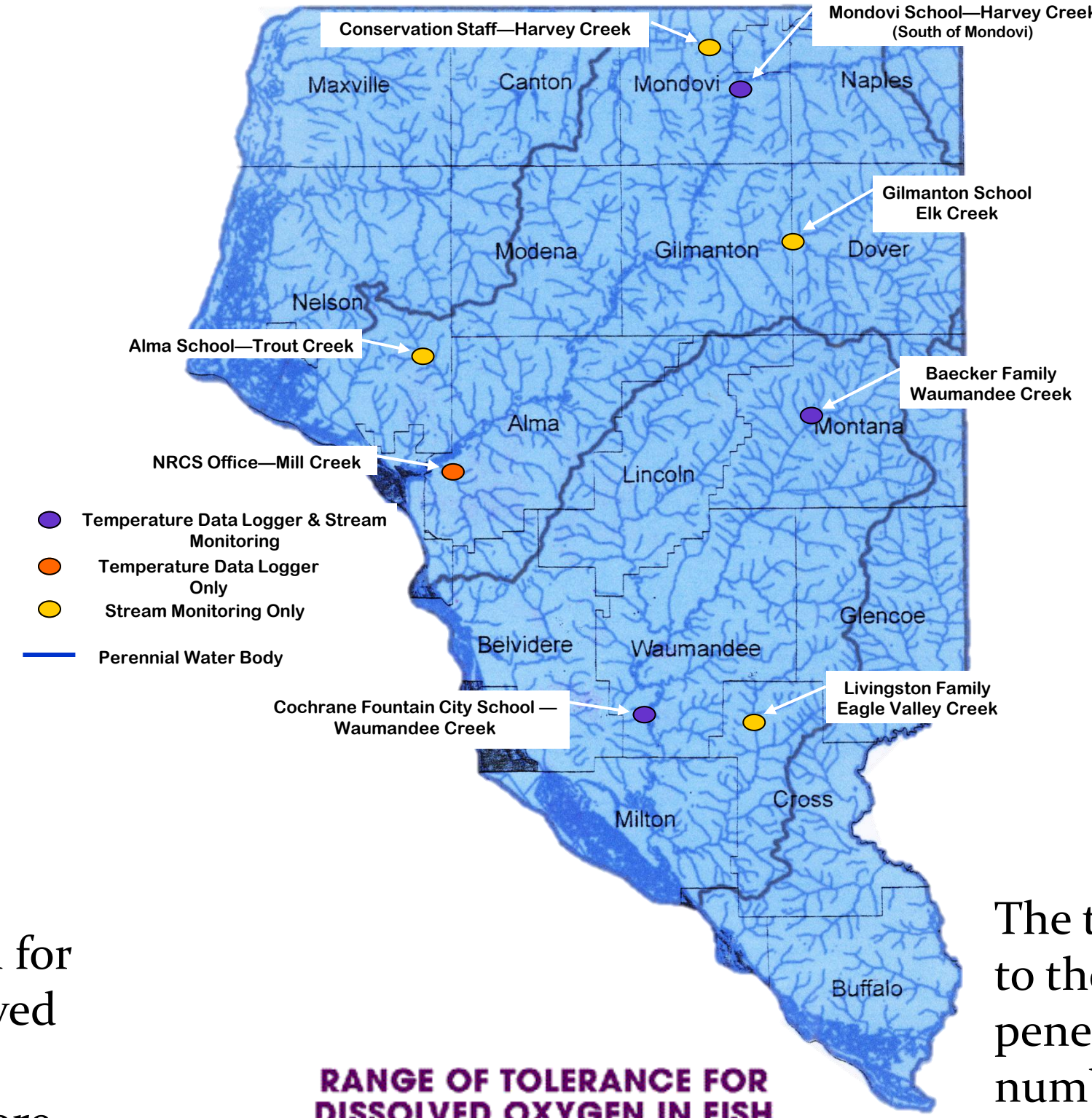


Buffalo County Stream Monitoring Program

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2011-2012 Data Results

Stream Monitoring Stations in Buffalo County

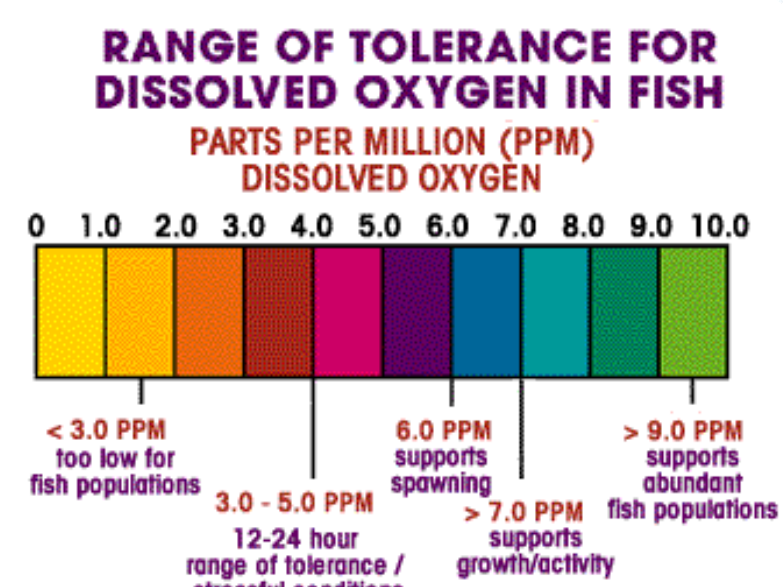


From the six sites, the data collected was later examined and compared to ideal trout habitat characteristics. The characteristics of a healthy stream are all connected, which is why each step is important in the monitoring process. With the data, we can see the progress our streams have made from the conservation practices implemented both visually and scientifically.

The purpose of the stream monitoring is to study the correlation between the installation of conservation practices and the water quality of the streams. We looked at the parts per million (PPM) of dissolved oxygen, the transparency of the water (NTU), water temperature, stream flow, and the organisms in the water. The county hopes to reach Class 1 Trout streams within the future and the above observed criteria will help establish these healthy habitats.

Dissolved Oxygen

The monitoring of dissolved oxygen is essential for stream health; the higher the amount of dissolved oxygen in the stream, the more organisms can inhabit the stream. Some organisms require more dissolved oxygen than others such as Dobsonfly Larva and Alderfly Larva. The data collected was then compared to the chart to the right of the table of data. The amount measured in each stream is as follows:



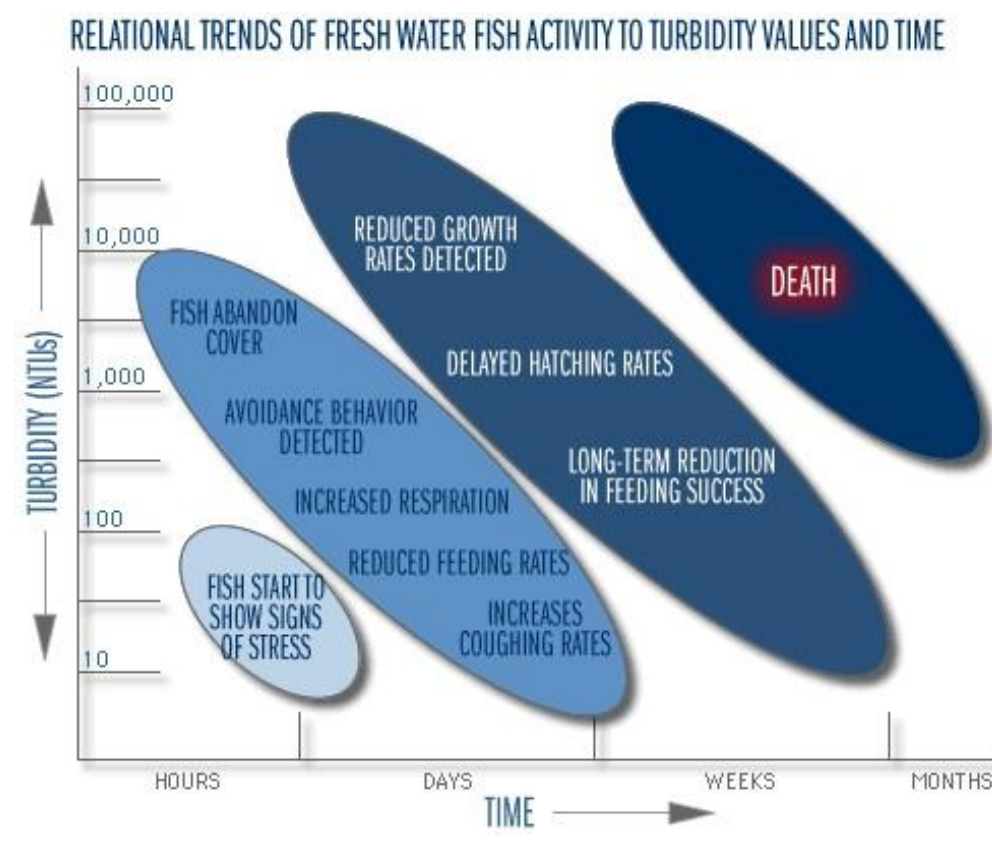
Monitoring Stations	2011 Average (PPM)	2012 Average (PPM)
Eagle Creek at Stetler Driveway	11.9	11
Elk Creek east of CTH H and CTH Z	N/A	3.5
Harvey Creek E of Mock Rd.	N/A	11.25
Harvey Creek at STH 37	N/A	13.25
Trout Creek CTH I and CTH II	N/A	13.6
Waumandee Creek Tributary Upstream of township garage	8.4	6

Transparency
 The transparency of the streams is directly related to the amount of particles scattering the light penetrating the top of the water. The higher the number, the clearer the stream is. This allows the assessors to analyze the water for potential runoff problems that binds up the dissolved oxygen available to the stream inhabitants. The turbidity (NTU) of the water effects the water as well; it can raise the temperature of the water as the heat from the sun is trapped with the particles more than water can. The NTU's from the data is then compared to the chart on the left of the table.

Monitoring Stations	2011 Average (NTU)	2012 Average (NTU)
Eagle Creek at Stetler Driveway	9	9
Elk Creek east of CTH H and CTH Z	N/A	9.5
Harvey Creek E of Mock Rd.	N/A	11
Harvey Creek at STH 37	N/A	9
Trout Creek CTH I and CTH II	N/A	9
Waumandee Creek Tributary Upstream of township garage	N/A	60.43

Biotic Index

The Biotic Index is used by citizen-based monitoring to help interpret stream health via macroinvertebrates that inhabit the stream. From the data of macroinvertebrates collected, the stream health can be assessed into four different categories as shown on the right. The types that can not handle pollutants and lower dissolved oxygen levels would be considered in the "excellent" category, whereas the ones that can handle pollutants and lower dissolved oxygen levels would be in the "poor" category.



Monitoring Stations	2012 Average (Biotic Index)
Eagle Creek at Stetler Driveway	N/A
Elk Creek east of CTH H and CTH Z	3
Harvey Creek E of Mock Rd.	2
Harvey Creek at STH 37	2.5
Trout Creek CTH I and CTH II	2.75
Waumandee Creek Tributary upstream of township garage	N/A

How Healthy is the stream?	
Excellent-	3.6+
Good-	2.6 - 3.5
Fair -	2.1 - 2.5
Poor -	1.0 - 2.0

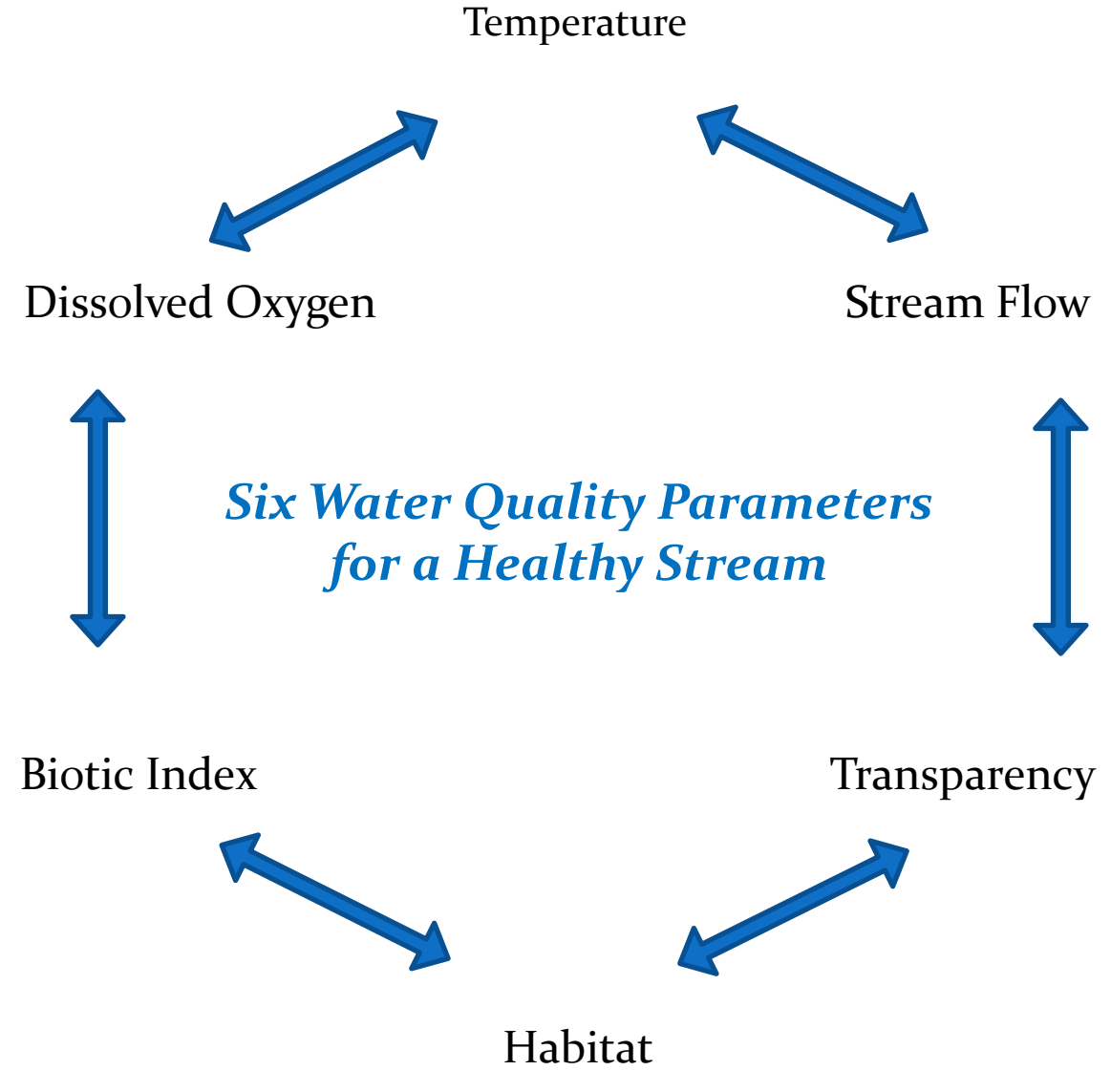
Stream Flow
 The amount of water passing through an area of the stream impacts the rest of parameters for a healthy stream, the faster the water is moving in a system, the colder the water will be, the higher the transparency, the higher the biotic index and the healthier of an overall system. It is measured by the cross sectional area and the velocity of the surface. The data collected from the monitored streams is as follows:

Monitoring Stations	2011 Average (ft ³ /sec)	2012 Average (ft ³ /sec)
Eagle Creek at Stetler Driveway	5	11.6
Elk Creek east of CTH H and CTH Z	N/A	18.08
Harvey Creek E of Mock Rd.	N/A	16.4
Harvey Creek at STH 37	N/A	19
Trout Creek CTH I and CTH II	N/A	3.46
Waumandee Creek Tributary Upstream of township garage	11.42	10.9

Habitat

The amount of conservation practice that goes into improving the stream directly impacts the health of the habitat. Invertebrates and animals alike thrive better in a cleaner habitat. The stream assessor looks at ten different aspects such as the bank stability, vegetation and channel flow access to determine the health score between 13 and 52, 52 being the healthiest.

Monitoring Stations	2012 Average (Habitat Score)
Eagle Creek at Stetler Driveway	N/A
Elk Creek east of CTH H and CTH Z	42
Harvey Creek E of Mock Rd.	N/A
Harvey Creek at STH 37	N/A
Trout Creek CTH I and CTH II	32
Waumandee Creek Tributary upstream of township garage	N/A



Temperature
 Temperature of the stream is a key essential for the health of a stream. It can tell the assessor just the basic essentials for the health of the stream habitat; from the dissolved oxygen, to the stream flow, temperature of the water is vital to the system of the stream. Trout prefer to have the stream between 55° and 65° Fahrenheit. The data collected from the streams is as follows:

Monitoring Stations	2011 Average (° F)	2012 Average (° F)
Eagle Creek at Stetler Driveway	59.9	64.4
Elk Creek east of CTH H and CTH Z	N/A	58.1
Harvey Creek E of Mock Rd.	N/A	51.8
Harvey Creek at STH 37	N/A	52.7
Trout Creek CTH I and CTH II	N/A	55.28
Waumandee Creek Tributary Upstream of township garage	61.16	59