

Thinking Like a Watershed

Black Earth Creek Watershed Association

Winter 2017

Still Breathing...

Black Earth Creek on the come back trail

Bret Schultz



The health of Black Earth Creek and its Wild Brown Trout population has had its ups and downs over the past couple of decades. Like a punch weary boxer, who keeps fighting, this stream continues to bounce back, no matter how many blows it receives.

The creek's Brown Trout numbers have been down the last couple of years. The most recent devastating fish kill, wiped out some sections of stream by an alarming percent. However, we have seen the population numbers returning over the past two seasons. I will add that 2016 saw a dramatic increase in the number of larger trout landed by many anglers.

Due to recent changes in Trout Fishing Regulations we can start fishing in January. The fish are there but the first few months can be challenging. The weather and water are cold, the Trout's metabolism slowed. The window of fish feeding opportunity is short. For the most part, the fish will be deep in slower moving water. That's where your artificial lure or fly should be.

Spring is my favorite time of year to be on the stream. Everything in the watershed comes to life. With warming temperatures stream life kicks into high gear. Fish will eventually move out of their deeper winter holding areas in pursuit of calories. I can fish shallow or deep, depending on weather and time of day. In my opinion, this is the best time of year to pursue the largest fish in the stream.

Summer fishing can be frustrating, but once figured out, can be very good. Once again, one needs to take advantage of the feeding windows that are dictated by the weather. If it's too warm for one to fish comfortably it's probably not a good time to be chasing trout. Think early and late in the day. I typically fish the evening hours into dusk.

Late summer into Fall still offers anglers yet another chance of landing a few more fish before the cold and snow of Winter arrives. Although I don't find the fish feeding activity to be as good as I do in the Spring, I do find myself using a lot of my Spring fishing techniques. At the very least, the cooler, drier air makes the fish and most fishermen a bit happier.

I have stood in the waters of Black Earth Creek for the past forty years. I have seen many changes in this watershed, the good and the bad. The bad is always created by us, humankind. The good, can be and has been influenced by us as well. In most situations, Mother Nature still knows best. Sometimes, we just have to get out of her way. Through it all, the one constant, is the willingness of this stream and our Wild Brown Trout to survive.

Yes, Black Earth Creek, it's still breathing.



**Black Earth Creek
Watershed
Association**

BECWA.ORG

Become a BECWA member or renew your membership

Send your check with name, address and email to:
David Lucey, 7952 County Highway K, Cross Plains, WI 53528

Lifetime Member - \$100 Business - \$50
Watershed Patron - \$35 Household - \$25 Basic - \$15

For the wise management of the land and water resources in the Black Earth Creek Watershed.

BECWA Goals

- To protect, conserve, support and advocate for the wise, long term management of the physical, biological, environmental, cultural and historical resources that constitute the heritage and future of the watershed.
- To foster and encourage citizen and locally-based stewardship among the many members of the Watershed community.
- To provide a forum for civilized discussion of issues and problems in the Watershed.

Board of Directors

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Bobbi's BECWA Quiz

According to articles in this newsletter about the invasion of the New Zealand Mud Snail:

- A. Invasive snails have been observed at all sites sampled on Black Earth Creek.
- B. Outbreaks of the snails have only occurred at the South Valley Road site.
- C. Numbers of invasive snails collected by High School students have not increased between 2014 and 2016.
- D. All sites rated poor or with declining macroinvertebrate indices of biotic integrity (mIBI) have been invaded by snails.
- E. Sites on Black Earth Creek invaded by snails are not adjacent, suggesting that snails are spread by people rather than by moving on their own to new sites.

Answer on page 7.

Events in the Watershed

April 22
BEC Clean Up Day
Meet at 9 AM - Salmo Pond

May 6
Trout Days
"Bugs by the Creek" with Bobbi Peckarsky
Meet at 1 PM
across the bridge south of the new building

The Black Earth Creek, What a Great Place!

Tom Lemke, formerly of Black Earth now residing in Livingston, Montana

Like many "baby boomers" my wife and I are at a point of going through decades of "stuff" stored in boxes trying to simplify our lives and help our kids avoid making tough decisions later on. I recently came across a black and white aerial photo of Black Earth taken June 15, 1962 that included the stretch of the Black Earth Creek from just east of "Strangville" downstream to "Donaldson's Hole". A million memories suddenly rushed back. This was a unique snap shot of where my brother and I grew up almost 55 years ago! I had used the photo in a Wildlife Management class project at UW Stevens Point many years ago. Obviously some things have visibly changed while others have not.

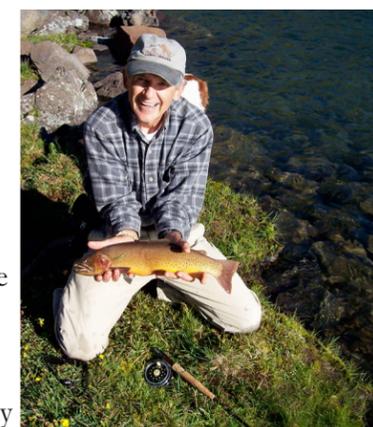
I grew up in four different houses in Black Earth, but never far from the Black Earth Creek. The creek drew me like a magnet. It was my window to the natural world and it seemed like there was no end to the magic it contained. Growing up I think I spent more daylight hours outdoors than I did inside and most of that time was on the creek. It all started with "catching things" and bird watching. Catching things involved catching fish, snagging turtles, netting crayfish and frogs, collecting insects, capturing clams, tadpoles, leeches, bats, snakes, and whatever else that couldn't get away. Bird watching, identifying, and keeping track of what I saw was a thrill then and remains so even to this day. I can remember seeing my first American Bittern camouflaged in the cattails between "Cooper's Hole" and "Asmuth's Hole". What I saw in the creek was a powerful motivator to read more and learn as much as I could about biology and nature. As I grew older I appreciated the Black Earth Creek even more and realized how fortunate I was.

Perhaps just as important to me are some of the close friends and mentors that I met on the banks of the creek. A classmate and special friend, Terry Schlick and I spent hundreds of hours growing up and exploring the creek together. We still share many memories of "catching things" and misadventures like hitting a skunk one night on Terry's bicycle coming home from a fishing trip. Fishing became a serious endeavor in grade school. By fifth grade I had graduated to "self taught" fly fishing. One summer evening Dad dropped me off at the creek near the Statz farm. It was my good fortune to meet Steve Field that night, a very talented local fly fisherman from Cross Plains. Steve took a shy novice like me under his generous wing and boy did my fishing improve! I was introduced to the "Hexagenia may fly hatch" and my life long passion for fly fishing began in earnest.

Likewise it was on the creek where I met John Flamme, a young Black Earth guy in his mid 20's who became a hunting and trapping role model and mentor for many years. John was a hard working, enthusiastic master of the outdoors always willing to share his knowledge and skills with an eager teenager. Among other things John taught me about the crazy thrill of chasing coonhounds through the woods at midnight.

By the end of middle school, I had already decided to become a Wildlife Biologist. Many years and three degrees later that's what happened. I was blessed with a career that allowed me to travel and work in fantastic places around the world. In large part the Black Earth Creek and the people I met there shaped my future and made it all possible. I am grateful. I return to the creek every so often and am absolutely thrilled to see what good shape it is in. Thanks to decades of good conservation policy and hard work by the DNR, Trout Unlimited, Natural Heritage Trust Fund, BECWA, thoughtful landowners, and others, things are looking good.

They say that most people have a particular place close to their hearts that has special meaning to them. Mine is the Black Earth Creek, what a great place! Secretly I hope that somewhere along the creek there are still a few young girls and boys that like to "catch things." Let's hope that the creek is always there for them.



Yellowstone Cutthroat Trout

Middleton High School Students

Deb Weitzel

An exciting course at Middleton High School (MHS) immerses students in nature by using local outdoor sites, such as the Pheasant Branch Conservancy in Middleton and Black Earth Creek in Cross Plains. The course description reads, "Field Biology, taught by Jeff Erickson and Dan Drangsteveit, is a semester long course in which students learn concepts about ecology through outdoor activities and exploration of a variety of ecosystems. Students work with field biologists from the DNR, University of Wisconsin, and conservation organizations while exploring and taking part in actual field research. The majority of class periods are spent in the field with biologists studying wildlife, forestry, grasslands, and stream and lake ecology."

The students recently spent two class periods collecting data at two different sites along Black Earth Creek (BEC). The focus of their study was twofold:

1. To assess the proliferation over 3 years of an invasive species (New Zealand Mud Snails: NZMS) at two sites, one in the village of Cross Plains and the other downstream of the bridge on South Valley Road, west of the village.

2. To use a biological index developed for volunteers to compare and contrast the stream macroinvertebrates, which are important communities, at the above two sites to test for possible impacts of outbreaks of NZMS over a 3-year study period.

On November 10, 2016 the students met Mike Miller, DNR stream ecologist behind the former Cross Plains fire station. They heard a brief presentation defining a watershed and detailing the value of water in Wisconsin. Miller gave the background of WI fresh water ecosystems including 20,000 miles of streams both intermittent and permanent. The students were asked to consider their own impact on both quality and quantity of water due to their daily habits. Miller explained that macroinvertebrates, which are important components of aquatic food chains, act like "canaries in the coal mine" for assessing water quality because their absence/ presence and relative abundance reflect variation in the ability of different species to tolerate degraded conditions. Miller then instructed the students on the protocol for using samples of macroinvertebrates from the two stream sites to calculate the Water Action Volunteer (WAV) biological index and thereby to compare the quality of BEC habitat



Analyzing Water Samples for Macro-invertebrates and New Zealand Mud Snails

Learn from BEC Study

BECWA Board Member

The 2016 results showed fair quality rating at the site on Black Earth Creek in the Village, which has not been invaded by NZMS, and a fair to poor rating at the South Valley Road location, which has had large outbreaks of the invasive snails beginning in 2011. Results from previous years (2014 and 2015) showed a fair to good rating at both sites. Why??

Miller finished with a fish shocking demonstration to show how a trout census is conducted. The students' eyes widened and those interested in fly-fishing took some quick location notes as Miller shocked up some good-sized brown trout.

The following Monday, on November 14, 2016 the students went back to the two locations to assess the occurrence of the NZMS, as a follow up to a class field trip in 2014, when the Field Biology students met UW Professor Bobbi Peckarsky to learn about and locate NZMS in the Creek. In 2014 huge populations of the snails were found at the South Valley Road site, but no snails were observed in the Village of Cross Plains. Similarly, in 2015, MHS students found many NZMS on aquatic vegetation and on gravel at the South Valley Rd. location.

This year in 2016, Erickson noted, "There must have been a few thousand snails observed by students on aquatic vegetation." The students were amazed by the abundance of snails found on the most recent trip. These snails can reproduce asexually (by cloning), which enables their populations to grow very fast and unchecked by the lack of native predators. In fact, because they have an operculum (hard cover for the opening of their shells), they can survive being dry for many weeks, and pass through the digestive systems of fish unharmed! Those attributes make NZMS effective invaders, which can be transported on sampling gear or wading boots. To avoid further spread of these snails, students learned the importance of disinfecting their gear after visiting sites with NZMS before going to other stream sites.

And that's the beauty of environmental education - using nature as an outdoor class-room. Excitement, learning, and understanding all achieved with real world, hands-on practice.



New Zealand Mud Snails



Students analyzing water sample for Macro-invertebrates

Quality of Black Earth Creek

Macroinvertebrates Indicate Long-term Trends

Bobbi Peckarsky, BECWA Board Member

Wisconsin has been in the forefront of efforts to develop biological indices for stream water quality, especially using macroinvertebrates. William Hilsenhoff (UW Madison) was a pioneer of this effort, and his Biotic Indices have been the gold standard; his approach to biomonitoring streams has been adopted by the EPA and used worldwide. He combined classic concepts that diversity was good with the indicator species concept, which scores different species of macroinvertebrates based on their ability to tolerate (or not) degraded stream conditions. More recently, Brian Weigel (DNR) developed an Index of Biotic Integrity (mIBI) that combined Hilsenhoff's Biotic Index with many other aspects of the macroinvertebrate community to rank streams from 0 – 10 (very poor to excellent). This comprehensive index is used widely throughout the state.

Over the past few months I have analyzed available macroinvertebrate data collected by DNR biologists from the mid-1980s at sites on Black Earth Creek that have long strings of data, including recent dates after the discovery of the invasive New Zealand Mud Snail (2012). The goals of this study were to: 1) investigate long-term trends in the quality of Black Earth Creek at sites with and without invasive snails, 2) ask whether the snail invasions are causing changes in the stream, and 3) seek relationships between stream quality and snail invasions.

Analyses of the mIBIs at 8 locations showed high variation in quality among sites along Black Earth Creek, with quality generally declining from upstream sites (in Cross Plains) downstream (Figure 1).

Some sites have improved over the years and others have shown degradation over time. The direction of change was not related to snail invasions, but sites invaded by snails were ranked "poor" or "very poor" at the time of the invasion. However, other "poor" sites had not yet been invaded by 2012, and sites with snails are not adjacent, which suggests that snails are being spread to new sites by people rather than moving between sites on their own.

The map to the left shows the locations of all the sites on Black Earth that have macroinvertebrate data (with Cross Plains sites in enlargement). The numbers are station ID numbers from the Wisconsin DNR database, and the sites circled are the ones that have been analyzed. This map provides a spatial summary of the stream quality ratings (based on the Macroinvertebrate Index of Biotic Integrity) and the arrows show whether the trends are improvement or decline over the years the data have been collected. Quality tends to be better at upstream than downstream sites. Sites with snail invasions were poor at the time of invasion (in red font).

Since the most recent samples were taken just after the discovery of the invasive snails, working with the New Zealand Mud Snail Monitoring Team, we hope to follow the effects of snail invasions on stream invertebrates by monitoring sites that have snail invasions in comparison to other sites that do not (as a reference for non-snail-related changes over time).

*Quiz Answer:
Only E is true!*

ATC Transmission Line Proposal Update

Chuck Tennesen, Community Organizer for DALC

Opposition to the proposed new high capacity transmission line through Southwest Wisconsin continues to grow. The Cardinal-Hickory Creek power line as planned by the American Transmission Company (ATC) would run from Cassville to Middleton. While the final route preference has yet to be established, many question if this line is needed at all.

Due to a mailing received by some land owners and ATC open house presentations, some may assume that the construction of this line is inevitable. That is not the case. ATC has not yet submitted its application to the Public Service Commission and doesn't expect to do so until 2018 or beyond. Nevertheless, plans for the line as well as actions by those opposing this project continue to move forward.

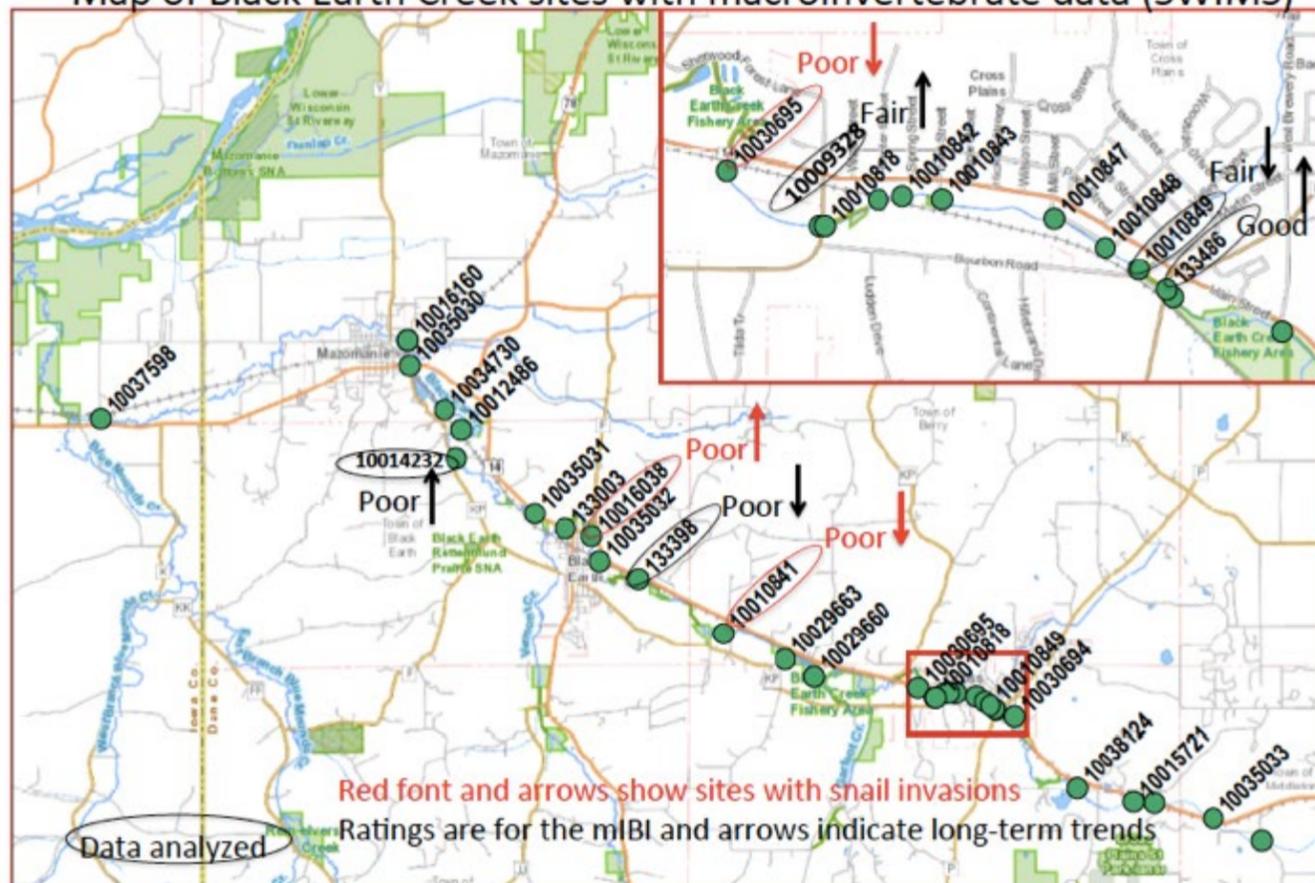
In a recent development, the application by Dairyland Power, a co-developer of this line, to the Rural Utilities Service for a low-cost loan triggered the need for a federally mandated Environmental Impact Statement (EIS). The public was encouraged to submit comments for the draft (EIS); over 300 individuals and organizations contributed. It's projected that the draft statement will be ready for further comment within 3-6 months and the final EIS completed by next fall.

One organization that has taken a position in opposition to the line is the Driftless Area Land Conservancy (DALC) based in Iowa County. DALC argues that the proposed infrastructure would negatively impact the environmental health and aesthetic beauty of special resources like the Black Earth Creek.

DALC has retained the services of the Environmental Law & Policy Center (ELPC), a highly reputable Midwest law firm. The ELPC prepared a legal brief detailing five central tenets as rationale for opposing the construction of the CHC line. Chief among these is the lack of need for additional electrical power in southern Wisconsin.

Ellen Nowak, the chairwoman of the PSC, seems to concur with this assessment recently stating, "Right now, there's not a need for a lot of new generation of any source in Wisconsin." BECWA Board members have participated in two meetings with a coalition of southern Wisconsin environmental groups to learn more about CHC and the efforts to oppose it. *See Public Meeting information on the back cover.*

Map of Black Earth Creek sites with macroinvertebrate data (SWIMS)





Black Earth Creek
Watershed
Association

c/o Greg Hyer
4296 County P
Cross Plains, Wi 53528

ATC Transmission Line Updates

PUBLIC MEETINGS & INFORMATION

Howard Learner, Director of the Environmental Law & Policy Center, will give updates at two public meetings sponsored by the Driftless Defenders and the Driftless Area Land Conservancy.

Friday, February 17
7:00 pm at the Barneveld Legion Hall
and
Saturday, February 18
2:00 pm at Arcadia Books in Spring Green

Learn more about the CHC proposal itself at:
cardinal-hickorycreek.com

Information about DALC and other groups' efforts to oppose the line can be found at:

ProtectTheDriftless.com



See page 7 for more details.
