



Thinking Like a Watershed

Black Earth Creek Watershed Association

Semi Annual Newsletter

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Spring 2007

BECWA'S 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 Black Earth Watershed.
- To foster and encourage citizen and locally-based stewardship among the many members of the watershed community.
- To provide a forum for civil and informed discussion of issues and problems in the watershed.

BECWA Board Meetings

BECWA Board Meetings are open to the public. Check our website for the next scheduled meeting.

We hope you will join us.

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Barbara Borns, President
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www.BECWA.org

Celebrating 20 Years!
1987 - 2007

Before BECWA

There was the Cross Plains - Black Earth Valley Watershed Association

Based on an interview with Otto Festge by Barbara Borns

Did you know that from 1954 to 1965 there was a Watershed Association in our Black Earth Creek Valley? This fall I learned about the existence of this organization and was curious about its purpose and history. My first knowledge of this group came when Otto Festge kindly offered to give BECWA his archives from the earlier organization. After reading over those documents, I made arrangements to meet with Otto in his new home overlooking the Pheasant Branch Conservancy.

Otto was raised on the Festge homestead in the Town of Cross Plains located on Highway KP near where it intersects with Garfoot Road. He recalls whenever there was heavy rain, the waters of the Black Earth Creek would rise and come rushing through the valley causing flooding and resulting in havoc. In 1954 Otto got a call from Herman Eisner, a local Cross Plains resident. Herman explained that he was the President of the Cross Plains-Black Earth Valley Watershed Association and he wanted Otto to be the Secretary-Treasurer. Otto explained that: "I have never been good at saying NO—so I agreed to join Herman. I knew the history of the area and where there were problem areas." Herman knew that the federal government had grant money available to build some earthen dams to alleviate flooding problems. So the Association applied for grant monies and 3 earthen dams were constructed, one on the Grob farm, and two on the Nonn farm northeast of Cross Plains. These were among the first in the country to be constructed. To a large extent, these structures prevented flooding and decreased sedimentation in the Black Earth Creek. They are still visible today protecting the Village of Cross Plains and downstream areas.

Otto reflected on some history of the area and how flooding became a problem. "When our ancestors came, the area was largely covered with grasses and the hills with trees. But then the ground was tilled and trees were cut to make room for crops. Also there were cows wading around in the Creek and breaking down the stream banks. This led to sedimentation in the Black Earth Creek, which was a prime trout fishing area. The Wisconsin Conservation Department grew concerned."

(Continued on page 2)

(Continued from page 1)

Otto recalled that for a while the State leased the land along the Creek to protect it and ultimately bought the land to preserve it. The state also assisted farmers by fencing in much of the Creek and building limited crossings to allow cows and equipment to have passageways.

In those days the first priority of the residents was to prevent flooding. Only after that was accomplished did they begin to adopt better conservation practices.

Otto Festge: Reflections on Life and the Black Earth Creek

By Mindy Habecker, Dane County UW-Extension

Otto Festge grew up on a 250-acre farm outside of Cross Plains, Wisconsin. His grandfather was a miller and worked at the gristmill in Cross Plains where Wave Supreme flour was made. Peter Mohr built the stone mill in 1856. It was powered by a dam (no longer existing) on Black Earth Creek that created a large millpond east of the village on the south side of Route 14. The mill later (1941) became Bowar Brothers Inc, a farm implement shop.

Otto's German speaking parents married late in life and Otto, Jr. was their only child. He grew up in the 1915 home his father built for his bride the year before they married. Otto was home schooled until the second grade. After that he went to the local school where his teacher taught eight grades in one room and had between 8-15 children at any one time. Otto grew up speaking both German and English, succeeding in school, and helping with chores on the farm, but he also had time to develop a lifelong devotion to music.



When he was still a small child, he heard his minister's daughter play a violin concert in town. He told his parents that he wanted to take violin lessons. He was given his first violin when he was seven years old and was later given his grandfather's German Hopf violin. He played violin solos for various church and community events, including

Otto said that in the early 1960's there was a move to build two more dams in the Black Earth Creek Watershed. But the federal grant required a minimum of 50% of the residents to participate in the request. Since the Association fell short of that goal, the other dams were never built and shortly after that the Association ceased operations. The Association dissolved in the mid-1960's when Herman Eisner was no longer leading it.

A more personal look at Otto Festge can be found below.

Midnight Mass on Christmas Eve at St. Francis Xavier Catholic Church in Cross Plains. As a teenager he joined the Madison Symphony.

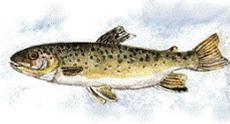
In 1938, Otto received a four-year scholarship to study music at the University of Wisconsin. He loved his years there. During his senior year his father died and he had to leave school in December 1941 to return home to help his mother run the farm. That same day Pearl Harbor was bombed. Otto fulfilled his commitments to the University and continued to play in the orchestra one more semester. Otto's other musical activities included directing choirs in Western Dane Lutheran Churches for a number of years. He directed performances of Handel's Messiah, an ambitious program, introducing music to small country churches.

In 1942, Otto and Evelyn were married. Besides working on the farm, he became involved in local politics. He became the Town Assessor in 1948. In the 1952 primary he ran unsuccessfully for State Assembly. In the 1952 general election he was elected Dane County Clerk and held that position until 1965 when he was elected Mayor of Madison. By then Otto and Evelyn had three children (Cindy, Mike and Susan) and the family had moved to Madison in 1960 while keeping their Cross Plains farm. They donated part of their farm to the County to become Festge Park. While Otto was County Clerk he worked on such issues as building the new Coliseum, developing the interconnected Dane County library system, and establishing decent wages for those who worked at the Dane County Home. As County Clerk, he had to work with a ninety member county board. When he became the Mayor of Madison he wrestled with Monona Terrace issues and started the Wisconsin Alliance of Cities becoming their first president. After his tenure as Mayor, Otto went on to serve as the home secretary for U.S. Representative Robert Kastenmeier. Otto served in this position from 1972-1988 and loved the work. This gracious man well served his town, county, city and country. How fitting it is that Festge County Park honors his family name.

May 12th Family Fun Fishing Day Planned

By Pete Jopke

Please mark your calendars for Saturday May 12th as local watershed anglers Pete Jopke and Terry Frey will be hosting a youth fishing day event at Lake Marion. There are multiple activities planned to educate our watershed residents on the importance of conservation and organizers will discuss the basics of angling. Kids will also receive their very own rod and reel combo provided by Okuma! All participants are required to pre-register for the event. If you have an interest in volunteering for this event or desire more information, please call Pete Jopke at 224-3733.



Wisconsin Heights High School Looking to Incorporate Stream Monitoring Program

WHHS teachers Dan Jergens and Joe Marx along with Pete Jopke from the Dane County Land and Water Resources Department are exploring funding options for the development of a stream monitoring program on Black Earth

Creek. Monitoring programs are becoming increasingly more valuable to resource managers as State agencies continue to cut staff and funding. The intent of our program is to provide the students with an educational opportunity while providing resource managers with quality data that may be used for management consideration. Students would conduct basic watershed assessments including hydrology, macroinvertebrates, habitat classifications, and chemistry. Part of this exercise would include curriculum development on watershed management. "The Black Earth Creek provides an excellent opportunity for the kids to learn about this important resource which lies right outside the doors of the school," says Jopke. Funding for the project would be provided by grants through the Wisconsin DNR. If successful, the effort would begin in the fall of 2007.



Drainage Districts Revisited - 2007

Adopted from an article by Briana Burns published in the News Sickle Arrow - March, 2007

Many land owners to the north east of Cross Plains may have been surprised recently when they got a proposed assessment in the mail from the County Drainage Board. Bills ranged from a minimum of \$25 to \$800. Here is a little background on why this happened.

Drainage districts are legal taxing entities, which were formed under law created in the 1800's when it was perceived as being in the public interest to drain wetlands for farming. Since about 1970, after hundreds of thousands of acres of wetland in the Midwest have been drained, it is perceived as in the public interest to lessen flooding by controlling runoff, limiting further drainage of wetlands, and by supporting restoration of wetlands. (Folks living in the Gulf coast would probably agree.) The larger problem is caused by this historical change in what is seen as the public interest. Drainage laws and wetland protection laws work at cross-purposes.

District 7, north of Cross Plains, was created in 1921 and the result was the dredging of a maximum six-foot-deep ditch starting just south of Highway K and running south down the valley ending in the 40-acre parcel that is now the St. Francis subdivision. This ditching of Brewery Creek lowered the water table enough to allow crops to be grown on the former wetlands.

The immediate issue is that the district is in debt, hence the notices to land owners along Brewery Creek. They will now have to decide if they want to: a) accept the assessment and remain in the district, b) request the Board to reduce or eliminate assessments for those who do not benefit from the district while remaining in it, c) petition the Board to withdraw from the district, hence clearing their title or d) petition to a judge to dissolve the district.

We will report the outcome in a future
BECWA newsletter.

A County Perspective on the History of Farming

Part 2

*Part I of this article by **Mindy Habecker** appeared in the Fall, 2006 BECWA newsletter and focused on the farming history of the Craig Mickelson Family in the watershed. The following article gives a county-wide perspective on farming history. The farm pictured is of the Mickelson farm today.*



To put the local farming situation into a county-wide perspective and go back in time a bit, I researched the following information. Few farmers went into dairying early in our county's history. Farmers believed in the 1840's-1860 that grass or clover would not flourish here. They also believed that the long, cold winters would eat up all the profits in the expenses needed for housing and feed.

Many of the people entering into farming in Wisconsin were poor. It required capital to invest in livestock, and to keep the stock required an additional outlay for barns and fences. Thus from the 1840's to about 1870 farmers turned their attention and energy to growing wheat which was cheaper to transport than corn and required little capital outlay to get started. Only a breaking team and plow, a harrow and some seed wheat was enough to begin.

Wheat did well on new ground and the quality was better than that of

the eastern market. Norwegians and Germans were accustomed to growing wheat. The local milling industry and transportation lagged behind production at first, but by 1847 wheat failures of all varieties occurred and continued through 1853. The soil was becoming impoverished, neither crop rotation nor soil fertilization were commonly practiced then.

The Crimean War caused wheat prices to rise in the 1850's and the lack of barns made transition to other types of farming difficult. Only in 1864 when the chinch bug began destroying the majority of the wheat harvest did many farmers look seriously at other types of farming in the county.

Sheep raising was concentrated in the northwestern part of the county, tobacco growing in the eastern portion, honey production increased, and hemp was grown especially during the Civil War years when the price was elevated.

Hop production boomed in the 1860's, but more so in Sauk County. This boom ended abruptly in 1868 when the price dropped dramatically due to renewed production in New York, and rust and the hop house louse emerged to

devastate local hop production. Barley, oats and corn acreage rose as the number of farm animals increased. Crop rotation slowly emerged from the once wheat dominated locations.

Dairy gained prominence only after the wheat period declined in the county (post 1870's.) By the 1880's there were 39 cheese factories in the hilly "Driftless", or unglaciated area, of Dane County and only one in all the remainder of the county.

Why was cheese making so focused in this section? The Swiss people from Green County spread into southwestern Dane County and brought their cheese making skills. There was more profit in making cheese than butter and in these hilly towns, corn could not be raised in large quantities for feeding hogs.

The dairy business brought steady profits that didn't fluctuate much with the season, it enriched their farm field soils and unlike tobacco farmers, they didn't have to worry over tariffs, frost, hail and droughts. So the dairy industry grew over time in Dane County and is the foundation of Dane County farming today as is seen through the Mickelson family.



Photo by Louise Kubista

New Floodplain Maps Proposed in Watershed

*Portions of this article were drawn from **John Donaldson's** NSA article of Jan 25, 2007 and from **Brian Standing**, Dane County.*

Early in 2007, cities, towns and villages in Dane County were sent proposed changes to current floodplain maps for their communities.

The Federal Emergency Management Agency (FEMA) and the Wisconsin DNR used new data to create these maps delineating flood prone areas. These new maps were created using more accurate aerial mapping techniques and equipment. There is a 90 day comment period from February 9 to May 9 for public input. After FEMA receives public comments, they will issue final new maps, which then must be adopted by local governments.

In the Black Earth Creek Watershed, the Village of Black Earth, in particular, could have major impacts if the maps are approved as currently configured. For example in downtown Black Earth as well as areas east, south and southwest of the village, expanded areas would now be included in the floodplain. Businesses downtown as well as homeowners could face sizeable bills to afford flood insurance. There are even questions about what would be covered by insurance. For example in basements where personal property is located, flood damage would not be covered. 12 lots in the developing Red Hawk subdivision would be included in the new floodplain. Some have not yet been sold and most are not built on.

If landowners or communities believe there are errors in the preliminary floodplain maps, there are several ways to provide input to FEMA;

- Individual landowners who have elevation data that shows their property is out of the floodplain can apply for a "letter of Map Amendment" directly from FEMA
- Neighborhoods, communities or local governments that believe FEMA has mapped the floodplain boundaries or other information incorrectly, may wish to file a "Protest" or "Comment." Protests and comments must be reviewed by the local government and DNR before being forwarded to FEMA.
- Contesting the projected flood elevations themselves requires an "Appeal." This is the most difficult standard to meet, and may require expensive engineering studies, according to Brian Standing, of Dane County Planning &

Development and Warren Myers, engineer with Town and Country Engineering. Appeals must also be reviewed by local governments and the DNR before FEMA will accept them.

Brian Standing suggests that, assuming the final maps are not changed, homeowners in the affected areas might wish to consider purchasing flood insurance now. "It will cost less to do so now than after a home site is added to the flood plain area." To get more information about this process and to view maps go to the following website:

<http://www.co.dane.wi.us/plandev/floodplain/default.aspx>

or

call and leave a message at (608) 266-1591. Paper copies of the preliminary floodplain maps are also available for review in all city and village halls and in the Dane County Zoning office (room 116 City-County Building, Madison). Town halls should also have some general index maps of the new floodplain boundaries available.

WISCONSIN WILDLIFE QUIZ

1. How many fishing licenses were issued by the state of Wisconsin in 2004-5?

a) 550,000 b) 792,000 c) over 1,300,000

2. How many wild turkeys were harvested in the state in 2006?

a) 45,000 b) 20,000 c) 10,000

3. What is the incubation period for wild turkey eggs?

a) 21 days b) 26 days c) 31 days

4. In 1930 there were 54,000 prairie chickens in the state. How many were there in 2006?

a) 60,000 b) 25,000 c) 1,500

(Answers on back page)



“Nutrient processing in Black Earth Creek: The influence of macrophytes in nitrification and denitrification in a restored coldwater stream.”

Ken Forshay, UW-Madison, Zoology Department

Summary of Forshay Seminar by Bobbi Peckarsky

The goal of Ken Forshay’s PhD research on Black Earth Creek was to ask whether natural processes occurring in streams might mitigate nitrogen pollution from the surrounding watershed. Fertilizers added to soils for agricultural purposes constitute a large non-point source of nitrogen that washes into streams of this region, and consequently affect ecosystems as distant as the Gulf of Mexico. Although efforts to mitigate phosphorus loading to streams have increased in recent years (e.g., fertilizer credits, row cropping and treatment of runoff), agricultural streams tend to saturate with nitrogen and get overwhelmed by N inputs. Thus, there continues to be a steady increase in the flux (transport) of nitrate from agricultural streams in Wisconsin into the Mississippi River. As a supplement to ongoing mitigation efforts, Dr. Forshay suggests that nitrogen may be processed naturally in agricultural streams, thereby providing an important ecosystem service. In fact, streams with higher nutrient loads (in contrast to pristine streams) may support a unique flora and fauna capable of mitigating the high inputs of nitrogen from agricultural watersheds. Thus, in-stream processing of nitrogen may have a high restoration potential and should be considered in stream management decisions.

The specific target organisms of Dr. Forshay’s research are the vascular plants, or macrophytes, that are abundant in agricultural streams covering about 40 – 50% of the stream bottom of Black Earth Creek. This

stream has undergone an impressive restoration from the 1970’s when it was highly degraded by sediments and fertilizers running off into the stream. Although the stream restoration efforts were targeted toward improving the trout fishery, fortunately Black Earth Creek had the appropriate hydrology and substrate to promote macrophyte growth. Dr. Forshay tested the hypothesis that macrophytes can process excessive inputs of nitrogen into Black Earth Creek. First he measured the inputs of nitrogen, as well as the in-stream rates of production of nitrate (nitrification) and conversion of nitrates to atmospheric nitrogen (denitrification) at 3 sites between Cross Plains and Black Earth. He reasoned that if nitrogen inputs were swamping the ability of the stream to process nitrogen, then stream concentrations of nitrates should increase in proportion to nitrogen inputs. His results suggested that the potential of Black Earth Creek to naturally mitigate N inputs was high and depended on the macrophyte cover available.

To pinpoint the effects of macrophytes, Dr. Forshay compared rates of nitrification and denitrification occurring in sediment cores from sections of stream with emergent macrophytes, submerged macrophytes and bare substrate (no macrophytes) during three seasons (spring, summer and fall). Specifically, he observed increases in denitrification (removal of in-stream nitrogen) in sediments underlying submerged macrophytes, supporting the predicted importance of macrophytes to mitigation of inputs of N to streams from the surrounding watershed. However, he also observed

increased production of nitrates (nitrification) in sediments underlying emergent macrophytes. This effect was highest in the summer, but is relatively small compared to the total stream nitrate concentration. He found that nitrification was not related to rates of denitrification or to inputs of nitrogen into the stream in the form of ammonium. His results also showed that macrophytes provide an important source of carbon as food for associated micro-organisms, which then process the nitrogen inputs into streams. He speculated that macrophytes may also foster microbial processing of nitrogen by providing protected habitat for important microbial communities.

Dr. Forshay’s research has important management implications for agricultural streams like Black Earth Creek. While restoration efforts generally target fisheries management, his findings suggest that managers should also consider managing streams to maintain healthy populations of macrophytes that may consequently reduce nitrogen loads into streams from surrounding watersheds. Macrophytes can also be effective in stabilizing stream banks as an alternative to adding rip rap and in-stream structures to stabilize banks and provide fish habitat. An important consideration of such management schemes is the effect of increased development in the watershed on hydrologic changes in the stream that could reduce its ability to support macrophytes.



BECWA Fall Public Event a Success!

Those who braved a rainy fall day on October 21 gave rave reviews to BECWA's fall educational bus tour. This 2006 event titled, "*Reflecting on Water; The Black Earth Creek as a Link Between Communities,*" focused on the history of the watershed.

The bus left the Cross Plains library with speakers (principally Mindy Habecker) aboard the bus describing the fascinating history from the ice age to present day, including the effects of glaciers, railroads and increased population. The group learned about the Pope Farm Park (Dane County's newest park) on Old Sauk Road from Mel Pope. He spoke of the land's past and future and the motivation for saving the unique and beautiful piece of land.



Mel Pope

Proceeding westward through Cross Plains, Black Earth, and Lake Marion (which was a mill pond) into Mazomanie, the group toured the Mazomanie Historical Society. After a short walk to the Old Feed Mill restaurant, the group was greeted by Nancy Viste, Old Feed Mill co-owner, and treated to a light lunch and a talk of the mill's history. We then went into the basement to see where the gears turned and the water flowed.



Old Feed Mill
Mazomanie

Back to the library in Cross Plains, the discussion continued with old pictures which included photos of the Cross Plains mill pond.

This article by Sue Studz appeared in the Town of Berry Newsletter, Nov 2006

President's Column Barbara Borns

BECWA in 2007

Reflections on the past 20 Years and Planning Ahead

Steve Born convened the first meeting of the Black Earth Creek Watershed Association in the Cross Plains American Legion Hall on July 28, 1987. The main topic of discussion was the purpose and need for BECWA and to provide an update on the BEC Priority Watershed Project. It was decided that BECWA's purpose is "to promote community, landowner and citizen cooperation and support for sound resource management and conservation."

The impetus for such an organization had emerged several years earlier, when it came to the attention of the public that the Refuse Hideaway Landfill was leaking. Polluted wells in several homes at the eastern edge of Black Earth Creek led to a public outcry demanding action and expressing a need for a venue to express concerns.

Over the next 20 years, BECWA has provided a forum for discussion between those with opposing views on a variety of topics. And there hasn't been a lack of controversial topics in the watershed!

This coming October, BECWA will mark it's 20th anniversary with a celebration featuring some historical views back, entertainment, awards presentations and some libations. Details will be forthcoming.

This fall we have moved all of our BECWA archives into a file cabinet in the Rosemary Garfoot Library in Cross Plains. I am currently sorting through the files and will create an index. Included in this collection will be the archives from the Cross Plains/ Black Earth Valley Watershed Association featured in the lead story of this newsletter. These archives will then be more available here in the watershed and close to the collections of the Cross Plains Historical Society. We invite you to use these collections for background on the history of the watershed. While the materials cannot be removed from the library, a copy machine is available. Library staff can help you locate the collection.



Black Earth Creek Watershed Association

c/o UW-Madison, Gaylord Nelson Institute
for Environmental Studies
550 N. Park Street, 70 Science Hall
Madison, WI 53706-1491

✓ **Mark your Calendar** ✓

April 21 - Black Earth Creek Cleanup in cooperation with TU/BECCO and local schools. Meet at Salmo Pond from 8:30-9 AM.

May 5 - Trout Days: Cross Plains Lions Club, BECWA will have informational materials and displays.

May 12 - Family Fishing Day at Lake Marion from 10AM - 3PM. (see page 3)

Wisconsin Wildlife Quiz Answers

1. c) 1,391,173
2. a) Over 46,000
3. b) Approximately 26 days with 10-12 in an average nest.
4. c) 1,500, declining because of loss of their preferred grassland habitat

Join BECWA Today!

Become part of a dedicated community of people who recognize this gem. Please lend your support to protecting this outstanding creek which runs through the heart of our community!

Your membership will support BECWA's:

- Educational Forums
- Annual Earth Day Creek Clean-Up
- *Thinking Like a Watershed*, our twice annual newsletter

Membership Levels:

Watershed Patron \$25 _____ YES! I will volunteer my time. _____

Household \$15 _____

Basic \$10 _____

* All donations are tax-deductible.

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ Email _____

Fill out this form and mail it with your check to:

BECWA - Treasurer David Lucey
7952 County Hwy K
Cross Plains, WI 53528

Questions? Call Watershed Coordinator Briana Burns
608-767-1475 or email at brianaburns@yhoo.com

Visit our websites : www.BECWA.org
www.madison.com/communitites/becwa

Thank you!