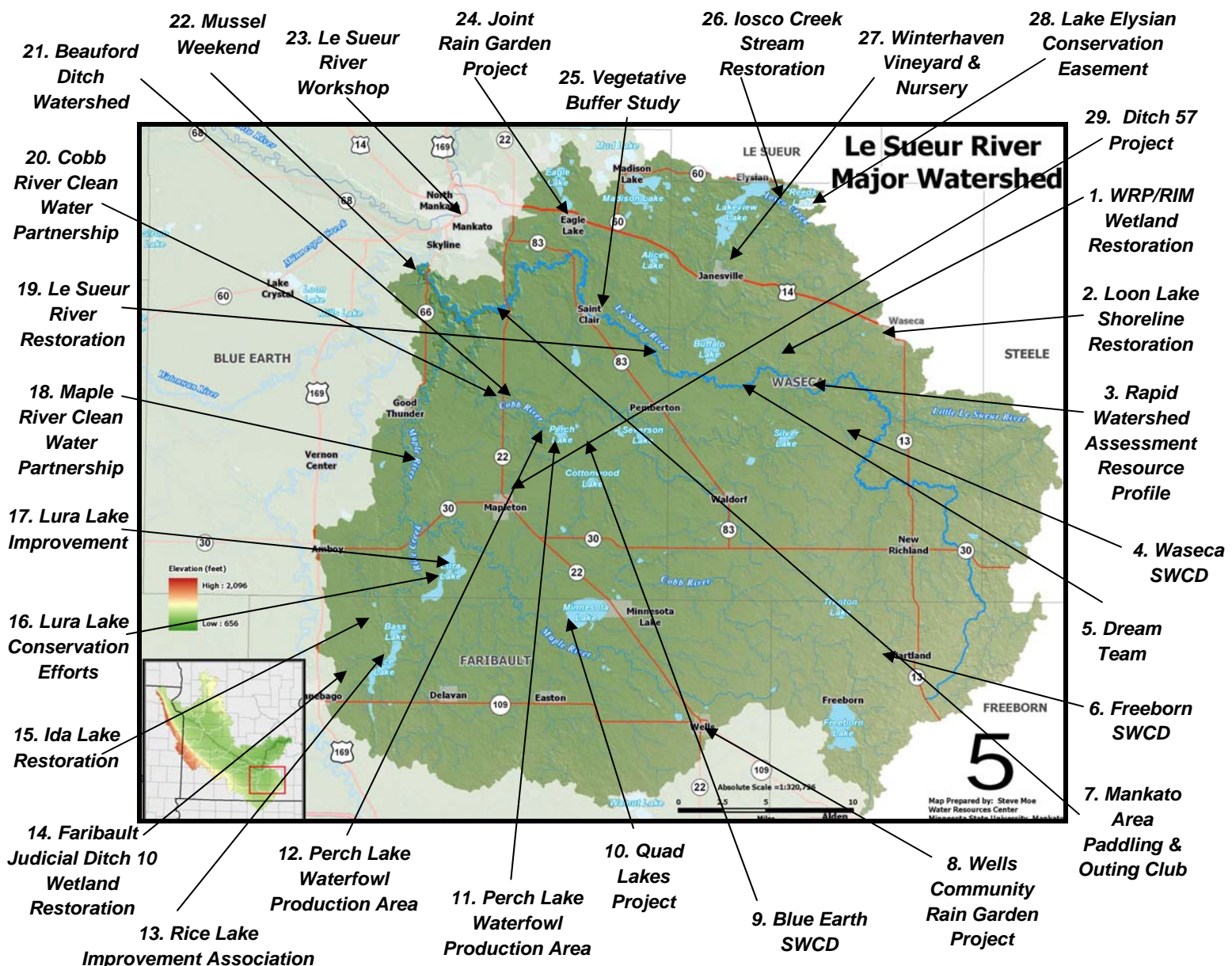


LE SUEUR RIVER WATERSHED

As the seventh largest watershed in the Minnesota River Basin, the Le Sueur drains approximately 1,112 square miles or 711,838 acres. The Le Sueur River Watershed is part of the Greater Blue Earth River Basin along with the Watonwan River and Blue Earth River watersheds. The watershed's population of less than 45,000 people is divided among 20 communities and farmsteads with Waseca and Janesville being the largest cities. There are over 30 lakes in the Le Sueur River with 1,200 miles of streams including the Cobb, Maple and Little Le Sueur rivers. Starting out in Freeborn County, the Le Sueur River flows north and west to its confluence with the Blue Earth River, three miles upstream of Minnesota River confluence. The watershed is characterized by its gently rolling glacial moraine along with bluffs outlining the lower reach of the Le Sueur River.



Mussel Survey on the Le Sueur River



The Le Sueur River flows past many high cliffs of glacial drift. Sand and gravel bars, softened by willow thickets, are common along the river. The marrow river occasionally sprawls into wide shallows. In its last five miles, high wooded bluffs flank a channel that has grown considerable in width and depth. – Lynne and Robert Diebel, *Paddling Southern Minnesota*, 2007

LE SUEUR RIVER WATERSHED

The Greater Blue Earth River Basin Alliance focuses on improving water quality in the three watersheds that make up the Greater Blue Earth River Basin including the Le Sueur River Watershed. Other water quality efforts are handled by a diverse group of organizations including the Mankato Paddling and Outing Club, Lura Lake Association and two clean water partnerships – Maple River and Cobb River.

1. Waseca Wetland Restoration Program

A joint federal Wetlands Reserve Program (WRP) and the state's Reinvest in Minnesota Resources (RIM) combine funding and technical expertise to pay landowners to permanently protect critically sensitive land by taking it out of cropland and restoring wetlands and prairie uplands. One farmer and conservationist in Waseca County has enrolled 77 acres in the federal-state program, restoring a 15 to 25 acre wetland and improving upland cover for wildlife. In addition to paying land owner, Tom Bauman for the permanent easement, the program also pays for the wetland and upland restorations.

Originally this piece of property had been part the 200 acre Canfield Lake prior to the 1930s when it was drained by digging a ditch.



Wetland Restoration in Waseca County

2. Loon Lake Shoreline Restoration

Waseca SWCD has been working with volunteers and local citizen groups including the Waseca Garden Club,



Shoreline Buffer at Loon Lake Park

Waseca Lakes Association and Loon Lake Lakeshed Committee to improve water quality in Loon Lake located on the outskirts of Waseca. A DNR Shoreline Habitat

Restoration grant helped restore 1,100 feet by 35 feet of degraded shoreline by planting over 8,000 aquatic and

upland native forbs and grasses. This successful project has motivated the Waseca SWCD to work with other Loon Lake landowners on other conservation projects. They have also completed several shoreline restoration sites on Lake Elysian in the far northern part of Le Sueur River Watershed.

3. Rapid Watershed Assessment Resource Profile

The Natural Resources Conservation Service (NRCS) conducted a rapid watershed assessment resource profile on the Le Sueur River Watershed. According to the NRCS, these rapid watershed assessments provide initial estimates of where conservation investments would best address the concerns of the landowners, conservation districts, and other community organizations and stakeholders. Ultimately, these assessments help landowners and local leaders set priorities and determine the best actions to achieve their goals. The resource

profile takes in account the physical description, ownership/land use, water assessment, geology/soils, drainage, land capability and other factors. The watershed's SWCDs' identified seven resource concerns as top priorities for conservation and cost-sharing efforts: (1). Sediment and erosion control; (2). Storm-water management; (3). Drinking water and source water protection; (4). Feedlot and management; (5). Nutrient management; (6). Wetland management;

and (7). Drainage management. The report states that many of the resource concerns relate directly to topography, agricultural practices and increased development in the region resulting in increased sediment and pollutant loading to surface and ground water.



Eroding banks on the Le Sueur River

4. Waseca SWCD

The Waseca Soil & Water Conservation District has primarily worked with agricultural water quality/quantity issues and erosion concerns, focusing on the need for wetland restorations, nutrient and pesticide use reduction, wildlife habitat and other conservation practices. Today, this SWCD has also been assisting with urban issues including residential lakeshore restorations and rain garden installations.

In addition to helping with the Tom Bauman's WRP/RIM project, Waseca SWCD also worked with a 160 acre WRP/RIM project on the Le Sueur River. To the south of this tract is a 127 acre CREP permanent easement and another 30 acres on the west edge. On the Little Le Sueur River approximately 470 acres have been enrolled into CREP.

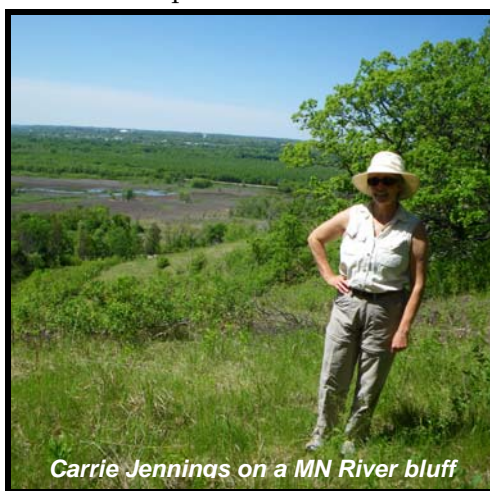


CREP easement along the Le Sueur River

5. Dream Team

A diverse group of organizations participated in a Le Sueur River study to identify sediment sources for one of the most impaired watersheds in the Minnesota River

Basin. This ground-breaking research project involved the Minnesota Geological Survey, Minnesota Pollution Control Agency (MPCA), Minnesota State University WRC, Mankato,



Carrie Jennings on a MN River bluff

University of Minnesota's St. Anthony Falls Lab, John Hopkins University, and the National Center for Earth Dynamics, part of the National Science Foundation. Known as the "dream team," the university research groups conducted a variety of tests and ongoing research to pinpoint how much sediment is flowing from the river and its sources. MPCA took part in the research by conducting a biological study of all living creatures – macroinvertebrates, fish and turtles.

6. Freeborn SWCD

About 100,000 acres of the northwest corner of Freeborn County is part of the Minnesota River Basin and Freeborn SWCD is a member of the Greater Blue Earth River Basin Alliance (GBERBA). As part of this alliance, Freeborn SWCD installed 13 water and sediment control basins on land owned by five different landowners. Just under \$20,000 was paid to the landowners as cost-share to encourage them to install needed erosion control measures. Over 500 acres of marginal cropland was converted into productive wetlands under the CREP signup. The native grasses and forbs planted on the fringe areas are now well established and depict the original prairie/pothole landscape that once covered much of the county.



Sediment & Water Control Basin

7. Organization Spotlight - Mankato Area Paddling and Outing Club

The mission of this volunteer-based group is to participate and lead a wide variety of outdoor activities including canoeing, kayaking, biking, cross country skiing, etc. and network with people of similar interests. Founded in 1993

by Bob Zoet, the Mankato Paddling and Outing Club (MPOC) holds regularly monthly meetings, puts on a annual River Valley Cleanup



on area rivers in the spring and hosts a picnic every year in the summer. MPOC adopted a stretch of the Le Sueur and Blue Earth rivers to pick up garbage and other junk along the shoreline and at the access points. In 2001, the club undertook a coordinated survey of all the dumpsites and navigation hazards on every river in the Blue Earth Watershed for county environmental services. Over the next four years they paddled 305 miles on six different rivers and recorded 300 dumpsites or roughly every mile. Blue Earth County wanted to spur interest in cleaning up the dumpsites including a large one in Good Thunder.

8. Wells Community Rain Garden Project

A new, innovative and proactive project was initiated by the community of Wells to promote the construction of the rain gardens by residents in the city. City staff, elected officials and residents worked together to organize an event with two

different workshops to develop rain gardens. The Greater Blue Earth River Watershed Basin's Small Community

Stormwater Program participated in the event along with the Minnesota Erosion Control Association to teach citizens how to plan and construct rain gardens.



Broadway Apartments' Rain Garden



Triple Falls on the Blue Earth River

9. Blue Earth SWCD

A total of 172 permanent easements for a total of 5,329 acres have been established on privately owned lands in Blue Earth County through CREP. One group project involved six different landowners who enrolled 340 acres in a large wetland restoration project. Some project work continues to be completed with routine maintenance to many of the easements. The program brought together local, state, and federal officials, conservation groups, and interested landowners to work collectively to restore the Minnesota River Basin. The Blue Earth SWCD has also led efforts with the Greater Blue Earth River Watershed Initiative through a partnership with Three Rivers Resource Conservation & Development (RC&D) to install conservation practices, the Maple River Watershed Clean Water Partnership and Cobb River Watershed Project.

10. Quad Lakes Project

A diverse selection of partners along with funding from the State of Minnesota has been involved in the preservation of Minnesota Lake through the Quad Lakes Project. The goal is to capitalize on the public's growing interest in non-game wildlife and bird watching to improve the quality of life and promote tourism in southern Minnesota.

On Minnesota Lake, the project will stabilize the shoreline to improve water quality. As one of three nest areas of the American Pelican in the state, Minnesota Lake provides habitat for thousands of ducks, geese and other waterfowl. Minnesota Lake also provides recreational opportunities for fishing, paddlers and photography.



Old Mill Pond at Minnesota Lake

Faribault SWCD has been cooperating with various partners - DNR divisions, Pheasants Forever, Faribault County Deer Hunters Association, Martin and Faribault County Turkey Association, Blue Earth SWCD, the University of Minnesota Extension Service, and others to restore and protect Minnesota, Rice, Bass and Lura lakes along with other area lakes and wetlands.

11. Perch Lake Waterfowl Production Area

The Minnesota Valley Trust utilized funding from a settlement between the U.S. Fish and Wildlife Service and Metropolitan Airports Commission to purchase and restore habitat on Perch Lake. This important migratory waterfowl lake located in Blue Earth County will be donated to the U.S. Fish and Wildlife Service to serve as a waterfowl production area (WPA). One parcel located on the south end of the lake has seen the retirement of cropland and planted with a diverse grass and prairie seed mix along with restoring wetlands on the 150 acre parcel. Adjacent to the 586 acre Cobb River WPA (under USFWS management since 1995), the Perch Lake WPA will provide significant waterfowl and wildlife habitat benefits for more than 10,000 migrating waterfowl.

12. Living Lakes Initiative – Perch Lake

Perch Lake is a 480 acre shallow lake that is part of the Ducks Unlimited's "Living Lakes Initiative. The other parcels of the Perch Lake WPA are located on the northwest side including the lake's outlet, allowing the DNR to manage water levels through a new control structure installed by Ducks Unlimited. In addition, the buildings and concrete pads of an abandoned dairy site on the lake's west end have been removed and the site graded and seeded with native mixes to promote diversity, prevent erosion and create wildlife habitat. Other funding and habitat restoration work for this Perch Lake improvement project has come from the Minnesota Environment and Natural Resources Trust Fund, North American Wetland Conservation Act, Blue Earth SWCD, Minnesota Pheasants, Inc – Blue Earth, and the U.S. Fish and Wildlife Service.



13. Rice Lake Improvement

Designated as a wildlife management lake by the DNR, the 1,166 acre Rice Lake will be part of a shallow lake enhancement project. Ducks Unlimited will use grant monies from the Outdoor Heritage Fund to build a water control structure and fish barrier. Rice Lake is considered one of the most important duck migration and brood-rearing habitat in the state and will see periodical drawdowns of water levels to induce winterkill of invasive fish and rejuvenate the aquatic ecology of these large wetland basins. According to Ducks Unlimited, these temporary, periodic draw-downs that mimic natural drought cycles are used to be rejuvenate wetlands, much like fire does to prairie grassland systems. Staff from Ducks Unlimited and DNR will work together to conduct assessment surveys, develop a design and oversee construction of the structure.

River Advocate – Brand Frentz

One of the most dedicated paddlers in the Greater Blue Earth River Basin is Brand Frentz, a long-time member of the Mankato Area Paddling and Outing Club. Brand has paddled many of the rivers in the Minnesota River Basin. His favorite is the Cobb River, especially the last eight to 10 miles. He also includes the Blue Earth, Maple, Watonwan and Le Sueur rivers as ones he likes to paddle. As a member of the Mankato Area Paddling and Outing Club, Brand helped coordinate the survey of all the dumpsites and navigation hazards on every river in the Blue Earth Watershed. In addition to Brand helping organize many of the river clean-ups sponsored by the club, he has also been a dedicated member of the Friends of Minneopa State Park.



14. Faribault Judicial Ditch 10 Wetland Restoration

This project restored two large drained wetland basins along the upper reaches of the Judicial Ditch 10 drainage system. The system drains approximately 2,920 acres of land before emptying into nearby Rice Lake in northwestern Faribault County. The state of Minnesota,



through the Board of Water and Soil Resources partnered with Faribault SWCD, local drainage authority and several landowners to secure four perpetual conservation easements from two landowners covering 156 acres to facilitate this project. An alternative to major repair or drainage improvement of the JD 10 system, the intended functions of the project are flood control, drainage system improvement, improved water quality, and wildlife habitat.

15. Ida Lake Restoration

This 120 acre lake located in southern Blue Earth County has been the focus of the Lura Lake Association to improve water quality and public access. The Association helped purchase an 11-acre public access on the northeast shoreline and installed an aeration system to stabilize the lake's fish habitat. A lake reclamation completed in 1998 and the protection of almost one mile of shoreline as the Ida Lake Aquatic Management Area (AMA) has helped to improve fish populations in the lake, now stocked with bluegills, largemouth bass, northern pike and walleyes.

16. Lura Lake Improvement

After Blue Earth County established a park on Lura Lake – a mostly shallow 1,200 acre lake – local residents through a Lura Lake Association began a campaign to improve its water quality by encouraging farmers to reduce phosphorus entering the lake and installing shoreline restoration practices. Over the years, six miles (out of 13 miles) of shoreline have been restored using fieldstone, willow cuttings and grass seeding that cost \$130,000 instead of an estimated \$1.3 million because of donated labor and materials.

Money was raised through a variety of fundraisers including lutefisk feeds while volunteers installed the rocks, trees and prairie grasses to stabilize the

shoreline. Outreach to the farmers was done by kitchen meetings and word-of-mouth. According to Association members, community participation was key to making this a successful project and an outstanding example of how an agricultural community pulled together to restore the landscape.

After the DNR treated the lake to kill rough fish like carp, they restocked it with game fish and installed two aeration



systems to prevent winter fish kills. Lura Lake now supports a healthy fish population of walleye, northern crappies and sunfish. Every year, the Lura Lake Association sponsors a Lura Lake Fair to encourage children to fish and protect water quality. Over 10,000 kids have participated in the annual fair started in the early 1990s.

17. Lura Lake Association Conservation Efforts

In addition to its focus on Lura Lake, the Lura Lake Association has taken on other projects to improve water quality. Other conservation efforts by the Lura Lake Association include purchasing 293 acres of farmland along the Blue Earth River near Winnebago and an adjacent 72 acres of land that was never broken.

On Rice Lake, the Association helped purchase a 148 acre wildlife management area with 3,200 feet of shoreline. The property was planted with prairie grasses and flowers and features a grass walking trail through a 35 acre oak savanna along with bird houses. The purchase of 47 acres known as Wissner Grove for \$77,000 was donated to the DNR. The Lura Lake Association has also purchased land on Ida Lake and the construction of a four-acre fishing pond and bird observation station at Minnesota Lake.



18. Maple River Watershed Implementation Project

This rural watershed drains approximately 220,000 acres or 340 square miles in Blue Earth, Faribault and Freeborn counties and is a sub-watershed of the Le Sueur River Watershed. The Maple River flows from Penny Lake just over 80 miles into the Le Sueur River upstream of Red Jacket Park near Mankato. From 2003 to 2006, the Maple River Watershed

Implementation Project completed the following accomplishments: established three nutrient management plots on 500 acres; upgraded six out-of-compliance septic system; installed six rock

grass waterways; restored three wetlands; conducted a hydrologic/hydraulic analysis on Judicial ditch 20; developed a project web site and hired Blue Earth Consulting to do demonstrations of nutrient management plots.



Two educational sites were established, one on a CREP wetland restoration and a native prairie planting on a waterfowl production area. Two rain gardens were installed as demonstration/education sites (Eagle Lake and Faribault) and conducted a storm drain stenciling project in the cities of Amboy and Mapleton. Two newsletters were published and distributed to watershed residents, several public meetings were held and several presentations in the Maple River School District.

Under a continuation grant, the Maple River Watershed Project continued to install a variety of Best Management Practices (BMPs): 12 water and sediment



Environmental Field Day

control basins, three rain gardens, six grass waterways, two terraces, 23 alternative tile intakes and four grade stabilizations. Pollution

reduction estimates on possible practices came in at 153 pounds of phosphorus, 102 tons of sediment and 324 tons of soil annually. To increase the public awareness of water quality and quantity issues, the project awarded 15 educational grants to schools in the watershed including an environmental field day at the Mapleton River, purchasing trees for a conservation planting and sponsoring the Prairie Ecology Bus.

19. Le Sueur River Restoration

Eugene Braam was selected as the Conservationist of the Year by the Blue Earth Soil and Water Conservation District for his ongoing conservation efforts. On one of the most recent projects, Braam installed stream barbs on a portion of the Le Sueur River to stabilize the stream banks. Most of his land has been enrolled into conservation practices as Braam spends a majority of his free time maintaining habitat through plantings, controlling invasive plants, removing garbage, managing tree habitat. He enjoys offering tips about the benefits of well managed conservation areas.



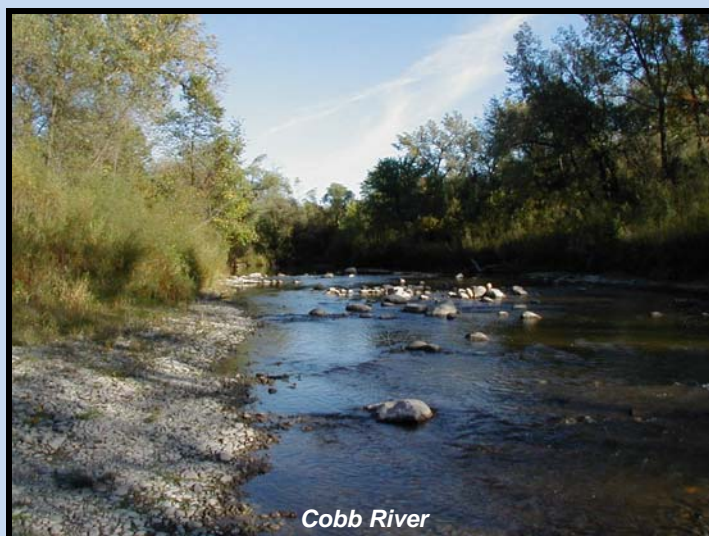
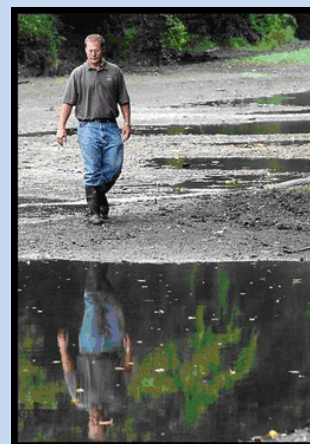
Stream barbs on the Le Sueur River

20. Project Spotlight - Cobb River Watershed

In 2006, the Greater Blue Earth River Basin Alliance (GBERBA) received a Clean Water Partnership grant for \$300,000 from the Minnesota Pollution Control Agency to install Best Management Practices in the Cobb River Watershed. Landowners and producers too advantage of cost-share to install a variety of Best Management Practices – grass buffer strips, grass waterways, buffers around open-field tile intakes, wetland restorations and animal feedlot improvements.

There is also \$100,000 available in low-interest loans to upgrade septic systems. The Cobb River is on the state's impaired waterway list and is a major pollutant contributor including sediment and nutrients to the Le Sueur River, which empties into the Minnesota River. Counties in this 195,000 acre watershed are Blue Earth, Waseca, Freeborn and Faribault.

In 2009, the Cobb River Watershed Project provided incentive payments for planting Continuous CRP buffers, installing a grade stabilization structure and implementing an upland wildlife habitat planting to help stabilize bare soil on a newly acquired waterfowl production area (WPA). In the fall, five projects started construction but were delayed due to wet weather. A Clean Water Partnership one year Extension Grant was awarded to continue providing Best Management Practices through 2010.



Cobb River

21. Beauford Ditch Watershed

One of the most intensively cropped and studied sub-watershed in the Le Sueur River Watershed is the Beauford Ditch Watershed which has seen a significant effort to improve water quality. Multi-agencies became partners to promote a wide range of Best Management Practices (BMPs) including conservation tillage, upgrading septic systems, filter strips, alternative tile intakes and using wetlands to filter or slow water runoff to initiate a total watershed cleanup. The Beauford Ditch Watershed Project identified a number of key points to help water quality efforts including longer time periods to allow BMPs to work, a broader educational program, an openness by all those involved, local leadership, a need for a combination of education, incentives and enforcement and economics playing an important role.



22. Mussel Weekend

The Minnesota Department of Natural Resources and Minnesota River Watershed Alliance partnered to host a



mussel hike on the Le Sueur River for the public. Held at Red Jacket County Park, a DNR macrologist led a group of 25 plus people including children (as

young as four year-old) on the Le Sueur River to look for mussels. The event focused on introducing citizens to the importance of mussels in the river ecosystem and also conducted a survey of the organisms. By finding and holding live mussels in their hands, DNR and Minnesota River Watershed Alliance hope to help people connect to the Le Sueur River's rich natural resources.

23. Le Sueur River Workshop

On May 12, 2008, citizens, agencies and organizations working in the Le Sueur River Watershed came together for a collaborative workshop. The one day event focused on monitoring and ongoing research to better understand sediment loading and stream health in the Le Sueur River Watershed. Over 30 people attended the workshop to share information about what work has been done and discuss future plans for data collection. The group spent the morning hearing ten minute presentations on numerous watershed project including ones by MPCA about intensive biological monitoring, the National Center for Earth Surface Dynamics on the Le Sueur Sediment Sources and John Hopkins University about creating an economic framework for improving water quality. In the afternoon the group visited a number of monitoring sites on a field trip.

24. Joint Rainwater Garden Project

The Blue Earth and Faribault SWCDs worked together on a joint rain garden project in the two counties. Over 20 rain gardens were installed in the communities of Mankato, Eagle Lake, St. Clair, Delavan, Winnebago and Blue Earth with funding from a DNR Conservation Partners grant. Completed in December of 2005, the \$15,000 grant was matched by over \$90,000 worth of in-kind from homeowners, volunteers and master gardens helping to construct, plant, and maintain the new gardens. The rain gardens became a teaching tool with numerous articles by area media sources and a tour by Blue Earth County officials.



25. Effect on Vegetative Buffers Study

The Acetochlor Registration Partnership (ARP) in collaboration with the Minnesota Department of



Monitoring water flow from field

Agriculture (MDA) is studying the effect of vegetative filter strips at side-inlet drains on acetochlor concentrations and loads from cropland treated

with a registered acetochlor product runoff. Over two phases this project located in the Le Sueur River Watershed will monitor water flowing from side inlets without vegetative buffers for acetochlor concentrations during the first year of the study. In the second phase the study will sample side-inlets on vegetative filter strips to assess how

this practice affects acetochlor transport. MDA will use the data to evaluate how Best



Monitoring Equipment

Management Practices like vegetative buffers have an effect on water quality from Acetochlor concentrations. The Le Sueur River Watershed is listed for acetochlor on the Minnesota's impaired waters. In addition, the study will also look at how the BMPs affect nutrient and sediment transport in agricultural watersheds. Water quality will be monitored in four watersheds of differing types to replicate the results for greater statistical power.



Tour of monitoring equipment

26. Iosco Creek Stream Restoration

To benefit water quality and fish habitat, the Waseca SWCD partnered with the DNR to install fish ladders on culverts blocking fish passage upstream on Iosco Creek. This creek had historically been used by fish for spawning. Other conservation projects benefitting Iosco Creek has included the restoration of a 30 acre wetland



Wetland Restoration on Iosco Creek

that had been partially drained after the construction of a culvert on a township road. Rock cross veins and weirs were installed

downstream of the wetland to help prevent the down cutting of the creek, allowing suspended sediment to settle out and re-establish the original creek bed.

27. Winterhaven Vineyard and Nursery

Established in the spring of 2000, Winterhaven Vineyard and Nursery currently covers over 10 acres with over 6,000 vines and 17 varieties of grapes. This vineyard located in rural Janesville is constantly expanding and now focusing on the newest cold hardy varieties. To supply new varieties as quickly as possible, the bare-root grape vines are grown as potted plants in a greenhouse. Winterhaven sells many of their bare-root grape vines. Owned by the Winter family, the enterprise expanded in April of 2010 with Indian Island Winery opening its doors to the public, located in close proximity to the vineyard.



Grape Vines at Winterhaven

28. Lake Elysian Conservation Easement

Bryan Jewison has spent his life living along Lake Elysian in the northwest section of the Le Sueur River Watershed and farming the same 300 acres of land his family owned since the mid-1880s. This 60-year bachelor milks 80 head of cattle on a simple, three-generation farm without TV or the internet.

Part of Jewison's land is 3,000 feet of shoreline on Lake Elysian, abutting 50 acres of crop fields and flood plain forest. This pristine property has attracted numerous offers from people to buy the land for development. Instead, Jewison decided to keep the land as is by entering into a permanent conservation easement with the Minnesota Land Trust, a nonprofit organization protecting lands and waters that define communities and enrich the quality of life.

The natural shoreline slows the amount of phosphorus entering into the lake helping protect water quality and also preventing erosion problems. Under this conservation easement, the Jewison family and any future farmer will be able to continue producing crops while still protecting the lake shore's natural habitat that Bryan has loved since childhood. Jewison grew up swimming in Lake Elysian and playing on the high ground overlooking the water.

According to Land Trust Executive Director Kris Larson, "A conservation easement is a powerful tool that helps private landowners protect their land today and for future generations. Each easement is unique, tailored to the conservation values of the land while respecting the needs and desires of the landowner." The Minnesota Land Trust works in partnership with interested



29. Ditch 57 Project

Landowners along Blue Earth County Ditch 57, the city of Mapleton and others received a \$485,000 grant from the Legislative-Citizen Commission on Minnesota Resources (LCCMR) to balance the need for draining water off cropfields as quickly as possible with protecting the water resource. The idea behind the project is to "improve water quality, enhance ecological value, and provide a model/tool for agricultural drainage improvements. The results will be beneficial to producers and the environment on future projects."

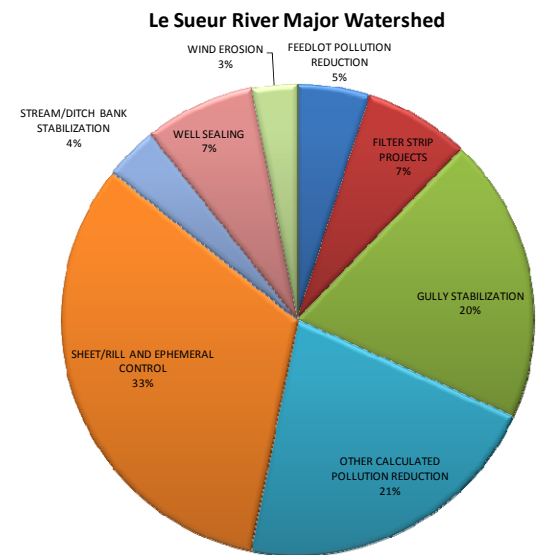
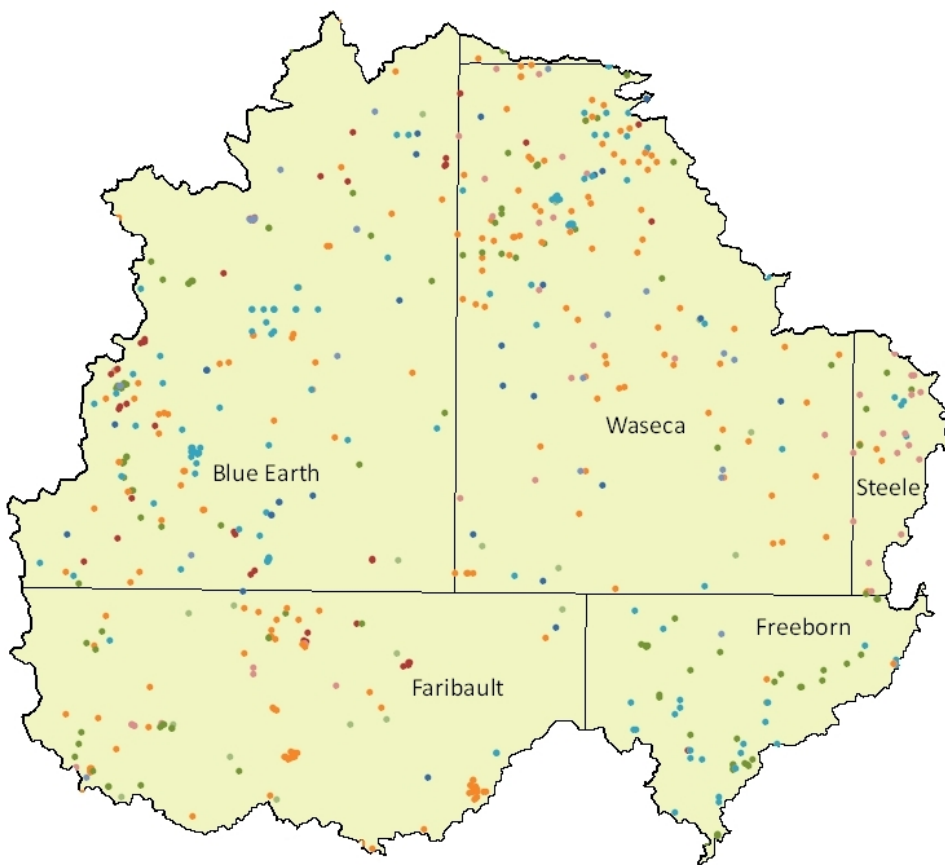
Now with the approval of funding as the first step, next this local group will begin discussions and negotiations with landowners to gauge their interest in the installation of conservation practices – i.e. developing a water reservoir or wetland, planting a buffer strip, constructing an erosion structure – to help slow down water and allow sediment to settle out before reaching a waterbody.

Ditch 57 serves close to 6,000 acres of land and Mapleton's stormwater system. The LCCMR funding would be used to add conservation practices to the ditch system to reduce the sediment load flowing through it and further downstream including the Big Cobb and Minnesota rivers. Landowners will still be responsible to pay for any drainage improvements related to how it benefits their property. Part of the project involves monitoring the water quality to identify any reduction in pollutants like sediment and nutrients.



landowners and communities across the state to preserve important natural and scenic resources by limiting the use and development of their land.

Le Sueur River Watershed Conservation Practices and Land Use

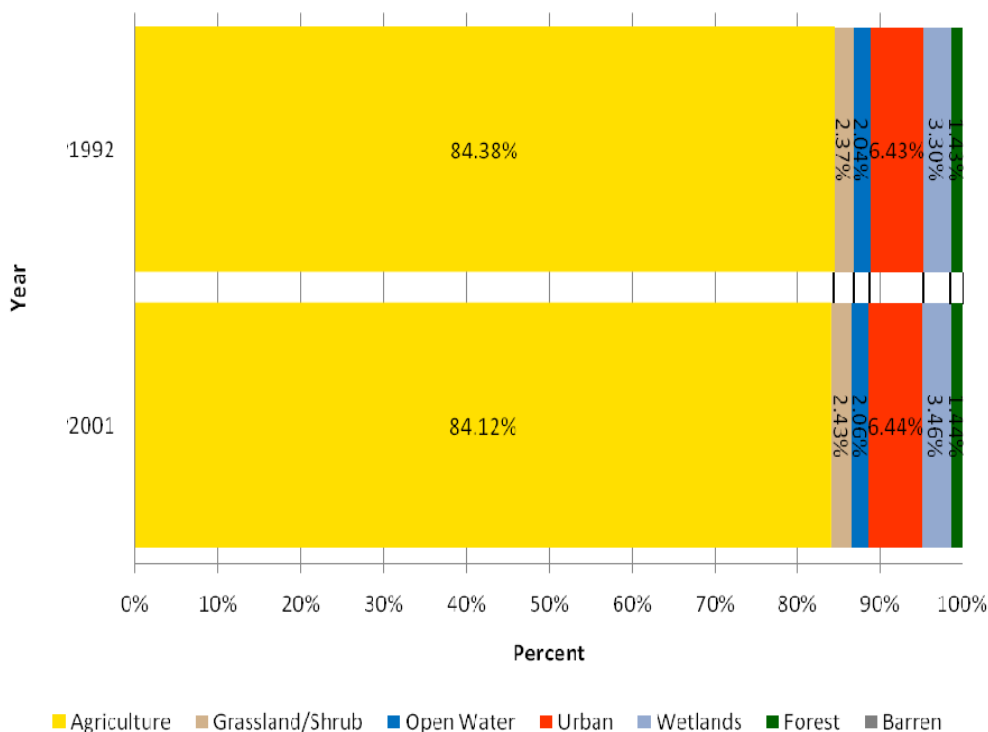


Conservation Practices

Improvement of water quality through the installation of BMPs has been a focus in the Le Sueur River Watershed since the 1990s along with the rest of the Greater Blue Earth River Basin. The map to the left and pie chart above illustrates conservation practices in this watershed. The conservation practices data comes from the Board of Water and Soil Resources (BWSR) program compiles information on a county, watershed, and individual-project basis from 1997 to 2008. The number of conservation practices reflects only actual contract and not the acres. There are additional conservation practices installed in the Le Sueur River Watershed but not recorded in either LARS or eLINK.

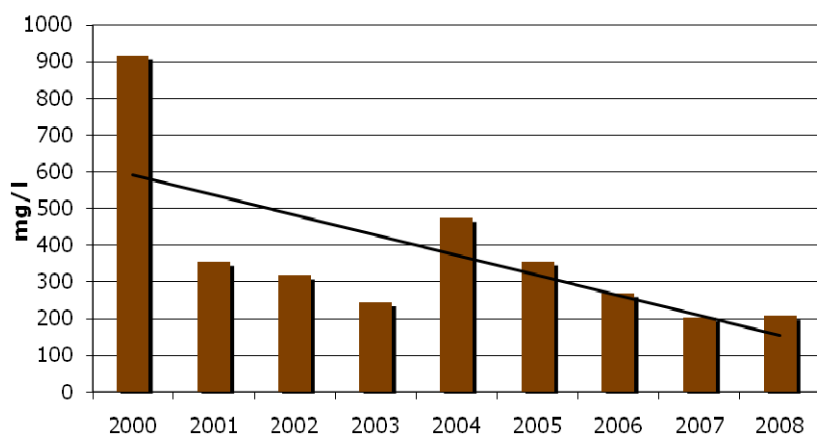
Source: Minnesota Agricultural Statistics

Landuse



Le Sueur River Watershed Pollution Reduction

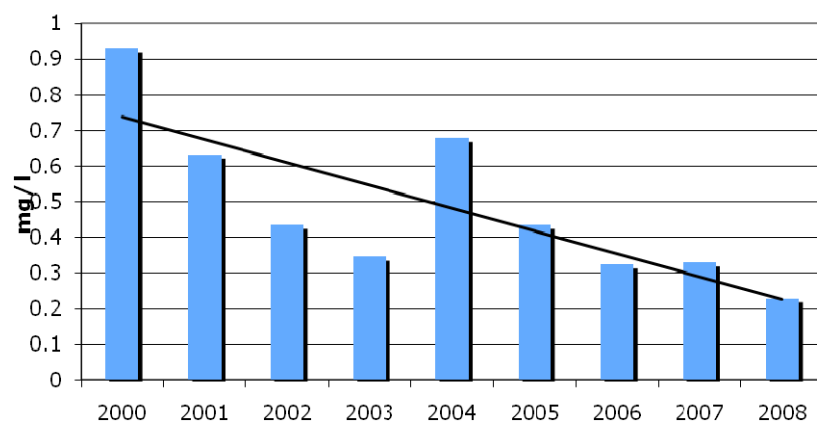
Total Suspended Solids FPMC 2000-2008



Total Suspended Solids

The Le Sueur River Watershed has been the focus of numerous research projects looking at sediment sources and erosion. In 2000, two huge rain storms produced the high level of Total Suspended Solids. Over the last ten years there has been some improvement in buffers (lesser degree compared to Hawk Creek). There has also been more drainage due to increased tiling resulting in the water running at an almost constant rate. Geology plays a major role in sediment levels especially near the confluence with the Blue Earth River.

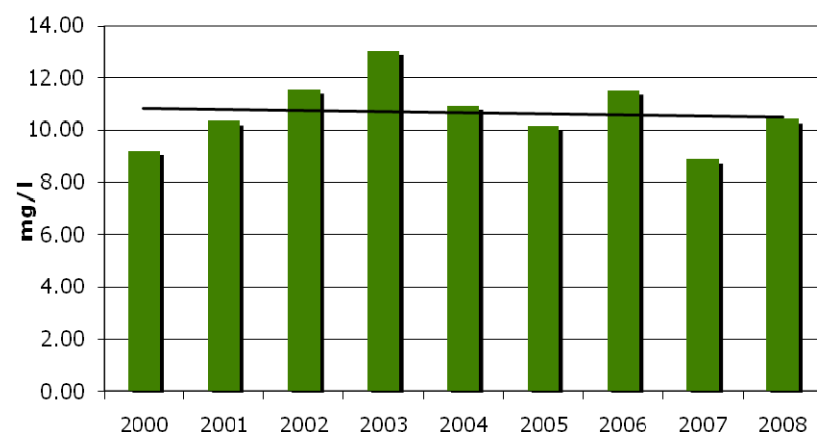
Total Phosphorus FPMC 2000-2008



Total Phosphorus

The two major sources of phosphorus come from nutrient application and wastewater. Agriculture production (corn and soybeans) dominates the landscape with only a few small cities in the watershed. The small town of St. Clair is the only community located on the Le Sueur. Eagle Lake and Mapleton are the largest cities with both at over 1,500 people. There has been a concentrated effort to upgrade wastewater treatment plants in the Minnesota River Basin and improve stormwater through the use of rain gardens and other BMPs.

Nitrate-Nitrogen FPMC 2000-2008



Nitrate-Nitrogen

Increased drainage from both agricultural and urban sources has contributed to the increased levels of nitrogen. Water soluble, nitrogen moves through the extensive tiling of croplands into the numerous rivers in the Le Sueur River Watershed like the Maple and Big Cobb rivers. Some effort to reduce nitrate levels has been accomplished through BMPs like wetland restorations and rain gardens. Typically the nitrate levels peak at the end of May all within two weeks from year to year.