

Yellowstone Lake Watershed Improvement Project

**Final Report
July 1998 through December 2006**

Funded by a Wisconsin DNR River Management Grant

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INTRODUCTION

The Yellowstone River Watershed is a 57 square mile rural, agricultural watershed that spans Iowa and Lafayette counties in Wisconsin. The watershed is home to Yellowstone Lake State Park, the fourth most visited state park in Wisconsin. The lake, a 455-acre impoundment created in 1954 by a dam on the Yellowstone River receives heavy recreational use and has the only beach in Lafayette County. The watershed can be divided into five subwatersheds: Cannon Creek, McClintock Creek, Steiner Branch, Yellowstone River, and Yellowstone Lake. Both Cannon Creek and Steiner Branch are considered Class II trout streams. The remaining areas are considered a warm water sport fishery.

Sediment and nutrient loading to the lake had adversely affected the water quality and limited recreational use of Yellowstone Lake. The lake was drained in XXXX to remove sediment. The heavy sedimentation rates in the lake were a result of the intensive agriculture occurring in the Yellowstone Lake Watershed. In 1995, there were 106 farming operations in the basin and of those 46 were livestock operations. Non-point pollution entering Yellowstone Lake in the form of manure runoff from livestock operations is a major concern in the watershed. However 80 percent of the phosphorus delivery to Yellowstone Lake is associated with eroded soil. The 1982 report titled *Water Quality Assessment of Steiner Branch* documents the sediment load to the lake to be 10,257 tons per year. Steiner Branch, one tributary to Yellowstone Lake, was calculated to have a long-term average sediment yield of 444 tons per square mile. The heavy sedimentation rates have hindered aquatic plant growth, which negatively impacts the warm water fishery. Excessive nutrient loading from sedimentation and livestock wastes have resulted in large algal blooms.

GOALS & OBJECTIVES

The Yellowstone Lake Watershed Improvement Project sought to significantly reduce the amount of sediment and nutrients entering Yellowstone Lake through the installation of conservation best management practices (BMPs). The BMPs were directed at areas having the most significant impact on the resource.

The Yellowstone Lake Watershed Improvement Project targeted the Lafayette portion of the watershed (63% of total). The area covered by this project was 23,045 acres. Land devoted to row crop agriculture constituted 51% of land use in the watershed while grassland and forest made up the remaining 31% and 18%, respectively. Livestock agriculture in the project area is dominated by dairy and beef farming. There are 106 farming operations in the basin and of those 46 are livestock operations. Non-point pollution entering Yellowstone Lake in the form of manure runoff from livestock operations is a major concern in the watershed. However, 80 percent of the phosphorus delivery to Yellowstone Lake is associated with eroded soil (Anderson, 1995).

The Yellowstone Lake Watershed Improvement Project worked to accomplish the following four goals by the end of the project:

- 1) Reduce sediment delivery to Yellowstone Lake from upland sources by 25% (2,600 tons/yr).

- 2) Reduce phosphorus delivery to Yellowstone Lake from non-point sources by 25% (2,735 lbs/yr.)
- 3) Reduce soil erosion to 1/2 "T" or less on 50% of the pasture land in the Yellowstone Lake Watershed
- 4) Improve and develop wildlife cover throughout the Yellowstone Watershed

In 1998 the Wisconsin Lake Model Spreadsheet (WILMS) was used to predict sediment and phosphorus delivery rates to lakes. Max Anderson, environmental engineering professor with the University of Wisconsin Platteville was using actual field measurements to calibrate the program.

ACCOMPLISHMENTS

Sediment and Phosphorus Delivery

At the beginning of the project, Dr. Max Anderson, environmental engineering professor with the University of Wisconsin Platteville, used the Wisconsin Lake Model Spreadsheet (WILMS) to predict sediment and nutrient delivery to Yellowstone Lake. Dr. Anderson calibrated the model by comparing estimates with actual field measurements of sediment and pollutant loading. Dr. Anderson collected water quality data from Yellowstone Lake for two years as a Wisconsin DNR lake monitoring volunteer. The WILMS data identified that 80 percent of the phosphorus entering the lake comes from soil erosion from the land devoted to agricultural production. The model estimated that 13,200 lbs of phosphorus is transported to Yellowstone Lake from its watershed each year. Dr. Anderson stated that in order to improve the water quality of the lake, the amount of phosphorus entering the lake on an annual basis needed to be reduced. Since sediment input into a lake is the main pathway for phosphorus to enter Yellowstone Lake, reducing soil erosion is one of the key elements for improving the water quality in the lake.

Calculating the tons of sediment saved and pounds of phosphorous retained was somewhat problematic. As mentioned above, the WILMS model was used to calculate the initial sediment and phosphorous loads, however; that model is no longer in use. After consulting several individuals regarding this issue the following assumptions were used to calculate sediment and phosphorous loading. This report assumes 100% cropland above each of the dams and an average soil loss of 4 tons/acre/year, and uses a delivery ratio of 60% (60% of soil loss makes it to the dam), and an 88% trapping efficiency rate for each dam. Using this formula, the average soil loss reduction per acre is 2.112 tons/ac/yr. The average soil loss reduction (2.112 tons/ac/yr) was then multiplied by the drainage area for each of the dams. (See Appendix A).

To determine pounds of phosphorus retained due to the projects completed the US Geological Survey Fact Sheet - FS-195-97 was used. According to the fact sheet the median pounds of phosphorus per square mile for the Yellowstone Watershed was 683 pounds. Dividing the median pounds of phosphorus by the area of the watershed gives the average phosphorus per acres (1.0671875 lbs/acre). This number (1.0671875) was then multiplied by the tons of soil saved to come up with the amount of phosphorus reduced in pounds.

To determine pounds of phosphorus retained due to the installation of a sediment basin. The consensus of the group familiar with using the BARNY model felt that a 40 pound average of phosphorus reduction per sediment basin was adequate and representative.

Soil loss for the stream bank and waterway projects were calculated by how much of an area was lost over what amount of time. (length x height x thickness lost/yr x 90#/Ft³ divided by 2,000#/ton).

For stream crossings and cattle lanes the soil loss calculation was as follows: (length x average 10' width divided by 43,560 ft²/acre x 30 tons/ac/yr).

Using the formulas stated above the final results showed that by installing the list of BMP's shown in Appendix A the total tons of soil saved per year is 3,646.97 tons/year (9.6 % above original goal). The annual phosphorus reduction is 4,022.59 pounds/year (32 % above original goal). **This reduction in sediment and phosphorus exceeds the original goals set at the start of the Yellowstone Watershed.**

An additional reduction in sediment and phosphorus could be attributed to the new acres enrolled into the CRP/CREP programs between 1998 and 2006. This data is not obtainable due to the way the current FSA reporting system is set up. Fields enrolled in CRP/CREP when this report was written (Lafayette Co. contracts only) are shown in Appendix C.

The wildlife cover/habitat has been increased by the use of prairie burnings, brush management, stream bank stabilization and lunkers structures, and the installation of 67 grade stabilization structures. See Appendix D.

Fish Populations

Yellowstone Lake

Before the intensive management plan was started in 1998, the lake was dominated by carp, bullheads, and crappie (See Table 1).

Species*	Total #	Length Range (inches)	Catch per hour
Black Crappie	117	3.8-10.8"	104
Bluegill Sunfish	43	3.7-8.4"	38
Channel Catfish	36	8.1-14.5"	13
Largemouth Bass	80	4.4-20.1"	28
Smallmouth Bass	9	9.5-15.1"	3
Walleye	105	4.1-20.6"	36
Black Bullhead	45	7.7-9.0"	180

Table 1: 1998 Yellowstone Lake fall electro-fishing survey results as reported by Brad Simms, DNR Fish Manager, Dodgeville, WI

A management plan to reduce the numbers of carp and black bullheads began in 1998. From 1998 through 2005, there were 453,833 pounds of carp removed (See Table 2).

*Year	Pounds Removed	# / acre removed	
1998	78559	173	Long & skinny about 5 # avg./fish
1999	24924	55	Shorter & fat about 3 # avg./fish, healthy
2000	144900	318	Shorter & fat about 3 # avg./fish, healthy
2001	79650	175	Shorter & fat about 3 # avg./fish, healthy
2002	65500	144	Shorter & fat about 3 # avg./fish, healthy
2003	8050	18	Shorter & fat about 3 # avg./fish, healthy
2004	52250	115	Shorter & fat about 3 # avg./fish, healthy
2005	12500	27	Long & skinny, some large 18#er's
2006	Unable to obtain	this data prior to	completion of this report.

Table 2: Yellowstone Lake Carp Removal as reported by Brad Simms, DNR Fish Manager, Dodgeville, WI

This reduction in the carp population along with stocking of desired species has greatly enhanced the predator / prey fishery balance (See Table 3).

Year	Species	Age Class	# Stocked	Length	Source
1998	Muskellunge	Large Fingerling	150	11	Private Hatchery
1998	Walleye	Small Fingerling	22,750	2	DNR Hatchery
1998	Walleye	Fry	50,000	0	DNR Hatchery
1999	Bluegill	Large Fingerling	5,000	4	DNR Ponds
1999	Largemouth Bass	Adult(Field Transfer)	392	12	Field Transfer
1999	Muskellunge	Large Fingerling	900	11	Other State Hatch
1999	Walleye	Large Fingerling	3,000	7	DNR Ponds
1999	White Sucker	Adult(Brood Stock)	467	20	Private Hatchery
2000	Largemouth Bass	Adult(Field Transfer)	523	10	Field Transfer
2000	Northern Pike	Large Fingerling	800	13	Private Hatchery
2000	Walleye	Small Fingerling	23,370	1	DNR Hatchery
2001	Muskellunge	Large Fingerling	900	9	DNR Ponds
2001	White Sucker	Fry	120,000	0	Private Hatchery
2002	Muskellunge	Large Fingerling	900	10	DNR Hatchery
2003	Largemouth Bass	Small Fingerling	800	2	DNR Ponds
2003	Muskellunge	Large Fingerling	900	11	DNR Hatchery
2003	Walleye	Small Fingerling	23,780	2	DNR Ponds
2004	Muskellunge	Large Fingerling	900	11	DNR Hatchery
2004	Walleye	Small Fingerling	22,750	1	DNR Ponds
2005	Muskellunge	Large Fingerling	800	12	DNR Hatchery
2005	Walleye	Small Fingerling	22,425	2	DNR Hatchery
2006	Muskellunge	Large Fingerling	501	11	DNR Hatchery
2006	Walleye	Small Fingerling	15,962	3	DNR Ponds

Table 3: Fish Stocked into Yellowstone Lake as reported by Brad Simms, DNR Fish Manager, Dodgeville, WI

In 2006 the fish population in the lake was fairly balanced with all species present. Carp and black crappie were still abundant, but the black bullheads were no longer common (See Table 4).

Electro-fishing surveys showed more consistent year classes of bluegills and largemouth bass, whereas in the past there might have been one good year class every 4-5 years.

Species	Total #	Length Range (inches)	Catch per hour
Black Crappie	202	3.2 -11.3"	87
Bluegill Sunfish	50	3.5-8.9"	20
Channel Catfish	15	16.0-25.5"	35
Largemouth Bass	108	3.7-21.4"	40
Smallmouth Bass	16	12.4-17.7"	6
Walleye	122	3.7-26.3"	46
Black Bullhead	3	9.5-10.5"	2

Table 4: 2006 Yellowstone Lake fall electro-fishing survey results as reported by Brad Simms, DNR Fish Manager, Dodgeville, WI

Subwatersheds

Steiner Branch

Steiner Branch is located directly upstream or Northwest of the Lake. The land is primarily owned by the State of Wisconsin and managed by Department of Natural Resources. From 1998 through 2006 there were 27 small grade stabilization structures installed in this subwatershed, 25 of which were installed on property managed by the DNR. Estimates indicate that these 27 dams will reduce the sediment to the lake by 613 tons/year and reduce the phosphorus contribution by 654 pounds per year.

During this same time frame 1,885 lineal feet of stream bank riprap, 7,644 lineal feet of stream bank shaping and seeding, and 105 stream habitat luncker structures were installed. Estimates indicate that this stream bank work will reduce the sediment an additional 343 tons/year and reduce the phosphorus contribution by 366 pounds per year.

Prior to 1993 Brook Trout did not exist in the Steiner Branch. They were first stocked in 1993 then again in 1997, 1999, and every year since 2004 (See Table 5).

Year	Species	Age Class	# Stocked	Length	Source
1998	Brown Trout	Large Fingerling	250	3	DNR Hatchery
1999	Brook Trout	Adult (Field Transfer)	27	9	Field Transfer
1999	Brown Trout	Large Fingerling	130	3	DNR Hatchery
1999	Brown Trout	Adult (Field Transfer)	5	17	Field Transfer
2000	Brown Trout	Large Fingerling	500	2	DNR Hatchery
2000	Brown Trout	Small Fingerling	500	2	DNR Hatchery
2001	Brown Trout	Small Fingerling	500	1	DNR Hatchery
2002	Brown Trout	Large Fingerling	250	3	DNR Hatchery
2003	Brook Trout	Large Fingerling	500	4	DNR Hatchery
2003	Brown Trout	Small Fingerling	500	1	DNR Hatchery
2004	Brook Trout	Small Fingerling	920	3	DNR Hatchery
2005	Brook Trout	Small Fingerling	800	2	DNR Hatchery
2006	Brook Trout	Small Fingerling	600	2	DNR Hatchery

Table 5: Fish Stocked into Steiner Branch as reported by Brad Simms, DNR Fish Manager, Dodgeville, WI

In 1994 there were 92 Brook trout present, ranging in size from 4.3 to 11.2 inches. Catch per effort was 105 Brook trout per mile. Brown trout were also present and have maintained a stable population of around 214 fish per mile. The brown trout ranged in size from 3.8 to 15.1 inches. Brown trout were stocked in 1973 and 2003. The stocking of brown trout has been discontinued to help reduce competition with Brook trout.

Yellowstone River

The Yellowstone River subwatershed is owned primarily by private landowners and stretches from three miles North West of Waldwick heading South East toward Argyle. Nineteen grade stabilization structures were installed, nine of which were installed on property managed by the DNR. It is estimated that these 19 dams will reduce the sediment to the lake by 796 tons/year and reduce the phosphorus contribution by 849 pounds per year.

Smallmouth bass were stocked in this subwatershed in 2000 and 2001 (See Table 6).

Year	Species	Age Class	# Stocked	Length	Source
2000	Smallmouth Bass	Large Fingerling	2,500	3	Private Hatchery
2001	Smallmouth Bass	Large Fingerling	2,500	3	Private Hatchery

Table 6: Fish Stocked into Yellowstone River as reported by Brad Simms, DNR Fish Manager, Dodgeville, WI

Aquatic Vegetation

In 1999, macrophyte surveys showed macrophytes present in 12 of 144 rake tosses with four species of macrophytes present. In 2002, there were macrophytes present in 63 of the 144 rake tosses with eight species present. The density rating of macrophytes increased from 0.25 in 1999 to 1.5 in 2002. The most recent macrophyte survey was completed in 2005. It noted no changes since 2002.

Information and Education

The Yellowstone Lake Watershed Education Committee was formed in 1995 to look at issues facing the Yellowstone Lake. The team consists of representatives from the Town of Fayette, Lafayette County elected officials and staff, Lafayette County Conservation Congress, Apple Springs Hunt Club, Ducks Unlimited, Fayette Sportsman’s Club, DNR Lands, Water and Enforcement Divisions, Southwest Badger RC&D, and UW Extension. The Watershed Education Committee met as needed throughout the project, generally between two and four times per year. The Grant-Platte-Sugar-Pecatonica (GPSP) Basin Educator served as coordinator or co-coordinator of the committee since 1999. The Committee was responsible for establishing priorities for management of the lake and promoting lake and watershed protection efforts. Following is a summary of the public information and education items the group accomplished through the Yellowstone Watershed Improvement Project.

Newsletters/Publications/Displays

The Yellowstone News newsletter is sent to over 120 people. Since 1997, 15 editions of the newsletter have informed, educated, and enriched residents of the Yellowstone watershed.

In 2004, the GPSP Basin Educator coordinated the publication of an 8-page color report titled, “Accomplishments of Landowners and Agencies in the Yellowstone River Watershed: 1999 –

Present.” The report was distributed at the Yellowstone Lake 50th Anniversary celebration and was mailed to local elected officials and the newsletter mailing list.

The project has produced various displays detailing conservation practices in the watershed, invasive species information, oak savanna restoration, improvements in the lake, threats to the lake, and water quality and fish data. The displays were exhibited at the Park Office/Visitor’s Center, the Iowa County Farmer Appreciation Day, and many other events and field days in Lafayette and Iowa Counties.

Friends of Yellowstone Watershed

The “Friends of Yellowstone” program honors those who are exemplary stewards of the land and water resources in the Yellowstone Watershed. Since 1998, 15 “Friends” have been recognized. Some are landowners in the watershed who voluntarily installed conservation best management practices on their land; others are helping improve, protect or enhance the natural resources of the watershed in other ways such as the rough fish removal efforts in Yellowstone Lake. The Friends were selected by conservation and natural resource staff in the watershed. Farm profiles and photos were displayed at Yellowstone Lake State Park.

Friends of the Yellowstone Lake Watershed Award Recipients

- 1998 Mike and Candi Flannery
- 2000 Dan and Brenda Syvrud Family
- 2002 Hill n’ Vale Ranch, Pat & Michelle Leonard Farm, Shawn McCarville, & Homesville Dairy
- 2003 White Family Farms, Wayne Stietz, Greg Stamm, Ben Stamm, Samuel Hanson, and Michael Gould
- 2004 Byron Berg, Lafayette County Sportsmen Alliance, and Stan and Robin Peterson

Well Testing and Abandonment

In 2000, UW-Extension received a \$10,000 grant from the Multi-Agency Land and Water Education Grants Program to provide cost-sharing dollars for watershed residents to test their drinking water at a reduced cost and to pay for well abandonment demonstrations in the watershed. In 2001, 119 landowners participated in the reduced-cost water testing program. Nearly one-third of the samples tested as unsafe, with high levels of nitrates and bacteria the most common problems. Over 70 residents attended educational programs held in Hollandale and Fayette.

Well abandonment demonstrations were held at three farms in Iowa County and three farms in Lafayette County. Educational displays and activities covering the importance of sealing abandoned wells, local water quality data, cost sharing opportunities, nitrate testing, and a groundwater model were set up at each of the sites. Approximately 65 landowners attended the six demonstrations.

Grazing Study and Field Days

To help improve pasture management and control undesirable brush growth, UW-Extension, UW-Madison, UW-Platteville, DNR, and USDA-NRCS partnered with two landowners to conduct a study exploring the use of Scottish Highland cattle and fire for oak Savanna Restoration. The educational objectives included raising awareness of the importance of the oak savanna ecosystem and providing information on the possible value of managed (rotational) grazing as a tool in

restoring degraded oak savanna. The intended audience for the outreach activities included local and regional landowners and conservation agency personnel statewide.

Four project field days were held at Yellowstone Lake Wildlife Area – two during the summer of 2001 and two during the summer of 2002. Each year one field day was held specifically for conservation and natural resource agency professionals. These field days included a detailed look at the research protocols and data being collected, as well as guided tours of the research plots. Over 65 natural resource and agency professionals attended the 2001 and 2002 field days. A second field day was held each year specifically for area landowners and farmers. The topics presented included tax benefits of grazing, resources and tools available for restoration and management of prairie and savanna, how to fence and water for grazing and other practical aspects of the project. Guided tours of the plots were also offered to field day participants. More than 95 landowners attended the 2001 and 2002 field days.

The project was also featured in a variety of newspaper, television and radio reports. Over a dozen news articles were printed in local and statewide papers. The project partners developed and printed an educational brochure and a laminated poster display outlining the project's goals and methods. The brochure was mailed to all Wisconsin DNR wildlife biologists and inquiring landowners and was available at meetings, conferences and field days. The poster display was used at three conferences and was displayed at Yellowstone Lake State Park Visitor's Center.

Shoreline Restoration

In 2001, UW-Platteville Reclamation students led a shoreline restoration effort at Yellowstone Lake. The students planted over 10,000 bulrushes, water lilies and other native aquatic plants to help improve water quality, habitat, and scenic beauty. They also removed a concentration of the invasive species Purple loosestrife in the bay near the Park office. In addition, they developed a presentation about the project that was shown at various events.

Special Events

In 2004, the 50th anniversary of Yellowstone Lake was commemorated with a three-day celebration. The celebration included a rededication ceremony, nature walks, water monitoring, lake tour, children's activities, and presentations and displays on lake history, watershed projects and improvements, and lake status. Over 140 people attended the celebration.

Rough Fish Roundups were held in 2002 and 2003. These fun, family oriented events brought attention to the problems rough fish can cause in the lake. There were fishing lessons, door prizes, and various cash prizes for participants. In 2002, 50 anglers caught nearly 104 pounds of rough fish. In 2003, more anglers participated (over 60), but fewer fish were caught (less than 50 pounds). Educational displays explaining conservation practices in the watershed, recent improvements in the lake and current threats to the lake were exhibited at the events.

The Lafayette County Youth Conservation Day was held at the Yellowstone Wildlife Area each spring from 1988 through 2001. Nearly 300 fifth-grade students participated annually in educational sessions on a variety of conservation and natural resource topics.

On May 22, 1999 volunteers gathered at the Yellowstone River for a river cleanup. The cleanup was part of National River Cleanup Week. Volunteers removed obstructions from the river, fixed fences, and collected trash in and along the river.

On November 3, 2006, a Tri-County Soil Judging Contest was held on land owned by the DNR upstream from Yellowstone Lake. The contest is for high-school students from Grant, Green, and Lafayette counties. The event is designed to test their knowledge on soil morphology and soil characteristics. Approximately 160 students from 12 different schools participated in the event.

Tours/Field trips

In 2000, over 50 watershed landowners and other interested citizens toured the Yellowstone watershed to learn more about the benefits of installing conservation practices. The tour included sediment retention basins, a barnyard project, a gravel stream crossing, stream bank stabilization, a riparian buffer, and a fish shocking demonstration.

Residents of Lafayette Manor Nursing Home visit Yellowstone Lake each summer. Local sportsman's clubs provide transportation, meals and assistance to residents who wish to fish. Since the event began in the early 1990s, almost 500 Manor residents have enjoyed this afternoon at the lake. The "Accessible to All" fishing and picnic area constructed in 1999 has made the visit more enjoyable for Manor residents and others throughout the year.

In 2004 and 2005, over 60 + individuals took part in a Brush Management/Invasive Species Field Day. This event was designed to inform landowners on identification of invasive species and show them what methods work in controlling them.

Upland Habitat Restoration

To help improve upland grass habitat several burn workshops were also held in spring of 2001 and 2002. CRP/CREP acres?

On the Ground Accomplishments

Approximately 44 landowners participated in projects in the Yellowstone watershed. Projects completed include:

- 67 Grade Stabilization Dams (10% in Iowa Co. & 90% in Lafayette Co.)
- 73 Riprap sites totaling 16,413 lineal feet (11% in Iowa Co. & 89% in Lafayette Co.)
- 105 Lunkers on Steiner Branch & Boulder Retards on the Yellowstone River
- 14 Ford Stream Crossings totaling 1,364 lineal feet (86% in Iowa Co. & 14% in Lafayette Co.)
- 2,450 lineal feet of Cattle Lanes (21% in Iowa Co. & 79% in Lafayette Co.)
- 7 Sediment Basins totaling 41,961 Ft² (43% in Iowa Co. & 57% in Lafayette Co.)
- 90 Acres Prescribed Grazing (55% in Iowa Co. & 45% in Lafayette Co.)
- 2 Spring Developments (50% in Iowa Co. & 50% in Lafayette Co.)
- 22 Well Abandonments (68% in Iowa Co. & 32% in Lafayette Co.)
- 2,200 Ft² of Heavy Use Protection (37% in Iowa Co. & 63% in Lafayette Co.)
- 7 Basin Filter Strips (28% in Iowa Co. & 72% in Lafayette Co.)
- 78.2 acres of Contour Strips (100% in Lafayette Co.)
- 3 Wetland Restoration Projects (33% in Iowa Co. & 66% in Lafayette Co.)
- 4 Nutrient Management Plans totaling 910.4 acres (43% in Iowa Co. & 57% in Lafayette Co.)
- 12 Acres of Critical Area Seeding (42% in Iowa Co. & 58% in Lafayette Co.)

- 1 Waste Storage Facility (Lafayette Co.)
- 9,630 lineal feet of Fencing (41% in Iowa Co. & 59% in Lafayette Co.)
- 55 Grassed Waterway (71% in Iowa Co. & 29% in Lafayette Co.)
- 2 Milk house Waste Systems (100% in Lafayette Co.)
- 2 Diversions for 223 lineal feet (50% in Iowa Co. & 50% in Lafayette Co.)
- 400+ Acres of Prescribed Burning (Lafayette Co.)
- 26.3 Acres of Brush Management (Lafayette Co.)
- 22 Acres of Wildlife Management(Lafayette Co.)

See Appendix A for a more detailed list of projects.

NEW EFFORTS UNDERWAY IN THE YELLOWSTONE WATERSHED

Future plans for Yellowstone Lake include continuing to stock game fish and remove carp species. A citizen monitoring group comprised of members of a local Sportsmen's club may also be organized. The Steiner branch will be managed for Brook trout over the next five years to determine if it can sustain a fishable population.

Cropland located within the State Park boundaries will slowly be phased out of cropping and into more recreational uses. In the woodlot areas, thick overgrown areas will be thinned and periodic burnings will be used to enhance the native prairie and oak savanna areas.

The USDA Natural Resources Conservation Service and local Land Conservation Departments will continue to encourage Yellowstone Watershed landowners to install conservation practices when opportunities become available. A special effort will be made when land ownership changes occur. Due to this continued commitment to protecting the watershed resources, including the lake, additional funding may be sought.

FUNDING SECURED FOR THIS PROJECT

Many sources of funding helped to contribute to the success of this project. Funding sources included:

- A Wisconsin DNR Lake Protection Grant for \$200,000 that covered the cost of one Watershed Conservation Technician for five years.
- In-kind staff time from USDA-NRCS totaling approximately \$142,000 (See Appendix B for details). These dollars were in the form of time spent by NRCS staff working on projects in the Yellowstone Watershed.
- A Targeted Runoff Management Grant (TRM) for \$95,000 was also awarded by the DNR to provide cost-sharing for Conservation practices.
- In 2000 a Multi-Agency Land and Water Education Grant (MALWEG) for \$10,000 was received. This money was used to provide cost share dollars to the 119 landowners who

participated in the reduced cost drinking water test (landowners paid \$25 for an \$85 testing package) and to pay for the six well abandonment demonstrations in the watershed.

- In 2001 a second MALWEG grant for \$20,000 was received for the study of using cattle in Oak Savanna Restoration.
- In 2002, a third MALWEG grant for \$15,000 was used for the promotion of Nutrient Management Plans. Unfortunately, most of this grant was returned due to lack of interest.
- An EPA Grant of \$18,000 was used for shoreline restoration and supplemental cost-share.
- Trout Stamp Funds (Wisconsin DNR) in the amount of \$13,000 were used on the Steiner Branch Stream restoration. An additional \$7,800 was also used from a DNR Environmental Damage Fund for restoration efforts.
- More than \$50,000 in DNR property income was used for fish stocking and a few sediment dams.
- License money (Wisconsin DNR) in the amount of \$20,000 was used for fish shocking, fish sampling, and carp removal.
- Many of the conservation practices installed utilized cost share dollars from the USDA EQIP program estimated at greater than \$1 million.
- Area Sportsman's Club members also donated countless hours on jobs such as: river cleanup, rough fish removal, and building fish habitat Lunkers.

ACKNOWLEDGEMENTS

A big "Thank You" goes out to those that helped make this project a successful venture. With their vision and support the conditions of the water resources have greatly improved for all to enjoy.

Participating Landowners of Yellowstone Watershed (Iowa & Lafayette Counties)

Lafayette Sportsman's Alliance

Many Conservation & Sportsman's groups (Iowa & Lafayette Counties)

Natural Resources Conservation Service (NRCS) (Iowa & Lafayette Counties)

Southwest Badger Resource Conservation & Development (RC&D) Council

Wisconsin Department of Natural Resources

Land Conservation Department (Iowa & Lafayette Counties)

Land Conservation Committees (Iowa & Lafayette Counties)

University of Wisconsin Extension

Local Congressional Representatives

The goals of this project were achieved due to the participating landowners and the cooperation of many others; however, there is still much work that could be done to make the watershed even better. An opportune time to complete more projects would be when land changes hands and the new landowners are informed of the benefits of conserving these valuable resources. Having cost-share funding available for use when these opportunities come available is very important.

REFERENCES

Determining Sediment Volumes from Sheet, Rill, Streambank, and Gully Erosion in Wisconsin:
USDA Soil Conservation Service, Feb. 82; pages 11, 12, 15

Unit-Area Loads of Suspended Sediment, Suspended Solids, and Total Phosphorus from Small
Watersheds in Wisconsin, by Steven R Coris, etc.; Fact Sheet FS-195-97