

WIRB Final Report

Project Name: **Sands Timber Watershed Project**

Project Number: **1201-001**

Huc # : 10240012 Platte River Watershed

Soil and Water Conservation District: **Taylor**

Planning Period: **November 1, 2012 to Jan 15, 2015**

Date Report Prepared: **November 16, 2015**

Table of Contents

INTRODUCTION

FINANCIAL ACCOUNTABILITY

- Primary Funding Mechanisms
- Financial Ledger

ENVIRONMENTAL ACCOUNTABILITY

- Original Project Goals
- Practices Installed
- Environmental Benefits
- Map of Practices

PROGRAM ACCOUNTABILITY

- Administration
- Deviations from original grant
- Future Watershed Work

INTRODUCTION

Sands Timber Lake is a 60 acre man made impoundment near Blockton, Iowa. The lake is the centerpiece of a 235 acre park, which is owned and managed by the Taylor County Conservation Board. The park is equipped with modern campsites, hiking trails, picnic areas, and a playground. Bordering the western shoreline of the lake is a beautiful hardwood timber which inspired the parks name.

Sands Timber Lake has a 4,100 acre drainage area comprised of timber, grassland, and row crop. The lake is fed by four large classic gullies which branch off into many smaller gullies dissecting the drainage area. Since construction in 1993, Sands Timber Lake has been an extremely poor fishery. In 2006 Sands Timber Lake was added to the EPA's 303d list of impaired water bodies. Turbid water was identified as the primary stressor. In 2007 a bathometric map was made which depicts lake-bottom contours and elevations which, when compared to the original survey of the area, revealed an alarming amount of siltation. What was once a twenty-three foot deep lake in 1994 has now been reduced to a mere fourteen feet. In addition to depth being lost, the lake's surface has been reduced by nearly ten acres, destroying vital fish habitats.

Local interest in preserving and enhancing the lake led to the completion of a thorough watershed assessment and treatment plan. Included in the plan were several elements, the first being upland treatment. In 2009 the Taylor SWCD applied for and was granted a \$499,751 Watershed Improvement Review Board grant. This grant enabled much of the upland treatment practices to be installed plus some shoreline stabilization. In 2012 the Taylor SWCD applied for another grant in the amount of \$70,500 to install the final piece of the project, a rock chute wetland on the west finger of the lake. All tributaries feeding the lake now have structures just above shoreline filtering any remaining sediment and nutrients. Environmental benefits achieved through both projects include the reduction of nearly 6,300 tons of sediment as well as 8,159 pounds of phosphorus. The Taylor County Conservation Board as part of the project performed an in-lake renovation which killed nuisance fish species, deepened and armored shoreline, and constructed fishing jetties. Look for Sands Timber Lake to be a fantastic fishery in years to come...all because of WIRB! The following report depicts the practices installed and benefits achieved with the use of Watershed Improvement Review Board funds for the 1201-001 project.

FINANCIAL ACCOUNTABILITY

The primary cost share mechanism used in this grant was the Watershed Improvement Review Board funds contributing \$70,500 or 19.6% of the total funds expended. The Taylor County Conservation Board (TCCB) contributed \$68,393 or 19% of the total funds expended. The Taylor County Conservation Board also applied for and was granted a North American Wetlands Conservation Act (NAWCA) grant in the amount of \$60,000. The TCCB also applied for a Fish Habitat grant to help with shoreline armoring, shoreline deepening, and fish mound construction in the amount of \$95,247. Environmental Quality Incentives Program (EQIP) funds totaling \$64,469.49 were used for one grade stabilization structure and 7,300 feet of terraces. In-kind contributions totaled \$16,013.20. Total dollars expended equaled \$372,463.60.

WIRB Funds Expended by Line Item

Grant Agreement Budget Line Item	Total Funds Approved(\$)	Total Funds Approved-Ammended (\$)	Total Funds Expended (\$)	Available Funds (\$)
Rock Chute Wetland	\$50,000	\$0	\$50,000	\$0
Salary	\$20,500	\$0	\$20,500	\$0
Totals	\$70,500	\$0	\$70,500	\$0
Difference				\$0

Funding Expended by Source

Funding Source	Cash		In-Kind Contributions		Total	
	Approved Application Budget (\$)	Actual (\$)	Approved Application Budget (\$)	Actual (\$)	Approved Application Budget (\$)	Actual (\$)
WIRB	\$70,500	\$70,500		\$	\$70,500	\$70,500
Taylor CCB	\$100,000	\$68,393.43		\$	\$100,000	\$68,393.43
NAWCA	\$0	\$60,000		\$	\$0	\$60,000
Fish Habitat	\$0	\$95,247		\$	\$0	\$95,247
EQIP	\$0	\$61,469.49		\$	\$0	\$61,469.49
Landowners	\$0	\$840.48		\$	\$0	\$840.48
NRCS	\$0	\$0		\$16,013.20	\$0	\$16,013.20
Totals	\$170,500	\$356,450.40		\$16,013.20	\$170,500	\$372,463.60

Approved WIRB contribution percentage 41 %
 Actual WIRB contribution percentage 19 %

ENVIRONMENTAL ACCOUNTABILITY

Project Goals:

The goal of the Taylor County Conservation Board and the Taylor SWCD is to improve the water quality and recreational opportunities of Sands Timber Lake through a phased approach. The first step was to implement Best Management Practices (BMP's) throughout the watershed at prioritized locations identified as a result of assessment activities. The majority of this first step was addressed with the first WIRB grant. Nine grade stabilization structures, one rock chute wetland, 55,000 feet of terraces, and 1,700 feet of shoreline riprap were constructed

in the watershed through the first grant. Rock chute wetlands act as a last protection measure, filtering leftover sediment and nutrients before they can reach the lake. Monitoring results for wetlands constructed above the Lake of 3 Fires and Lake Icaria show they have been extremely successful, reducing sediment loads by 65% and ammonia nitrogen levels as much as 90%. One more rock chute wetland was necessary to totally protect Sands Timber Lake. This grant requested funding for the construction of this structure to complete the upland watershed protections for this lake.

The final step in the renovation involved County Conservation Board plans for the improvement of the fishery by constructing fish habitat in the lakebed. During the renovation, nuisance fish species were eliminated to allow a new fish population of desirable species to be established. Attempts will be made to acquire funds to rip-rap the remaining west shoreline where wave erosion is expected to be present. One-thousand seven hundred feet of shoreline was addressed through the first WIRB grant. This is approximately half of the total shoreline needing rip-rapped.

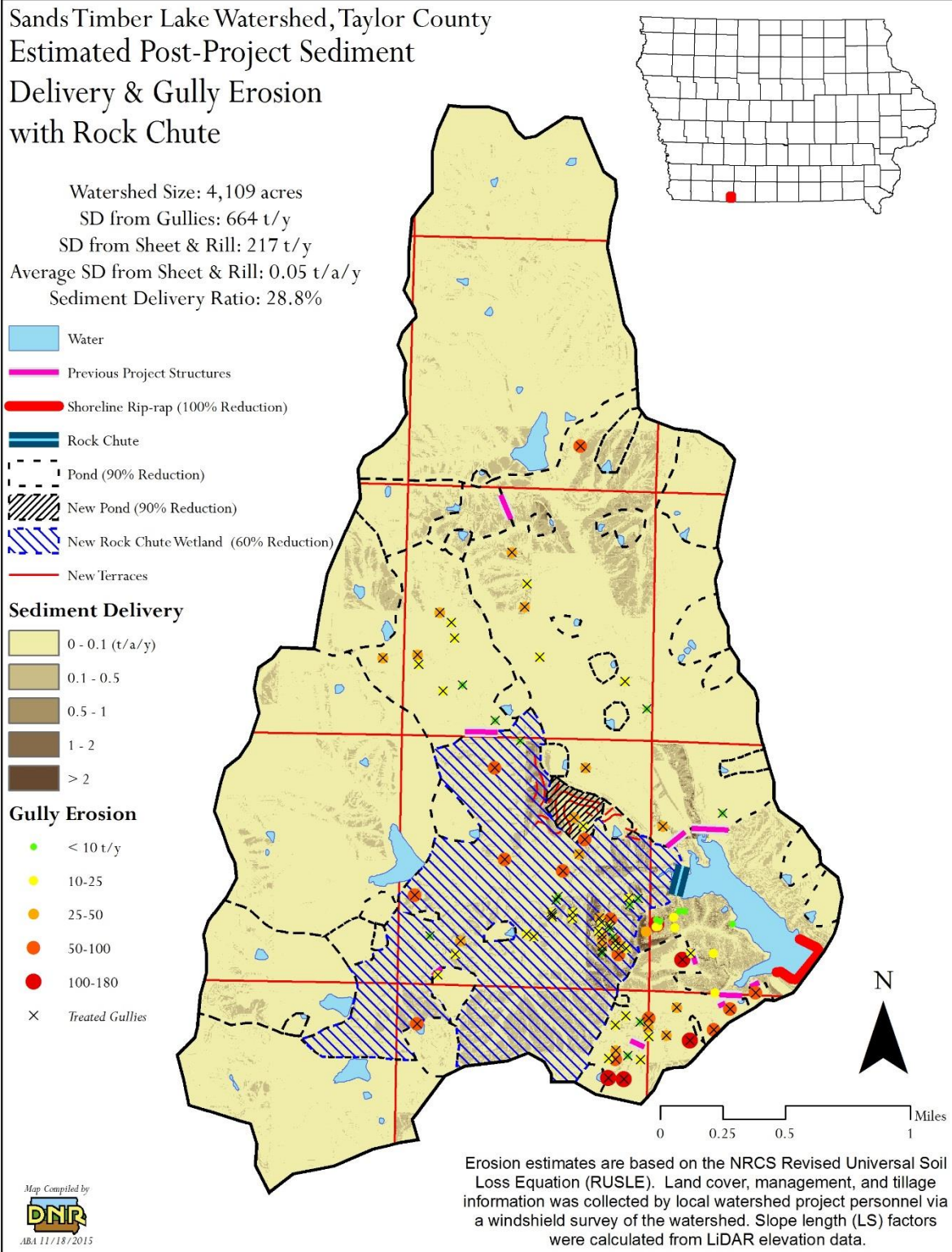
This project has received tremendous support from federal, state, and local agencies as well as the public itself. It is evident that the rock chute wetland project requested through this application was the final protection measure needed for project sponsors to attain their sediment reduction goals. The overarching goal of this project was to improve upland conditions so that this is reflected by in-lake conditions suitable to justify the removal of Sands Timber Lake from the List of Impaired Waters for turbidity.

Practices Installed/Environmental Benefits:

The following table quantifies the types and number of practices actually installed and their sediment delivery reduction:

Grant Agreement Conservation Practices & Activities	Unit	Approved Application Goal	Accomplishments	% Completion
Rock Chute Wetland	Num	1	1	100%
Grade Stabilization Structure	Num	0	1	100%
Terraces	Num	0	7300	100%
Shoreline Armoring	ft	0	814	100%
Shoreline Deepening & Fish Mounds	Ft/num	0	300/1	100%
Sediment Delivery Reduction	Tons/Year	1296	1478	114%
Phosphorous Reduction	Lbs/Year	1684	1921	114%

In conjunction with watershed efforts the Taylor County Conservation Board received a Fish Habitat grant to deepen and rip-rap shoreline and also construct fishing jetties and mounds. This work was completed while the lake was drained in order to allow for construction of the rock chute. The west bank is the only remaining shoreline to be rippapped, which will have to be done with a barge after the lake is allowed to refill with water.



PROGRAM ACCOUNTABILITY

Administration:

Practices were surveyed and designed according to NRCS specifications by qualified technical staff. Cost share applications were administrated by the SWCD which has administered these types of projects on numerous occasions in the past.

Deviations from original grant:

Two deviations occurred from the original grant. The main deviation was due to rain. Multiple extensions in time had to be requested. The second deviation was that the Taylor County Conservation Board received a \$60,000 North American Wetlands Conservation Act grant which was used towards their portion of funding the project.

Future Watershed Work:

Watershed work is never done!! Future watershed work should involve installing conservation on the uplands whenever and wherever possible. Shoreline protection for the west bank should continue to be pursued.