

Sand Creek Watershed Project #7021_008
Delaware Soil and Water Conservation District
Three Year Project (1-1-08 to 12-31-10)

Summary: Watershed Improvement Funds			
Grant Agreement Budget Line Item	Total Funds Approved (\$)	Total Funds Expended (\$)	Available Funds (\$)
Salary/ Benefits	176,930	133,787	43,143
Travel & Training	3,000	1,535	1,465
Supplies	1,500	585	915
Information & Education	3,000	1,544	1,456
Streambank Stabilization	91,612	85,746	5,866
No Till Incentives	2,120	2,120	0
Water & Sediment Control Basins	0	0	0
Grassed Waterways	35,625	34,971	654
CRP Grassed Waterways	0		
Nutrient Management	11,000	3,520	7,480
Terraces	13,000	5,047	7,953
Livestock Exclusion	5,000	0	5,000
Grade Stabilization Structures	45,000	11,810	33,190
Totals	387,787	280,665	107,122
Difference			

Sand Creek Watershed Project
7021-008
Final Project Report- Line Item Analysis

The Sand Creek Project concluded its three-year term with a fund balance of \$107,122. The reasons why the Project was able to successfully achieve its goals with money left over are several. First of all, the District was able to hire the coordinator for less than what was projected, and he did not start until late April, rather than January, saving a substantial sum of money. In addition, the project was able to stretch its streambank dollars by utilizing other funding sources

to get more footage installed even though the cost-share rate was increased from the original 60% rate to 75%. USDA's EQIP program funded over 20% of the streambank protection applied over the 3 year term in Sand Creek. The contract was also amended to shift un-used funds from an invalid CRP waterway line item, terraces, and livestock exclusion to streambank, after an analysis indicated more sediment savings could be achieved by funding a practice that was in high demand in this watershed.

The Project far exceeded our targets for waterway construction and/or renovation, and again did it with a few dollars to spare. This was accomplished by using two Practice Repair programs that were instituted after 2 years of heavy rainfall. The storms of 2008 led the Farm Service Agency to release funds for the Emergency Conservation Program, which allowed landowners to bring waterways back up to standards after they were damaged. The Project piggy-backed with ECP, to cost-share needed drainage tile, fabric checks, or seed to bring the producers up to 75% cost-share upon completion. This brought an extra \$10,452 into the project area to help in achieving our objectives. Heavy rains again in 2009 moved the State of Iowa to use stimulus money from the federal government for the IJOBS program to repair conservation practices. In all six cases where this program was used, all work done was funded strictly by IJOBS, and no Project money was used. This brought in \$17,885 towards watershed goals.

Nutrient management funds were not used to a great extent, largely because market conditions caused producers to be more cost-conscious about fertilizer application on their own. A sizable number of acres in the watershed were enrolled in NRCS's Conservation Stewardship Program(CSP), which included incentives for eligible producers to better manage nutrients and animal manure on their farm operations, as well as their pesticides.

Ideally, the Project would have another year to apply terraces in the watershed. A producer was identified late in Fall 2010 that has a need for a series of terraces, and at the 75% rate he would definitely proceed. By that time, weather and time did not allow for it to move forward before project end. State cost-share and EQIP are being considered at this time to get them built at a future date.

No Till has also been promoted heavily, but heavy rains and resulting field damage that needed to be dressed up before planting, and the fact that farmers want to get plenty of information on a very different method of planting their crop before making a change, were the major reasons few farmers took advantage of no-till incentives. Once there were no more planting seasons left for the Project, the no till funds were transferred to a new line-item for Grade Stabilization Structures.

**Sand Creek Watershed Project
7021-008
Final Project Report- Practice and Activity Analysis**

Practice or Activity	Unit	Approved Application Goal	Accomplishments	Percent Completion
Waterways	feet	10,000	35,195	352%
Streambank Protection	feet	3,200	4,485	140%
Terraces	feet	4,000	1,250	31%
Nutrient Management	acres	2,400	176	7%
CRP waterways	feet	10,000	25,250	252%
Wetlands	acres	6	0	0%
Fencing/Livestock Exclusion	feet	4,500	0	0%
Water & Sediment Basins	No.	6	0	0%
Sediment Control Structures	No.	2	1	50%
No Till Workshops	No.	N.A.	5	100%
No Till Acres	acres	4,000	212	5%

As the above chart indicates, waterways were a major aspect of this watershed, which is to be expected in a relatively flat watershed such as this one. Over 3 times as many feet of waterway construction/reconstruction was completed as had been expected- 60,445 ft vs. 20,000 ft. **WIRB waterways produced 1264 Tons of Sediment Delivery Reduction annually.** CRP waterways built over the 3 years are responsible for **787 Tons of annual Soil savings.** Disaster programs- ECP and IJOBS- put enough waterways back into functional condition to save **936 Tons of Sediment Delivery annually.**

After several years of battering from local rainstorms, Sand Creek had numerous sites in need of streambank repair. Eleven landowners treated 25 sites, totaling 4485', far exceeding our goal of 3200'. These sites are responsible for **1347 Tons of Annual Sediment Delivery Reduction** because of the direct-delivery nature of erosion on the banks of the stream.

It was known going into the Project that terraces would not be an easy sell in this watershed, because of the flat nature of the watershed, and only one instance of existing terraces. As it is, 1250' of terraces were built in the final year of the Project, with **soil savings of 10 Tons.** We could have easily met our footage goals if given another year for the Project, as we only lately identified a substantial need on a farm where the owner has seen the need for terraces after several years of heavy rains. This landowner is now checking into possible regular state cost-share for these structures.

Wetlands were a practice in our original plan to be installed using outside money. Efforts are still being made to get a new CP39, a crop nutrient filtering wetland practice, built in

the southeast part of the watershed. Higher grain prices will not favor this. A landowner in the watershed did enroll 23 acres into a CP27/CP28 Farmed Wetlands practice adjacent over the hill from Sand Creek watershed.

Degradation of the stream by cattle has never been a major concern in this watershed, but livestock exclusion was included in this project to make efforts to eliminate it. A major landowner along the lower end of the stream did a major amount of streambank repair to patch up some very raw spots, but continues to graze in a responsible manner. The coordinator also made efforts to work with a landowner in the upper watershed, who grazes several unconnected odd-shaped pieces of grassland along the stream. We thought we might convince him to improve his pasture to a rotational system using EQIP funds by working through some grazing budgets with him, but could not get him to move away from his routine. One other upper watershed resident grazes only a few head along the stream.

Nutrient management incentives were only used by one landowner. Rising fertilizer costs did as much for responsible nutrient management as anything the project ever could have done.

No Till was promoted heavily over the term of this project. Unfortunately, the coordinator was not hired until April 22 in the first year, allowing little time to convince farm operators to adjust their planting methods. One farmer did no till soybeans that first season; he did not continue that in the following seasons. Another farmer did no till beans in year 3. Weather was a major reason that it was not adapted as much as had been hoped. Heavy rains and wet fields at harvest time caused field damage and soil compaction that required tillage to level implement tracks and break up hardpans. One producer that was already no-tilling has expanded his activity in 2011. Two other major producers in this watershed have no-tilled nearly 600 acres in the Spring of 2011 without any incentives, after trying a few acres on their own in 2010.

The Project promoted no till using several venues. Several well-attended meetings were held to dispense expert information from long-term practicing no-tillers, university ag engineers, extension agronomists and local agents, NRCS Area soil scientists, and local SWCD staff. Iowa Learning Farms partnered with us for 2 of these meetings. Feedback from these meetings was very positive, and now that the project is complete producers have been asking if more meetings will be held, and our intent is to keep the ball rolling as best we can. The coordinator appeared on local radio several times to promote events, and wrote articles that ran in several local newspapers. A freelance writer was also employed to compose a series featuring no till as a beneficial practice, and also highlighting several local no tillers and how they make it work on their operation. In the end No Till incentives were only used by 2 operators in the watershed, cutting **Annual Sediment Delivery by 212 Tons**. However, 2 different operators did use state-cost share incentives to no-till on some of their property just outside of the watershed because of Project education, and we have the two producers no-tilling on their own.

Water and sediment control basins were amended out of the Project in favor of Sediment Control structures because of the size of watersheds that were being considered. Two of these were being planned at one time. One of these may still happen as a CP39, a CRP practice that filters nitrogen and phosphorous from tile water. Questions about how much deep water is allowed in a CP39 has been holding up progress on getting these installed. The other structure

was scaled back when the upper neighbor committed to installing terraces in the future to reduce the amount of surface flow affecting this drainageway rather than allow an easement that would have allowed the basin to back up temporary water onto his property. Our structure- building producer also committed to installing a waterway without cost-share to treat this drainage-way. **Annual Sediment Delivery was reduced by 44 Tons by this structure.**

**Sand Creek Watershed Project
7021-008
Final Project Report- Funding Source Analysis**

Funding Source	Cash		In-Kind Contributions		Total		% of Budget
	Approved Application Budget (\$)	Actual (\$)	Approved Application Budget	Actual(\$)	Approved Application Budget(\$)	Actual(\$)	
WIRB	387,787	275,842	0	0	387,787	275,842	71%
CRP waterways	51,300	64,418	0	0	51,300	64,418	126%
IA DNR	0	0	24,000	720	24,000	720	3%
USDA-EQIP	53,687	22,397	0	0	53,687	22,397	42%
FSA-ECP	0	14,635	0	0	0	14,635	extra
IJOBS	0	17,885	0	0	0	17,885	extra
Landowners	60,176	96,217	0	0	60,176	96,217	160%
CRP Wetlands	16,200	0	0	0	16,200	0	0%
Totals	569,150	491,395	24,000	720	593,150	492,114	83%

The Sand Creek Project used only 71% of its allocated WIRB funds while still managing to reach or exceed its main goals. The coordinator made a concerted effort to use other available cost-share programs to apply practices that served our sediment- and nutrient-reduction purposes, while also meeting the needs of the local landowners.

For that reason, more waterways were funded through the Conservation Reserve Program(CRP) than were anticipated. Footage was increased by 2 ½ times what was projected, but costs were kept in line so only 26% more funds were needed to construct them.

USDA’s EQIP program was projected to be used to promote No Till Planting, Nutrient Management, and Fencing/Livestock Exclusion. As it turned out, EQIP was not used for any of these practices because of reasons explained elsewhere. However, EQIP was used heavily to assist on several streambank projects. One other job was approved and ready to be constructed with EQIP assistance, but the landowner declined to proceed with it before project end. The project also attempted to get funding for several sites through the Wildlife Habitat Improvement Program(WHIP), but all funding went towards prairie practices instead of riverine.

Iowa DNR was in the original budget for \$24,000. This was for in-kind services such as an assessment of Sand Creek pre- and post-project, and for fish hides to be placed with streambank repair. As things turned out, the local Fisheries office was hit with an extremely heavy workload after the heavy rains of 2008, and has been trying to catch up ever since, only to see the area hit with the monsoon rains in 2010 that took out the Lake Delhi dam. Fisheries personnel did find several partial days to advise the Project on several streambank sites, at which time their opinion was that the rip-rap was sufficient, and actually superior, habitat for smallmouth bass, and that bank hides would not be needed. They were very instrumental, however, in obtaining the numerous streambank permits that were needed so that we could proceed with the work.

At the time this Project was submitted in Fall 2007, there was no way to know that the Farm Service Agency (FSA) would offer the Emergency Conservation Program (ECP) after the heavy rains of 2008. The Project thought it was important to utilize those funds to the fullest extent possible to stretch its limited waterway funds by \$14,635. The same can be said about the IJOBS funds that were offered in 2009 for damage due to the storms of 2008 and 2009. These funds were available through the stimulus package offered by the federal government to keep contractors working on 'shovel ready' projects that would benefit Iowa in the long-term, and could not be foreseen. IJOBS contributed \$17,885 towards our efforts in Sand Creek.

As a result of the extra funds brought in, more work was completed in several major categories. Because the Project could not, by itself or in conjunction with other cost-share programs, cost-share more than 75% on its construction projects; and because some of the projects exceeded our cost estimate, the landowners of Sand Creek also contributed 60% more towards the products of the Project than was planned. This amounted to \$36,041 more than the original budget. Cost over-runs were most commonly a factor of who the contractor was; some contractors seem to regularly charge rates over our average costs. Streambank costs are harder to estimate than, say, a waterway, because of more variables involved. One of our best waterway contractors consistently charged more than others; however, the reason was that he took more time to groom them to produce a waterway that would catch a seeding quicker and blend into the field from day one.