

Norfolk Creek Subwatershed Project

#6001-001

January 1, 2007-December 31, 2009

Final Project Report

Financial Accountability

A total of \$244,594 of the \$351,150 Watershed Improvement Review Board (WIRB) funding awarded to the Norfolk Creek Subwatershed Project has been spent during the three year term of the project. There was a difference in the funding awarded for the project and the actual funds requested. The total amount of funds requested in the three year project period was \$308,594 of which, as stated above, \$244,594 was spent and \$64,256 was unobligated. The total amount from the original \$351,150 funding award that was never requested is \$42,300. The total unobligated balance from the requested funds, not spent, and the non requested fund amount is \$108,866. A total of \$23,187 was spent for the construction of three grade stabilization structures. This total is \$64,813 less than the \$88,000 that was awarded specifically for grade stabilization construction. The difference in the awarded funding and the funding spent is attributed to the fact that after the sites were visited and soil probe were taken by the area soil scientists, the sites were deemed unsuitable. A total of \$10,908 was spent for the construction of five water and sediment control basins. This total is \$15,092 less than the \$26,000 that was awarded specifically for sediment control basin construction. The chart below sites some of the reasons that the goals were not met for the two above mentioned practices.

NAME	FT/NO	Soil Probe Determination	Con-structed Yes/No	Comments
L. Klocke	1-410 3-638	Site suitable for construction. Springs running into drainage area	Yes	Landowner proceeded with project, also constructed 3 sediment control basins in draws above pool area.
D. White	1-410	Sinkholes are numerous within this soil delineation with limestone bedrock exposed in the soil surface. The risk of further growth of each sinkhole appears to be high. Soils were also not suitable for pond construction	No	Site not suitable, cancelled project
B. Scott	1-410	Site was suitable for a 410 structure, but permanent water is very questionable to doubtful. Pool area sides had limestone frags and soil mix and would be hard to compact. Spring runs into drain and disappears in upper pool area.	No	Landowner decided to cancel after soil probe investigation indicated permanent water would be doubtful, as he was not interested in a dry structure.
Ernie Burroughs	1-410	Shallow bedrock limits this site, however the presence of the clay residuum on the south side slopes and the thick loess available to seal the pond would allow for construction if the core trench was kept shallow	Yes	Landowner decided to proceed with project. Care was taken to keep core trench shallow and adequate but compacted soil was left over the bedrock.
G. Griffin	1-410	Site is suitable for 410 construction if care is taken when building. Some of the side slopes are shallow to fragmented limestone	Yes	Landowner constructed project. Care was taken during construction as to areas of borrow and volume taken.
G. Griffin	1-638	Not suitable for construction. Bedrock is in abundance and too close to surface.	No	Landowner cancelled this project site, due to probe results.

B. Adam	1-410	Soils not suitable	No	Cancelled due to soil probe results
L. Johannigmeier	1-410	Not suitable for construction. Bedrock is in abundance and too close to surface.	No	Very large drainage area and soil probe determined it not to be a good site. Landowner decided it was too expensive for a pond that would most likely not hold water. Cancelled project
R. Moose	1-410	Shallow bedrock and steep side slopes limit this site	No	Landowner decided to put project on hold at this time.
James Saltau	1-410 1-638	The depth of material above the bedrock on the side slopes should be adequate for a water holding	Yes	Landowner decided to proceed with project. Care was taken to keep core trench shallow and adequate but compacted soil was left over the bedrock.
D. Zimmerman	1-410	Limestone and bedrock exposed in several areas of proposed site. Sinkhole observed in drainage way. There is a severe risk for pond site construction.	No	Discussed soils with the landowner and explained the severe risks of attempting to construct a pond at this site. Looked for another area and no other site appeared to be acceptable. Project was cancelled
D. Sanger	1-410	Site seemed suitable for construction	No	Survey complete at this site, but landowner has requested to put project on hold
K. Jones	1-410	Cancelled		Completed survey and met with landowner several times. When trying to schedule a soil probe landowner decided to cancel project at this time.

A total of \$131,303 was spent for the construction of 37,675 feet of terraces. This total is \$3,803 more than the \$127,500 that was awarded specifically for grade stabilization construction. The interest for terrace construction surpassed the funds available. A request was submitted to WIRB to transfer funds to terraces from another line item, but it was not granted.

The difference between the approved project terrace footage, 68,000' and the actual footage of terraces built, 37,675' was due in part to the increased cost of building these projects because of the higher expenses incurred by contractors and passed on to the landowners. The original terrace footage was based on a \$2.50 per foot cost estimate. The average cost for the actual 37,675 feet of terraces that were built turned out to be approximately \$3.50 per foot, which reduced the footage that could be completed with the funds available.

Table A: WIRB budget for Norfolk Creek Subwatershed Project

Watershed Improvement Funds			
Grant Agreement Budget Line Item	Total Funds Requested (\$)	Total Funds Expended (\$)	Available Funds (\$)
Salary/Benefits	\$84,500	\$78,459	\$6,041
Information/Education	\$450	\$445	\$5
Travel/Training	400	\$293	\$107
Grade Stabilization Structure	\$72,000	\$23,187	\$48,813
Terraces	\$127,500	\$131,303	(\$3,803)
Water & Sediment Control Basins	\$24,000	\$10,907.64	\$13,092
Difference			\$64,255

Total Project Funding

The total cost of the Norfolk Creek Subwatershed project came in at \$311,249 of which \$232,052 was for practice installation. WIRB funding accounted for 71% of this practice project cost. The approved application originally called for up to 75% of WIRB funding and 25% from landowners. If Federal dollars were to become available, that would lower the % taken from WIRB. EQIP funds were used on two terrace projects.

Table B: A pre-project and post-project breakdown of the funding sources for the entire project and the percentages of funding that each source contributed.

Funding Source	Cash		In-Kind Contributions		Total	
	Approved Application Budget (\$)	Actual (\$)	Approved Application Budget (\$)	Actual (\$)	Approved Application Budget (\$)	Actual (\$)
WIRB	241,500	165,397	0	0	241,500	166,135
EQIP		7,808	0	0		7,808
Landowners	80,500	58,847	0	0	80,500	58,847
Totals	322,000	232,052	0	0	322,000	232,790

Watershed Improvement Fund contribution: Approved application budget: 75%
Actual: 71%

Environmental Accountability
Installed Practices

The goal of the Norfolk Creek Subwatershed Project was to install 11 grade stabilization structures, 13 sediment control basins, and 68,000 feet of terraces. A total of 3 grade stabilization structures, 5 sediment control basins, and 37,675 ft of terrace were constructed.

Figure 1: This chart shows the installed practice totals in the Norfolk Creek Subwatershed Project.

	Terrace Footage	Acres treated	Sediment Reduction (T/Y)	P Reduction (Lb/Yr)		Grade Stabilization Structure	Acres treated	Sediment Reduction (T/Y)	P Reduction (Lb/Yr)		Sediment Control Basin	Acres treated	Sediment Reduction (T/Y)	P Reduction (Lb/Yr)
2007	1975	10	44	57		1	43	270	351		1	22	105	136
	2050	10	43	56										
	3300	12	61	79										
	1500	7	29	38										
	3650	14	81	105										
	950	4	19	25										
	4150	15	88	114										
Total '07	17575	72	365	474		1	43	270	351		1	22	105	136
2008	4375	24	76	99		1	22	107	139					
	1100	7	27	35										
	900	5	21	27										
	1025	5	20	26										
	4450	25	79	102										
	4475	27	87	113										
Total '08	16325	93	310	402		1	22	107	139		0	0	0	0
2009	2175	12	42	55		1	55	247	321		3	16	89	116
	1600	10	44	57							1	17	94	122
Total '09	3775	22	86	112		1	55	247	321		4	33	183	238
GRAND TOTAL (By Practice)	37675	187	761	988		3	120	624	811		5	55	288	374

Total All Acres Treated	362
Total All Sediment Reduction T/Y	1673
Total All P Reduction Lb/Yr	2173

Table C: Conservation Practice amounts installed and percentage of completion.

Practice or Activity	Unit	Approved Application Goal	Accomplishments	Percent Completion
Grade Stabilization Structure	No.	13	3	23
Water & Sediment Control Basin	No.	11	5	45
Terraces	Ft.	68,000	37,675	55

In-Field Pollutant and Sediment Loading Reductions

Three grade stabilization structures were installed by landowners on sites meeting the necessary criteria. These sites reduced sediment delivery by an estimated 624 t/y and P by 811lb/y. Five sediment control basin have been installed by landowners on sites meeting the criteria. These sites reduced sediment delivery by an estimated 288 t/y and P by 374lb/y. A total of 37,675' of terraces were constructed reducing sediment by a total of 761 t/y and P by 988 lb/y. The above practices treated approximately 362 acres.

Table D: Breakdown of sediment loading reduction from installed practices.

Impairment	2007	2008	2009	Cumulative Loading Reductions
Phosphorus (lbs/year)	961	541	671	2,321.8
Sediment (tons/year)	740	417	516	1,673

Water Monitoring

Water monitoring was completed for most of the duration of this project from 2007 to 2008. Budget cuts forced termination of monitoring in September of 2008. Additional water monitoring is needed and is scheduled to continue in 2010 if funds become available again. The IDNR is putting together a Total Maximum Daily Load (TMDL) plan for the Yellow River Watershed. They are planning to set up sampling sites on the main channel as well as the tributaries of the Yellow River. The data that is collected from this water monitoring should provide information about the reductions in the water quality impairments that were targeted by the conservation practices that were installed during this project.

Results of a Coldwater Stream Survey conducted on 8/19/2009 are shown in the following chart. The lengths and number of brown trout for each length group sampled that day are recorded on the left side of the summary sheet with the total number of fish sampled (7) on the top right. The next chart shows the catch per unit of effort (CPUE) for number of fish sampled, theoretically, in a stream mile (7 fish/0.25 mi=28 fish per mile). The 6" (stock) and 9" (quality) indicate the ratio of the size of fish caught over each of those size classes per mile. The 28 fish per mile figure shows a low number of fish to be caught in this section of stream. There also appears to be a few smaller fish (two in the 3.0-3.9inch size range) in the population, probably ones that were stocked in May. The PSD is the proportional stock density or the number of fish greater than 6" in the stock. The chart shows that 60% of the fish are above this size. The Wr is a weight relationship or body condition of the fish. A number around 100

means the fish are in really good shape. The numbers in this chart indicate the fish in those stock to quality and quality to preferred categories are healthy and utilizing the available habitat well. The other fish listed are non-game species sampled in the stream that day.

Coldwater Stream Survey – single pass

Stream: Norfolk Creek
County: Allamakee
Date: 8/19/2009
Investigators: Schwartzhoff, Pecinovsky

Collection Method: 1 backpack
Sample Length (miles): 0.25
Property Owner: Hansmeier

Length (in)	Wild Brown	Hat Brown	Wild Rainbow	Hat Rainbow	Wild Brook	Hat Brook
0.0-0.9						
1.0-1.9						
2.0-2.9						
3.0-3.9	2					
4.0-4.9						
5.0-5.9						
6.0-6.9						
7.0-7.9						
8.0-8.9	2					
9.0-9.9	2					
10.0-10.9	1					
11.0-11.9						
12.0-12.9						
13.0-13.9						
14.0-14.9						
15.0-15.9						
16.0-16.9						
17.0-17.9						
18.0-18.9						
19.0-19.9						
20.0-20.9						
21.0-21.9						
22.0-22.9						
23.0-23.9						
24.0-24.9						
25.0-25.9						
26.0-26.9						
27.0-27.9						
28.0-28.9						
29.0-29.9						
30.0-30.9						

	Wild Brown	Hat Brown	Wild Rainbow	Hat Rainbow	Wild Brook	Hat Brook
Total # Sampled	7	0	0	0	0	0

CPUE Fish/Mile						
Total	28	0	0	0	0	0
≥Stock	20	0	0	0	0	0
≥Quality	12	0	0	0	0	0
≥Preferred	0	0	0	0		

PSD	60	#####	#####	#####	#####	#####
RSDp	0	#####	#####	#####		

Wr						
≥Stock <Quality	98	#####	#####	#####	#####	#####
≥Quality <Preferred	99	#####	#####	#####	#####	#####
≥Preferred	#####	#####	#####	#####		

Non game species

Johnny darter	white sucker
fantail darter	brook stickleback
creek chub	0
stone roller	watercress present
blacknose dace	0
southern redbelly dace	0

START UTM: 623421/4784293
STOP UTM: 623092/4784502
NAD83 Zone15T

Length Category	BRT	BKT	RBT
Stock	6	5	10
Quality	9	8	16
Preferred	12	N/A	20

All trout sampled were found in one hole with root wad. The rest of stream was wide and shallow with little embeddedness and cobble size rock. Tributary upstream was 6 F colder.

Program Accountability

News article appeared in the Waukon Standard newspaper and in the Allamakee County Soil and Water Conservation District annual report covering WIRB opportunities and accomplishments each year of the project. The District's newsletters also had coverage of the Norfolk WIRB project. A brochure detailing the accomplishments during the three years of this WIRB project will be sent out to all landowners within Norfolk Creek Subwatershed in January 2010. Monthly reports were presented to commissioners at each meeting of the Allamakee SWCD. Quarterly reports were submitted to the WIRB at the appropriate times.

Landowner/contractor meetings were held in January of 2008 and 2009. Items covered were terrace specifications, contractor checkout expectations, contractor and landowner responsibilities during the project implementation, timely billings and payments, DNR rules, and current project areas.

Although the Norfolk Creek Subwatershed Project is now closed its initiative and impact is still continuing. This impact is evident from the additional interest that these installed projects have created among landowners in the within Norfolk Creek Subwatershed and the Yellow River Watershed. Landowners have taken notice of how pleased their neighbors are with these projects and how well these practices compliment their operations and they want to be a part of the conservation effort. This interest has allowed us to start the Ludlow Creek Watershed Project, a WIRB funded project for Ludlow Creek, another subwatershed of the Yellow River.

One challenge that was overcome during this project was the abundance of rainfall that occurred at different times throughout the project. Several projects were scheduled for fall construction during this time but unfortunately heavy rainfall made the ground too wet for construction. The projects had to be postponed until the following spring and summer. Fortunately the landowners were patient and the rain held off. All of these projects were able to be constructed without a problem.

Another challenge was that because of the soils or sinkhole placements in several of the proposed grade stabilization and sediment control basin sites, they were deemed unsuitable for these structures after the soil probe reports. Also, economic conditions made it harder for the landowners to spend the dollars necessary to complete projects. Several projects were cancelled due to this fact.

Another problem encountered was that there was a great amount of interest in terrace installation, more interest than funds available and WIRB terrace dollars were depleted. These landowners were told of state cost share opportunities at a 50% cost share, of which some did make use of and completed terrace projects.

A lesson that can be carried on to future watershed projects is the importance of communicating well with landowners and doing our best to meet their needs. Water quality improvement is our ultimate goal but we must remember the landowners are the ones that are implementing these conservation practices at the ground level. We need to do our best to make sure these practices both complement their operations and work to improve water quality. It was very exciting and rewarding to see that the

landowners that participated in this project were very pleased with the results of implementing these conservation practices.

*Attached with this report
are maps of the
project area and
before/after photos
of some of the
completed projects.













