

Bear Creek Watershed Project #9006-003
Delaware Soil and Water Conservation District
Three Year Project (1-1-10 to 6-30-13)

Summary: Watershed Improvement Funds			
Grant Agreement Budget Line Item	Total Funds Approved (\$)	Total Funds Expended (\$)	Available Funds (\$)
Salary/ Benefits	135,630	138,537	(2,907)
Terraces	88,000	40,465	47,535
Water & Sediment Control Basins	42,000	26,918	15,082
Grassed Waterways	19,950	10,181	9,769
Streambank Stabilization	8,370	8,370	0
Grazing Management	1,500	1,500	0
Manure Storage Facilities	52,500	21,000	31,500
Totals	347,950	246,972	100,978

Bear Creek Watershed Project
9006-003
Final Project Report- Line Item Analysis

The Bear Creek Project concluded its three and ½ -year term with a fund balance of \$100,978. The Project was able to successfully achieve its goals with money left because it relied heavily on the use of USDA-EQIP funds, mostly from the Mississippi River Basin Initiative (MRBI), the goal of which is to decrease nutrient delivery to the river. For the first 3 years, salary funds from WIRB were turned over to IDALS-DSC to fund the Environmental Specialist who was manning the project until his retirement. Beginning in January 2013, \$24,130 was transferred from 3 under-utilized line items to fund the salary of a district employee to promote the use of MRBI funds for new projects, and to oversee already obligated WIRB practice funds through construction before the June 30 end date.

The Project under-estimated salary for the recent semester by \$2907; this was covered by drawing from funds on hand for other line items. Terrace funds were left to the extent of \$47,535 because \$66,486 of EQIP funds were used to supplement WIRB. More terrace funds should have been used, but an 8000 foot job was postponed this Spring because of weather delays. This footage is still contracted to continue with MRBI-only cost-share rates; not the 75% that was available by piggy-backing both programs. \$15,082 was left in the sediment control basin account, but \$7,923 of EQIP dollars were used to build these basins. One basin was cancelled

because of the weather, but no MRBI funds were contracted for that project. For grassed waterways, only \$10,181 of \$19,950 was spent; however, FSA's CRP program spent \$25,500 for waterways, and EQIP was used for \$1606. In addition, CRP funded \$2160 for filter strips.

EQIP funded a major streambank project for \$17,361, and used WIRB funds of \$8370 to achieve 75% cost-share for the landowner on lower Bear Creek. This allowed for much of this line item to be used to fund salary at the end of the project. Grazing management was added as a line item during the project to allow a producer on lower Bear Creek to clean up multiflora rose and re-seed a pasture adjacent to the stream at a cost of \$1500. \$21,000 was used from manure facility funds to supplement MRBI funds for a hoop structure for dairy heifer housing to replace open lots subject to run-off. These funds helped to make up for early MRBI cost-share rates for buildings that did not allow for concrete under the roof structure, which has changed in more recent MRBI signups.

Water quality test kits were not funded through this project, again allowing that \$5000 line item to be transferred to salary. That salary then allowed for a staff person to continue to promote the project, allowing an additional \$18,554 of EQIP funds to be contracted and paid on 3 nutrient management plans and 73 acres of strip-till; and another \$534,829 to be contracted on 3 additional at-risk ag waste sites, 2 more manure management plans, 293 acres of cover crops, 360 acres of applied nutrient management, and 3.6 acres of waterways, all to be completed over the next 2 years.

**Bear Creek Watershed Project
9006-003
1-1-2010 to 6-30-2013
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	347,950	246,972	0	0	347,950	246,972	71%
EQIP-spent	177,250	344,377	0	0	177,250	344,377	194%
EQIP-obligated to contract	0	659,915	0	0	0	659,915	-----
EQIP-spent + obligated	177,250	1,004,292	0	0	177,250	1,004,292	567%
CRP	45,400	45,400	0	0	45,400	54,408	120%
IDALS-DSC	67,000	67,000	0	0	67,000	67,000	100%
Landowners	153,500	125,033	0	0	153,500	125,033	81%
Totals(spent)	791,100	837,790	0	0	791,100	837,790	106%
Totals-spent + obligated	791,100	1,497,705	0	0	791,100	1,497,705	189%

The Bear Creek Project used only 71% of its allocated WIRB funds while still managing to reach or exceed its main goals. The coordinator(s) 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. This would have been slightly higher if spring weather would have allowed for construction. As it was, one WIRB-only sediment basin was cancelled because it could not be completed before the end of the project and still get the crop planted timely. Another 8000' terrace project will proceed this fall with EQIP funds only for the same reason.

EQIP, no matter how one looks at it, was used to an even greater extent than was projected. If one only looks at funds that were both obligated and spent before the end of WIRB project, nearly twice as many funds (\$344,377 vs. \$177,250) were used than was budgeted. These funds were used to apply terraces, cover crops, no-till, waterways, ag waste facilities, manure management plans, and nutrient management to cropland. EQIP, however, operates differently than WIRB in that practices can be contracted forward several years, with a 10% penalty -of-total-contract clause to insure that items are

completed as planned. At the end of WIRB, many items were planned but not yet constructed, including terraces delayed by the cold, wet, and late spring (to be built come Fall 2013); cover crops, no-till, and nutrient management scheduled 2 years out; waterways to be built in Fall 2013; and 2 manure tanks, 1 monoslope beef barn, and 1 hoop beef barn to be built by Fall 2013. The table above accounts for sources both ways: the white portion of the table includes only funds actually spent, while the grey boxes account for funds spent as well as those contracted for future completion. If contracted funds are figured in, nearly 6 times more EQIP funds were used than planned. This does not account for landowner funds to be spent on completing their practices; that would involve speculating on their costs of construction.

CRP was used to a slightly greater extent than had been budgeted. Much of this was to assist in the construction of waterways; the 90% cost-share rate was appealing in an area where livestock production has declined on many individual farms over this time period, and thus the desire to harvest waterways has lessened, making a CRP contract more saleable. Even so, the onset of dry weather over the last years of this project cut the demand for waterways and filter strips from what it could have been.

As planned, IDALS-DSC shared the responsibility for staffing the project during the first two years of the Project. From that point on, WIRB funded the coordinator position. Upon the retirement of the Environmental Specialist at the end of 2012, line item funds were shifted with permission from the WIRB board to allow the District to staff the position until its completion.

Landowner funds spent came in less than projected, although that will likely be reached or exceeded by the time all of the contracted practices are completed in 2014.

Total costs of the Project, as spent, have come in about as planned. If contracted items are included, the total will approach double of the original budget.

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Final Project Report- Practice and Activity Analysis

Practice or Activity	Unit	Approved Application Goal	Accomplishments	Percent Completion
Waterways	acres	12 acres	19.1/ 22.7 *	159%/ 189%
Streambank Protection	feet	1,200	1,000	83%
Terraces	feet	22,000	15,750/23750 **	72%/ 108%
Waste Storage Facilities	No.	2	6	300%
Grazing Management	acres	250	38	15%
Water & Sediment Basins	No.	14	15	107%

* 3.6 acres of waterways are contracted through MRBI for Fall 13 or Spring 14 construction.

**8000 feet of terraces were not completed this spring due to weather delays. This footage is still contracted to be completed through EQIP-MRBI. It will have to be built at a lower cost-share rate because WIRB funds will not be available to achieve 75%. An EQIP penalty will result if not completed.

More waterways were built than had been originally planned, and more are contracted for construction in the next year. **They were responsible for 406 tons of sediment delivery reduction annually, and 527 pounds of phosphorous each year.**

Applying streambank protection to 5 sites in one pasture on lower Bear Creek will prevent the direct delivery of large slabs of nutrient-rich soil to the stream. This will amount to **57 fewer tons of sediment, resulting in a 74 pound reduction in phosphorous annually.**

Terraces were a large component of this project. Even though some remain to be built due to weather delays, they are responsible for **sediment delivery reduction of 294 Tons annually, and 382 pounds of phosphorous each year.**

Similarly, sediment basins, as their name implies, trapped a large amount of soil in their storage areas to prevent sediment from reaching the stream. These 15 basins saved **127 tons of sediment delivery, resulting in 131 pounds less phosphorous annually into Bear Creek.**

Waste storage facilities, along with associated nutrient management, will undoubtedly have an impact on the delivery of nutrients to the stream by allowing for more efficient application. And by allowing farmers to avoid hauling manure on fields unfit for traffic because they now have adequate storage, there will be soil savings, but no figures are available to justify delivery figures. Liquid storage will also allow for more manure to be injected, and more even application, which should result in less surface delivery. Couple these advantages with more informed application rates because of manure

management plans drawn up, and accountability by needing to comply with applied nutrient management in EQIP contracts, and one could argue that less nitrogen, phosphorous, and potash will be reaching the stream. These improvements are not accounted for in the WIRB ledger.

The pasture improvement applied in lower Bear Creek, by providing a thicker and more even stand of grass (and which will be divided into paddocks next year) will decrease **sediment delivery by 19 tons each year, and cutting phosphorous delivery by 25 pounds annually.**

No-till was applied to 73 acres very near to Bear Creek in 2013, and is contracted for another 2 years through EQIP. It will provide **86 tons of sediment delivery reduction annually, and 112 pounds less phosphorous each year.**

4.6 acres of filter strips were signed into CRP on the middle portion of Bear Creek. Due to its trapping capacity, these acres will reduce sediment delivery by **24 tons each year, and 31 pounds less phosphorous will reach the stream.**