

Final Report  
For the  
Big Bear Creek Watershed Project

Watershed Improvement Review Board  
Project Number: 6015-008

in cooperation with

Jones Soil & Water Conservation District

(January 1, 2007 to December 31, 2009)

**PROJECT BACKGROUND**

Big Bear Creek is the upper portion of Bear Creek which drains 26,734 acres and ends at the Highway 136 bridge in southeastern, Jones County, Iowa. A roadside survey concluded the primary land use in the watershed is row crop production with an estimated 24,447 tons of sediment and 34,226 pounds of phosphorus being delivered to stream in any one year.

Eventually, Big Bear Creek flows into Bear Creek, which in turn flows into an impaired segment of the Maquoketa River, which is on the EPA’s 303(d) List of Impaired Waters. Monitoring by the Iowa DNR indicates the entire Bear Creek watershed is contributing significant amounts of sediment and nutrients to the Maquoketa River.

**Original Project Goals and Objectives**

- 1.) Reduce Sediment Delivery by 30%.
- 2.) Reduce attached Phosphorous loading by 30%
- 3.) Develop a Watershed Council.
- 4.) Continue to Closely Monitor the Stream and Log Data.

**FINANCIAL ACCOUNTABILITY**

Funding provided by the Watershed Improvement Review Board (WIRB) (Table 1) enabled the Jones Soil & Water Conservation District (Jones SWCD) to work with producers and landowners to install a variety of BMPs from 2007 through 2009 within identified priority areas within the Little Bear Creek Watershed and within ½ mile on either side of Big Bear Creek.

<b>Table 1: Summary of WIRB Funding</b>	<b>Total WIRB Funds Originally Approved</b>	<b>Total WIRB Funds per Amendment (1)</b>	<b>Total WIRB Funds Expended</b>	<b>Available WIRB Funds at End of Contract</b>
Salary & Benefits	\$176,250.00	\$176,250.00	\$176,250.00	\$0.00
Animal Waste Facility	\$10,000.00	\$0.00	\$0.00	\$0.00
Grade Stabilization Structures	\$135,000.00	\$94,008.00	\$54,382.09	\$39,625.91
Terraces	\$9,188.00	\$17,834.00	\$12,256.85	\$5,577.15
Water & Sediment Control Basins	\$30,000.00	\$41,346.00	\$34,066.15	\$7,279.85
Grassed Waterways	\$63,000.00	\$76,500.00	\$57,777.12	\$18,722.88
Streambank Stabilization	\$20,625.00	\$38,125.00	\$13,832.44	\$24,292.56
Critical Area Planting	\$6,750.00	\$6,750.00	\$4,566.00	\$2,184.00
Tree Planting	\$4,500.00	\$4,500.00	\$0.00	\$4,500.00
<b>Totals</b>	<b>\$455,313.00</b>	<b>\$455,313.00</b>	<b>\$353,130.65</b>	<b>\$102,182.35</b>

(1) These totals reflect a shift in funding as agreed to in Amendment 6015-008-01 (September 2009)

While landowner/producer participation wasn't as high as was anticipated, the contacts made during initial project generated enough interest to encourage the Jones SWCD to seek additional funding to carry on the project beyond the original 3 years. Eventually, the SWCD was able to secure WPF & WSPF funding through IDALS's (Table 2) to carry on the project through 2010 and 2011.

<b>Table 2: Total Project Funding (All Sources)</b>	Approved WIRB Application Budgets	Actual Funding Invested in Watershed During WIRB Contract (2007-2009)	Funds Invested from Partners After WIRB Contract Completed (2010-2011)
Watershed Improvement Review Board	\$455,313.00	\$353,130.65	\$0.00
IDALS - Watershed/Water Protection Funds	\$8,550.00	\$31,000 (1)	\$183,547.52
IDALS - I-JOBs Repair	\$0.00	\$5,169.21	\$0.00
USDA - Environmental Quality Incentive Program	\$101,438.00	\$6,351.88	\$0.00
USDA - Conservation Reserve Program	\$121,500.00	\$15,877.45	\$0.00
Fish & Wildlife Service	\$15,600.00	\$0.00	\$0.00
Landowners	\$190,576.00	\$104,463.38	\$18,383.51
<b>Totals</b>	<b>\$892,977.00</b>	<b>\$484,992.57</b>	<b>\$201,931.03</b>
WIRB Fund Contribution: % of <i>Approved</i> Budget	<b>51%</b>		
WIRB Fund Contribution: % of <i>Actual</i> "As-Spent" Budget (2007-2009)		<b>73%</b>	
WIRB Fund Contribution: % of All Funds Invested in the Watershed (2007-2011)			<b>51%</b>
(1) Portion of first half of 2007 Salary/Benefits paid with remaining WPF via the Mineral Creek Watershed Project			

Lower than anticipated EQIP dollars from USDA increased the proportion of WIRB contributions from a projected 51% to 73% during the 3 years of the contract. The Jones SWCD realizes the additional WSPF & WPF contributions secured for 2010 and 2011 can't be considered matching since they were secured outside the contract period, however with their additional contribution, this would "unofficially" return the WIRB proportion of funding back to the projected 51% of the overall budget.

**ENVIRONMENTAL ACCOUNTABILITY**

Late during the WIRB sponsored portion of the project, it became apparent producer interest in certain BMPS exceeded expectations while interest in others was disappointingly low. Therefore in September 2009 the Jones SWCD and WIRB decided to modify (Amendment 6015-008-01) the goaled numbers of certain practices and shift the remaining funds to other, more popular practices (Tables 1 and 3).

Practice or Activitiy	Unit	Goaled in Application (1)	Accomplished During Contract (2007-2009)	Percent	Completed After Contract (2) (2010-2011)
Animal Waste Facilities	No.	0	0	0	0
Grade Stabilization Structures	No.	7	3	43%	1
Terraces	Ft.	6,800	3,125	46%	3330
Water & Sediment Control Basins	No.	13	16	123%	4
Grassed Waterways	Ac.	17	15.2	89%	1.4
Streambank Stabilization	Ft.	3,100	450	15%	315
Wetland Restoration (2)	No.	3	0	0	0
Timber Stand Improvement (2)	Ac.	60	0	0	0
Critical Area Planting	Ac.	30	20.3	68%	0
Riparian Buffers/Filter Strips (2)	Ac.	75	0	0	0
Tree Planting	Ac.	30	0	0	0
Pool & Riffle Site Restoration (2)	No.	3	0	0	0

(1) amounts as adjusted in Amendment 6015-008-01 that was approved by WIRB in September 2009  
 (2) cost share funding provided by IDALS-DSC through WPF/WSPF programs

	Sediment Delivery Reductions (tons/year)	Phosphorus Reductions (pounds/year)
Animal Waste Facility	0	0
Grade Stabilization Structure	875	1,138
Terraces	73	94
Water & Sediment Control Basin	193	251
Grassed Waterways	771	1,003
Streambank Stabilization	78	101
Critical Area Planting	51	65
Tree Planting	0	0
<b>Totals</b>	<b>2,041 tons/year</b>	<b>2,652 pounds/year</b>

As a result of the practices completed during the WIRB contract period (Table 3), sediment delivery was reduced by an estimated 2,041 tons/year and phosphorus loading was reduced by

2,556 pounds/year (Table 4). Collectively, these represent a loading reduction of approximately 9%, or only about 1/3 of the planned loading reduction goals for sediment & phosphorus.

There are multiple reasons progress wasn't greater. But the two primary reasons most often cited by producers were high land values which, in their minds, precluded the implementation of BMPs that reduced the amount of land in production. Second, due to increasing land values and limits to certain USDA programs, the appeal of CRP for landowners reduced considerably since the year 2000.

#### Public Information/Outreach

- The project hosted a public Kickoff Meeting on January 25, 2007. Twenty one watershed producers/landowners attended and heard several presentations on WIRB funding, BMPs as well as the need to address the specified water quality issues.
- Sent out 3 Annual Newsletters each fall to over 200 producers/landowners. Topics included were pertinent to agricultural/conservation issues being faced by producers.
- Hosted a meeting with the City of Wyoming where urban-based BMPs were highlighted to show local leaders the value of such practices at reducing storm water runoff and improving water quality. Eighteen people attended and the event was covered in great detail by the local newspaper generating multiple articles that were shared with their readers.

#### **PROGRAM ACCOUNTABILITY**

- Assembled a Watershed Council consisting of landowners/producers living & operating in the watershed. Their role was to meet at least quarterly and review both past accomplishments and barriers and offer the Project Coordinator and the Jones SWCD advice on how to increase the effectiveness and public acceptance of the watershed effort.
- Assisted in the implementation of 36 BMPs (using WIRB, EQIP, CRP, IFIP, I-Jobs and REAP funds) designed to reduce sediment and phosphorus loading to Big Bear Creek.
- Prepared and presented information that described project progress and accomplishments as part of the watersheds outreach program activities. These included quarterly Watershed Council Meetings, on site BMP gatherings, Annual Reviews & press releases.
- The Jones SWCD submitted the required project Plans of Work, progress reports, financial ledgers and funding request as required/requested.