



Annual Section 319 Project Report

Project Name: The Lower Pipestem Creek Watershed Project

Reporting Period: April 1, 2002 through September 1, 2008

Project Period: April 2002 through June 2010

Project Status: On Schedule

Total Project Expenditures To Date:

Table 1. Total Section 319 Grant Awards as of September 1, 2008

FY2002 Section 319 Funding (incremental)	\$455,900
FY2002 Section 319 Funding (Base Program Funds)	\$421,570
FY2004 Section 319 (Additional Grant Award)	\$1,185,987
TOTAL	\$2,063,457

*As of 9/05, 25% of the Section 319 funds had been expended.

Table 2. Cumulative Project Expenditures – April 1, 2002 through September 1, 2008

Personnel Salaries	\$333,048.08
Fringe Benefits	\$71,115.51
Travel	\$27,062.27
Supplies	\$2,469.65
Rent/Utilities	\$50.00
Telephone/Postage	\$4,746.05
Equipment	\$74,829.37
**BMP	\$1,598,650.44
Other	\$6,764.84
In-kind	\$327,954.30
TOTAL	\$2,422,690.52

** \$5,172.78 is not listed in BMP, but is listed as In-kind from the NDGF Save Our Lakes Program for a riparian fencing program.



Table 2A. Cumulative Project Expenditures – April 1, 2002 through September 1, 2008
Under the North Dakota State Water Commission and the Stutsman County Water Resources Board

In-kind Funds	
Personnel Salaries	\$18,088.83
Fringe Benefits	\$823.50
Travel	\$511.41
Supplies	\$52.57
Rent/Utilities	\$0.00
Telephone/Postage	\$83.39
Equipment	\$2,580.58
BMP	\$295.00
Other	\$1,227.21
Administration	\$337.50
TOTAL	\$24,000.00

Table 3. Section 319 & Local Match Expenditures – April 1, 2002 through September 1, 2008

Section 319 Funds	\$1,453,614.31
ND State Water Commission (cash)	\$12,000.00
Stutsman Co. Water Res. Board (cash)	\$12,000.00
North Dakota Extension Service (in-kind)	\$3,383.95
ND State Game and Fish Dept.	
Save Our Lakes Program (cash)	\$79,311.51
Save Our Lakes Program (in-kind)	\$96,585.96
Private Lands Program (cash)	\$1,092.48
USFW Private Land Initiative (cash)	\$3,000.00
Ducks Unlimited (in-kind)	\$1,802.26
Local SCD's (in-kind)	\$16,995.51
Stutsman Co. Ag Imp. Assoc. (in-kind)	\$400.00
Wells County Commission (in-kind)	\$168.75
Local Producers (in-kind)	\$202,747.60
Local Producers Cost-Share Match	\$533,717.91
Private Businesses (in-kind)	\$5,870.28
TOTAL	\$2,422,690.62

Table 4. Other Federal Expenditures – April 1, 2002 through September 1, 2008

USDA CRP	\$1,865,000.00
US Fish and Wildlife	Unknown at this time
Other Programs	Unknown at this time
NRCS – EQIP (cost-share)	\$1,190,348.60
TOTAL (of available information)	\$3,055,348.60

*CRP Estimated from FSA CLU layer table in GIS at an average of \$30.00 per acre.

*EQIP Estimated.



Table 5. Cumulative Section 319 & Producer Expenditures on BMP – April 1, 2002 through September 1, 2008

BMP Type	Units	Section 319 Costs	Producer Match	* Project Partner Costs	Total
392 Field Windbrk	3300 LF	\$1,647.12	\$1,098.08		\$2,745.20
612 Tree Planting	32.2 ac	\$8,382.40	\$4,495.79	\$1,092.48	\$13,970.67
382 Fence	176,881 LF	\$88,247.79	\$50,679.08	**\$8,152.78	\$147,079.65
512 P/H planting	1500.2 ac	\$42,296.14	\$28,197.42		\$70,493.56
329A No-Till	8,145.2 ac	\$100,771.92	\$67,181.28		\$167,953.20
329B Mulch Till	10,563.9 ac	\$96,431.52	\$64,287.68		\$160,719.20
590 Nutrient Mgt.	17,799.3 ac	\$88,217.20	\$58,811.47		\$147,028.67
351 Well Decomm.	1	\$360.00	\$240.00		\$600.00
313 AWS	5	\$317,362.73	\$181,575.15	\$30,000.00	\$528,937.88
595 Pest Mgmt	2560 ac	\$15,360.00	\$10,240.00		\$25,600.00
642 Wells	5	\$25,516.20	\$17,010.80		\$42,527.00
614 Trough/Tank	13	\$15,209.48	\$10,139.65		\$25,349.13
378 Pond	3	\$2,454.21	\$1,636.14		\$4,090.35
516 Pipelines	16,496 LF	\$28,245.56	\$18,830.37		\$47,075.93
574 Spring Develop	2	\$14,010.19	\$9,340.12		\$23,350.31
591 Riparian Tree	34.2 ac	\$20,385.68	\$4,833.13	\$8,757.33	\$33,976.14
340 Cover Crop	115 ac	\$621.00	\$414.00		\$1,035.00
059 Riparian Easem	94 ac	\$59,853.00		\$39,902.00	\$99,755.00
034 Tree Plant St.Pr	46.8 ac	\$387.52	\$258.35		\$645.87
020 Riparian Tree P	75,505 LF	\$31,265.28		\$20,843.52	\$52,108.80
057 Exclusion Fenc	6200 LF	\$5,080.00		\$3,386.66	\$8,466.66
TOTAL		\$962,104.94	\$529,268.51	\$112,134.77	\$1,603,508.22

* This includes North Dakota State Game and Fish Save Our Lakes, NDSGF Private Lands Program, and the USFW Private Lands Initiative.

** \$5,172,78 of this partner cost is listed as in-kind expense in table 2 (From NDGF Save Our Lakes Program).

Project Progress:

Part One:

Goal 1: Restore the recreational and aquatic uses of the Lower Pipestem Creek Watershed to a fully supporting condition.

Goal 2: Project efforts in the watershed will benefit beneficial use conditions in the Pipestem Reservoir.

Under these goals the following objectives were developed in the Project Implementation Plan:



Objective 1: By the end of the project period, improve the quality of water in the Mid Pipestem Creek by reducing the nitrogen annual median concentrations to less than 1.0 mg/L, reduce phosphorus mean annual concentrations to less than 0.1 mg/L and reduce coliform level not to exceed geometric mean concentration of 200 colonies/100ml and not more than 10% of the samples should have a density exceeding 400 colonies/100ml. Other water quality variables (e.g. nitrate/nitrites, TSS, etc.) will also be monitored to further evaluate water quality trends (on schedule).

In the period from April 1, 2002 to September 1, 2008 the watershed board has met forty three times, hired a watershed conservationist in June 2002 and a watershed technician in May 2003.

To date, approximately 78 producers have signed contracts and are in various stages of plan implementation. These contracts include the following practices:

Nutrient Management	17,799.3 acres
No-Till	8,145.2 acres
Mulch-Till	10,563.9 acres
Prescribed Grazing	4,503.1 ac
Fencing on Grazing and Riparian	227,704 LF (183,081 applied; 44,623 planned)
Wells	6 (5 applied, 1 planned)
Troughs or Tanks	16 (13 applied; 3 planned)
Pipelines	16,496 LF (16,396 applied; 100 planned)
Pasture & Hayland converted from Cropland	1,500.2 acres
Animal Waste (feedlot) Updates	9 (9 have been surveyed & 5 are complete, 4 in progress)
Stock Ponds	4
Spring Developments	2
Riparian Easements	94 acres
Riparian Buffer Areas	130,505 Row Feet applied; 81 acres applied 34,485 Row Feet planned; 18 acres planned
Windbreaks	3,300 LF and 32.2 acres
Cover Crops	115 acres

Objective 2: Document water quality improvements (i.e. reductions in nutrient and sediment loads) as BMP's are installed by monitoring water quality trends (on schedule).

A Quality Assurance Project Plan (QAPP) has been reviewed by all parties and signed. Stilling wells were installed at three sites as well as staff gauges at five sites in October 2002. Monitoring for water quality and quantity began in the middle of March 2003 and continues following the QAPP. The following table displays monitoring results from 2003.

Parameter	Measure	385043	385041	385269	385268	385206	380152
Total Nitrogen	Median (mg/L)	1.94	1.80	1.36	1.53	1.68	1.56
	Mean (mg/L)	2.52	2.34	1.62	1.99	2.04	1.98



	Load (kg)	17504	X	5275	X	X	15087
	FWM (mg/L)	30.6	X	1.99	X	X	2.5
Total Phosphorus	Median (mg/L)	0.296	0.399	0.194	0.285	0.149	0.258
	Mean (mg/L)	0.386	0.485	0.286	0.367	0.336	0.316
	Load (kg)	2593	X	762	X	X	2633
	FWM (mg/L)	0.452	X	0.287	X	X	0.441
Total Suspended Solids	Median (mg/L)	14.00	13.00	2.50	16.00	17.00	17.00
	Mean (mg/L)	20.33	12.26	6.53	20.29	21.53	22.95
	Load (kg)	37640	X	10777	X	X	102503
	FWM (mg/L)	6.6	X	4.1	X	X	17.2
Fecal Coliform Bacteria	Geometric Mean (CFU/100ml) ¹	14	149	65	187	184	74
	% Samples >400 CFU/100ml ¹	0%	28%	6%	28%	23%	13%

Objective 3: Increase the publics' understanding of the impacts and solutions to NPS pollution (on schedule).

An Internet web site has been created for the Stutsman County Soil Conservation District (www.stutsmanscd.org), which includes separate pages for the Pipestem Creek Watershed Project (www.stutsmanscd.org/watershed_page.htm). Information on the project web site includes a narrative of the project, list of practices, project photos and a map of the watershed area. The web site will be advertised in all mailings for the project and its use encouraged.

In September 2002 a saline soil field discussion was held in cooperation with the Natural Resources Conservation Service. Five landowners attended the event and some plans are being made to test saline tolerant grasses on certain plots. An article was written on the event and was included in an FSA newsletter. Also in September, a session on conservation tillage use and winter wheat rotation was held in Carrington, ND. This included four landowners and questions about winter wheat were responded to via teleconference with an agronomist from Ducks Unlimited

In October 2002 a rotational grazing demonstration was held near Pingree and Buchanan, ND. Speakers included NRCS personnel, local producers and the watershed coordinator. Eleven producers attended this session.

In November 2002 a newsletter and program guide were mailed to all producers in the Lower Pipestem Creek Watershed area. Results from this letter have been very successful; many producers have contacted the office due to this information.

In December 2002 a conservation tillage/winter wheat discussion was held in Carrington, ND in association with the Pipestem Creek Watershed Project and Ducks Unlimited. This drew 15 area producers. Some have become involved in conservation tillage since this session.



In January 2003 a conservation tillage session was held in conjunction with the KQDJ Ag Expo in Jamestown, ND. Approximately 110 producers were in attendance for this session. Speakers included a local producer involved in conservation tillage, an agronomist from Ducks Unlimited, a researcher with the NDSU Extension Service, and a researcher from the USDA Agricultural Research Station in Mandan, ND. Many producers have become involved in conservation tillage since this session.

Forty letters were sent out to livestock producers in the Pipestem Creek Watershed for a feedlot session held in February 2003 at the NDSU Research Station in Carrington, ND. This was in conjunction with another 319 project coordinated by Charles Linderman from NDSU Extension.

In March 2003 a meeting was held to further plans for a saline soil planting demonstration in the Pipestem Watershed. Several NRCS staff attended for technical input.

Also in March 2003 a group of no-till farmers was assembled and discussed advancing no-till in the Jamestown area. Afterward a bus trip was taken to Napoleon, ND to hear Dr. Dwayne Beck from the Dakota Lakes Research Station speak about no-till and crop rotations.

In June 2003 a brochure and display was developed to promote the Pipestem Watershed Project and the programs available to producers in the Watershed Area. A display booth was set up at the Foster County Fair along with the Foster Co. SCD and program materials were available to interested producers.

In July 2003, a conservation tillage bus tour was held in Stutsman County for area farmers interested in no-till and mulch till. Several local producers were on hand to discuss their operations and answer questions. Specialists were also in attendance from the Natural Resources Conservation Service, Ducks Unlimited, NDSU Research Extension Center, Monsanto and Dupont to answer questions about nutrient management, soil compaction, weed control and other issues. Approximately 30 producers and local personnel attended this tour.

In August 2003, a conservation tillage bus tour was held in Foster County, focusing on no-till producers in that area. Specialists from NDSU Extension, the Natural Resources Conservation Service and Monsanto were on hand to answer questions regarding nutrient management, soil compaction, weed control as well as other issues pertaining to no-till. There were approximately 20 producers and personnel were in attendance.

At the end of August 2003 a saline soil demonstration planting was started on areas of severely saline soils on a site in Foster County and one in Wells County. These plantings continued into early September 2003. In 2004 photo points were established on the plantings, an NRCS soil scientist monitored the site for developing isolines for salinity. Also, stand establishment was monitored and all sites were marked with a GPS. These sites will be used for later information/education opportunities.

In November 2003, the Lower Pipestem Creek Watershed Board toured a local DP3 feedlot update and also toured the Watershed project's Feedlot Update at Mark Wagner's.

Also in November a newsletter was mailed out to all the producers in the watershed area, including announcing Dwayne Beck's upcoming Carrington seminar.



In December 2003 a discussion on crop rotation and no-till featuring Dwayne Beck was held in Carrington, ND in association with NDSU Extension. This drew approximately 200 area producers, many who heard about it through the watershed project's newsletter.

In April 2004, a newsletter was mailed out to all producers in the watershed area.

In June 2004 the project helped host the Area IV SCD annual meeting with a guided tour of one of the project's feedlot updates.

At the end of June 2004 the NDSU Extension Service, in conjunction with the project, held a bus tour to Pierre, SD to tour the Dakota Lakes Research Farm managed by Dwayne Beck. This bus tour was well attended with approximately 90 people in attendance.

In September 2005, watershed personnel participated in Stutsman County SCD's Eco-Ed program, presenting watershed and water quality education materials targeted at local sixth graders.

In December 2004 a newsletter was mailed out to all the producers in the Lower Pipestem Creek Watershed area, including presenting the Ag-Expo Schedule, the new permitting requirements for animal feeding operations and highlighting riparian buffer area programs and the Save Our Lakes partnership with the watershed project.

In January 2005, the Lower Pipestem Creek Watershed Project helped host the Jamestown Ag-Expo's educational forum, including Dr. Dwayne Beck, Livestock Specialist Ron Weiderholt, and various personnel from NDSU, NRCS and the ND Department of Health.

In February 2005, another newsletter was published announcing the increase in the cost-share rate for no-till and again highlighting the ND Department of Health's Animal Feeding Operation requirements.

Presentations have been given on watersheds and soil erosion using the Enviroscope watershed model. They have been given on a per request basis by area elementary teachers.

In March 2005 a newsletter was again mailed out to producers in the Lower Pipestem Creek Watershed area, again discussing the new permitting requirements for animal feeding operations and programs available to producers.

In late June 2005 watershed personnel conducted a tour for the watershed board members. The board members were shown several practices and projects such as feedlots, fencing, spring developments and tree plantings.

In July 2005 the Lower Pipestem Watershed Project held two no-till tours, one focusing on several producers in Foster and Eddy Counties and the second focusing on three producers in Stutsman County. These tours were both well received with over 80 in attendance.

In September 2005 watershed personnel took part in Stutsman County SCD's Eco-Ed program at Pipestem Dam and presented the Enviroscope Water Quality Education model to over 200 sixth graders from the schools around Stutsman County.



In December of 2005 a newsletter was mailed dealing with project updates and opportunities for producers, as well as highlighting the featured speakers for the upcoming Jamestown Ag-Expo.

On December 14, 2005 Ryan Odenbach and DC Codie Lacina presented water and soil information to eleven students in the first grade class at Medina, ND.

On December 15, 2005 watershed personnel visited Wimbledon School 5th graders and taught them about geology including a discussion of rock and fossil types. The students made “sedimentary rock” and created fossil casts from leaves and plaster of paris.

In January 2006 the Lower Pipestem Creek Watershed Project helped host the educational portion of the annual Jamestown Ag-Expo. The forum featured Bismarck area farmer/rancher Gabe Brown, discussing his no-till program and Jamestown area producer Kevin Haas talking about his venture into field pea processing and marketing. NDSU CREC Area Extension Specialist / Cropping Systems Greg Endres discussed field pea production and researcher Kristine Nichols from the ARS NGRPL at Mandan, ND explained the benefits of glomalin as it relates to soil structure and plant health.

In July 2006 the watershed project hosted two field tours; a no-till tour and a livestock forage tour. Both tours were held in Stutsman County featuring local no-till farmers and livestock producers.

A feedlot tour was held on October 19, 2006. Thirty-one producers toured area feedlots in various stages of construction and included experts from NRCS, NDDH and NDSU EXT CREC.

In January 2007 the Watershed Project, NRCS and Stutsman SCD had a combined booth at the Jamestown Ag-Expo in order to distribute information on the various programs offered by the agencies, and to showcase the projects, activities and services offered.

On June 19, 2007 the watershed project, in conjunction with NRCS and NDSU Extension hosted a no-till tour to the Max Williams farm in Redfield, SD and the Dakota Lakes Research Farm in Pierre, SD. Sixty producers and personnel attended the tour.

In January of 2008 the watershed project, in conjunction with NDSU Extension, had Josh Dukart and Ken Miller discuss cover crop applications in no-till. This was at the Jamestown Ag Expo.

In January of 2008 the watershed coordinator, Ryan Odenbach, gave a feedlot presentation at the ND Farm Bureau’s Young Farmer’s Convention in Minot.

In March of 2008 watershed personnel gave a presentation on the watershed project to the tree promotion meeting in Bismarck.

In April of 2008 a land aerator demonstration day was put on with 20 producers attending.

In June of 2008 took part in a field tour with the aerator and seeding cover crops at the Dick Grotberg farm with approximately 40 producers attending.



Part Two:

Task 1: Employ one watershed conservationist in Stutsman County to provide one-on-one conservation planning assistance to producers in the project area. Employ one watershed technician to assist the watershed conservationist (completed).

A watershed conservationist was employed in June 2002; a watershed technician was hired in May 2003 to assist the coordinator.

In 2007 and 2008 a district technician has worked part-time on watershed projects to assist in

Task 2: Provide assistance to farmers and ranchers to implement BMP's to reduce sediment and nutrient loads from 52,764 acres of cropland/pasture/rangeland by applying management systems of reduced tillage, nutrient management, and prescribed grazing (on schedule).

Conservation planning has occurred with approximately 78 producers who have signed contracts, including 38 in cropland management, 33 in grazing management, 9 in animal waste (feedlots), and 7 in riparian management. Many producers are in multiple practice contracts.

The watershed project leased an aerator and tractor for applications in no-till and have applied the aerator on 2700 acres by September 1, 2008. Hired two operators for this application.

Task 3: Treat 3,000 feet of stream bank through riparian buffers (on schedule).

Discussed program in detail along with other wetland programs with one landowner in cooperation with NRCS staff. Have encouraged several Wetland Reserve Program applications. One landowner has started a continuous CRP program. Have established 8 riparian buffers (forest and grassland), in cooperation with the Save Our Lake Program from the North Dakota State Game and Fish Department. These have addressed approximately 94 acres of riparian area.

Task 4: Install manure management systems on 15 priority animal feeding operations. (on schedule).

Surveys have been completed on nine sites and five sites are complete.

Task 5: Conduct follow-up contacts to assist with conservation plan updates, and monitor O & M of Section 319 cost shared practices (on schedule).

This continues throughout the year. Have used status reviews to look at practices.

Task 6: Coordinate with the entities involved in the EQIP locally led work group process to maximize the amount of EQIP funding targeted to the project area.

The watershed conservationist has continued to encourage producer's involvement with EQIP as well as the project. All manure management systems have involved EQIP.

Task 7: Develop a sampling and analysis plan (SAP) to establish monitoring locations, sampling schedule etc., for the Lower Pipestem Creek (completed).



A Quality Assurance Project Plan (QAPP) was completed, reviewed, and signed by all parties and will be used for project implementation. This document was distributed to all those on the distribution list.

Task 8: Obtain sample collection training and collect samples throughout the project period to document changes (on schedule).

On site installation of monitoring equipment occurred in October 2002. Monitoring began in March 2003 with collection of discharge and water quality samples. NDDH staff provided training for these procedures. Biological sampling occurred in August 2003 with personnel from the NDDH. Monitoring continued in 2007 according to plans. A break from monitoring was taken in 2008 due to the amount of data collected to date. In 2009, monitoring will take place again.

Task 8: Compile water quality data and BMP installation records to track efficiency of project (on schedule).

Water quality data is being collected and recorded. Files have been established for each producer, documenting all project progress and implementation.

Task 9: Organize and conduct scheduled I/E events focusing on NPS pollution control within agricultural areas and coordinate them with ongoing state/federal sponsored I/E programs (on schedule).

13 information/education meetings have been held concerning conservation tillage, winter wheat rotations, saline soil management, rotational grazing, manure management, and cover crops. 14 tours have been conducted on various practices for producers and local boards.

Task 10: Prepare newsletter articles and direct mailings to local land users, general public and media to promote the project and disseminate information on water quality and NPS pollution control (on schedule).

An Internet web site has been created, which includes project information and photographs. Seven articles on various project elements have been printed in local newspapers, FSA newsletters and extension articles. Twelve newsletters have been sent out to all producers in the Watershed area, as well as mailings to livestock producers in the watershed concerning an animal waste informational meeting and other mailings for conservation tillage programs. Project brochures were developed in May 2003, have recently been updated and have been used to hand out to many interested individuals.

Task 11: Complete semi annual, annual and final project reports to update the GRTS. These will be provided to NDDH, EPA, and all sponsors and interested individuals (on schedule).

This is the seventh annual report provided each project year.



Local Comments and Recommendations:

Riparian areas have been popular, particularly working with the North Dakota State Game and Fish around Hidden Creek, a tributary of the Pipestem Reservoir. There are not many riparian buffer programs available and we have tried for other partners in this area with little success, will still pursue. Especially encouraging CRP practices in these areas.

Working with both EQIP and 319 programs in Ag Waste Systems has allowed for minimizing large costs for projects from one program.