

Contract No. 002-030

“Turtle Creek Watershed Project Water & Habitat Initiative”
Submitted by South McLean County Soil Conservation District
Principal Investigator: ~~James Jahnz~~ Alex Brazeal
Directives: B, A & C

PARTICIPANTS

Sponsor	Cost Share	
Landowners	\$ 82,800	
South McLean County Soil Conservation District	\$ 171,600	
North Dakota Department of Health	\$ 19,500	
EPA Section 319 Funds	<u>\$ 721,000</u>	
Subtotal Cash Cost Share		\$994,900
South McLean County Soil Conservation District (indirect)	\$ 114,400	
Landowners	<u>\$ 9,200</u>	
Subtotal In-kind Cost Share		\$123,600
North Dakota Industrial Commission	<u>\$ 138,000</u>	
Total Project Cost	\$1,256,500	

Project Schedule – 3 years
Contract Date – 8/20/2014
Start Date – 8/26/2014
Completion Date – 10/31/2019*

Project Deliverables:
Status Report: November 30, 2014 ✓
Annual Report: November 30, 2015 ✓
Annual Report: November 30, 2016 ✓
Annual Report: November 30, 2017* ✓
Annual Report: November 30, 2018*
Final Report: October 31, 2019* ✓

OBJECTIVE/STATEMENT OF WORK:

This project will provide cost share to landowners for Best Management Practices that mitigate impact of animal feeding operations, create additional non-aquatic habitat in addition to improving water quality of surface water or preserve the integrity of existing or newly established riparian ecosystems within the Turtle Creek watershed.

STATUS:

The request of \$138,000 was fully funded with the stipulations that any landowners receiving funding must provide 40% match and the maximum amount of cash share dollars for each manure management system is \$175,000. Contract 002-030 has been signed.

11/30/14 - Water & Habitat Initiative Projects using OHF Grant Money

- Fully implemented portable wind breaks: 4 panels totaling 96 linear feet. OHF funds were used to assist a livestock producer in the Turtle Lake area in purchasing additional portable wind breaks to increase the effectiveness of his winter manure management plan to the benefit of local water bodies. This project was implemented to help prevent the need for extended use of feeding operations of upwards of 100 head of cattle during winter months. Cumulative length of all windbreaks owned by the producer does not exceed the maximum amount allowed by the ND Health 319 cost share guidelines for 2014. The ranch at which these will be used drains into a system of interconnected lakes and water bodies that includes Hanson Slough, Cherry Lake, Turtle Lake and Lake Ordway. As such, the use of cost shared wind breaks will have a positive impact on approximately 1175 acres of near downstream lakes and surface water bodies, 302 acres of wetland habitat, and ultimately to the 51 mile reach of Turtle Creek that lies downstream of Lake Ordway.
- Cover crops seeded & awaiting field verification: 5.7 acres. A local producer was interested in planting cover crops for the purposes of weed management and erosion control. Though a late harvest limited the number of feasible crop types, winter rye was seeded and verified to have come up. As winter rye is a winter hearty crop, this planting is expected to provide appreciable cover and serve as temporary habitat for wildlife during the spring of 2015.

- Planned livestock exclusion fencing: 4375 linear feet. A producer contacted our project with explicit interest in fencing his livestock out of the Lake Williams shoreline. The Lake Williams shoreline is an important habitat, not only because it is a lakeshore but also because regularly fluctuating lake levels makes it suitable habitat for riparian species. Exclusion fencing will protect 5,007 feet, or almost a mile of shoreline habitat suitable for riparian species.

11/30/2015 - Status Report received. A copy of the report along with photos is available on the website. The two projects in the prior status report -- cover crops and livestock exclusion fencing were completed. Implementation of another project is underway. Status report states the following:

Implemented Cover Crops: 5.7 acres

Total Project Cost: \$87.50; 60% Cost Share \$52.50; 40% Match Share \$35.00

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Implemented Livestock Exclusion Fencing: 4345 linear feet

Total Project Cost: \$5,865.75; 60% Cost Share \$3,519.45; 40% Match Share \$2,346.30

A producer contacted our project with explicit interest in fencing his livestock out of the Lake Williams shoreline. The Lake Williams shoreline is an important habitat, not only because it is a lakeshore but also because regularly fluctuating lake levels make it suitable habitat for riparian species. Exclusion fencing will protect 5007 feet, or almost a mile of shoreline habitat suitable for riparian species.

Implementation in Progress Fencing: 14,627 combined feet

Total Project Cost: \$12,970.24; 60% Cost Share \$7,782.14; 40% Match Share \$5,188.10

OHF funds will be used to supplement a larger 319 water quality project. A producer in our district currently runs approximately 120 head of cattle with his brother. They usually graze around the producer's place until the weather turns cold. Currently there is no protection for the cattle up by his place so once the weather turns, they haul all the cattle to his brother's farmstead which has protection and feedlots, but this is considerably closer to the Turtle Creek. The producer has a crop field that they are currently grazing cover crops on that he would like to add a well/frost fee tank and use portable windbreaks on to extend the grazing season. This part of the project will use 319 funds. The second part of the project is to fence in two other adjacent crop fields that the producer will use up until frost up. By grazing cattle on crop field they will reduce the amount of manure build-up at the feedlot and reduce the need for synthetic fertilizer on these fields. This will reduce fecal contamination of local water bodies. This part of the project will use OHF funds.

5/10/2016

The applicant has requested and an amendment to Contract No. 002-030 has been fully executed which identifies that NRCS Practice 380 (Windbreaks & Shelterbelt Establishment) be included as an eligible practice and that the two following practices of 66 (Portable Windbreak) and 67 (Electric Fence Energizer) be removed from the eligible practices going forward. In addition the amendment states that any producer receiving Outdoor Heritage Fund dollars must provide a 40% match. The amendment also changes the name of the contact person for the Contractor.

7/22/2016 - Status update provided with request for funding. The report states:

Fully Implemented & Reimbursed Projects

Number of Projects	Project Total	Cost Share (60%)	Match (40%)	Funding Source	Project Type
2	\$22,412.74	\$13,447.64	\$8,965.10	OHF	Wildlife Tree Plantings
1	\$11,560.05	\$6,936.03	\$4,624.02	OHF	Fencing Project
1	\$417.50	\$250.50	\$167.00	OHF	Cover Crop

Implemented 8,563 Feet of fencing

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Implemented Cover Crops: 5.7 Acres

A local producer was interested in planting cover crops for the purposes of weed management and erosion control. Though a late harvest limited the number of feasible crop types, winter rye was seeded and verified to have come up. As winter rye is a winter hearty crop, this planting provided appreciable cover and served as temporary habitat for wildlife during the spring of 2016.

Implemented Tree Planting and Fabric Weed Barrier: 37,336 Feet

Two local landowners installed large wildlife plantings in the spring of 2016. The first planting was ten 1,611 foot rows. The second planting consisted of forty-two 500 foot rows. Both of these plantings will provide permanent vegetation on the landscape. This vegetation will improve water quality and provide wildlife habitat.

11/1/2016 - Status update provided with request for funding. The report states:

Number of Projects	Project Total	Cost Share (60%)	Match (40%)	Funding Source	Project Type
1	\$16,880.21	\$10,128.13	\$6,752.08	OHF	Off Stream Watering
2	\$15,526.03	\$9,315.62	\$6,210.41	OHF	Fencing Project
2	<u>\$3,412.87</u>	<u>\$2,047.72</u>	<u>\$1,365.15</u>	OHF	Cover Crop
	\$35,819.11	\$21,491.47	\$14,327.64		

Fencing Projects

Martinson - OHF funds were used to convert a two-cell grazing system to a four-cell system. The four cell design was being implemented before using temporary fencing. By adding permanent fencing the producer will be able to use temporary fencing to further divide the pasture into an eight-cell grazing system. The additional tanks will allow for additional head of cattle to be operated. The producer will increase utilization of the pastures and increase rest periods of the pastures. This will be beneficial to wildlife, water quality and range quality.

Klimple - OHF funds were used to cost-share the conversion from a two cell pasture to a four cell pasture. The addition of cross fencing will allow the producer to better manage where his cattle herd grazes. This will be beneficial to wildlife, water quality and range quality.

Cover Crops

Volochenko, Kraft - Two local producers were looking to try cover crops on traditional crop fields. OHF funds were used to cost-share seed cost for a grazing based cover crop. These producers were able to get a hay crop off the fields in mid-summer. The following regrowth will be utilized as a grazing source for late season grazing. This will reduce the amount of manure buildup in their yards and provide nutrients for next year's crop, all while building soil health.

Off Stream Watering

Reiser - OHF funds were used to implement a water system on rangeland. This watering system will allow cattle access to fresh clean water while protecting local surface water. By adding additional sources of water to a pasture cattle will utilize more of the pasture. Doing so will help improve rangeland and water quality.

1/24/17 - Status report for the period 10/25/2016 - to 1/24/2017 was submitted 1/12/2018.

Fully Implemented & Reimbursed Projects

Number of Projects	Project Total	Cost share (60%)	Match (40%)	Funding Source	Project Type
1	\$6,304.17	\$3,782.50	\$2,521.67	OHF	Watering Facility
1	\$15,533.80	\$9,320.28	\$6,213.52	OHF	PMMP

Watering Facility

OHF funds were utilized to cost-share a project to develop a new watering facility with new pipelines from an existing well and new livestock tanks. Developing watering facilities on acres that were not previously able to be grazed due to lack of water resources, or by removing livestock from surface water can greatly improve water quality within a watershed. Producer will also follow an improved grazing schedule on these newly available acres to ensure the health and equal utilization of grasses.

PMMP

Partial manure management plans (PMMP) are a great tool to help improve water quality within a watershed by decreasing run off of livestock waste into surface waters. Building 10,488 linear feet of new fencing, cost-shared at a rate of \$1.35/linear ft. and water storage tanks for livestock, the producer can more readily manipulate how his cattle utilize different wintering grounds and thereby control manure across fields rather than in a feedlot or stockyard where manure is in significantly higher concentrations.

7/28/2017 Status Report Received. The following chart was provided showing how the OHF funding has been utilized:

Fully Implemented & Reimbursed Projects

Number of Projects	Project Total	Cost share (60%)	Match (40%)	Funding Source	Project Type
2	\$1,386.00	\$831.60	\$554.40	OHF	Cover Crop
2	\$5,866.30	\$3,519.78	\$2,346.52	OHF	Wildlife Trees
1	\$3,572.44	\$2,143.46	\$1,428.98	OHF	Fence
1	\$2,122.69	\$1,273.61	\$849.08	OHF	Grass Seed

Implemented 5,332 Feet of fencing

OHF funds will be used to complete a fencing project for a local producer who owns a variety of livestock. With this fencing, cell grazing will be utilized which will lead to better forage and biomass health for grazing livestock as well as habitat for grassland wildlife. Another aspect to this project is by fencing cells, the producer will be able to leave animals on summer pasture longer without needing to feed in the yard. This also lends a benefit to water use, as surface waters will no longer be used by livestock and will rather be pumped to tanks to help prevent erosion and livestock contamination in surface waters. Cost of fencing a four-strand electric wire fence calculates to \$0.67/foot.

Implemented Cover Crops: 84 Acres

Two local producers were interested in planting cover crops for the purposes of weed management and erosion control. Though a late harvest limited the number of feasible crop types, a grazing cover crop mixture of: Oats, Peas, Common Vetch, Millet, Soghum/Sudan, Clover, Radish, Sunflower, and Brassica. This will help improve soil health, lead to more grazing opportunities in the future through improved stand preparation and provided wildlife brood rearing cover for the spring/summer 2017.

Implemented Tree Planting and Fabric Weed Barrier: 7,115 Feet

Two local landowners installed large wildlife plantings in the spring of 2017. Both of these plantings will provide permanent vegetation on the landscape. This vegetation will improve water quality and provide wildlife habitat. Cost of each tree with fabric breaks down to \$0.68 cents/linear foot.

Implemented Forage Grass Planting: 14 acres

OHF funds will be used in continuance to an existing larger project. This grass seeding will benefit the watershed through soil health improvement and by opening up new acres to be grazed and managed for livestock production.

9/23/2017 - A no-cost two-year extension has been requested and granted. *denotes changes.

11/30/2017 - Annual Report Received. The report states the information that was provided in the 7/28/17 Status Report is the most current information.

1/24/2018 - **Status report for the period 6/12/2017 - 1/24/2018 was submitted 1/24/2018.** The report states the following:

Water & Habitat Initiative Projects using OHF Grant Money

Number of Projects	Project Total	Cost share (60%)	Match (40%)	Funding Source	Project Type
2	\$19,628.45	\$11,777.07	\$7,851.38	OHF	Fencing &
2	\$63,483.55	\$38,090.13	\$25,393.42	OHF	Water Development
1	\$1,925.00	\$1,155.00	\$770	OHF	Fencing & Water
2	\$12,554.93	\$7,532.96	\$5,021.97	OHF	Development

Implemented 7,936 Feet of Multiple Wire Electric Fencing

OHF funds were used to create cell grazing management to better utilize grass and manage livestock to benefit grassland plant communities. This practice will improve water quality by more effectively utilizing grazing cells to decrease run off and help manage livestock waste within the watershed. This practice is also part of a larger grazing management project. Also, this type of fencing can be moved to create different sized cells for more or less intensive utilization of grasses by livestock as the resource and condition dictate on a given year. Cost-share for this practice calculates to \$0.67cents /foot.

Implemented 44,837 Feet of 3 Wire Barbed Fencing

By creating permanent cell grazing routine with barbed wire fencing this producer is better able to effectively manage grassland plant communities as well as exclude cattle from entering turtle creek for water. Livestock will follow structured, rotational grazing on an annual basis and will be permanently excluded from entering Turtle Creek which minimized stream bank erosion, reduces livestock waste from entering waterway and benefits grasses to control run off of livestock waste into the creek. Cost-share for this practice calculates to \$1.35/foot.

Constructed six new livestock watering facilities

OHF funding was utilized to cost-share the construction, development, and implementation of six new livestock watering facilities. By removing livestock from surface waters, water quality within the watershed will see a great improvement. This is one of the greatest practices for improving water quality through wells pumped to livestock tanks. These practices were all implemented in part of larger grazing management projects. Using fencing to create grazing cells for rotational grazing and constructed permanent panels to direct cattle to different parts of the water tank the watershed will have decreased soil and stream bank erosion. Livestock waste will be reduced or entirely removed from surface waters including directly into Turtle Creek itself. Particularly in drought years where surface waters are minimized and concentrated. Solar panels are used to pump water from wells into tanks providing fresh water for livestock and aiding in grazing management practices.

July 2020

A final report has been provided and is available on the website. It summarizes the following activity.

- Cover Crop 143.7 acres planted
- Alternative Power Source (Livestock Watering) two units
- Fencing (Barbed): 71,689.06 linear ft
- Fencing (Multiple Wire Electric): 13,776 linear ft
- Fencing (Single Wire Electric): 5,673 linear ft
- Livestock Exclusion Fencing: 4,345 linear ft
- Pasture/Hayland Planting: 14 acres planted
- Trough/Tank: 13 tanks installed

- Livestock Well: 2 wells drilled
- Upland Tree Planting
- Weed Control for Established Trees (Weed Barrier): 3,774.93linear ft;
- Windbreak/Shelterbelt: 3,930.86 linear ft.

This contract is now closed with a returned commitment of \$849.90.

Updated 8/5/2020