

## LPT71821 INTERIM REPORT DECEMBER 2021

### Deer Lake Conservancy

All high priority stream stabilization projects identified in the 2020 streambank inventory were completed (six completed in total) except for two inflows to the Watershed 1 North Pond. Emmons and Olivier Resources completed project designs and supervised construction for the installed stream stabilization projects. The Watershed 1 North Pond designs are being prepared by Polk County Land and Water Resources Department Engineering Technician Karsten Petersen. We anticipate that designs will be completed soon, and the bidding process can be initiated over the winter.

Homeowner projects were installed on five Deer Lake properties including one shoreline buffer, one native planting, four rock diversions, two rain gardens, and four rock infiltration projects. Cheryl Clemens, Executive Director, completed designs and supervised construction for these projects. All projects installed on private property and not listed as Healthy Lakes projects have operation and maintenance agreements of 20 years registered with their property deed. The operation and maintenance agreement for the shoreline buffer project is perpetual. Permits were secured where needed prior to construction.



We provided training for volunteers to learn how to inspect BMPs, and eight people attended. Polk County Land and Water Resources staff provided the training. Four people committed to BMP inspections and six people committed to maintain specific sections of Deer Lake Conservancy trails. Jim Miller supervises trail maintenance. Executive Director, Cheryl Clemens, coordinates volunteers and BMP inspections. An operations and maintenance manual is used to guide BMP inspections.

The Deer Lake Conservancy initiated Walk and Learn events on Deer Lake Conservancy properties in 2021. Brian Collins led two walks featuring the birds of the Johnson Preserve and Barb Delaney led two walks highlighting prairie plants on the Flagstad Farm Preserve. Steve Schieffer, Ecological Integrity Service, completed a shoreland survey with a report anticipated soon. A shoreland educational strategy will be developed with a volunteer committee once the report is available.

Our biggest roadblock was in finding landscapers to bid on homeowner projects. We found most landscapers in the project area were booked for the 2021 season by mid to late 2020. Three landscapers who have completed several projects on Deer Lake have informed us they will no longer be completing rain gardens and native plantings, two of the three are retiring. Only two have expressed interest in completing projects for us in 2022. Anticipated updated trail maps, brochures, and signs were delayed but are to be completed in 2022. Some design and inspection work was delayed or not completed because the Executive Director was unavailable due to the surface water grant application schedule, with draft grants due Sept. 2 and final grants due November 1.

**Table 1. Best Management Practices Installation Summary**

<b>Owner</b>	<b>BMP</b>	<b>Date Installed</b>	<b>Cost</b>	<b>N Reduction (lb/yr)</b>	<b>P Reduction (lb/yr)</b>	<b>Sediment Reduction (lb/yr)</b>
McGrane	Shoreline Buffer	5/30/21	\$6,548			
Lee	Rock diversion, rock infiltration (in series) – HL STANDARDS	8/26/21	\$3,560			
Rieke	Rock diversion (to existing rain garden) – HL STANDARDS	10/10/21	\$950			
Hoffman	Rain garden 1	10/25/21	\$3,600			
Hoffman	Rock infiltration, diversion to Rain Garden 2	10/25/21	\$4,900			
Mortenson	Rock diversion, rock infiltration, native planting – HL STANDARDS	8/27/21	\$2,984			
Gartland	Stream Stabilization W1	8/10/21	\$8,026	2.71	1.17	2340
Bodeau	Stream Stabilization W3	8/27/21	\$14,820	179.20	77.24	154,480
Hartzell	Stream Stabilization W3	10/08/21	\$7,560	116.14	50.06	100,120
DLC	Stream Stabilization W5(14) culvert outfall	10/08/21	\$6,360	9.02	3.89	7,780
DLC	Stream Stabilization W5(7)	10/08/21	\$5,000	14.99	6.46	12,920
DLC	Stream Stabilization W5(2)	10/08/21	\$1,320	1.95	.84	1,680

**COST CONTAINMENT METHODS**

06/24/2021	268		Lupine Gardens, LLC	Shoreline Buffer - mulched border (McGrane)	\$2,796.40	\$357.60
05/27/2021	257		Lupine Gardens, LLC	Shoreline Buffer - hillside mix	\$393.41	\$357.59
06/04/2021	258		Lupine Gardens, LLC	Shoreline Buffer - low area mix	\$904.91	\$357.59
05/25/2021	260		Lupine Gardens, LLC	Shoreline Buffer - remainder	\$1,380.41	\$357.59
08/17/2021	033418		Shadetree Landscaping	Rock infiltration trench, rock infiltration pit, rock channel diversion (Lee)	\$2,668.00	\$892.00
10/01/2021	9775		Cross Country Excavating	Multiple (6) stream stabilization projects	\$43,436.00	
10/14/2021			J&M Landscaping	Rock diversion to existing rain garden (Rieke)	\$950.00	
10/25/2021			J&M Landscaping	Rain gardens (2), rock infiltration, rock diversion (Hoffman)	\$8,500.00	
			J&M Landscaping	Rock diversion, rock infiltration, native planting (Mortenson)	\$2,984.00	

McGrane Shoreline Buffer: – Average Costs – \$2.83/ft<sup>2</sup>

Lee rock infiltration trench, pit, and rock diversion: Healthy Lakes projects, not bid

Stream stabilization projects: Average costs – based on bids provided to Polk County Land and Water Resources Department

Rieke Rock Diversion: Healthy Lakes project, not bid

Hoffman rain garden, rock infiltration, rock diversion: sought competitive bids from 4 landscapers, one responder available

Mortenson rock infiltration, rock diversion, native planting: Healthy Lakes projects, not bid

**PHOTO DOCUMENTATION**

**McGrane - Shoreline Buffer Restoration**



*McGrane*

*Before: September 14, 2020*

AFTER PHOTO TO BE ADDED IN 2022

FILE PHOTOS ONLY INCLUDE PARTIALS IN AREAS WHERE  
CONTRACTOR WAS ASKED TO MAKE CORRECTIONS.

**Lee –Diversion and Rock Infiltration**



*Lee  
Before: August 9, 2021*



*Lee  
After: August 27, 2021*

Rieke – Diversion to Existing Rain Garden



Rieke  
Before: September 30, 2021  
Grassed inflow eroded with  
storm events – off photo



Rieke  
After: October 25, 2021

**Hoffman – Diversion, Rock Infiltration, Rain Gardens**



*Hoffman - Rain Garden #1  
Before: May 25, 2021*



*Hoffman - Rain Garden #1 After: October 27, 2021*



*Hoffman - Rain Garden #2*

*Before: May 25, 2021*



*Hoffman - Rain Garden #2 and Rock Infiltration, Diversion*

*After: October 27, 2021*



**Mortenson – Rock Diversion, Infiltration, Native Planting**



*Mortenson*  
*Before: May 10, 2021*



*Mortenson*  
*After: August 27, 2021*



*Mortenson*  
*After: August 27, 2021*

**Gartland – Stream Stabilization**



*Gartland*

*Before: July 20, 2012*



*Gartland After: November 30, 2021*

**Bodeau – Stream Stabilization W3**



*Bodeau*

*Before: October 14, 2020 (below) and*

*August 10, 2021 (left)*



**Bodeau**

**After: 8/27/2021**

**Hartzel – Stream Stabilization W3**



*Hartzell*

*Before: October 14, 2020*



*Hartzell*

*After: October 8, 2021*

**Deer Lake Conservancy – W4/5 Culvert Outfall**



*DLC Rock Creek Culvert*

*Before: September 30, 2020*



*DLC Rock Creek Culvert*

*After: October 8, 2021*

Deer Lake Conservancy – W5 (site 7)



*Before: September 30, 2020*



*After: October 8, 2021*

Deer Lake Conservancy – W5 (site 2)



Before: September 30, 2020



After: October 8, 2021