

Agricultural Demonstration of Practices and Technologies (ADOPT)

FINAL REPORT

20170336

DEMONSTRATION OF MONITORS FOR WINTER WATERING SYSTEMS FOR LIVESTOCK

**Funded by: The Saskatchewan Ministry of Agriculture under the
Canada-Saskatchewan Growing Forward bi-lateral agreement**

March 2019

Prepared by: Carrot River Valley Watershed Association

Final Project Report

Project Title: Demonstration of Monitors for Winter Watering Systems for Livestock

Project Number: 20170336

Producer Group Sponsoring the Project: Carrot River Valley Watershed Association Inc.

Project Location: RM 398, NW-26-42-17-W2, Lynn Farms – Morgan and Margaret Leigh

Project Start and End Dates: January 5, 2018 – March 31, 2018

Project Contact Person & Contact Details: Charlotte Asplind, AAg., Watershed Manager, (306) 752-1270, crwatershed@gmail.com

Objectives and Rational:

The objective of this project was to demonstrate two different types of monitors for remote livestock watering systems in Saskatchewan winter conditions. The two different types of system included 1) low-tech system, a beacon light system that lights up when the system experiences a malfunction, and 2) high-tech system that uses cell coverage to text a picture of the system to the producer.

The use of remote water systems for livestock can help to improve water quality, reduce soil erosion, and protect shorelines and riparian areas. We believe that the use of monitors for remote livestock watering systems could increase producer confidence in the watering system and result in a greater number of producers utilizing remote watering systems instead of direct access to surface water.

Methodology:

Two sites were set up at Lynn Farms in the RM of Pleasantdale. The beacon system was set up on a watering system located to the north of the home-quarter that was used to water the producer's yearlings throughout three months of winter from January through march. The beacon was set up in a location that it could be seen from the yard and from the road if there was a malfunction and it lit up. The camera system was set up with the main group of cows out in a pasture paddock. This system was also tested over a period of three months.

The beacon system is a self-made system following the design in the diagram included at the end of this report. The diagram and a list of components was supplied by Alicia Sopatyck, Ministry of Agriculture Regional Livestock Specialist. The components for the system were purchased from Eecol Electric and compiled by Carrot River Valley Watershed Association, Alicia Sopatyck and our producer partner, Morgan Leigh. The camera system was an all-in-one system rented from Sundog Solar. The system is their Classic 250 SDM 180 pump system and trailer with swing gates and camera set up. This system is designed to be connected to a wet well.

Regular communication was kept with the producer over the three-month period to assess the functionality of the two systems. At the end of the three-month trial period the producer completed a short question answer session with the Carrot River Valley Watershed Association to provide feedback

on the reliability, practicality, functionality and usefulness of the two systems within the context of a Saskatchewan winter. To end the trial, a field day was held at Lynn Farms where local producers were able to view the systems in action. At the field day, presentations were also delivered by the Carrot River Valley Watershed Association and Morgan Leigh on the success of the trial.

Results:

The demonstration of the two monitors showed both monitors to be functional within the Saskatchewan winter climate. The producer found the high-tech camera monitor to be the most valuable. The camera monitor provided more-detailed information even when the producer was away from home or the yard. The information that the picture provided was far more detailed than the beacon light and showed whether there was no water or if the water was over flowing. This was not something that the beacon system was able to do as the lighting of the beacon simply meant malfunction and did not differentiate between a no water or overflow situation. The producer reported that the beacon system could be improved by tweaking the system to have a light for a no water situation and another light for an over-flow situation. However, he stated that he would still have more confidence in the camera system. If the camera is not working, he will know as he will not receive a picture whereas if the beacon is not working there is no easy way to know remotely.

The difficulty of set up of the two systems also varied. The set up of the beacon system was straight forward for the producer with no hiccups along the way. The camera system required a little more technical tweaking to complete the set up to have regular scheduled pictures sent to the producer's phone. The producer, however, did receive technical support which enabled him to work through the technical issues and get the system functioning reliably to the schedule that suited him.

Carrot River Valley Watershed Association, in collaboration with Alicia Sopatyck, Regional Livestock Specialist with the Ministry of Agriculture were successful at engaging the local community in this project. A news article on the project was released in CRVWA's winter quarterly Water Source Newsletter in October 2017. The newsletter is delivered to approximately 13,000 addresses in the Carrot River Watershed area. An interview on the project was played on CJVR radio during Alice McFarlane's farm news hour in December 2017. A presentation on this project was delivered to an audience of 35 people at CRVWA's producer workshop on February 28, 2018 in Anaheim. A press release about the project was sent out in March to 8 different media outlets. We also held 6 meetings with local RMs where we discussed the project. The RMs included the RM of Humboldt, the RM of Invergordon, the RM of Hoodoo, the RM of Barrier Valley, the RM of Tisdale and the RM of Nipawin. To finish off the project we held our project field day at Morgan Leigh's Farm in the RM of Pleasantdale and gave local producers a tour of the two project sites and presentations on the project. We had approximately 15 people in attendance.

Conclusion:

Both the beacon system and the camera system are functional in Saskatchewan winter conditions. Both systems are also valuable in increasing producer confidence in remote watering systems and increasing the uptake of remote watering systems over direct access to surface water. The camera system proved to be the more valuable system providing additional functionality over the beacon system including:

increased information, visual display of water system and remote accessibility. The producer recommends the camera system over the beacon system.

This ADOPT project will be complemented by an additional demonstration of the two monitor systems during summer conditions. The information collected from the additional trial will add to the information in this report.



Field Day – March 15, 2018

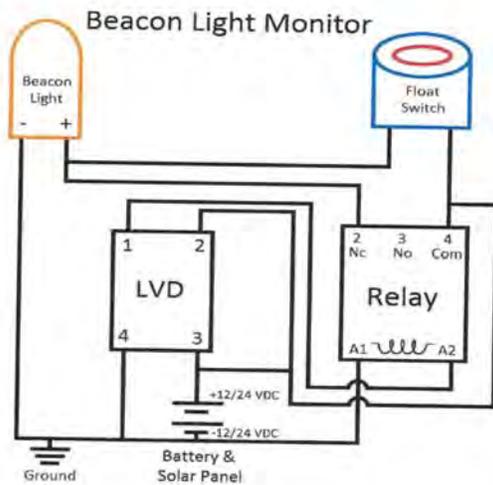


Diagram of Beacon System