Bringing Back The Water
Case Study Series

VILICUS INSTITUTE

POLLINATOR HEDGEROW PLANTING

MAD! VILICUS FARMS

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Xerces Society for Invertebrate Conservation

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SNAPSHOT

Vilicus Farms is a 12,500-acre organic dryland crop farm located in Northern Hill County, MT

In October 2023, Vilicus Farms, in partnership with Xerces Society and with support from MAD Agriculture and The Montana Conservation Corps, planted a half mile of hedgerow with incorporated perennial pollinator species.

The goals of this project are to hold more moisture on the landscape, reduce wind erosion, and increase pollinator habitat and species diversity.

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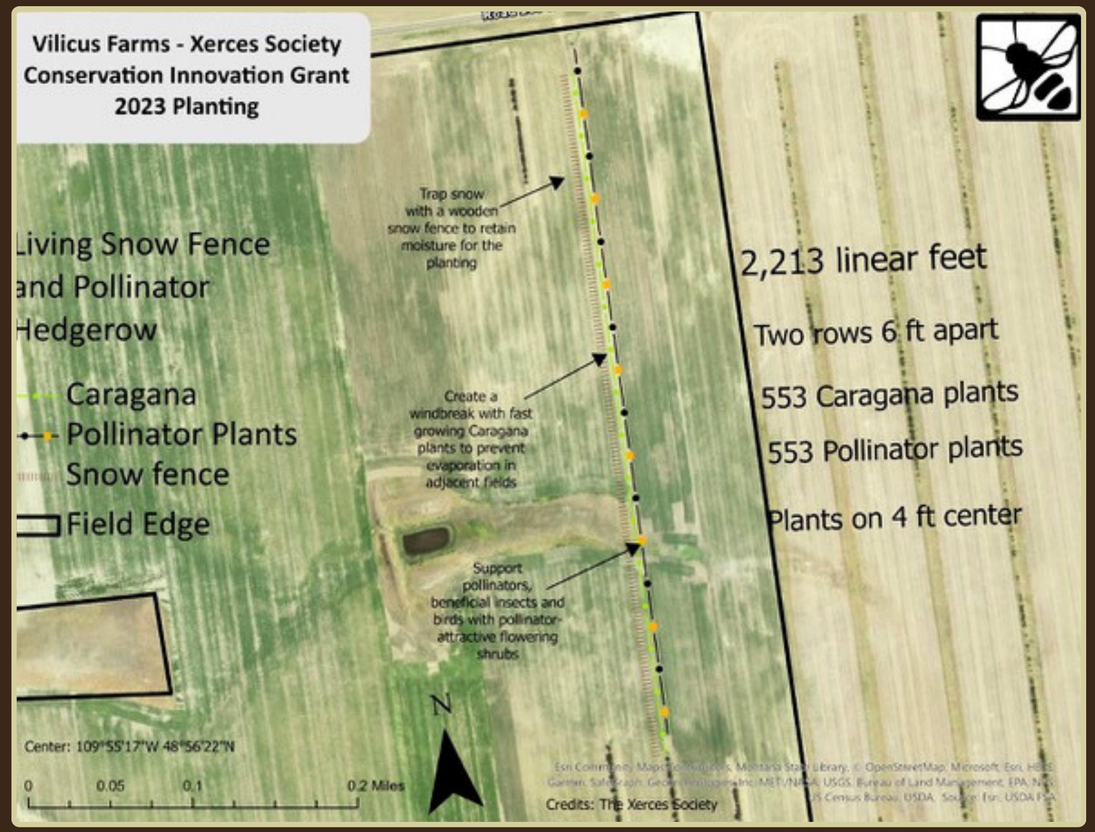
INSPIRATION

With an annual average of 11” of rainfall and 33” of snow accumulation, the majority of precipitation occurs outside of the growing season. In addition, this region faces heightened variability in precipitation patterns due to changing climate conditions. The challenge of limited and variable precipitation is exacerbated by the drying and eroding impacts of wind.

Vilicus Farms is currently home to 300 miles of 20’ wide conservation strips, which are planted with perennial, pollinator-friendly plants and are intended to increase biodiversity both above and below the soil. Taller perennial plants in these conservation strips act as a natural snow catch, and crop yields near those areas tend to be greater than in other parts of the field. This increased yield could be due in part to increased soil moisture in these areas resulting from snow melt.

DESIGN & PLANNING



The objective of this project is to install 0.5 mile of hedgerow that combines the benefits of wind protection, snow catch, and pollinator habitat.

The hedgerows include tree species known to be hardy to the landscape and perennial shrubs that will attract pollinator species.

Selection of plant species was based on criteria such as drought tolerance and deer resistance, the team referenced the NRCS plant data to make their selections.

INSTALLATION

A team of Vilicus Farms crew members, volunteers, and members of the Montana Conservation Corps planted the hedgerow using gas-powered hand augers, hand shovels, and a small tractor.

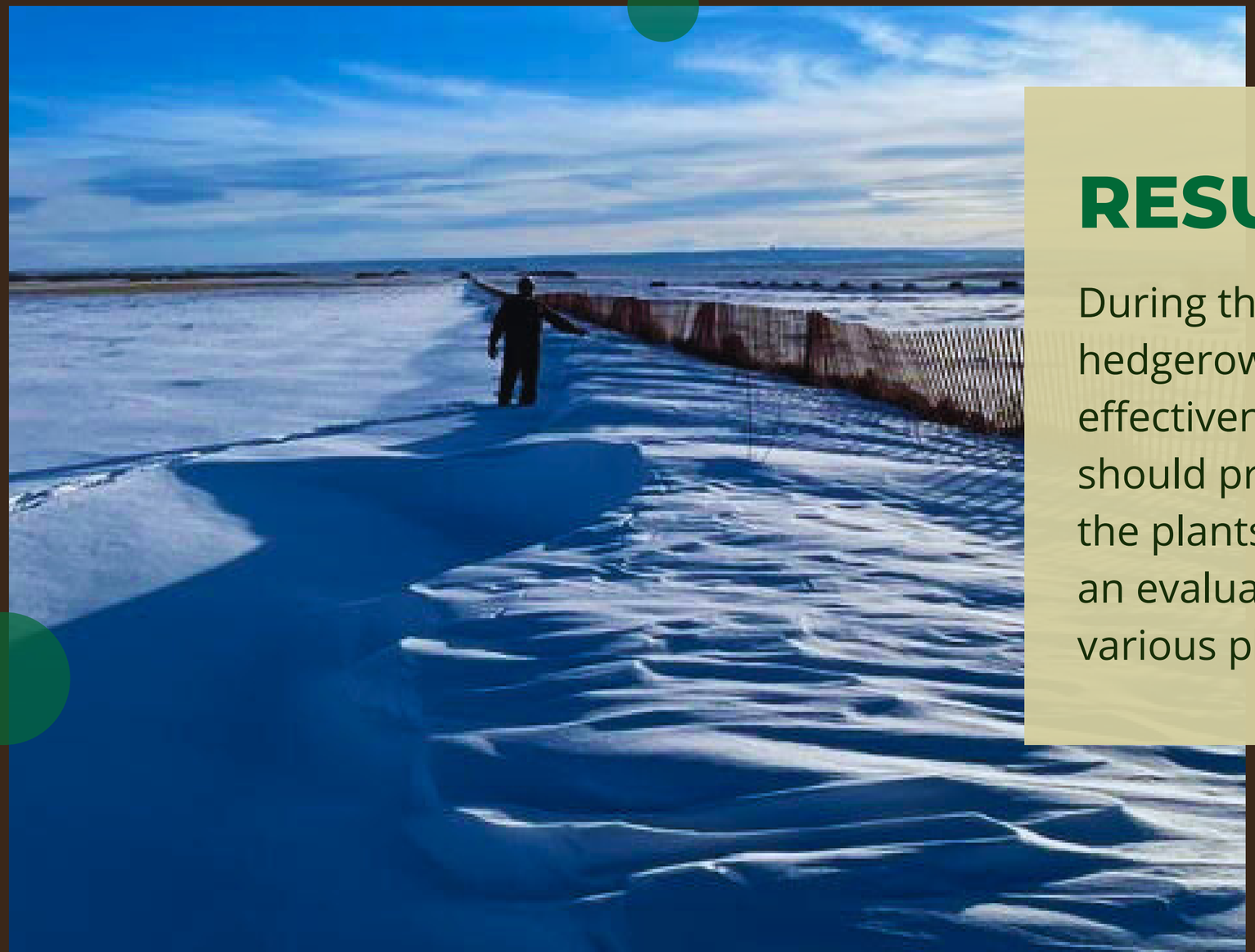
Snow fence was installed alongside the plantings to capture moisture during the winter.

EVALUATIONS

Xerces Society will return to monitor the site over the next three years for insect population, moisture retention, and carbon sequestration.

Xerces will also evaluate the soil water holding capacity and calculate changes in carbon sequestration at the project site.

In-field sensing devices will record the presence of winged insects at the project site.



RESULTS

During the first winter after planting, the hedgerow is covered by snow indicating the effectiveness of the snow fence. This snow should provide moisture and insulation for the plants. After the snow melts, there will be an evaluation to determine the success of the various plant species.

REFLECTIONS

Material costs would be prohibitive without funding support.

Project was more labor-intensive than anticipated.

Experimentation should be done with planting the hedgerows at different times of the year.

In future installations, consider leaving gaps in the hedgerow to allow for easier passage of wildlife and equipment.

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About the LOR Foundation: LOR works with rural communities in the Mountain West to enhance livability and prosperity while preserving the character that makes each community unique.