Project Overview
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Company Background
The Panhandle Research and Extension Center located in Scottsbluff, NE provides research-based knowledge to the community by teaching and experiential learning opportunities to better inform people about agriculture, food, health, water, 4-H programs, and the environment.

Project Description
The Partners in Pollution Prevention program stationed three student interns at three different county Nebraska Extension sites, working with growers locally to reduce irrigation water and energy uses. This project report focuses on the Panhandle Research and Extension Center specifically, as well as six producers who volunteered for an irrigation assessment. The strategies implemented for each producer utilized Watermark soil moisture sensors and evapotranspiration gauges to optimize water application and irrigation efficiency. The management reports compiled in this project report include current practices and pollution reduction recommendations specific to each assessment site.

Pollution Prevention Benefits
Benefits presented in this project report include a reduction in water usage, fuel usage, cost, and greenhouse gas emissions. These benefits are quantified in each management report and include a payback period for each pollution prevention benefit presented. Other pollution prevention benefits are included, but not quantified, such as increased crop yield, reduced nitrogen leaching, and decreased water runoff. The purpose of the pollution prevention implementations suggested in the management reports is to inform producers of their current water and energy usage and provide education to improve efficiency and reduce usage at the source.

Table 1. Pollution prevention benefits and results summary.

P2 Category	Total reduction amount per year
Water usage	56,000,000 gallons
Energy usage	102,800 kWh
Annual cost	63.62 MT CO2e