

# BREAKING BOUNDARIES TO COMBAT INVASIVE SPECIES A PARTNERSHIP USING VIRTUAL FENCING TO TARGET GRAZE PHRAGMITES

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Marsh master rolling Phragmites-traditional treatment method

## INTRODUCTION

Utah State University Extension, in collaboration with multiple partners, is pioneering the use of virtual fencing to manage the invasive wetland species *Phragmites australis*. This innovative approach crosses land ownership boundaries, unites diverse stakeholders, and aims to restore vital wetland habitats in the Great Salt Lake ecosystem.

## THE PHRAGMITES PROBLEM

- *Phragmites australis* is an aggressive, invasive species dominating wetland ecosystems.
- It forms dense stands that outcompete native vegetation and degrade habitat quality.
- This invasion poses a significant threat to the Great Salt Lake, a critical habitat for over 250 species of waterfowl, shorebirds, and songbirds.
- An estimated 10 million birds rely on the Great Salt Lake annually, making its preservation essential.

## CONCLUSION

The partnership's use of virtual fencing represents a groundbreaking approach to managing *Phragmites* invasions. Through collaboration, innovation, and targeted strategies, we are working to protect and restore the invaluable wetland habitats of the Great Salt Lake ecosystem.

Together, we are breaking boundaries to combat invasive species and preserve vital ecosystems.



## WHY VIRTUAL FENCING?

Traditional fencing is impractical in wetland environments due to complex property boundaries and ever changing water levels of the Great Salt Lake. Virtual fencing offers a modern solution by using GPS-based collars to control livestock movements without physical barriers.

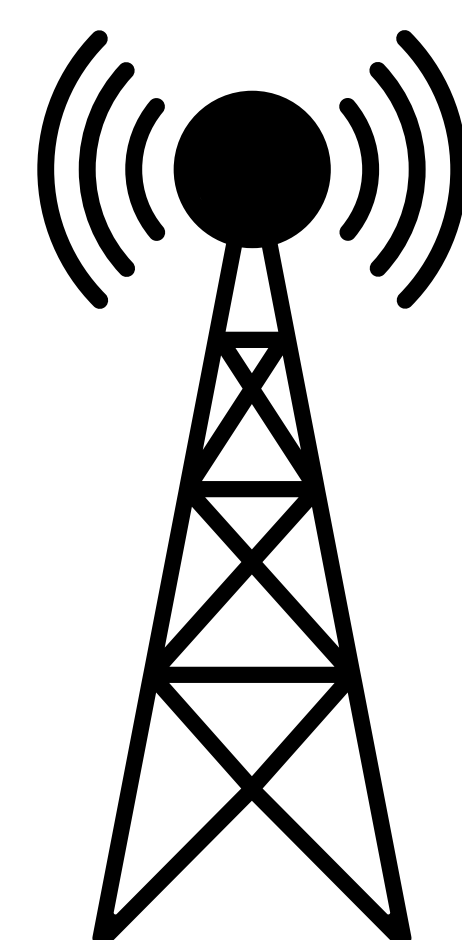
### Benefits of Virtual Fencing:

- Enables targeted grazing to reduce *Phragmites* density.
- Facilitates cross-boundary cooperation among public and private landowners.
- Supports adaptive management for healthier wetlands and improved watershed function.

## COLLABORATIVE APPROACH

This project brings together a diverse group of stakeholders to implement and evaluate virtual fencing technology:

- Utah State University Extension
- U.S. Fish and Wildlife Partners Program
- Bear River Bird Refuge
- Utah Department of Agriculture and Food
- Utah Division of Wildlife Resources
- The Nature Conservancy
- Northern Utah Conservation District
- Private Landowners & Ranchers



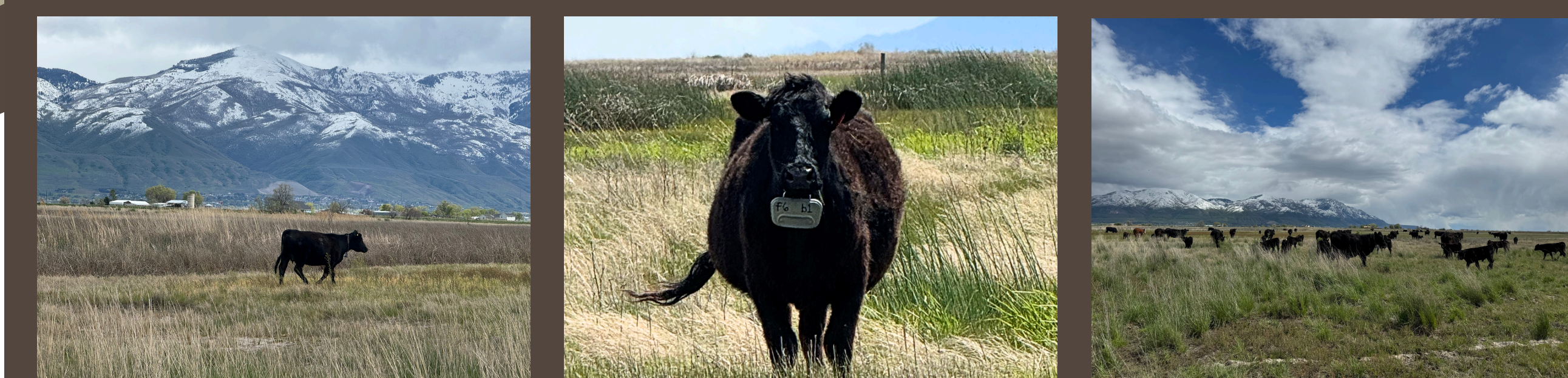
## PROJECT GOALS

- 1.Reduce *Phragmites* through targeted grazing.
- 2.Restore wetland habitats to support wetland-dependent bird species.
- 3.Enhance collaboration between public agencies and private stakeholders.
- 4.Evaluate virtual fencing as a scalable solution for invasive species management.

## IMPACT AND FUTURE DIRECTIONS

Using virtual fencing technology, this project is a model for:

- Innovative Land Management: Demonstrating new tools to combat invasive species.
- Watershed Restoration: Improving ecosystem health across the Great Salt Lake watershed.
- Sustainable Solutions: Promoting long-term ecological balance through cooperative management.



## IN PARTNERSHIP WITH



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