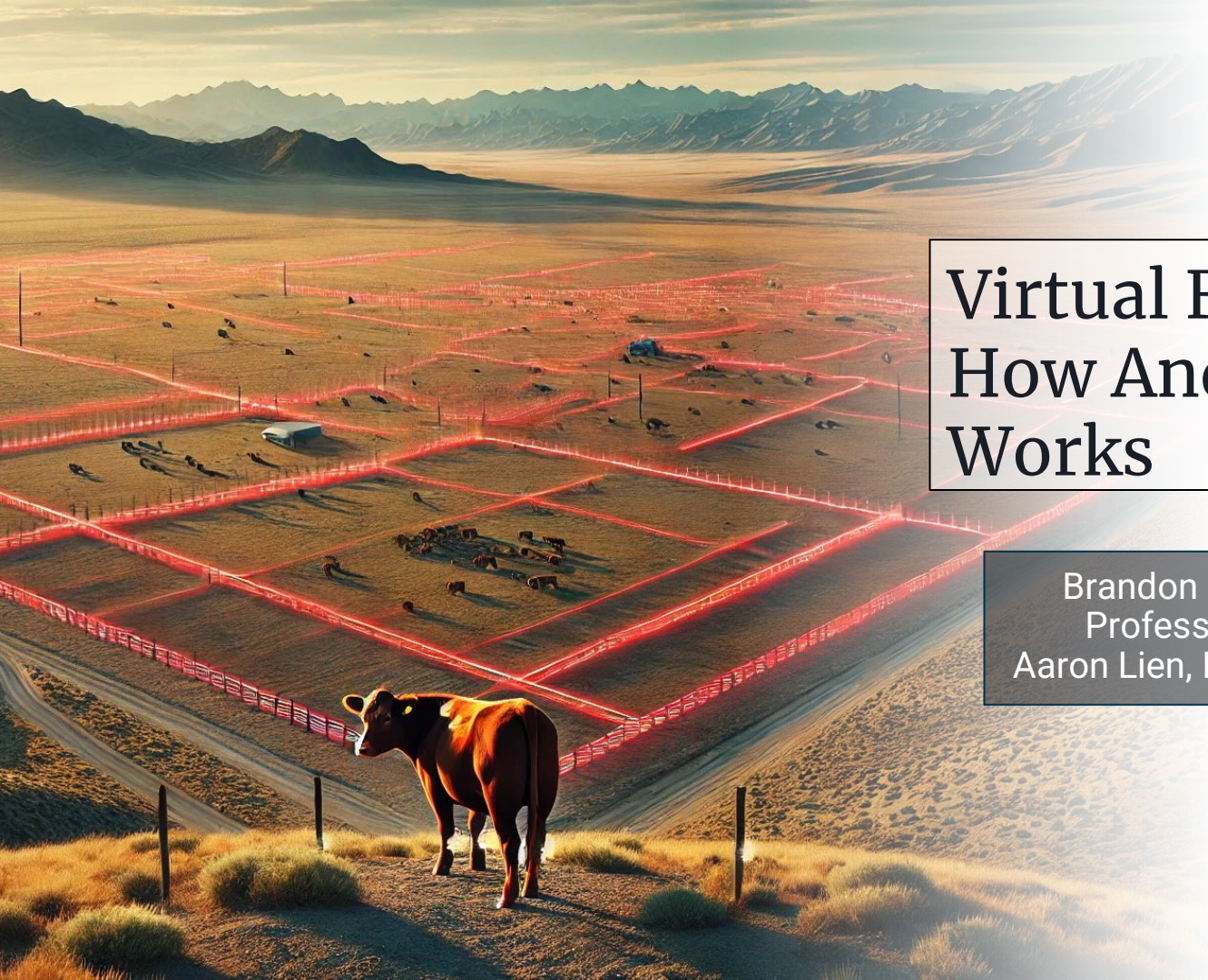
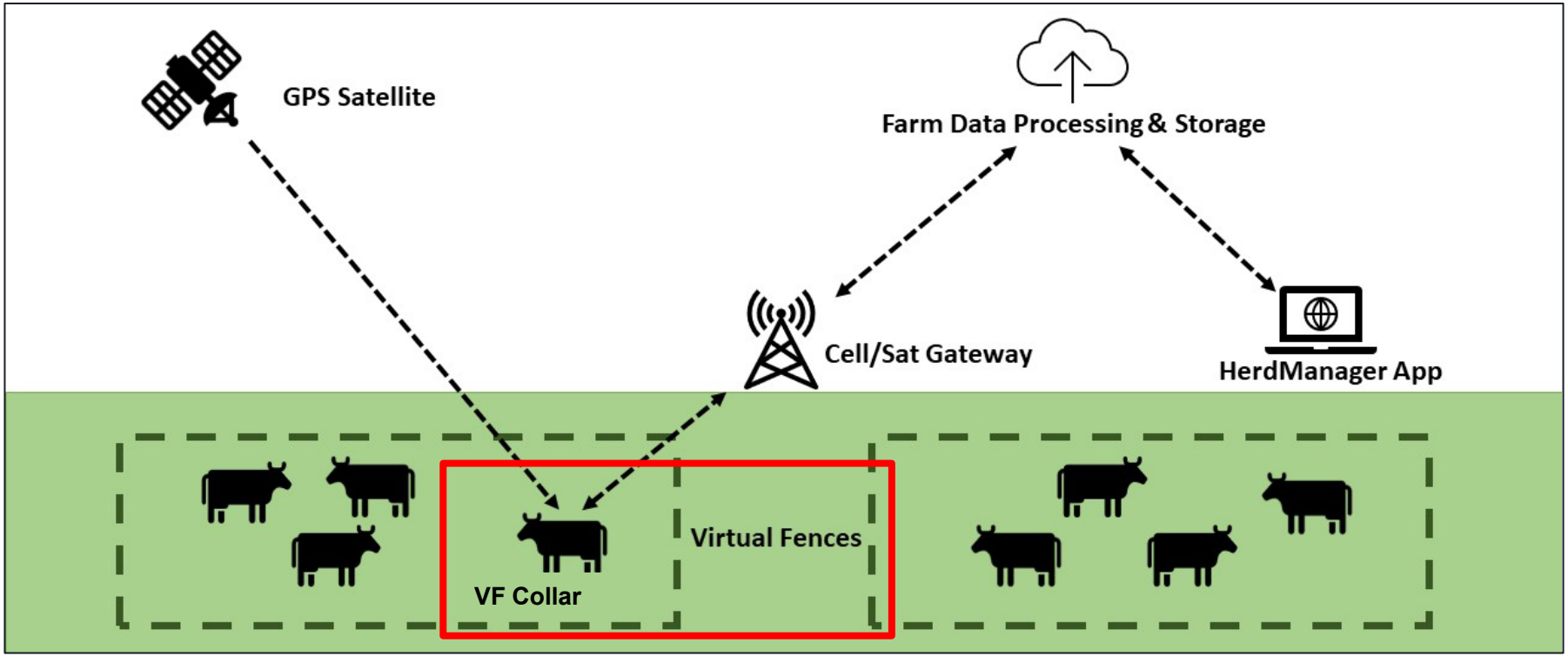


Virtual Fencing 101: How And Why, It Works

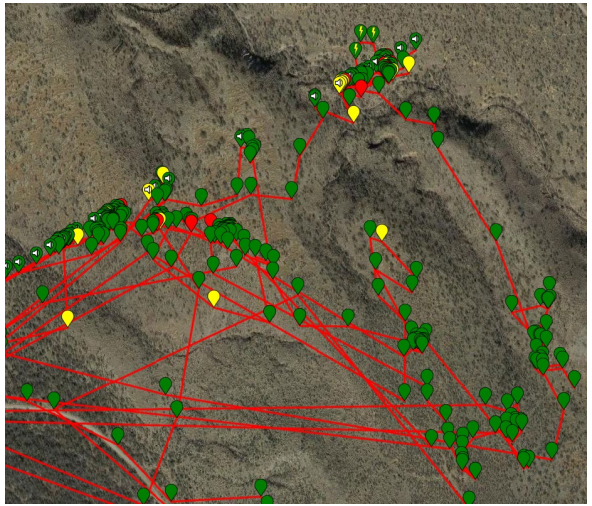
Brandon Mayer, Research Professional, UArizona
Aaron Lien, Professor, UArizona

Components of Virtual Fencing



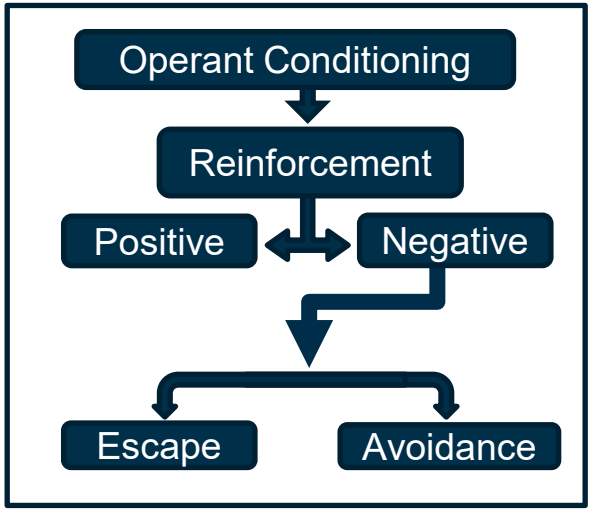
Components of VF: Animal Interface

Collar GPS Location



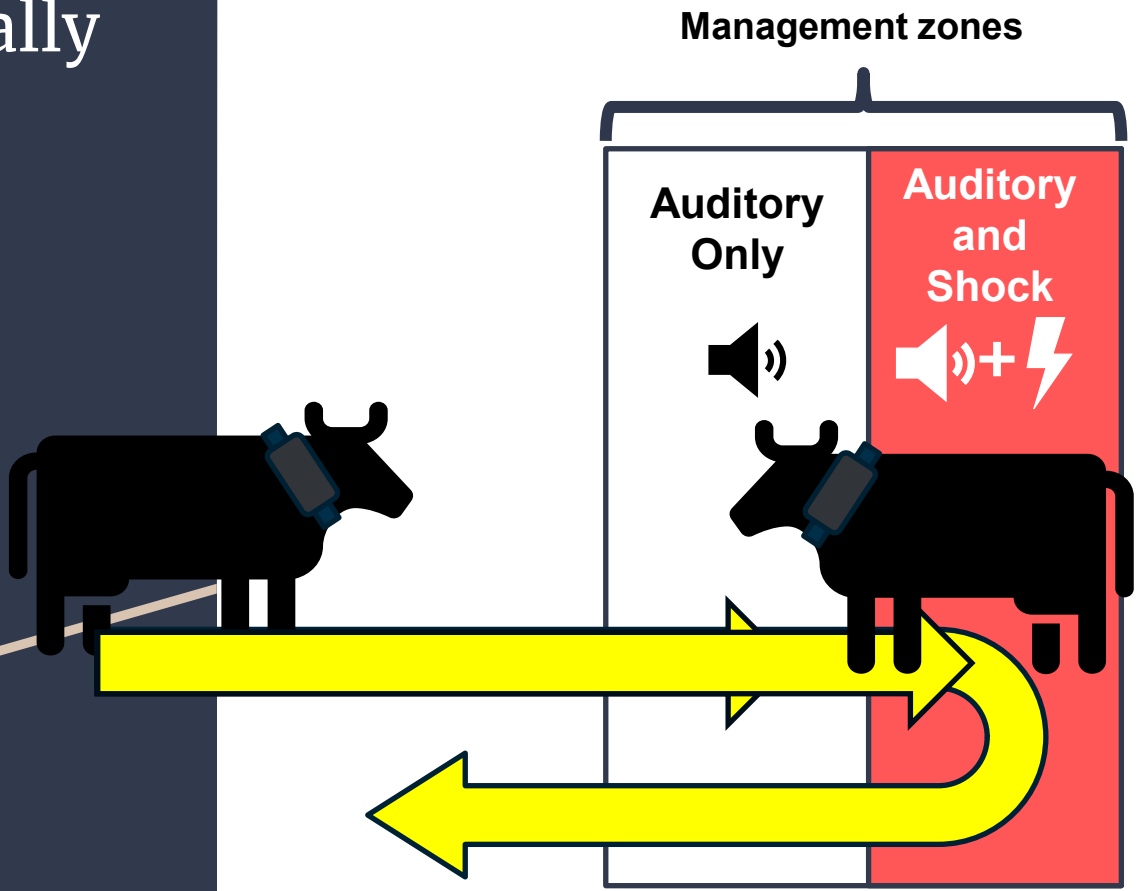
Programed GPS Boundary

Animal Behavior

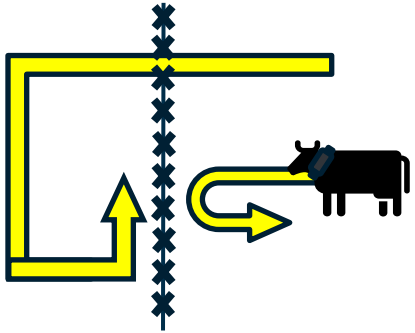


But how does it really work?

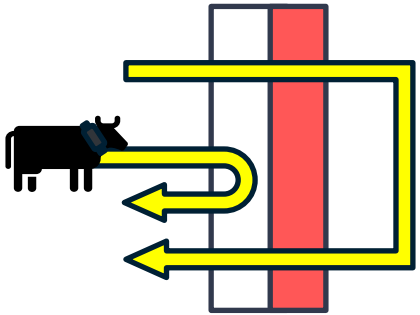
- The virtual fence systems work by associating **auditory and electrical stimuli**
- Trained animals learn to **avoid** fences when prompted with an auditory cue.
- Using an animal's GPS information in relation to the fence boundary, **pressure** can be applied opposing movement through the barrier.



Physical Fencing Vs Virtual Fencing



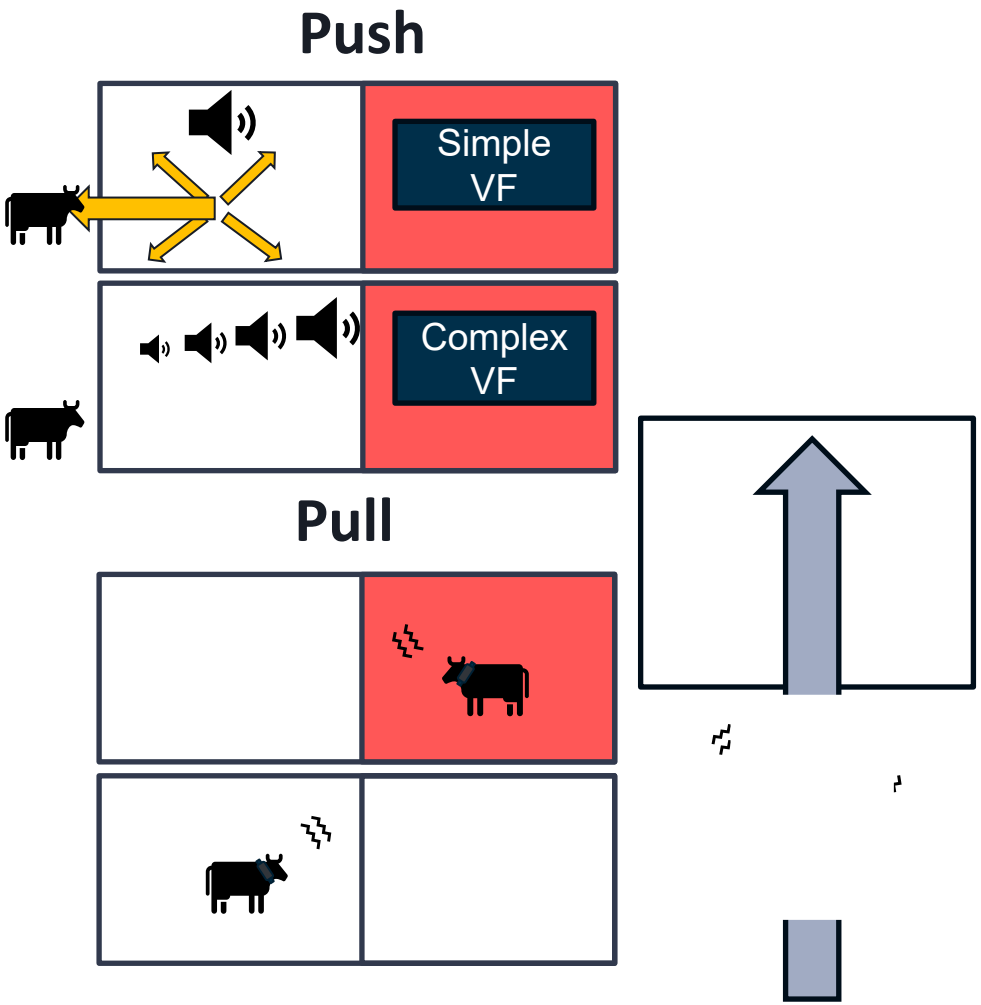
- Nearly 100%
- Potential for entrapment

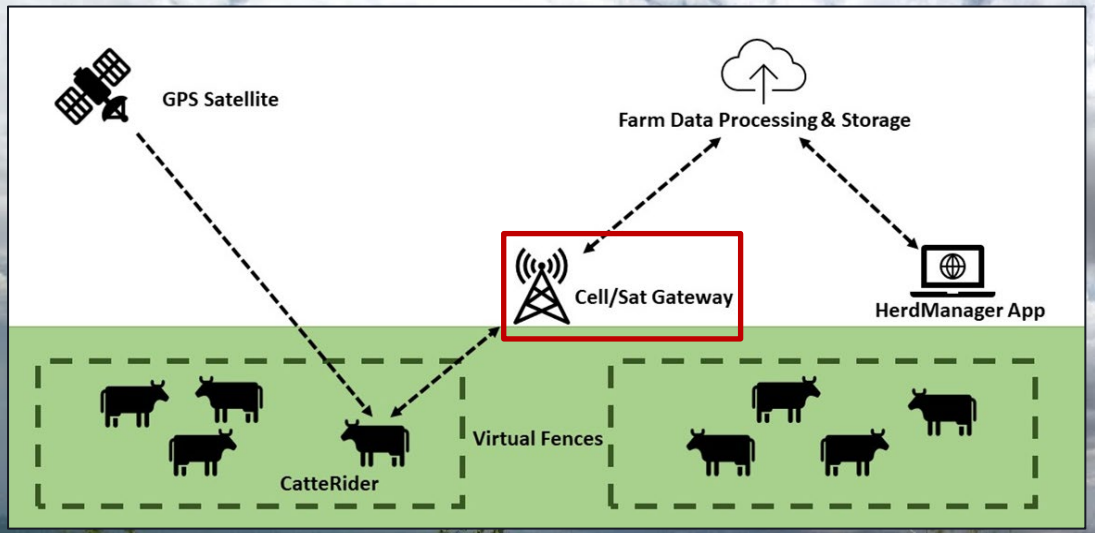


- Less than 100%
- No risk of entrapment

Differences Between in VF Approach

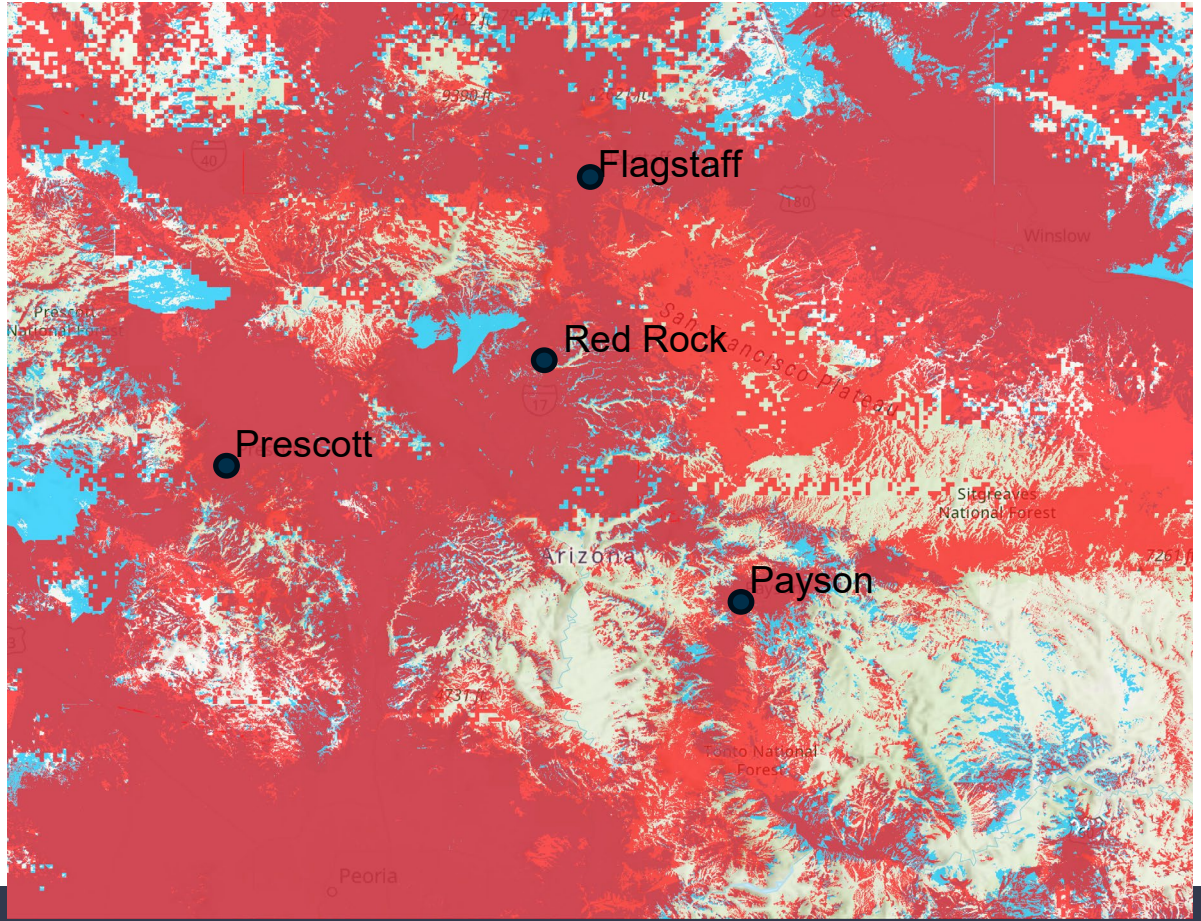
- Push and Pull
- Audio and Vibrations
- Verify with Vender to know what you're working with



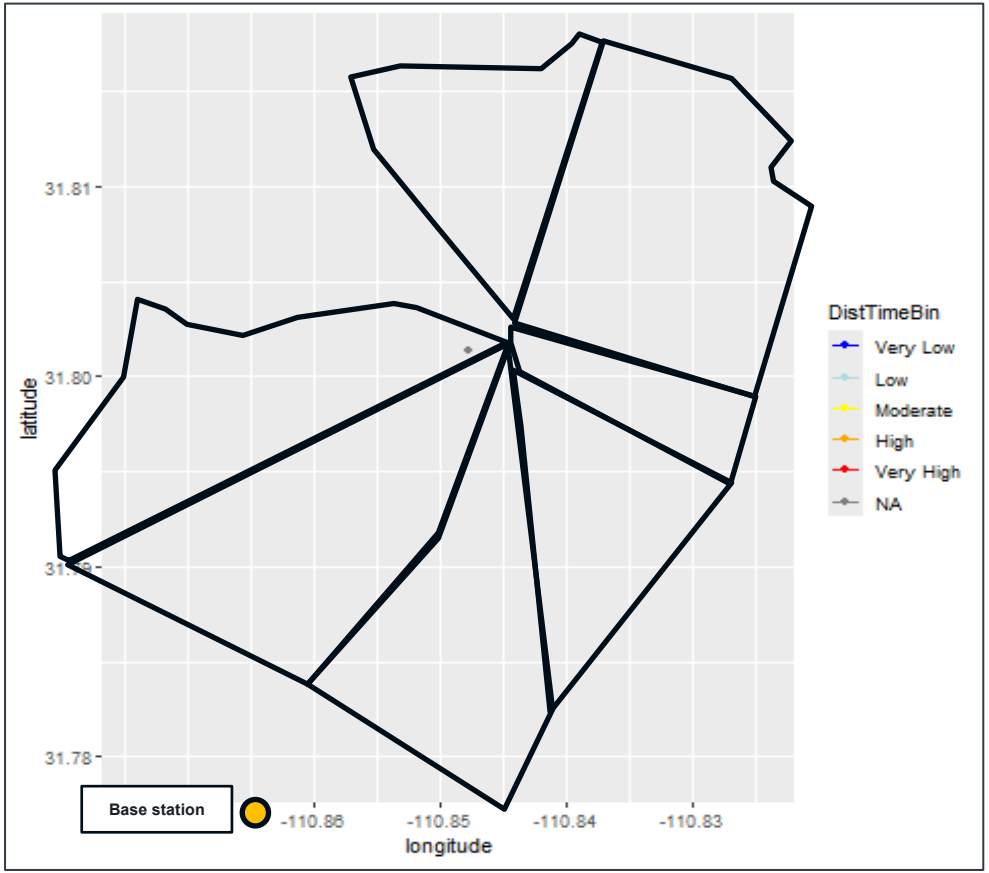


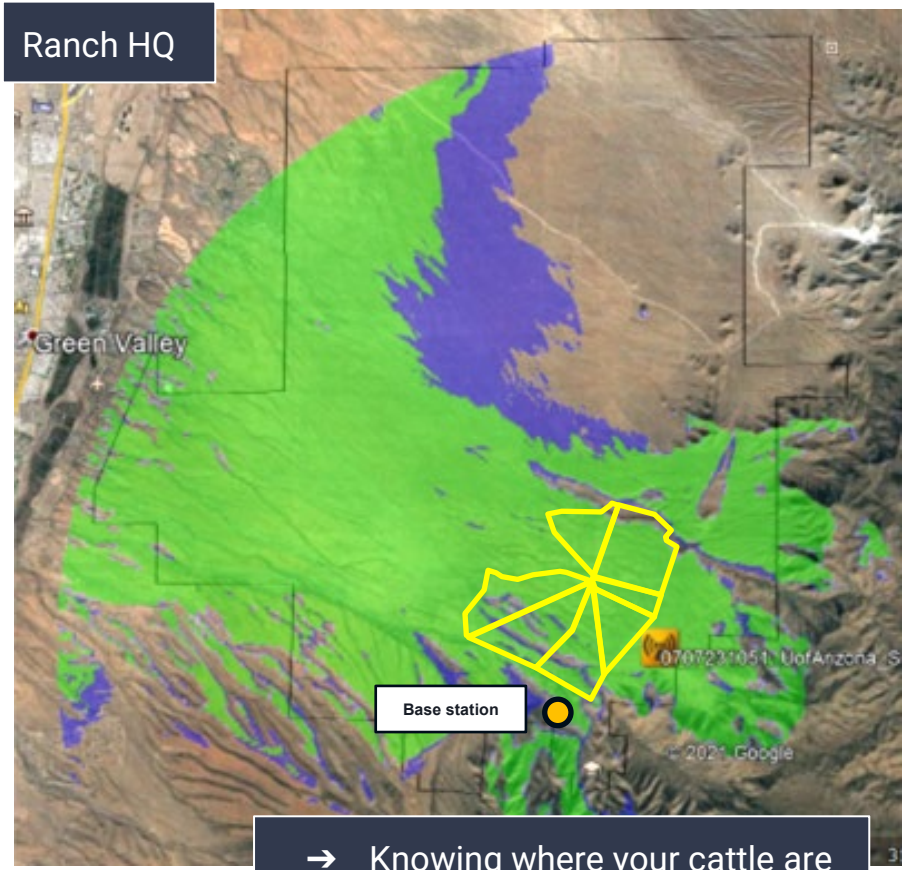
Gateway Placement

- Cellular Service
- LoRa connection



AT&T and Verizon Arizona Coverage Map





- ➔ Knowing where your cattle are
- ➔ Exclusions
- ➔ Separating existing pastures
- ➔ Remotely moving your herd

LoRa Coverage and Topography

The University of Arizona

Virtual Fence Program

THE UNIVERSITY OF ARIZONA
Arizona
Experiment Station

Cooperative Extension

COLLEGE OF AGRICULTURE, LIFE & ENVIRONMENTAL SCIENCES
Natural Resources
& the Environment

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This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2021-38640-34695 through the Western Sustainable Agriculture Research and Education program under project number WPDP22-016. USDA is an equal opportunity employer and service provider. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

This work is supported by the AFRI Foundational and Applied Science Program: Inter- Disciplinary Engagement in Animal Systems (IDEAS) [award no. 2022-10726] from the USDA National Institute of Food and Agriculture.

Special thanks to the McGibbon Family.
Additional funding was provided by Arizona Experiment Station, the Marley Endowment for Sustainable Rangeland Stewardship, Arizona Cooperative Extension, and The Nature Conservancy.

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