

# Regenerative Agriculture Practices that Create Healthy Land and Sustainable Incomes

## 2017 Texas Land Conservation Conference



**HMI Holistic Management International Panel:**  
**Robert Potts and Casey Wade – Dixon Ranches**  
**Joseph Fitzsimons and Chase Currie – San Pedro Ranch**  
**Richard Teague – Texas A&M Agrilife Research**  
**Moderator Peggy Cole, HMI**



## 1985 - Maddox Family Saves the Ranch with Holistic Management



**The Maddox Family today  
– still taking those family vacations**

**HMI educates people in regenerative agriculture for healthy land and thriving communities.**

## **Holistic Management:**

- **Helps family farmers/ranchers/pastoralists prosper**
- **Helps strengthen local economies**
- **Improves local food quality**
- **Fosters community ties and preserves local culture**
- **Heals the environment**
- **Improves wildlife habitats**



## HMI offers formal and informal training





Texas & Beyond

Since 1984





**FAITH HOLLOW RANCH**  
**Tracy & Bill Litle**  
**Orange Grove, TX**

**HOLISTIC GOAL:**  
**Restore land using**  
**regenerative agricultural**  
**practices**



# Brush Pastures at 2009 purchase







## Living Organisms & Animals at Work

# With Holistic Management in 4 years from



GO  
BACK  
LAND



COME  
BACK  
LAND



TO



Our (somewhat) distinguished panel



Robert Potts



Casey Wade & sons



Dr. Richard Teague



Joseph Fitzsimons



Dr. Chase Currie



# Holistic Management®

## DIXON RANCHES SUCCESS STORIES



Holistic Management International  
5941 Jefferson St. NE, Ste B  
Albuquerque, NM 87109  
<http://www.holisticmanagement.org>

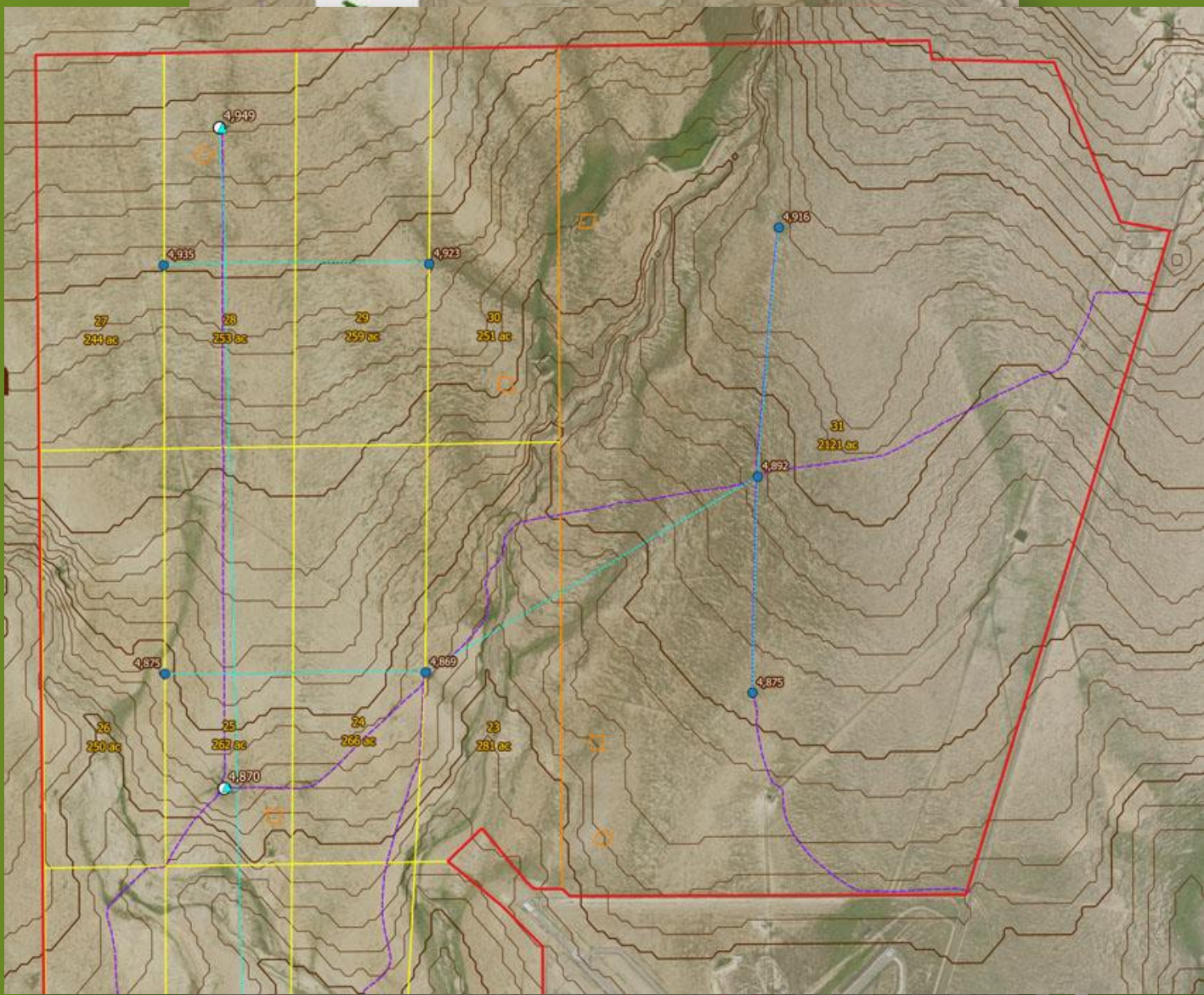
Dixon Water Foundation  
Decatur and Marfa, TX  
432-729-4600 • 940-768-2740  
<http://www.dixonwater.org>



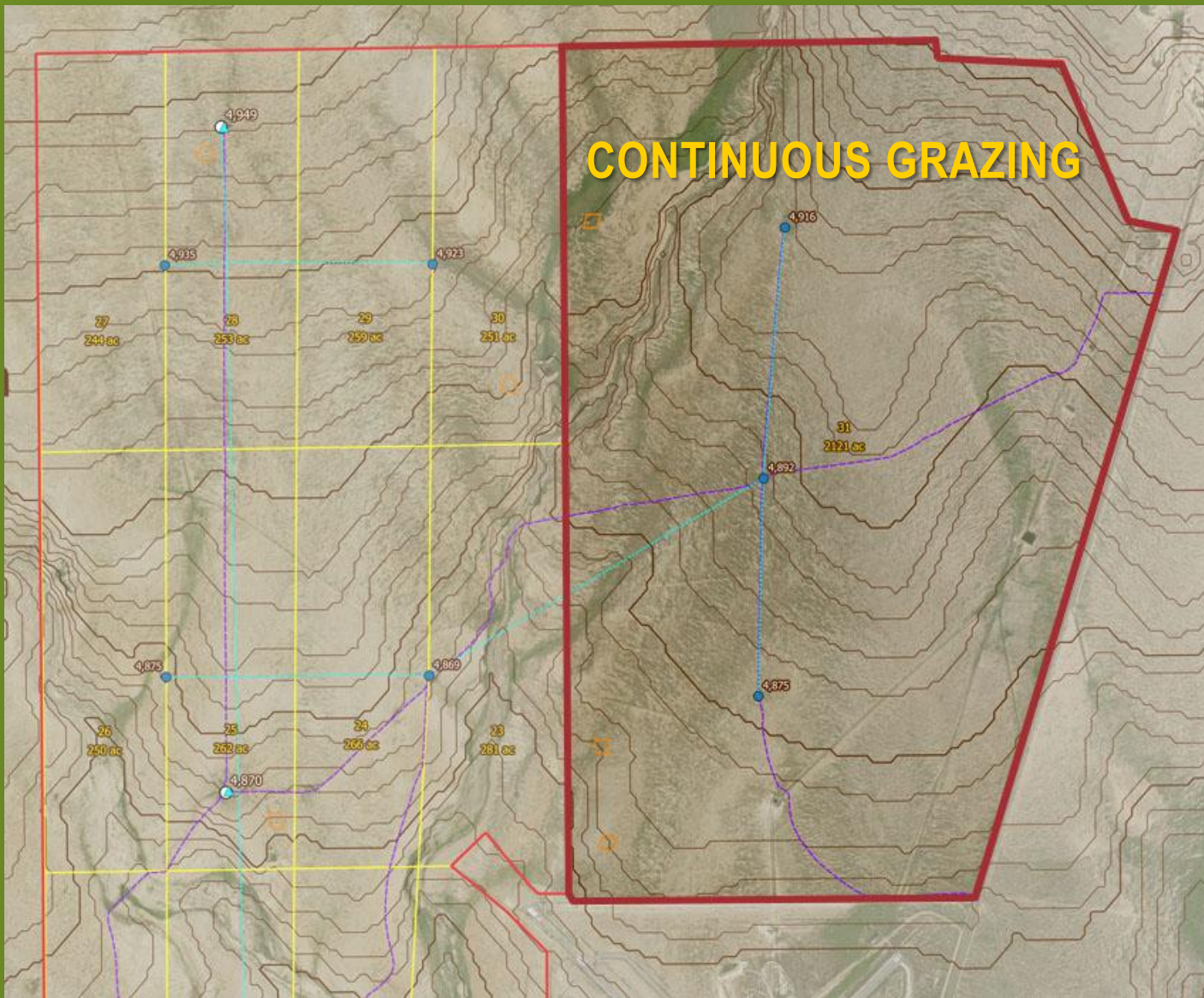
# CASEY WADE

*Vice President Ranching Operations*

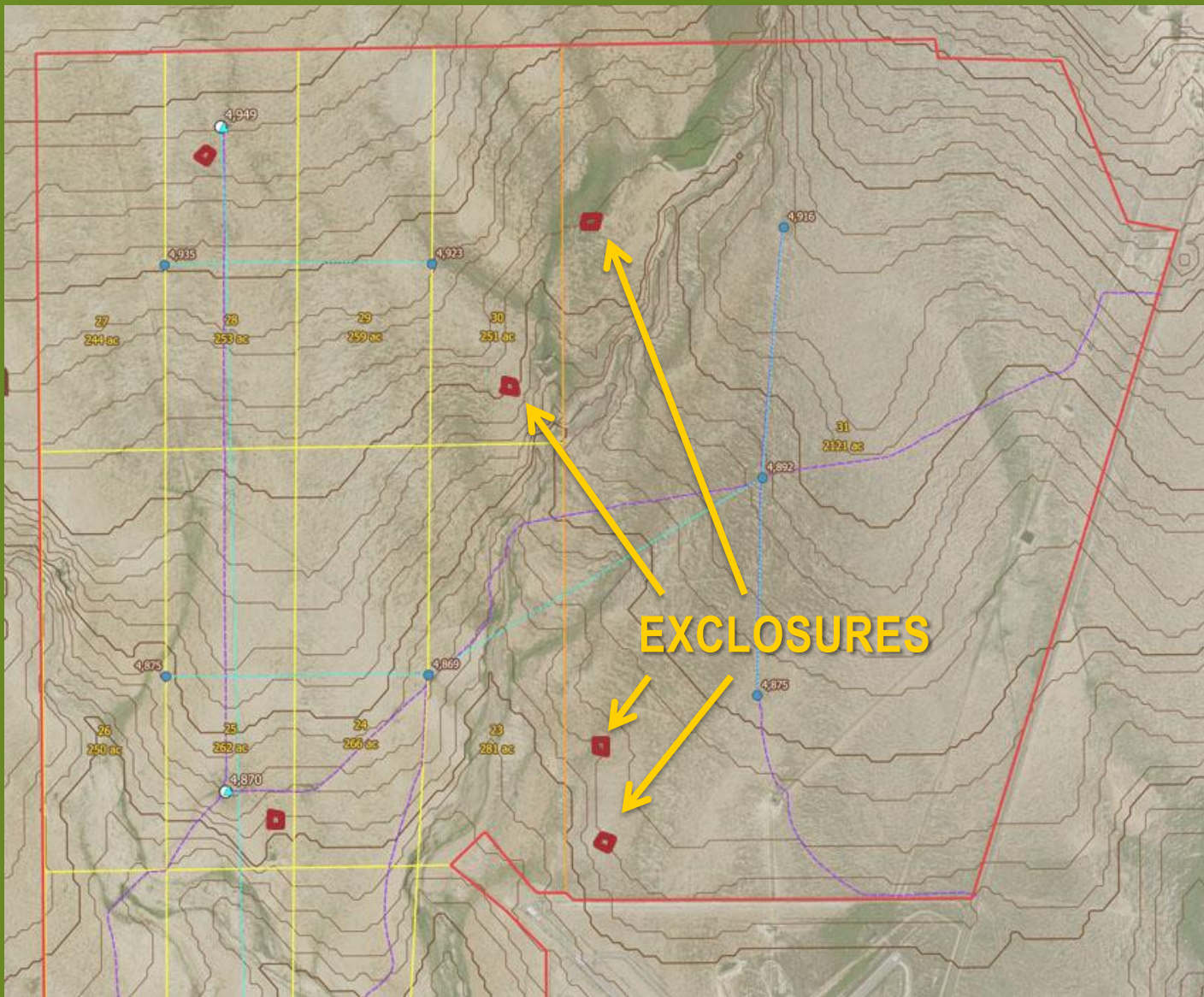




## DIXON RANCHES MIMMS UNIT DETAIL

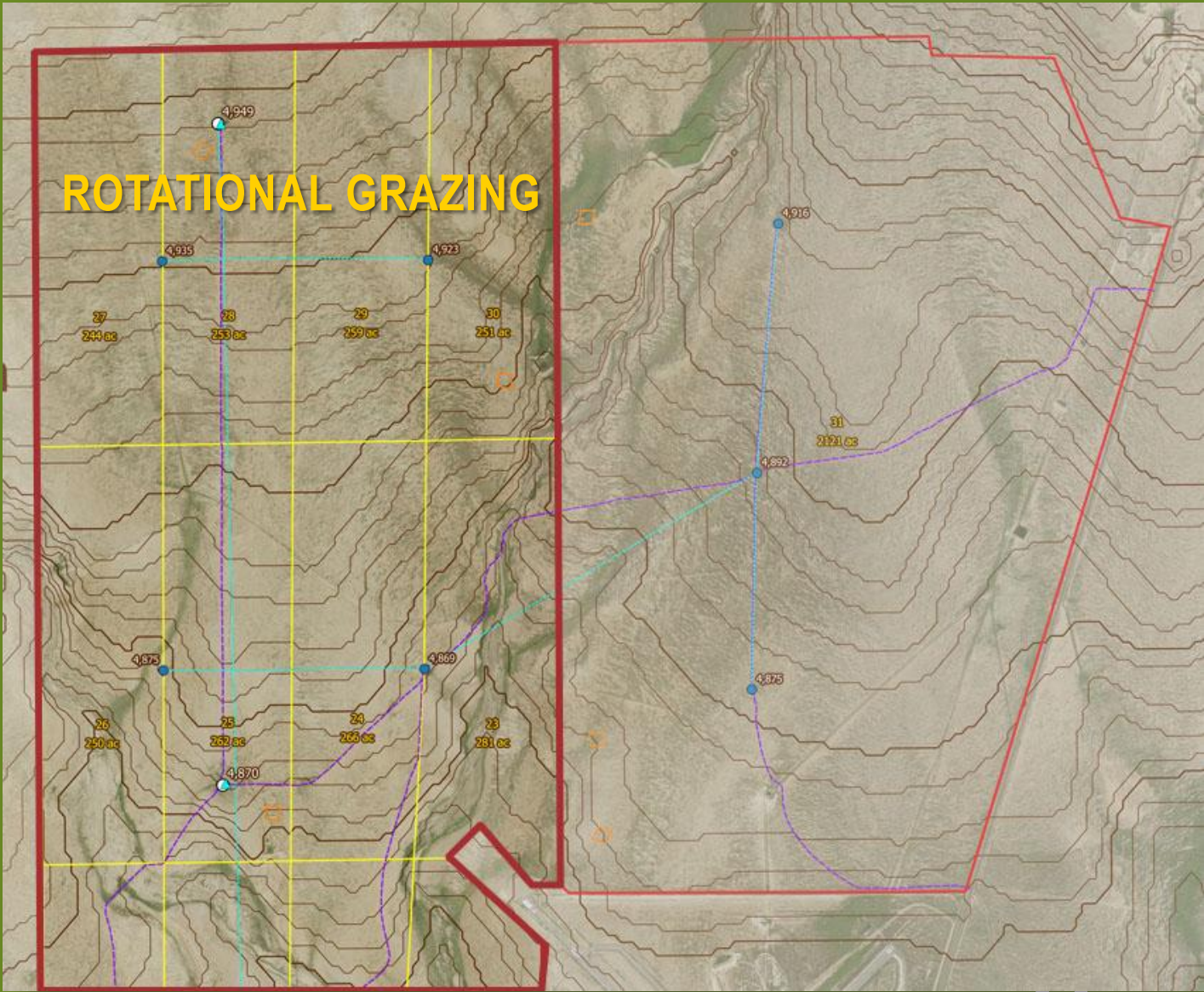


## DIXON RANCHES MIMMS UNIT DETAIL



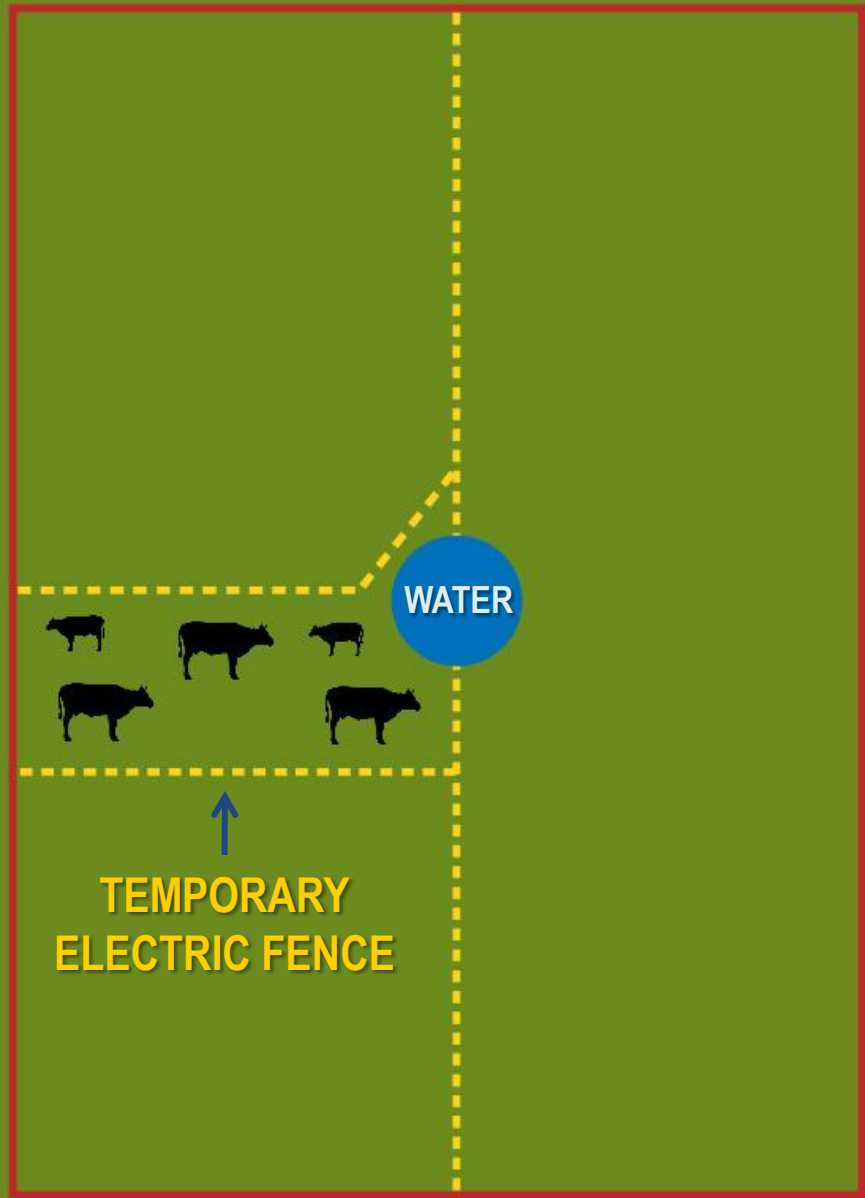
## DIXON RANCHES MIMMS UNIT DETAIL





## DIXON RANCHES MIMMS UNIT DETAIL

# ROTATIONAL PADDOCKS: DAY 1



PERMANENT FENCE



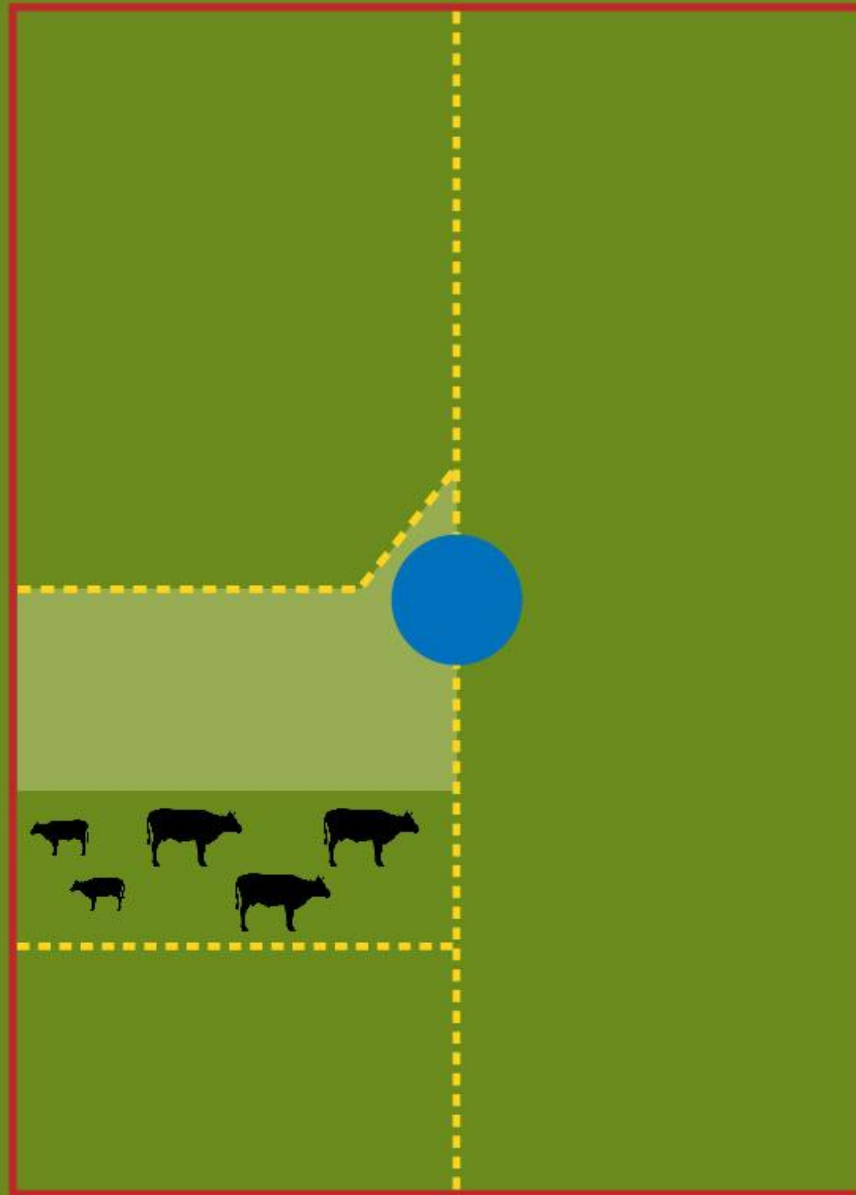
WATER

TEMPORARY  
ELECTRIC FENCE



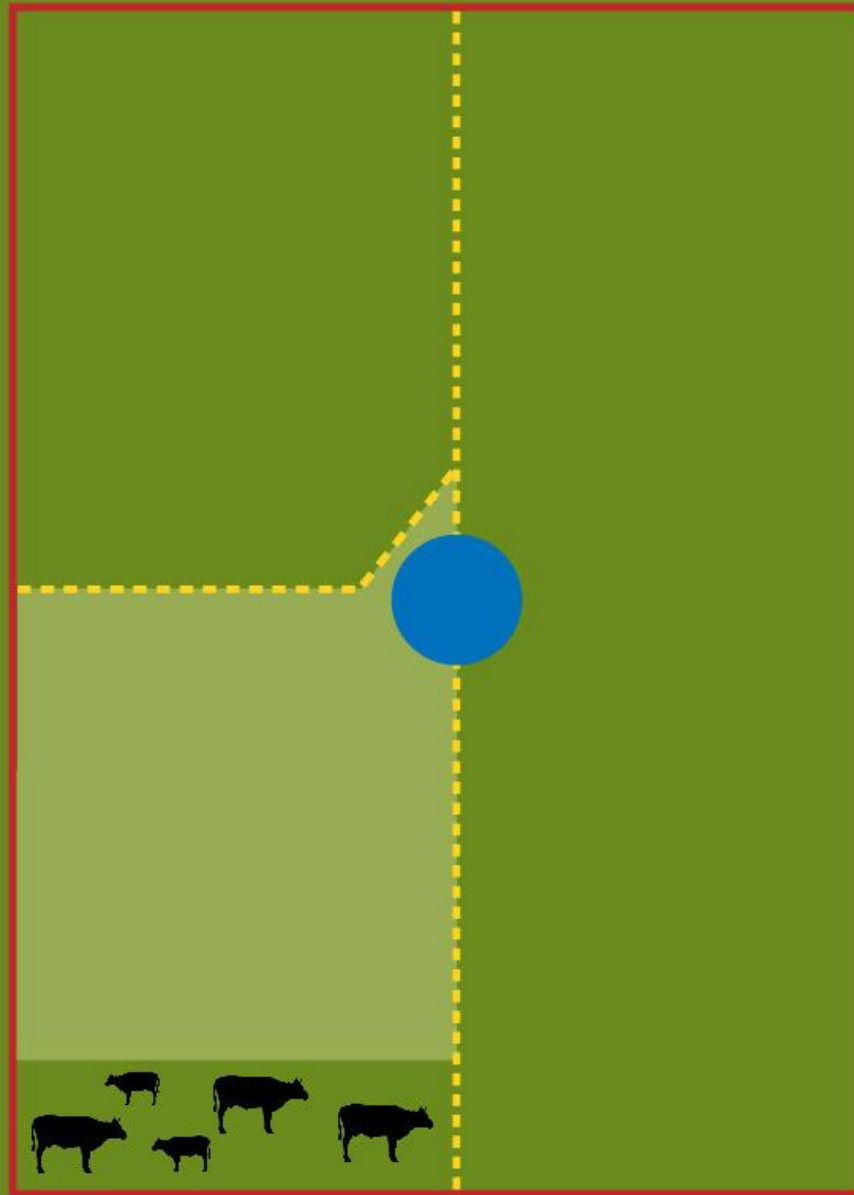
Healthy Land. Healthy Food. Healthy Lives.

# ROTATIONAL PADDOCKS: DAY 2

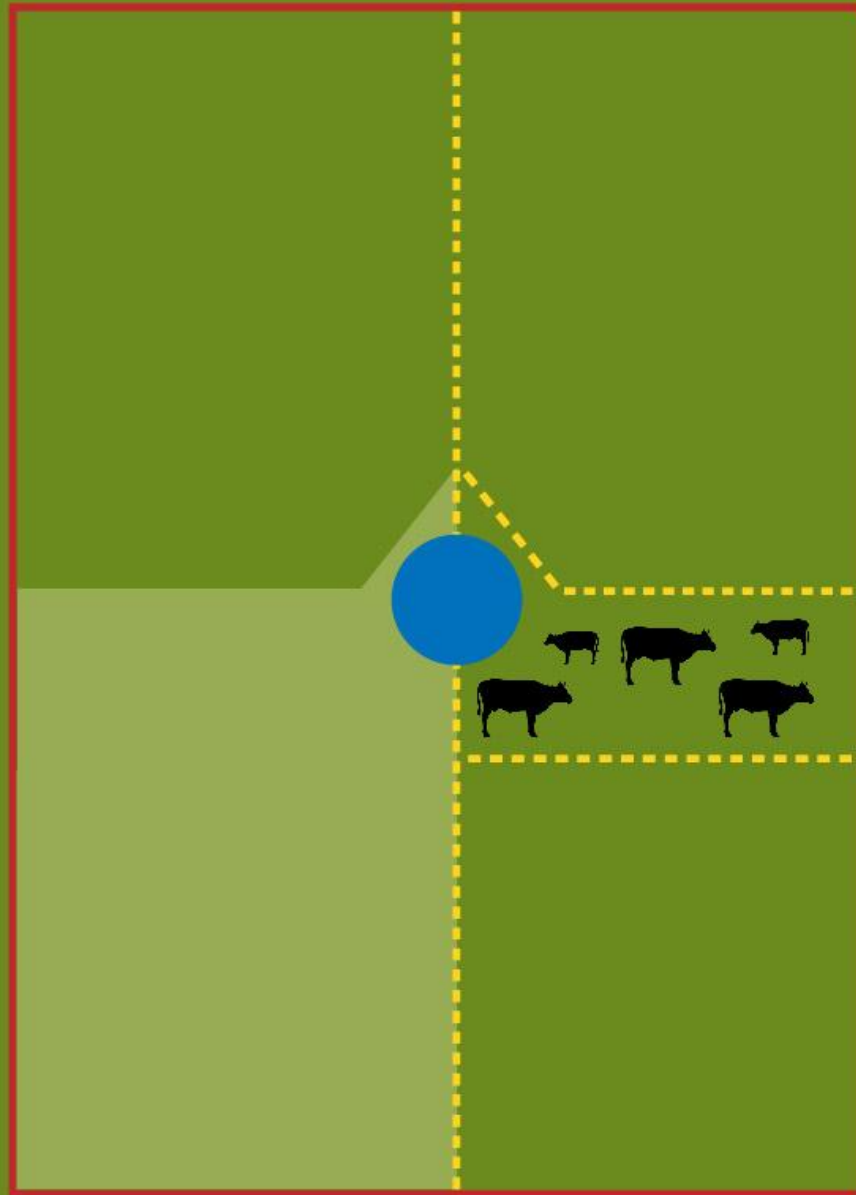




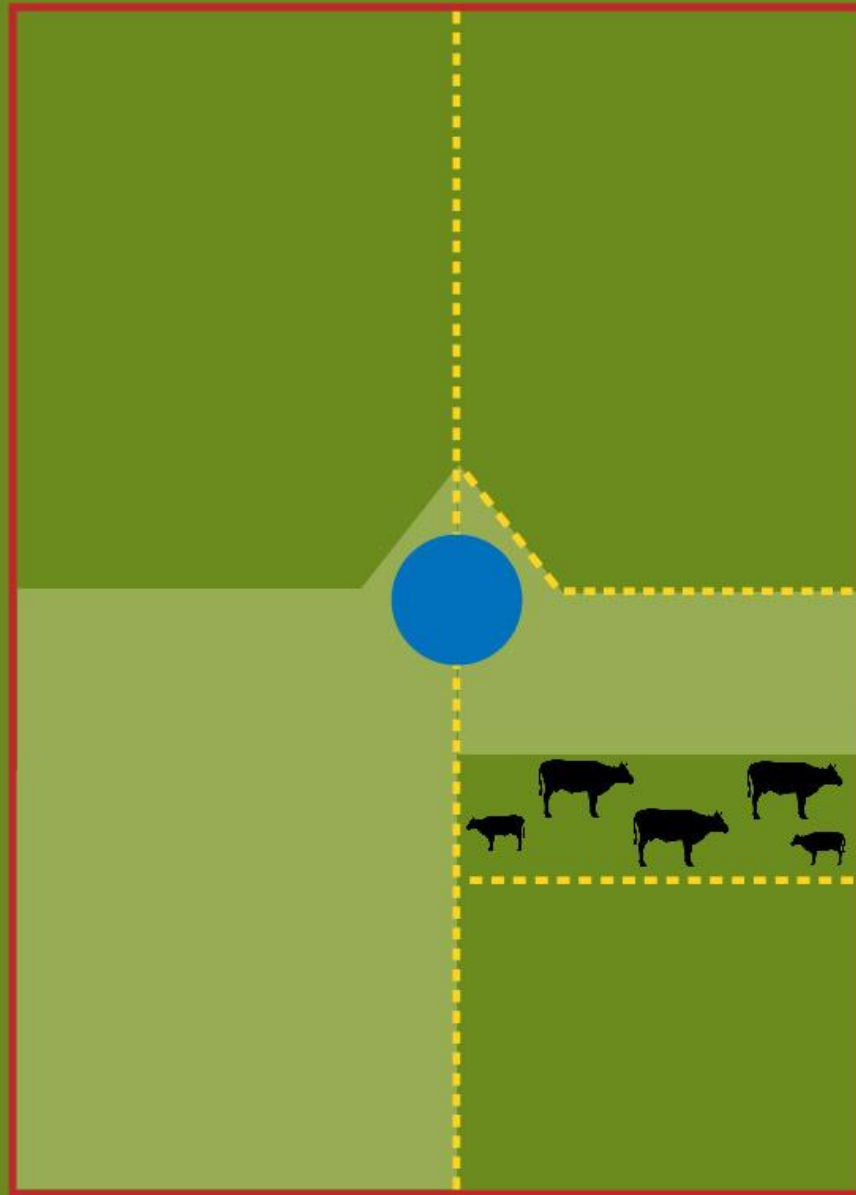
# ROTATIONAL PADDOCKS: DAY 4



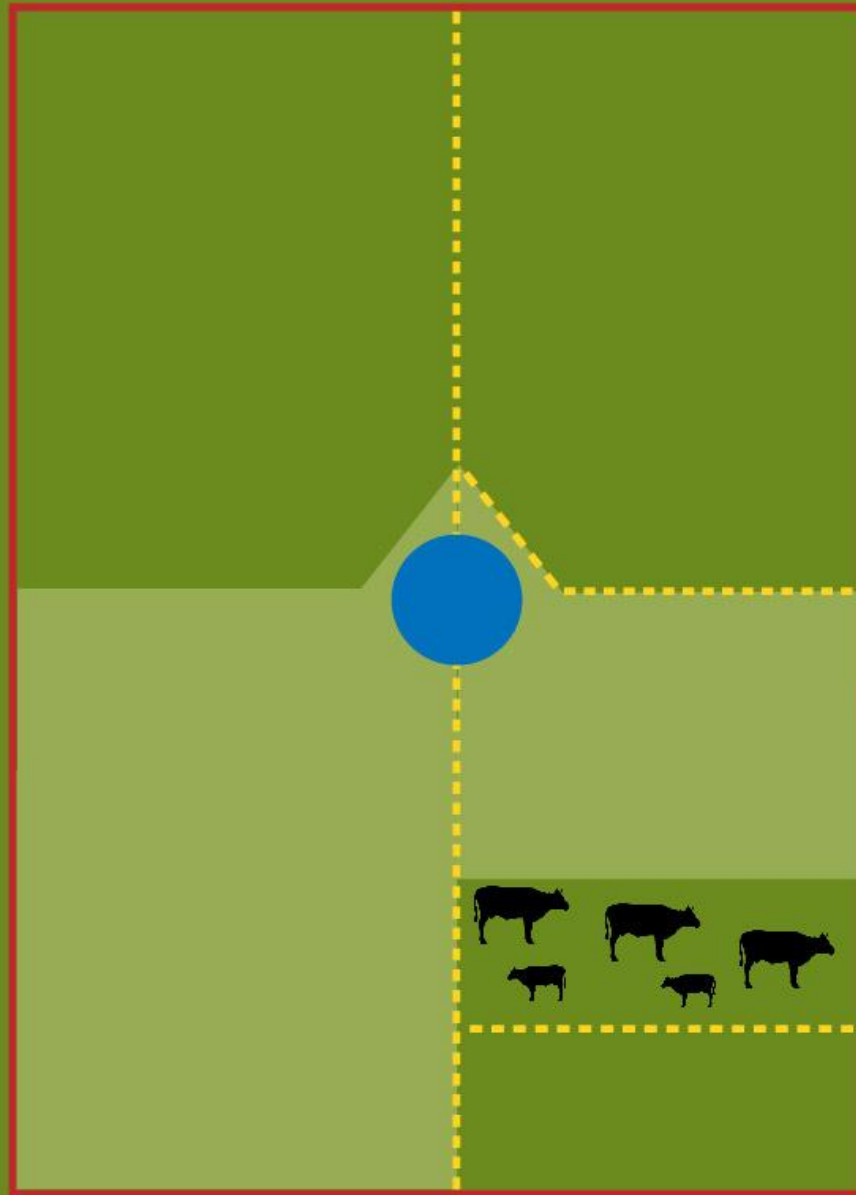
# ROTATIONAL PADDOCKS: DAY 5



# ROTATIONAL PADDOCKS: DAY 6

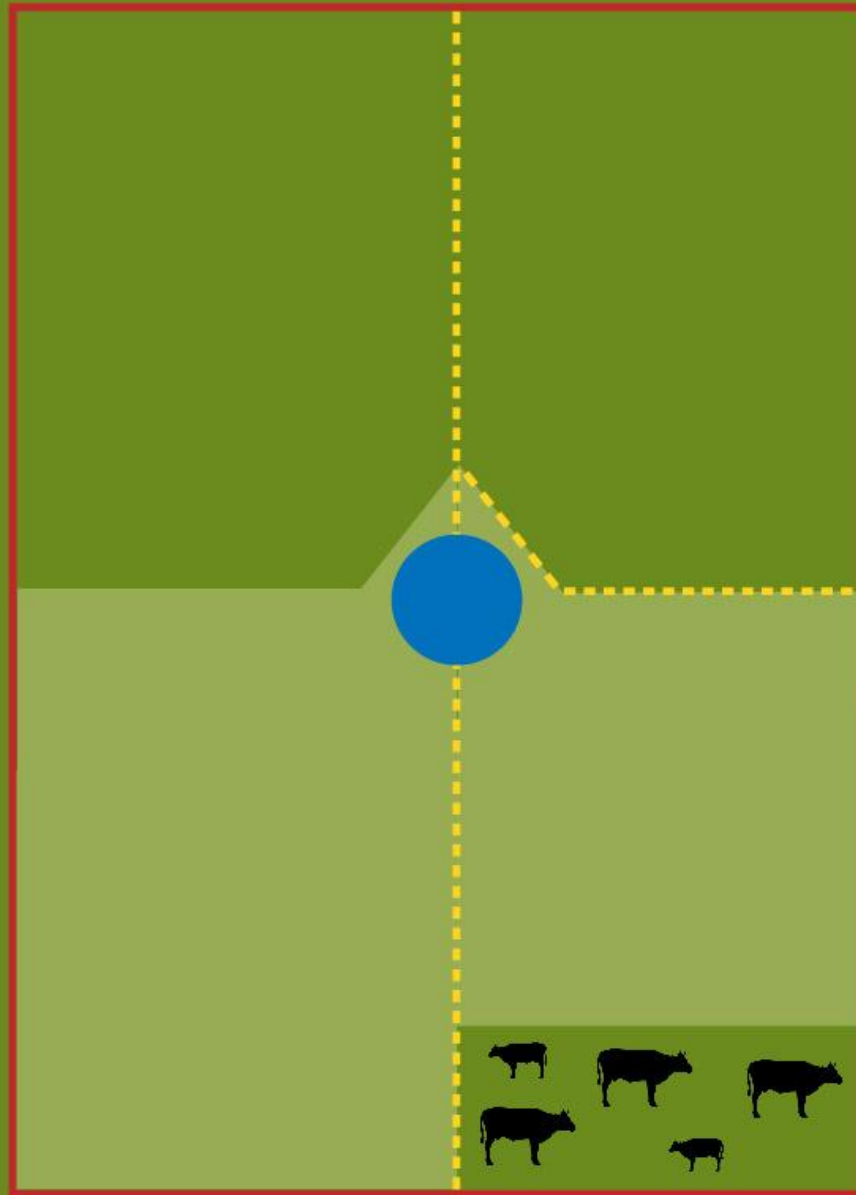


# ROTATIONAL PADDOCKS: DAY 7

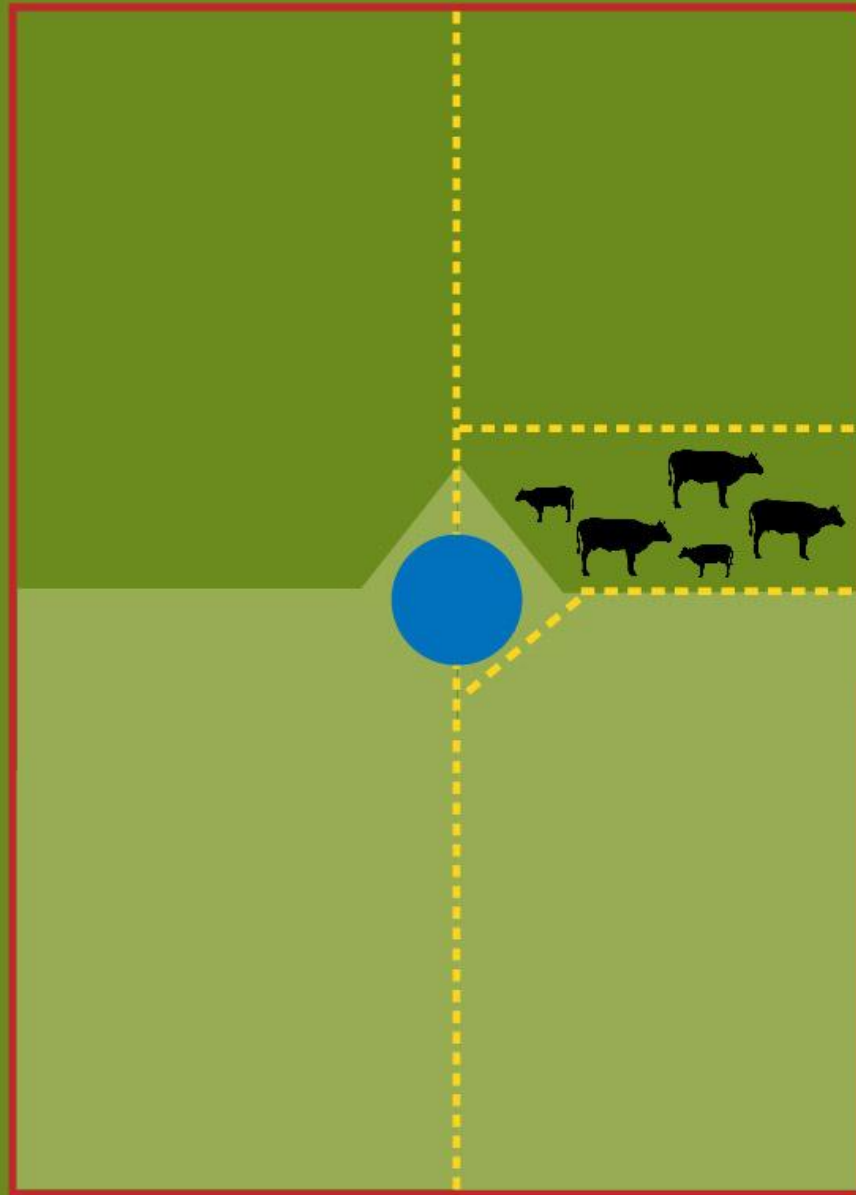




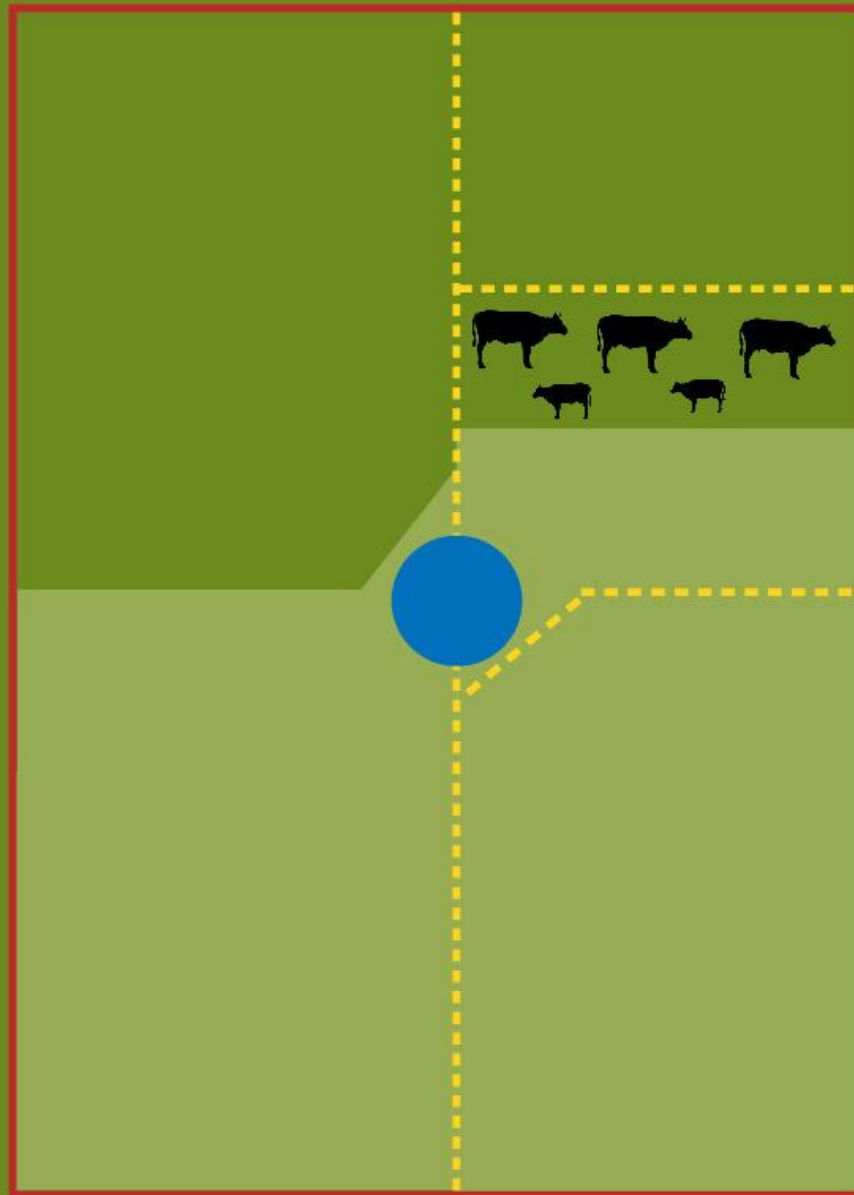
# ROTATIONAL PADDOCKS: DAY 8



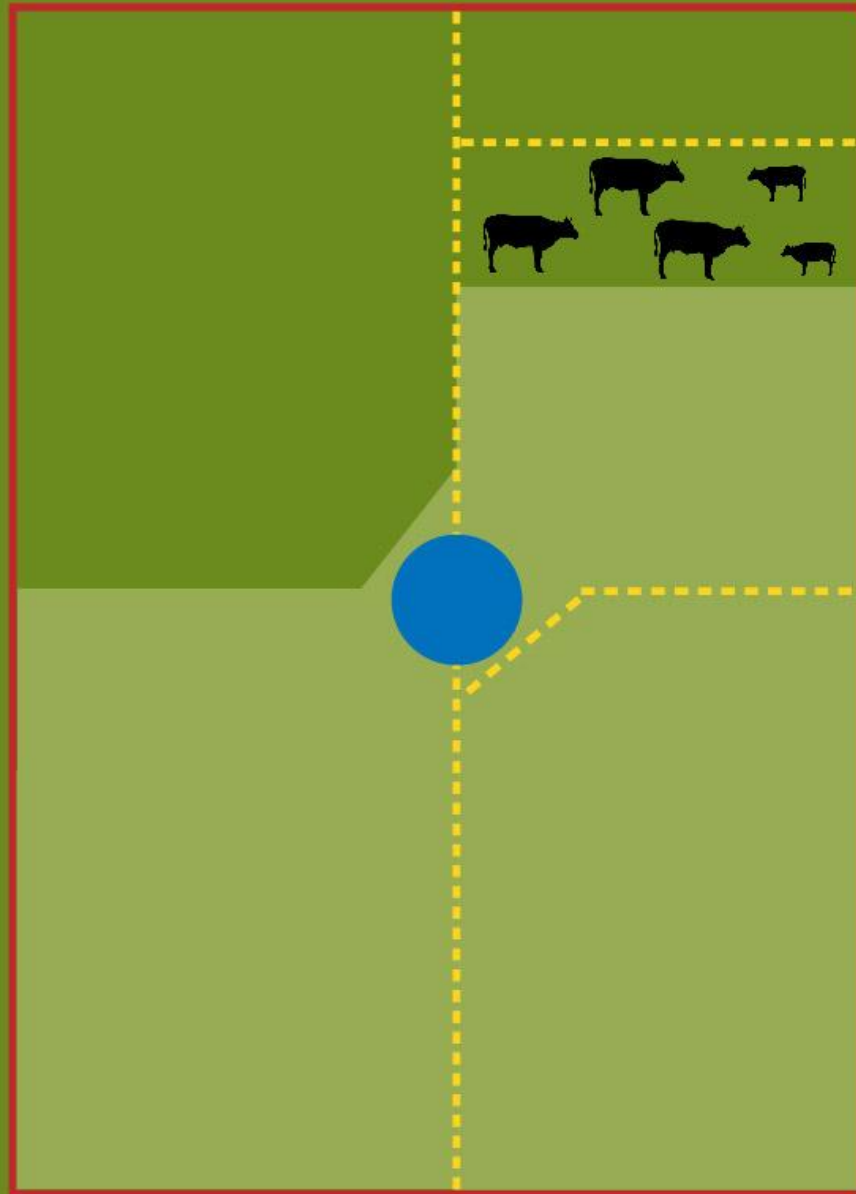
# ROTATIONAL PADDOCKS: DAY 9



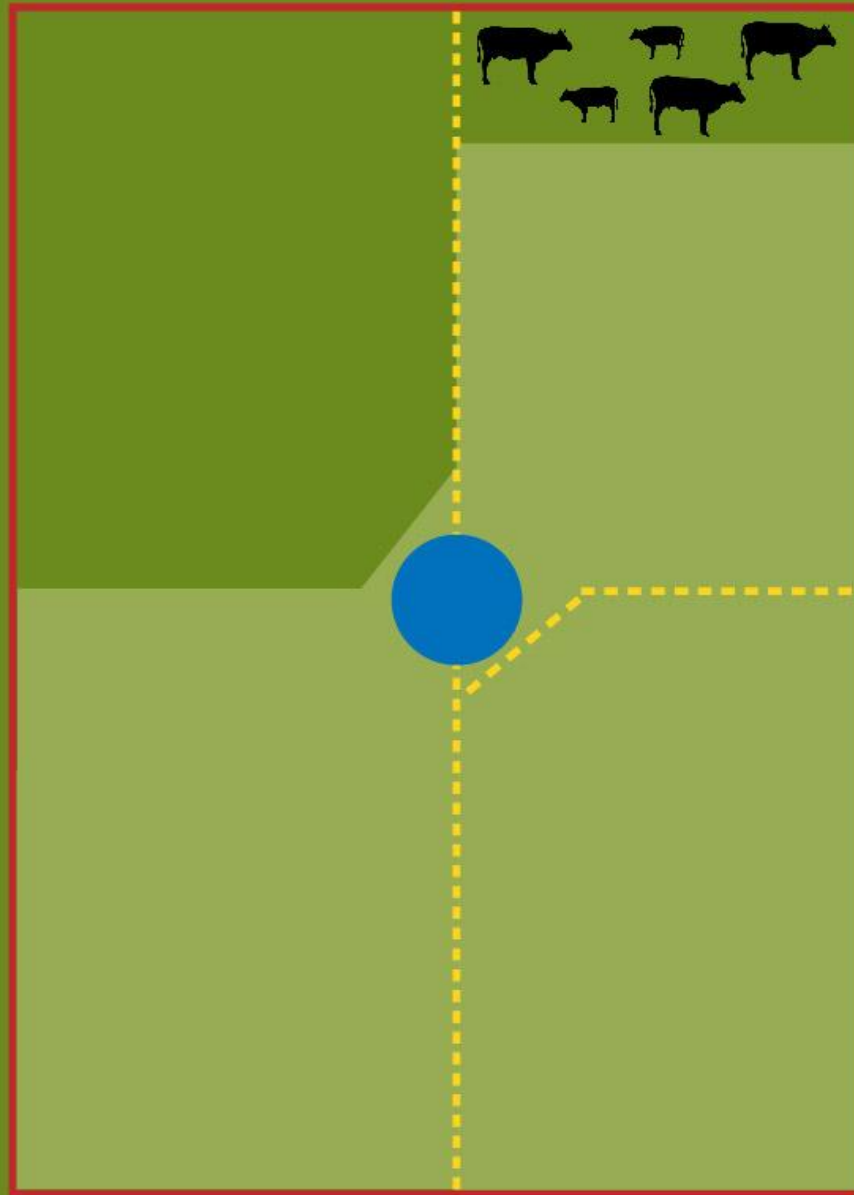
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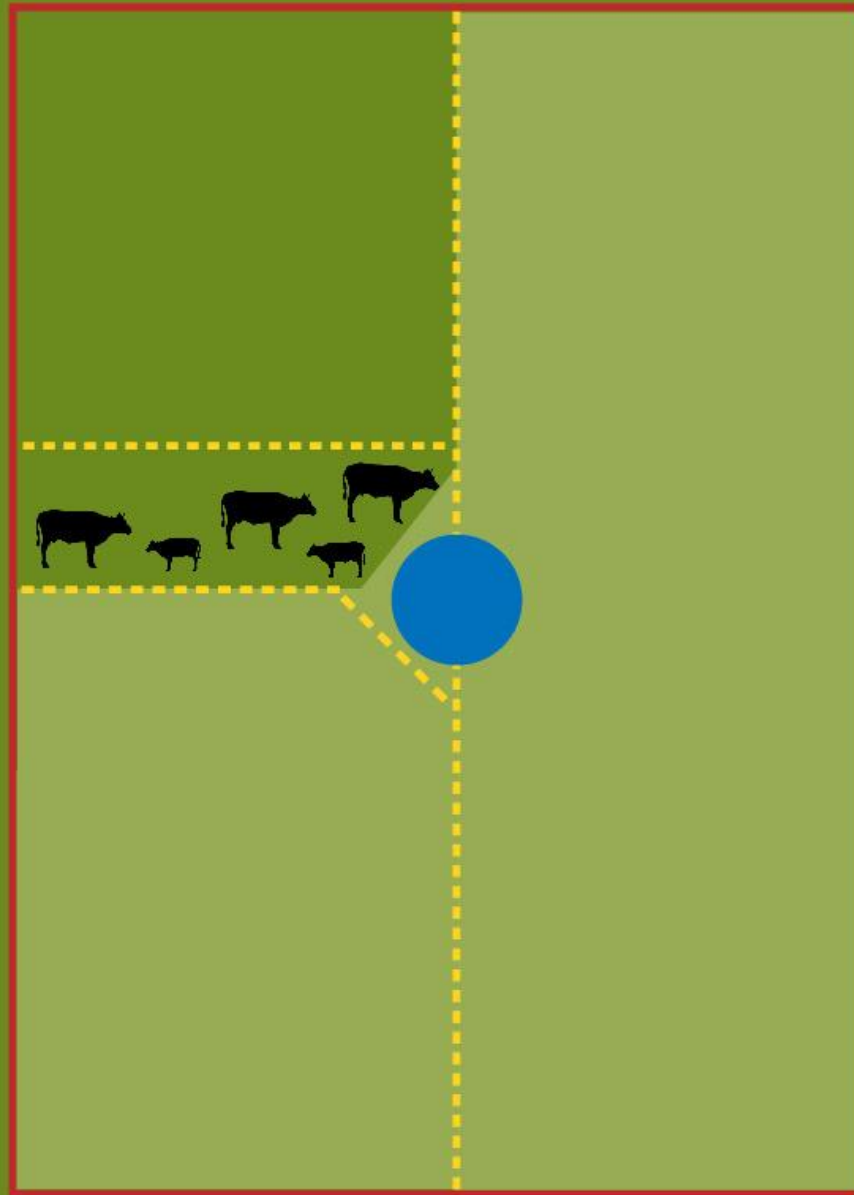
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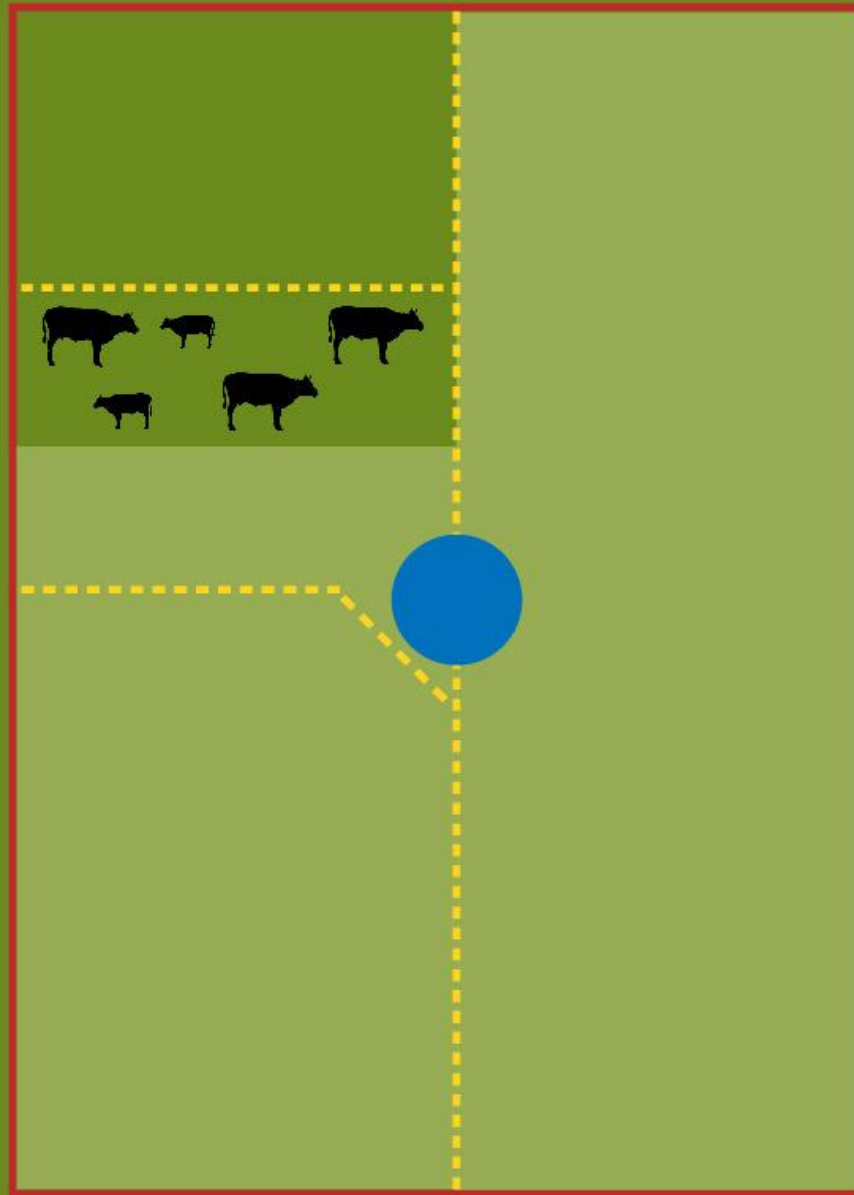
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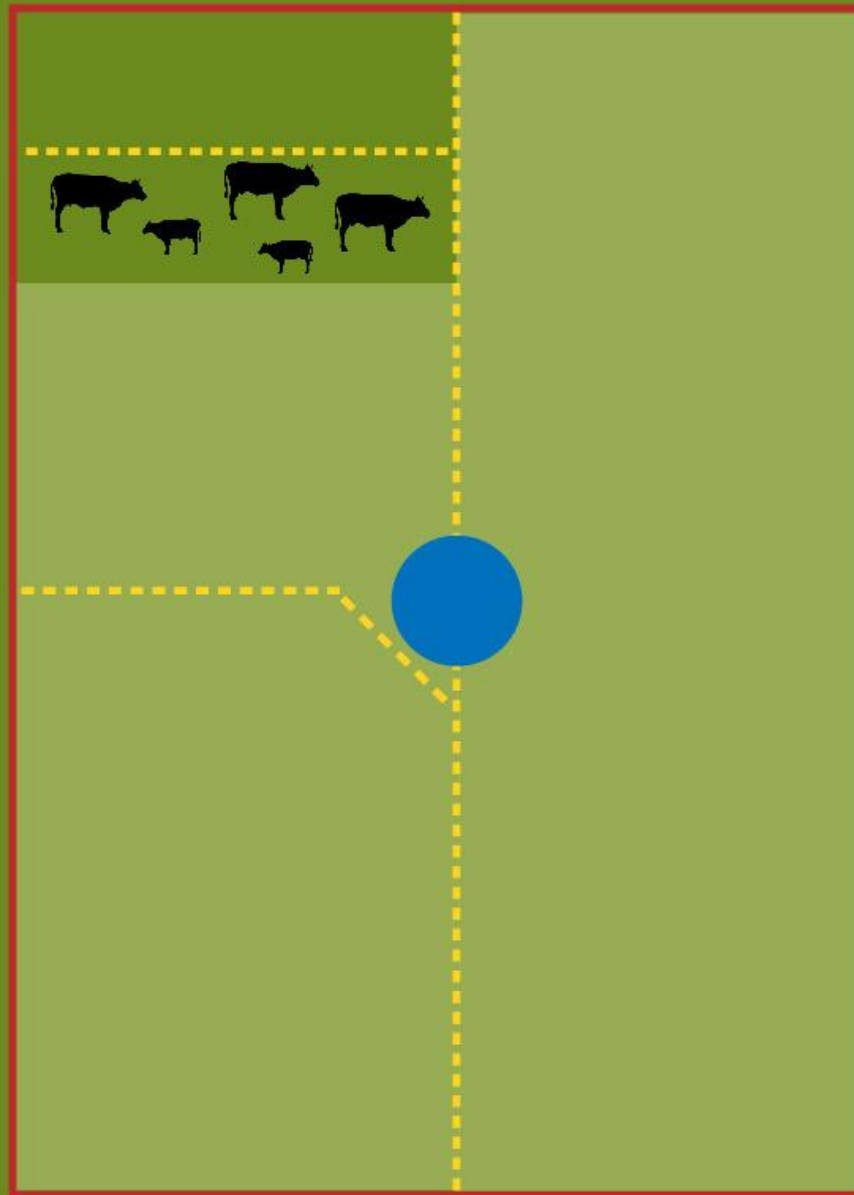
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# ROTATIONAL PADDOCKS: DAY 14

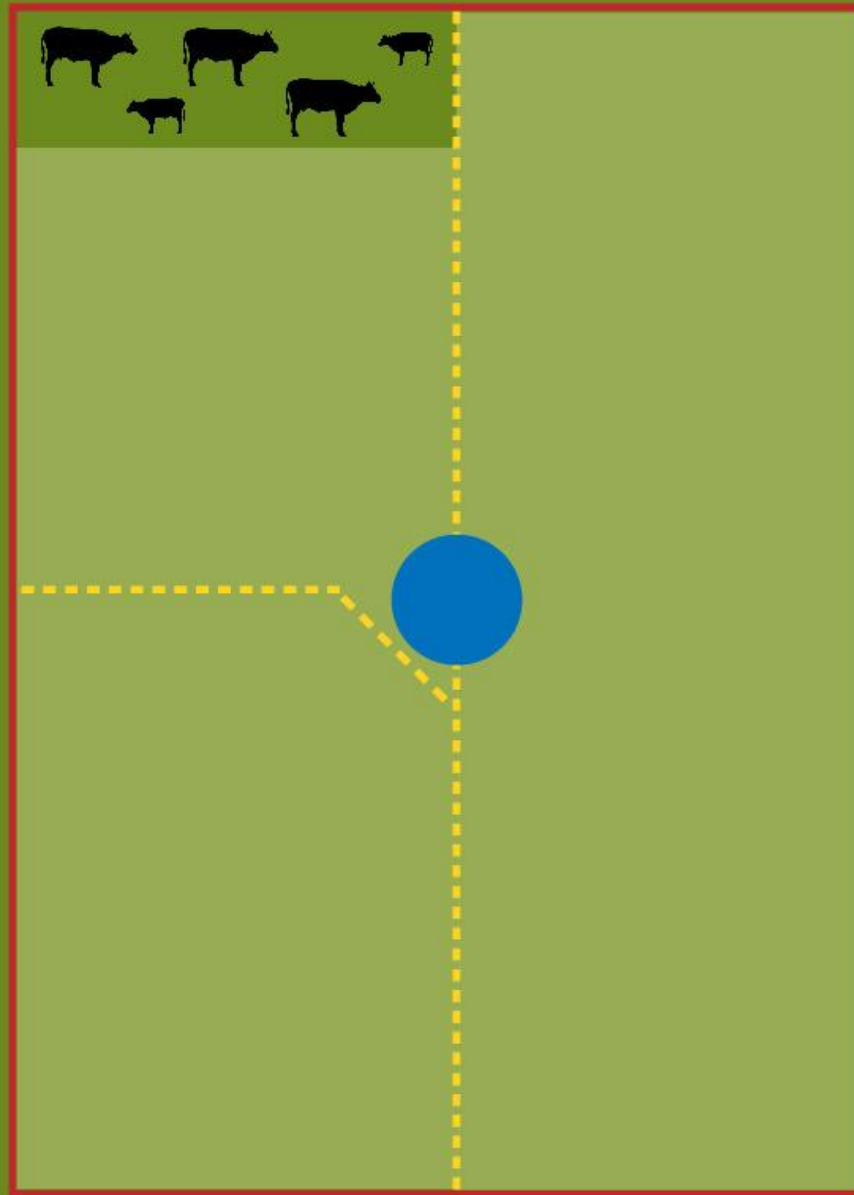


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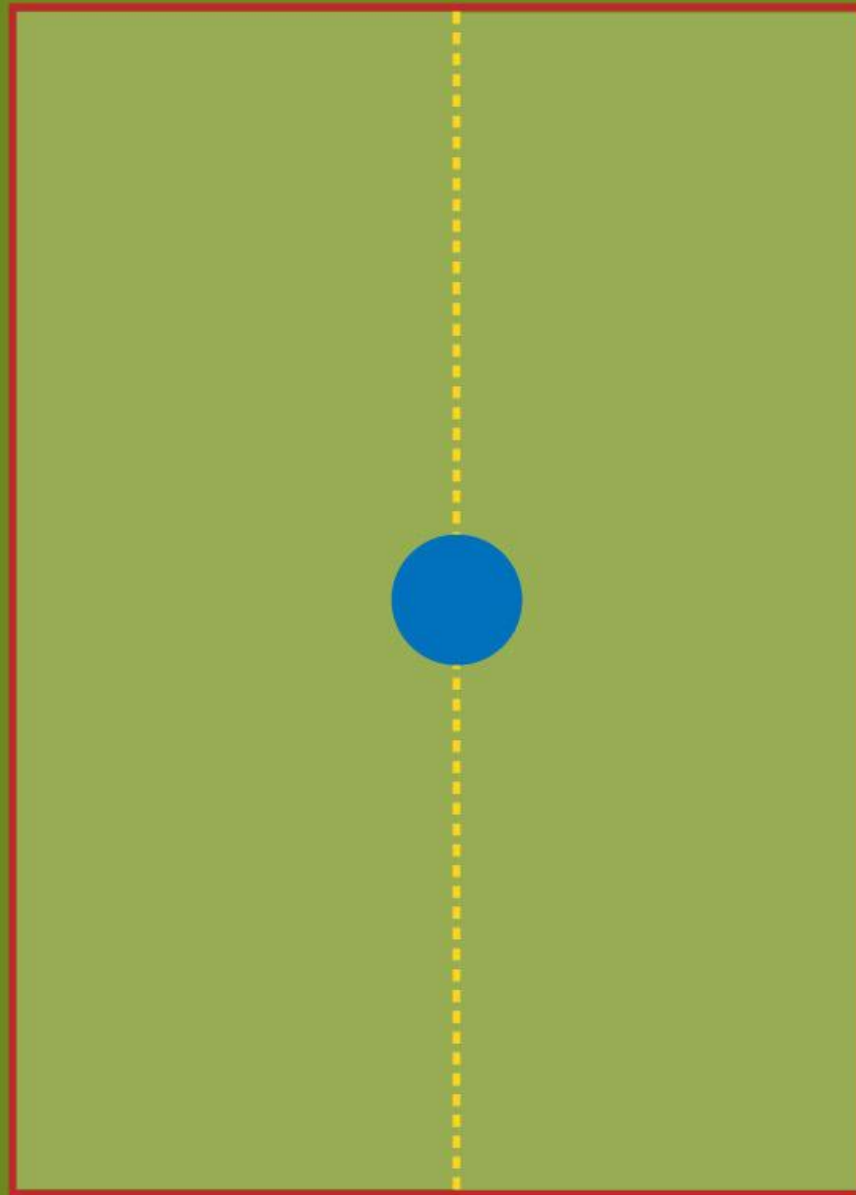




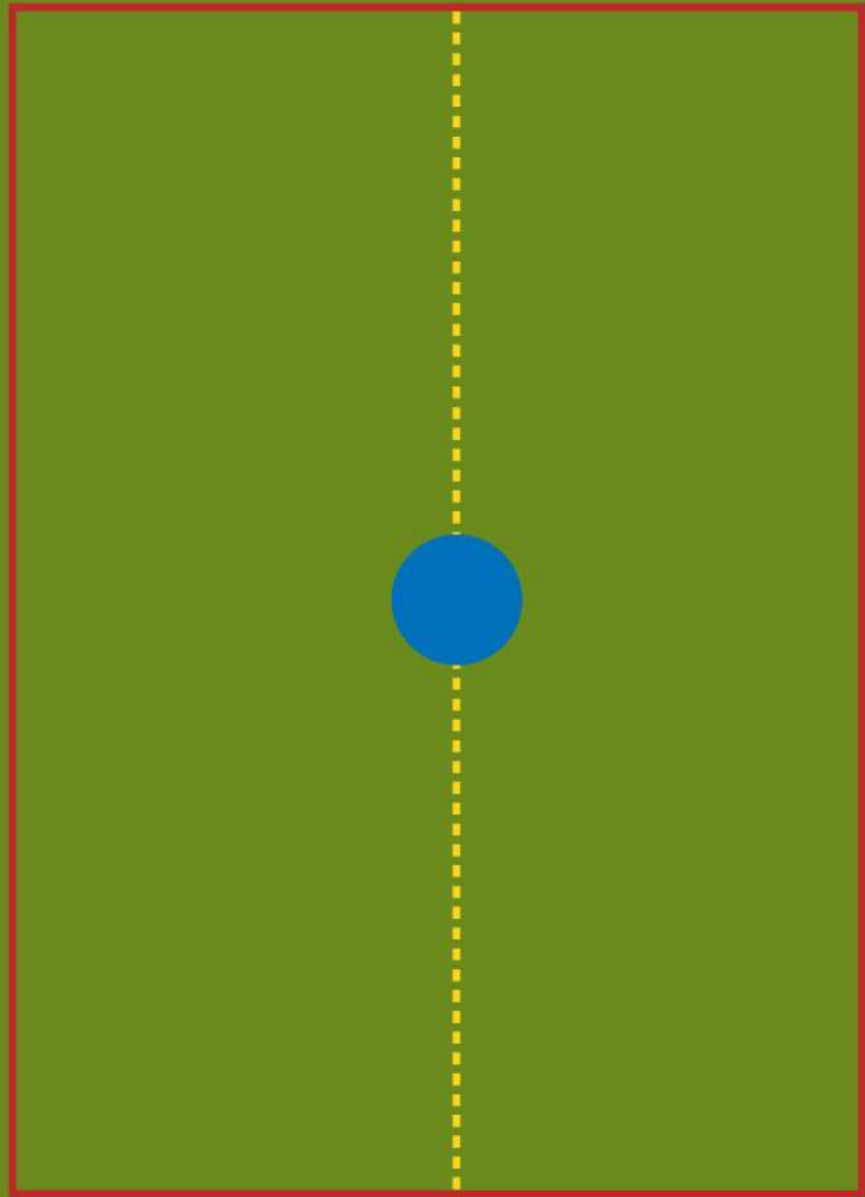
# ROTATIONAL PADDOCKS: DAY 16



**ROTATIONAL  
PADDOCKS:  
DAY 17**



**ROTATIONAL  
PADDOCKS:  
ONE YEAR  
LATER**



# GRAZING AND GRASS RE-GROWTH



# GRAZING AND GRASS RE-GROWTH



# THE PROBLEM: BARE GROUND



# BARE GROUND COMPARISON



**CONTINUOUS GRAZING**



**ROTATIONAL GRAZING**

# RECOVERING BARE GROUND





# WATER POINTS



**CONTINUOUS GRAZING**



**ROTATIONAL GRAZING**

# NORTH TEXAS RECOVERY

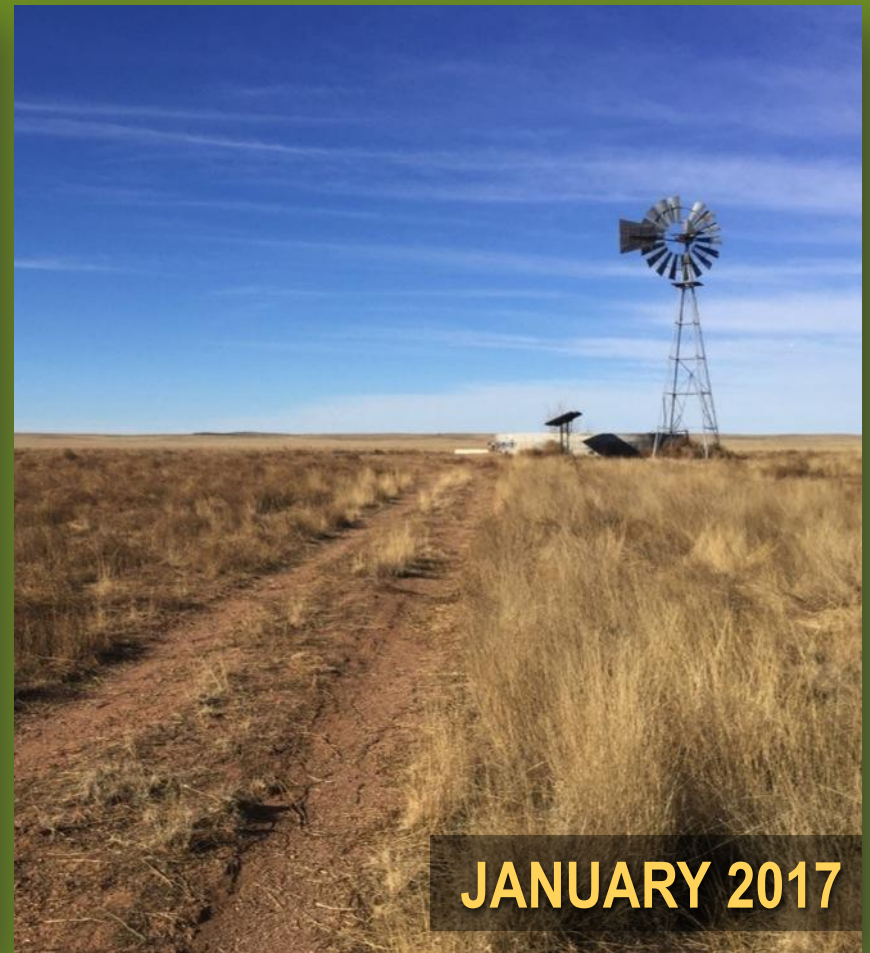
**TERRACED FARM FIELD  
→ BIG BLUESTEM**



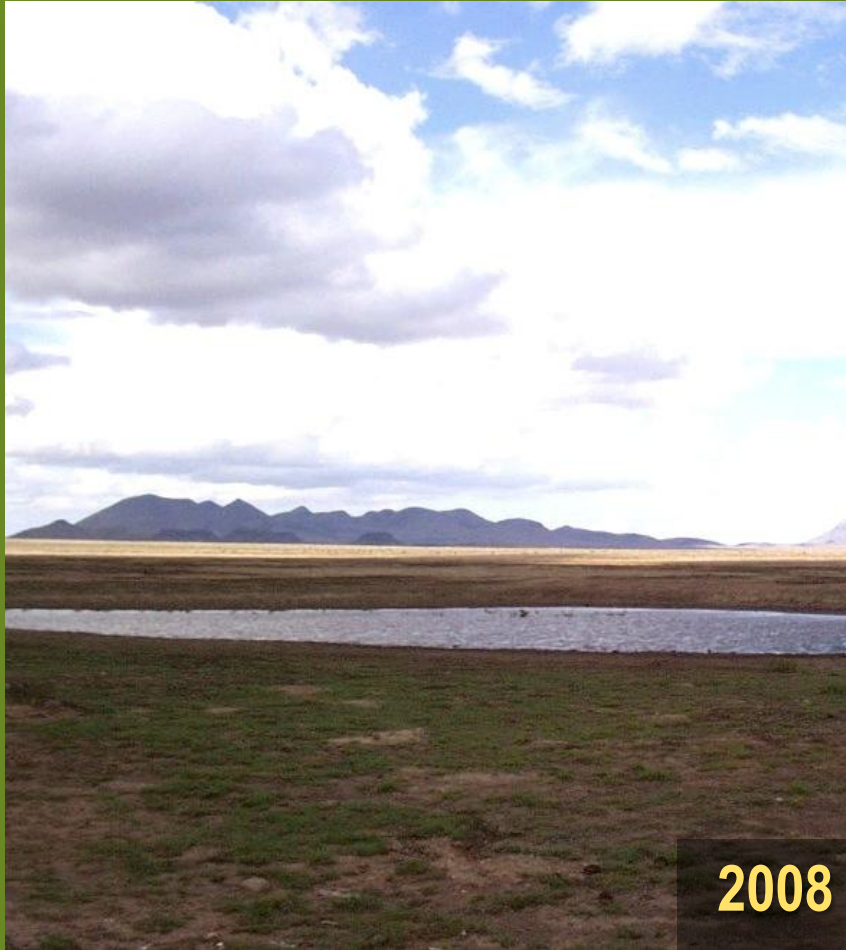
**BERMUDA GRASS HAYFIELD  
→ EASTERN GAMAGRASS**

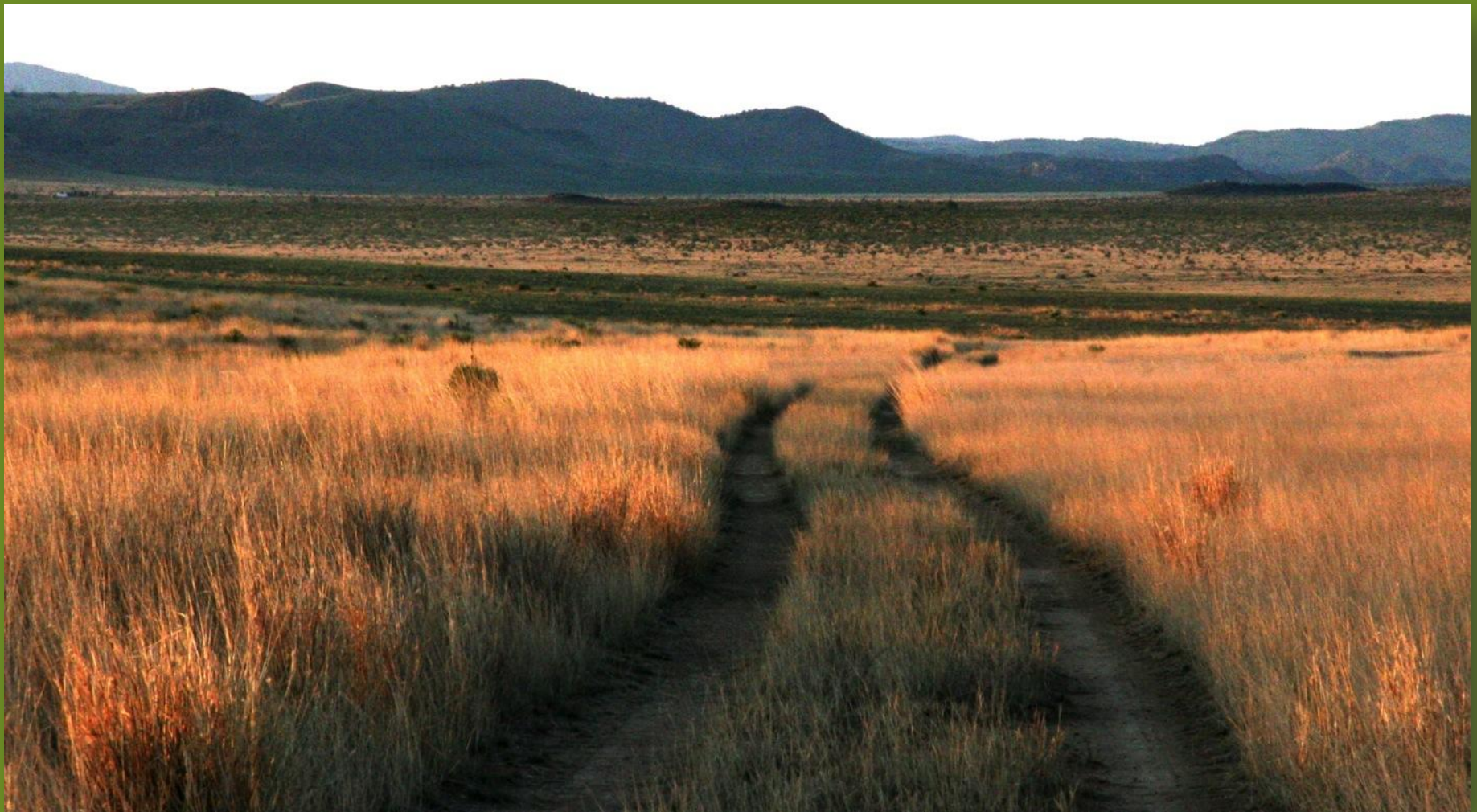


# WEST TEXAS RECOVERY



# WEST TEXAS RECOVERY





# DIXON WATER FOUNDATION

940-768-2740 ★ 432-729-4600 ★ [dixonwater.org](http://dixonwater.org)



Healthy Land. Healthy Food. Healthy Lives.

# Holistic Management San Pedro Ranch



# San Pedro Ranch: The Story

## Historical Dates:

- 1812 (land grant)
- 1932 (ranch purchase)
- 1984 (1<sup>st</sup> sale of ranch)
- 1999 (Partition)
- 2009 (Conservation Easement)



SAN PEDRO RANCH 1946



# San Pedro Ranch: The Story

1932

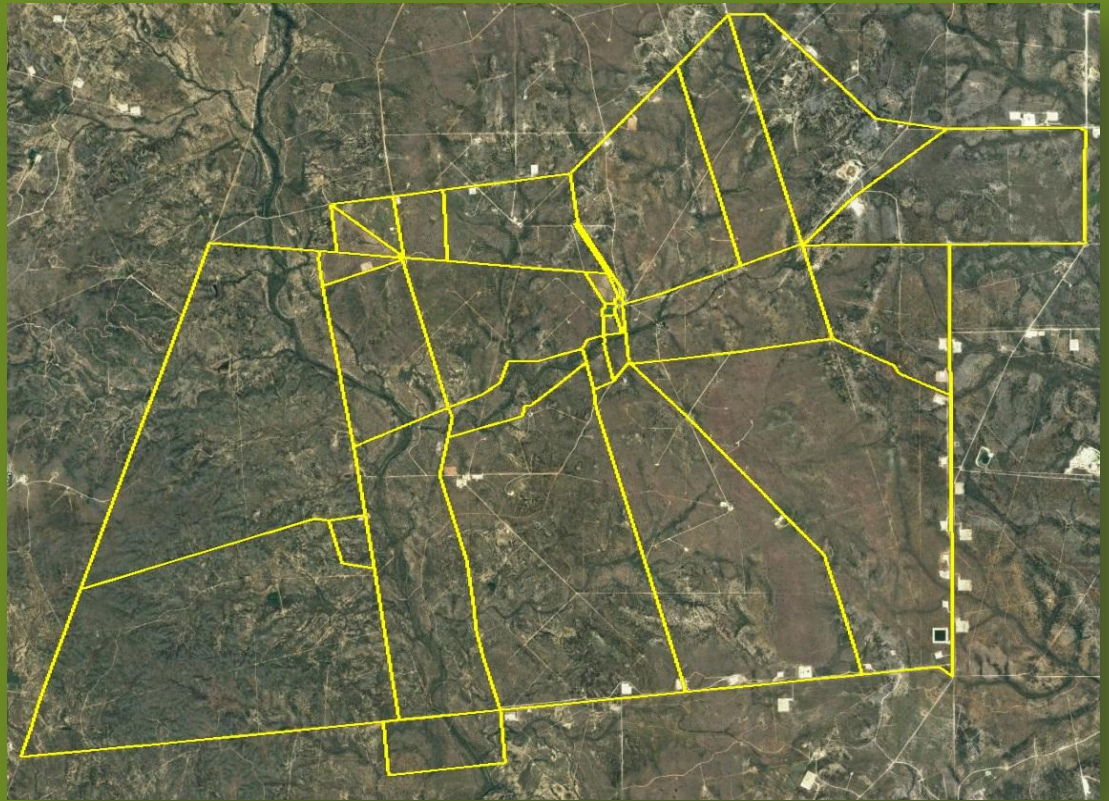
-45,000 acres

-Acquired 8k acres  
from 1932-1984

Today

-23,032 acres

-26 pastures





# San Pedro Ranch: The Story

## Why we made the change to HMI?

Unsustainable  
Economic/Ecological Model

\$\$\$



# San Pedro Ranch: The Story

## Why we made the change to HMI? Wildlife??



# San Pedro Ranch: The Story

December 2009: Conservation Easement



# San Pedro Ranch: HM Today

## Chase Currie

### Goals/Objectives:

- Manage system as a whole
- Decrease bareground
- Increase herbaceous cover
- Utilize grazeable acres



# BAREGROUND: Public Enemy #1



# Planned Grazing?

- What day is it?
- Plant growth?
- Rainfall?
- Soils?
- Forage Availability?
- Forage Type?
- Wildlife?



# Cattle as a Tool??

- Disturbance?
- Litter?
- Exotic grasses?

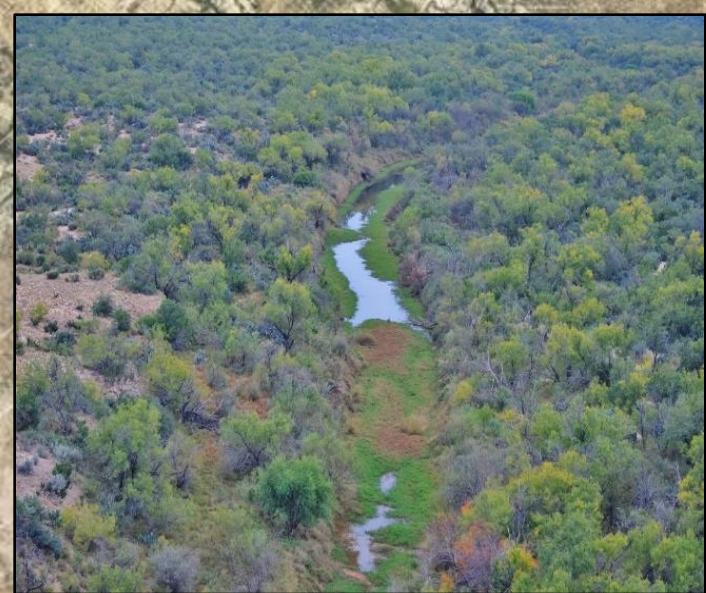


# Oil and Gas Development

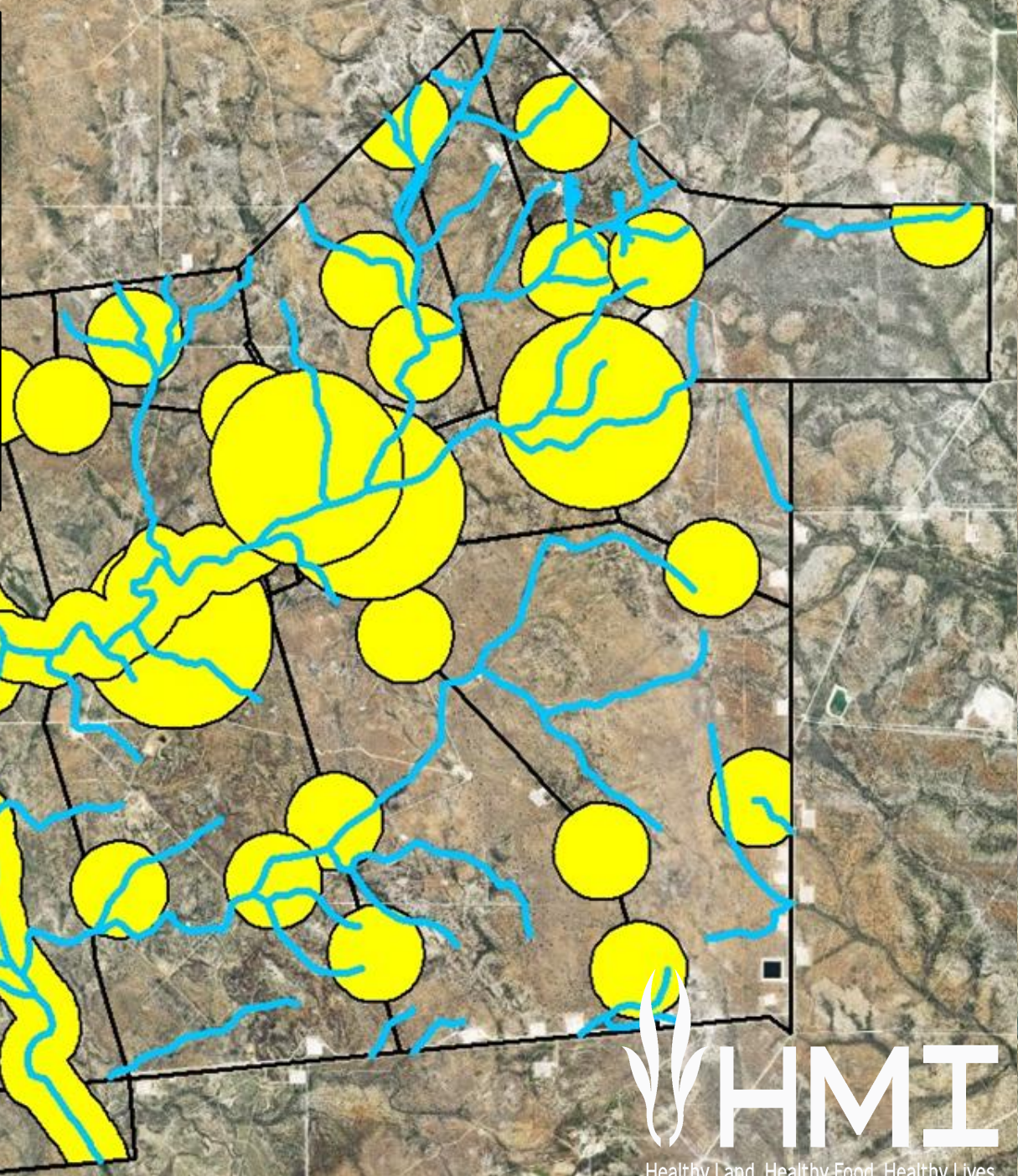
Can HM and oil/gas development work together?

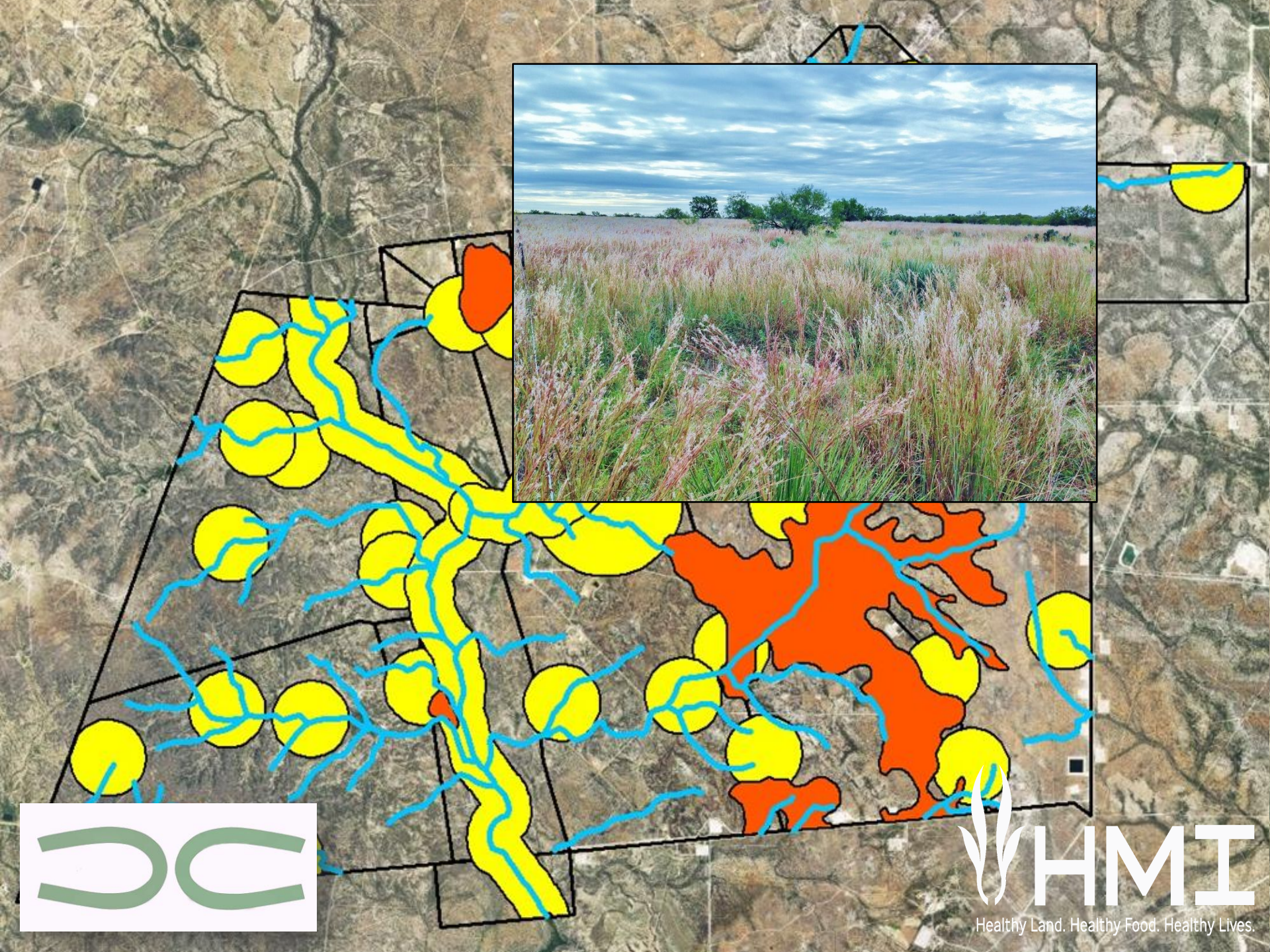






Healthy Land. Healthy Food. Healthy Lives.







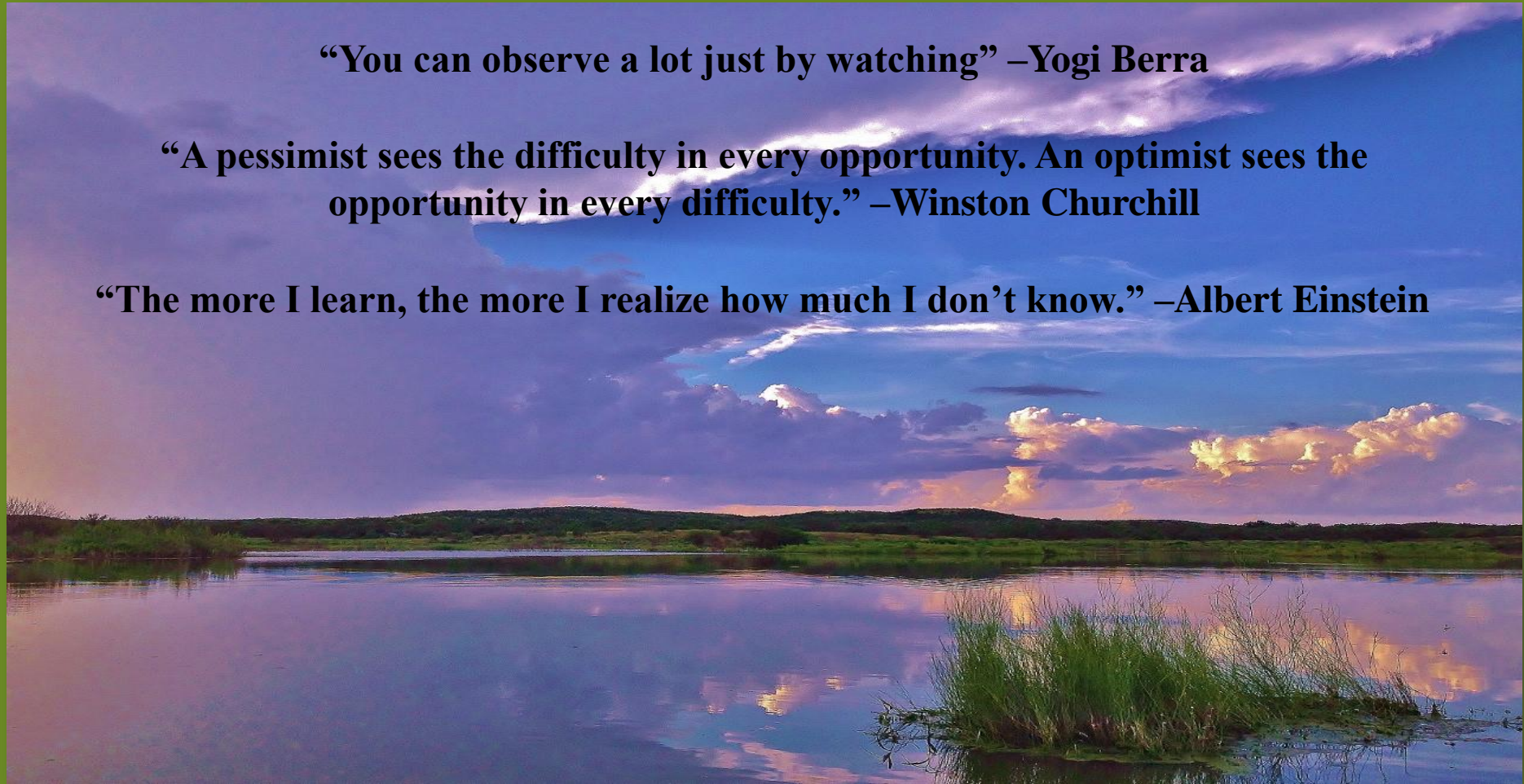


# HM and the San Pedro Ranch

**“You can observe a lot just by watching” –Yogi Berra**

**“A pessimist sees the difficulty in every opportunity. An optimist sees the opportunity in every difficulty.” –Winston Churchill**

**“The more I learn, the more I realize how much I don’t know.” –Albert Einstein**



# What Research Shows about the Potential of Regenerative Grazing Management



Texas Land Conservation Conference

Austin, Texas

1-3 March 2017

Richard Teague,

Texas A&M AgriLife Research, Vernon

**90% of Soil  
function is  
mediated by  
microbes**

**Microbes  
depend on  
plants**

**So how we  
manage plants  
is critical**

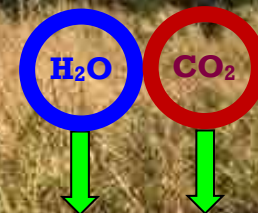




**Continuous grazing**

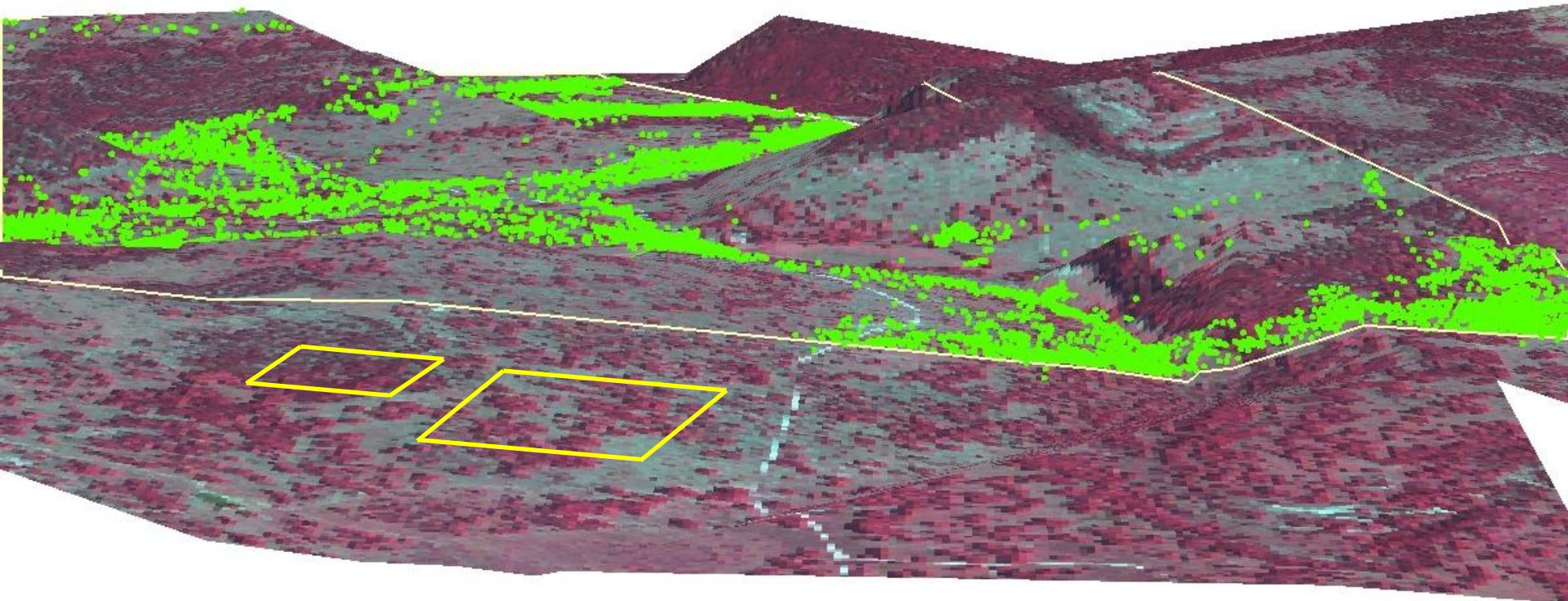


**Regenerative MP grazing**



# Landscape impact of continuous grazing

1. 39% area used
2. 41% GPS points on 9% area
3. SR: 21 ac/cow
4. Effective SR: 9 ac/cow



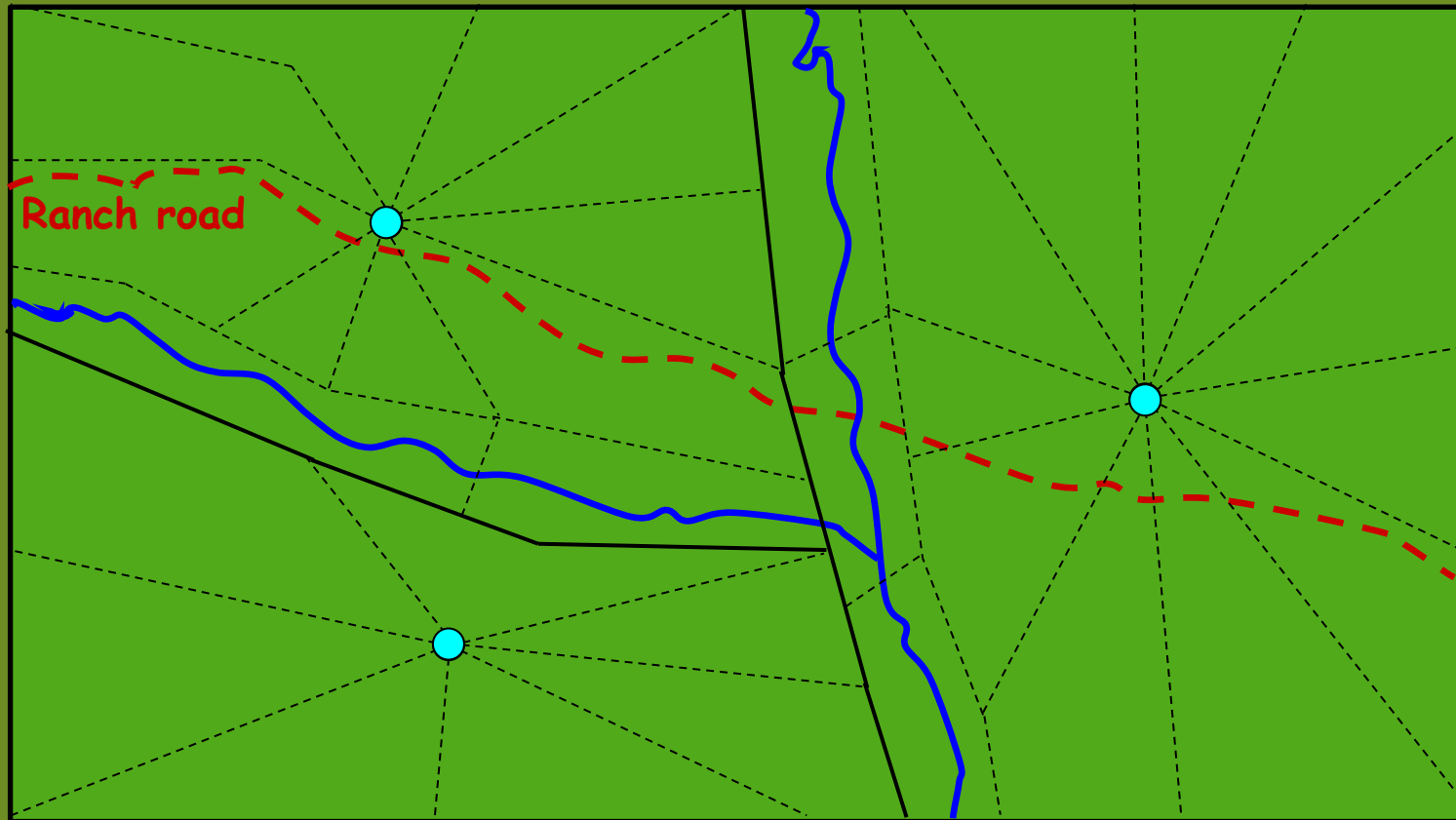
Norton 1998; Norton et al. 2013; Jakoby et al. 2014.

**Many Grass farmers use Regenerative  
Multi-Paddock grazing successfully**



**Most conservation award winners  
use RMP grazing**

# Regenerative multi-paddock grazing

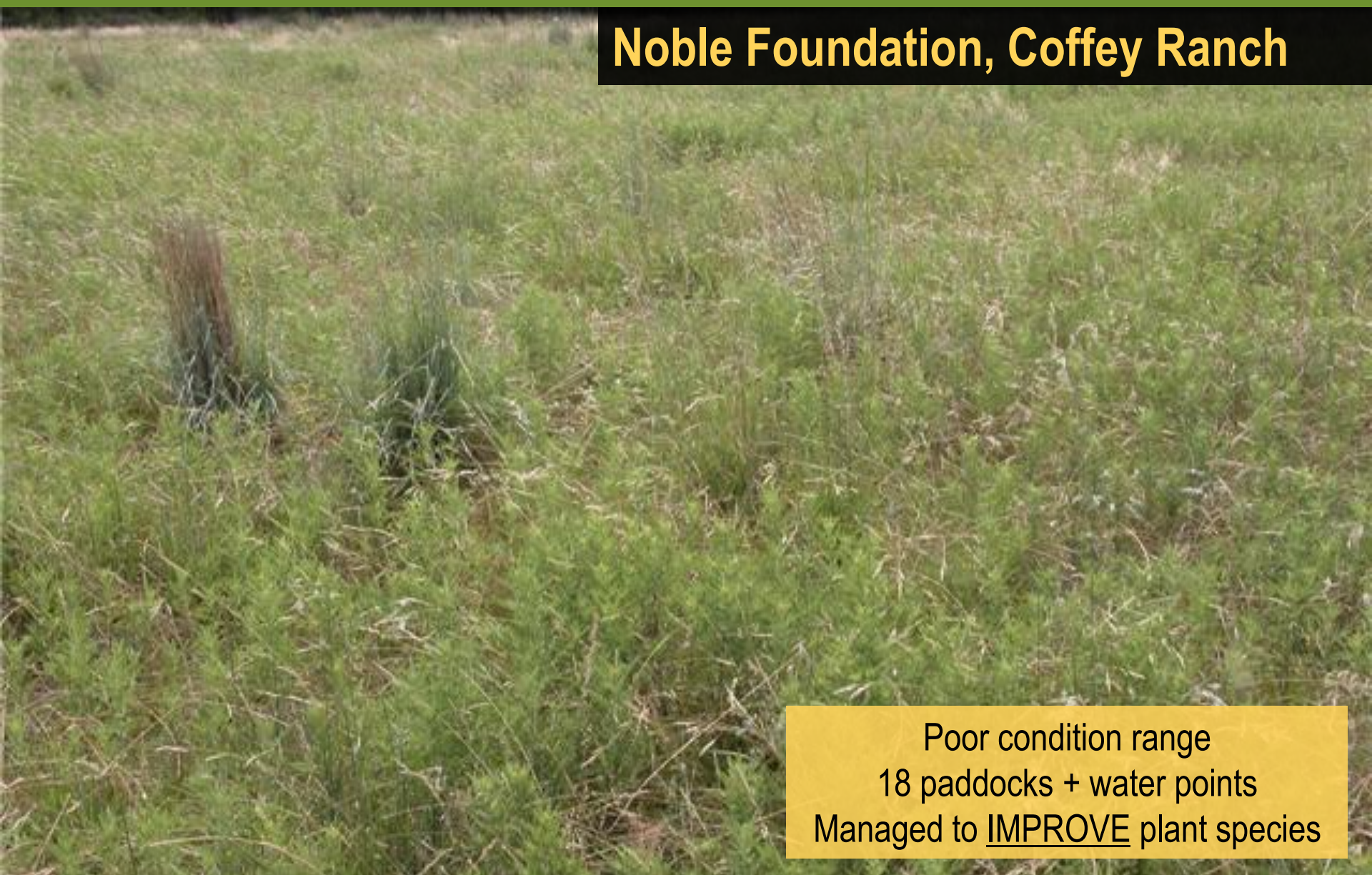


— Existing fence  
- - - Electric fence

● Water point

# Restoration using multi-paddock grazing

Noble Foundation, Coffey Ranch

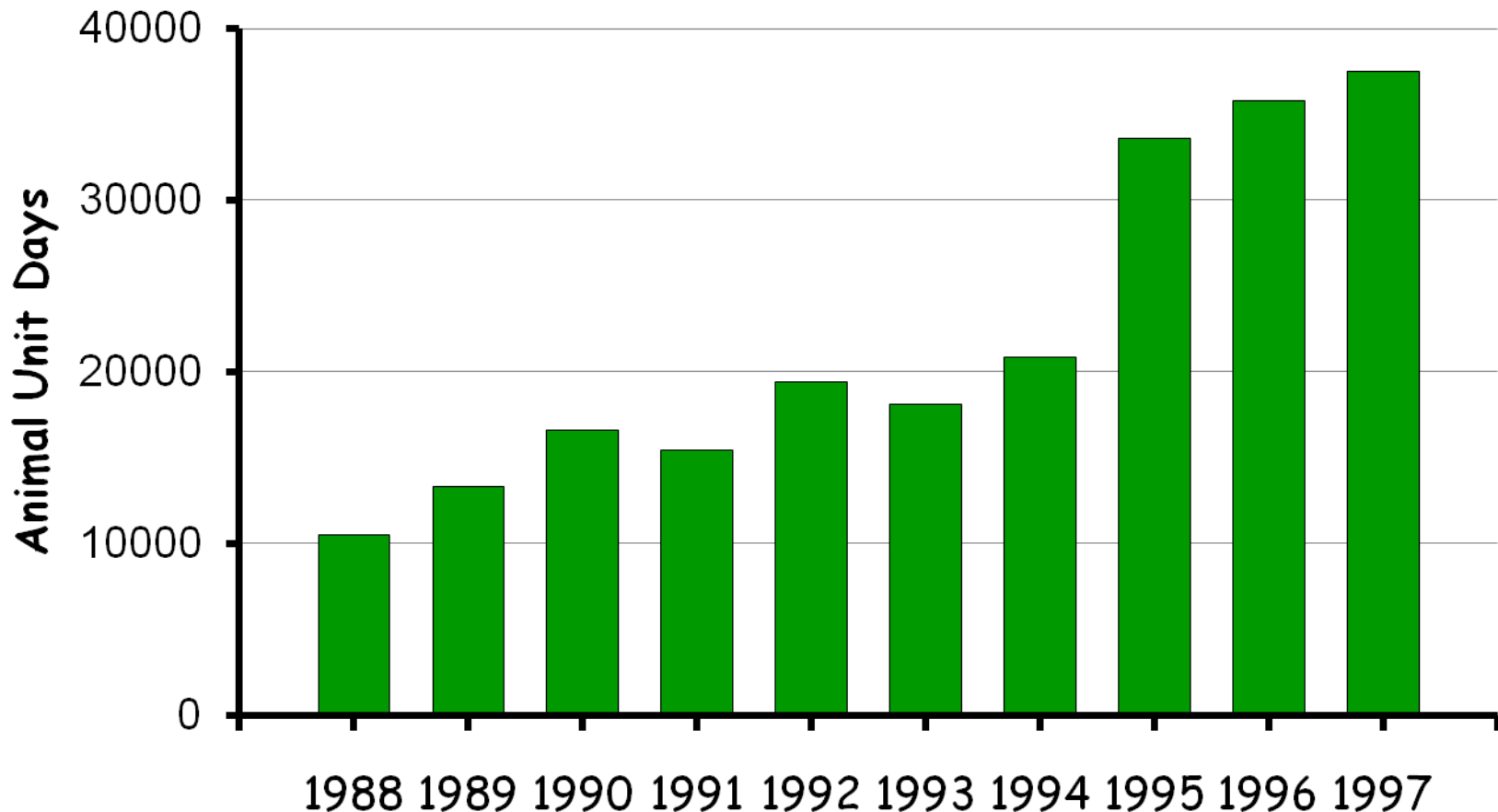


Poor condition range  
18 paddocks + water points  
Managed to IMPROVE plant species

# Restoration using multi-paddock grazing

Noble Foundation, Coffey Ranch

Charles Griffith, Hugh Aljoe, Russell Stevens



# Managing for Desired Outcomes

- Flexible stocking to match forage availability and animal numbers
- Rotate grazing to spread grazing over whole ranch
- Defoliate moderately in growing season
- Use short grazing periods
- Adequate recovery before regrazing
- Adaptively change with changing conditions

# Regenerative Multi-Paddock Grazing can:

- **Build SOC levels and soil microbial function**
- **Enhance water infiltration and retention**
- **Build soil fertility**
- **Increase photosynthesis**
- **Increase length number of growing days**
- **Control erosion more effectively**
- **Enhance watershed hydrological function**
- **Enhances wildlife and biodiversity**
- **Improve economic returns and improve resource base**
- **Result in grazed soils being a stronger net greenhouse gas sink**

Barnes et al. 2013; Delgado et al 2011; Earl & Jones 1996;  
Jacobso et al. 2006; Jakoby et al. 2014; Norton 1998;  
Norton et al. 2013; Park et al. 2017; Teague et al. 2016



# Regenerative Grazing Research shows:

- Ecological function and profitability increase with increasing number of paddocks.
- Stocking rates can be increased without damaging ecological function as number of paddocks is increased
- Short periods of grazing with adequate recovery give the greatest profit and ecological function.
- Profitability decreases if recovery is too short or too long
- Adjusting management with changing conditions increases ecological function and profitability.
- Fixed management protocols reduce benefits.





Jakoby et al. 2014; Jakoby et al. 2015; Teague et al. 2015.

# Clear Creek Watershed, North Texas

Bowie

1980-2013

## Legend

-  Stream Gage
-  Clear Creek
-  Ranch
-  CCW

## Land use

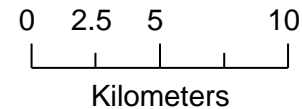
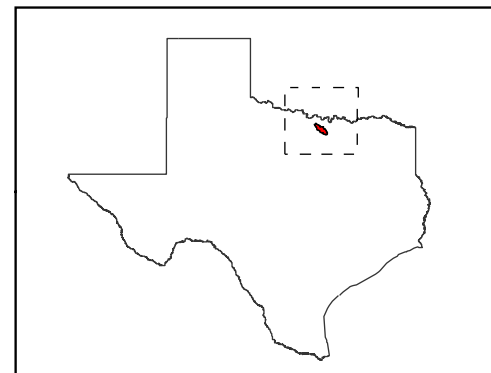
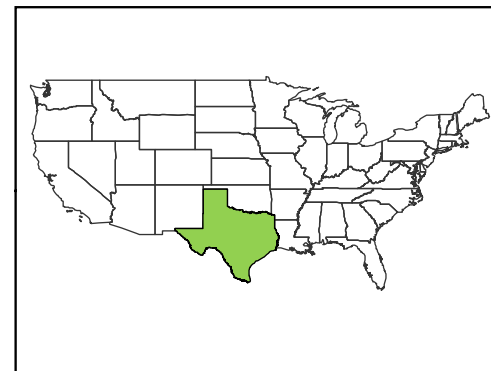
-  Agriculture
-  Water
-  Residential
-  Bare field
-  Forest
-  Rangeland

Leo

Danglemayr

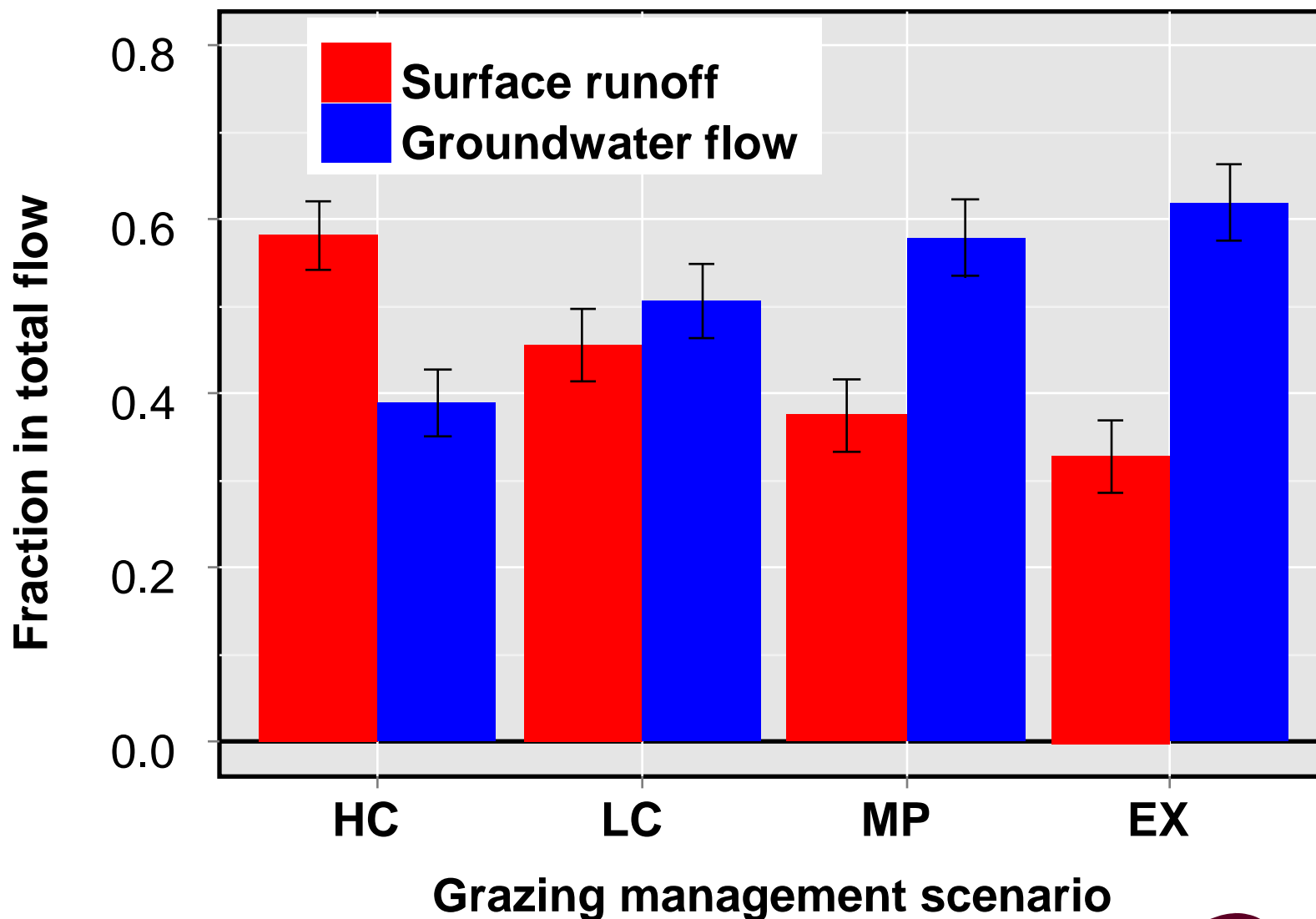
Pittman

Mitchell



Denton

# Clear Creek Watershed, North Texas



# Ranch-Scale Research

**At the commercial ranch scale:**

**Adaptive, planned multi-paddock grazing, has the potential to produce superior long-term:**

- **Conservation and restoration of resources;**
- **Ecosystem goods and services; and**
- **Ranch profitability**

Barnes et al. 2013;  
Beukes et al. 2002;  
Jakoby et al. 2014;  
Jakoby et al. 2015;

Martin et al. 2014;  
Machmuller et al. 2015;  
Müller et al. 2015;  
Sherren et al. 2012;

Teague et al. 2011;  
Teague et al. 2013;  
Teague et al. 2015;  
Wolf 2016



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Questions?

# HMI is Holistic Management International

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