

# ***“Divots in the Pivots”***

## ***Regional Conservation Partnership Program***

*Divots in the Pivots restores habitat in Nebraska’s Rainwater Basin and continues economic sustainability to agriculture. Best management practices ensure efficient irrigation on productive cropland while restoring and promoting wetlands.*

*Rainwater Basin Joint Venture Informational Seminar  
February 1, 2018*

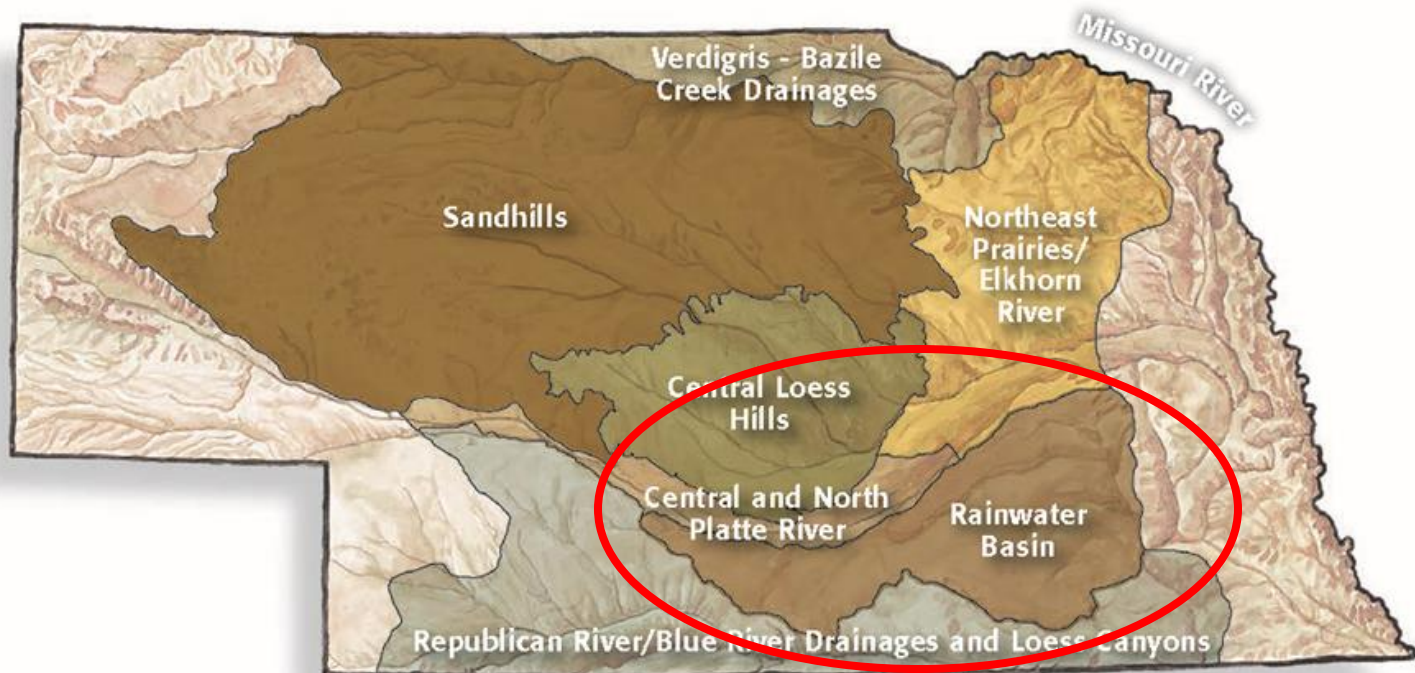
*David Eigenberg  
General Manager  
Upper Big Blue Natural Resources District*



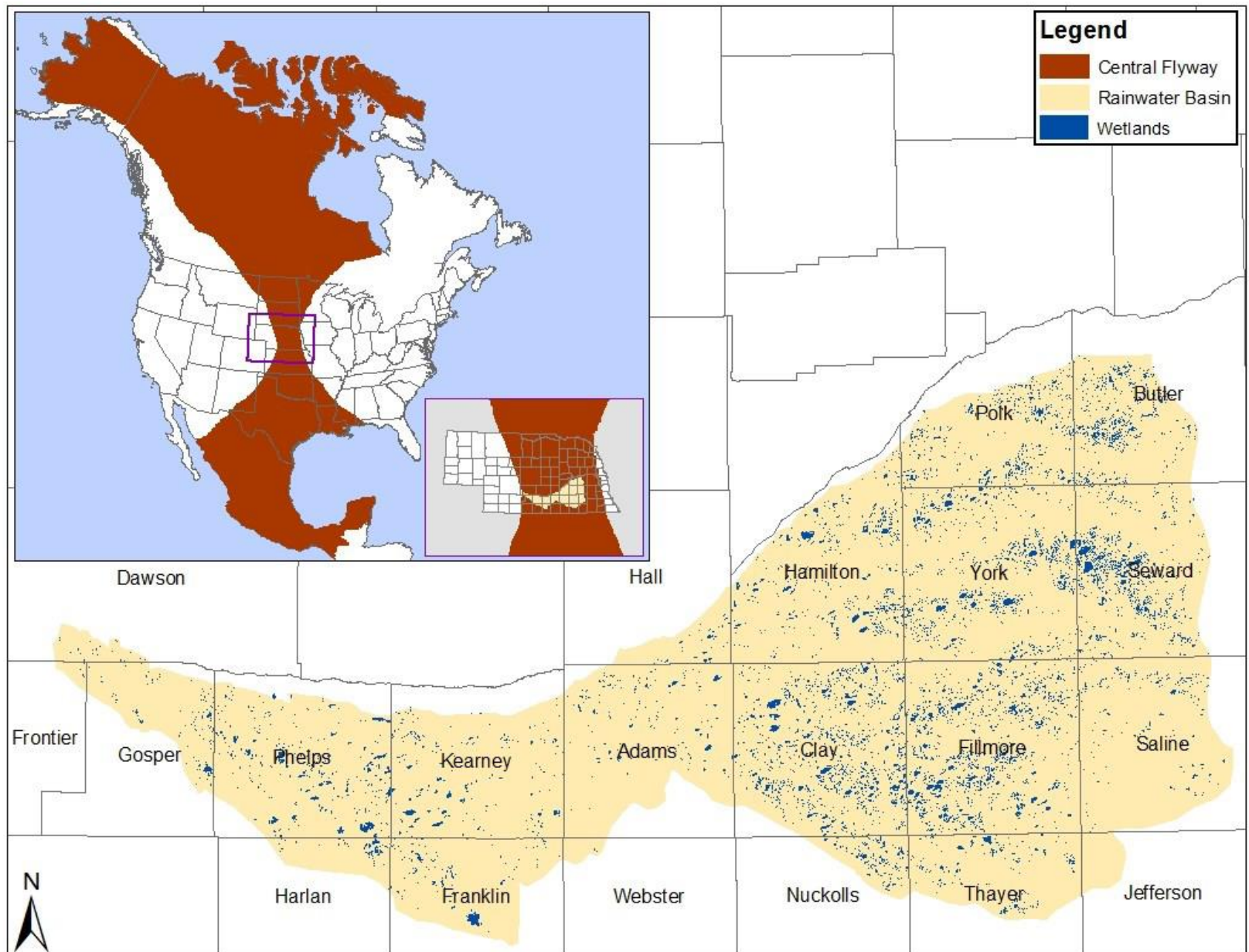
# Rainwater Basin

## Challenges and Opportunities

- 11,000 historic wetland footprints
- 99% privately owned
- Agricultural landscape ~70% irrigated
- 72% of all historic wetlands intersected by pivot irrigation systems





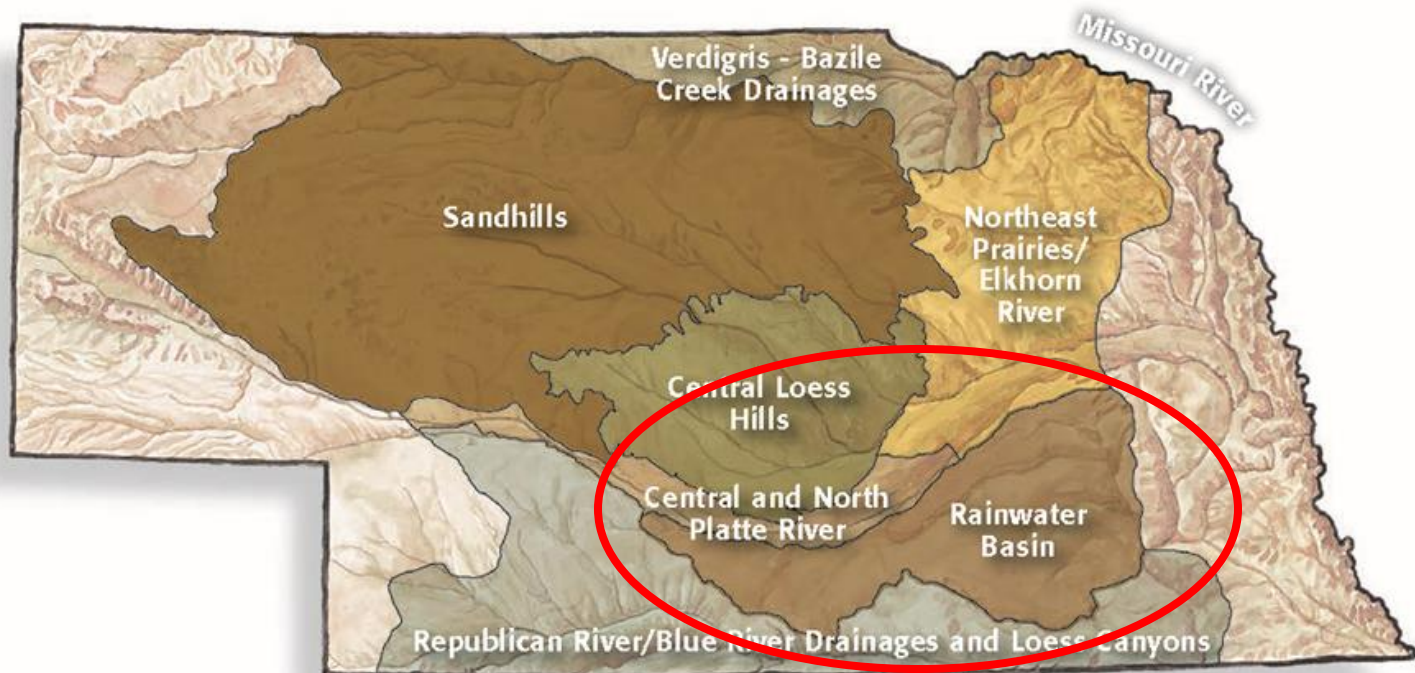




# Rainwater Basin

## Habitat -

- 8 distinct geographies
  - 1.7 million shorebirds
  - 90% of the mid-continent population of sandhill cranes
  - 8.6 million waterfowl
  - 15.4 million grassland nesting birds







**February  
2008**



**April 2008  
September  
2008**

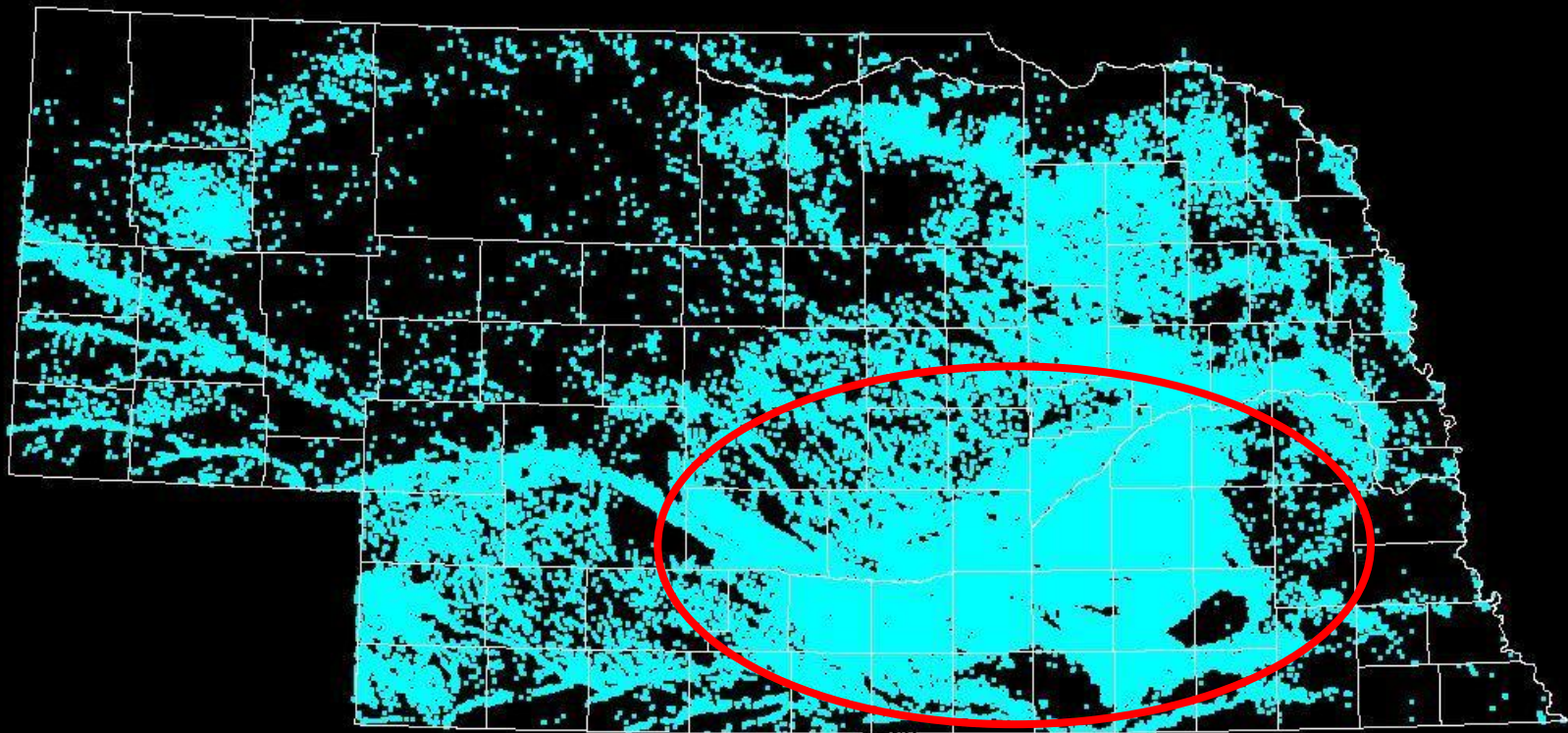


**June  
2008**





# Active Irrigation Wells



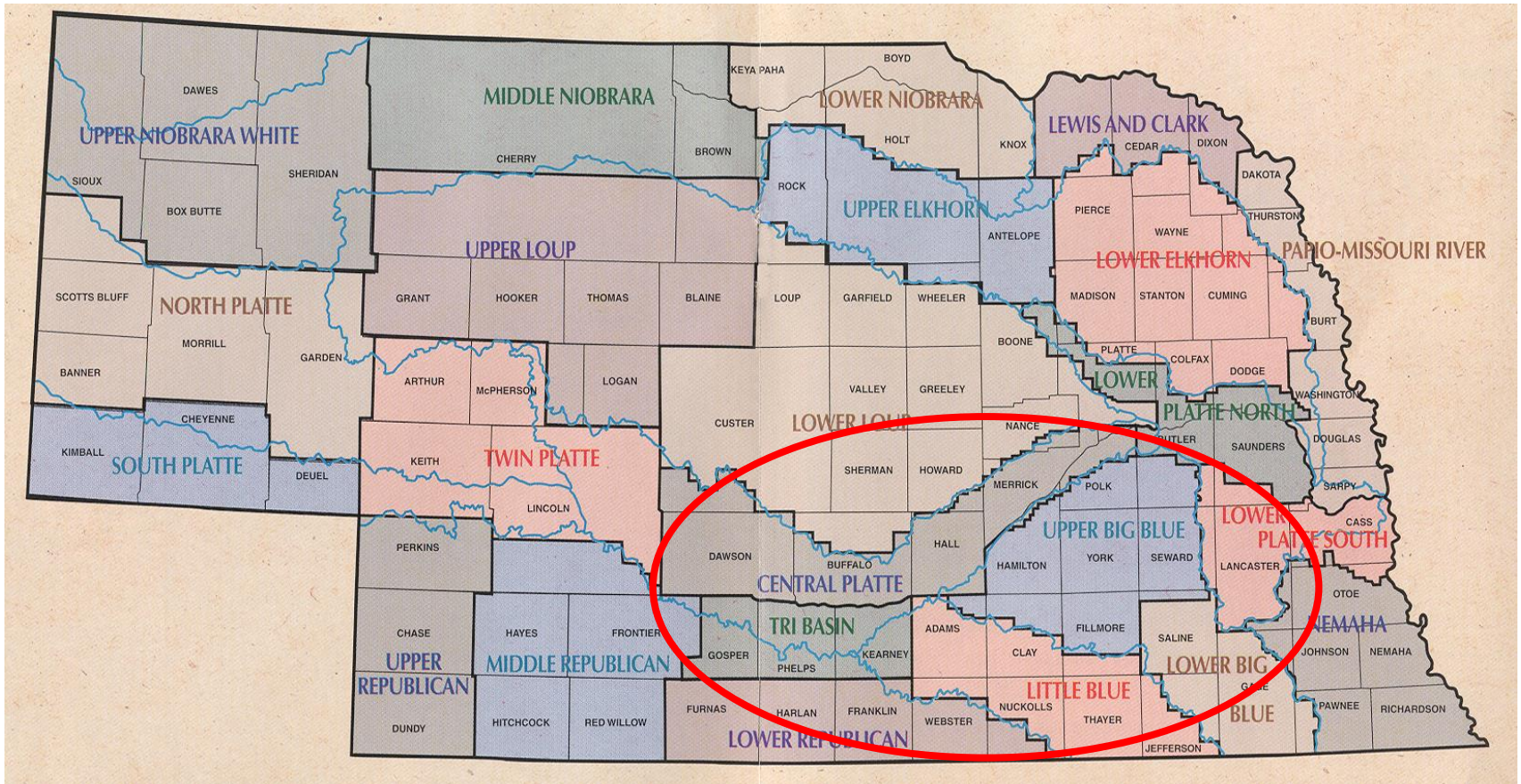
100 0 100 200 Miles



September 2002




# Nebraska's NRDs





# Irrigation Development In Upper Big Blue NRD

- 1960 – 300,000 Acres (est.)
- 1981 – 720,000 Acres
- 2008 – 1,132,000 Acres
- 2018 – 1,237,000 Acres (as January)



Increase of over  
900,000 acres  
over 58 years...

Average GW level  
decline of  
approximately 2.5  
feet...over 58 years.







# Signing of RCPP Contract . . .

September 20, 2017

## Headlines:

USDA's Natural Resources Conservation Service invests up to \$1.8 million through the Regional Conservation Partnership Program to improve Nebraska's water quality, enhance soil health, support wildlife habitat and protect agricultural viability within the Rainwater Basin wetlands.





# Regional Conservation Partnership Program

- Full field/system approach
- Leverage the full spectrum of USDA and partner programs
  - Agricultural Conservation Easement Program (ACEP)
    - Agricultural Land Easement (ALE)
    - Wetland Reserve Easement (WRE)
  - Environmental Quality Incentives Program (EQIP)
    - Variable Rate Irrigation (VRI)
    - Precision irrigation prescriptions
- Additive conservation actions supported by Partners
  - Pivot modification, perimeter fence, livestock water, etc.









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# Regional Conservation Partnership Program

## Agricultural Conservation Easement Program

- Wetland Restoration
  - Perpetual or 30 year easement option
    - Easement held by Natural Resources Conservation Service or Local Natural Resources District
      - Easement precludes wetland drainage, tillage, and development
        - Reserved water and grazing right





# Regional Conservation Partnership Program

## Environmental Quality Incentives Program

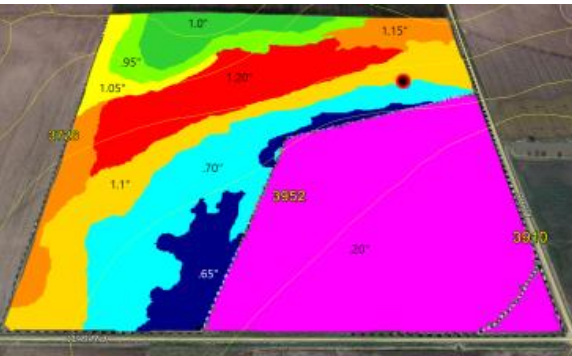
- Variable Rate Irrigation
  - Variable frequency drive motors, pivot panel and hardware upgrades, nozzle packages, Global Positioning System upgrades
  - Flotation solutions
  - Corporate Irrigation Partners contribution 10% to equipment and installation

Partners provide 85% cost-share for pivot modification, perimeter fence, livestock water



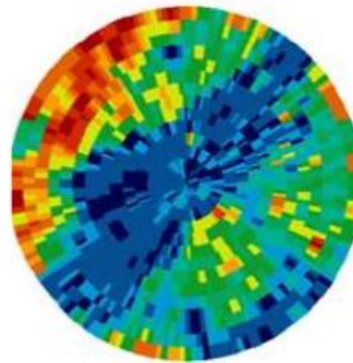
# Precision Mapping, Soil Moisture Monitoring, and Irrigation Management

- Precision field mapping
- Soil moisture probes
- Irrigation prescriptions



**Field variability:**

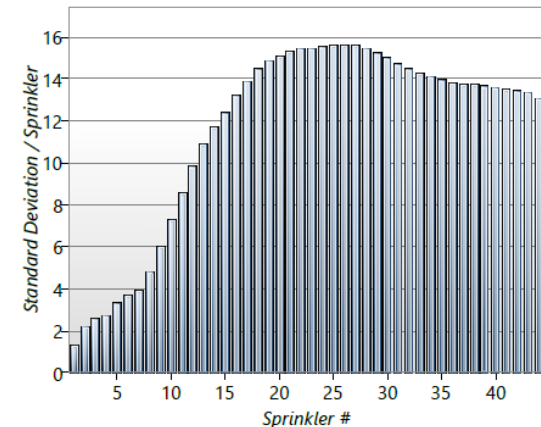
Map: DualEM Subsoil

$$a = 127.3ac$$
$$r = 1329\text{ft}$$


### VRI Opportunity:

Irrigation control by zone will decrease the total variability of application from **22.1 %** to **3.8 %**

Observed average variability along pivot length





# Regional Conservation Partnership Program

## Winners

- **Producer**
  - Increased net-farm income, diversified operation, increased efficiency
- **Wildlife**
  - Increased available habitat for millions of migratory birds and resident wildlife



# **Protecting Lives, Protecting Property, Protecting the Future.**



## **Upper Big Blue NRD**

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# Questions?

