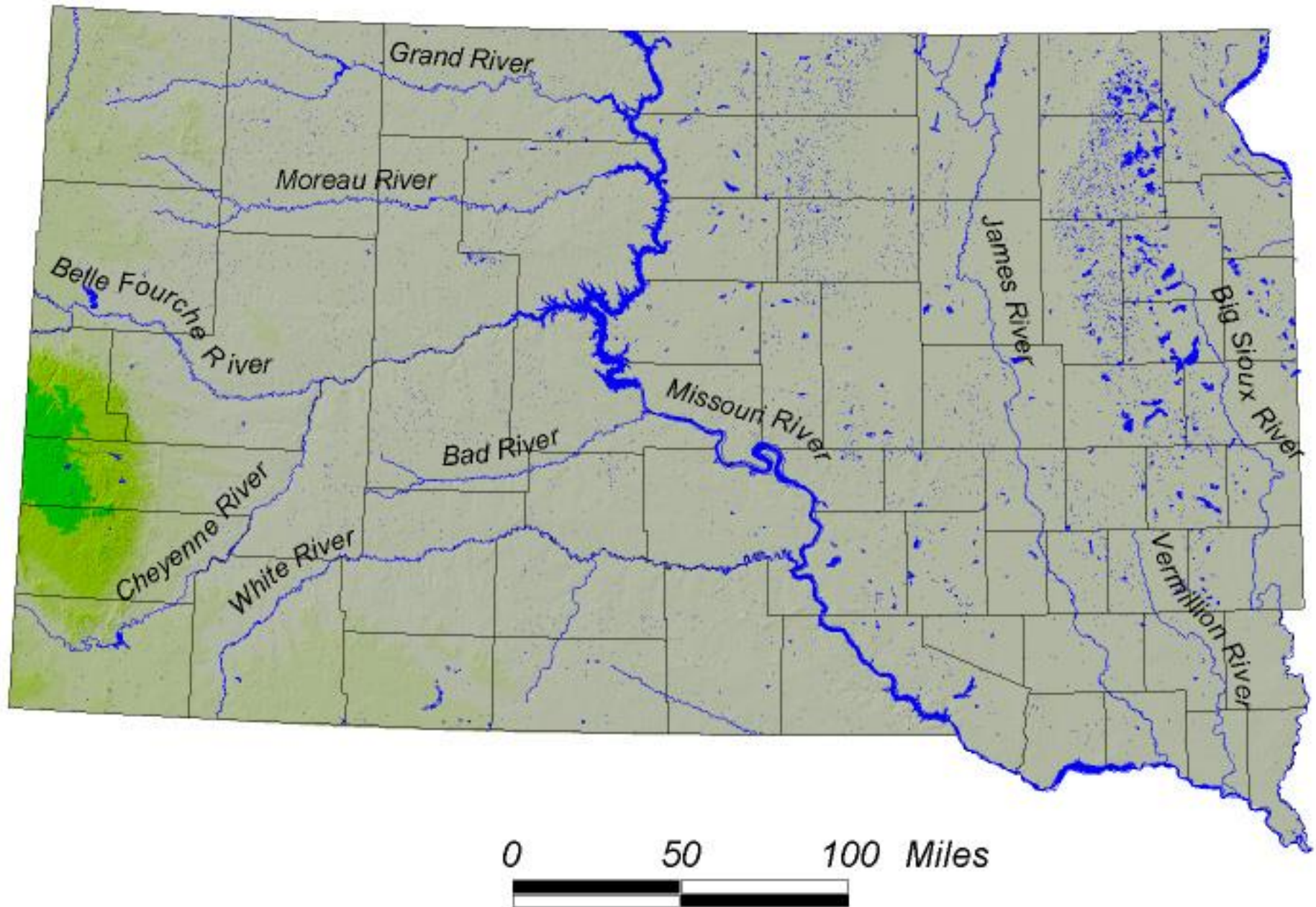


# Western States Water Council Legal Committee

Deadwood, South Dakota  
September 14 – 16, 2021

# South Dakota Rivers and Lakes



# GETTING TO KNOW SOUTH DAKOTA

- Missouri River shapes SD water, geography, politics
- Dominant water supply in state
- East River - most of the cities, people, farm ground
- West River - sparsely populated, large ranches, gold

# GETTING TO KNOW SOUTH DAKOTA

- 77,047 sq. miles
- 16th largest state in nation
- 14 major river basins
- 9,937 miles of streams
- 1,932 miles are perennial
- 8,005 miles are intermittent

# WATER USE

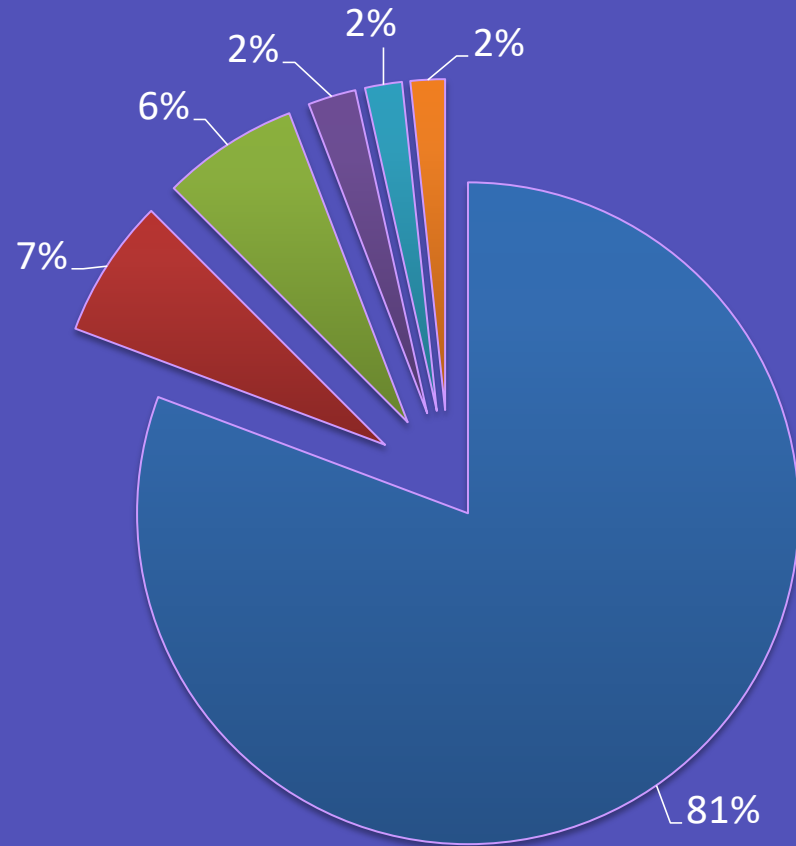
Permitted uses include:

- Irrigation
- Municipal & rural water
- Commercial
- Industrial
- Fish & wildlife
- Recreation

# Appropriations by Type of Use

(based on cubic feet of water per second)

- Irrigation
- Municipal
- Industrial/Commercial
- Rural Water
- Domestic
- Fish/Wildlife/Recreation



# South Dakota Water Rights Law Recognizes

**FULL APPROPRIATION**



# Criteria for Issuance

## 46-2A-9. Appropriation of water-When permit may be issued.

A permit to appropriate water may only be issued if there is **reasonable probability that unappropriated water is available for the applicant's proposed use**, the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, the proposed use is a beneficial use, and the permit is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by §§ 46-2-9 and 46-2-11.



# Anti-Groundwater Mining

## **46-6-3.1 Annual withdrawal of groundwater not to exceed recharge--Exception for water distribution systems.**

No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.

# What guides South Dakota in making a full appropriation determination

Administrative rule requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.

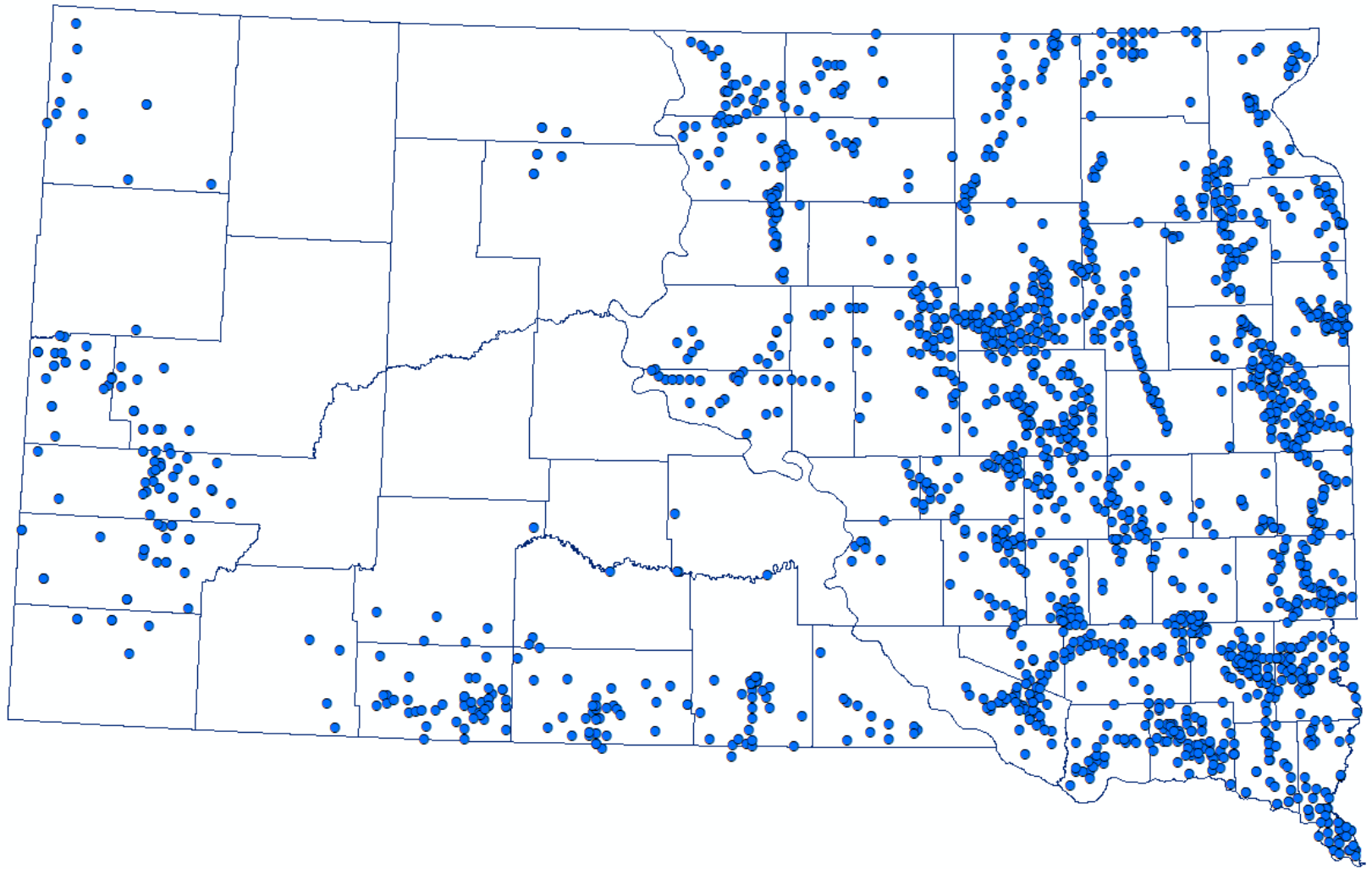
## Recharge estimates:

- historic observation well water levels / county studies

## Withdrawal estimates:

- annual irrigation questionnaires / water use reporting

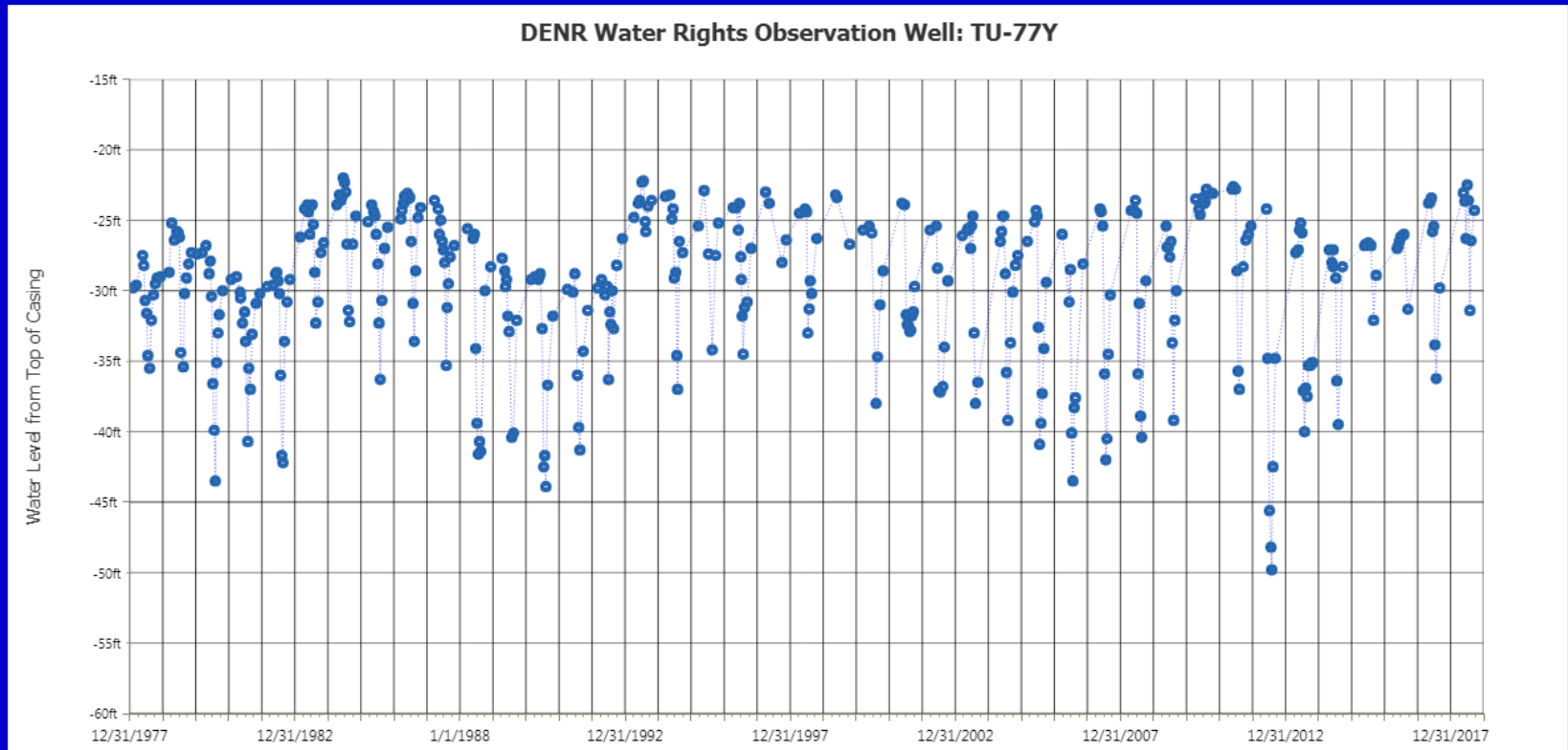
# South Dakota Observation Well Network



Approximately 1,600 observation wells

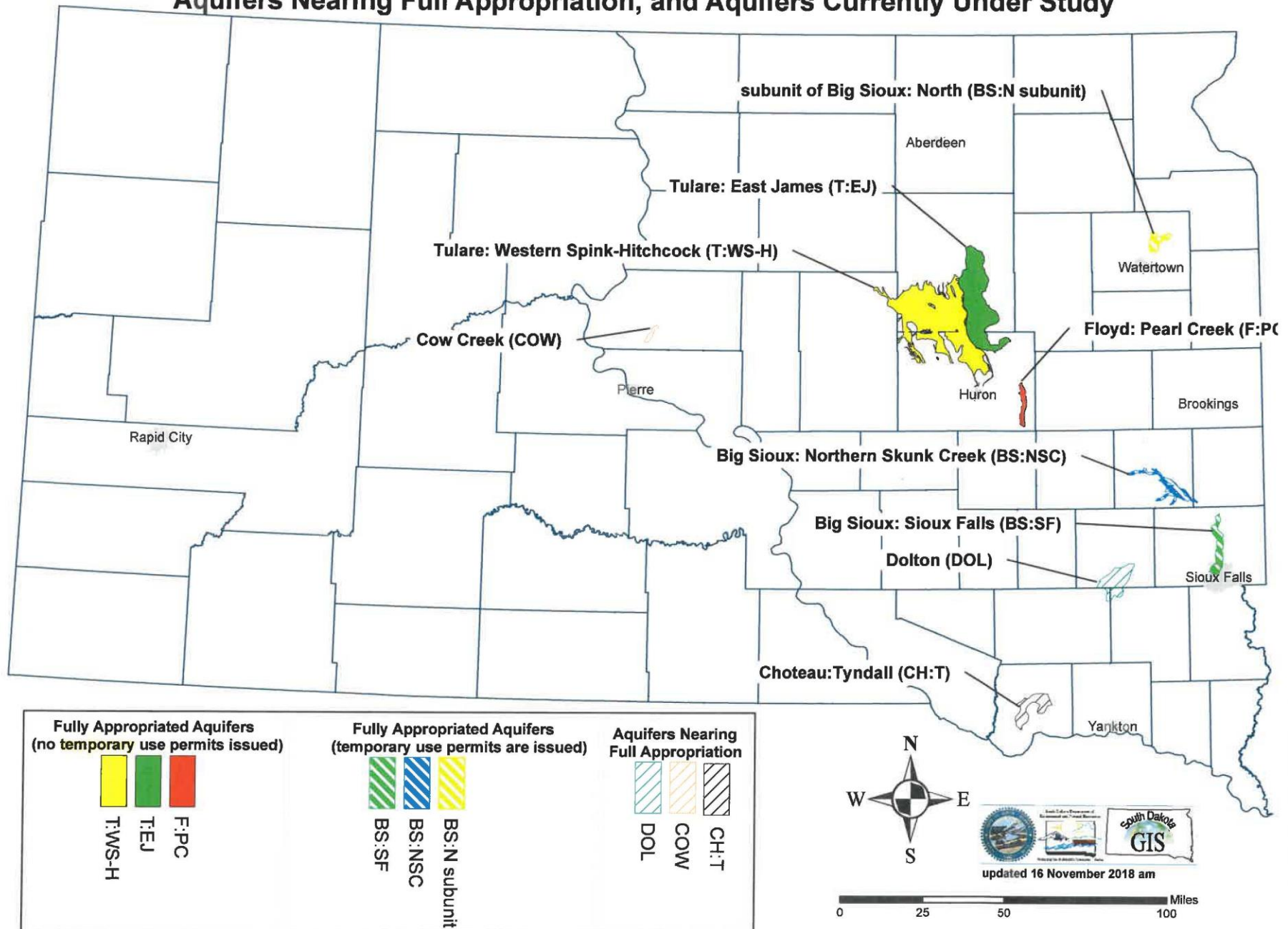
# Water Availability

## SD Observation Well Network Data



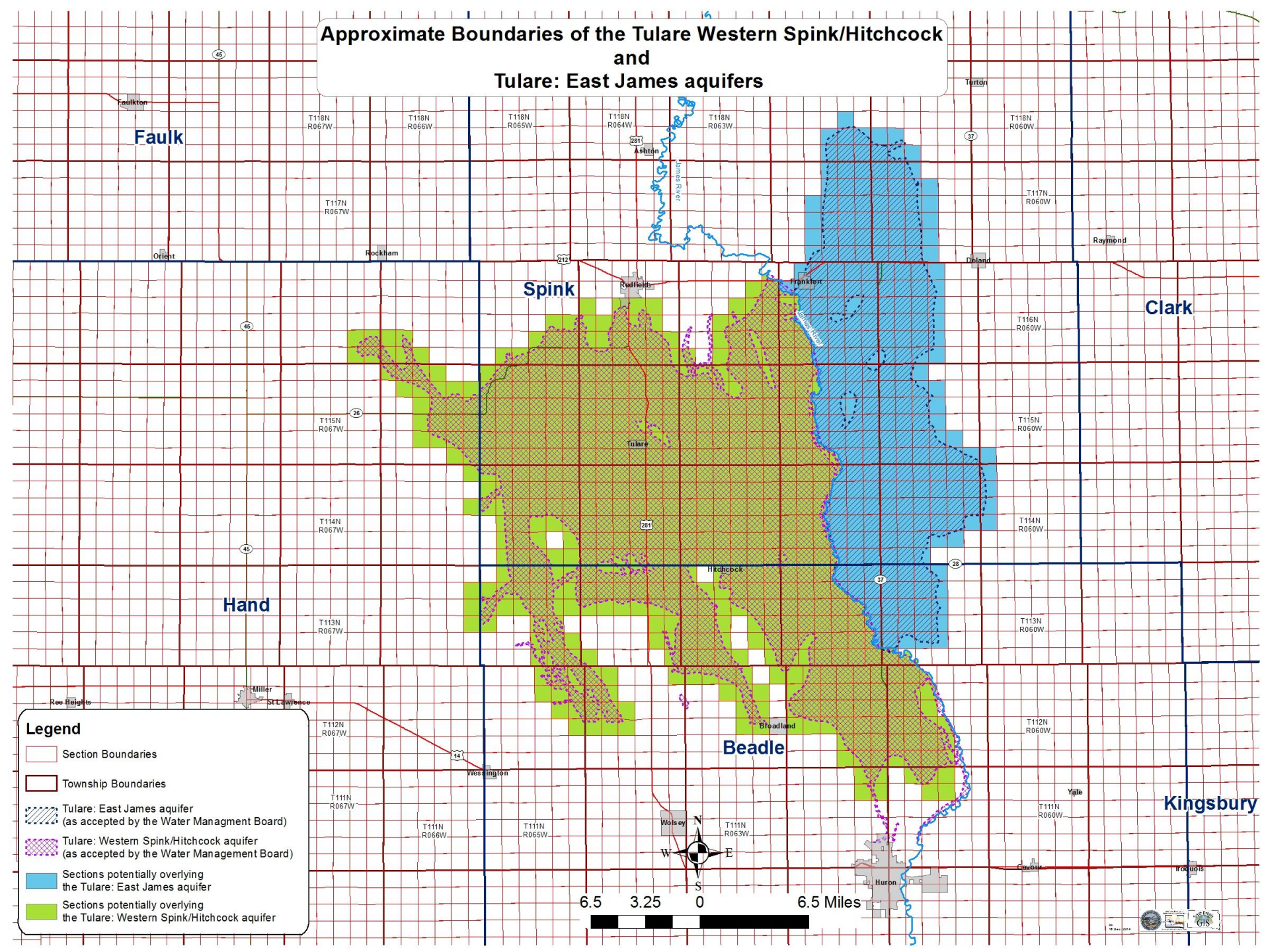
Upper Vermillion Missouri aquifer (02/12/19)

# Composite Map of Fully Appropriated Aquifers, Aquifers Nearing Full Appropriation, and Aquifers Currently Under Study





**Approximate Boundaries of the Tulare Western Spink/Hitchcock  
and  
Tulare: East James aquifers**



# Tulare East James aquifer

- Deemed fully appropriated in early 1980's based on decline of water levels
- Court challenge in 2005 questioned method of determining withdrawal
- Court directed if using average recharge must use average withdrawal
- A race to front door-steps ensued to be first in time for any available water
- Water permits approved to bring to full appropriation based on court's directive



# Anti-Groundwater Mining

## 46-6-3.1 Annual withdrawal of groundwater not to exceed recharge--Exception for water distribution systems.

No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of **water withdrawn annually** from a groundwater source will exceed the quantity of the **average estimated annual recharge** of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.

# Tulare Western Spink Hitchcock aquifer

- Deemed fully appropriated in 2013
- About this same time, recalculation of the hydrologic budget resulted in water being available for appropriation
- Again, race ensued for individuals in both aquifers to be first in line to file for water permits to irrigate

# PROBLEMS

- No mechanism in place to have a waiting list
- Animosity among landowners and questions of fairness on who got permits
- One landowner began filing a reoccurring application. When denied, simply filed a new application

# Legislation enacted in 2014

- An effort to bring fairness when a full appropriation determination is made
- Upon Board full appropriation determination
- Advertise 30-day period to submit applications
- All received applications receive common priority date
- Board conducts a random draw to establish a priority list
- Priority list determines eligibility if unappropriated water becomes available

# Priority Lists

- 14 held applications from Tulare East James aquifer
- 28 held applications from Tulare Western Spink Hitchcock aquifer

# Five-Year Review

- Law requires a Board review of the appropriative status of aquifer at least every five years.
- Process includes:
  - DANR review of the appropriative status of aquifer
  - notice to holders of held applications of hearing
  - public notice of review and scheduling of hearing
  - applicants pay 10% of original application fee if they want to remain on priority list
  - failure to pay results in withdrawal

# Five-Year Review

- If unappropriated water is available – process application based on priority list until aquifer is again fully appropriated
- First five-year review since enactment was conducted in 2020. Board determined both aquifers remain fully appropriated



# Preparation for Next Review

- Installation of eight new observation wells – Completed
- Deployment of six dataloggers – Completed
- Survey observation well casing elevations in the two aquifers – Half Completed