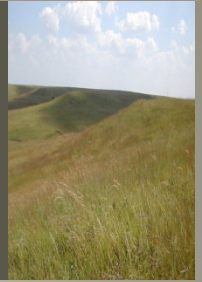




Nebraska's

*Natural Resources Districts*



## Nebraska Local NRD Water Quantity Management

Oklahoma Governor's Water Conference  
Norman, OK  
November 29, 2023

Dean E. Edson  
Executive Director  
Nebraska Association of Resources Districts

"Protecting Lives, Protecting Property and Protecting the Future"

# ***Presentation Overview***

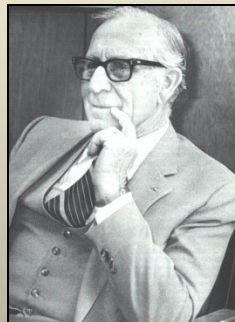
1. Nebraska Natural Resources Districts (NRDs)
2. NRD Duties & Funding
3. Nebraska Water Law
4. NRD Groundwater Management for Quantity & Projects
5. New Project – Perkins County Canal
6. Questions and Answers

# *Creation of the NRD System*

- In April 1969, four senators introduced LB1357 in order to consolidate 154 special-purpose districts into a series of multipurpose districts based on river basin boundaries.
- Unique to Nebraska
- Law became effective in 1972

Primary Sponsor of L.B. 1357:

- *Maurice Kremer* (Aurora)



# What Does a NRD Really Do?...

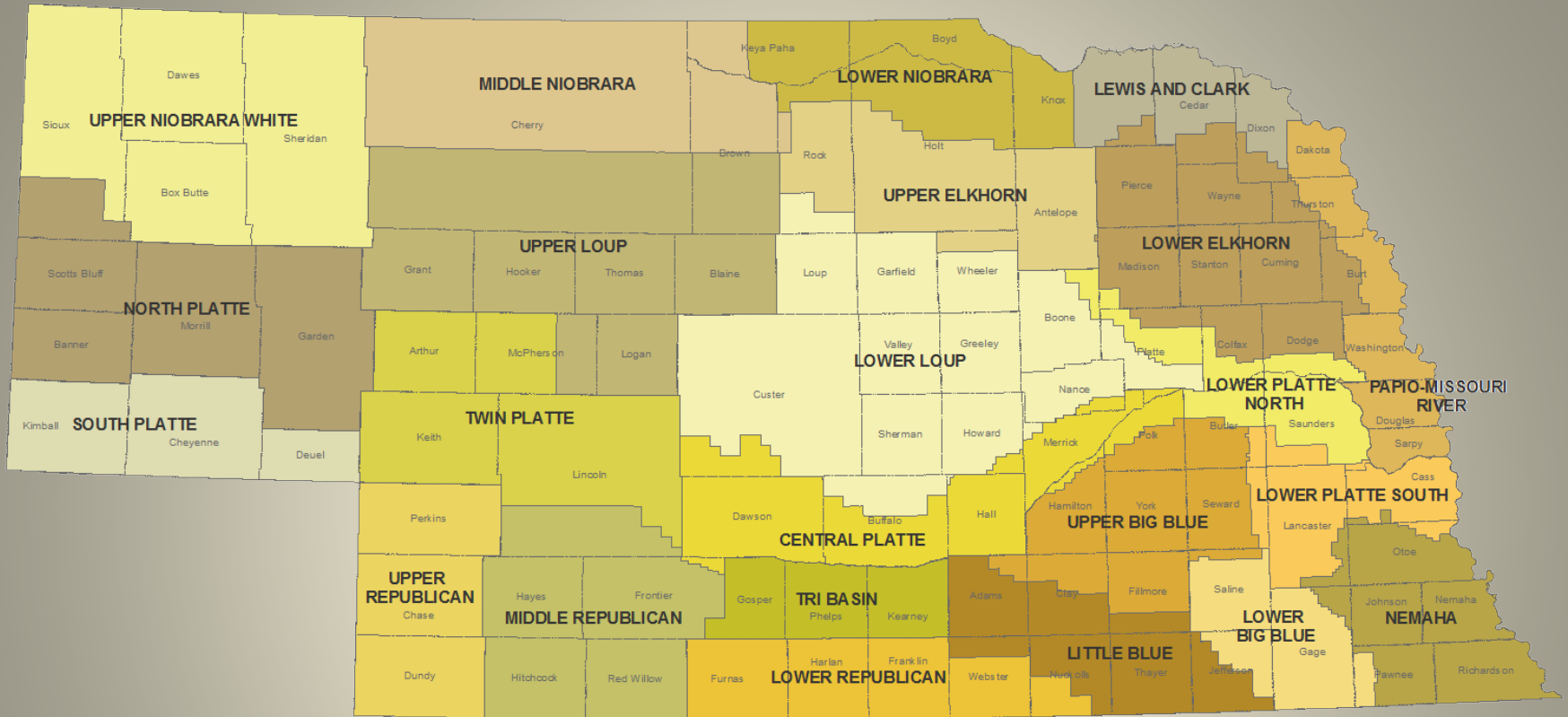
## 12 Statutory Responsibilities:

- 1) Erosion prevention and control
- 2) Prevention of damages from flood water and sediment
- 3) Flood prevention and control
- 4) Soil conservation
- 5) Water supply for any beneficial uses
- 6) Development, management, utilization, and conservation of ground water and surface water
- 7) Pollution control
- 8) Solid waste disposal and sanitary drainage
- 9) Drainage improvement and channel rectification
- 10) Development and management of fish and wildlife habitat
- 11) Development and management of recreational and park facilities
- 12) Forestry and range management.



# NRD Boundaries

- Established by the Nebraska Natural Resources Commission in 1971.
- Stay close to basin boundaries but follow county roads so fields are not divided.
- Use county boundaries when possible to divide basins into NRDs
- Boundary can change 3 ways
  - 1) Landowner petition to local NRDs.
  - 2) NRD agreement with input from landowners.
  - 3) Landowner petition to the Commission.



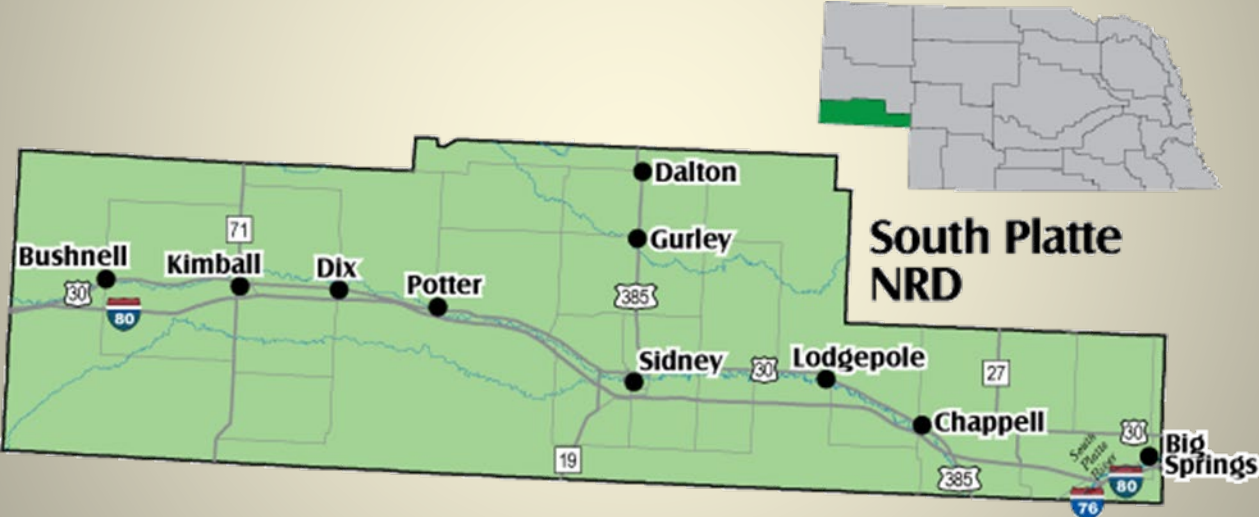
# Nebraska's 23 Natural Resources Districts

# ***NRD Board Structure***

- Locally elected at the general election
- Any eligible voter can run
- Board size – 5 -21 members (set by the local board)
- 323 board members' total
- Elections by Sub districts and/or at large
- Statute allows for 3 to 1 ratio but most at 1 person – 1 vote



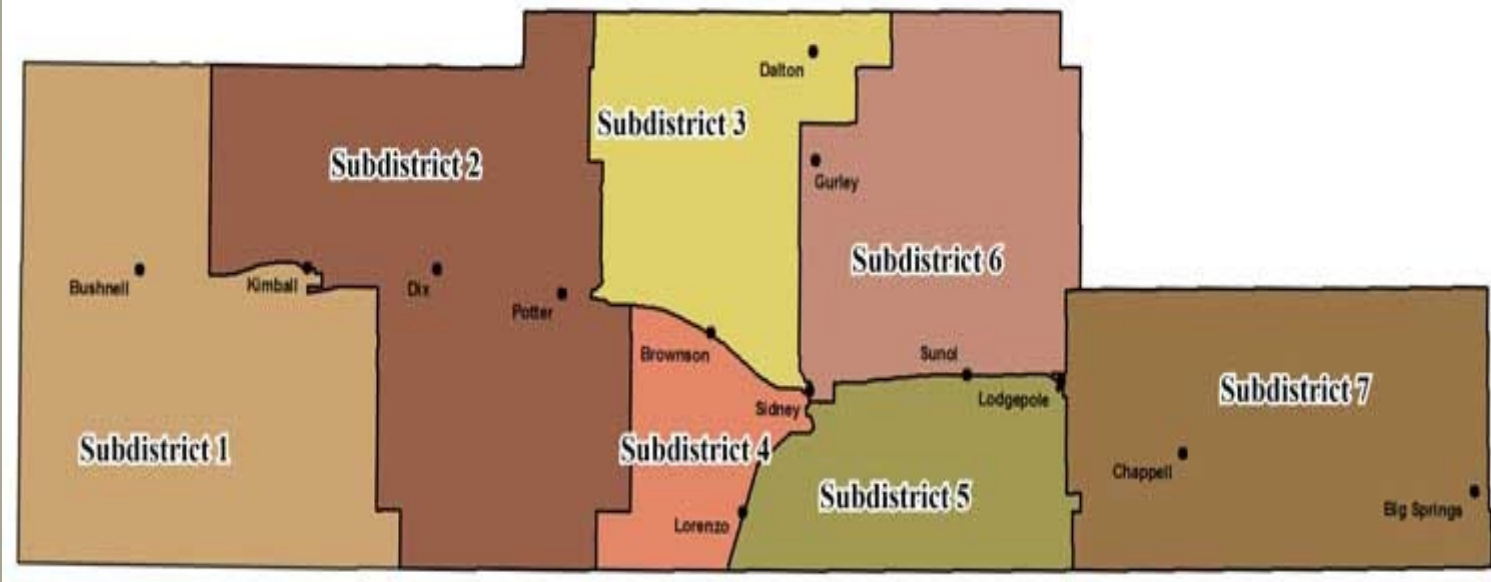
# South Platte NRD





Sub-districts are updated every 10 years from census data

## South Platte NRD Board Subdistrict Area Map



# NRD Board Meetings

- Monthly Public Meetings
- Public Notice and follow the Open Meetings Act
- Public comment is allowed at each meeting
- Special hearings on development of regulations and plans – open to the public and public comments

# NRD Employees

- 360 employees
- Various specialist – Business managers, groundwater technicians, engineers, hydrologist, soil conservationist.
- NARD provides some training and certification programs for employees
- All full-time employees are provided health insurance & retirement benefits.

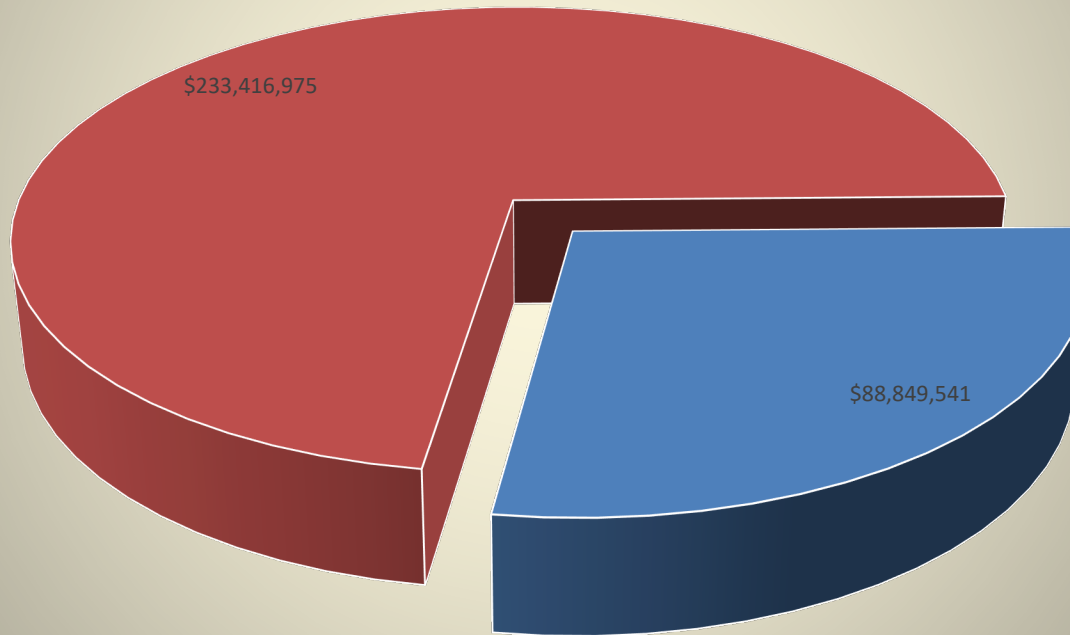
# NRD Funding Local Sources

- 4.5 Cent/\$100.00 Valuation Property Tax for General Operations.
- 1.0 Cent/\$100.00 Valuation Property Tax for Water Quality
- Bonding for Flood Control - 1 cent of the 4.5 Cent levy
  - Papio NRD only.
- Occupation Tax on Irrigated land
  - Up to \$10 per Acre – Set by local Board
  - For Water Projects only
  - Bonding from the tax
  - \$12 Million Annually

# NRD Property Tax

\$88.8 M Property Tax, \$233.4 M other

NRD Funding Sources FY 23-24



■ Total Property Tax Requirements (27.6%)

■ Leveraged Funds - State and Federal (72.4%)

# Other Sources of Funds

## State

- Water Sustainability Fund - \$20 M annually
- Water Resources Cash Fund - \$14 M Annually
- Nebraska Environmental Trust - \$20 M Annually.
- Private Sector Grants

## Federal

- NRCS – EQIP, Emergency Watershed Protection, Regional Conservation Partnership Program, Etc.
- EPA – 319, etc.
- Water Resources Development Act
- Bureau of Reclamation
- Army CORP

# Nebraska Water Law



The water owned by the state and is dedicated to the people of the state for beneficial purposes.



Permits are granted for use by the Department of Natural Resources (DNR) and NRDs.



Different doctrines and laws apply depending on the use. First in Time/First in Right for Surface Water and Correlative Rights Doctrine for Groundwater.



Preference system applies to all – 1) Domestic, 2) Agriculture, 3) Manufacturing, 4) Other

## Surface Water Rights – Prior Appropriation Doctrine

- *First in Time, First in Right*
- *Oldest water rights are 1895.*
- *Senior water rights (oldest) get's all of their right first.*
- *Preference may trump, and payment may be required.*
- *Administered by NDNR*





# Groundwater Rights - Correlative Rights Doctrine

- *The right to use groundwater on the overlying land as long as it does not harm someone else.*
- *Permitted and regulated by local Natural Resources Districts (NRDs) with a few exceptions for municipal and interstate transfers.*
- *All users share in any shortage*
- *Amounts to 90% of the irrigation total and uses about 70% of the irrigation water.*



# NRD Groundwater Management Plans

- All 23 NRDs have Groundwater Management Plans for Quantity and Quality.
- Approved by NDNR for Quantity.
- Approved by NDEE for Quality.
- Modifications can occur as needed.

# Groundwater Quantity Management Plans & Regulations

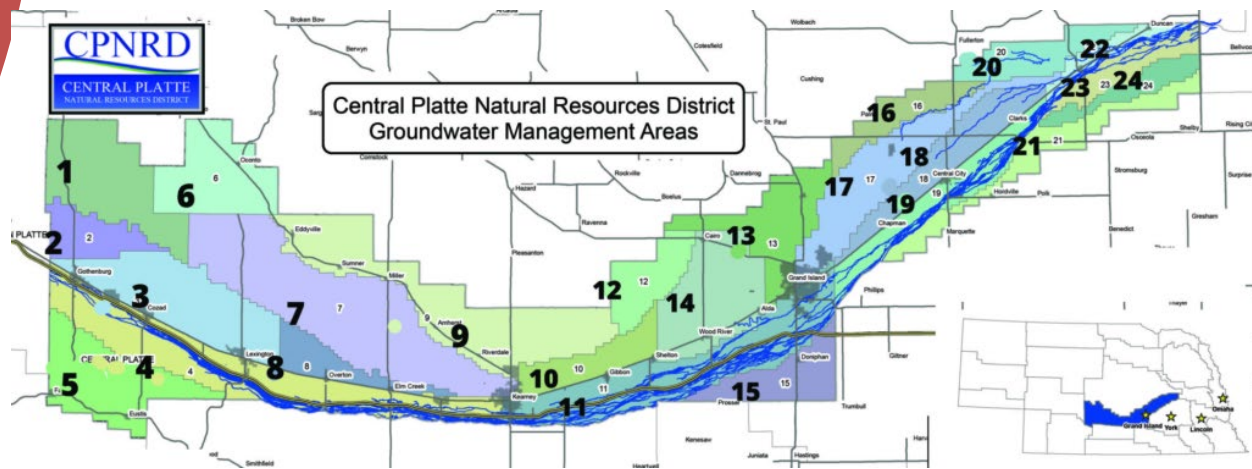
Wells over 50 gpm require a permit application from the NRD.

Well spacing requirements in place to prevent interference with other users.

NRDs can require new wells to be drilled to a minimum depth and require a flowmeter.

NRDs can limit or ban additional development of irrigation or implement allocations in areas where water quantity problems exist.

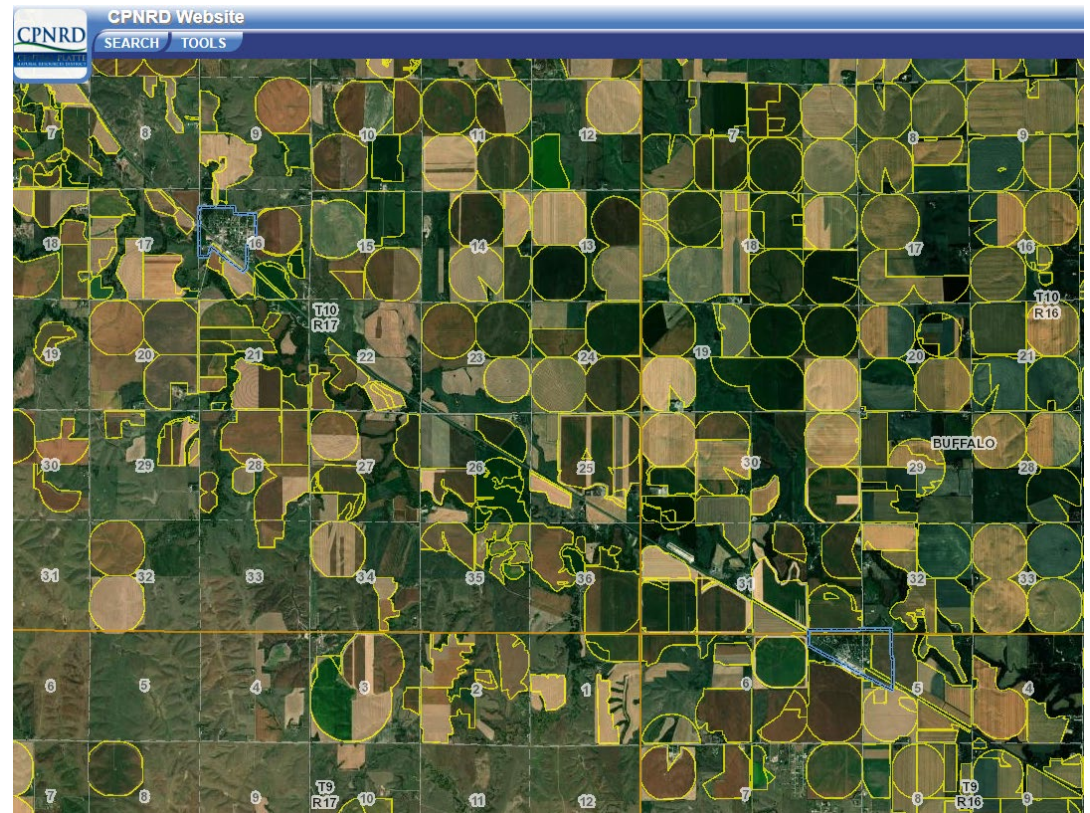
Groundwater levels are monitored to aid in management decisions. Models are used to simulate outcomes.



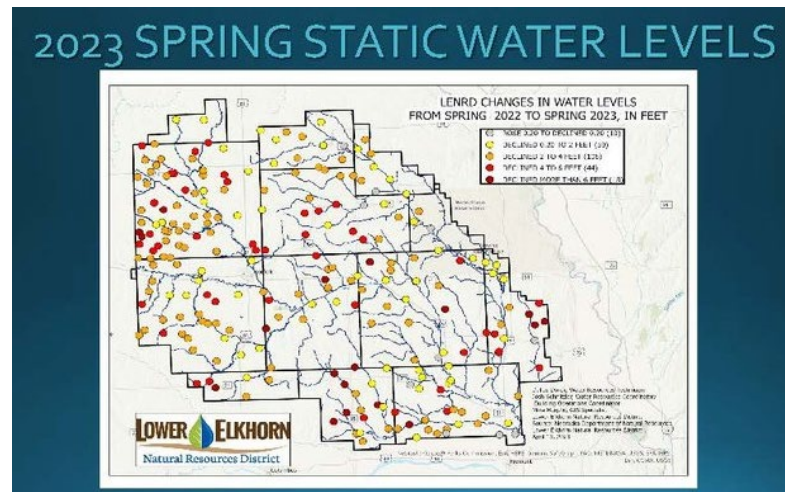
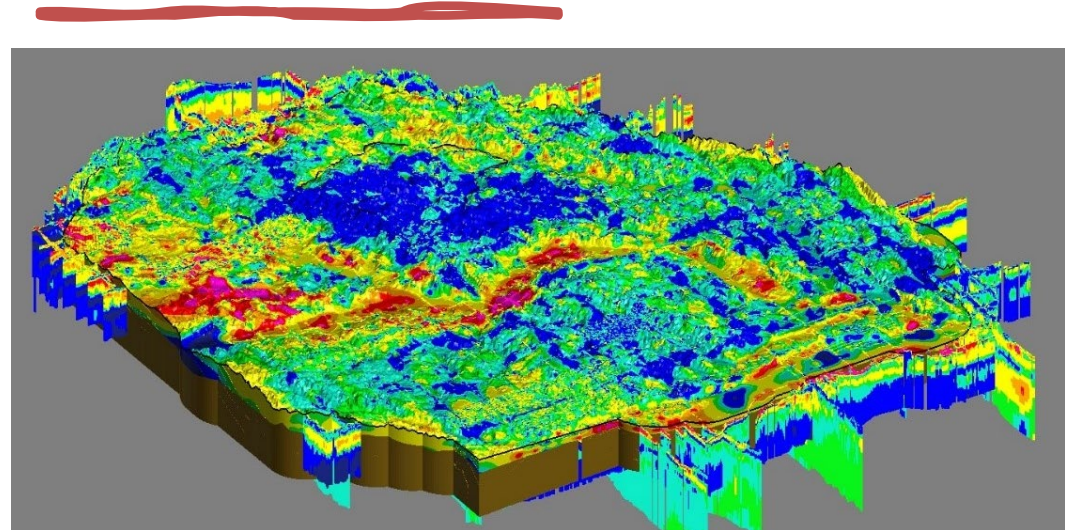
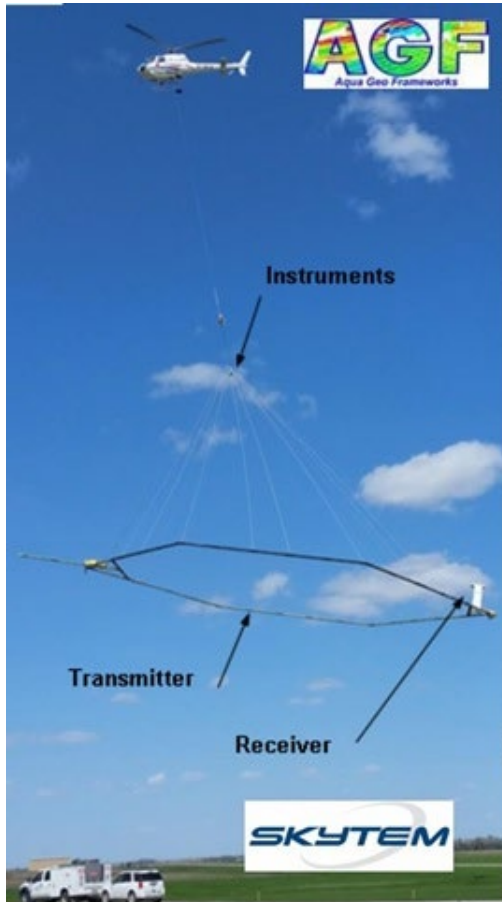
# NRD Programs: Groundwater Quantity Management

All districts require certification of irrigated acres.

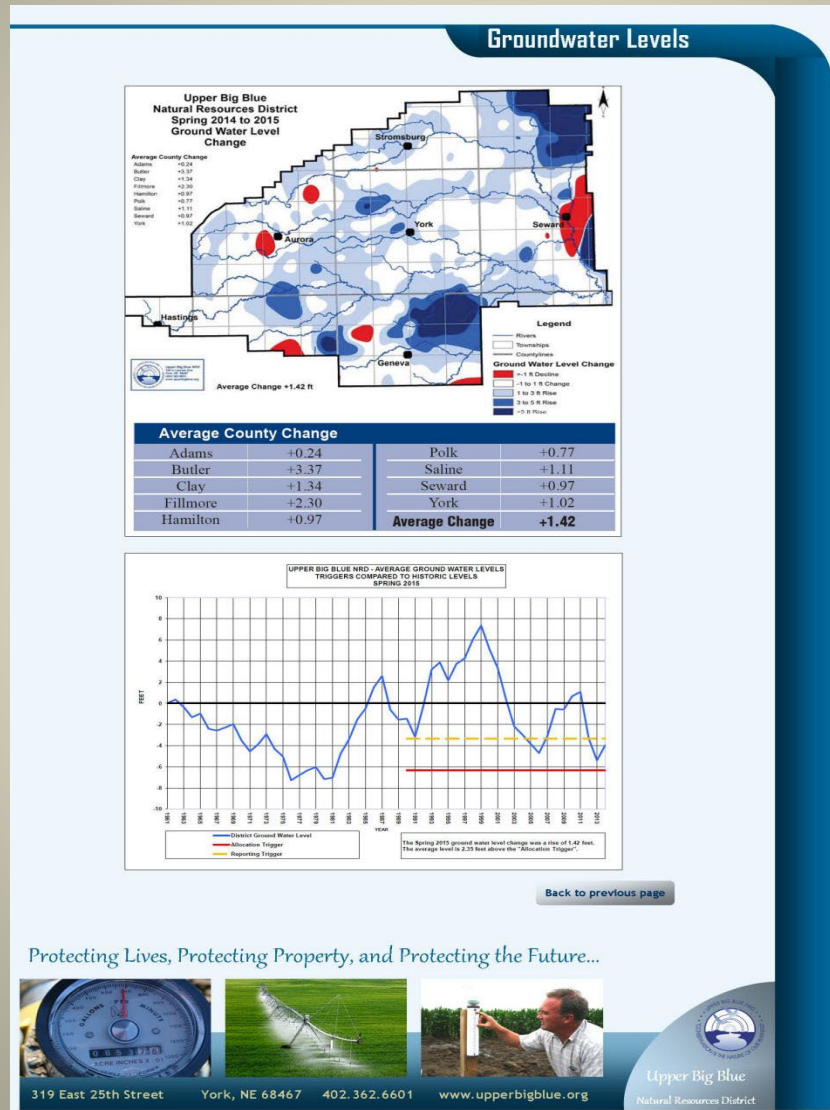
All plans and regulations are developed with hearings and public meetings.



# Data Collection is Critical



# Historical and accurate data is key



# Technical Support for Management

- NRDs work with engineering firms and the University on data collection and studies.
  - What are the future impacts of current levels of development?
  - What are the water supplies and how variable are those supplies?
  - What are the demands on water supplies? (both current and future projections)
  - What, if any, excess water supplies exist?
  - What are the economic costs & benefits of the various uses of water?

# Groundwater Quantity Management Plans & Regulations

- Plans include variance requests and transfers
  - Temporary uses
  - Transfer of certified irrigated acres to allow producers to use center pivots and/or move irrigation off marginal ground.
  - transfers and variances are up to the local NRD to address local issues. May be limited.
  - NRDs run water banking programs for producers that want to voluntarily retire irrigated acres (with payment) for future uses.



# NRD Programs -- Integrated Water Management Plans (IMPs)

- Mandatory for fully or over appropriated as determined by the Nebraska Department of Natural Resources (10 of 23).
- Voluntary for NRDs not fully appropriated (13 of 13).
- All 23 Districts have or are developing IMPs





## LB 962-- Integrated Water Management Plans (IMPs)

- *Joint management plan between DNR and NRDs.*
- *Sustain a balance between basin water supplies and uses (both ground and surface water)...*
- *...to sustain the economic viability and environmental and social health, safety, and welfare of the basin...*
- *Includes Basin Management Plans to coordinate with all NRDs in the basin.*

# CPNRD & Irrigation Canal Partnership Results

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Farmers use groundwater and surface water is used to enhance stream flow.

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Non-delivery fees eliminated, saving farmers thousands of dollars.

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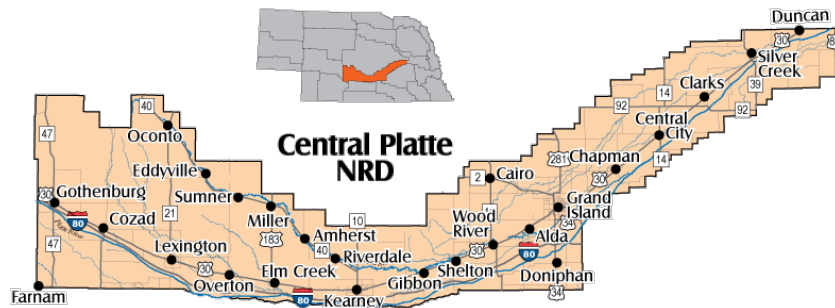
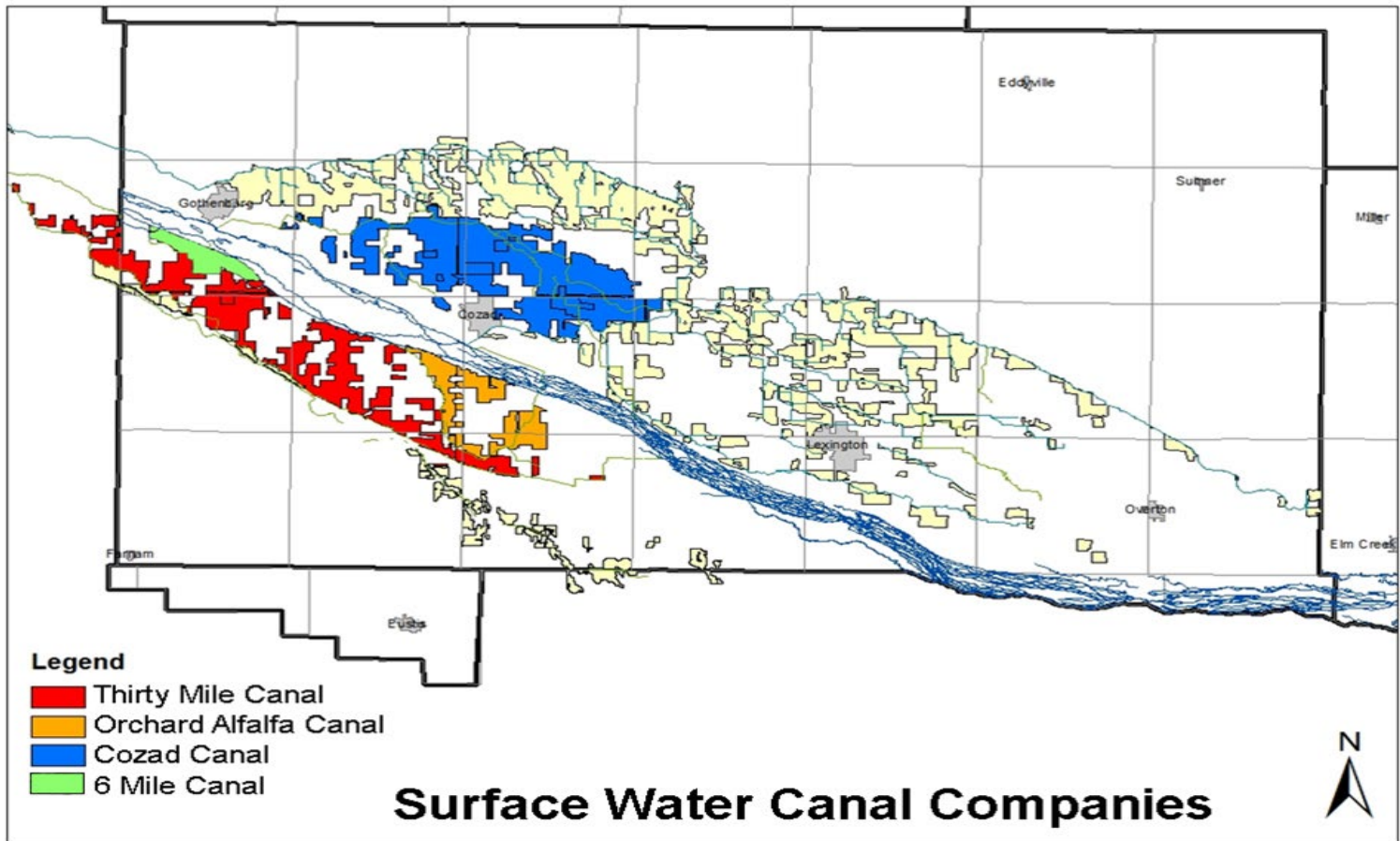
Canals still provide groundwater recharge during the irrigation season.

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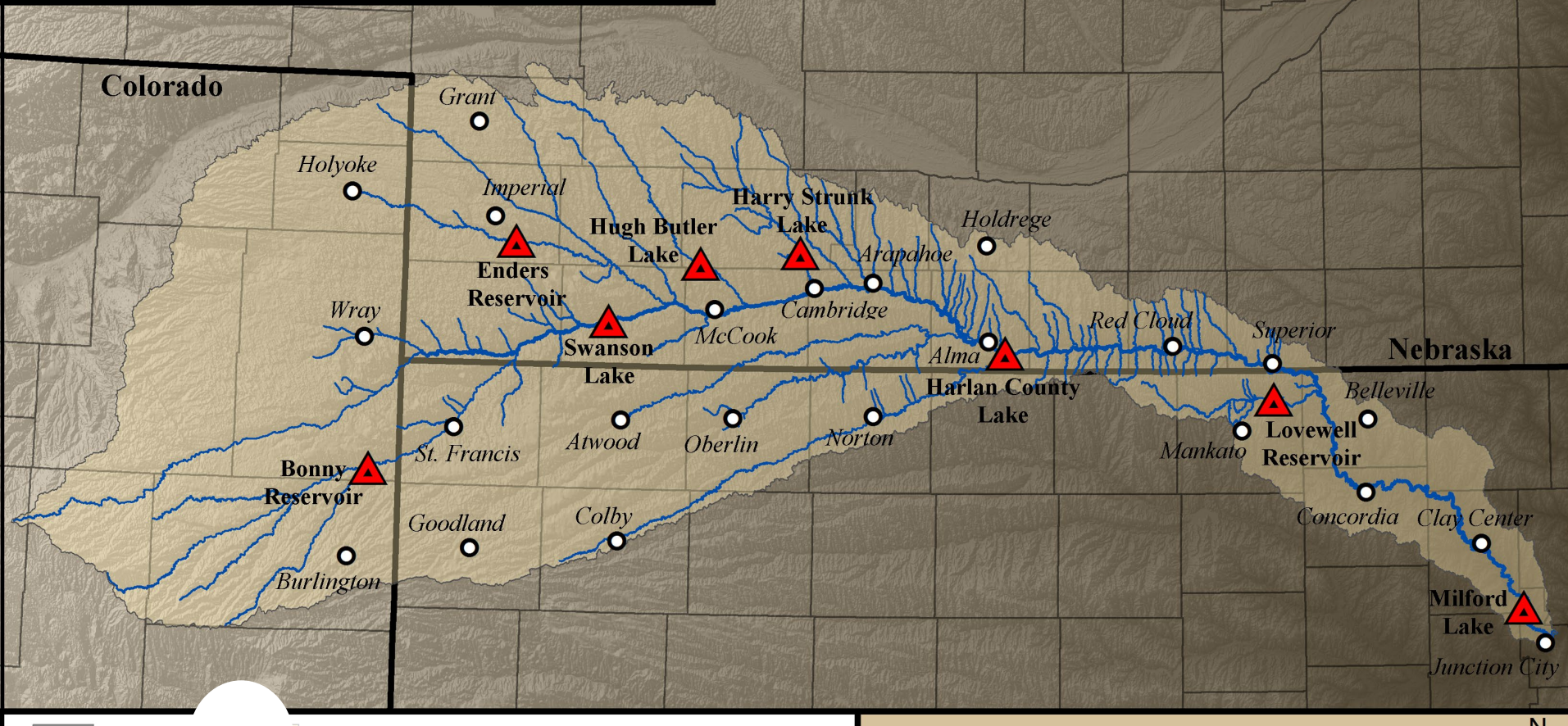
Divert flood water in off-irrigation season for recharge.

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Potential for over 30,000 acre-feet back to the river with no reduction in irrigated acres.



# Republican River Compact



## Republican River Compact

- The Compact was ratified by the states of Colorado, Kansas and Nebraska and federally in 1943 to share the water available annually among the three states.
- Colorado – 11%, Kansas 40%, Nebraska 49% -- all based off annual estimated available.
- Compliance is based off actual after the irrigation year.
- Game changed in 2002 – Court ruled that groundwater uses are to be included in the compact.
- Nebraska faced up to 300,000 irrigated acres to be shut down.

# Water Challenges -- Republican River Compact

After LB 962 – Basin declared fully appropriated.

Nebraska's NRDs have the most stringent allocation requirements in the USA -- 8 to 14 inches/year.

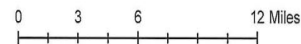
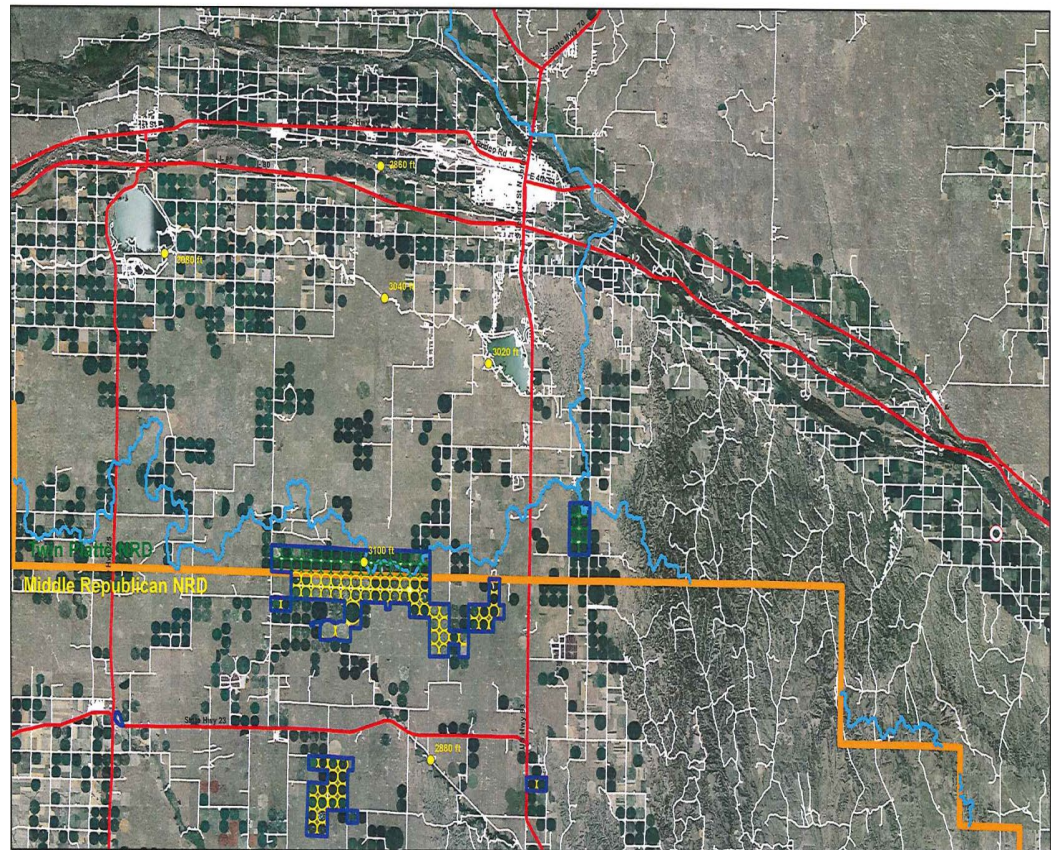
Water short years in Nebraska – Shut down 300,000 acres or NRDs must provide augmentation water – NCORPE and Rock Creek.

NRDs have invested over \$180 million for large scale augmentation projects in the basin.

# N-CORPE

- 15,784 certified irrigated acres  
Republican Basin-10,240 acres; Platte Basin -5,364 acres
- Four NRDs - Twin Platte, Upper, Middle and Lower Republican NRDs) purchased the land.
- All acres back to grass.
- Water pumped only in water short years – less than amount originally used for irrigation.
- No pumping since 2016 -- groundwater levels up >16 ft at N-CORPE.
- Helps to protect up to 300,000 irrigated acres in the Republican Basin
- Twin Platte benefits for pre 1997 levels.

## Nebraska Cooperative Republican Platte Enhancement Project N-CORPE

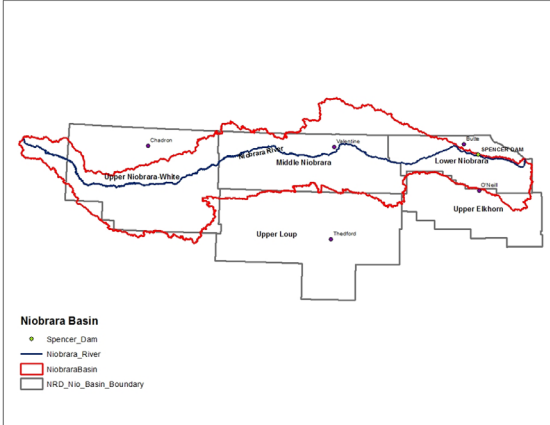


CERTIFIED IRRIGATED ACRES
Twin Platte NRD - 5,365.4 acres
Middle Republican NRD - 10,433.6 acres

Date: November 20, 2012  
By: Phil Heimann  
Sources: TPNRD, MRNRD, DNR

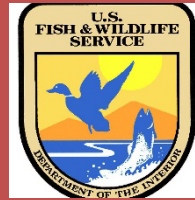
# Water Challenges – Niobrara River

- *Designated as a National Scenic River in Nebraska.*
- *Originates by Lusk, Wyoming*
- *500 miles across northern Nebraska*
- *Confluence with the Missouri River by Niobrara, NE*





# Niobrara River Federal Water Right



Scenic River designation in 1991



US Department of Interior wanted a Senior Federal Water right and require permits for all current and future uses.



The feds claim Nebraska Instream Flow laws are insufficient for federal interest because it has no priority or preference.

# Water Challenges – Niobrara River

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- *Nebraska Public Power District held essentially all of the water rights (over 2,000 cfs) for a small power plant at the lower end of the river.*
- *Agreement reached by NPPD to sell to three NRDs – Upper, Middle and Lower Niobrara.*
- *Water right transfer application submitted in 2016 was approved in 2022.*
- *The dam was destroyed by the 2019 flood, but water rights are intact.*
- *Transfer is now complete.*



# Water Challenges – Niobrara River

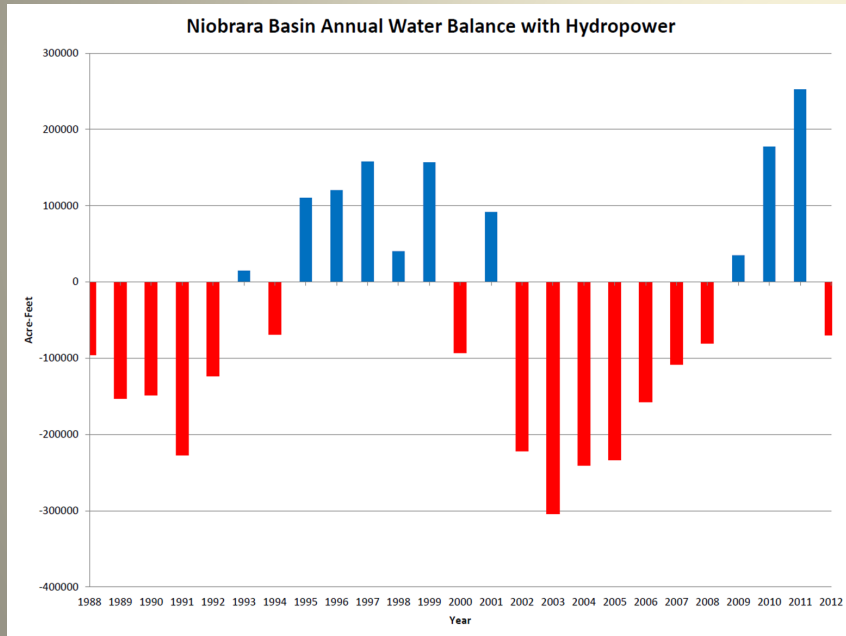
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- *Agreement reached by NRDs, Nebraska Game and Parks and NPPD to convert part to instream flow rights for fish, wildlife and recreation.*
- *Maintains 1942 Priority Date and manufacturing preference.*
- *All other existing water uses are protected – no changes.*
- *Excess water is available for other future water uses.*

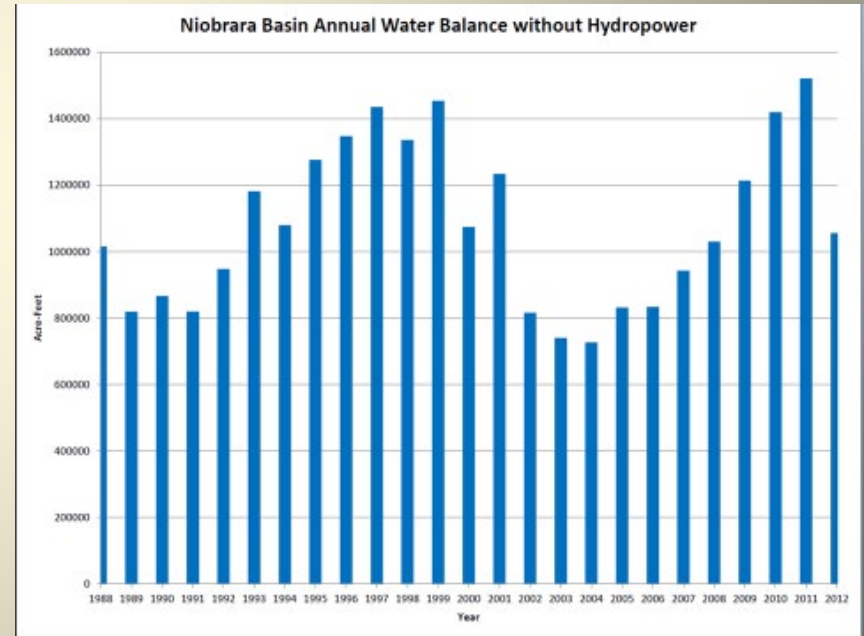


# Niobrara River available water – Pre and Post Agreement

## WITH HYDRO



## WITHOUT HYDRO

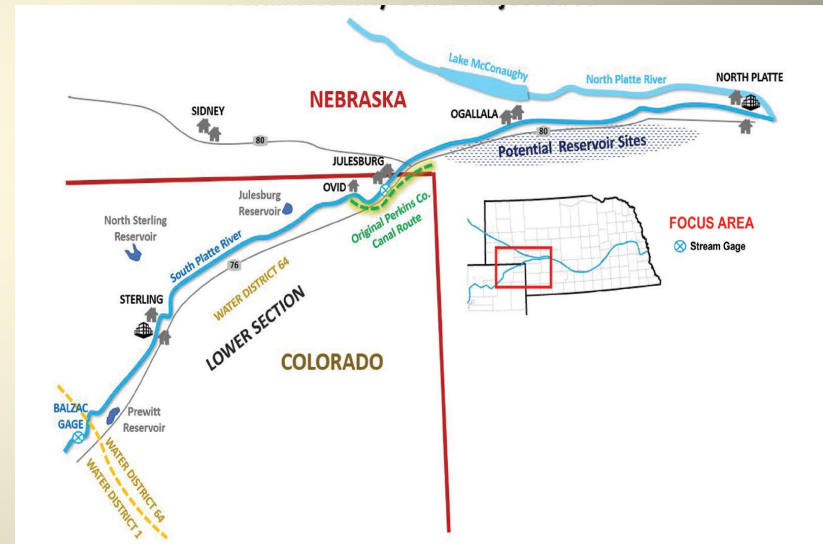


# Future Project - Perkins County Canal

## Cost/Benefit

- The cost approximately \$570 million.
- Estimated benefits are more than \$1 billion.
- Helps secure Nebraska's water future.
- South Platte Compact signed in 1923 and passed by Congress in 1926.
- Establishes a 120 cfs minimum flow during the irrigation season (Western Canal).
- Establishes a 500 cfs minimum flow during the non-irrigation season if the canal is built.

## Project Area



# Nebraska #1 – Not just in College Volleyball!

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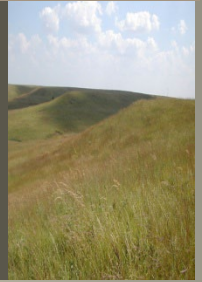
- *#1 in irrigated acres -- 8.6 million acres.*
- *#1 in water management*
- *2020 CSD Report – The average is near predevelopment, with some increases and some decreases.*
- *2022 CSD Report - After the second worst drought in this century, average water levels only dropped about 1 foot, with some increases .*





Nebraska's

*Natural Resources Districts*



**Nebraska #1 in irrigation & water  
management - Thanks to farmers  
working with local NRDs for  
management!**

Questions ?

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