

Ten Years of Integrated Water Management in Nebraska

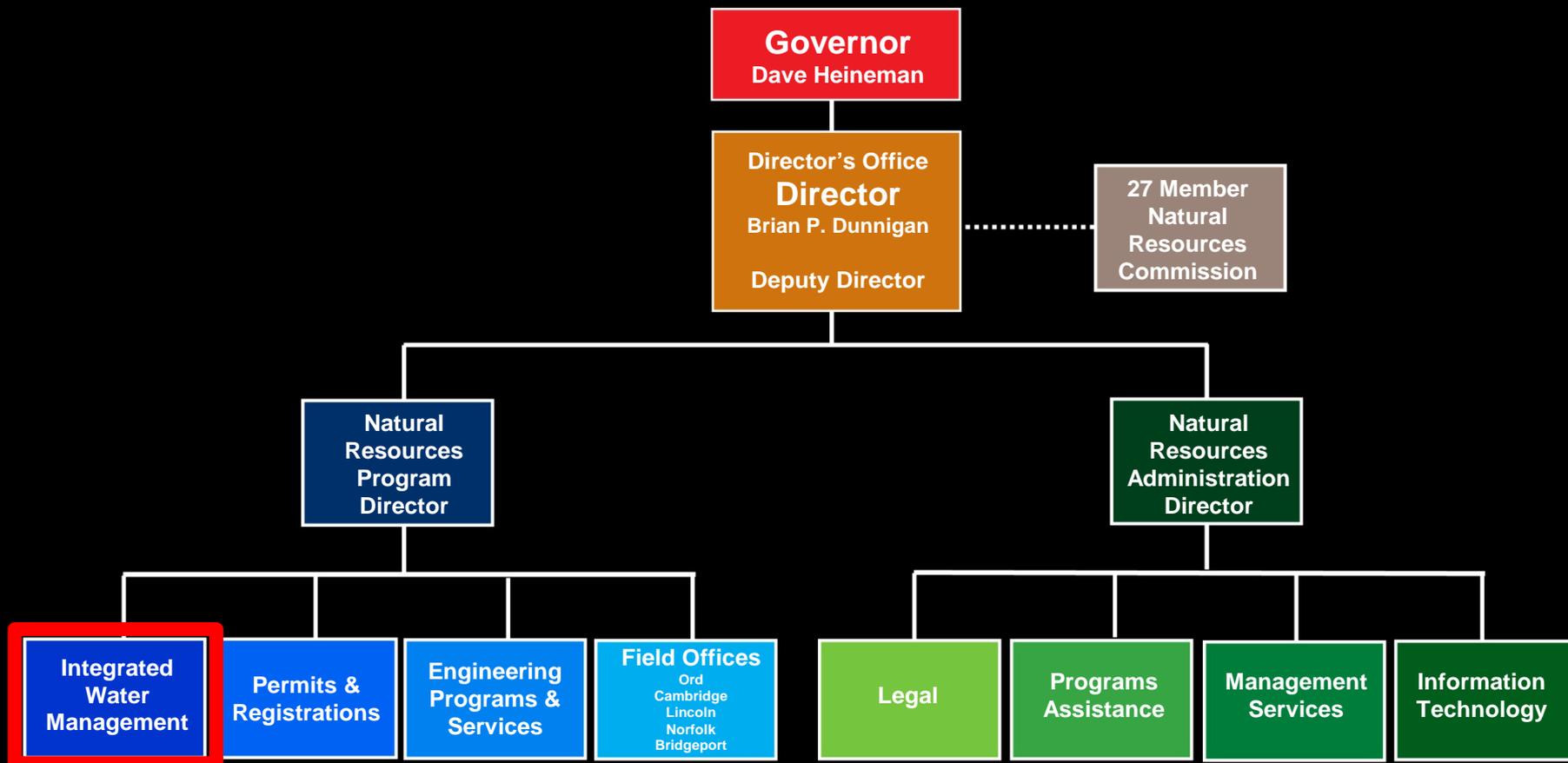
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Jennifer J. Schellpeper, M.S.
Integrated Water Management Coordinator
Nebraska Department of Natural Resources

 **Nebraska**
Department of Natural Resources



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What we do:



To help better understand:

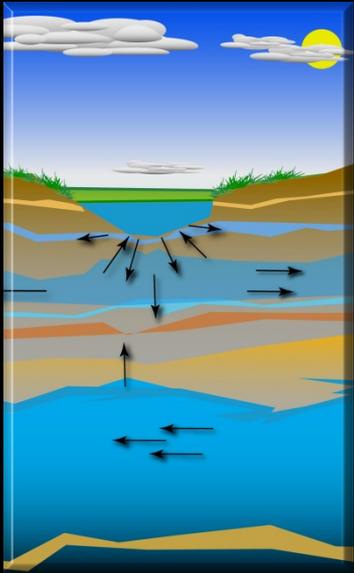
- Nebraska's water supplies and uses
- The effects of potential water management strategies

Over View

- The setting prior to Integrated Management
- What is Integrated Management?
- What has been accomplished?
- What has changed in 10 years?
- Where is Integrated Management going next?



Integrated Management of Hydrologically Connected Surface Water and Groundwater

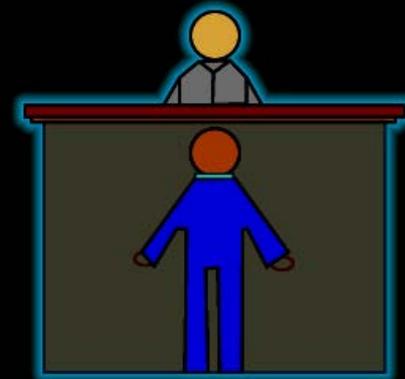


- Pre-1963
 - Surface Water – Groundwater Managed Separately
- 1963
 - Bill to consider wells located within 50 feet of the stream as part of the surface water system
- 1983
 - **LB 198**: Intentional and Incidental recharge on surface water canal systems
- 1996
 - **LB 108**: Joint Action Plans; first NRD authority to regulate groundwater to protect streamflow

2002 Nebraska Water Policy Task Force



- Interstate Compacts, Decrees, or other agreements
 - Platte River Recovery Implementation Program (PRRIP)
 - Republican River Compact
- Conflicts between groundwater users and surface water appropriators
 - Spear T Ranch litigation
 - CNPPID complaint
 - Other threatened litigation



LB 962 (2004)

Groundwater Management and Protection Act



- Creates Joint Planning Process with NDNR and NRDs - Proactive approach to integrated management
- Annual evaluation by NDNR of all river basins not declared fully or overappropriated by January 1st of each year
- Declaration starts IMP process
 - Stakeholders
 - Plan Development
 - Implementation

**Groundwater
Correlative
Rights**

**Surface Water
Prior
Appropriations**



The diagram illustrates the hydrological connection between surface water and groundwater. It features a central rectangular frame containing a landscape with a sun, clouds, and a field of corn. Below the ground surface, a cross-section shows various geological layers in shades of yellow, orange, and brown. A blue layer represents surface water, and a darker blue layer below it represents groundwater. Red arrows indicate the flow of water between these two systems: some arrows point from surface water down into the groundwater, while others point from groundwater up towards the surface. A vertical well is shown on the left side, with a red arrow pointing upwards from the groundwater into it. The text 'Effective Management of Hydrologically Connected Waters' is overlaid in the center of the diagram.

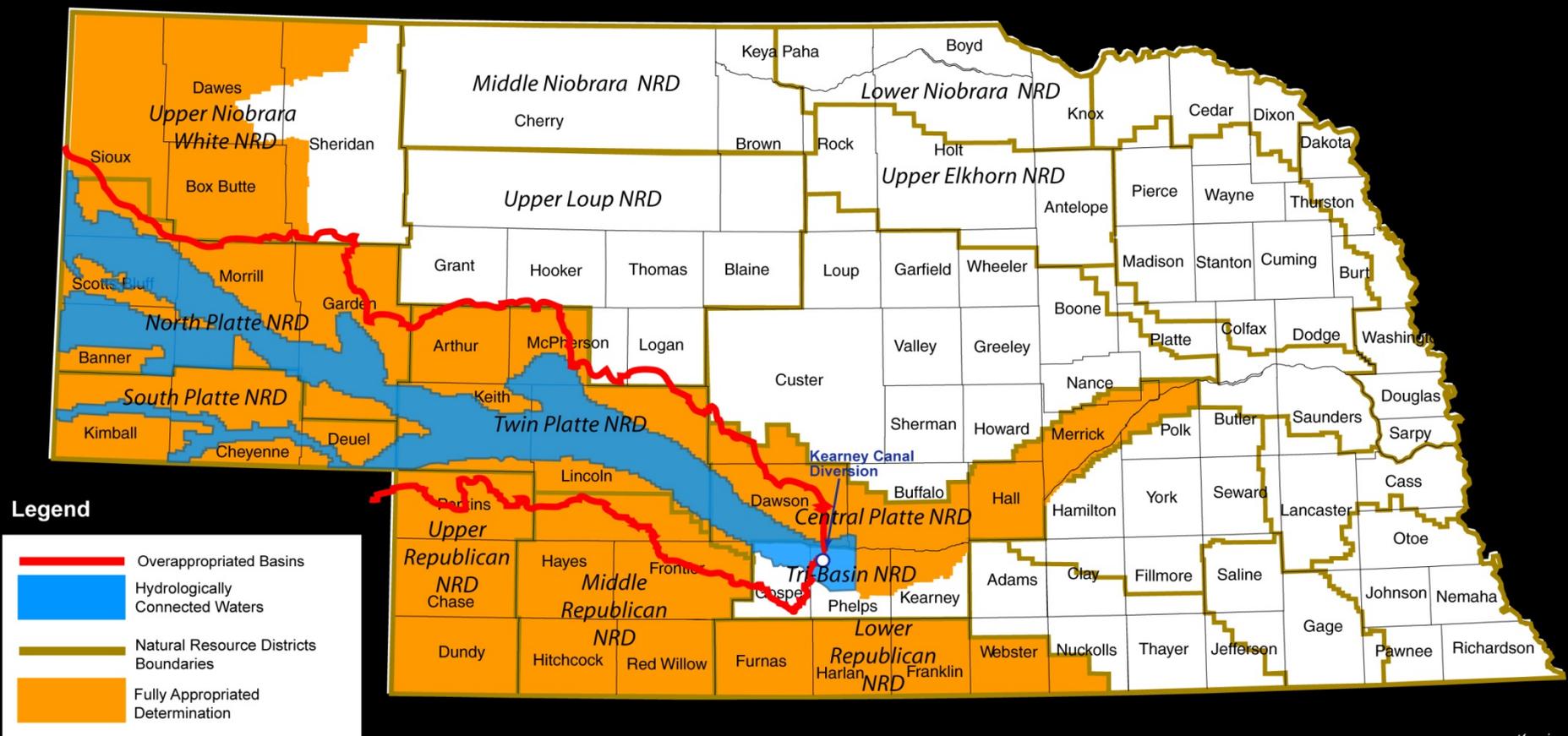
**Effective Management
of
Hydrologically
Connected
Waters**

**Groundwater
Regulated by
NRDs**

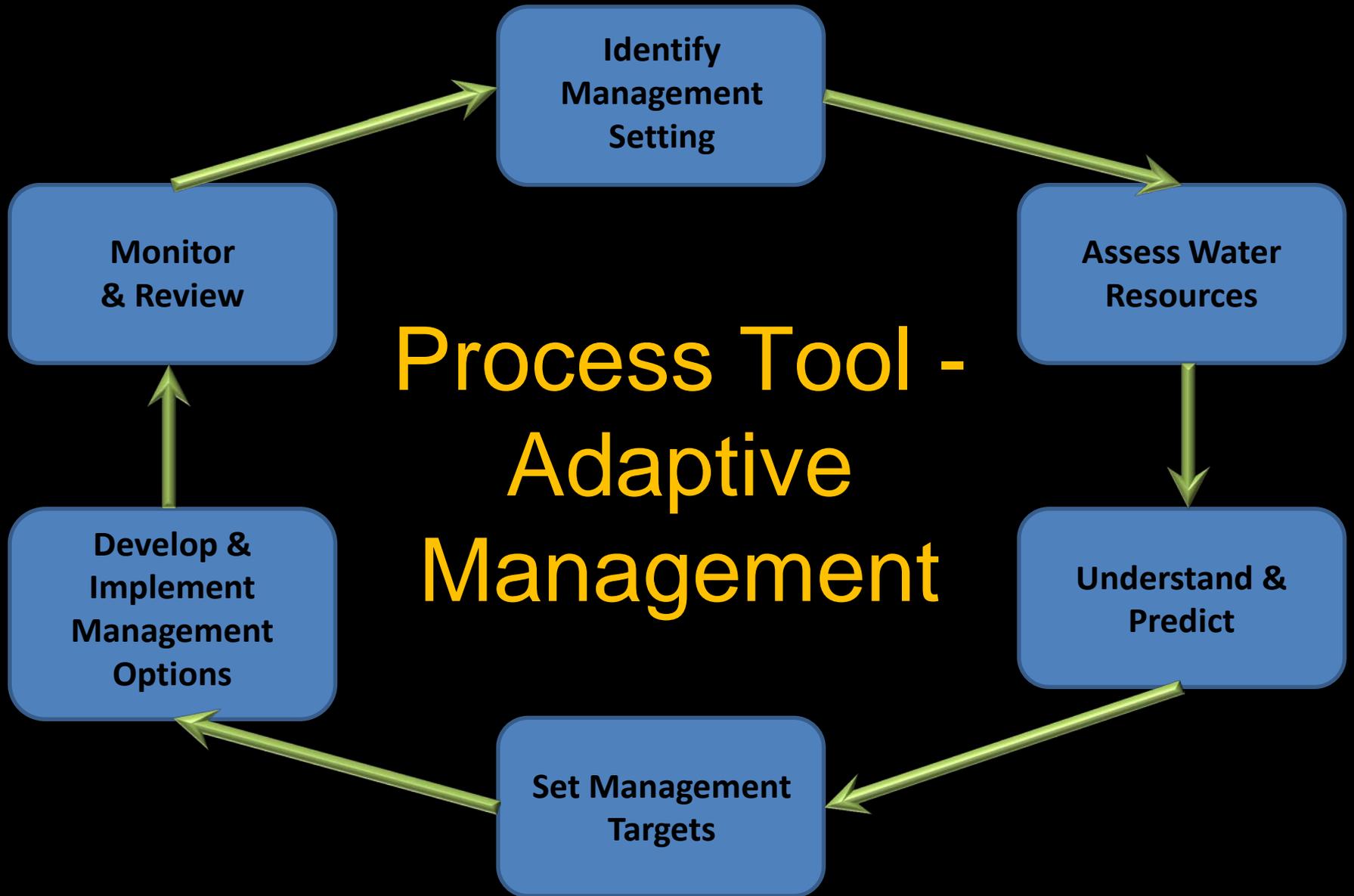
**Surface Water
Regulated by
DNR**

Initial IMP Areas

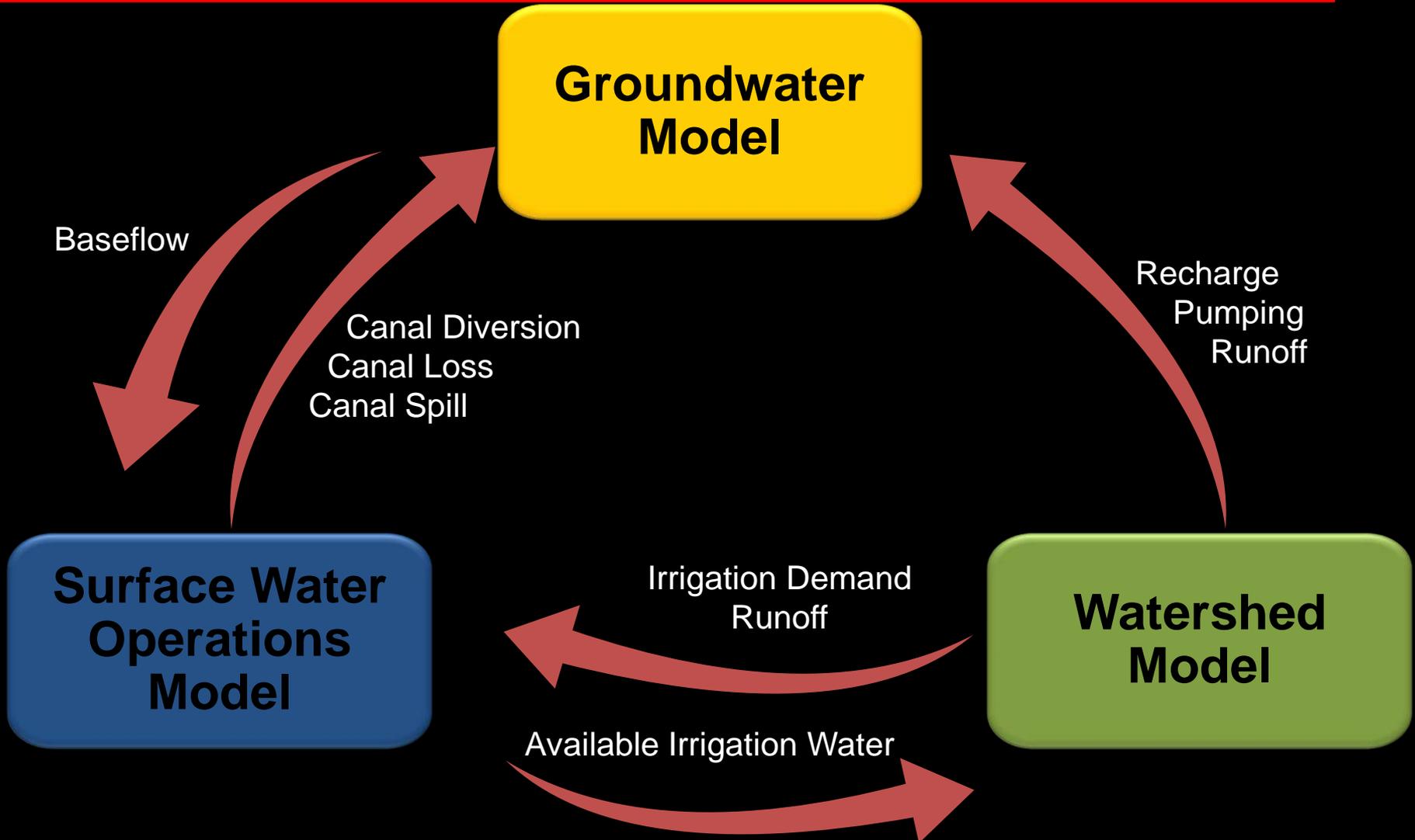
Fully Appropriated & Overappropriated



Process Tool - Adaptive Management



Technical Tools – Integrated Model



Modifications to LB 962

- 2007

- **LB 701**: Republican River forecast & cash fund

- NDNR in consultation with NRDs releases an annual water supply forecast; *Neb Rev Stat. § 46-715 (6)*
 - Water Resources Cash Fund; State Funding, *Neb Rev Stat. § 61-218*

- 2009

- **LB 483**: Reversal of fully appropriated determinations; *Neb. Rev. Stat. § 46-714 (12)*

- Rights and Responsibilities of NRDs and NDNR when determination of fully appropriated is reversed
 - Limited new development of irrigated acres in hydrologically connected corridors surrounding rivers

- **LB 54**: Transparency in tracking methods

- Provides transparency between the NDNR and local water managers and users in the tracking of depletions and gains to streamflow; *Neb. Rev. Stat. § 46-715 (3)*

Modifications to LB 962

- 2010

- **LB 862:** Occupation Tax, local funding
 - *Neb. Rev. Stat. § 2-3226.05*
- **LB 764:** Provisions for voluntary IMPs
 - Allows NRDs to enter into voluntary IMP process with NDNR
 - *Neb. Rev. Stat. § 46-715 (1)(b)*

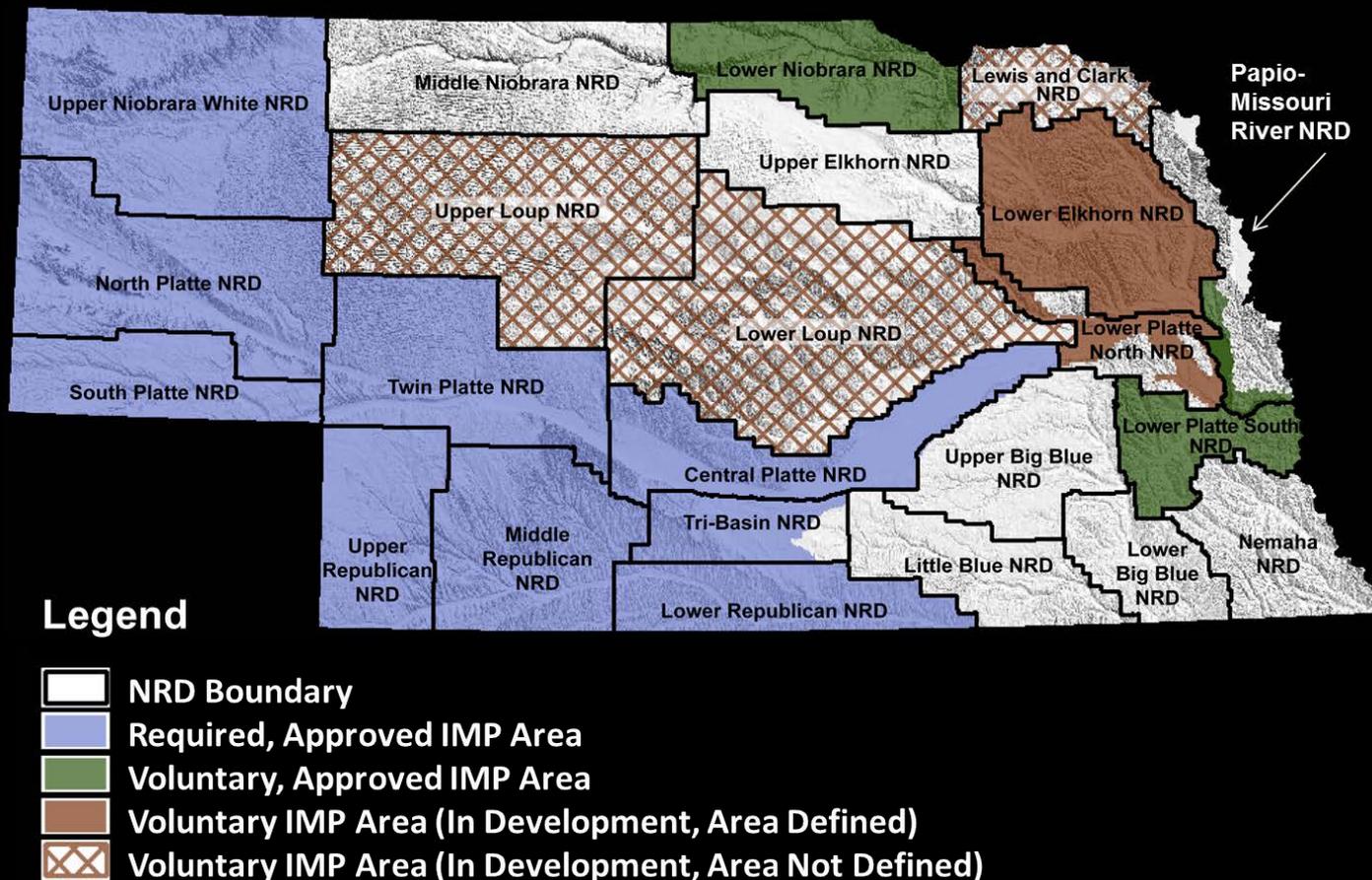
- 2014

- **LB 1098:** Water Sustainability Fund & basin-wide planning
 - Provides funding for water supply enhancement and control projects
 - Initiates basin-wide planning in the Republican River Basin



Current IMPs Approved or in Development

Areas Involved in Integrated Management Planning, as of August 2104



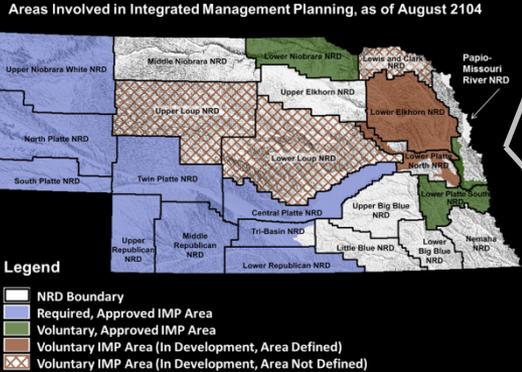
IMP Progress (Then vs. Now)

Then (2005)

	Plan Area	Plan Status	Type
1	CPNRD	Development	Required
2	LRNRD	Development	Required
3	MRNRD	Development	Required
4	NPNRD	Development	Required
5	SPNRD	Development	Required
6	TBNRD	Development	Required
7	TPNRD	Development	Required
8	UNWNRD	Development	Required
9	URNRD	Development	Required
10	Upper Platte Basin	Development	Required

Now (2014)

	Plan Area	Plan Status	Type
1	CPNRD	Implementation	Required
2	LRNRD	Implementation	Required
3	MRNRD	Implementation	Required
4	NPNRD	Implementation	Required
5	SPNRD	Implementation	Required
6	TBNRD	Implementation	Required
7	TPNRD	Implementation	Required
8	UNWNRD	Implementation	Required
9	URNRD	Implementation	Required
10	Upper Platte River Basin	Implementation	Required
11	UBBNRD	Implementation	Required
12	LPSNRD	Implementation	Voluntary
13	PMRNRD	Implementation	Voluntary
14	LNNRD	Implementation	Voluntary
15	LPNNRD	Development	Voluntary
16	LENRD	Development	Voluntary
17	LCNRD	Development	Voluntary
18	LLNRD	Development	Voluntary
19	ULNRD	Development	Voluntary
20	Republican River Basin	Development	Required
21	Lower Platte River Basin	Development	Voluntary
22	Niobrara River Basin	Development	Voluntary



Recap: Integrated Water Management

- Pros
 - Proactive & Adaptable
 - Customizable
 - Optimizes use of streamflow supply
 - Multiple tools & approaches
 - Water budgets, hydrologic models, economic analyses
- Cons
 - Data Intensive
 - Time Intensive
- IWM Planning is **NOT** static, mandatory restrictions, one-size-fits-all

Successes

- Upper Platte Basin-Wide Planning
- Platte River Recovery Implementation Program
- Intra-State Goals
 - Achieve and Sustain A Balance
 - Offset Streamflow Depletions
 - Identify Projects to Enhance Water Supply
 - Conjunctive Management Projects
 - Develop Evaluation Methods and Data
- Republican River IMPs
- Compact Compliance
 - 05-06 Non-Compliance
 - Conjunctive Management Projects
- 3 Generations of IMPs
- Intra-State Goals
 - Basin-Wide Planning

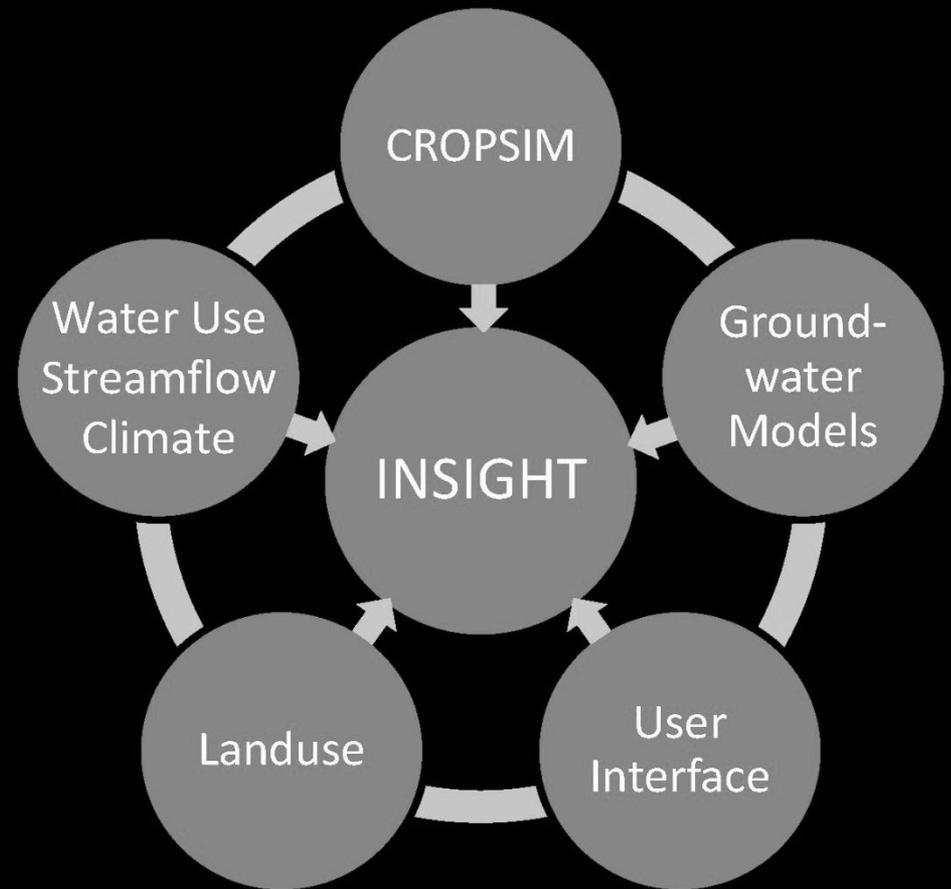
What's Next?

- More Voluntary IMPs
- Second Generation IMPs (or more)
 - Upper Platte River
 - Republican River
- Data Collection & Monitoring
 - Improvement of Data
 - Improvement of Model



INSIGHT: *Integrated Network of Scientific Information & GeoHydrologic Tools*

- An annual snapshot of water conditions across the state
- An educational tool for water managers and the public
- A tool to help evaluate water management options





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