



# Ten Years of Integrated Water Management in Nebraska

59<sup>th</sup> Annual Midwest Groundwater Conference  
October 1, 2014

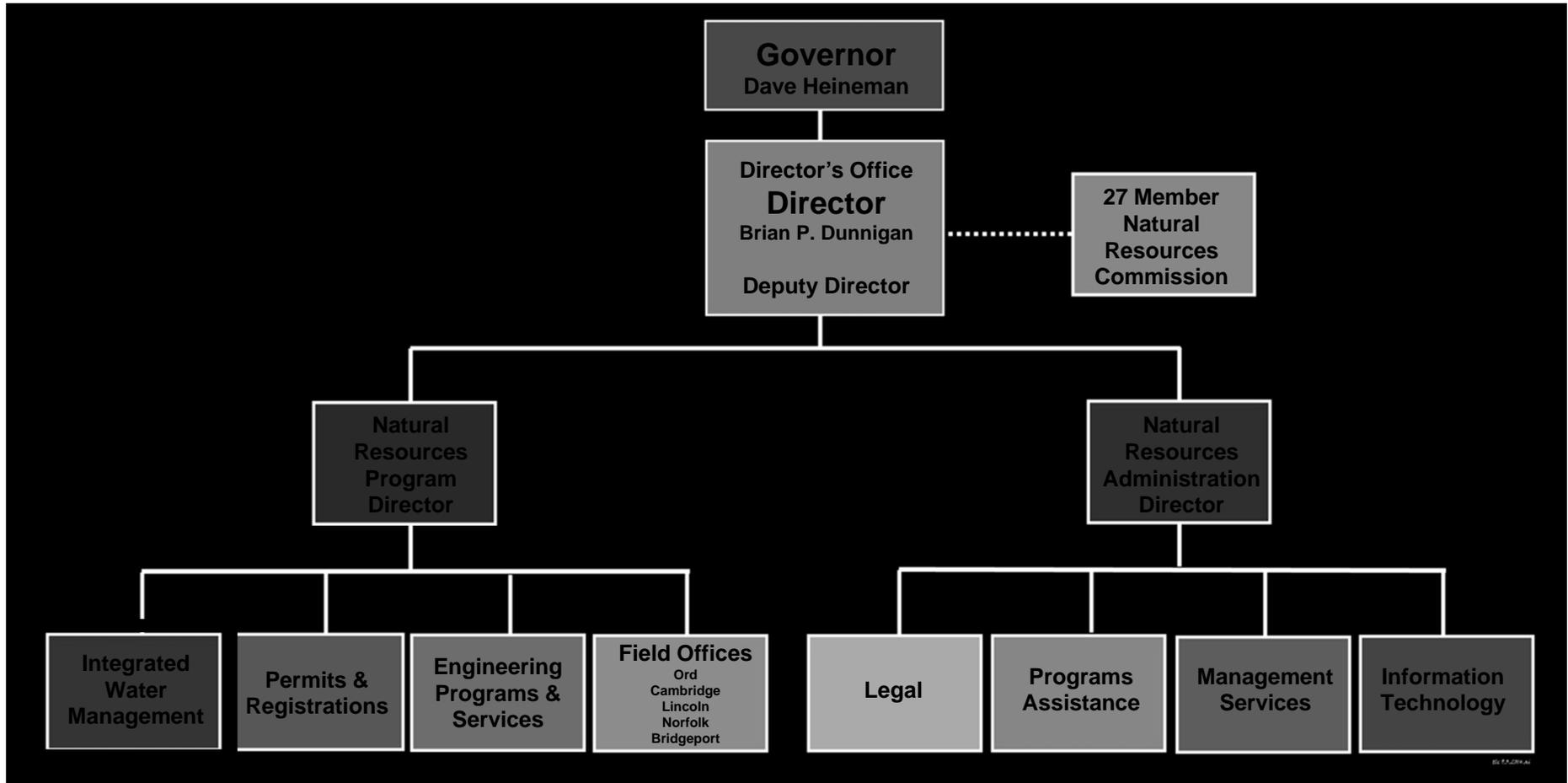
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Department of Natural Resources



# Nebraska Department of Natural Resources

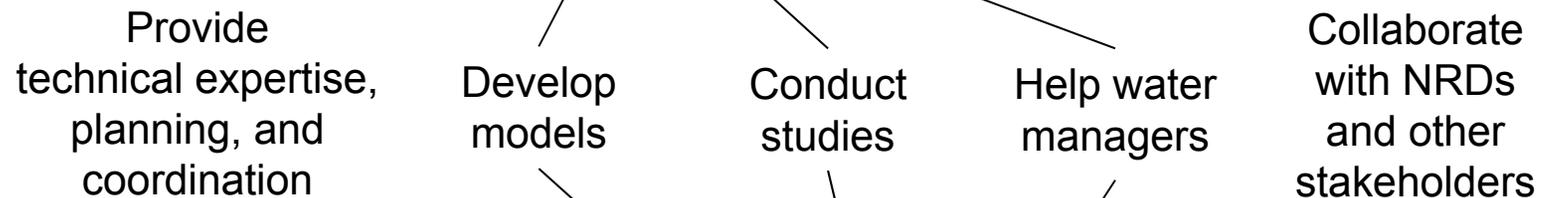




Department of Natural Resources

# Integrated Water Management Division

## What we do:



### To help better understand:

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

# Over View

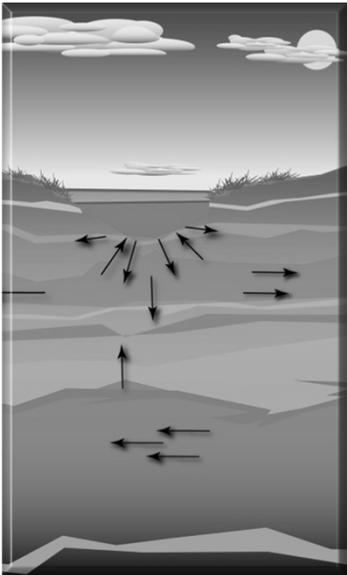
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- The setting prior to Integrated Management
- What is Integrated Management?
- What has been accomplished?
- What has changed in 10 years?
- Where is Integrated Management going next?



# Integrated Management of Hydrologically Connected Surface Water and Groundwater

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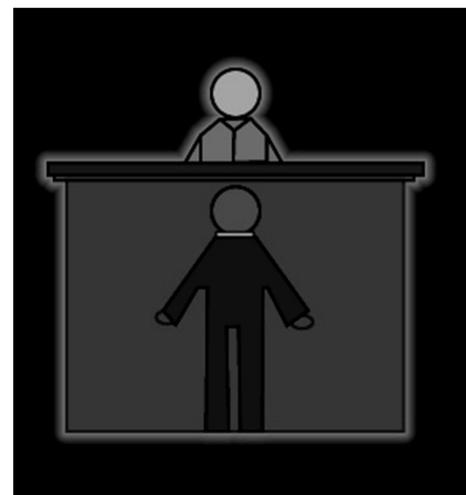
- Pre-1963
  - Surface Water – Groundwater Managed Separately
- 1963
  - Bill to consider wells located within 50 feet of the stream as part of the surface water system
- 1983
  - LB 198: Intentional and Incidental recharge on surface water canal systems
- 1996
  - LB 108: Joint Action Plans; first NRD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

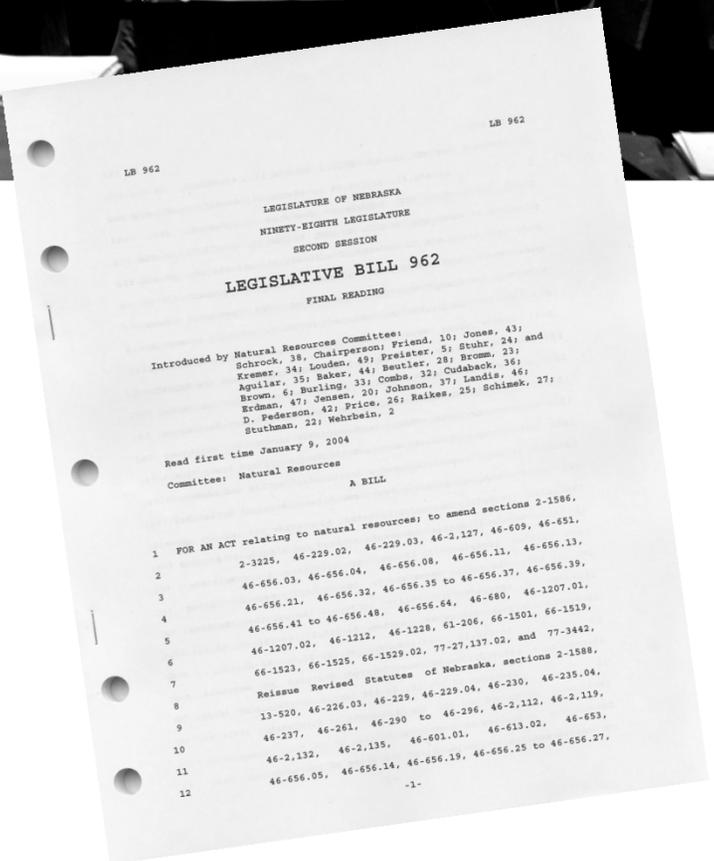
# 2002 Nebraska Water Policy Task Force

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- 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





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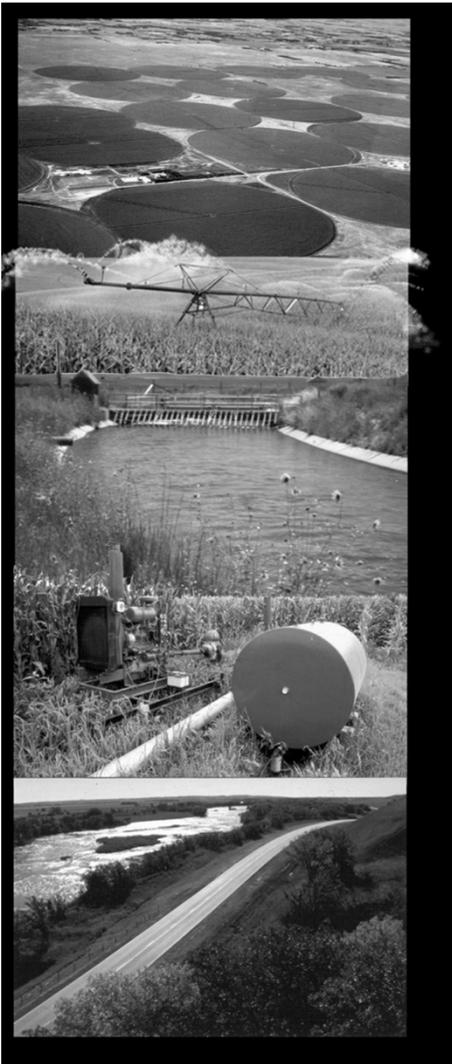
**LB 962**  
**was signed**  
**by**  
**Governor Johanns**  
**April 15, 2004**

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# LB 962 (2004)

## Groundwater Management and Protection Act

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- 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 1<sup>st</sup> of each year
- Declaration starts IMP process
  - Stakeholders
  - Plan Development
  - Implementation

# Integrated Management Plan

## Essential Goals

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- Protect investments of existing water users from adverse impacts of overuse
- Ensure State compliance with federal and state laws and interstate compacts and agreements
- Proactively monitor and manage basin water supplies before problems develop – process of maintaining a balance of water supplies and uses
- Develop a plan suited to the local values and physical conditions of the basin.

**Groundwater  
Correlative  
Rights**

**Surface Water  
Prior  
Appropriations**

**Effective Management  
of  
Hydrologically  
Connected  
Waters**

Ground Water

Surface  
Water

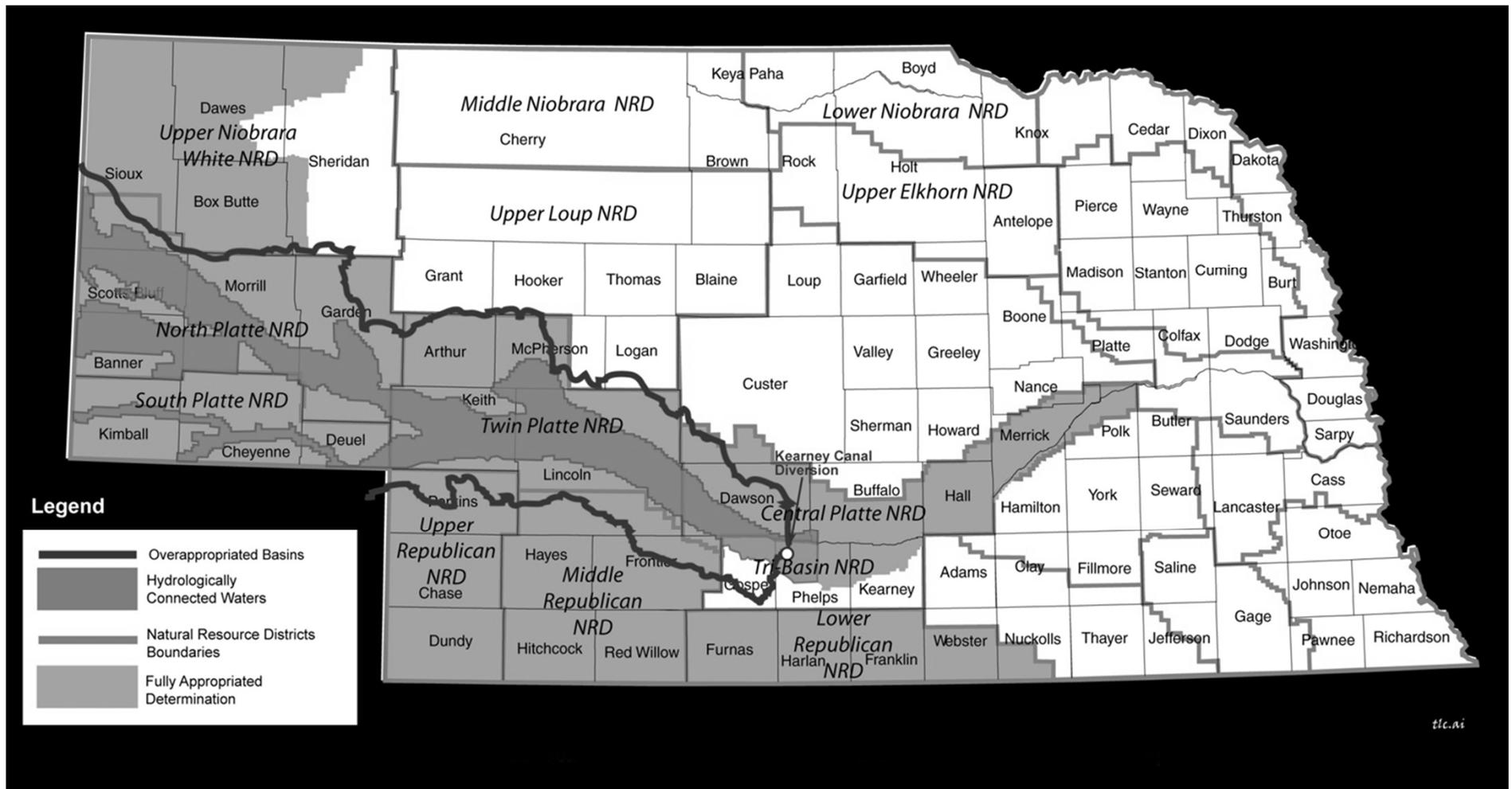
**Groundwater  
Regulated by  
NRDs**

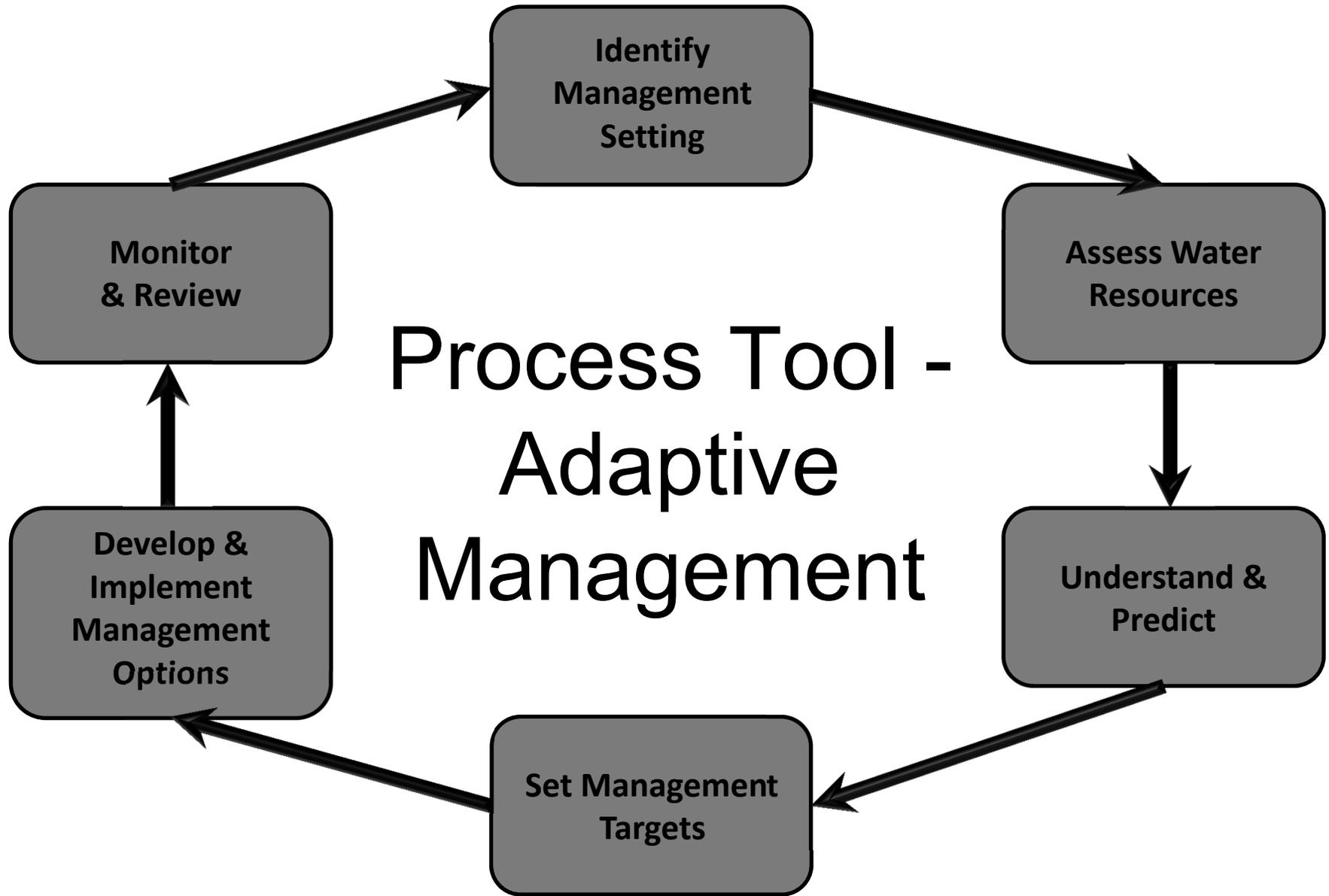
**Surface Water  
Regulated by  
DNR**



# Initial IMP Areas

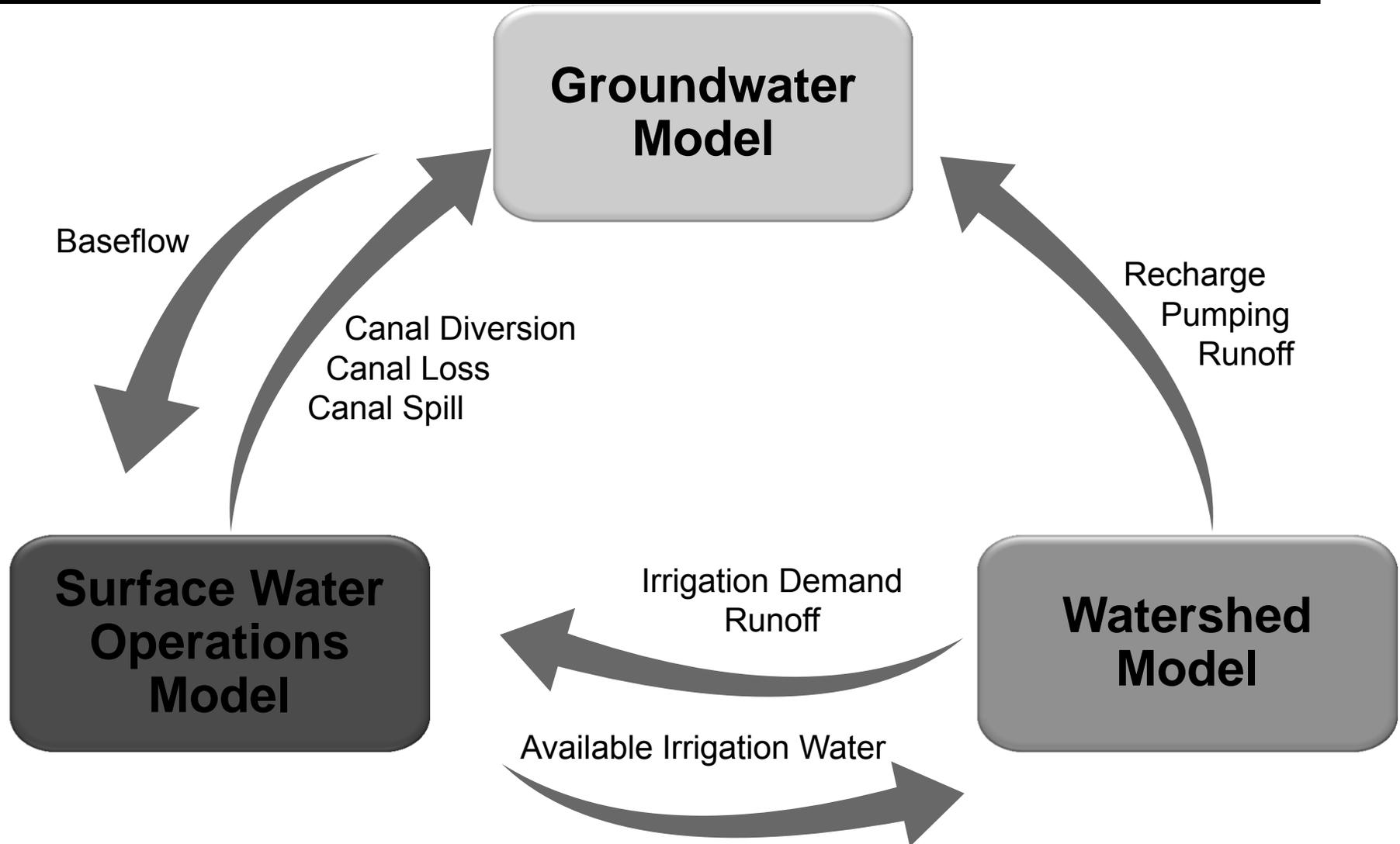
## Fully Appropriated & Overappropriated





# Technical Tools – Integrated Model

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# Modifications to LB 962

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- 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

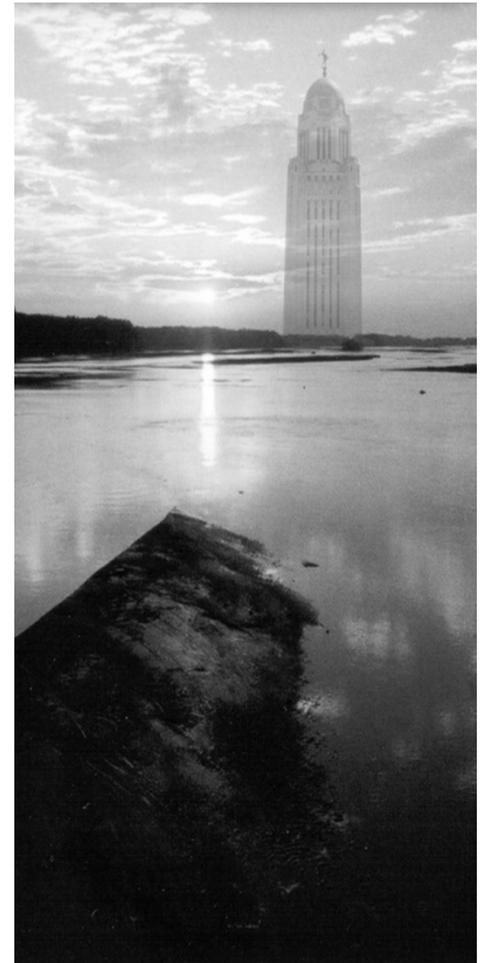
- LB 54: Transparency in tracking methods

- 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

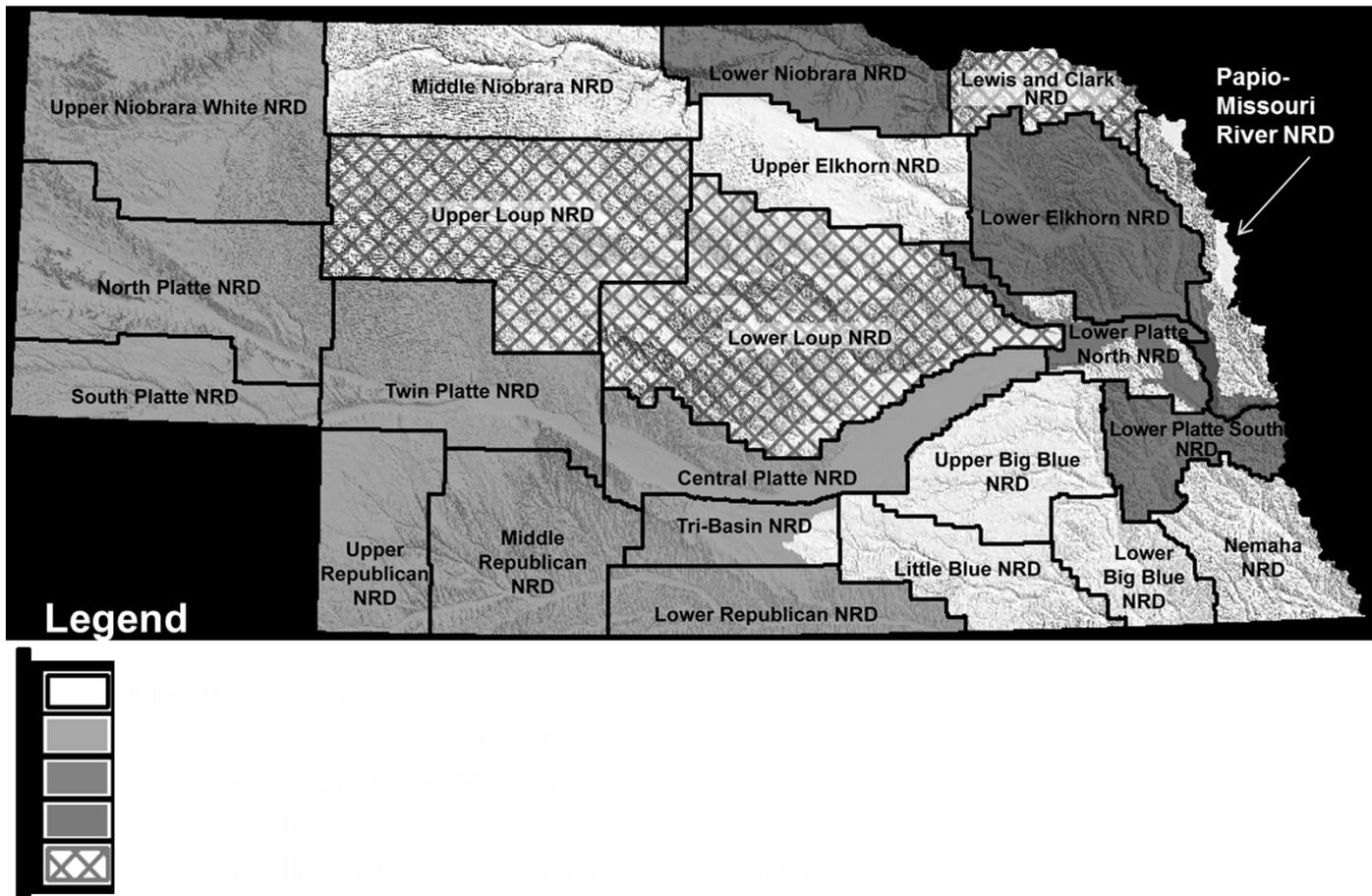
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- 2010
  - LB 862: Occupation Tax, local funding
    - *Neb. Rev. Stat. § 2-3226.05*
  - LB 764: Provisions for voluntary IMPs
    - Allows NRDs to enter into voluntary IMP process with NDNR
      - *Neb. Rev. Stat. § 46-715 (1)(b)*
- 2014
  - LB 1098: 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

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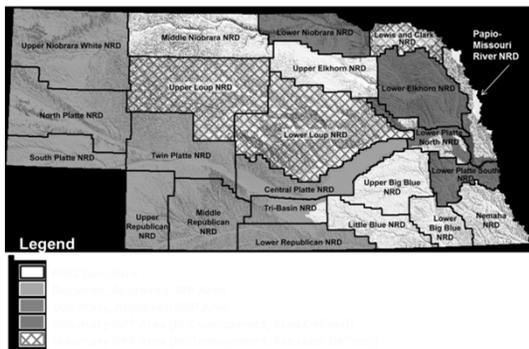
# IMP Progress (Then vs. Now)

## 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

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- 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

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- 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?

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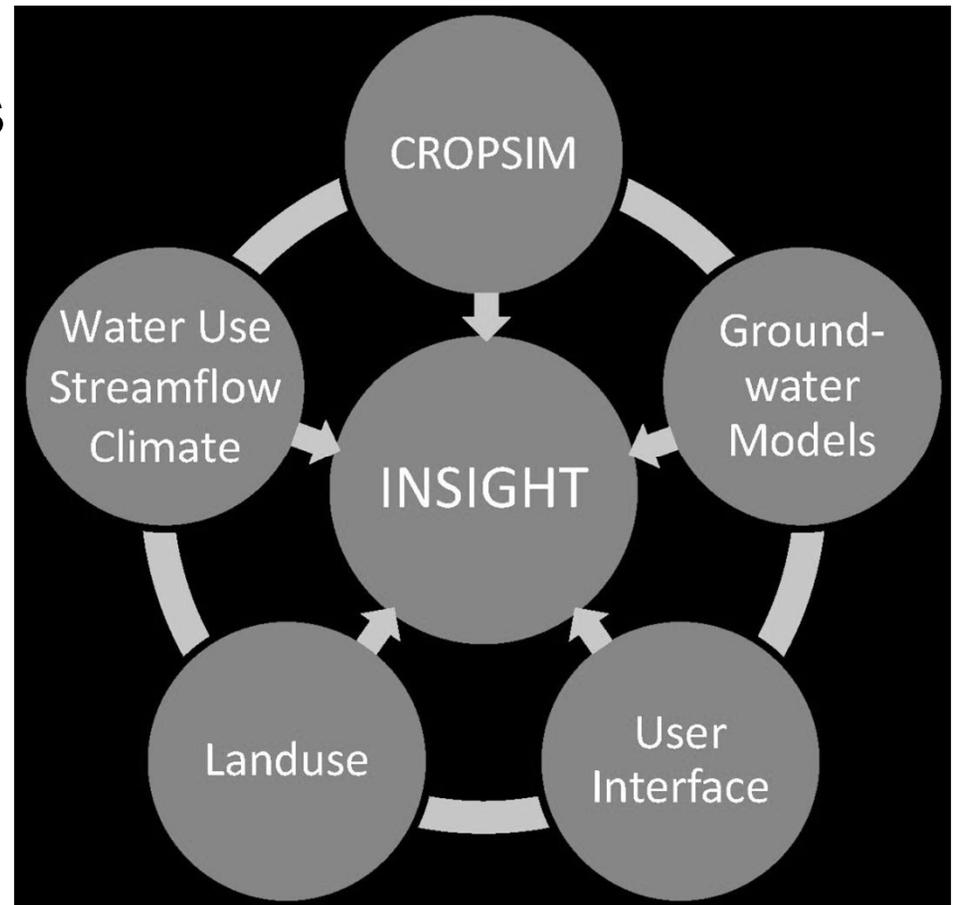
- More Voluntary IMPs
- Second Generation IMPs (or more)
  - Upper Platte River
  - Republican River
- Data Collection & Monitoring
  - Improvement of Data
  - Improvement of Model



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

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- 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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