

# Integrated Water Management

*February 17, 2015*

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# Overview

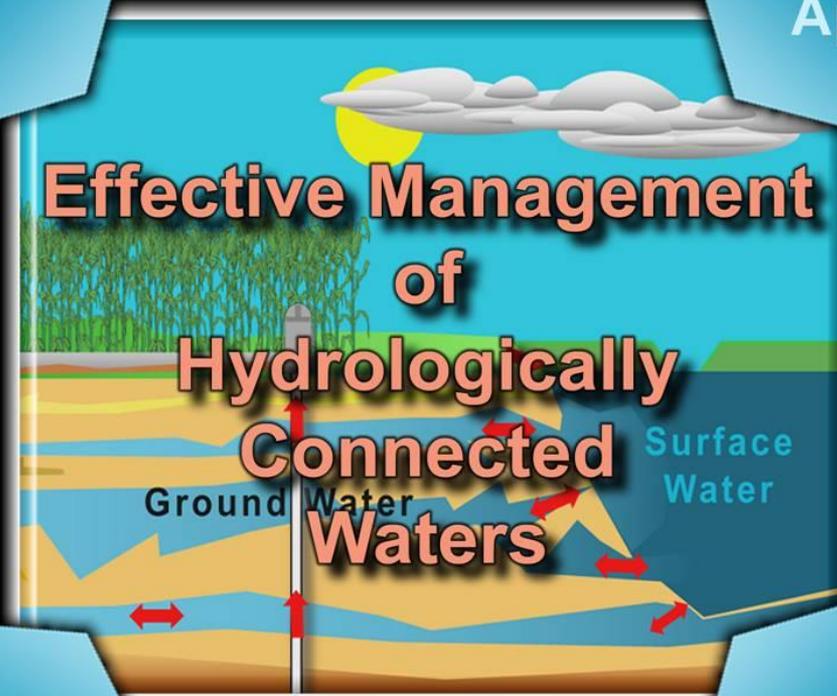
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- Background
- Roles of agencies/stakeholders
- IMP Components
- IMP Process
- INSIGHT Web Tool

**Ground Water  
Correlative  
Rights**

**Surface Water  
Prior  
Appropriations**

**Effective Management  
of  
Hydrologically  
Connected  
Waters**



**Ground Water  
Regulated by  
NRDs**

**Surface Water  
Regulated by  
DNR**

# Background

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- LB962 (2004)—Legally acknowledged hydrologically connected ground and surface waters
- Allowed a process for both entities to work together by developing IMPs
  - IMPs were initially required in fully or over-appropriated basins
  - LB 764 (2010)-inclusion of voluntary IMP process

# Background

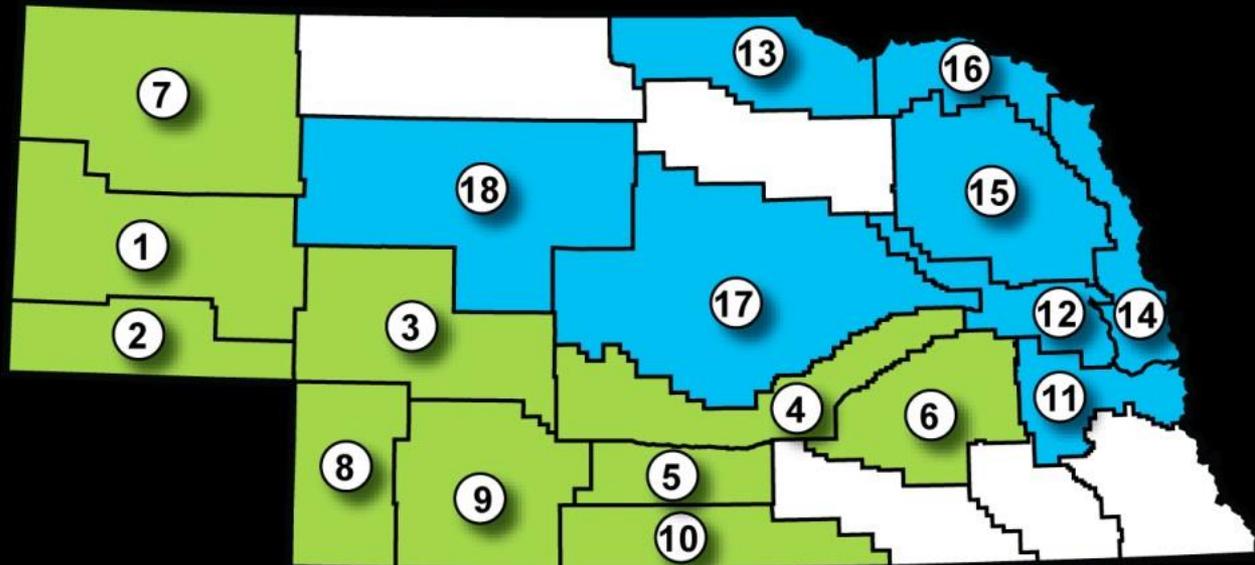
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- Voluntary IMP overarching objective
  - Achieve and sustain a balance between water uses and water supplies for the long term
- Protect existing water uses
- Proactive approach to water management
  - If FA designation occurs in future, the Department and NRD may amend the IMP

# Status of IMPs in Nebraska

## natural resources districts

1. North Platte NRD
2. South Platte NRD
3. Twin Platte NRD
4. Central Platte NRD
5. Tri-Basin NRD
6. Upper Big Blue NRD
7. Upper Niobrara-White NRD
8. Upper Republican NRD
9. Middle Republican NRD
10. Lower Republican NRD
11. Lower Platte South NRD
12. Lower Platte North NRD
13. Lower Niobrara NRD
14. Papio-Missouri River NRD
15. Lower Elkhorn NRD
16. Lewis and Clark NRD
17. Lower Loup NRD
18. Upper Loup NRD



11-18 are participating in a voluntary integrated management planning process

April 22, 2014

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# Roles

# NRD Role

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- One of the joint partners responsible for writing the plan
- Groundwater monitoring and controls
- Provide the link for local involvement to strategically guide IMP development

# NDNR Role

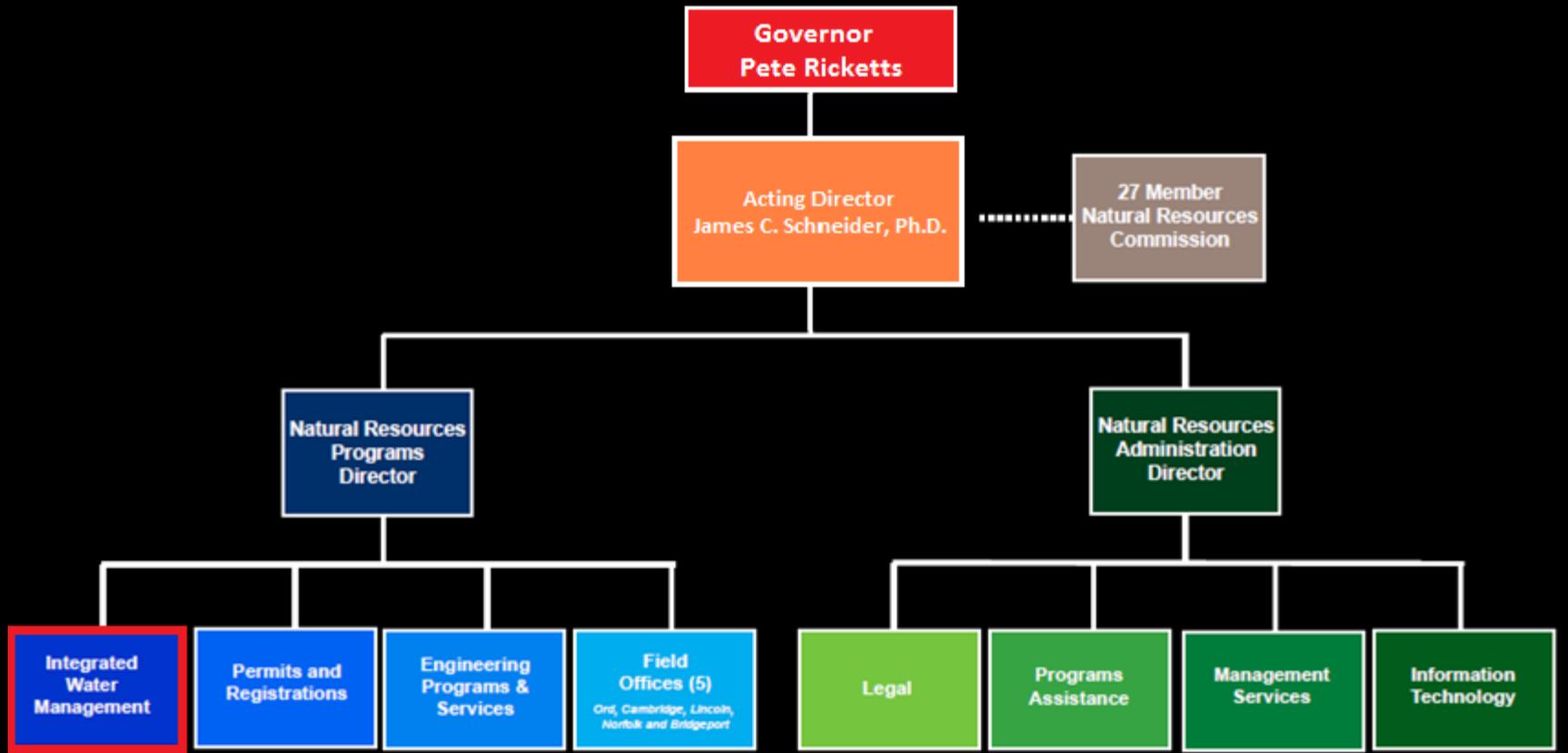
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- One of the joint partners responsible for writing the plan
- Surface water monitoring and controls
- Can provide technical support

# NDNR's IWM Division



Nebraska Department of Natural Resources



# NDNR's IMP Goals

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- Build a foundation of data and tools so water use/supply is more effectively managed
- Establish a framework for efficient, transparent, comprehensive data acquisitions and exchanges
- Identify opportunities to better adapt to changing conditions
- Listen to local inputs to increase understanding of future water uses/needs

# Stakeholder Roles

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- Provide input to development of IMP goals and objectives
- Attend meetings and convey local water issues/concerns
- Inform/educate local groups about IMP process

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# IMP Development

# Components of an IMP

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- Required components
  - Goals/Objectives
    - Purpose to achieve a balance between uses and supplies
  - Map of Geographic Area
  - One or more GW controls (§ 46-739)
  - One or more SW controls (§ 46-716)
  - Monitoring Program
- Additional components
  - Evaluation and review process
  - Education and outreach plan
  - Incentive programs
  - Action items to achieve goals/objectives

# Goals, Objectives and Action Items

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- **Goals:** Define what a group wants to accomplish
  - Provide the context from which meaningful objectives and action items are developed
- **Objectives:** Define the measurable outcomes that a group seeks to accomplish in working toward goals
- **Actions items:** Describe the specific tasks that the NRD and NDNR will undertake to achieve the goals and objectives

# Controls

- Statutes require that IMPs have **one or more** GW and one or more SW control
  - Appropriate to achieve goals and objectives

## GW controls authorized by § 46-739

- Limit GW expansion
- Transfers
- Municipal/Industrial Tracking
- Well-spacing
- Meters
- Educational requirements
- Certified Acres
- Allocations
- Rotations
- Acres Reduction

## SW controls authorized by § 46-716

- Increased Monitoring
- Variance/Transfers
- Conservation Measures
- Moratoriums

# Voluntary IMP Process

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- NRD contacts NDNR to initiate process
- Consultation with stakeholders
  - Develop **Goals and Objectives**
  - Develop action items to achieve goals and objectives
- Determine integrated management area
- NRD/NDNR draft IMP

# IMP Process

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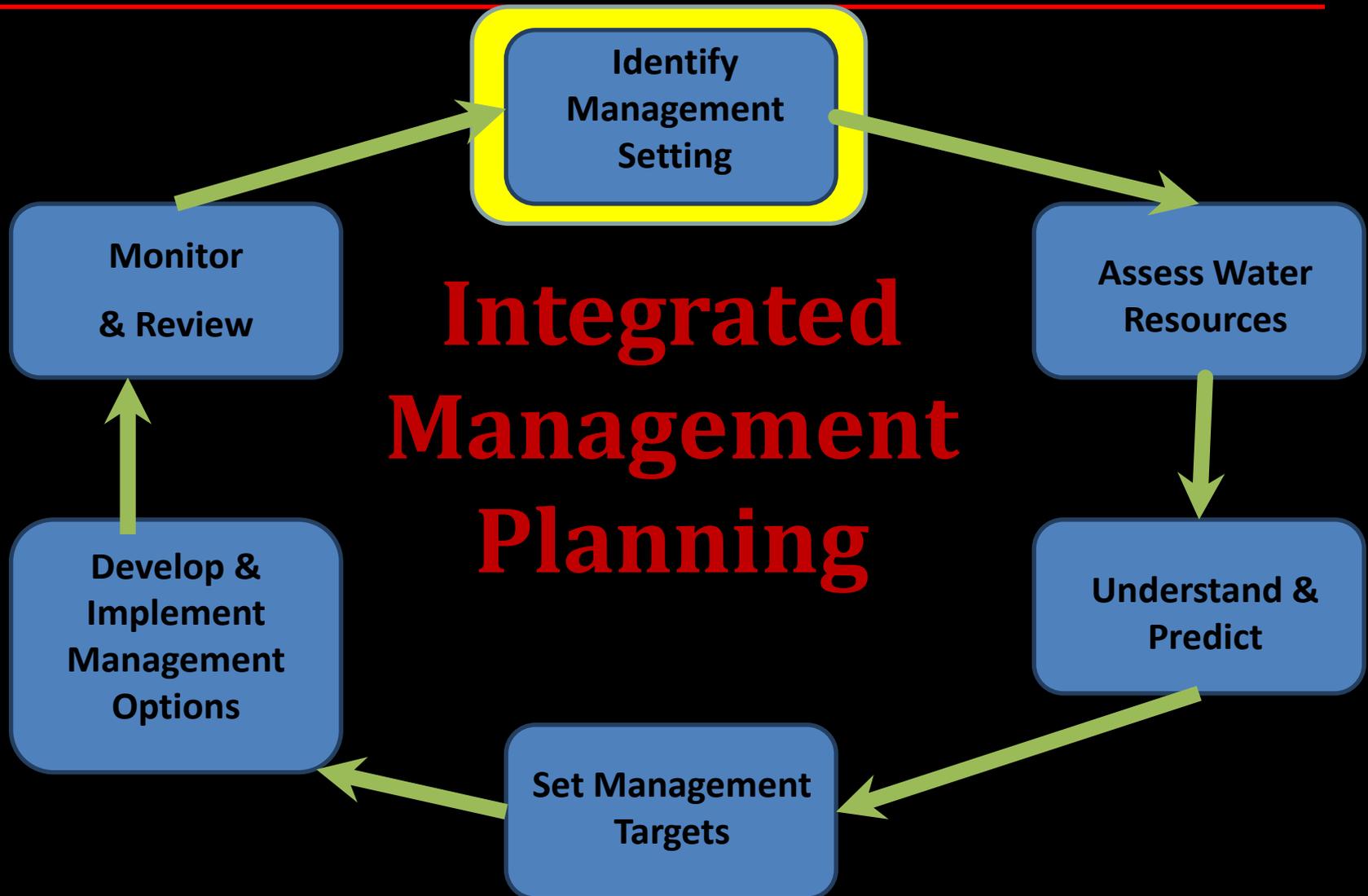
- Letter exchange between NRD and NDNR agreeing to draft plan
- Set and publish hearing date
- Joint public hearing
- NRD/NDNR consider testimony, if no changes to required components of plan...
- Publish orders to make IMP effective

# IMPs Generally

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- Evolve as the need arises
- No mandatory restrictions on new development
  - Irrigation
  - Municipal
  - Industrial
- Include local input and concerns
- Do not regulate water quality

# IMP Long-term process



# The INSIGHT Web Tool

INSIGHT  
An Integrated Network of Scientific Information & GeoHydrologic Tools

Nebraska  
Department of Natural Resources

HOME ABOUT MODELING DATA

Welcome to INSIGHT. The data and charts represent our first release and we anticipate modifications and updates based on user feedback. Please [click this link](#) if you would like to provide a comment or suggestions.

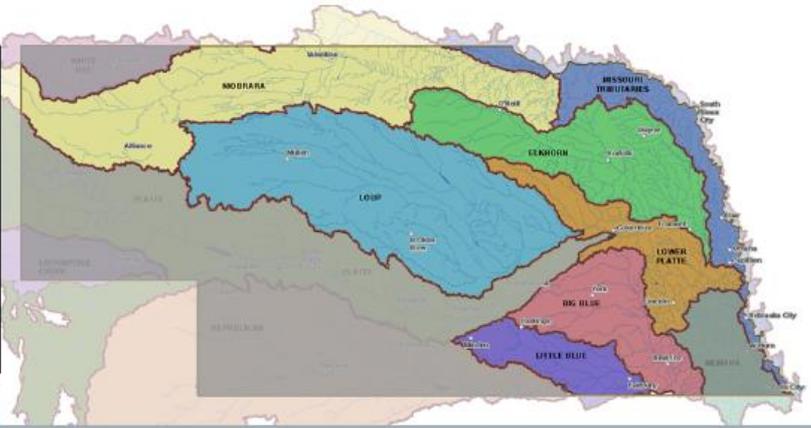
SELECT BASIN ▾

Getting Started with INSIGHT

Use this page to get started using INSIGHT.

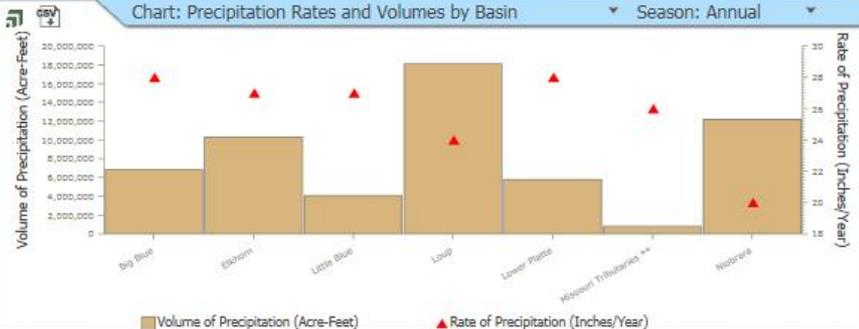
Begin by exploring hydrologic data for supplies, demands, and nature and extent of use for the state of Nebraska in the charts and graphs found in the tab area below. If you would rather learn more about hydrologic conditions for one of the state's basins and corresponding subbasins, use your mouse to hover over the map to the right and click on the basin you want to learn more about. Alternatively, you can select a basin from the drop-down menu just to the right of the map by clicking on the arrow ▾ next to SELECT BASIN. Clicking on one of these basin names has the same effect as clicking on the basin in the map.

Note that the map has some greyed-out areas. These areas, including the White-Hot, Platte, Lodgepole Creek, and Republican basins have limited data and/or are



Supply Demand Nature & Extent of Use

Chart: Precipitation Rates and Volumes by Basin Season: Annual



Basin	Volume of Precipitation (Acre-Feet)	Rate of Precipitation (Inches/Year)
Big Blue	~5,000,000	~24
Elkhorn	~10,000,000	~24
Little Blue	~4,000,000	~24
Loup	~18,000,000	~24
Lower Platte	~6,000,000	~24
Missouri Tributaries	~1,000,000	~24
Niobrara	~12,000,000	~24

Supply

Basin water supplies represent the streamflow water supply that is available for total use within a river basin or subbasin. If no surface water or groundwater use was occurring by humans in a basin, the basin water supply would be represented by the streamflow data captured at a streamflow gaging station. However, streamflow is impacted by human activity; therefore, to calculate a total basin water supply, four water supply components are added together. These four water supply components include:

1. Streamflow +
2. Surface water consumptive uses
3. Groundwater depletions
4. Upstream Inflows

# Integrated Water Management

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- Voluntary IMP
- Balance water uses and supply
- NRDs and NDNR joint effort
- Stakeholder Input
- Continuous Process



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