



# Department Rules for Conducting its Annual Basin Evaluations

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Meeting Oct. 7, 2015



Department of Natural Resources

# Outline

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- Current Fully Appropriated Rules
- Efforts to Date on Modifications to Rules
- New Rule Components and Evaluation Process
- Results of June 2014 Survey
- Timeline for Moving the Process Forward

# Annual Evaluation

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- A basin is determined to be fully appropriated if the current uses of hydrologically connected ground water and surface water will cause:
  - The surface water supply to be insufficient to sustain the beneficial uses of existing appropriations.
  - The streamflow to be insufficient to supply wells dependent on stream recharge.
  - Nebraska to be in noncompliance with a compact, decree, contract, agreement, or state and federal laws.
- Basins determined to be fully appropriated begin integrated management planning

# Annual Evaluation

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- Must Describe for each Basin:
  - Nature and extent of use of both ground water and surface water.
  - Geographic area within which the Department considers surface water and ground water to be hydrologically connected.
  - The extent to which the then-current water uses affect the available near term and long term water supplies.
  - If no legal constraints are imposed on future development how preliminary conclusions may change.

# Current Rule

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- The junior surface water rights act as an alarm
- If streamflow is sufficient to supply junior surface water appropriators, it is also sufficient to supply recharge for ground water wells dependent on streamflow for recharge
- A depletion in one component of the hydrologically connected system depletes the other component

# Current Rule

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- The surface water supply shall be deemed insufficient, after considering the lag effect from existing ground water pumping (25 years), if the appropriation cannot divert **85%** of the annual crop irrigation requirement between May 1 and September 30 or **65%** of the annual crop irrigation requirement between July 1 and August 31.

# Efforts to Date on New Rules

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- 2009 Upper Platte IMP's Adopted
- 2010 – 2012 new rule concepts developed
- 2013 release of draft rules and public hearing
- 2014 survey of stakeholders and release of new draft rules
- <http://www.dnr.nebraska.gov/iwm/timeline-for-assessment-and-potential-modification-of-department's-rules-related-to-its-determination-of-fully-appropriated-basins-subbasins-or-reaches>

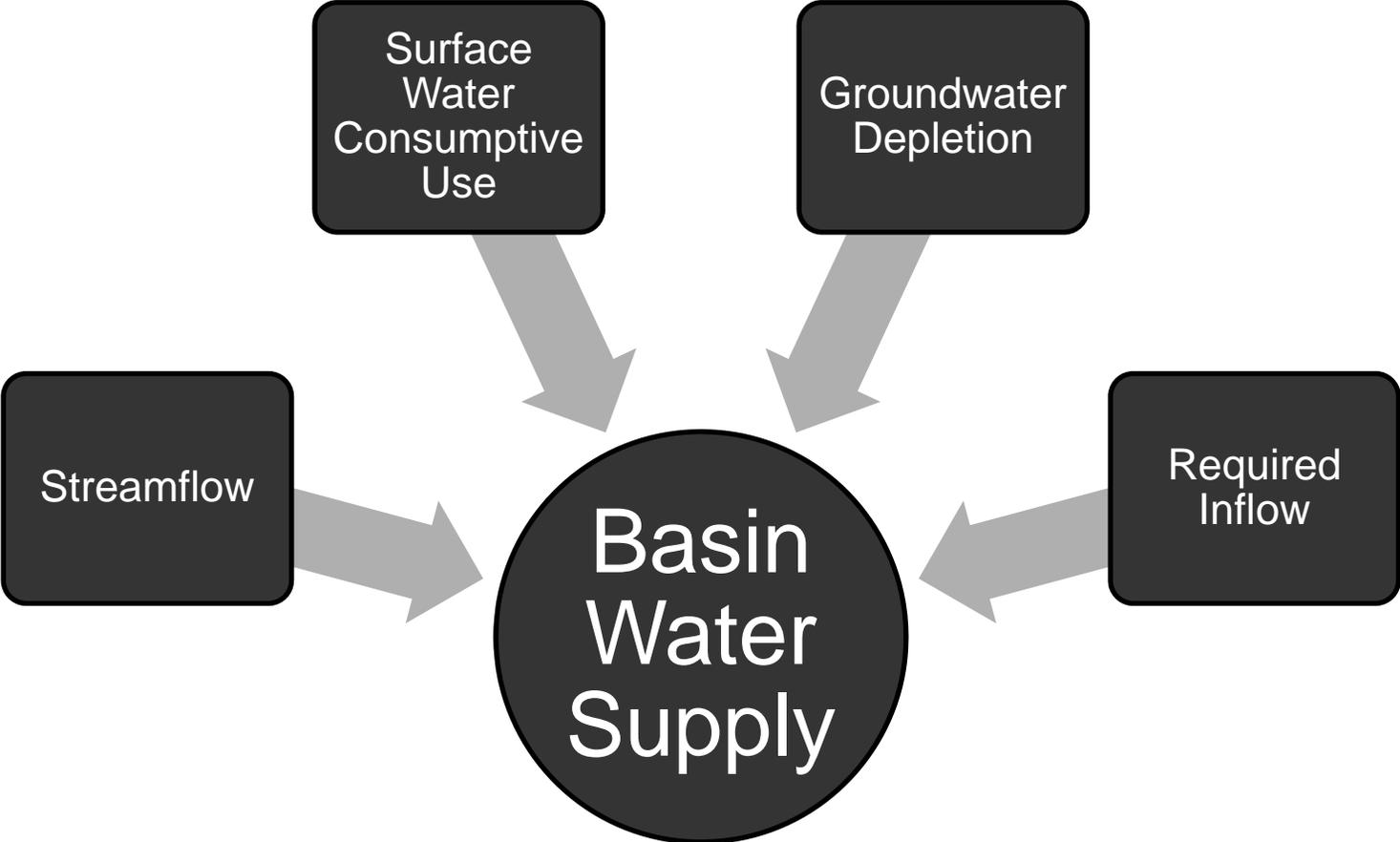
# New Rule Concepts

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- Basin Water Supply (BWS)
- Total Demand (TD)
- Representative Period (25 years)
- Near-Term/Long-Term Balance
- IMP role in final determination

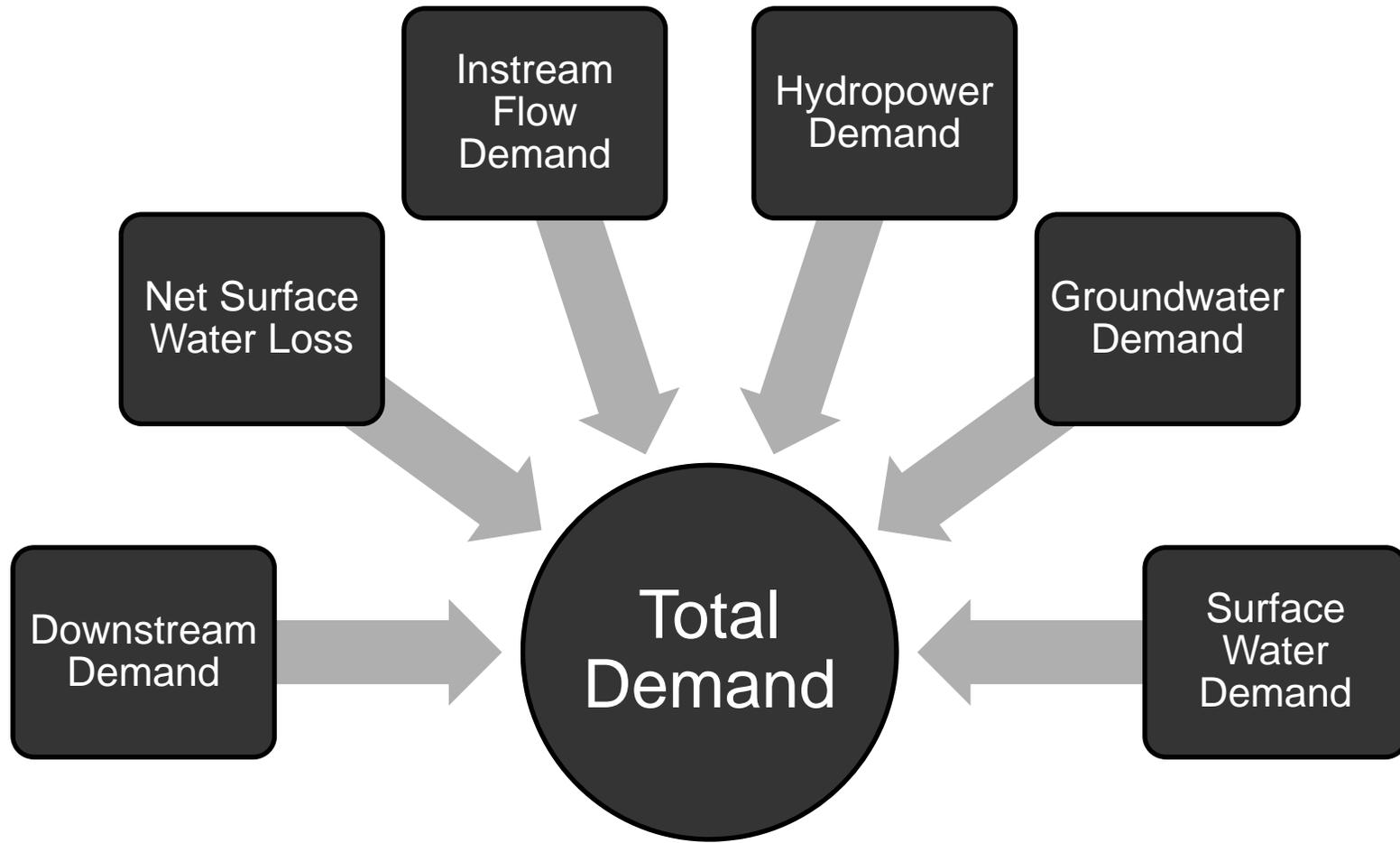
# Components of Basin Water Supply (BWS)

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# Total Demand (TD)

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# Near-Term and Long-Term Balance

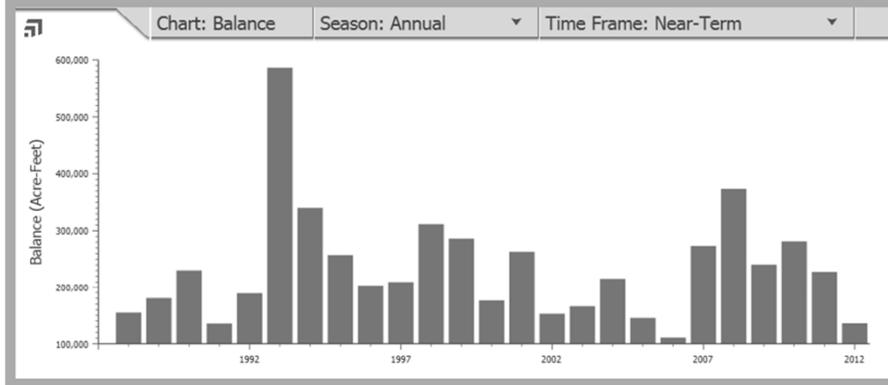
## Explore the Little Blue Basin

Use this page to explore hydrologic data for the Little Blue Basin in the tab area below. Hydrologic data at the basin level are presented below in each tab by big picture, supplies, demands, nature and extent of use, and balance.

Navigate to another basin by selecting one from the drop-down list or use the back button in your browser to reach the statewide map to click on another basin in the map.



Basin Overview Big Picture Supply Demand Nature & Extent of Use Balance

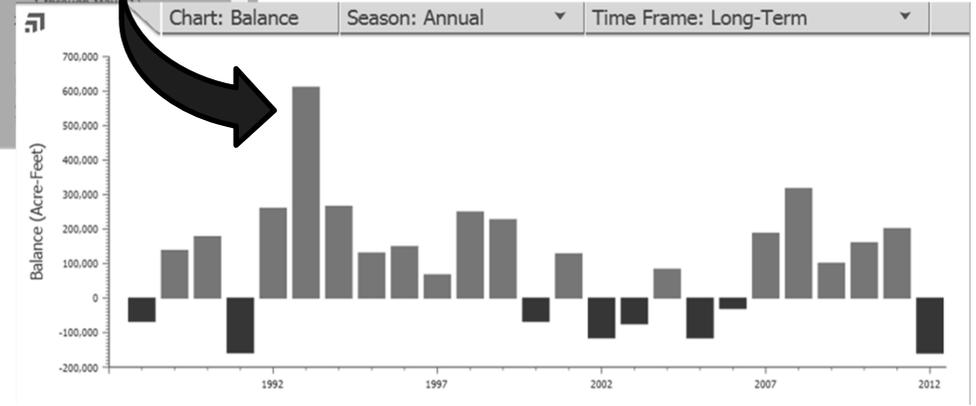


Balance

INSIGHT provides data to evaluate the near-term and long-term water supplies of a basin or subbasin. Once the water supply and total use are determined for each basin, a comparison can be made to determine the balance. To recognize the impact that may have on the ability of the supply to meet water demand, a comparison is done over two time periods in a given year:

1. non-peak - i.e. non-irrigation season (September

25-Year Representative Period



# IMPs Role in Determination

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- FAB Report serves as preliminary determination
- Information reviewed after the preliminary determination includes the status of current planning processes
- Final determination can reach different conclusion if planning is able to provide equivalent protection to existing uses

# Survey Results

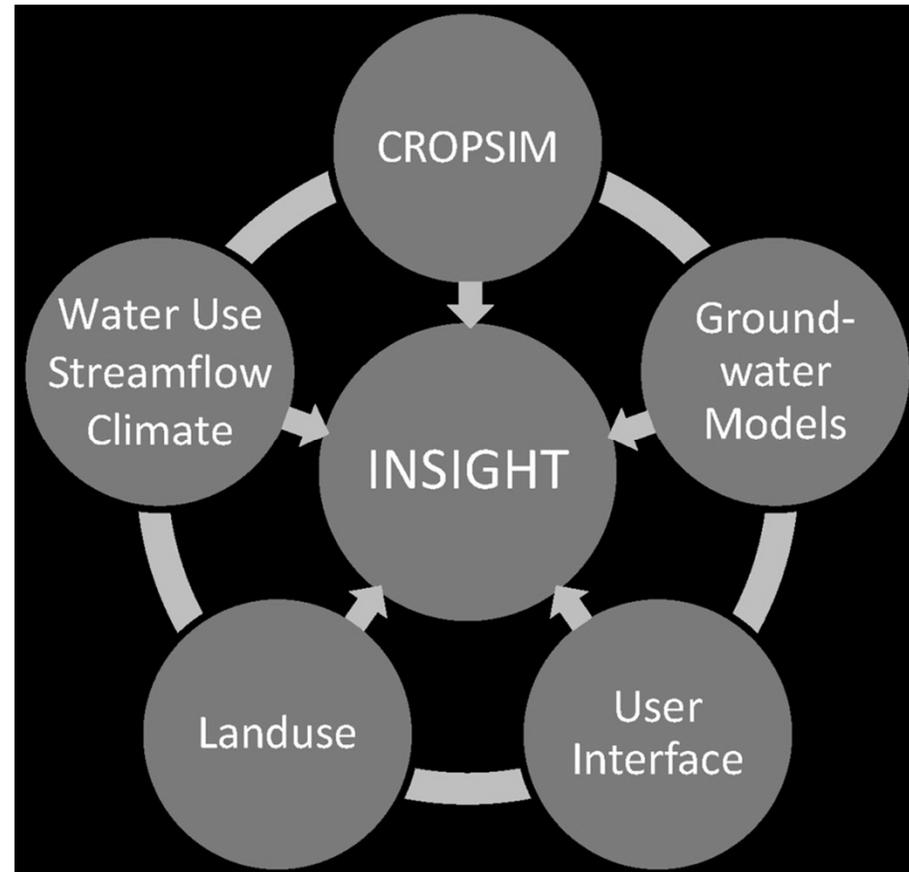
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| <b>Comparison of Current Rules to Future Preference for Rules</b>                                  | <b>Current Rules</b> | <b>Future Rules</b> |
|--|----------------------|---------------------|
|  | Mean                 | Mean                |
| <b>The current rules use the best available hydrologic science to determine water availability</b> | 2.58                 | 4.48                |
| <b>The current rules address critical supply and demand issues</b>                                 | 2.42                 | 4.20                |
| <b>The current rules support water planners and guide future actions</b>                           | 2.68                 | 4.36                |
| <b>The current rules address water supply problems before they are critical</b>                    | 2.77                 | 4.40                |
| <b>The current rules are unambiguous</b>   | 2.75                 | 4.32                |
| <b>The current rules initiate water planning processes to prevent conflicts</b>                    | 2.62                 | 4.16                |

# Survey Results

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- The rules should use the best available hydrologic science to determine water availability
- Water Supplies
  - Basin water supplies
  - GW depletions
  - SW depletions
  - Streamflow
- Water Uses/Demands
  - Meter data
  - Diversion records
  - Climate data
  - CROPSIM outputs
  - Water administration data
  - Landuse data
  - And more...



# Survey Results

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- The rules should address critical supply and demand issues
  - New rules assess all current hydrologically connected water use
  - New rules assess focus areas for more targeted management
  
- The rules should support water planners and guide future actions
  - New rules directly link to planning framework
  - IMPs contain new methods for monitoring

# Survey Results

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- The rules should address water supply problems before they are critical
  - New rules lead to more proactive determinations
  - New rules look at all hydrologically connected water demands
- The rules should be unambiguous
  - New rules have greater definition of key terms
  - New rules allow for collaboration on key data used

# Survey Results

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- The rules should initiate water planning processes to prevent conflicts
  - New rule link to voluntary IMPs and basin planning
  - New rules directly link to planning framework
  - IMPs contain new methods for monitoring

# Process Looking Forward...

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- Evaluate July 2015 hearing testimony
- If new rules implemented basin evaluations and OA/FA determination utilize those methods
- If new rules are not implemented current rule continued to be utilized for basin evaluations and OA/FA determination



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