

Providing the sound science and support for managing Nebraska's most precious resource.

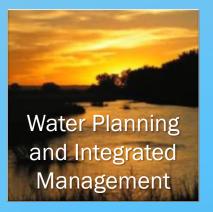
## Voluntary Approaches to Integrated Water Resources Management in Nebraska

AWRA Annual Conference, Denver, CO November 17, 2015

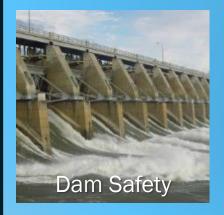
Amy Zoller, MS, Integrated Water Management Coordinator Nebraska Department of Natural Resources



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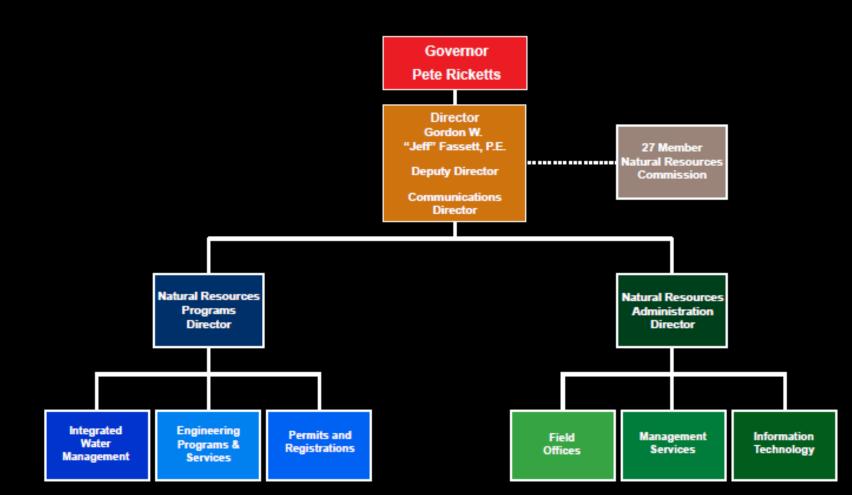








#### **Nebraska** Department of Natural Resources





#### **Outline**

- ➤ Background on Nebraska water and land use development
- ►IWMR in Fully Appropriated Basins
- ➤ Voluntary IWRM in Non-Fully Appropriated Basins
  - Inception
  - Current status
  - Stakeholder process
  - Benefits

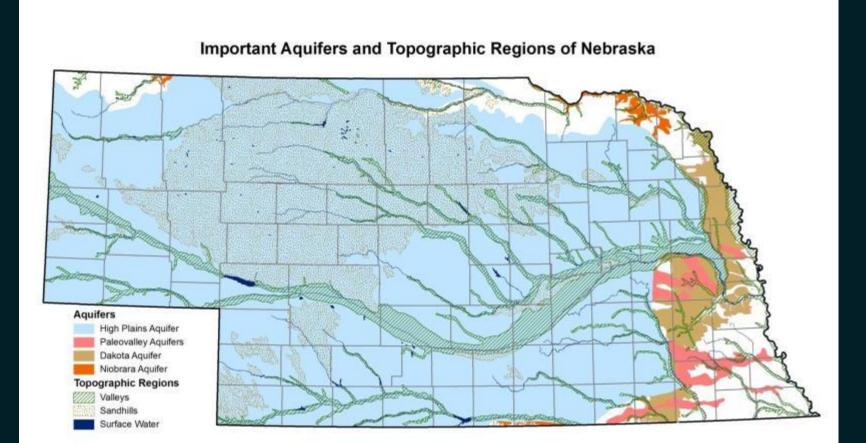


#### Water Resources in Nebraska





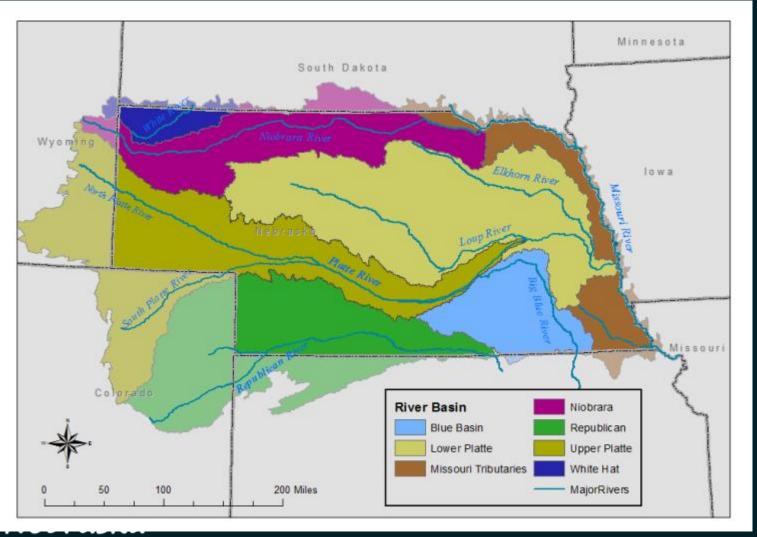
### Water Resources in Nebraska



From: http://snr.unl.edu/csd/images/surveyareas/water/AquifersinNebraska.jpg



## Water Resources in Nebraska

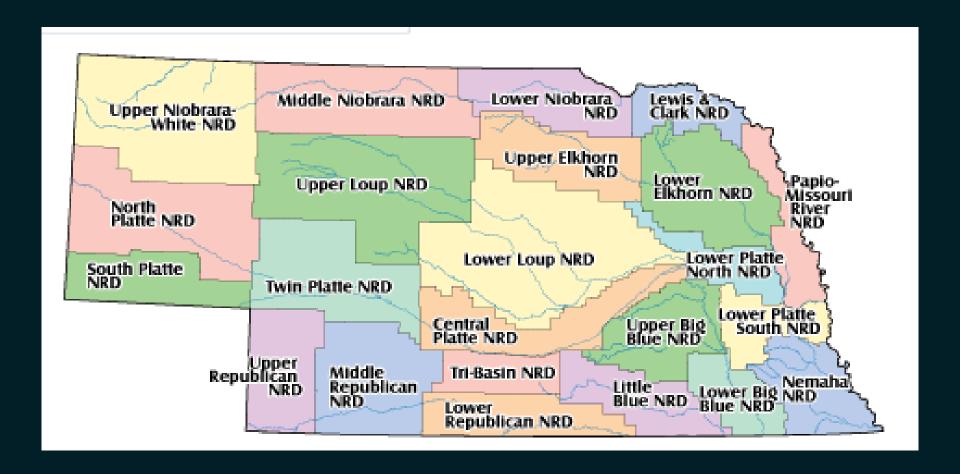


#### Water Management in Nebraska

- ➤ 1889 Surface water prior appropriation system adopted
- ➤ 1933 Correlative rights of groundwater established
- >1972 Natural resources districts (NRDs) created
  - Governed by a locally elected board of directors
  - Boundaries based on river basins
  - Each NRD has groundwater management authorities

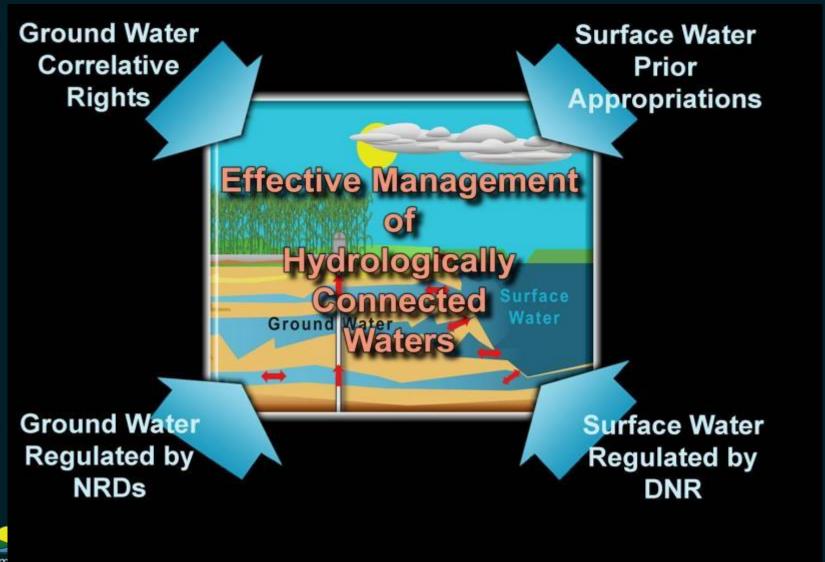


#### Management of GW through Local NRDs

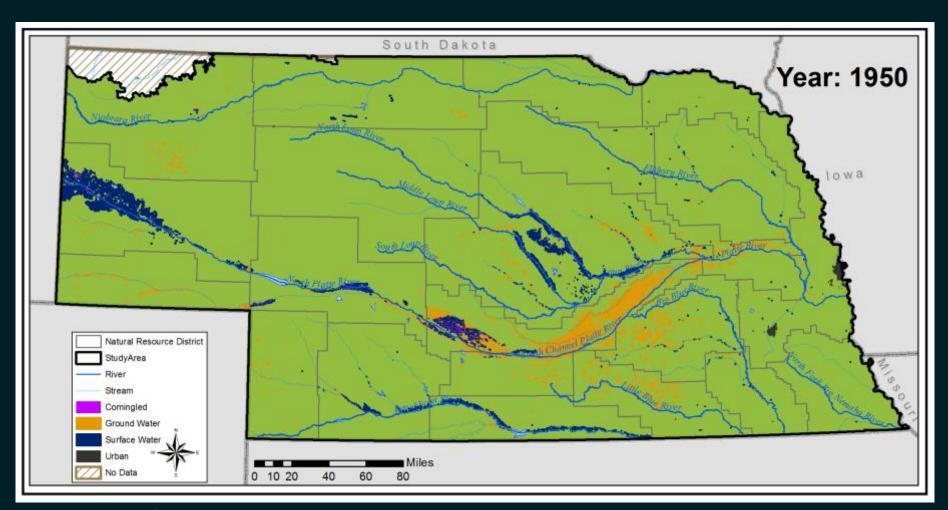




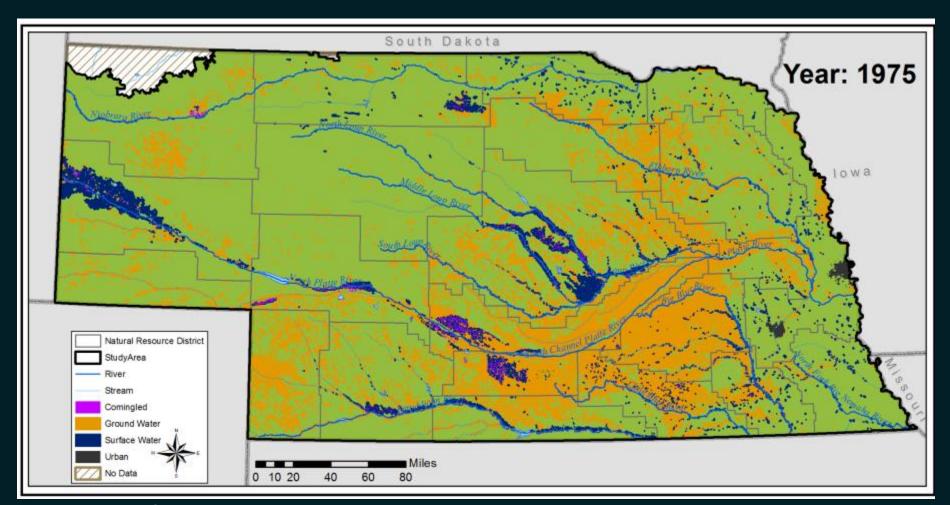
#### Management of Water in NE



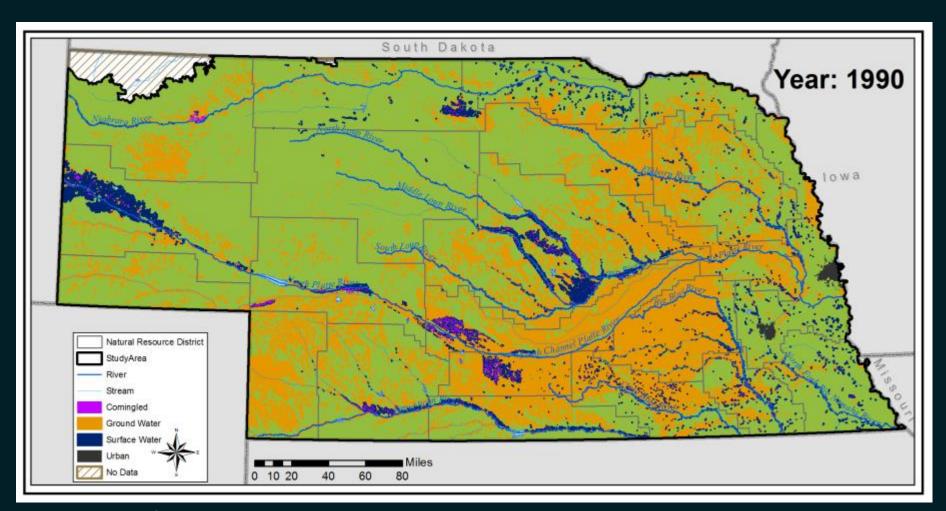




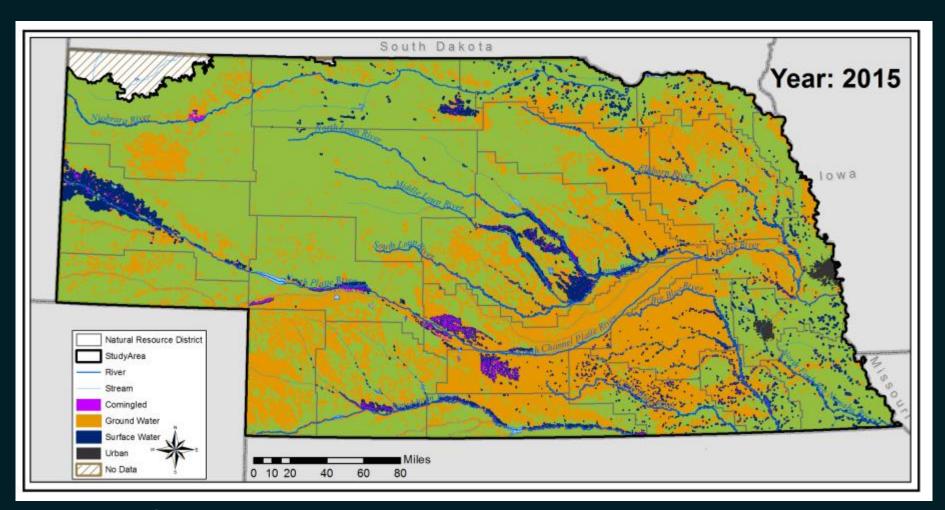














#### **IWRM for Fully Appropriated Basins**

- ➤ LB962 (2004) recognized hydrologic connection between ground- and surface water
- LB962 set up a framework for NRD/DNR joint management of ground- and surface water
  - Originally required only in fully-appropriated basins
  - Integrated management plans were to be developed within 3 years of a fully appropriated designation
- Stakeholder process during development of IMP

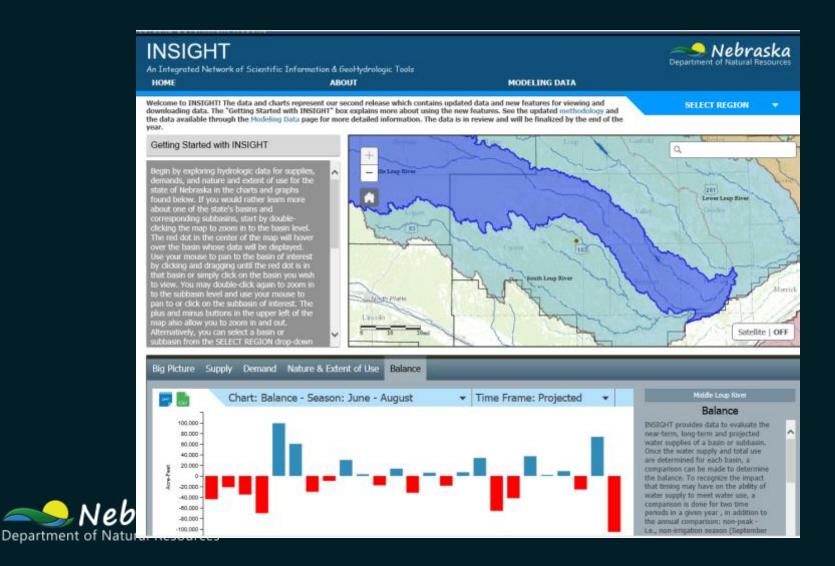


## **IWRM** for Fully Appropriated Basins

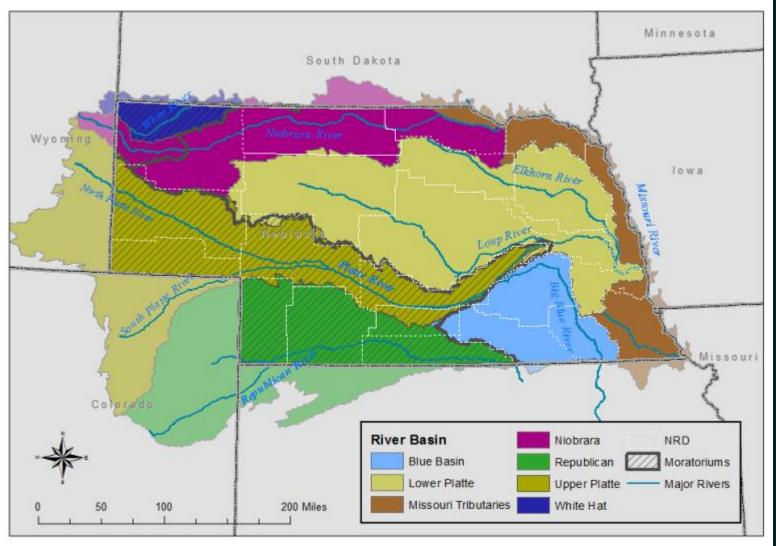
- ►Integrated management plan components
  - Clear goals and objectives to achieve and sustain water balance sustainability and economic viability for the near and long term
  - At least one surface water control and one groundwater control, some examples--
    - Limits on new development
    - Allocations
    - Educational requirements
  - Monitoring
  - Incentive plans/Education



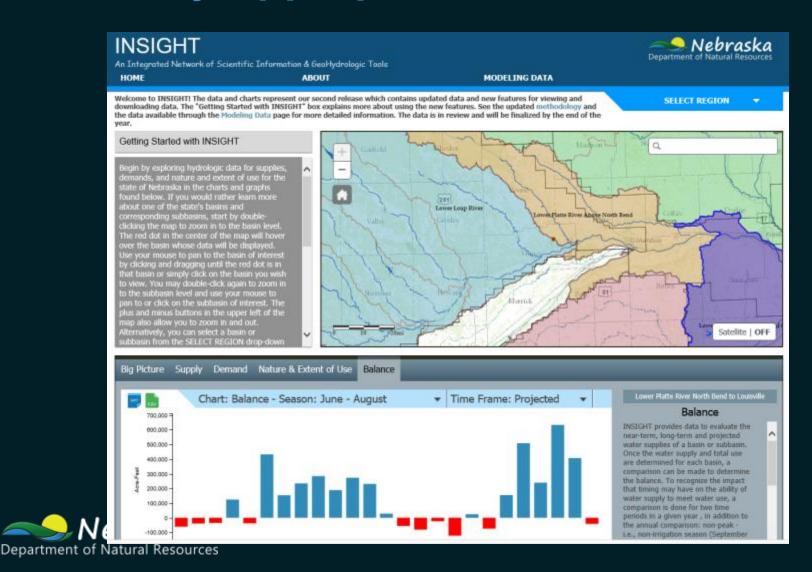
#### **IWRM for Fully-Appropriated Basins**



# **IWRM for Fully Appropriated Areas**



## Non-fully Appropriated Basins-IWRM?

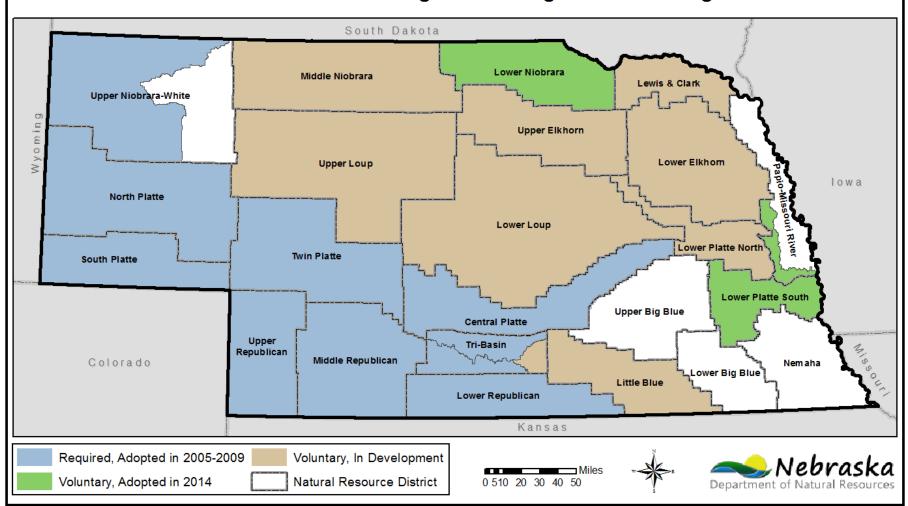


## Voluntary IWRM (2010)

- ➤In 2010, inclusion of voluntary integrated management process in statute
- ➤ NRDs in non-fully appropriated basins could request to jointly develop an IMP with NDNR
- The area of the IMP can be the hydrologically connected area or the whole NRD (up to the NRD)
- ➤In 2014, the water sustainability fund was authorized
  - NRDs who have or are developing IMPs are eligible to apply for funds







#### Bottom up approach for Voluntary IWRM

- Consult with stakeholders on issues, goals, objectives
- ➤ By statute, controls should be consistent with goals and objectives
- ➤ NRDs choose the control(s) for groundwater that are consistent with G&O
- ➤ NDNR chooses control(s) that mirror the NRD controls



### Bottom up approach for Voluntary IWRM



### Bottom up approach for Voluntary IWRM



# **Examples of Current Voluntary IWRM Implementation**

- Well metering
- Limits on new acres
- Certification of acres
- ➤ Evaluate need for new gages
- NRD/DNR IWRM combined education events
- Recognition of need for consistent database formatting between NRDs/DNR



### **Benefits of Voluntary IWRM**

- Proactive approach to water management
- ➤ NRD/DNR transparency on what each respective agency can/cannot do
- Stakeholders better understand management framework, seem appreciative to be part of planning
- Improved knowledge of data and information and sharing of data between agencies
- Management framework is in place; better able to respond for climate, socio-political emergencies



#### **Summary/Conclusions**

- ➤ IWRM officially began in 2004, limited to fully appropriated basins (reactive)
- ➤ More recently, voluntary IWRM is being implemented in basins that are not fully appropriated (proactive)
- Initial benefits of voluntary IWRM have been relationship building, better understanding of issues, needs and data
- Stakeholder process is key; stakeholders can reach many more people than the agencies alone can
- Local buy-in leads to better management of resources





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