



Platte River Recovery Implementation Program: The Nebraska Perspective

Western States Water Council
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Presentation Outline



- Nebraska's Obligations Under the PRRIP
- Surface Water Administration in Nebraska
- Conjunctive Management in Nebraska
- Studies and Projects



PRRIP in Nebraska

NEBRASKA'S OBLIGATIONS

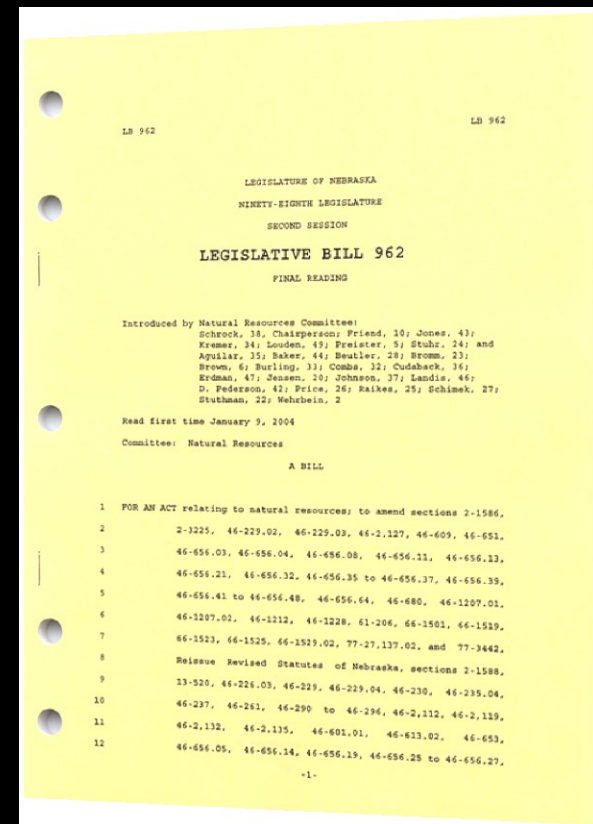
Implementation

In Nebraska:

- Responsibility for implementing the Nebraska New Depletion Plan is shared between the DNR and NRDs located in the PRRIP area
 - Coordination with NRD and Platte Basin-Wide IMPs
 - Parallel timing and goals
 - *“Prevent reductions in the flow of a river or stream that would cause noncompliance with an interstate compact or decree or other formal state contract or agreement”*
 - Ability of NRDs to offset new depletions through retirement of water rights and other projects

Nebraska New Depletion Plan

- A plan to prevent or offset depletions caused by new or expanded uses begun since July 1, 1997
- Much of what is required by PRRIP is also required under Nebraska statutes



Nebraska New Depletion Plan

Surface Water (administered by DNR)

- Moratorium (1993) on issuance of any new surface water appropriations upstream of the Loup River confluence
- No new direct diversions of surface water for consumptive use is allowed without offset (2006)
- Cumulative impact of non-permitted sandpits and small reservoirs will be estimated and offset



Nebraska New Depletion Plan

Groundwater (administered by NRDs)

- No new uses of groundwater within the 28/40 area will be allowed without offsetting the stream depletion caused by the new use (2006)
- Stays on new wells



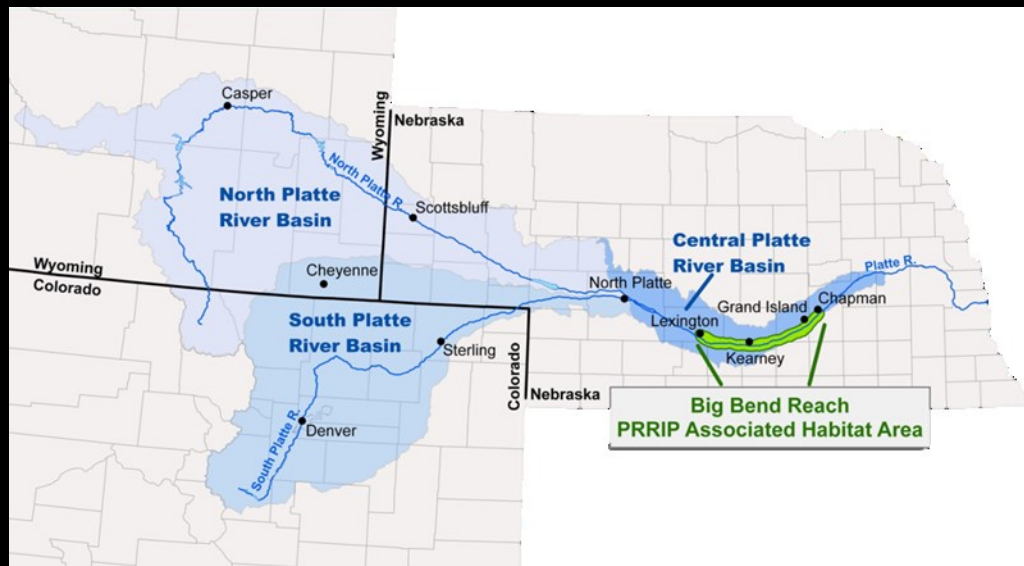


PRRIP in Nebraska

SURFACE WATER ADMINISTRATION

Administration

- Surface water right permitting process
 - Requires coordination between PRRIP signatories
 - Location of PRRIP water storage and Program focus area
 - Requires coordination between DNR and NRDs for project implementation

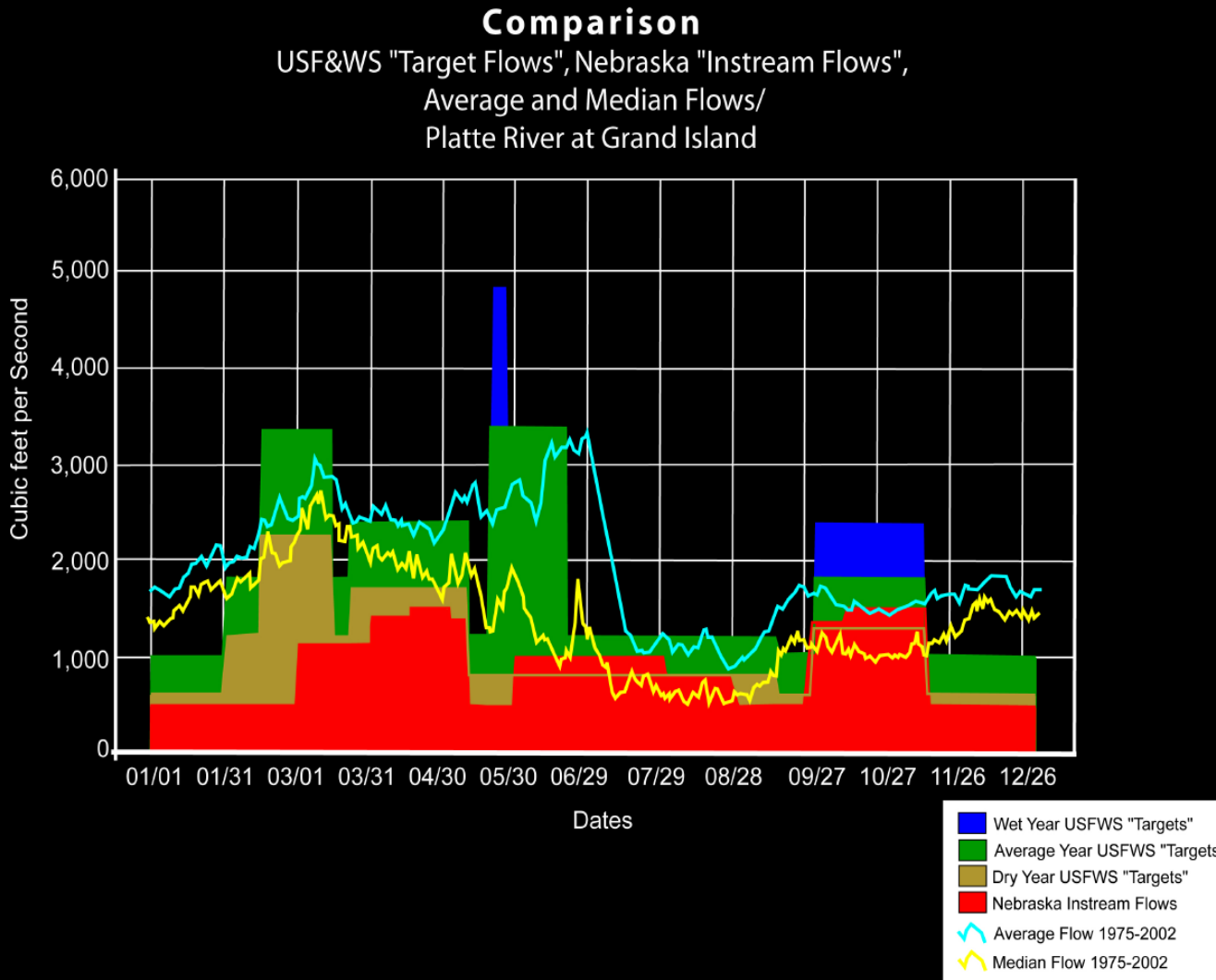


Administration



- Instream flow rights
 - Can be held by Nebraska Game & Parks Commission or an NRD
 - Lake McConaughy (CNPPID) storage right
 - Fish and wildlife a beneficial use of the storage right
 - Storage use right is for instream “use”

Instream Flows and F&WS Target Flows

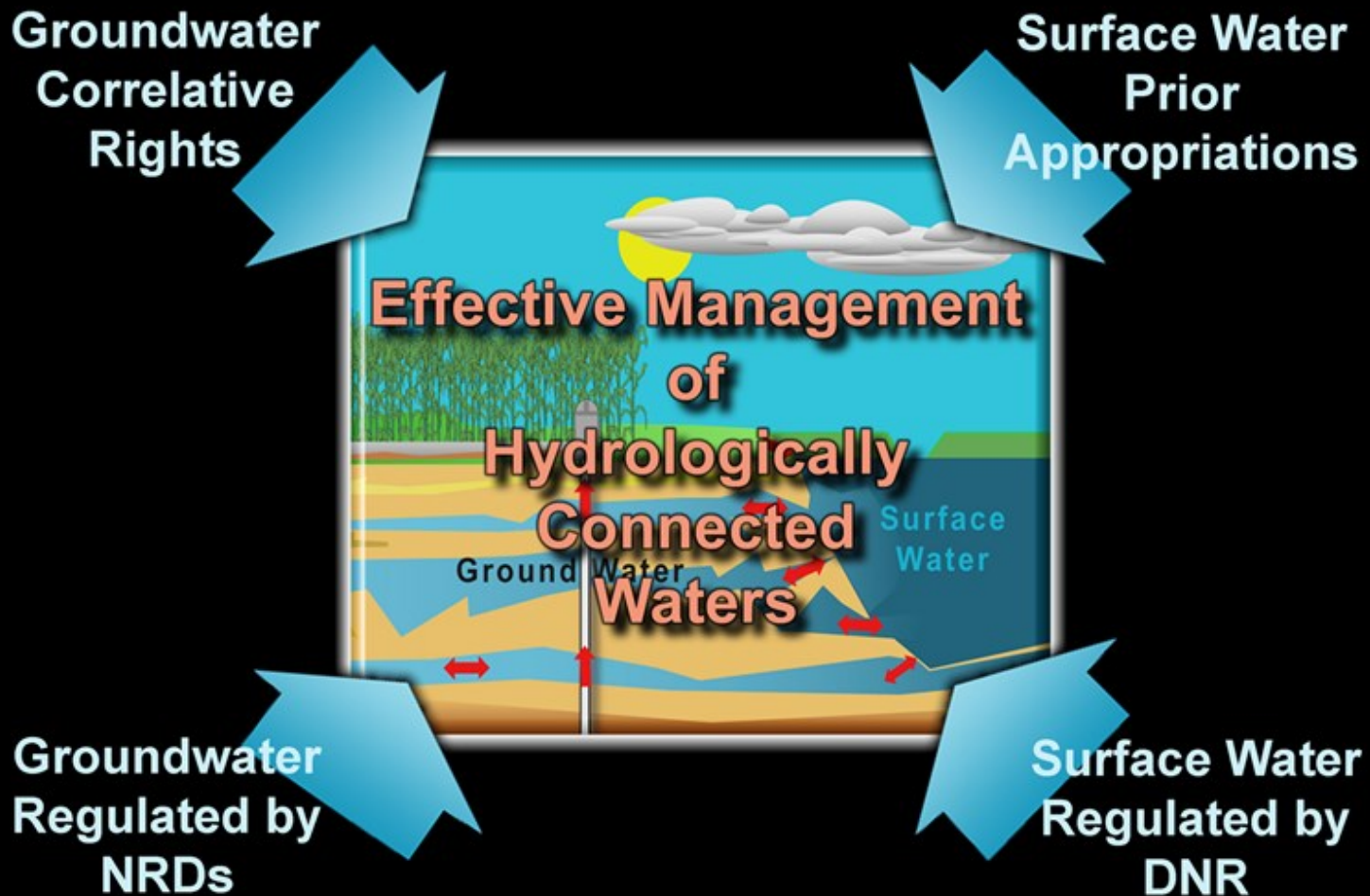




PRRIP in Nebraska

CONJUNCTIVE MANAGEMENT

Nebraska's Dual Regulatory Structure

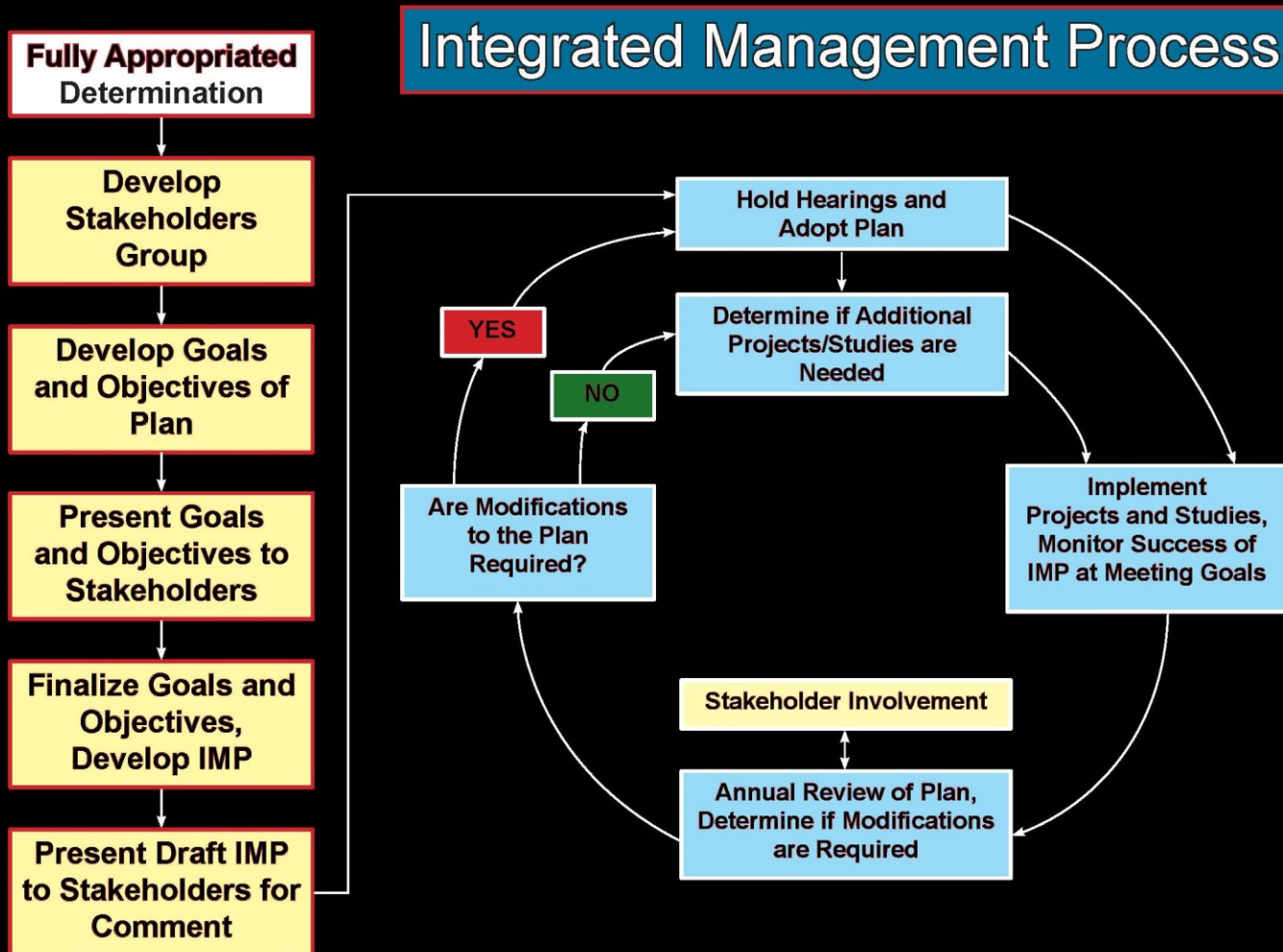


Integrated Water Management

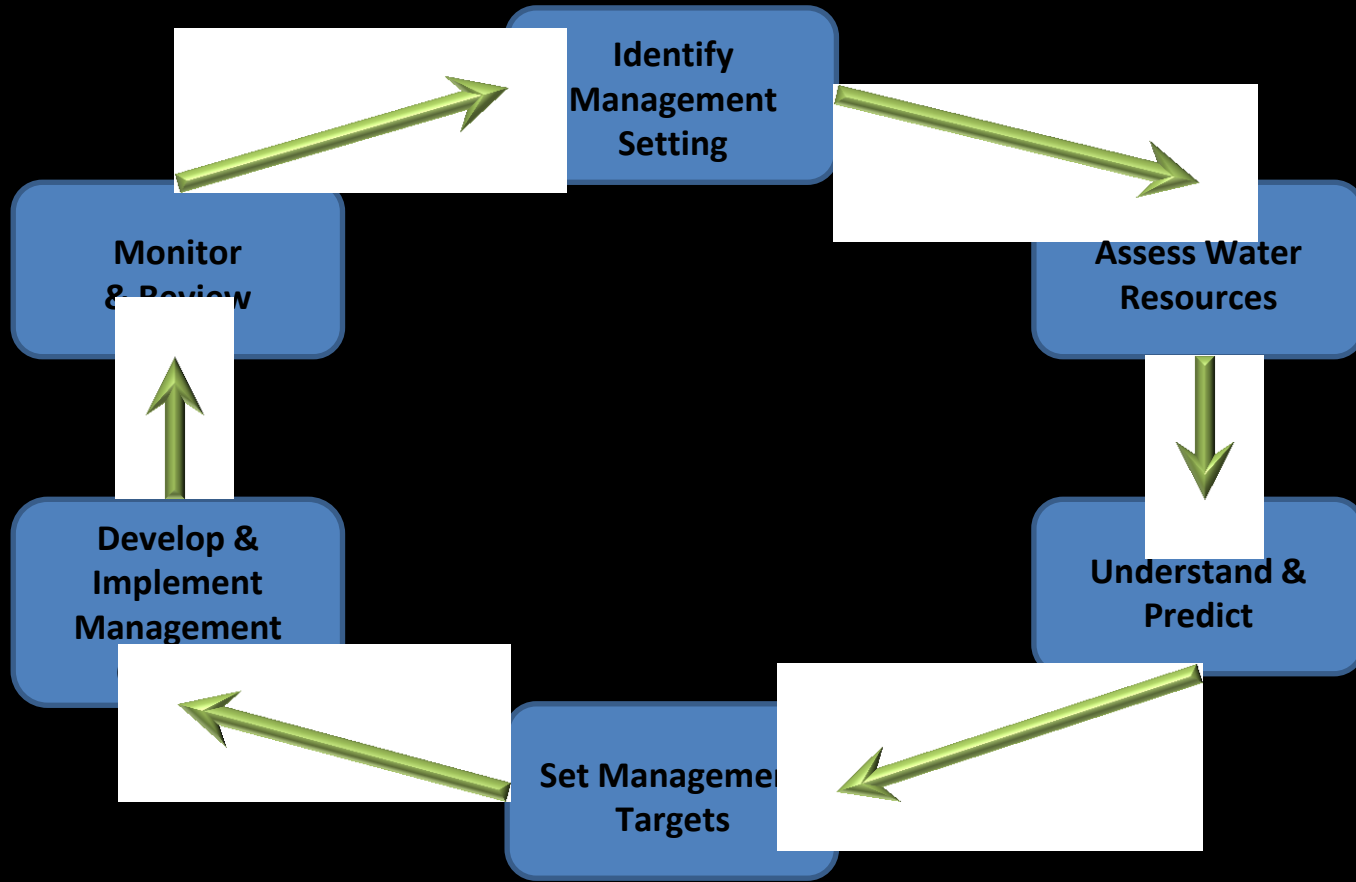
- **LB962** was signed by then Governor Johanns on April 15, 2004
- Provides a mechanism for deliberate management and development of both surface water and groundwater through a proactive planning process
- Develop joint Integrated Management Plans (IMPs)



Integrated Management Planning Process

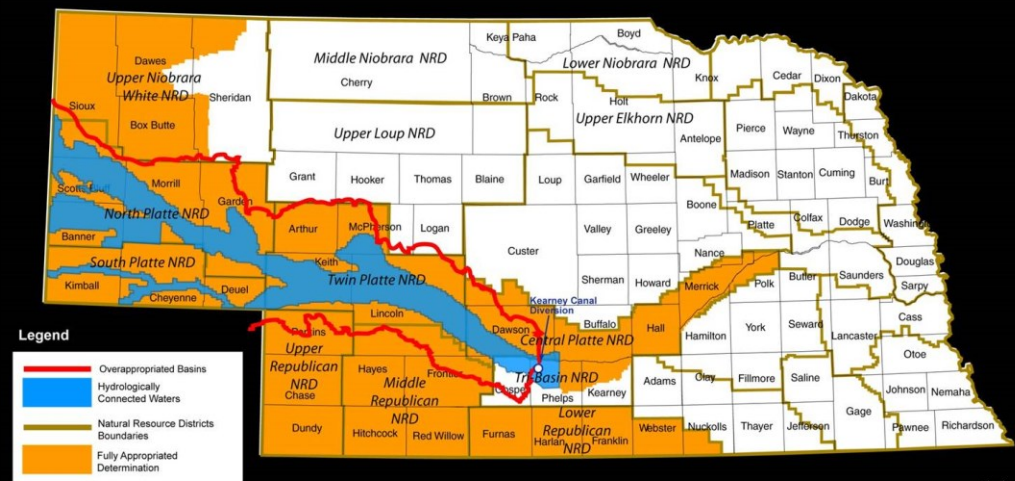


Implementing IMPs



Platte River Water Planning

- Interstate
 - PRRIP Water Action Plan
 - Nebraska New Depletions Plan
- Intrastate
 - Individual Platte Basin NRD IMPs
 - Platte Basin-Wide IMP



Interstate Plans

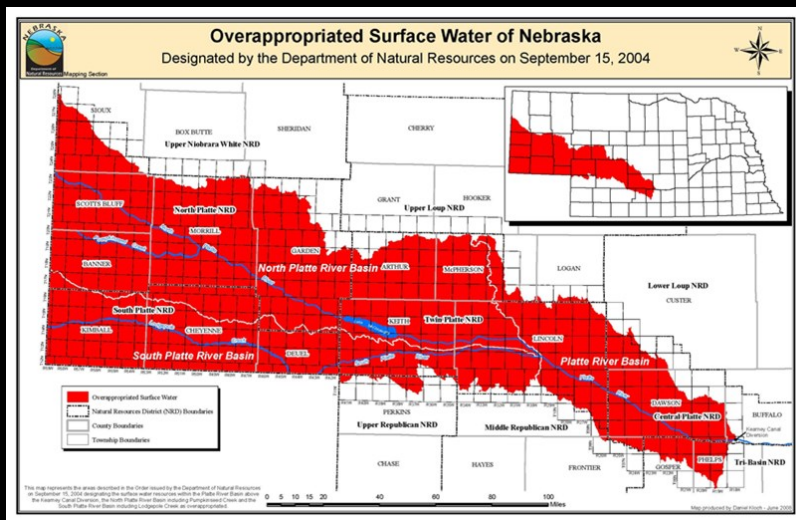
- PRRIP Water Action Plan Projects
 - Environmental Account in Nebraska
 - Tamarack in Colorado
 - Pathfinder Modification in Wyoming
 - Re-regulation Reservoir
 - Groundwater Recharge / Retiming
 - Conjunctive Management
- Nebraska New Depletions Plan
 - Implementation of PRRIP is incremental. The first increment is 13 years, through 2019.
 - Offset streamflow depletions due to new or expanded uses after July 1, 1997

Basin-Wide Plan and Integrated Management Plans (IMPs)

- PRRIP Shaped IMP Goals and Objectives
- Area: Overappropriated Portions of the Platte River Basin in Nebraska
 - Upstream of the Kearney Canal Diversion
 - Hydrologically connected surface water and groundwater
 - Includes 5 natural resources districts (NRDs)
 - ✓ Central Platte
 - ✓ North Platte
 - ✓ South Platte
 - ✓ Tri-Basin
 - ✓ Twin Platte

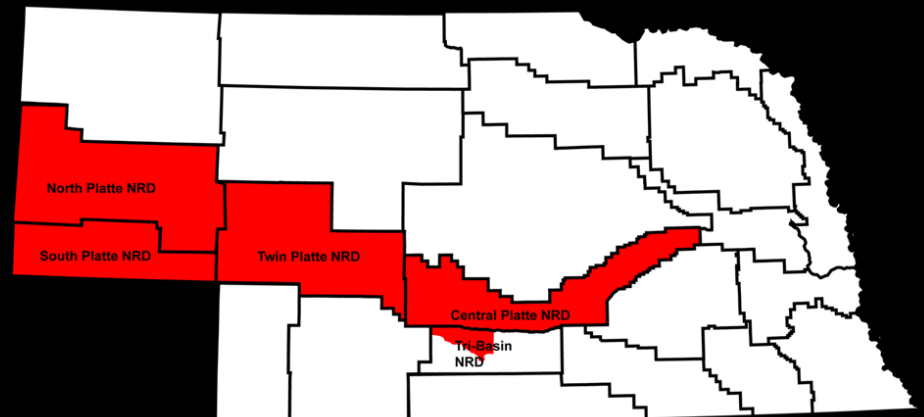
Integrated Management Plans – Goals and Objectives

- Overappropriated Area
 - Incrementally achieve and sustain a fully appropriated condition
 - Ensure compliance by Nebraska with PRRIP
 - Maintain consistency with the Basin-Wide Plan



Basin-Wide Plan - Goals and Objectives

- Achieve and Sustain a Fully Appropriated Condition
 - Offset streamflow depletions
 - Identify projects to enhance water supply
 - Develop evaluation methods and data



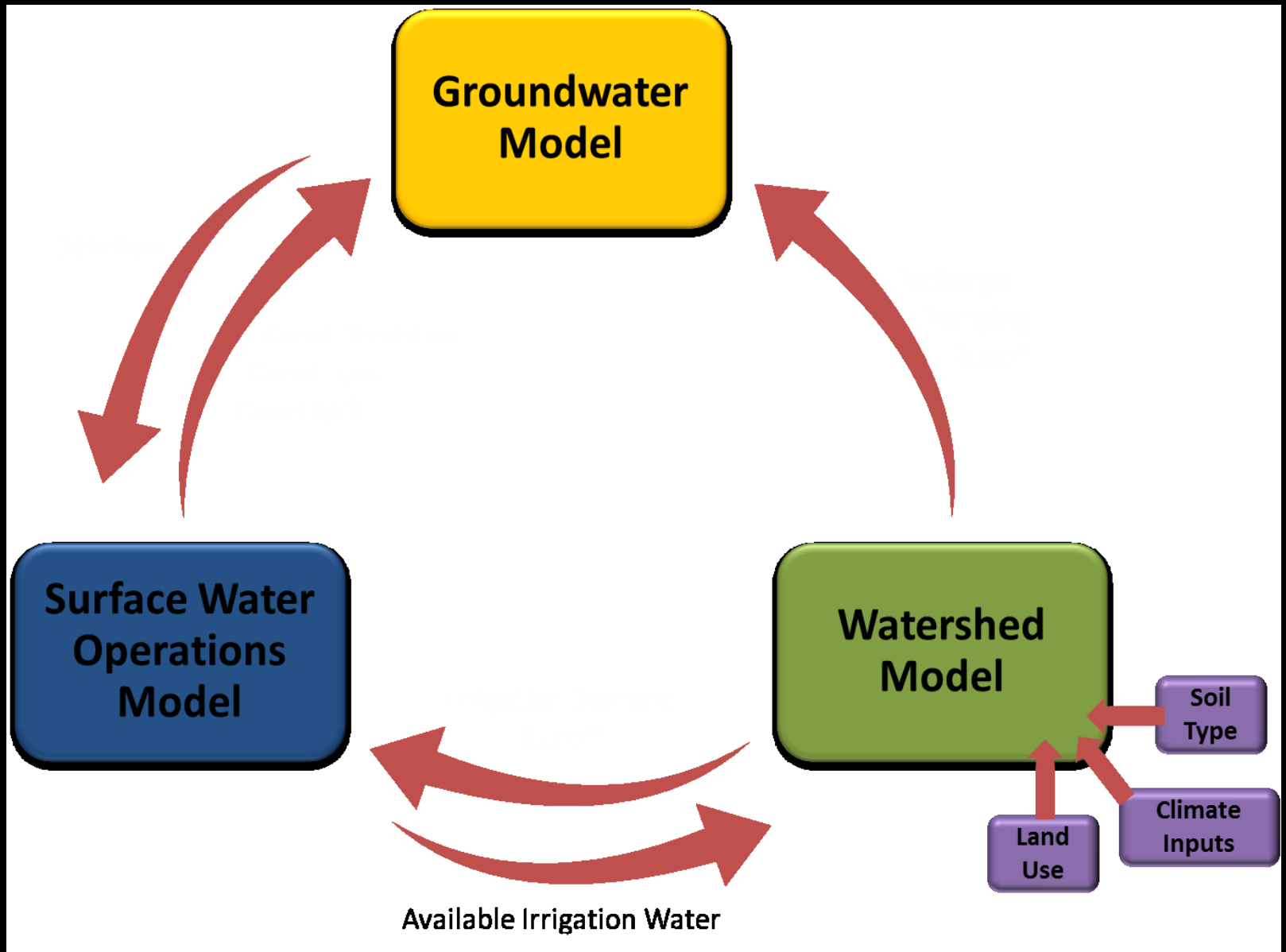


PRRIP in Nebraska

STUDIES AND PROJECTS

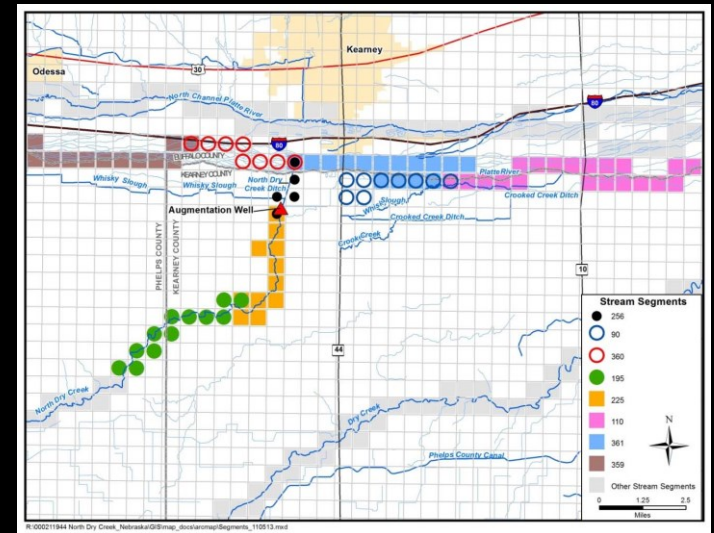
Using Modeling Tools to Manage Water

- Estimate water supply/demand
- Understand surface/groundwater relationships
 - Spatial
 - Temporal
- Test management options before implementation

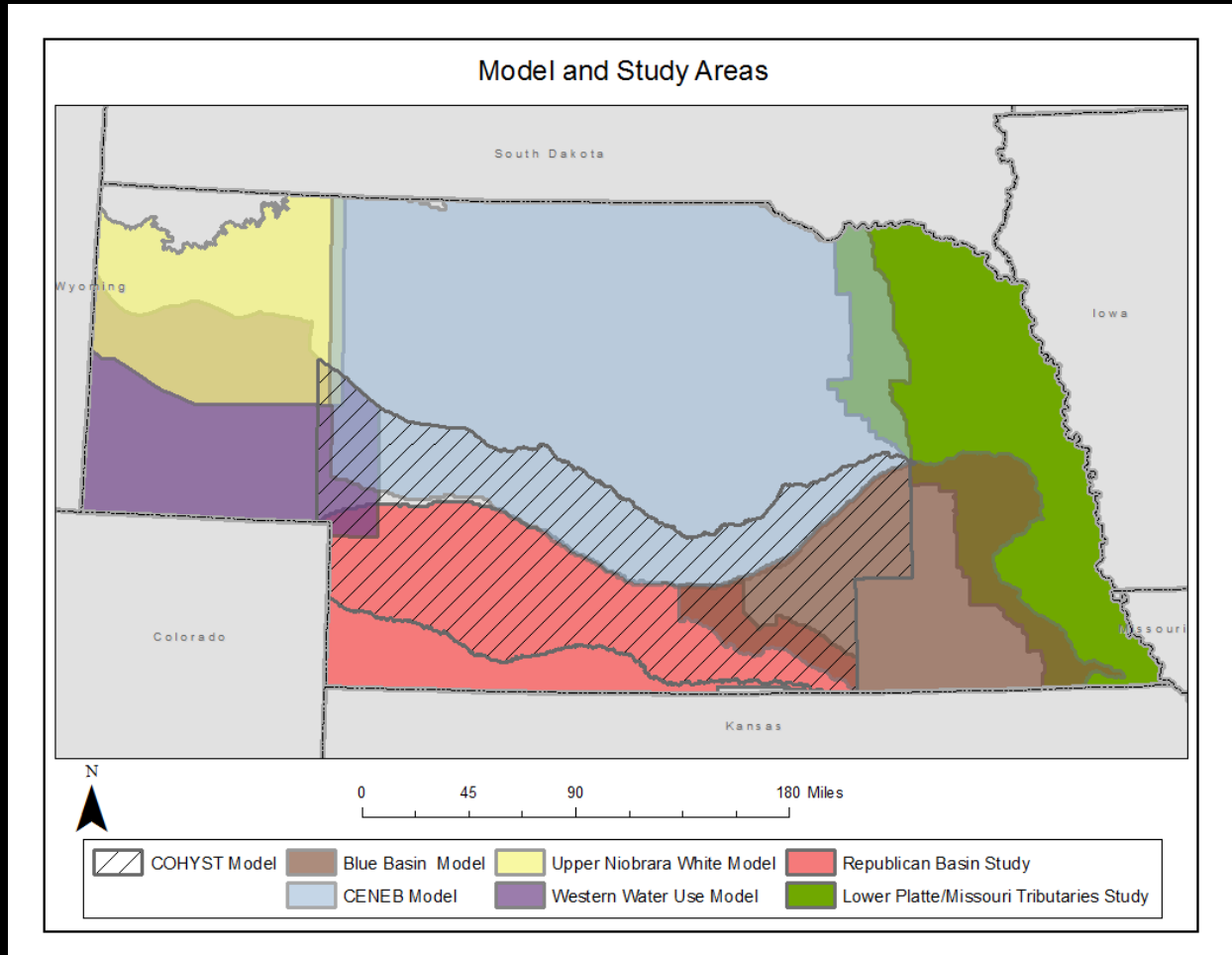


Using Modeling Tools to Manage Water

- Must understand the water budget and sensitive parameters
 - Net Recharge (Recharge – Pumping)
 - Comingled Uses
 - Non-linear model response – Stream Drying
- Don't waste time on non-sensitive parameters
 - Hydrostratigraphy



Current Models and Studies



Water Projects



- Retirement of Irrigated Acres
- Diversions of Excess Flows
 - 2011 Excess Flow Demonstration Project
 - 2013 South Platte Excess Flow Project
 - 2014 Excess Flow Project
- J-2 Regulating Reservoir
 - Approximately 10,000 AF/yr
- Stream Augmentation
 - Capacity for up to 24,000 AF/yr (to Platte River)
- Canal Conjunctive Management
 - Approximately 16,000 AF/yr

2011 Demonstration Project

- **For groundwater recharge and flood reduction**
- **Partners**
 - 23 Canals
 - DNR
 - South Platte
 - Tri-Basin
 - Twin Platte
 - Central Platte
 - North Platte
- **Results:**

■ Diversion Total	142,000 AF
■ Seepage Total	64,000 AF
■ 2011-2019 Accretion Total	15,000 AF
Average annual accretion	~1,500 AF/yr

2013 Flood Flow Project

- Mitigate impact of Colorado flood flows while also recharging groundwater
 - The Department, NRDs, & irrigation districts

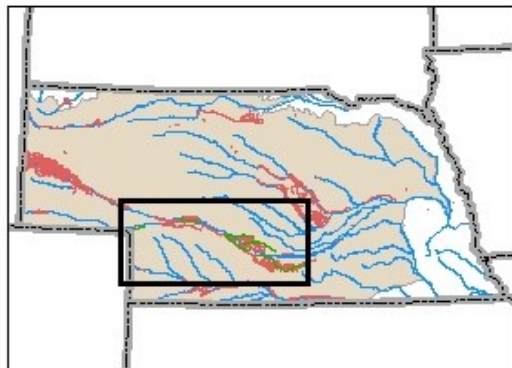
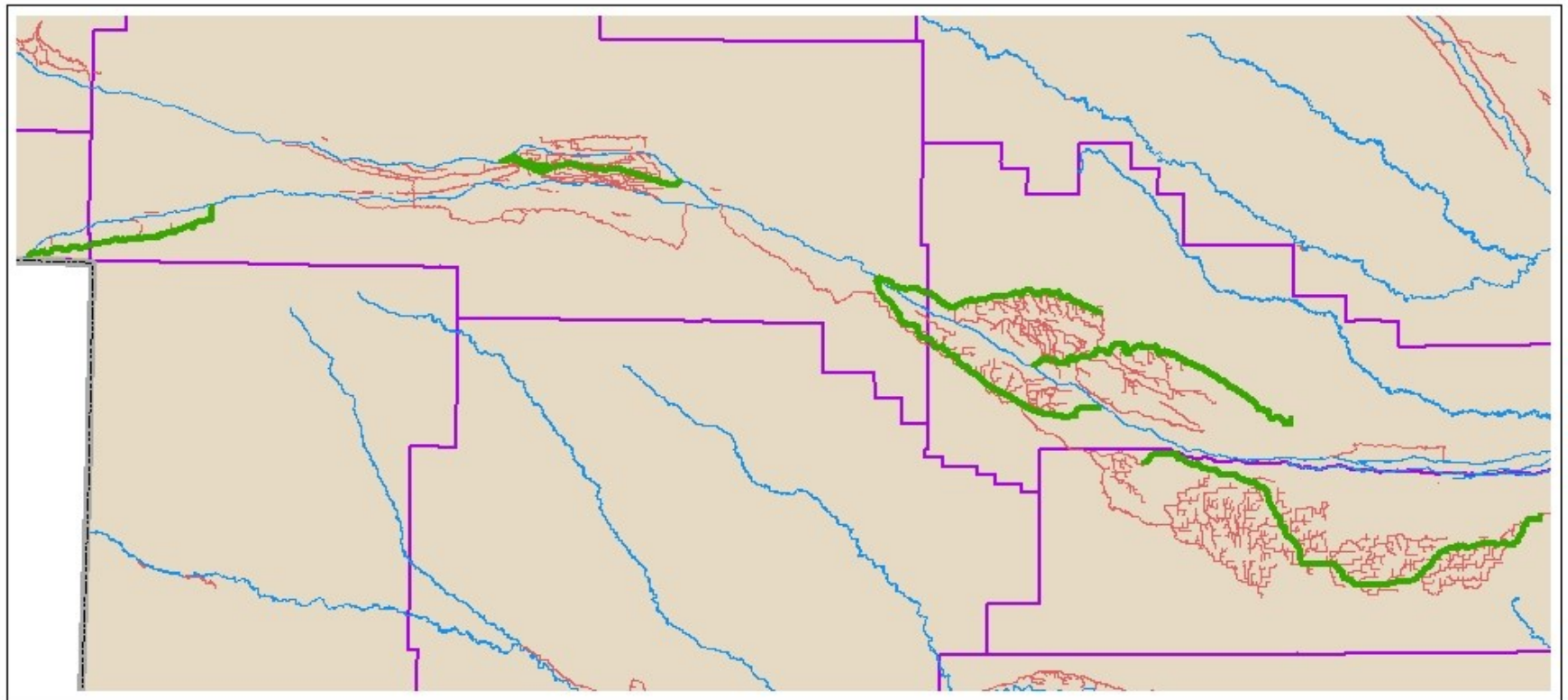
South Platte River Bridge, Buffalo Bill Road,
North Platte, NE
Friday, September 20, 2013 at 8:30 a.m.



South Platte River Bridge, Buffalo Bill Road,
North Platte, NE
Saturday, September 21, 2013 at 7:00 p.m.



Diversion of Fall 2013 Floodwaters



0 15 30 60 Miles

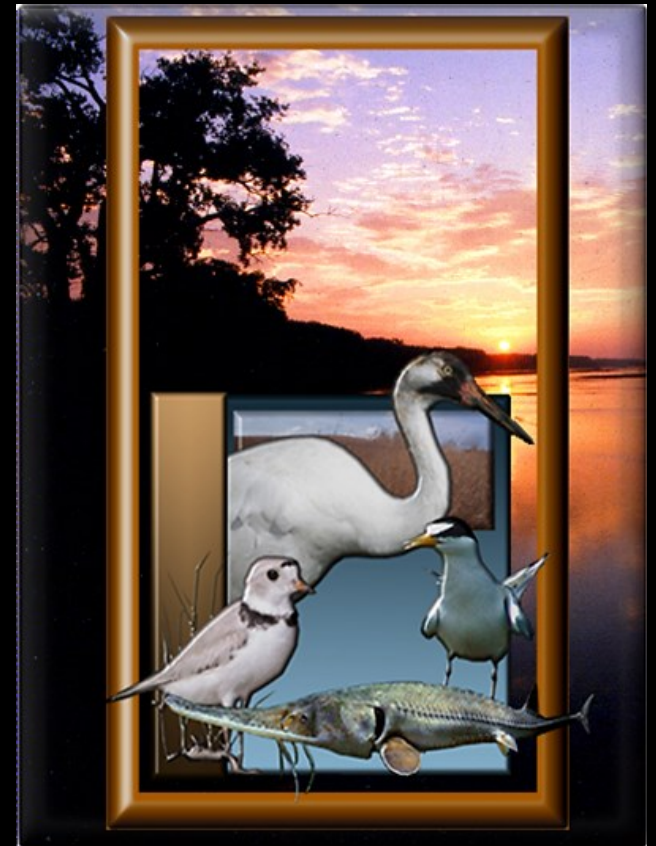
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|  Fall 2013 Flood Diversion Canals |  Major Streams |  NRDs |
|  Major Canals |  High Plains Aquifer |  State |

2014 Spring Excess Flows

- Above average snow pack in Rocky Mountains and wetter conditions in western NE
- Monitoring for excess flows in the Upper Platte Basin began in early spring 2014
 - Snow pack & water equivalent
 - Current gaged river flows
 - Flow forecasts
- Diversions into Western Canal recharge pits and CNPPID's Elwood Reservoir began in June

J-2 Re-Regulating Reservoir

- Increase flexibility of hydrocycling and reduce its impact on Platte River flows for habitat and wildlife
- Reduce FWS target flows deficits
- Provide short-duration high flows



Canal Conjunctive Management

- Cozad Canal (2014-2019) ~8,000 AF/yr
- Thirty-Mile Canal (2014-2019) ~8,000 AF/yr

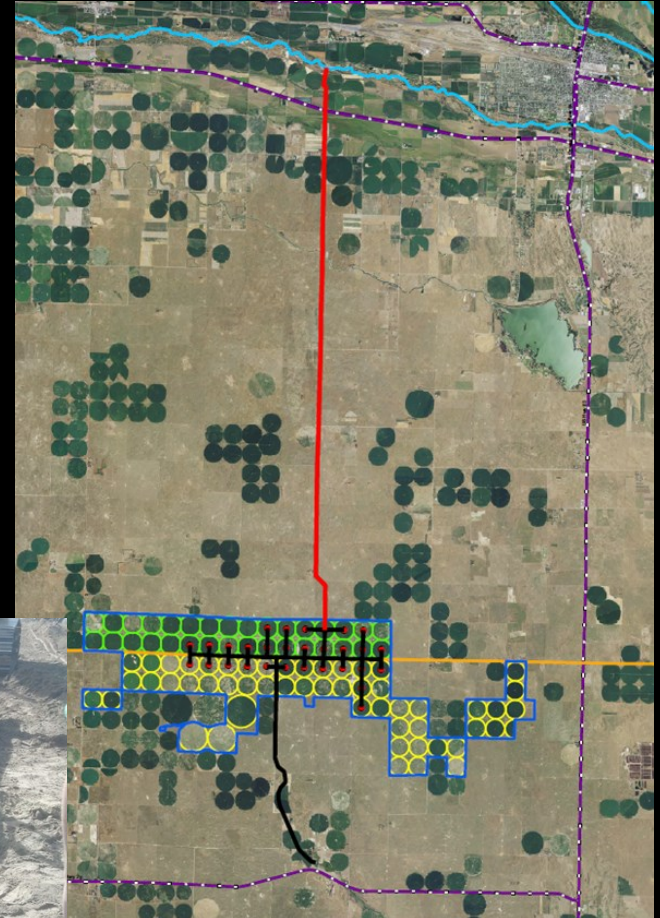


Average annual accretion

~16,000 AF/yr

Stream Augmentation

- N-CORPE
 - Retire ~16,000 irrigated acres in Lincoln County
 - Capacity to deliver 24,000 AF/yr to Platte River
 - Delivering water to Republican River now





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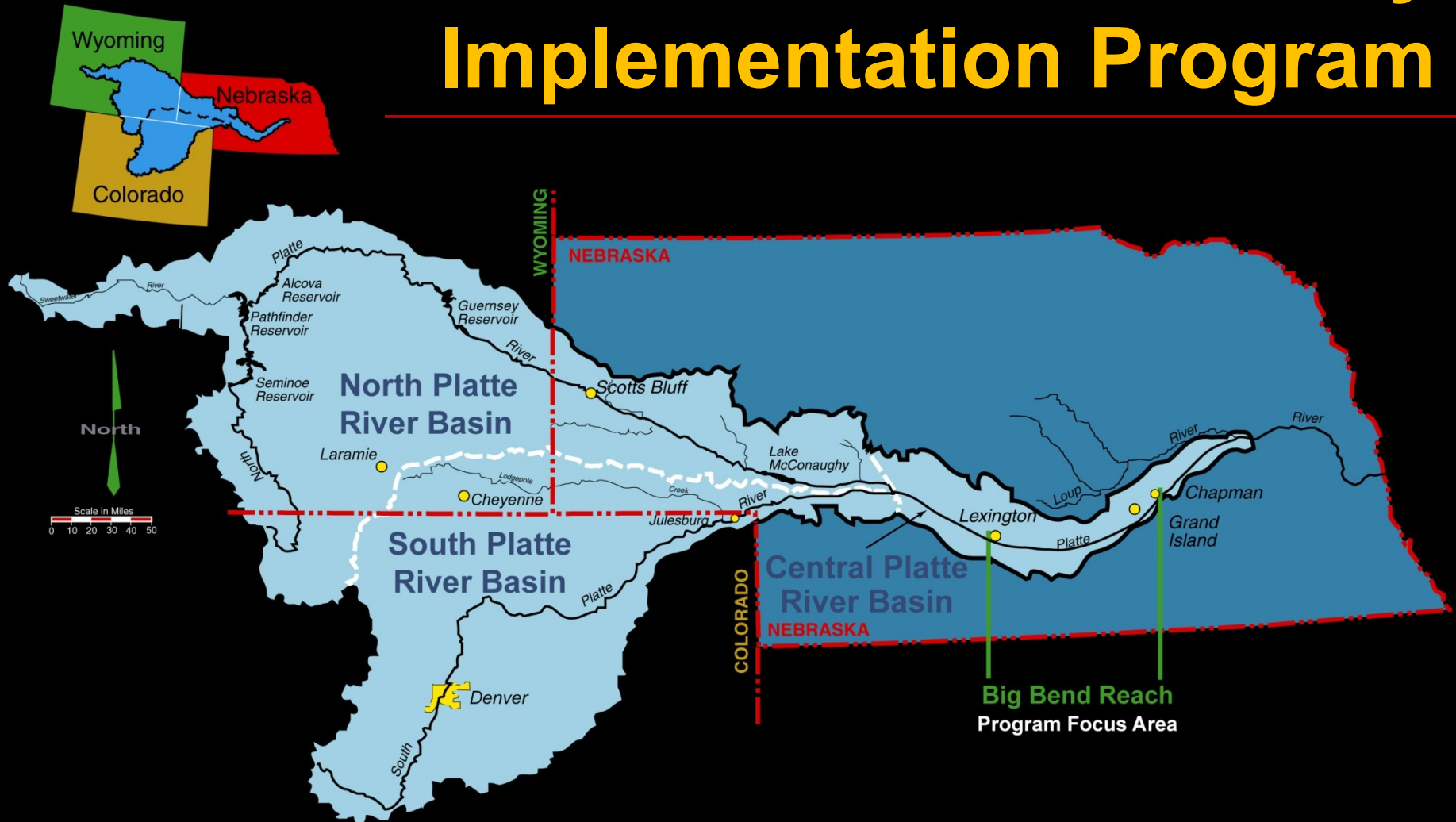
Deputy Director

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Department of Natural Resources

Platte River Recovery Implementation Program



Platte River Recovery Implementation Program (PRRIP)

- Began January 1, 2007
- Basin-wide effort by Department of Interior and Colorado, Wyoming, and Nebraska
- Improve habitat for four threatened and endangered species
 - Whooping Crane
 - Piping Plover
 - Least Tern
 - Pallid Sturgeon
- Provide ESA Section 7 and Section 9 coverage for all water users in the basin/avoid use of alternative ESA enforcement measures





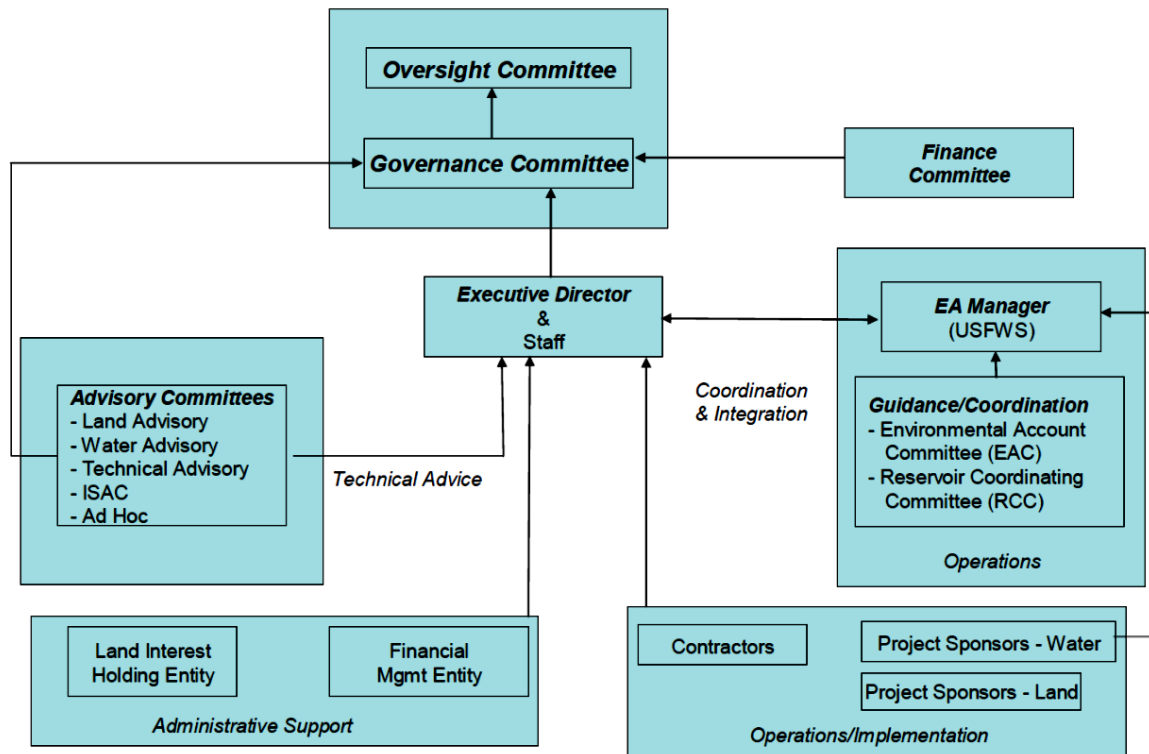
PRRIP in Nebraska

GOVERNANCE

Governance

- Governance Council
 - Representatives from:
 - CO, WY, and NE state agencies
 - Bureau of Reclamation
 - U.S. Fish and Wildlife Service
 - Water users from CO, WY, and NE
 - Environmental groups
 - Governance structure ensures appropriate federal, state, and local stakeholder involvement

Governance



Adaptive Management Plan

- Use monitoring and research results to test priority hypotheses related to management decisions and actions
- Apply the resulting information to improve management
- Independent Scientific Advisory Committee and peer review process to insure scientific integrity