

Integrated Water Management in the Platte Basin:

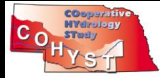
Five Years Later

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Overview

TWIN PLATTE
NATURAL RESOURCES DISTRICT



SOUTH PLATTE
NATURAL RESOURCES DISTRICT



NORTH PLATTE
Natural Resources District

LB962



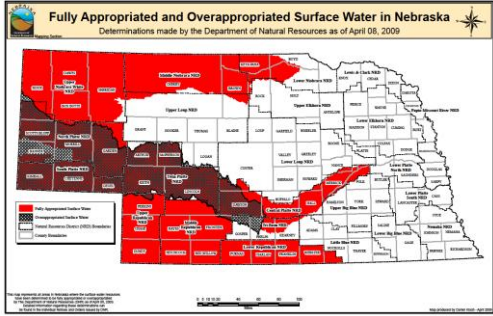
LB962 was developed by the Water Policy Task Force 49-member committee appointed by the Governor to represent various interest in the development of water policy legislation

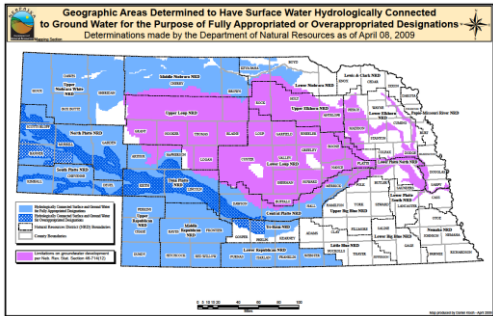
- 20 Irrigators
- 5 NRD Representatives
- 3 Ag Organization Representatives
- 4 Power Representatives
- 5 Municipal Representatives
- 2 Recreation Representatives
- 3 Environmental Representatives
- Senator Schrock and Senator Stuhr
- Department of Natural Resources
- Attorney General's Office

LB962



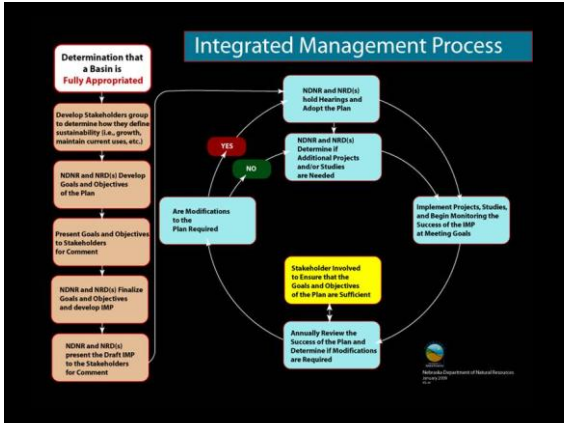
- In 2004, areas of 5 districts were designated fully and/or overappropriated:
 - North Platte
 - South Platte
 - Twin Platte
 - Central Platte
 - Tri-Basin
- Fully appropriated and overappropriated areas must develop integrated management plans (IMPs).






The Platte IMPs

- After the basin was declared fully and overappropriated, the integrated management process began.
- The districts and the Department worked with a basin-wide stakeholders group to develop a basin-wide plan for the overappropriated area.
- The districts and the Department also worked with individual stakeholder groups to develop the Platte NRD IMPs.



The Platte IMPs (cont.)

- Public hearings were held prior to the adoption of the plans.
- The IMPs of the North Platte, South Platte, Twin Platte, Central Platte, and Tri-Basin Natural Resources Districts, were adopted in whole or in part on September 15, 2009.



IMPs in the Overappropriated Area

- NE Statute requires an incremental approach in the overappropriated areas.
- The goal is an ultimate return to a fully appropriated level of use.

IMPs in the Overappropriated Area: Purpose and Goals

- The goals and objectives of the basin-wide plan provide the framework for the OA portions of the IMPs.
- The first increment in the OA area is required to address post-1997 depletions.
- During this increment, the DNR and NRDs *may* pursue efforts to offset depletions beyond those required.

IMPs in the Overappropriated Area: Purpose and Goals (cont.)

- Technical analyses are required on:
 - Available supplies
 - Conservation practices
 - The effects of the plan in reducing the OA/FA difference
- This analysis will help to determine whether or not a second increment is needed to reach a fully appropriated condition.
- There will be additional increments as needed to address any remaining difference between an overappropriated and fully appropriated condition.

PRRIP



- The Platte River Recovery and Implementation Program (PRRIP) has been one consideration in shaping the goals and objectives of the overappropriated area IMPs.
- PRRIP is a basin-wide effort undertaken by the Department of the Interior, and the States of Colorado, Nebraska, and Wyoming, to provide benefits for the endangered interior least tern, whooping crane, and pallid sturgeon and the threatened piping plover.

PRRIP (cont.)



- Through PRRIP, the states and federal government provide land, water, and scientific monitoring and research to evaluate PRRIP benefits for the target species.
- Implementation of PRRIP is incremental. The first increment is 13 years.

Nebraska's New Depletions Plan



- The depletion plan requires mitigation, or offsets, to prevent any new depletion to the river's target flows.
- Each state, including Nebraska, must get back to a July 1, 1997, level of development of water use and associated river depletions.

Current Overappropriated Area IMPs

- The IMPs contain the current best estimate of the balance of post-1997 depletions and accretions to the Platte River.
- The current IMPs contain the framework to completely offset the remaining depletions within the first increment of the IMPs.

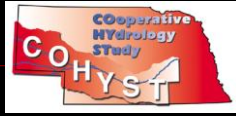
The Fully to Overappropriated Difference

- Preliminary studies have indicated that the full difference between overappropriated and fully appropriated may be greater than the increased level of development since 1997 for some areas of the basin.
 - "Preliminary Estimate of Historical Streamflow Reductions in the Overappropriated Portion of the Platte River in Nebraska," a joint effort between the Department, Districts and stakeholders provides a first estimate of this difference. (http://www.dnr.ne.gov/LB982/Reports/Final_OA_FA_Report_rev4.pdf)
 - The study's objective was to identify the changes in streamflow not associated with climatic variability for the Platte Basin upstream of Elm Creek.

Current Overappropriated Area IMPs (cont.)

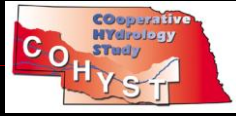
- The IMPs contain a comprehensive program of monitoring and studies that will assess the success of the IMPs and guide any modifications or improvements that may be needed.

COHYST



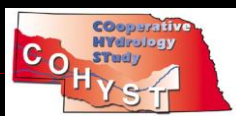
- The Cooperative Hydrology Study (COHYST) is a cooperative effort to improve understanding of the hydrologic and geologic conditions in the Platte Basin upstream of Columbus, NE.
<http://cohystr.dnr.ne.gov>
- A group of Nebraska interests joined together as sponsors and partners to develop scientifically supportable hydrologic databases, analyses, and modeling, which assist in the effective management of the basin's water supplies.

COHYST goals



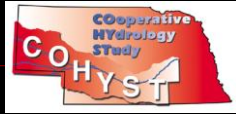
- To assist the State of Nebraska to meet the obligations of the three state and federal Platte River Recovery and Implementation Program.
- To assist the Platte River NRDs and the DNR in efforts to regulate and manage the water resources and meet the requirements of LB962.
- To provide a sound technical basis for water policy development.
- To assist with the analysis of activities proposed for PRRIP and other Nebraska programs.

COHYST and the Platte IMPs



- Using COHYST models, the new depletions from development between 1997 and 2005 were estimated.
- Tools developed from the models were used to estimate the accretions from additional management activities implemented after 2005.
 - CREP, EQIP, Water Banking, Elwood Reservoir, etc.

COHYST and the Platte IMPs



- New irrigated acres between 1997-2005
 - Entire COHYST area ~ 500,000 acres
 - OA area ~ 70,000 acres
- Total new depletions from 1997-2005 new acres
 - Current ~ 18,000 AF/yr
 - After 50 years ~ 26,000 AF/yr
- New OA acres causing ~95% of current new depletions and ~80 of 50-year new depletions

Western Water Use Management Model

- The North Platte and South Platte NRDs are partnering to develop a groundwater model over the current extent of the COHYST western model unit.
- The model will be capable of utilizing the metered data that is being collected by each district in order to evaluate the success of management actions at achieving the goals of their IMPs.

Platte River Conjunctive Management Study

- The Platte Conjunctive Management Study also provides important insight to the integrated management planning process.
<http://dnr.ne.gov/PlatteRiverPlatteRiverStudy.html>
- The DNR, Central Platte NRD, Twin Platte NRD, Nebraska Public Power District, and Central Nebraska Public Power and Irrigation District are evaluating and investigating opportunities to prepare a potential plan to conjunctively manage the surface and groundwater resources of the Central Platte Valley.

Platte River Conjunctive Management Study (cont.)

- The concept of conjunctive management is that surface and groundwater resources are hydrologically interconnected, and decisions to improve the management of one can't be made properly without considering the other.



Platte River Conjunctive Management Study (cont.)

- The project will proceed in three phases.
 - Phase one involved gathering substantial background information and funding to proceed to phase two.
 - Phase two, which is currently underway, will create the tools necessary to evaluate conjunctive management strategies.
 - Phase three will identify those strategies to be implemented and evaluate methods of implementation.

PBHEP

- The Platte Basin Habitat Enhancement Project (PBHEP) was established to provide an added solution to help Nebraska's Platte Valley meet its goals.
- In cooperation with the NRDs, DNR, Nebraska Game and Parks, the Nebraska Resources Conservation Service, the Platte River Whooping Crane Trust, and the Nebraska Farm Bureau, officials will work with landowners to develop plans suitable to the native ecosystems and the landowners' farming practices.
- PBHEP is funded in part through a grant from the Nebraska Environmental Trust.

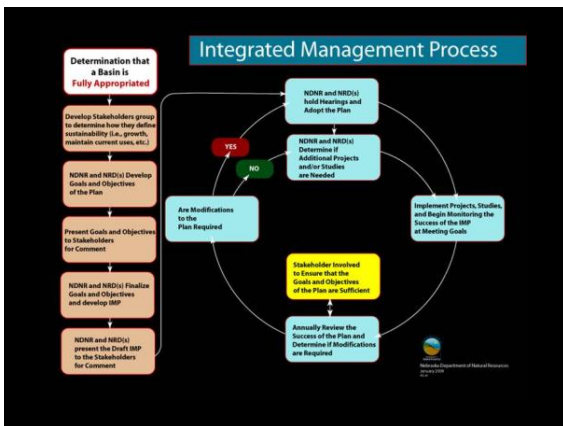


PBHEP Objectives

- To transfer irrigated cropland to dryland cropland and native grassland habitat suitable to the local ecosystem
- The permanent retirement of consumptive use of water to enhance streamflows by 15,500 acre-feet per year
- To open additional acres of land to public hunting access
- To provide education on the benefits of preserving native habitat
- To develop projects that could reduce consumptive water use and/or increase benefits to wildlife.

The Path Forward

- An IMP is always a work in progress.
- As more data become available, the Platte IMPs will be reassessed and evolve as needed to accommodate changing circumstances.
- Stakeholders will be involved as changes are made to ensure that the goals and objectives of the plans are sufficient.



Questions?

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Natural Resources