

Summary of 2015 Annual Report of Water Use Activities in the CPNRD

Certified Irrigated Acres

At the end of 2015 the CPNRD had a total of **1,028,044** irrigated acres of which **936,554** acres are ground water only; **14,315** acres are surface water only and **77,175** acres are a co-mingled use. The overall irrigated acres base has increased **11,455** acres, in part to acres still being certified, two years of additional acres being added east of Chapman, NE (both have supporting documentation) and because of our transfer process, which allows for the consumptive use of water to be changed, (either in location or purpose) without causing an increase in depletions to the river or an impact to existing surface water or ground water users.

Approved Transfers

For calendar year 2015 the CPNRD allowed **160** transfers. The certified acre total for 2015 involved in these transfers to new irrigated lands was **1,955** acres. The total number of certified acres used to offset the new uses was **1,094** acres. Each transfer resulted in no net increase in stream depletions when computed using the CIR offset calculator developed from COHYST. There were also a total 160 groundwater acres retired.

Well Permits

131 well permits were issued for 2015.

Over-Appropriated Area Retirements

In 2015, the CPNRD acquired **one** perpetual conservation easement on water rights in Dawson County, and the estimated accretion to the Platte River from ground water retirements using the latest COHYST offset calculator is **61.46** acre feet. This retirement amounted to **149.5** acres.

Summary

By the close of 2015, the CPNRD Water Bank had a balance of **2,566** acre feet of water rights available for offset in the over-appropriated area.

Other Stream Flow Accretion Activities

Rehabilitation of Surface Water Canals

Cozad, Thirty Mile, and Southside (Orchard Alfalfa). The canals will be used for their original purpose, surface water irrigation delivery; as well as for retiming Platte River flows to enhance target flows for endangered species. The retiming of Platte River flows will be accomplished by diverting flows excess to target flows to recharge the ground water system or by transferring surface water irrigation rights to in stream use, which will be diverted from the canal back to the river. Water rights for diverting excess flow for recharge were granted to the Canal systems by DNR and Temporary Transfer permits for returning surface water to the river for in stream use have been filed with the DNR. Excess Platte River

was diverted in 2011, 2013, 2014, and 2015. The total diverted by the 3 canals was 37,359 AF and the computed recharge was 23,883 AF. The return to the River is computed to will be 80 to 90 AF per month. In 2015 we also worked with DNR to test how the surface water transfer would operate during the irrigation season.

Conjunctive Water Management Studies

The study has been underway for some time to look water management options for the Dawson Canal canals. Currently the partners include: DNR, Central Platte NRD, and Nebraska Public Power District (NPPD). The study is to look at surface water and ground water management options with the goal of ensuring that the supplies of surface and ground water in the Platte basin are optimized and managed efficiently with maximum benefits in a manner consistent with State and local policies. The studies and analysis for the irrigation canal projects are being conducted with the COHYST modeling tools. This past year the partners have met several times with the consultants on the study to review the 5 management scenarios results.

Crop Irrigation and Demand Network

The crop irrigation and demand network has been in place for 3 years and is collecting real-time precipitation, water pumped, and soil moisture data for selected sites across the CPNRD. The CPNRD has partnered with DNR, UNL extension, Seim Ag Technology, and McCrometer to collect information the producers and the NRD can use.

The goal of the project is being accomplished by measuring water pumped and precipitation at selected locations to would provide data that could be use to develop irrigation efficiencies by irrigation equipment type, soil water holding capacities, and crop type.