

## Appendix B. Data and Information Used During Plan Development

The following types of scientific data and other information were considered during the development of the Plan, will be considered in the adoption of the Plan, or both pursuant to *Neb. Rev. Stat. § 46-755 (5)(a)*.

### Hydrologic Considerations

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Hydrologic data and records:

- Annual streamflow data
- NeDNR hydrographic reports
- Precipitation and weather stations
- Land use and irrigated acres
- Surface water use (canal diversions, field deliveries, small pumper diversions, surface water use reporting)
- Storage volumes in reservoirs
- Groundwater use (meter data and groundwater model data)
  - NRDs' certified acres records
  - NRDs' groundwater pumping records
- Stream depletions from groundwater pumping
- Computed Beneficial Consumptive Use (pursuant to the RRCA definition) of surface water use and groundwater use
- Surface water administration records
- Annual augmentation pumping numbers
- NeDNR and US Geological Survey streamgauge records
- Crop irrigation requirement for corn across the basin
- Water level records and maps from NRDs, NeDNR, the University of Nebraska, the US Geological Survey, and the US Department of Homeland Security, including a comparison of modeled to actual groundwater level changes
- NeDNR INSIGHT data (supplies, demands, and water balance)
- Hydrogeologic conditions such as aquifer thickness and other groundwater reservoir information
- Dedicated observation wells' and other wells' groundwater level data

## Studies, Reports, and Presentations

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- Hydrologically connected area as determined by NeDNR (i.e., the 10/50 area) and other stream depletion zones
- The availability of supplemental water supplies, including opportunities for interbasin transfer or groundwater recharge
- Peer-reviewed literature on riparian phreatophyte evapotranspiration and removal
- Technical hydrologic reports from the University of Nebraska, the United States Geological Survey, and other publications
- Other studies related to the Basin
- Republican River Compact Model area
- US Bureau of Reclamation infrastructure
- MRNRD Medicine Creek Study
- Watershed Management Study

## Other

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- Stakeholder input
- Additional data on file with NRDs and NeDNR
- Previous definitions of sustainability for the Basin
- NeDNR registered well database
- NeDNR surface water database
- NeDNR dams database
- RRCA groundwater model and other groundwater models
- Introductory hydrologic science
- Current rules and regulations, groundwater management plans developed by the NRDs adopting the Plan
- Current and past integrated management plans jointly developed by NeDNR and the NRDs adopting the Plan, and others
- Typical plan elements and terms
- Current groundwater and surface water controls for the Basin
- Past, present, and potential management actions, including but not limited to:
  - Water conservation incentive programs
  - Augmentation projects
  - Compact compliance management actions
  - Allocations
  - Recharge projects
  - Interbasin Transfer
- NeDNR's Order dated July 14, 2004, declaring formal moratoriums on all new surface water appropriations for the Republican River Basin, including all subbasins.
- NeDNR's Notice dated July 15, 2004, to all licensed water well contractors in Nebraska of the final determination that all of the Upper Republican NRD, Middle Republican NRD and Lower Republican NRD are "fully appropriated" pursuant to *Neb. Rev. Stat. §§ 46-713(4)(a)*

and (b), and [LB 962] and placing immediate stays on new uses of surface water and ground water.

- NeDNR's Notices dated July 15, 2004, to the public and to the Lower Republican NRD; the Middle Republican NRD; and the Upper Republican NRD of the final determination that the Republican NRDs are "fully appropriated" and stays on new uses of surface water and groundwater have or will take effect.
- Republican River Compact, Final Settlement Stipulation, and Republican River Compact Administration (RRCA) Rules and Regulations, Accounting Procedures, and Resolutions in effect as of (the effective date of this Plan). Nebraska current and past statutes and rules related to water planning, including but not limited to:
  - *Department of Natural Resources Rules for Surface Water, Nebraska Administrative Code Title 457*
  - *Department of Natural Resources Rules for Groundwater, Nebraska Administrative Code Title 456*
  - *Nebraska Revised Statutes*
    - *Neb. Rev. Stat. Appendix 1-106, Republican River Compact*
    - *Applicable surface water statutes, Chapter 46, Article 2.*
    - *Applicable groundwater statutes Chapter 46, Article 6*
    - *Nebraska Ground Water Management and Protection Act, Neb. Rev. Stat. §§ 46-701 to 46-756 (Reissue 2014)*