

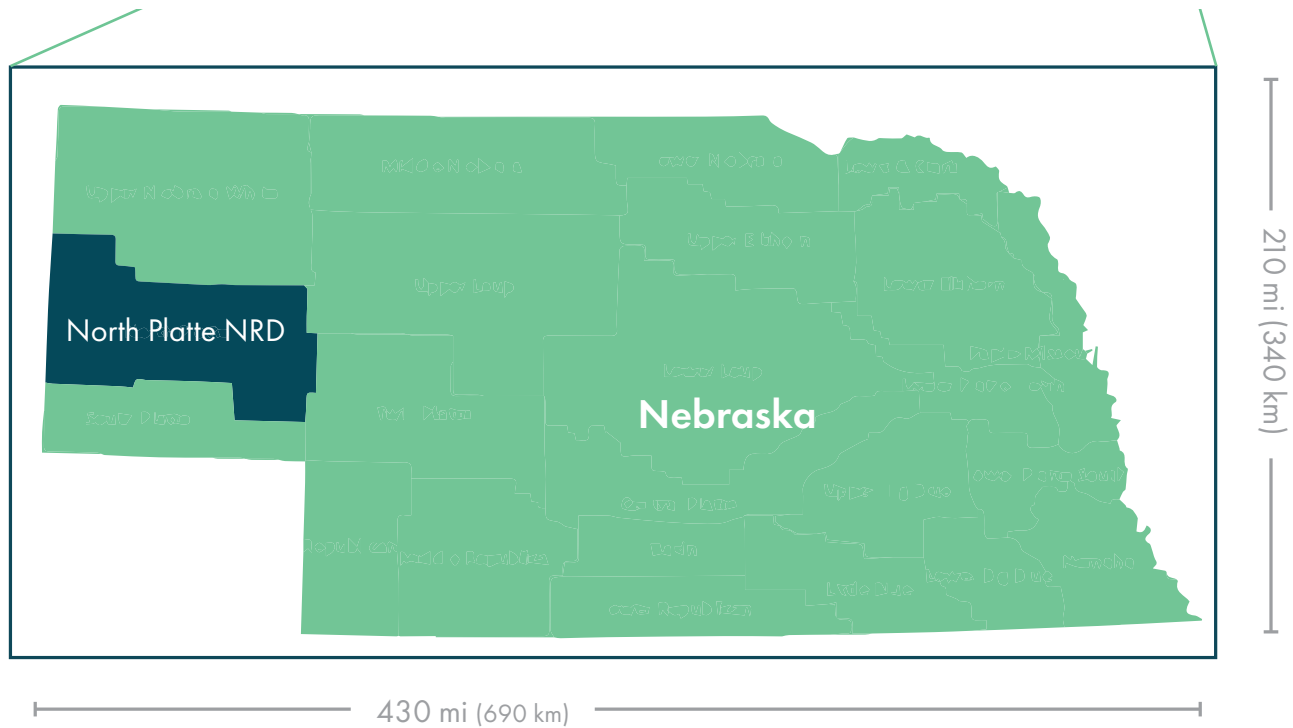
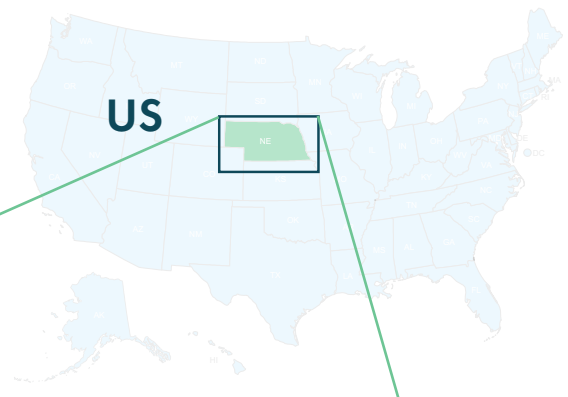
# TRANSFERRING GROUNDWATER IN THE HIGH PLAINS

North Platte Natural Resources District, Nebraska



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- ▶ In the North Platte Natural Resources District (NPNRD), water demand for crop irrigation is high due to low annual rainfall. The NPNRD is accountable for the impacts of groundwater pumping on streamflow governed by interstate compact. The district is also concerned about local long-term groundwater depletion.
- ▶ Groundwater use for irrigation is restricted, with mandatory metering and a 5-year allocation system. Especially during droughts, some growers exhaust their allocation and must stop irrigating.
- ▶ Growers can formally transfer their groundwater pumping rights separately to land ownership. Groundwater transfers must be determined to not have any negative impacts on streamflow and downstream water users.
- ▶ The process of determining that the change of pumping location is acceptable is expensive. Given the district's water accounting rules, there is a high likelihood of negative third party impacts from transfers. As a result of both issues, formal groundwater transfer applications are relatively infrequent and tend to be large transactions.
- ▶ Informal groundwater transfers are more common. These arrangements allow for localized and restricted reallocation of groundwater pumping rights with very little administrative burden and no transfer of the property right.





## BACKGROUND

NPNRD, in the Nebraska Panhandle, is a dry, hilly, and sandy area with an average of 14-18 inches of rainfall annually. There are 450,000 irrigated agricultural acres. Of these, 120,000 acres use groundwater only. The rest use either surface water or mix of surface water and groundwater. The main crops are corn, sugar beets, dry edible beans, alfalfa, wheat, and potatoes. NPNRD sets a 5-year pumping allocation of 70 inches (60 inches in one subarea, Pumpkin Creek) and meters and monitors all groundwater wells to verify compliance.



## GROUNDWATER TRANSFERS

The formal transfer process requires a hydrologic study of expected 50-year impacts of the transfer. The applicant is responsible for the study, which costs \$10,000. NPNRD Board members, who approve groundwater transfers, base their decisions on study findings. Over the past 8 years, 4 formal groundwater transfers from irrigators to municipal buyers occurred, and there were no formal transfers between irrigators.



## TRANSFER DIRECTION

For formal transfers, hydrologic analysis determines whether the transfer will have a negative impact on streamflow. Practically speaking, this means that formal transfers must move the point of groundwater extraction away from streams for approval. Under current rules, groundwater transfers are not adjusted to account for changes in stream impacts. For informal transfers, no accounting for stream impacts occurs.



## TRANSFER BOUNDARIES

Transfer boundaries for formal transfers are case-by-case and determined based on factors including canal operations, hydrology, land use, and other stream impact conditions. Informal transfers typically allow growers to combine their groundwater allocations across multiple fields within a 3-mile box. Initial and final transfer points do not need to be contiguous.



## OTHER POINTS OF INTEREST

Some irrigated acres have the right to both surface water and groundwater ("commingled"). The accounting for such acres is complex and specific rules apply to the transfer of commingled rights. While technically possible, commingled water transfers are unlikely as multiple other agencies would need to be involved in the approval process (unlike groundwater, surface water is not overseen by the Natural Resources Districts, but is co-managed by different state and local entities in Nebraska). Within the area administered by NPNRD, there are also some irrigators who have only surface water rights; transfers of such rights are frequent.

*Transferring Groundwater Factsheet #1, North Platte Natural Resources District  
R. Rimsaite, S. Munezero, and N. Brozović  
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**Transfer** means a change in the groundwater use location, purpose, or point of withdrawal.

A **formal transfer** is a transfer of a property right. In NPNRD, formal transfers of groundwater rights between wells are called "transfers."

An **informal transfer** is a reallocation of water across space/time without transfer of a property right. Informal transfers, often called "pooling," allow joint operation of two or more irrigated tracts. In NPNRD, informal groundwater transfers occur within groups of wells that have been declared as "Pre-existing Allocation Units" or "Designated Allocation Units."

**Transfer direction** must be considered when there are concerns about impacts of pumping on streamflow.

**Transfer boundaries** define the area within which groundwater can be transferred.

**Commingling** means that both groundwater and surface water are legally available for use on the same irrigated acres.