

# Nebraska Department of Natural Resources

## Surface Water Appropriations interactive map

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Nebraska Department of Natural Resources digitized surface water rights may be a geo-referenced interpretation of an approved paper project map and may or may not accurately represent actual conditions on the ground.

## Surface Water Appropriations information

The following information/disclaimer applies to the surface water appropriation related data we are providing as a service. The Nebraska Department of Natural Resources (DNR) has prepared the digital point of diversion and/or appurtenant irrigable field data for the sole purpose of supporting its own statutory programs. If you, the recipient of these datasets, or excerpts therefrom, are not familiar with surface water appropriations (commonly called "water rights") or the lawful administration and use of surface water in Nebraska, then it is possible the data will be misinterpreted and results of analyses that utilize the datasets may not be reliable. Any person

or entity who consumes these datasets must decide if the data are appropriate for their uses and assume responsibility for any misapplication of the information received.

DNR is making every effort to assemble an accurate and complete digital point of diversion and appurtenant irrigable field datasets using information obtained from (1) the original hard copy documents of record or (2) originated from digital sources to create the hard copy records. The original hard copy documents are the legal records upon which granting and administering surface water in Nebraska are based. The document digitization project is ongoing and the user must be aware that data retrieved from the unfinished work product of the project may not represent a complete record of relevant information on surface water appropriations in the area requested. These datasets will not be made readily available to any person or entity that is external to DNR program staff until the project is complete and the data have been compared to the original source documents in a thorough review.

At this point in the project some diversion locations and represented field boundaries may have been located incorrectly or are based upon erroneous or imprecise information in the source documents. Other diversion locations or portions of appurtenant irrigated fields may have been inadvertently left out of the dataset. Some points of diversion depicted on the attached shapefile make use of coordinates based upon a legal description and not a more precise location obtained from a project map. It is possible some diversion points will not be displayed. In some cases the stream channel may have physically moved away from the original point of diversion. Irrigated field boundaries are based upon statutorily required project maps that must be submitted as hard copy records. In case of discrepancy between what is perceived to be under permit and what is actually under permit, the hard copy maps and orders of the DNR take precedence. There are legally prescribed methods to update information with the consent of affected landowners. We constantly edit and update the dataset.

Appropriations have a particular point of diversion, which we commonly refer to as the “primary” point of diversion. That designation is only for data management purposes and is typically the most upstream diversion for an appropriation that has more than one authorized diversion location. It provides the advantage of a one-to-one relationship between surface water appropriations database records and a geographically referenced point of diversion. The use of the primary point of diversion for this dataset is mainly to facilitate some of the query statements that are used to attach some of the appropriation data from our surface water database. This dataset has the most commonly requested tabular information that is associated with surface water appropriations.

The digital information is derived one of two ways. For new appropriations, most of the mapping data is generated from computer mapping software and so, there is a good correlation between the digital data and the official hard copy record. Many existing appropriations are produced from digitized hard copy maps. They are the best interpretation that DNR staff is able to produce, but the quality of the original maps varies. Often the original maps were a graphic representation of survey data and not put on a coordinate base. The resultant digital layers are adequate for DNR program purposes.

Public and privately held water appropriations may have significant geographic coincidence. This is commonly described as “stacked” water rights. There can be more than 5 appropriations that cover the same field, which makes it difficult to represent on hard copy and digital media. Single diversions can serve fields that are appurtenant to multiple appropriations.

Associating diversion records with the place of use, i.e. irrigated area is a task that requires a basic understanding of how water appropriations are conditioned and how water administration might affect the distribution of diversions where there are common diversion works.

The following is an example of considerations you must understand before using the datasets described above. The following is not intended to cover all possible challenges to using the data, just an example to caution potential users. This example is most important for anyone interested in estimating acres irrigated by surface water appropriations. As described above, there are certain areas where stacked “add water” (or transferred) appropriations are located and therefore, the potential exists to over count acres if one does not understand the appropriations. Water appropriations that are at least partially overlapping in acres due to the fact that the original appropriation had a less than 1 cfs / 70 acre rate, have a code of “D” in one of the “Footnote” fields of the tabular database associated with the shapefile. These “add water” appropriations were obtained after a law was passed in the mid-1950’s that allowed for every acre appurtenant to a surface water appropriation to be irrigated at a maximum rate of 1/70. Changes to appropriations have also resulted in transferring more than one water appropriation to the same field. To further complicate matters, some of the appropriations that provide additional water up to the 1/70 rate may also have had additional land that was not previously under a permit. So, some of the “add water” appropriations have portions that are 1/70 and other portions that are the “add water” part at 1/140 or some other ratio. Each of these “add water” appropriations has a “grant”, i.e. amount in cfs that is not duplicative, even though there is overlap in the permit acres.

A similar consideration related to surface water irrigation appropriations exists when there are supplemental “storage use” permits that allow irrigation of land that is already under a natural flow permit for the same land. There are some storage use appropriations that are the only source of water for irrigated land and therefore are not duplicative in terms of acres under permit. Each permit has unique use codes in the dataset. A listing of these codes is provided in the “help” document on the DNR website for surface water database searches, which should be used as a reference when working with these datasets.

Undoubtedly there are many other considerations that are relevant to each potential use of the datasets. DNR is providing these datasets in the hope of assisting you in your project, but the data was developed for DNR program purposes. Therefore, it is up to you to determine if the data is appropriate for your intended uses.