
Terry T. Uhling

*University of Nebraska College of Law, tuhling@martenlaw.com*

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Ground Water Preferences in Nebraska*


I. INTRODUCTION

Ground water resources in Nebraska are currently subject to dramatic increases in use. Nebraska has followed the pattern established by California and Texas of allowing virtually unlimited ground water development. In 1975, nearly six million acre feet of ground water were utilized for irrigation. Ground water has also been recognized as an economical source of clean water for municipal and industrial use.

One consequence of this tremendous growth is an increase in well interferences among adjoining well owners. Well interference is best understood as the result of the interrelationship of ground water hydrologic factors and the consumption rate of individual wells.

Resolution of well interference problems in Nebraska has been primarily left to judicial determination. The most recent ground water allocation case, Prather v. Eisenmann, is likely to set historical precedent. Prather is the first case in which the Nebraska Supreme Court departed from the Nebraska rule of reasonable use in resolving a ground water conflict between well owners. The

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* The author gratefully acknowledges the aid of J. David Aiken, Water Law Specialist, Department of Agricultural Economics, University of Nebraska, in the preparation of this note.
3. An acre foot is enough water to cover an acre of land with one foot of water, or approximately 326,000 gallons.
5. Comment, supra note 1, at 565.
court interpreted the role of the preferential use statute for the first time in a ground water allocation situation. The decision resolved, as well as created, many questions regarding Nebraska's ground water allocation rules.

II. FACTS

In Prather v. Eisenmann, plaintiffs owned domestic wells located on three separate tracts of land overlying a common artesian aquifer. Two of the plaintiffs had flowing artesian wells, while the other domestic well owner utilized a submersible pump to bring water to the surface. In March of 1976, defendant Eisenmann purchased a ninety acre tract of land overlying the same aquifer underlying the plaintiffs' land. On July 9, 1976, the construction of defendant's irrigation well which had a pumping capacity of 1,250 gallons per minute was completed. The defendants commenced pumping at a rate of 650 gallons per minutes on July 9. On July 10 the two flowing artesian wells ceased yielding water due to the head loss of their wells. The use of the other domestic well was lost between the evening of July 12 and the morning of July 13 when the water in the well dropped below the level of the submersible pump. The plaintiffs brought an action to enjoin the defendant from pumping and for monetary damages.

A temporary injunction was issued following a stipulation by


    Preference in the use of underground water shall be given to those using the water for domestic purposes. They shall have preference over those claiming it for any other purpose. Those using water for agricultural purposes shall have preference over those using the same for manufacturing or industrial purposes.
    As used in this section, domestic use of ground water shall mean all uses of ground water required for human needs as it relates to health, fire control, and sanitation and shall include the use of ground water for domestic livestock as related to normal farm and ranch operations.

Id. The surface water preference statute was referred to by the Nebraska Supreme Court in Hickman v. Loop River Dist., 173 Neb. 428, 113 N.W.2d 617 (1962).

10. Id. at 4, 261 N.W.2d at 768. For a general discussion of artesian aquifers, see § III-A-2 of text infra. See Figure 1 of text infra.
11. 200 Neb. at 4, 261 N.W.2d at 768.
13. 200 Neb. at 2-3, 261 N.W.2d at 768.
14. The Prathers, the Farleys and the Zessins each owned one of three tracts of land. The Farleys and the Zessins assigned their cause of action to the Prathers. Id. at 2, 261 N.W.2d at 768.
15. Id. at 2, 261 N.W.2d at 767.
the parties which permitted the University of Nebraska Conservation and Survey Division to conduct certain tests on their wells. The hydrologists who conducted the tests made the following findings: (1) the irrigation well and the domestic wells were drawing from the same aquifer; (2) the aquifer could be defined with reasonable certainty; (3) the pumping by Eisenmann depressed the artesian head of the domestic wells; (4) the cone of influence caused by Eisenmann's pumping intercepted or affected plaintiffs' wells; (5) the common aquifer from which the domestic and irrigation wells drew water was sufficient to supply both domestic and municipal needs; (6) if the plaintiffs were to obtain water from their wells during periods when Eisenmann was pumping they would have had to pump water from the top of the shale.

The trial court held that the defendant's irrigation well interfered with the plaintiffs' domestic wells. In addition the trial court found that there would be sufficient water for all users if the plaintiffs lowered their pumps to a level immediately above the shale. Moreover, the court permanently enjoined the defendant from lowering his irrigation well, and enjoined him from any pumping during the period of time reasonably required for the plaintiffs to lower their pumps. Plaintiffs were awarded damages sufficient to compensate for the cost of providing an alternative method of water supply. The trial court based its decision on Nebraska's preference statute and the Restatement of Torts.

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16. See notes 49-52 & accompanying text infra.
17. Id. at 3-4, 261 N.W.2d at 768. A water sufficient or insufficient aquifer when referred to in this note will be defined according to the remedies available to parties in a well dispute. A water sufficient aquifer is one in which there is sufficient water for all parties involved for the reasonably foreseeable future if their wells or pumps are lowered to a deeper depth. In water insufficient aquifer the supply of water requires one party to discontinue pumping or both parties to reduce their withdrawal rate (technical water shortage). J. Aiken, An Introduction to Nebraska Water Rights Law 5 (Department of Agriculture Economics Staff Paper No. 1979-2, University of Nebraska-Lincoln) (1979).

In Prather, the University of Nebraska Conservation and Survey Division found that the aquifer was sufficient for both domestic and irrigation needs. They generally defined "sufficient" to mean that in the reasonably foreseeable future both parties should have enough water. This conclusion was rendered with one caveat: the domestic wells would be drilled to a depth below the irrigation well so that if the aquifer was not sufficient the irrigator would run out of water first. Interview with Marilyn Ginsberg, Research Hydrologist for the University of Nebraska Conservation and Survey Division, in Lincoln (February 21, 1980).

18. 200 Neb. at 2, 261 N.W.2d at 767.
19. Id.
20. Id. at 8, 251 N.W.2d at 770. It is apparent that the trial court used the rule proposed by the Restatement. That rule provides in part:

Non-liability for use of ground water-exceptions. A possessor of land
tantly, it held that defendant was pumping water in excess of a reasonable and beneficial use on his land.\(^\text{21}\) On appeal to the Nebraska Supreme Court, the court affirmed, relying solely on the Nebraska preference statute.\(^\text{22}\) This note will analyze how the decision affects three critical ground water allocation issues: (1) the burden of proof in well interference cases; (2) the use of Nebraska’s reasonable use rule; and (3) the role of preferences in defining a landowner’s right of use\(^\text{23}\) to ground water in Nebraska.

### III. ANALYSIS

#### A. The Burden of Proof and Ground Water Hydrology

The importance of a party’s ability to prove the physical occurrence of well interference was first noted by the Nebraska Supreme Court in *Olson v. City of Wahoo*.\(^\text{24}\) The plaintiff had installed pumping machinery for use in his commercial sand and gravel pit. His supply of water was sufficient until the City of Wahoo constructed a new municipal well 3,400 feet from the ground pit which plaintiff contended interfered with his well. Plaintiff claimed that the pumpage rates of the municipal wells lowered the water table in his gravel pit, thereby making pumping impossible. In *Olson* the court did not reach the merits of the case because it found that plaintiff failed to meet his burden of proof, as he failed to show by physical evidence that the municipal well was the cause of the drawdown\(^\text{25}\) on the well.\(^\text{26}\)

The burden of proof as developed under *Olson* requires the plaintiff in a well interference case to establish the cause and effect relationship involved. This relationship may be established by ob-

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21. 200 Neb. at 8, 251 N.W.2d at 770. The Supreme Court concluded that it was unnecessary to reach this issue. The court reasoned that the case must be analyzed under the preference statute. It is interesting that if the case was analyzed under the Nebraska rule of reasonable use the plaintiffs would have probably lost. The evidence indicates that the defendants were wasting approximately 15 to 25 gallons of water per minute. If the remaining water supply was utilized on the defendant's overlying land the plaintiffs would have no remedy prohibiting the waste.

22. Id. at 9, 261 N.W.2d at 771.

23. See note 73 infra.


25. See § II-A of text infra.

26. 124 Neb. at 812-13, 248 N.W. at 308.
taining hydrologic data sufficient to show this cause and effect relationship. The Nebraska Supreme Court in Prather relied upon the hydrological data collected by the University of Nebraska Conservation and Survey Division to establish the fact of well interference. Consequently, an understanding of the fundamental concepts of ground water hydrology is essential in order to comprehend what factors must be substantiated in order to meet the burden of proof in a well interference case.

Every discussion on hydrology begins with the hydrologic cycle, or earth's water cycle. The hydrologic cycle is the system by which water is circulated from the oceans through the atmosphere and returned both overland and underground to the sea. The cycle is composed of ground and surface water which are part of a continuous operation of circulating water and moisture on the earth. Radiation from the sun evaporates ocean waters, causing clouds to form. The moisture in the clouds condenses and returns to the earth in the form of precipitation—hail, rain, snow or sleet.

Precipitation is the sole source of our fresh water supply. Precipitation may run into streams, soak into soil, be detained by foliage, or move downward into the soil before it inevitably enters ground water reservoirs. Some ground water will move through the pores of subsurface materials until it discharges into a stream. The streams, carrying surface run-off and natural ground water discharge, eventually flow to the ocean.

Located below the earth's crust are two zones—the zone of aeration and the zone of saturation. Water must travel through the zone of aeration before it reaches the zone of saturation. Only the water in the zone of saturation is properly designated as ground water. In addition to subsurface infiltration, the zone of saturation may also be supplied with water from streams and lakes. A stream or lake that contributes water to the zone of saturation is "influent" with respect to ground water. If ground water discharges from the zone of saturation into a stream or lake it is "effluent" with respect to ground water.

The zone of saturation is composed of formations or strata called aquifers from which ground water may be obtained for water supply purposes. Ground water is located in aquifers com-

27. 200 Neb. at 3, 261 N.W.2d at 768 (1978).
29. Id.
30. Id.
31. Id.
32. Id. at 18.
33. Id. at 20.
34. Id. at 16-23.
35. An aquifer is a water saturated geologic unit that will yield water to wells or
posed of consolidated rock materials (shale, sandstone) and in loose unconsolidated materials (sand, gravel). Any type of rock—sedimentary (shale, sandstone, sand), igneous (granite, basalt lava), or metamorphic (marble, slate), whether consolidated or unconsolidated, may be an aquifer if it is sufficiently porous and permeable.\textsuperscript{36}

All aquifers perform two primary functions: storage of water and serving as a conduit.\textsuperscript{37} The aquifer stores water like a reservoir and transmits water like a pipeline. The storage function is a result of an aquifer's porosity and specific yield properties. The porosity of an aquifer is that part of its volume which contains openings and pores. Porosity is a measure of how much water may be stored in a certain aquifer. Specific yield designates how much water an aquifer will give up for use.\textsuperscript{38}

Permeability of an aquifer relates to its pipeline or conduit function. Permeability is the capacity of a porous medium to transmit water.\textsuperscript{39} Transmission of ground water is very slow, with velocities measured in feet per day or even feet per year.\textsuperscript{40} The permeability and porosity of an individual aquifer is determined by its material composition.\textsuperscript{41} The most efficient aquifers are rock materials which are both porous and permeable.\textsuperscript{42}

Ground water is found in two types of aquifers: confined and unconfined.\textsuperscript{43} Moreover, the aquifer's classification depends upon the characteristics of its geological formation. Each type of aquifer reacts differently when water is withdrawn from an aquifer by a pump.\textsuperscript{44}

\begin{footnotes}
\item[36] \textit{Id.} at 30.
\item[37] \textit{Id.} at 35.
\item[38] \textit{Id.} at 35-36.
\item[39] \textit{Id.} at 37.
\item[40] \textit{Id.} Normal flow velocities range from five feet per day to five feet per year. However, velocities as high as 100 feet per day have been reported. Crosby, \textit{A Layman's Guide to Groundwater Hydrology}, in C. CORKER, GROUNDWATER LAW, MANAGEMENT AND ADMINISTRATION (Legal Study No. 6, Nat'l Water Comm'n, Oct. 1961).
\item[41] For example, clay usually has high porosity but low permeability, while gravel may have both high porosity and high permeability.
\item[42] U. GIBSON, WATER WELL MANUAL 7 (1971).
\item[43] Although \textit{Prather} involved a confined aquifer, the legal analysis of the opinion should apply to both types of aquifers.
\item[44] Generally all ground water withdrawal is accomplished through the use of wells. A well is a hydraulic structure which, when properly designed and constructed, permits the economic withdrawal of water from ground water aquifers. E. JOHNSON, \textit{supra} note 3, at 99.
\end{footnotes}
1. Unconfined Aquifers

An unconfined aquifer stores water under water table conditions.\(^45\) A water table is the upper surface of the zone of saturation.\(^46\) In an unconfined aquifer the upper limit of the aquifer is defined by the water table itself. In an unconfined aquifer the top of the zone of saturation (water table) is at atmospheric pressure as if the water were in an open tank. The hydraulic pressure at any level within an unconfined aquifer is equal to the depth from the water table to the point in question and is designated as the hydraulic head.\(^47\) For example, ground water at a depth of 100 feet below the water table has a hydraulic head of 100 feet. When a well is drilled into an unconfined aquifer the water level within the well or static water level stands at the same elevation as the water table. The vertical distance which the well extends into the aquifer determines the size of the hydraulic head for a particular well.\(^48\)

Once a well is extended into an unconfined aquifer the withdrawal of ground water may commence. A well operates by lowering the pressure within the well, commonly by pump,\(^49\) which allows greater pressure in the aquifer on the outside of the well to force water into the well creating a converging flow.\(^50\) The flow toward the well causes a drawdown around the well. As long as the well continues to operate water will continuously flow toward the well to replace water being withdrawn by the pump. The flow and drawdown act together to create a hole in the ground water table called a cone of depression.\(^51\) Any well, when pumped, is surrounded by a cone of depression, which will differ in size and shape depending upon the pumping rate, aquifer characteristics, slope of the water table and recharge within the aquifer.\(^52\)

When water is pumped from a well the initial flow is derived from water storage immediately below the well in the aquifer.\(^53\) As pumping continues, more water must be obtained from greater distances from the well which, in turn, increases the size of the cone

\(^{45}\) Id. at 21.
\(^{46}\) Id.
\(^{47}\) Id.
\(^{48}\) If the well extends ten feet below the water table in the aquifer the well has a hydraulic head of ten feet. E. Johnson, supra note 3, at 21-22.
\(^{49}\) A confined aquifer may not require a pump. The pressure within the aquifer may be great enough to force ground water through the well and above the ground without a pump.
\(^{50}\) U. Gibson, supra note 14, at 16.
\(^{51}\) Id.
\(^{52}\) E. Johnson, supra note 3, at 99-101.
\(^{53}\) Id. at 103.
of depression.\textsuperscript{54} The cone of depression will continue to enlarge until the aquifer recharge equalizes pumping discharge.\textsuperscript{55}

Well interference occurs in unconfined aquifers when two or more cones of depression overlap, thus reducing the yield of the individual wells.\textsuperscript{56} When well interferences continue, the decline in the water table is accelerated. This reduction in the water table will eventually cause one of the wells to run dry. If the pumps of both wells are turned off, the aquifer will eventually return to near its original level.

2. \textit{Confined Aquifers}

The zone of saturation may include both permeable and impermeable layers of earthen material.\textsuperscript{57} A confined aquifer, in contrast to an unconfined aquifer, is separated from other aquifers and the land surface by two impermeable layers.\textsuperscript{58} Ground water contained in a confined aquifer is described as artesian.\textsuperscript{59} The ground water within these confined aquifers is at pressures greater than atmospheric. When a well is drilled into an artesian aquifer, water will rise above the top of the aquifer.\textsuperscript{60} The water level in the well represents the pressure head\textsuperscript{61} of the artesian aquifer. The hydraulic head of an artesian aquifer equals the vertical distance from the water level in the well to the point in question.\textsuperscript{62}

When the water pressure within an artesian aquifer is great enough to cause the water to rise above the ground a flowing artesian well is created.\textsuperscript{63}

When a well is extended into a confined aquifer the effects on the aquifer are distinguishable from those of the extension of a well into an unconfined aquifer. When a well pumps water from a confined aquifer, the water withdrawn is replaced from three prin-

\begin{itemize}
\item \textsuperscript{54} The cone of depression expands at a decreasing rate because with each additional foot of horizontal expansion a larger volume of water is available. \textit{Id.}
\item \textsuperscript{55} \textit{E. Johnson}, \textit{supra} note 3, at 103.
\item \textsuperscript{56} \textit{U. Gibson}, \textit{supra} note 14, at 18.
\item \textsuperscript{57} \textit{E. Johnson}, \textit{supra} note 3, at 22.
\item \textsuperscript{58} \textit{Id.}
\item \textsuperscript{59} \textit{Id.}
\item \textsuperscript{60} \textit{Id.} at 22-23.
\item \textsuperscript{61} Pressure head is the measure of the elevation to which water levels will rise above the top of the aquifer. Pederson \& Axthelm, \textit{Artesian (Confined) Aquifers and Effect of Pumping G77-358}, Neb. Guide, July 1977.
\item \textsuperscript{62} The water level in the well in an artesian aquifer is termed the piezometric level. \textit{E. Johnson}, \textit{supra} note 3, at 23.
\item \textsuperscript{63} \textit{E. Johnson}, \textit{supra} note 3, at 22-23. Two of the plaintiffs had flowing artesian wells in \textit{Prather}. Prather's well normally had sufficient artesian pressure to force water in the well to a level 5 to 6 feet above the ground. Furley's well normally had sufficient artesian pressure to raise the water above the ground. 200 Neb. at 2-3, 261 N.W.2d at 767-68.
\end{itemize}
close sources: leakage of water into the aquifer; expansion of water within the aquifer; or compaction of the aquifer. As pumping continues in an artesian aquifer the pressure head in a well drops. Well interference occurs in a confined aquifer because head loss (pressure head drop) spreads over large areas and affects pressure head in neighboring wells. This was the type of well interference present in Prather. The hydrological tests concluded that defendant's irrigation well was causing significant head losses on the plaintiff's domestic wells. The tests also concluded that all the wells were withdrawing ground water from the same artesian aquifer. Under the rule of Olson, these factors were essential in finding that plaintiffs met their burden of proof. Prather may thus set precedent regarding the use of such data by all plaintiffs in well interference cases. However, requiring the use of such data in the future may result in unusual hardship to plaintiffs because in Prather the state indirectly subsidized the data collection. In Prather the hydrological data was compiled by the

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64. The rate of leakage into a confined aquifer is determined by the composition, thickness, facturing and geometry of the confining material. If there is fair hydraulic interconnection with other aquifers, leakage will soon equal water being pumped and additional lowering of the well will stop. Pederson & Axthelm, supra note 61.

65. Pumping lowers the pressure head in an aquifer. Since water in a confined aquifer may be slightly compressed, a reduction of pressure head means the water will expand. The increase in volume then replaces the water that was removed by pumping. This is done with no pore spaces (voids) being dwatered. Because the water in an artesian aquifer is under pressure when a well is drilled into the aquifer and begins to withdraw water, the entire aquifer experiences a pressure drop. Therefore, the drawdown from an artesian well may affect a greater area than a similar well in a comparable unconfined aquifer. Id.

66. A drop in pressure head means less hydraulic pressure is exerted against the confining layer overlying the aquifer. This means more of the weight of the earth above the aquifer must be borne by the solid material of the aquifer. Under these conditions the aquifer itself may compact, leaving less pore space for water storage (much like a squeezing sponge). The degree of compaction would depend upon the strength and composition of the materials in the aquifer. The restoration of the aquifer to its original shape with higher pressure heads would depend on how elastic the compacted material was. Id.

67. Id.

68. At the end of the three day period the draw down (head loss) on Prather's well was 61.91 feet; on Furley's well 65.45 feet; on Zessen's well 65.6 feet; and on Eisenmann's well 97.92 feet. 200 Neb. at 3, 261 N.W.2d at 768.

69. See notes 24-27 & accompanying text supra.

70. Interview with Marilyn Ginsberg, Research Hydrologist for the University of Nebraska Conservation and Survey Division, in Lincoln (February 21, 1980) (physical factors of Prather).

Through the period of 1935 to the winter of 1976, eight irrigation, municipal and industrial wells were installed within one mile of the Prather area. These wells had caused no problems for the well owners located within the
University of Nebraska Conservation and Survey Division.\textsuperscript{71} In short, the ability of future plaintiffs to meet their burden of proof may depend solely upon their ability to afford the requisite data.\textsuperscript{72}

![Figure 1](image_url)

The extensive services given the plaintiff by the University of Nebraska Conservation and Survey Division in \textit{Prather} are gen-

\textsuperscript{71} 200 Neb. at 3, 261 N.W.2d at 768.

\textsuperscript{72} In \textit{Prather}, the court utilized a substantial quantity of hydrological data to reach its decision. The opinion leaves the question open whether this same type and quantity of data will be required in all future cases. Plaintiffs will still have the burden of proof but the trier of fact may be persuaded by less elaborate data. For example, future triers of fact may be persuaded solely by circumstantial evidence obtained from the testimony of experts. \textit{Id.} at 10-11, 261 N.W.2d at 771-72.

\textsuperscript{73} Map of the Prather Area. The map is available from “open file information” located in the Conservation & Survey Division of the Institute of Agriculture & Natural Resources.
Parties involved in future well interference cases will have to seriously consider the expense and delay associated with obtaining the requisite data. The costs of hiring a private consultant to obtain and compile the necessary data will in many cases be prohibitive.

These costs may result in the resolution of well conflicts.

74. Interview with Vincent Dreezen, State Geologist and Director of the Conservation and Survey Division, in Lincoln (November 18, 1979). Mr. Dreezen stated that this type of service would not generally be rendered in the future. In this particular case the Conservation and Survey Division was asked by the court to conduct an investigation. The Division conducted tests that convinced them that the problem was isolated. The Division conducted the tests because their office was interested in justice. In some periods of rapid growth of pump irrigation similar conflicts between users have occurred. In these situations the Division had been able to negotiate settlements between parties. However, in Prather the parties chose to litigate.

75. Interview with Lee Gustafson, Professional Engineer for Hoskins-Western-Sonderegger, Inc., in Lincoln (February 1, 1980). Listed below is a general approximation of a private firm’s expenses if they performed the work conducted by the University of Nebraska Conservation and Survey Division in Prather.

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<thead>
<tr>
<th>No. of Test Pump Days</th>
<th>Project Pump Manager Hours</th>
<th>Project Engineer Hours</th>
<th>Geologist Hours</th>
<th>Trips</th>
<th>Lodging</th>
<th>Meals</th>
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<tr>
<td>1</td>
<td>10</td>
<td>17</td>
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<td>2</td>
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<tr>
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<td>-</td>
<td>-</td>
<td>27</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Court services (hrs) 24
Data reduction and preparation (hrs) 20

Total hrs 64
Per trip per mi. .60
Per night 20.00
Per meal 3.00

Per trip $50.00 $240.00 $141.00
Total $12,721.50

The estimates used regarding the number of test days and people utilized per day was obtained in an interview with Marilyn Ginsberg, Research Hydrologist for the University of Nebraska Conservation and Survey Division, in Lincoln (February 1, 1980).
through out-of-court settlements. Individuals may determine that it is advantageous, in terms of both time and money, to undertake the costs of providing an alternative water supply.\textsuperscript{76} These resolutions are directly related to the substantial cost differentiation between providing an alternative water supply and establishing the cause and effect relationship in a well interference case.\textsuperscript{77} The complexity of the cause and effect relationship associated with a particular well interference depends upon the interrelationship of many factors. Two major factors which directly affect these interrelationships are: (1) the type and physical characteristics of the aquifer, and (2) the number of parties affecting a particular aquifer. The \textit{Prather} causation was relatively easy to prove because of the particular physical factors associated with the case. The difficulty of proof in future cases may, however, become quite complex.

Consider, for example, that \( A \) is the owner of a low capacity domestic well overlying an unconfined aquifer. \( B \) and \( C \) drill irrigation wells after \( A \)'s well is drilled (one high capacity and one low

<table>
<thead>
<tr>
<th>Cost of Well</th>
<th>A. 4&quot; to 6&quot; diameter</th>
<th>$8.40 per vertical linear foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. 8&quot; diameter</td>
<td>$12.00</td>
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</table>

Cost of Pump

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<tr>
<th>Cost of Pump</th>
<th>A. 1 H.P. (Horsepower), 102 to 1356 G.P.H. (Gallons Per Hour)</th>
<th>$1,050.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. 1½ H.P., 330 to 1410 G.P.H.</td>
<td>1,275.00</td>
<td></td>
</tr>
<tr>
<td>C. 2 H.P., 840 to 1440 G.P.H.</td>
<td>1,525.00</td>
<td></td>
</tr>
</tbody>
</table>


The significance of the above cost data is evidenced by the following: If a domestic well owner had a 160 foot well with four inch to six inch casings drilled and installed with a one horsepower, four inch submersible pump, it would cost a total of \$2,394.

In \textit{Prather} the dollar amount given was a total of \$5,600 to be divided among Furley, Prather and Zessen. This amount was based on the cost associated with redrilling their wells. 200 Neb. at 2, 261 N.W.2d at 767.

\textsuperscript{76} This only applies when there is a water sufficient aquifer. If the aquifer is insufficient, the alternative of deepening your own well will not solve the interference.

\textsuperscript{77} The effect of the cost factor in a well interference case may depend upon how courts decide to allocate these expenses. The court could place the burden solely on the plaintiffs, upon the losing party, or evenly divide the costs between the parties.
capacity) approximately at the same time and over the same aquifer. A subsequently loses the use of his domestic well. A must prove that either C, D, or C and D are the cause of the domestic well interference. Assume further that a higher volume industrial well was located over the same aquifer before A drilled his domestic well. The industrial well also contributes significantly to the reduction of the water table in the unconfined aquifer. Establishing a cause and effect relationship could become very complicated under these facts. In the future, well interference litigation may necessarily include an analysis of the cost associated with meeting the burden of proof. This may form the greatest hurdle to the effective utilization of the preference statute.

B. History of Nebraska’s Ground Water Allocation System

Once the plaintiff in Prather met his burden of proof, the Nebraska Supreme Court resolved the merits of the well dispute through the use of Nebraska’s ground water allocation rules. These allocation rules are the product of the historical development of Nebraska’s ground water. To comprehend how Prather will ultimately affect this allocation system, it is important to analyze the growth of ground water law prior to Prather. This historical perspective helps explain how and why the Prather issue evolved.

Nebraska is bestowed with an enormous ground water resource. The State has nearly two billion acre feet of ground water. The discovery and exploitation of this resource is linked closely to industrial, economic and social development in Nebraska.

The major use of ground water in Nebraska is irrigation. The earliest forms of irrigation were almost exclusively related to the diversion of surface water. Ground water withdrawals for irrigation did not begin until the early twentieth century when internal combustion engines became available to power low head centrifugal pumps. Because of limited pumping capacity, early ground water irrigation was limited to valley lands where the ground water table was relatively close to the surface. The development of the turbine pump in the 1930’s allowed irrigation to

78. See note 3, supra.
79. Aiken & Supalla, supra note 4, at 617.
81. Aiken & Supalla, supra note 4, at 618.
82. Irrigation was also limited to valley lands because they are flat.
spread to the table lands of western and south-central Nebraska.  

Ground water irrigation increased rapidly in the 1940's and 1950's. The main contributions to this sudden expansion were the drought and depression which caused farmers to exploit alternative water supplies. Furthermore, technology gave farmers the ability to utilize this resource and the profits realized from irrigated farm land. Technology of the 1950's created the center-pivot sprinkler water distribution system which, in turn, revolutionized ground water irrigation in Nebraska. The center-pivot sprinkler system allowed individuals to irrigate land that was too hilly or too sandy for traditional gravity irrigation methods. Presently there are nearly six million acres irrigated with ground water in Nebraska, with an accompanying increase in the number of registered wells from 8,000 to over 60,000. Nevertheless, the legal system regulating ground water allocation in Nebraska is as young and unsettled as ground water's recent historical development. It is still in considerable uncertainty—in sharp contrast with Nebraska's relatively well settled doctrines governing streams and lakes.

The Nebraska Supreme Court enumerated its first rule governing the allocation of ground water in Olson v. City of Wahoo. Since the plaintiff in Olson failed to meet his burden of proof, the court's rule relating to the parties' rights had the interference been proven is dicta. This dicta was the first judicial pronouncement in Nebraska regarding individual rights to ground water. The city argued that in Nebraska well interference cases, the common law of England was applicable in determining the right of use. Olson, on the other hand, urged the court to adopt the American rule of reasonable use. The court opted for a modified version of the Ameri-

83. Aiken & Supalla, supra note 4, at 618.
84. Id.
85. Harnsberger, supra note 2 at 187-91. This article gives a comprehensive explanation of how each of these factors contributed to ground water development in Nebraska.
86. Aiken & Supalla, supra note 4, at 618.
88. 124 Neb. 802, 248 N.W. 304 (1933). There were two other cases that adjudicated ground water problems before Olson. Beatrice Gas Co. v. Thomas, 41 Neb. 662, 59 N.W. 925 (1894) (well pollution); Lowe v. Prospect Hill Cemetery Ass'n, 58 Neb. 94, 78 N.W. 488 (1899) (ass'n enjoined from interring bodies where evidence showed probable result to be contamination of neighboring wells). See Fischer, supra note 2, at 192-93.
89. Rights of landowners to use ground water in the western states are based on four legal theories: the doctrine of absolute ownership, reasonable use, correlative rights and prior appropriation. The absolute ownership, reasonable use and correlative rights doctrines are all based upon ownership of land.
overlying the ground water reservoir. These theories differ primarily with regard to the extent that a landowner's right to withdraw is restricted. The right to use ground water under the doctrine of prior appropriation is not based upon land ownership but on the physical act of withdrawing ground water and using it beneficially.

The absolute ownership doctrine of ground water use is based upon two major premises: a landowner owns everything from the center of the earth to the heavens, and because movement is not easily discernible, courts should not attempt to apportion ground water among overlying landowners. A landowner's right to use water is virtually unrestricted. Under the absolute ownership doctrine a landowner is not liable if his use interferes with the ground water use of another unless he acts maliciously or negligently. Huber v. Merkel, 117 Wis. 355, 94 N.W. 354 (1903). A landowner may therefore waste ground water, use it on lands not overlying the aquifer, or sell it.

Under the reasonable use theory every landowner is entitled to use a reasonable amount of ground water on his land. This doctrine is distinguishable from absolute ownership in the quantity of ground water that can be used, and where ground water can be used. The quantity of water used must be reasonable, that is, not wasteful. The ground water must be used only on overlying land and use of ground water on non-overlying land is unreasonable per se.

Through the reasonable use theory, transfers of ground water to non-overlying land can be stopped by going to court. However, what constitutes "non-overlying land" is unclear as the Nebraska Supreme Court has not specifically addressed this issue. One commentator has identified two possible interpretations: (1) Use on any land other than where the well is located is prohibited even if it lies within the ground water basin or (2) Ground water transfers are reasonable to any tracts of land that overlie the same ground water formation. J. Aiken, An Introduction to Nebraska Water Rights Law 18 (Department of Agricultural Economics Staff Paper No. 1979-2, University of Nebraska-Lincoln) (1979).

The doctrine of correlative rights is a judicial extension of the reasonable use doctrine to resolve conflicts between landowners over rights to use ground water under conditions of ground water mining. Ground water mining occurs when withdrawals from an aquifer are made at a rate in excess of net recharge. Aiken & Supalla, supra note 4, at 608. The significant element of the correlative rights doctrine is that it is essentially a sharing doctrine: every ground water user is forced to reduce his pumping on a proportionate basis. For example, if total withdrawals of ground water must be reduced by 50% to prevent ground water mining, each user within the basin will be required by court order to reduce his ground water withdrawals by 50%.

An appropriative right to use ground water is based on obtaining a state permit to withdraw ground water, the physical withdrawal, and the use of ground water for some beneficial purpose. Priority is the basis for resolving ground water conflicts: the appropriator with the earliest date on his state permit has the best claim to the ground water. When conflicts arise among appropriators withdrawing ground water for different purposes priorities may be ignored and the conflict resolved on the basis of preferences. Aiken & Supalla, supra note 4, at 610-16.

This rule as enunciated by the court incorporated language similar to the California doctrine of correlative rights in times of shortage onto the American rule of reasonable use.

The American rule is that the owner of land is entitled to appropriate
The Olson rule has been referred to and adopted in a number of subsequent decisions. In Osterman v. Central Nebraska Public Power and Irrigation District,91 the Olson rule was cited for the proposition that riparian owners who receive benefits from subirrigation could challenge a transbasin diversion of water from the Platte River.92 However, the first time the Supreme Court directly relied upon the Olson dicta was in Luchsinger v. Loup River Public Power District.93 In the Loup River decision, plaintiff had sixty-eight acres of subirrigated farm land until defendant excavated a tailrace,94 at or near plaintiff's land. The Supreme Court held the defendant liable for crop and land damages.95 The court's opinion affirmed the modified version of the American rule of reasonable use by unconditionally applying the Olson rule.96

The legislature conducted an official study in the fall of 1940 in response to increased ground water usage, in order to determine whether state regulation was needed. The study did not result in any official action but indicated the state's growing concern in the area.97 The first legislative enactment concerning ground water came after the drought of 1952-1956.98 The drought had caused some farmers to utilize sprinkler irrigation systems as a substitute for normal rainfall. This experience proved to be profitable, leading experts to predict an ultimate water shortage in Nebraska unless a balanced irrigation program was started.99

In 1957, the legislature enacted a set of ground water statutes that declared the conservation of ground water and its beneficial use essential to the state.100 The statutes required the registration of irrigation wells,101 well spacing102 and designated preferences...
among various users.103 Two years later, the legislature authorized the creation of local conservation districts.104 A ground water conservancy district may "aid or conduct, alone or in conjunction with other districts, any program of ground water conservation."105 Some commentators have concluded that the problem with conservancy districts is that single purpose local districts cannot afford the larger facilities and specialized manpower needed to efficiently allocate Nebraska's resources.106

In the past, the legislature, courts and agencies were implementing regulations without a uniform definition of ground water.107 In 1963, the legislature recognized this problem and adopted the following definition so that any past and future regulatory legislation would apply uniformly to all waters of the state: "Ground water is that water which occurs or moves, seeps, filters, or percolates through the ground under the surface of the land."108

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102. Id. §§ 46-608 to -611 (Reissue 1978). The spacing statute prohibits the location of an irrigation well within 600 feet of any other irrigation well. The purpose of this standard distance is to attempt to resolve the well interference problem. The legislature realizes that this statute may provide adequate protection in one situation, while being totally inept for protection and development in another situation. However, it is easy to administer and may prevent many well interference problems.

103. Id. § 46-613. Preferences in Nebraska were initially utilized to override the priority system that governed surface water allocation. Under the priority system those "first in time are first in right" and during times of water shortage later users (junior appropriators) must yield the water to those who initiated their rights at an earlier date (senior appropriators). Id. § 46-203.

An exception of the rule of priority is the preference system which settles disputes among users of different classes. Preferences provides the junior appropriator who has a preferred use the option to acquire a senior appropriator's water right. Id. § 46-204

This surface water preference statute was then adopted into Nebraska's ground water system. Ground water allocation in Nebraska is based upon the Olson rule of reasonable use rather than a priority system.

104. Id. §§ 46-614 to -634. These ground water conservation districts are being phased out and replaced by larger more comprehensive Natural Resource Districts. Aiken & Supalla, supra note 4, at 619.


107. Harnsberger, supra note 87, at 749.

108. Neb. Rev. Stat. § 46-635 (Reissue 1978). The legislature in the same session also enacted a law which required anyone who wanted to pump from a pit located within 50 feet of the bank of any natural stream to obtain a permit from the Department of Water Resources. Id. §§ 46-636 to -637 (Reissue 1978).
The most complex ground water problem the legislature con-fronted in 1963 was trying to provide adequate water supplies for municipalities.\textsuperscript{109} Potential competition between irrigation and municipal ground water withdrawals was further compounded because municipalities were unsure of what water rights they had under the common law.\textsuperscript{110} To remedy these problems the legislature enacted the City, Village and Municipal Ground Water Permit Act (CVMA).\textsuperscript{111} The CVMA was enacted to preclude the issuance of injunctions and to limit landowners solely to money damages for harm caused by the diversion of waters away from land overlying the common reservoir.\textsuperscript{112} Water transfers under the CVMA are still subject to the preference statute but the statute was amended to give municipal domestic uses the highest priority.\textsuperscript{113} This amendment enables the preference statute and the CVMA to work in conjunction with each other to protect city domestic users.

The first case filed pursuant to the CVMA was \textit{Metropolitan Utilities District v. Merritt Beach Co.}\textsuperscript{114} The plaintiff filed for a permit under the CVMA to obtain water from wells located on Cedar Island in the Platte River and also on the north bank of the Platte River.\textsuperscript{115} The Director of Water Resources granted the permit.\textsuperscript{116} Five individuals filed objections to the director's conclusions and appealed to the Nebraska Supreme Court. The court upheld the director's decision on the ground that the objectors failed to show provable harm.\textsuperscript{117}

In \textit{Merritt Beach}, the court held the CVMA constitutional.\textsuperscript{118} The supreme court also restated the \textit{Olson} dicta regarding the American rule of reasonable use without adding the qualifying phrase of apportionment during times of shortage.\textsuperscript{119} This created

\begin{itemize}
\item[\textsuperscript{109}] See Harnsberger, \textit{supra} note 2, at 210-25.
\item[\textsuperscript{110}] The Nebraska rule of reasonable use could be interpreted to prevent a city from transferring water to nonoverlying land or selling it to distant customers if other landowners were injured. \textit{Id.} at 214-17.
\item[\textsuperscript{111}] NEB. REV. STAT. §§ 46-638 to -650 (Reissue 1978).
\item[\textsuperscript{112}] The CVMA pre-empted the Nebraska rule of reasonable use which prohibits the transfer of water beyond overlying lands when neighboring landowners are injured.
\item[\textsuperscript{113}] NEB. REV. STAT. § 46-642 (Reissue 1978).
\item[\textsuperscript{114}] 179 Neb. 783, 140 N.W.2d 626 (1966). See Harnsberger, \textit{supra} note 2; note 116 infra.
\item[\textsuperscript{115}] 179 Neb. at 785-86, 140 N.W.2d at 629.
\item[\textsuperscript{116}] The court labeled the water as ground water and held that the wells would only have a minimal effect on the flow of the Platte River. This decision was reached in spite of the fact that 56 millions gallons per day would come from the Platte River while only four million gallons per day would come from ground water aquifers. \textit{Id.} at 785, 261 N.W.2d at 629.
\item[\textsuperscript{117}] \textit{Id.} at 802, 261 N.W.2d at 637.
\item[\textsuperscript{118}] \textit{Id.}
\item[\textsuperscript{119}] \textit{Id.} at 800, 261 N.W.2d at 637.
\end{itemize}
a controversy among commentators concerning which version of the American rule of reasonable use would apply to ground water allocation.\textsuperscript{120}

The next case before the supreme court involving ground water allocation was \textit{Burger v. City of Beatrice}.\textsuperscript{121} The city of Beatrice initiated condemnation proceedings in order to supply private fertilizer plants located six miles northwest of Beatrice with ground water.\textsuperscript{122} The supreme court decided that the proceedings were illegal because the ground water was not being put to a public use.\textsuperscript{123}

In 1975, the legislature enacted the Ground Water Management Act to control ground water mining associated with irrigation development.\textsuperscript{124} This Act gives Natural Resource Districts\textsuperscript{125} the option of regulating ground water use through the establishment of ground water control areas.\textsuperscript{126} The Act has a local control philosophy because of the power given to the NRD board. The Department of Water Resources\textsuperscript{127} has substantial review and oversight responsibilities, however, making the Act a blend of local and state ground water control authorities.\textsuperscript{128} The Act is primarily concerned with controlling ground water mining. It is the first step toward comprehensive ground water management and the scope of

\textsuperscript{120} See Harnsberger, supra note 2, at 204-05.
\textsuperscript{121} 181 Neb. 213, 147 N.W.2d 784 (1967). For a detailed discussion of this case see Harnsberger, supra note 2, at 227-31.
\textsuperscript{122} Harnsberger, supra note 2, at 227.
\textsuperscript{123} The court held that:

\begin{quote}
public use means use by the public—that is, public employment—and consequently that to make a use public, a duty must devolve on the person or corporation holding property appropriated by the right of eminent domain to furnish the public with the use intended, and that there must be a right on part of the public, or some portion of it, or some public or quasi-public agency on behalf of the public, to use the property after it is condemned.
\end{quote}

181 Neb. at 220, 147 N.W.2d at 790 (1967).

Because the case was decided on the definition of public use the court did not decide the potential preference issue. The agricultural users had argued that the preference statute gave them a preferred right over the company's industrial use. \textit{See} Harnsberger, supra note 2, at 232.

\textsuperscript{125} In 1969, the legislators provided for the creation of comprehensive Natural Resource District (NRD). Neb. Rev. Stat. § 2-3203 (Reissue 1978). In 1972, approximately 150 soil and water conservation districts were reorganized into twenty-four NRDs. The NRDs were primarily organized to address soil and water conservation problems. One of their prime advantages over single-purpose districts is their ability to concentrate funds and efforts on the most pressing local problems. Aiken & Supalla, supra note 4, at 619-20.

\textsuperscript{126} The initiation of ground water control procedures is left to the sole discretion of the NRD board. \textit{Id.} at 620.
\textsuperscript{127} \textit{Id.} at 619.
\textsuperscript{128} \textit{Id.}
the Act is subject to limitations.\textsuperscript{129} The next major development in Nebraska's ground water law was \textit{Prather v. Eisenmann}.\textsuperscript{130} Before \textit{Prather}, some commentators disagreed on whether the right to use ground water was governed by the reasonable use doctrine or a combination of the reasonable use and correlative rights doctrine.\textsuperscript{131}

The \textit{Prather} court resolved these confusions by reaffirming the modified reasonable use rule of \textit{Olson v. City of Wahoo}.\textsuperscript{132} The court stated: "This statement, which was the reasonable use doctrine, led some commentators to question whether the omission of proportional use was intentional. It was not. Proportional use was not involved in that case. Our law remained as it was enunciated in \textit{Olson v. City of Wahoo}."\textsuperscript{133}

\textit{Prather} was also the first decision to interpret the role of the preference statute in Nebraska's ground water allocation system. The court's decision was based solely on the Preferential Use Statute.\textsuperscript{134} Since \textit{Prather} was the first decision to interpret the preference statute the ultimate role that preferences will play will depend upon future interpretations of preferences under the opinion.

C. The Preference Statute

The Nebraska Legislature has made it abundantly clear that it regards some uses to be of greater importance than others and

\begin{itemize}
  \item \textsuperscript{129} For a comprehensive discussion of the authority of the act and its limitations, see id. at 620-30.
  \item \textsuperscript{130} 200 Neb. 1, 261 N.W.2d 766 (1978).
  \item \textsuperscript{131} \textit{Compare} Clark, \textit{Ground Water Legislation in the Light of Experience in the Western States}, 22 MONT. L. REV. 42, 50 (1960) \textit{and} 2 W. Hutchens, \textit{Water Rights Laws in the Nineteen Western States} 643-44 (1971) \textit{with} F. Trelease, \textit{Water Law} 13 (2d ed. 1974). In \textit{Olson v. City of Wahoo}, 124 Neb. 802, 248 N.W.304, 308 (1933), the court incorporated language similar to the California doctrine of correlative rights within the terms of the American rule of reasonable use. However, in Metropolitan Utilities District v. Merritt Beach Co., 179 Neb. 783, 800, 261 N.W. 2d 626, 637 (1966) the court restated the \textit{Olson} dicta without adding the qualifying phrase of apportionment during times of shortage.
  \item \textsuperscript{132} 124 Neb. 802, 248 N.W. 304 (1933).
  \item \textsuperscript{133} 200 Neb. at 7, 261 N.W.2d at 770 (citation omitted).
  \item \textsuperscript{134} Although the decision was based on the preferential use statute the opinion established three basic standards to guide future ground water allocation: (1) the Nebraska rule of reasonable use will govern water allocation between users of the same category in a water sufficient aquifer, 200 Neb. at 7, 261 N.W.2d at 770; (2) the correlative rights doctrine will arguably apply between users of the same category when there is a water insufficient aquifer, \textit{id}. at 10, 261 N.W.2d at 771; (3) the preference statute will apply between users of different categories in both water sufficient and insufficient aquifers, \textit{id}. at 9, 261 N.W.2d at 771.
\end{itemize}
that preferred uses should receive some type of favored treatment.\textsuperscript{135} Difficult questions arise when determining what use shall be preferred and how the preferences will operate. There is general agreement that domestic uses are preferred, based upon the social policy that man's personal needs come first.\textsuperscript{136} Preference rules may implement many policy choices. Such rules may be used to help planning agencies encourage the development of a particular use, and also provide criteria for choosing between simultaneous applications for permits to appropriate the same water.\textsuperscript{137}

How preferences operate to implement particular social policies depends upon the interpretation given preferences in any particular resource allocation system. Preferences can be interpreted either to create a narrower technical preference or a broader legislative policy preference.\textsuperscript{138} A technical preference can only be utilized when there is insufficient water to meet all users' needs.\textsuperscript{139} The effect of a technical preference is to permanently transfer ownership of the water right from the possessor of the lower or inferior use to the new owner.\textsuperscript{140} Preferences might also be construed to represent a general legislative policy statement about the relative importance of water uses. This interpretation would allow preferences to be utilized in both water sufficient and insufficient situations. In a water sufficient aquifer, preferences would not be exercised to transfer water rights, but to protect an individual's access to ground water.\textsuperscript{141}

Preferences in water allocation have generally been interpreted to create a technical preference.\textsuperscript{142} The Nebraska Supreme Court in \textit{Prather}, however, by applying the statute to resolve a well dispute which did not involve water shortages,\textsuperscript{143} interpreted the preference statute as creating a general legislative policy statement. The court's decision makes the statute applicable to water suffi-

\begin{thebibliography}{9}
\bibitem{135} Trelease, \textit{Preferences To The Use Of Water}, 27 Rocky Mt. L. Rev. 133, 158 (1955).
\bibitem{136} Agriculture, manufacturing, mining, power, navigation and railroad transportation are other uses that are commonly part of preference lists. \textit{Id}.
\bibitem{137} \textit{Id} at 133.
\bibitem{138} J. Aiken, \textit{supra} note 89, at 5-6.
\bibitem{139} \textit{See}, e.g., Trelease, \textit{supra} note 136, at 134; Harnsberger, \textit{supra} note 2, at 232.
\bibitem{140} Harnsberger, \textit{supra} note 2, at 232.
\bibitem{141} \textit{See} notes 154-156 & accompanying text infra.
\bibitem{142} \textit{See}, e.g., Trelease, \textit{supra} note 135, at 134; Harnsberger, \textit{supra} note 2, at 232.
\bibitem{143} \textit{See} note 17 \textit{supra}. The court's decision could have been derived from a literal interpretation of the preference statutes. There is no language within the statute that limits its application to water shortage aquifers. However, this interpretation has been criticized as inconsistent with legislative intent. \textit{Note}, 12 Creighton L. Rev. 431, 441-42 (1978). A careful reading of both the surface and ground water preference statutes, however, indicates a conspicuous omission. In the surface preference statute, \textit{Neb. Rev. Stat.} § 46-204 (Re-

cient and insufficient aquifers. Therefore, all well interferences that occur between different categories of uses will be governed by the statute.\textsuperscript{144} This expanded scope given to preferences under \textit{Prather} has caused some interest groups concern about the powers given to a preferred user.\textsuperscript{145} Nevertheless, the power given a preferred user in \textit{Prather} may not be as broad as some interest groups believed.\textsuperscript{146}

The preferred user in \textit{Prather} was not required to exercise his preferential right to transfer the inferior user’s water right. Therefore, the decision does not adequately delineate the powers given to a preferred user under the preference statute. Before an opinion is rendered on what type of powers should be given to a preferred user the advantages and disadvantages of each power should be weighed carefully.

There are generally two types of powers that can be given a preferred user. They are the absolute preferences power or the power to condemn preference.\textsuperscript{147} An absolute preference exists when the preferred use may be initiated without regard to a physical shortage and may take water from a less preferred user without

\textsuperscript{144} See note 136 \textit{supra}.

\textsuperscript{145} See \textit{e.g.}, L.B. 27 (1979) (this bill was killed before it reached the floor of the legislature). This was a legislative bill aimed at overruling the \textit{Prather} decision. The reason for this bill was that some individuals believed that irrigators would automatically be held liable for interfering with domestic water supply, without any corresponding obligation on part of domestic well owners to have an “adequate” well.

The proposed changes to the preference statute were that a domestic well owner would not be able to recover money damages from an irrigator in a domestic-irrigation well dispute: (1) if the irrigation well was drilled before the domestic well, and (2) the domestic well was not adequate, i.e., not drilled to, and pumps not set at a reasonable depth. The rationale behind L.B. 27 was that new domestic wells should be drilled deeper and pumps set lower in areas where irrigation wells are present than in areas where irrigation wells are not present. J. Aiken, Nebraska Water Law Update (No. 1.1 Department of Agricultural Economics, University of Nebraska-Lincoln (1980)).

\textsuperscript{146} 200 Neb. at 11, 261 N.W.2d at 772. In this particular situation the \textit{Prather} court adopted a tort remedy in order to compensate the plaintiffs. This was not a factual setting where the preferred user exercised his right to take water from an inferior user. In \textit{Prather}, the preference statute did not protect a preferred user’s right to a particular piece of property (water) but rather protected his right to a particular means of access or diversion.

\textsuperscript{147} The tort remedy given to the preferred user in \textit{Prather} is not a power under this definition. Rather, it is a means of compensating a preferred user for damages rendered by an inferior user for infringing upon the preferred user’s protected right.
compensation. The absolute preference theory requires: (1) the total economic burden of the preference to fall upon the inferior user regardless of the individual equities; (2) a judicial determination of the constitutionality of the absolute preference; and (3) examination of whether this preference would lead to the instability of water rights which could curtail development.

The true (absolute) preference maximizes the policy of providing water for the preferred user. The problem with a true preference is its failure to blend its policies into overall ground water legislation aimed at creating sound ground water policy. The ground water policies that arguably would be circumvented by a true preference are described in the following hypothetical. Suppose A drills an industrial well over an unconfined aquifer. Two years later B, a farmer, drills a high capacity irrigation well into the same aquifer. If the irrigator is given an absolute preference in a water insufficient aquifer A would lose his water right without compensation. If there is a water sufficient aquifer A must bear the expense of redrilling his existing well. This type of preference would arguably act to deter the inferior user from undertaking costly developmental expenditures because of the risk of having his water rights taken without compensation.

The Prather decision may be interpreted to give the preferred user the power to condemn the inferior user's water right. If the supreme court adopts this type of preference the economic burden of exercising the preference would fall on the preferred user.
This type of preference would allow water to move to its most valuable use from an economic perspective. Water rights would be stabilized to the extent that the preferred user would have to justify the costs of exercising his preference before utilizing the preference statute to transfer the water right. Developers owning an inferior water right would be willing to undertake costly developments when their water right is monetarily protected. The power to condemn preference is not an absolute preference, but an attempt to coordinate the policies underlying the preference statute with the policies behind the entire ground water statutes.

The supreme court in *Prather* may have provided a method to equitably limit the scope of a legislative policy preference. In *Prather*, the court stated that “[p]laintiff's wells were adequate for their own purpose.”154 This statement may be an implicit recognition by the court that it was only protecting a reasonable preferred use. The reasonableness of the preferred use depends upon a person's access to the ground water. The recognition of this standard is necessary in order for courts to reach equitable resolutions in future well conflicts. Furthermore, the reasonableness standard was modified by the words “own purpose.”155 It can be persuasively argued that these words indicate that the reasonableness of the access depends upon the purpose, *i.e.*, domestic, agricultural or industrial.

This modification of the reasonableness standard recognizes that what may be a reasonable means of access for an irrigator may be totally unacceptable to an individual dependent upon ground water for his domestic supply. Yet these people must share the same resource. The effective utilization of this standard will depend upon future judicial action, but the value of its use can be indicated by the following example: *A* is an irrigator who is first-in-time and has a high volume irrigation well. *B* drills a shallow domestic well during the non-irrigation season. The irrigation season then commences and *B*’s domestic well is rendered useless. The court could apply the reasonableness standard and hold that *B*’s access to ground water was unreasonable because the water table reduction was clearly foreseeable under these circumstances.

The *Prather* opinion offers little guidance on what factors were considered before the court determined that the domestic well owner’s means of diversion were reasonable. Thus, before reaching a decision in future cases courts should evaluate the following

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154. 200 Neb. at 11, 261 N.W.2d at 771.
155. *Id.*
factors: (1) comparable means of diversion in the geographical area, (2) physical characteristics of the aquifer, (3) the economic return from the investment, and (4) the individual equities between the parties.\textsuperscript{156}

Determination of the standards to apply to evaluate a "reason-

\textsuperscript{156} The standard is easier to apply between users of the same category. For example, an irrigator could be forced to utilize the same depth well, the same type of pump, and pay the same pumping costs as his neighbor. With different categories of users the answer is more difficult. One possibility would be to require a certain degree of efficiency of the complainant's system as a condition precedent to relief. See, e.g., Baker v. Ore-Ida Foods, Inc., 95 Idaho 575, 513 P.2d 627 (1973) (court refused to protect a prior appropriator's historic means of appropriation where such means demanded an unreasonably shallow pumping level); Bishop v. City of Casper, 420 P.2d 446 (Wyo. 1966) (only "adequate" wells were entitled to protection).

Developing a workable standard in testing reasonable efficiency for wells may be difficult but not impossible. For example, the Colorado statute dealing with prior appropriation rights of surface water requires that "each divertor must establish some reasonable means of effectuating his diversion." \textsc{Colo. Rev. Stat.} § 37-92-102 (1973). The standard established should at a minimum ensure protection of efficient well systems while prohibiting the use of "hand dug domestic wells." For example, Idaho attempted to correlate new regulation/permit rights with prior appropriation rights, providing that early appropriators "shall be protected in the maintenance of reasonable ground water pumping levels . . . ." \textsc{Idaho Code} § 42-226 (1977) (emphasis added).

\textsc{Alaska Stat.} § 46.15.050 (1977) provides:

Priority of appropriation gives prior right. Priority of appropriation does not include the right to prevent changes in the condition of water occurrence, such as the increase or decrease of stream flow, or the lowering of a water table, artesian pressure, or water level, by later appropriators, if the prior appropriator can reasonably acquire his water under the changed conditions.

\textsc{Id.} (emphasis added).

Washington grants permits for new development if the aquifer can "yield such water within a reasonable or feasible pumping lift in case of pumping developments, or within a reasonable or feasible reduction of pressure in the case of artesian developments." \textsc{Wash. Rev. Code Ann.} § 90.44.070 (1962).

\textsc{Nev. Rev. Stat.} § 534.110(5) (1973) provides:

Nothing herein shall be so construed as to prevent the granting of permits to applicants later in time on the ground that the diversions under such proposed later appropriations may cause the water level to be lowered at the point of a prior appropriator, so long as the rights of holders of existing appropriations can be satisfied under such express conditions.

In a system of conjunctive administration, \textsc{Kan. Stat.} § 82a-711 (1977) states:

With regard to whether a proposed use will impair a use under an existing water right, impairment shall include the unreasonable raising or lowering of the static water level or the unreasonable increase or decrease of the steamflow or the unreasonable deterioration of the water quality at the water user's point of diversion beyond a reasonable economic limit.

This system protects the interferee only to the extent that the lowered water
able access to ground water" is a very difficult judicial task. The allocation of a scarce resource demands that the courts and legislatures look for the most efficient resolution. This resolution should always be directed to the development of sound ground water policies in Nebraska.

The judicial system has the power to grant injunctive and money damage remedies. In Prather the court combined both of these powers in attempting to provide an equitable remedy. The court awarded money damages to enable the plaintiffs to obtain an alternative water supply and permanently enjoined the defendant from lowering his well in order to safeguard the plaintiffs against further encroachments. The courts should continue to seek remedies that will provide for equitable resolutions while furthering overall ground water policies. For instance, if the recovery period for an aquifer is relatively short, the court may be able to effectively utilize a temporary injunction allowing the irrigator to pump in the evenings while the industrial user pumps during the day.

The availability of these remedies enables courts to equitably settle individual conflicts. The inherent problem with these remedies is that they are too little, too late. A remedy is needed that

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South Dakota deals directly with the "reasonable means of access" problem in the artesian situation. S. D. CODIFIED LAWS ANN. § 46-6-6.1 (Supp. 1979) states:

In addition to powers otherwise provided the water management board is authorized to adopt rules and regulations controlling the location and capacity of irrigation, industrial, municipal; and other large capacity wells for the purpose of ensuring or protecting water for reasonable domestic use, without the necessity of requiring maintenance of artesian head pressure in a domestic use well. In addition to other criteria the board deems relevant to comply with these provisions the rules and regulations shall provide:

1. For regulation of the use of large capacity wells in the degree necessary to maintain an adequate depth of water for reasonable domestic needs and for a prior appropriator at his point of diversion, in wells which meet minimum well construction standards;

2. For minimum construction standards for all wells in South Dakota which standards shall be based upon the ability of a well to produce waters independent of artesian pressure;

4. Standard which will provide for lowering of a water lift mechanism to a depth near the bottom of the ground water supply or, in artesian water to a substantial depth below the geological formation confining the water;

5. For regulation which will provide for a reasonable life of all wells.

Id. (emphasis added).

157. 200 Neb. at 11, 261 N.W.2d at 772.
will attempt to resolve well conflicts before they take place. These types of remedies can only be effectively implemented from a planning stage and not by a case by case approach.

IV. CONCLUSION

The ultimate effect that the Preferential Use Statute will have on ground water allocation will depend upon future interpretations of Prather. The Prather opinion indicates that the supreme court views the preference statute as a statement of legislative policy. This broad viewpoint ensures that individuals having different types of uses will be able to utilize the statute to resolve disputes in water sufficient and insufficient aquifers.

In water sufficient aquifers courts should focus on what constitutes a reasonable means of access. This phrase gives the courts the ability to maintain needed flexibility in a case by case approach to ground water allocation problems. It also allows the judicial system to differentiate between categories of users and formulate their decisions according to the equities of a particular factual situation. This type of reasoning is necessary in recognition of the diversified physical factors of any given aquifer.

The Prather opinion did not specify what role the preference statute plays when there is a technical water shortage. The courts should require the preferred user to compensate the less preferred user for the transfer of his water right. This theory would blend more effectively into Nebraska's overall ground water statutory system.

The major obstacle to future litigation under the preference statute will be the expenses associated with acquiring hydrological data. The cost of this data in many instances will encourage individuals to settle out of court or to bypass litigation by redrilling their own wells. Therefore, the ultimate effect of Prather may be blunted not by future judicial reasoning but by the economics of the problem.

Terry T. Uhling '80*

* Mr. Uhling submitted this note as a student project in 1979.