

Investigating Impairment Complaints

Impairment Defined

Merriam-Webster's online dictionary provides a single definition for the word impairment. It is "to damage or make worse by or as if by diminishing in some material respect." It lists the word "injure" as a synonym.

The Kansas Water Appropriation Act and regulations do not formally define impairment, but variations of the words impair and impairment appear 15 times in the act and 53 times in the regulations. What's even more interesting is that the main statutory authority for the chief engineer to administer water rights to address impairment (K.S.A. 82a-706b) does not use the word impair or impairment at all. Instead, it phrases it in terms of unlawful diversion and preventing water from moving to a person having a prior right to its use.

Based on this statutory and regulatory context, some general conclusions can be drawn about the nature of impairment:

- Impairment usually refers to a condition caused when water diverted under one or more junior (newer) water rights reduces the quantity or quality of water available to one or more senior (older) water rights to an extent that the senior water right(s) cannot be satisfied.
- New water rights are prohibited from causing the following at an existing water right point of diversion: unreasonable raising or lowering of the static water level; unreasonable increase or decrease of streamflow; or unreasonable deterioration of water quality beyond a reasonable economic limit. "Unreasonable" and "reasonable" are not defined or

quantified, and may vary under different circumstances.

- Changes to a water right's point of diversion, place of use, or use made of water are prohibited from impairing existing water rights, even if the changed water right is senior to the water right that would be impaired.

Impairment Complaint

The statutes and regulations outline a procedure for dealing with impairment:

1. Complainant files a written complaint.
2. Chief engineer investigates the complaint.
3. Chief engineer issues a report.
4. Complainant has the option to file a request to secure water.
5. If the request to secure water is filed and justified, chief engineer administers other water rights as necessary to provide water to the senior water right.
6. Chief engineer ceases administration when the impairment condition is no longer occurring.

Over the last year, the agency and stakeholders have considered ways to increase stakeholder participation in impairment claims, especially in the groundwater setting. Draft regulatory amendments have been prepared which would affect the following provisions:

- Opportunities for groundwater management districts to comment and help with impairment investigations within their districts.
- Requirements for complainants with nondomestic water rights to provide information showing that their pump system and well are adequate.

- Cost recovery up to a certain limit from nondomestic complainants whose impairment claims are determined to be unfounded.

As of April 2009, when this summary was written, these regulatory amendments were pending review by the Kansas attorney general's office.

Portrait of an Impairment Investigation

The previously mentioned regulatory amendments stemmed in large measure from an impairment claim in Stevens County that resulted from interference between irrigation wells owned by Matt Mills and Jim Gooch. (Doug Mills' wells were also found to be causing some interference, but because his water rights are senior to Mr. Gooch's second water right, and because Mr. Gooch's senior water right was exhausted prior to the point of administration, Doug Mills' water rights were not administered in 2008.)

During the summer of 2008, the chief engineer directed Matt Mills to cease pumping for about nine days in August due to significant reductions in Mr. Gooch's ability to satisfy his water right. This occurred after Matt Mills had already pumped 86.2% of his authorized quantity. By the end of the 2008 irrigation season, Matt Mills had pumped 90.4% (226 acre-feet) of his authorized quantity (250 AF). Mr. Gooch pumped 92.7% (419 AF) of his authorized quantity (452 AF) in 2008.

Some people expressed concern about this water right administration:

- It is a dispute between neighbors and should not involve the state.
- The state should not administer water rights based on rate reductions.

- Lots of other irrigators deal with rate reductions, either by adjusting their practices or revving up their engines.
- The motor of Mr. Gooch's pump system is not powerful enough.
- This impairment claim could have a cascading effect and spread throughout the region.
- The state should not curtail irrigation for a corn crop (Matt Mills' crop) to supply water to a field of forage grass (Mr. Gooch's crop).

The chief engineer's actions were based on factual data from the investigation:

- Pressure transducers and rate loggers installed in Mr. Gooch's production well, an observation well on his property and in Matt Mills' well showed that there was a significant and fairly immediate reduction in water availability at Mr. Gooch's well when Matt Mills exercised his water right.
- This reduction became acute in late summer, when Mr. Gooch's crops urgently needed water.
- Well logs showed that the two production wells share a relatively thin productive zone near the bottom of each well.
- The well logs also showed that the aquifer is less productive at Mr. Gooch's well than at Matt Mills' well.
- The Kansas Water Appropriation Act specifies that priority in time establishes the right to use water, not the type of crop irrigated.
- Jim Gooch's second water right, File No. 40,578 (priority date Feb. 3, 1992) is senior to Matt Mills' water right, File No. 44,593 (priority date May 26, 2001).
- Unlike many other wells in the Ogallala, these wells are screened in

a confined zone and the reduction in water availability does not appear to result from regional lowering of the water table but rather from direct well-to-well interference.

- Mr. Gooch made reasonable adjustments to his pump system, including lowering the pump in the well and adjusting gear ratios, to improve his ability to capture the available supply.

Mr. Gooch again filed a request to secure water in 2009, in anticipation of shortages later in the irrigation season. The chief engineer and his staff carefully reviewed the additional available data from 2008 to determine how administration should occur in 2009.

While each water right obtained most of its water in 2008, records show that maximum pumping depths declined approximately 50 feet from 2007 to 2008 and approximately 100 feet since 2005. As a result, on April 22, 2009, the chief engineer made the following conclusions and orders for administration in 2009:

- There appeared to be adequate supply for Mr. Gooch and Matt Mills to each mostly satisfy their water rights.
- Conservation practices, including irrigation scheduling, would be required of both Mr. Gooch and Matt Mills to make the best use of the shared supply without water waste.
- In addition, to secure water for the senior water right, the chief engineer is limiting Matt Mills' water use to 80% of his authorized quantity in 2009.
- Mr. Gooch should examine whether his pump system, including the motor and gear assembly, could be

further adjusted or upgraded to deliver more of the available supply

- Matt Mills should seek to avoid or minimize his impacts on Mr. Gooch's ability to satisfy his water right to avoid or minimize administration of his (Matt Mills') water right
- The chief engineer and his staff continue to monitor this site using pressure transducers and rate loggers with telemetry to post nearly real-time results on a website and through site visits as well.
- The real-time monitoring data shows water levels at their wells and pumping rates and times are available to Mr. Gooch and Matt Mills to inform their decisions on how much water to apply and when.
- Following the conclusion of the 2009 irrigation season, the Division of Water Resources will review the data to determine next year's administration; if pumping water levels continue to decline, further reductions in Mr. Mills' pumping may be required.

The Gooch-Mills site is but one of a number of ongoing impairment investigations throughout the state.

From 2006 to 2008, 28 impairment claims were filed with the Kansas Department of Agriculture's Division of Water Resources. Most were in north-central Kansas. Sixteen were groundwater claims and 12 were surface water claims. Of the 28 claims, 12 were determined to be impairment, 14 were determined to not be impairment, and two are pending further investigation. In all, there are about two dozen impairment claims in various stages of investigation throughout the state.