

KDA-DWR Report

Official Review of a Water Conservation Area (WCA)

Townsend WCA; Sheman County, KS

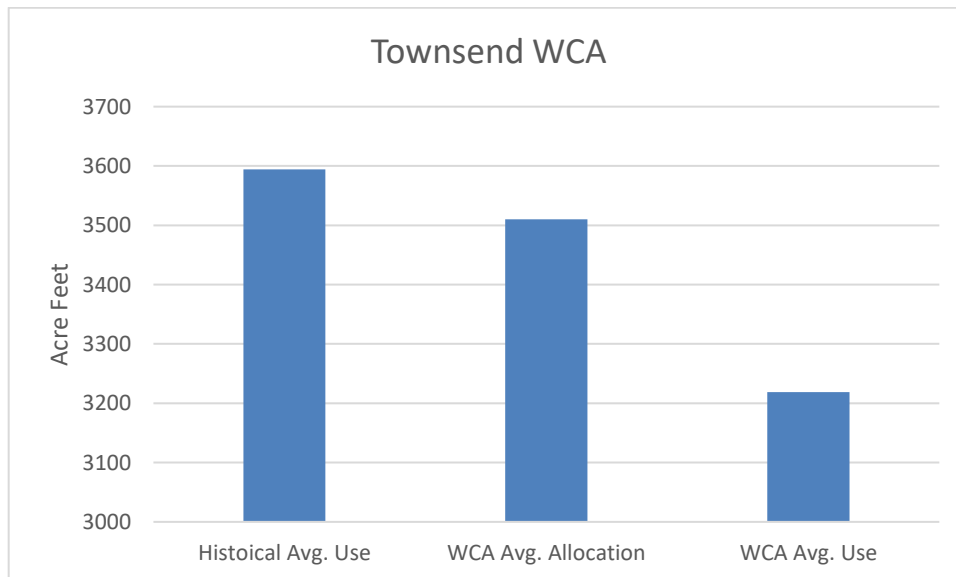
January 2018 through December 2022

Review of Total Water Use of Water Rights Enrolled:

During the term of this WCA, water use was limited to 17,550 acre-feet (AF) for Irrigation use. The total water use reported annually, under the listed water rights, during the term of this WCA are as follows:

2018 Water Use (AF)	2019 Water Use (AF)	2020 Water Use (AF)	2021 Water Use (AF)	2022 Water Use (AF)	Total WCA Water Use (AF)	Unused WCA Water Allocation (AF)	Total WCA Limit (AF)
2,243	2,760	4,402	3,495	3,196	16,340	1,210	17,550

The total average use during this WCA was 3,219.25 acre-feet.



Review of Corrective Control Provisions:

This WCA had 28 Irrigation wells within its geographic boundaries which were used for irrigation purposes. No flexibilities were requested except for a multi-year allocation.

As of the end of the 2023 calendar year, no adverse impacts have been noted and no concerns were received from nearby well/landowners.

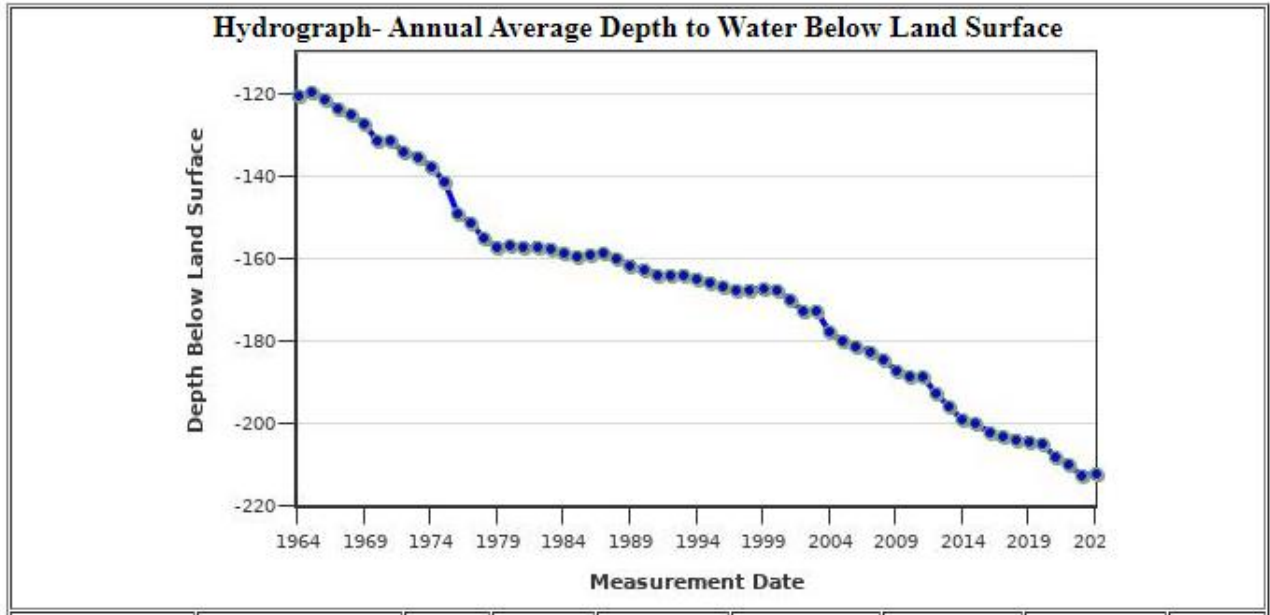
Review of Compliance Monitoring and Enforcement:

On September 27, 2022, water right no. 6,140 within this WCA was issued a civil penalty and suspension order after meter manipulation had been discovered during a routine compliance inspection.

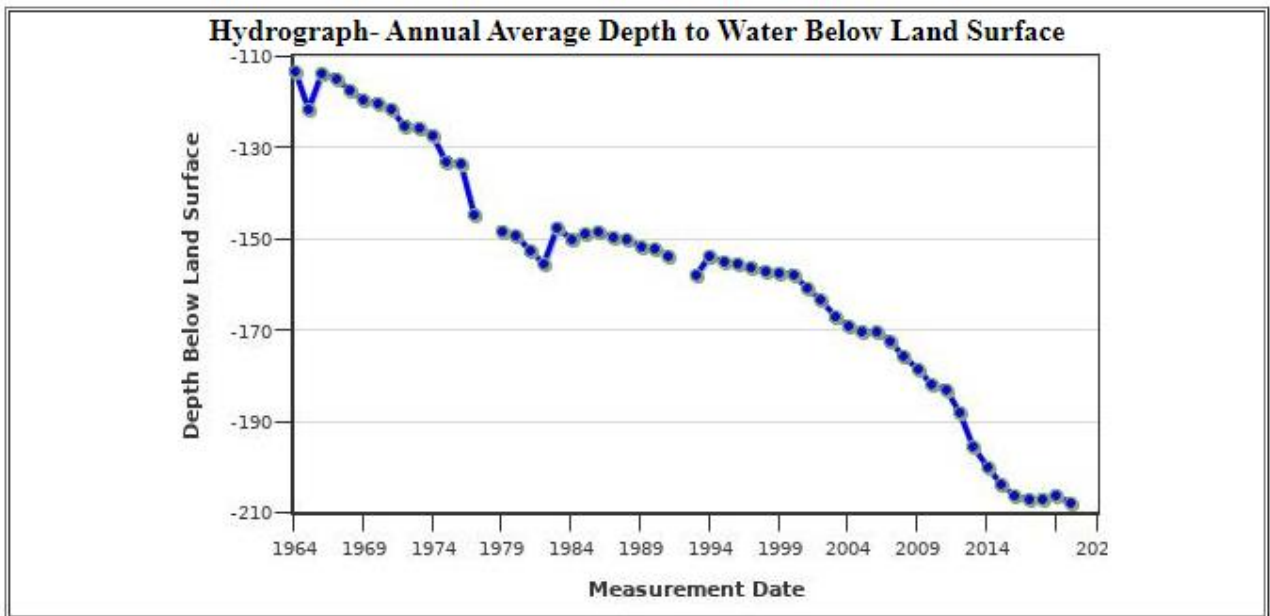
Review of Water Level Changes:

Below are the nearby observation wells documented in the management plan.

Location: 9S 40W 29BBB 01



Location: 9S 41W 34BAB 01



Review of Economic Impacts:

Over the years of 2013-2017, Dr. Bill Golden conducted a study monitoring the economic impacts of the Sheridan 6 Local Enhanced Management Area (SD-6 LEMA), located within the boundaries of Groundwater Management No. 4 (GMD4). The SD-6 LEMA is a smaller scale LEMA operating with similar goals and challenges as a WCA.

During this study Dr. Golden discovered that producers can mitigate losses through innovation. By adopting more efficient irrigation technology practices, producers can implement strategies to maintain returns, while applying less water.

He also noted that producers are subject to law of diminishing marginal returns when irrigating crops. Higher input costs may lead to larger yields, but less profit and efficiency is key. Data supplied by producers within the LEMA boundary suggests that reducing groundwater use has had a minimal impact on cash flow.

Review of Public Interest:

The WCA has conserved water, thereby extending the useable life of the Ogallala Aquifer in the Regional area and serving the public interest.

Summary of Review by KDA-DWR:

It is determined that this WCA has met its conservation goals throughout the designated term. This WCA conserved almost 7% of its WCA allocation; thereby saving water beyond the agreed original WCA reduction. However, due to administrative action being taken against a water right within the WCA group, a request for an additional WCA has been denied.