



ANNUAL REPORT 2023

APPROVED

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Stafford, Kansas



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2023 FINANCES

Income

Table 1 – Itemized Income by Class

2023 Income	Administrative	Conservation Programs	Assistance Programs	Education Programs	Research and Investigation	Water Quality Programs	Other Programs	CKWBA	Salary	TOTAL
Assessment Revenue	1,627,753.04	-	-	-	-	-	-	-	-	1,627,753.04
Grants	-	-	-	-	-	-	452,245.46	-	-	452,245.46
Interest Income	33,610.39	-	-	-	-	-	-	-	-	33,610.39
Miscellaneous Income	59,600.99	-	10,039.36	-	-	-	-	34,955.00	-	104,595.35
Total	1,720,964.42	-	10,039.36	-	-	-	452,245.46	34,955.00	-	2,218,204.24

Expenditures

Table 2 – Itemized Expenditures by Class

2023 Expenditures	Administrative	Conservation Programs	Assistance Programs	Education Programs	Research and Investigation	Water Quality Programs	Other Programs	CKWBA	Salary	TOTAL
Building Expense	8,673.09	-	-	-	-	-	-	-	-	8,673.09
Business Dinners	980.14	-	-	361.48	-	-	-	-	-	1,341.62
Central Kansas Water Bank	-	-	-	-	-	-	-	224.78	5,861.88	6,086.66
Dues and Memberships	1,250.00	-	-	-	-	-	-	-	-	1,250.00
Field Equipment	-	425.09	-	-	399.08	8,570.49	-	-	-	9,394.66
Insurance	14,903.00	-	-	-	-	-	-	-	-	14,903.00
Office Equipment	4,559.18	-	-	-	-	-	-	-	-	4,559.18
Office Supplies	1,947.68	-	-	40.92	-	-	-	-	-	1,988.60
Other Expenses	162.25	-	-	-	-	-	-	60.00	-	222.25
Payroll Expenses	49,176.49	-	-	-	-	-	-	-	208,822.02	257,998.51
Postage	249.65	-	-	-	-	552.88	-	-	-	802.53
Printing and Publication	2,646.82	-	-	4,085.88	-	-	-	-	-	6,732.70
Professional Fees	11,427.29	-	-	21,347.05	313,795.42	-	-	285.05	-	346,854.81
Travel & Conference	5,280.72	-	-	5,440.66	-	-	5,295.76	-	-	16,017.14
Utilities	6,892.19	651.49	-	-	-	-	-	-	-	7,543.68
Water Management	12.00	476,315.56	16,785.00	-	111,457.00	5,373.44	84,215.83	-	-	694,158.83
Watershed Plan	-	-	-	-	-	-	409,757.21	-	-	409,757.21
Weather Stations	-	17,946.50	-	-	-	-	-	-	-	17,946.50
Total	108,160.50	495,338.64	16,785.00	31,275.99	425,651.50	14,496.81	499,268.80	569.83	214,683.90	1,806,230.97

Generalized Financial Statement

Table 3 – Generalized Financial Statement

	2021	2022	2023	2024	2025
	Actual	Actual	Actual *	Adopted	Proposed **
Cash January 1	4,096,749.43	2,943,917.13	3,900,444.02	3,580,792.25	3,423,194.47
Assessment Revenue	1,627,579.74	1,494,558.02	1,627,753.04	1,583,152.22	1,583,152.22
Interest	14,340.17	11,160.26	33,610.39	182,000.00	180,000.00
Reimbursements	18,874.25	314,866.03	452,245.46	300,000.00	400,000.00
Carry-Over Funds					
Other	21,538.67	96,347.25	104,595.35	25,000.00	25,000.00
Total Revenue	5,779,082.26	4,860,848.69	6,118,648.26	5,670,944.47	5,611,346.68
<i>Salaries</i>	173,233.16	204,718.45	204,185.81	265,000.00	280,000.00
<i>Employee Benefits</i>	39,348.48	41,650.20	42,739.02	53,000.00	56,000.00
<i>Payroll Tax</i>	13,327.29	15,975.96	15,405.21	26,500.00	28,000.00
Personnel Services	225,908.93	262,344.61	262,330.04	344,500.00	364,000.00
<i>Travel & Conference</i>	4,884.69	9,474.93	16,017.14	15,000.00	18,000.00
<i>Printing & Publishing</i>	4,762.81	6,413.26	6,732.70	10,000.00	20,000.00
<i>Utilities</i>	7,932.03	7,966.15	7,543.68	12,000.00	15,000.00
<i>Field Equipment</i>	1,519.98	1,071.71	9,394.66	10,000.00	10,000.00
<i>Building Expense</i>	173.44	942.37	8,673.09	8,000.00	10,000.00
<i>Office Equipment</i>	3,388.47	9,492.88	4,559.18	5,000.00	5,000.00
<i>Office Supplies</i>	672.71	1,737.55	1,988.60	5,000.00	5,000.00
Administration	23,334.13	37,098.85	54,909.05	65,000.00	83,000.00
<i>Water Management</i>	2,248,323.58	115,686.64	694,158.83	1,000,000.00	1,000,000.00
<i>Professional Fees</i>	224,708.54	94,442.09	257,998.51	500,000.00	500,000.00
<i>Weather Stations</i>	10,883.80	13,578.68	17,946.50	17,000.00	19,000.00
<i>Insurance</i>	12,455.00	13,171.00	14,903.00	15,000.00	16,000.00
<i>Postage</i>	995.45	994.18	802.53	2,000.00	2,000.00
<i>Business Dinners</i>	818.45	1,181.67	1,341.62	1,500.00	1,500.00
<i>Other</i>	631.50	704.15	222.25	2,000.00	2,000.00
<i>Dues & Membership</i>	200.00	600.00	1,250.00	750.00	750.00
Other Expenses	2,499,016.32	240,358.41	988,623.24	1,538,250.00	1,541,250.00
<i>CIG Grant Expenses</i>	16,677.61	-	-	-	-
<i>Watershed Planning</i>	70,228.14	481,496.84	409,757.21	300,000.00	-
<i>Misc. Cons. Programs</i>	-	-	-	-	400,000.00
<i>Water Bank</i>	-	-	-	-	-
Projects / Grants	86,905.75	481,496.84	409,757.21	300,000.00	400,000.00
Contingency Reserve	-	-	-	3,423,194.47	3,223,096.68
Total Expenditures	2,835,165.13	1,021,298.71	1,715,619.54	5,670,944.47	5,611,346.68
ASSESSMENT BASE					
Land (ac)	2,265,133.32	2,265,219.20	2,265,764.31	2,265,764.31	2,265,764.31
Water (AF)	740,519.00	740,519.00	734,932.00	734,932.00	734,932.00
ASSESSMENT RATE					
Land (per ac)	0.05	0.05	0.05	0.05	0.05
Water (per AF)	2.00	2.00	2.00	2.00	2.00
Cash On Hand (Dec. 31)	2,943,917.13	3,900,444.02	4,403,028.72	3,423,194.47	3,223,096.68

* Not Yet Audited

** DRAFT

District Assets

Table 4 – General List of District Assets

Date	Item Description	Price
7/23/1984	40'x60'x12' Office Building	100,000.00
2/10/1994	Century Geophysical Gamma Probe and Drawworks	31,000.00
5/11/2006	WR File No. 19014 [90 AF / 60 ac]	54,000.00
5/11/2006	WR File No. 35806 [195 AF / 160 ac]	117,000.00
5/11/2006	WR File No. 35807 [195 AF / 160 ac]	117,000.00
9/4/2008	WR File Nos. 29273, 36563, 36564 [33 AF / 21.4 ac]	23,100.00
6/22/2012	WR File Nos. 16669, 28568 [225.5 AF / 248 ac]	428,450.00
11/10/2016	GE Panametrics PT878 Ultrasonic Flowmeter	7,730.00
12/12/2019	In-Situ LevelTroll 500 Sensors (9)	13,341.00
2/25/2020	S2 N2 SW1/4 11-24S-11W [40 ac]	49,000.00
2/25/2020	S2 NW1/4 03-24S-11W [80 ac]	116,800.00
1/25/2021	2021 Chevrolet Silverado	36,243.00
11/12/2021	WR File No. 45846 [15 AF / 640 ac]	2,089,500.00
2/16/2023	In-Situ Aquatroll 600 [returned under warranty]	8,100.00
6/6/2023	2023 Chevrolet Silverado	55,000.00
12/13/2023	NW1/4 24-23S-11W [156.91 ac]	393,840.00
Varies	Campbell Scientific Weather Stations (12)	50,000.00
Total		3,690,104.00

2022 Financial Audit

As of the date of this annual report, the 2023 financial statements have not yet been audited in accordance with K.S.A. 75-1120a. However, the 2022 audit report is attached for reference as Attachment A.

2024 ADOPTED BUDGET

BIG BEND GROUNDWATER MANAGEMENT DISTRICT NO. 5

ADOPTED 2024 BUDGET

EXPENDITURES

PERSONNEL SERVICES

SALARIES	\$	265,000.00
EMPLOYEE BENEFITS	\$	53,000.00
PAYROLL TAXES	\$	26,500.00

ADMINISTRATION

TRAVEL & CONFERENCE	\$	15,000.00
UTILITIES	\$	12,000.00
FIELD EQUIPMENT	\$	10,000.00
PRINTING & PUBLICATIONS	\$	10,000.00
BUILDING EXPENSE	\$	8,000.00
OFFICE SUPPLIES	\$	5,000.00
OFFICE EQUIPMENT	\$	5,000.00

OTHER EXPENSES

WATER MANAGEMENT	\$	1,000,000.00
PROFESSIONAL FEES	\$	500,000.00
WEATHER STATION EXPENSE	\$	17,000.00
INSURANCE	\$	15,000.00
POSTAGE	\$	2,000.00
OTHER	\$	2,000.00
BUSINESS DINNERS	\$	1,500.00
DUES & MEMBERSHIPS	\$	750.00

TOTAL BUDGET \$ 1,947,750.00

ASSESSMENT RATES

PER ACRE	\$	0.05
PER ACRE-FOOT	\$	2.00

ACTIVITIES

Description of Activities

Throughout FY2023, the District has worked closely with local, state, and federal agencies to develop long-term solutions for a sizable portion of the region. This includes facilitating projects to bring groups together that, at times, have significantly different points of view on issues. Meanwhile, internally, District staff has spent considerable time working with individual water users to identify beneficial conservation programs, troubleshoot problems with diversion works, and providing important datasets for public use. The District relies heavily on data collected by District staff throughout the calendar year. This information is utilized not only by local water users but also state and federal entities in evaluating the health of the local aquifer. The District is actively engaged in several complex priority projects that require large investments of time and resources.

Watershed Plan -Environmental Impact Statement Development

In 2023, the District's contractor (Olsson), in coordination with USDA-NRCS and District staff, have conducted hundreds of meetings and invested thousands of hours to move the fully funded PL-566 Watershed Plan-Environmental Impact Statement from preliminary concepts and drafts to a completed draft plan. The draft plan encompasses a thorough evaluation of a variety of alternatives for the long-term agricultural water management within the Rattlesnake Creek region and to meaningfully address the Quivira NWR impairment. The draft plan has undergone initial stakeholder scoping and comments followed by thorough evaluation by state and federal agencies. Olsson has worked throughout 2023 to collect pertinent information including, but not limited to, hydrological, economic, and environmental data. These datasets have been analyzed and compiled into the draft plan that has recently been submitted to USDA-NRCS for technical and administrative review. Following USDA-NRCS review and appropriate revisions by Olsson, the draft plan will undergo a second round of public review and comment in early spring 2024. The overall Watershed Plan-Environmental Impact Statement document is anticipated to be finalized in the first half of 2024.

Cities of Hays & Russell Proposed Water Transfer

The proposed water transfer would move approximately 6700 acre-feet from within the District boundaries to the Cities' wellfield to the North. In 2018, the District conducted its review of the change applications and submitted recommendations to the Chief Engineer on September 14, 2018. Since that time, the District is aware that the issue has been litigated significantly by

parties independent of the District with a pending appeal in District court. In 2023, the District participated as a party in the R9 Ranch water transfer hearings in late July. The District is awaiting an order issued by the hearing officer in the case in early 2024.

Rattlesnake Creek Conservation Innovation Grant

The District was an active partner in the USDA-NRCS Conservation Innovation Grant (CIG) project led by The Nature Conservancy (TNC). This year marked the third and final year of the project which saw approximately forty project fields incorporating a variety of irrigation water technologies. The participants in the program were able to tailor-fit technologies to suit their management strategies with the oversight and assistance from Lee Wheeler Engineering and Kansas State University Research and Extension. This project exposed an issue that many programs have historically overlooked. It is prudent that a water user evaluate the current condition and capacity of the pumping unit and water well prior to investing in further technologies on the diversion system. Secondly, this project had a water user focus. We worked hard to facilitate water user peer group discussions to allow for candid discussions on which strategies did and did not work. The final results from this project are pending and the project lead, TNC, has applied to USDA-NRCS to extend this project for an additional time period.

The District has taken lessons learned from this project and applied to the Kansas Water Office for a five-year project to expand the concepts of the CIG project along with other strategies for water management. The status of this application is not yet known.

Water User Assistance

On a daily basis, the District receives calls, visits or other correspondence from area water users requesting assistance from staff for addressing individual concerns. These concerns range from inquiries regarding how much water has been used within the calendar year, water meter compliance, and further program-specific questions.

Hydrologic Data Collection

Since the District's formation, data collection has been central to the District's priorities. The District owns and maintains its own weather station network to provide real time weather data to area water users. This data is utilized throughout the growing season for irrigation scheduling, so water is applied to the growing crops when necessary and is strategic in the timing of this application. In 2023, District staff have gathered hundreds of water level measurements throughout the region to maintain a good understanding of the water quantity in the local aquifer. A specific area of focus this year has been to increase the awareness of water quality within the local aquifer. The District has been coordinating with KSU researchers for

several years to collect water quality data from private well owners and to promote a better understanding of the existing conditions. To date, there is not a good water quality database for the region, let alone the state. This will be something the District will be working toward in the coming years.

How Expenditures Conserve and Reduce Consumptive Use of Water

The District has wrestled with the question of how to measure the success of its various programs over the years to conserve water. The reality is that in this region of Kansas, water conservation looks different than in areas of limited aquifer supply. In the Great Bend Prairie aquifer region, the Kansas Geological Survey has recently indicated that the aquifer is within 1.6% of being long-term sustainable. This does not mean that there is nothing to do in the region. Rather, we are tasked with maintaining the water quantity and quality in this region. This becomes a more monumental task when considering that the District corresponds with a transition zone of intermittent and perennial streamflow.

Efficient Water Use & Spatial Water Re-Allocation

The District utilizes programs to promote efficient water use such as the Central Kansas Water Bank Association (CKWBA), the weather station network for irrigation scheduling, and the water flow meter compliance program. Since the District has been closed to new appropriations for thirty years, the District has pursued programs to facilitate movement of water throughout the region. The District currently has regulations (K.A.R. 5-25-18 & K.A.R. 5-25-22) and programs (CKWBA) in place that allow for movement of water over long distances within District boundaries while requiring conservation and considering the specific hydrologic conditions of the area.

Long-Term Water Resource Availability for Quivira NWR

In the Rattlesnake Creek region, the District is working with its consultant, Olsson, to complete the Watershed Plan-EIS. This plan is evaluating a suite of solutions previously suggested by various stakeholder groups and agencies to put forward a long-term sustainable resolution to the longstanding water resource concerns in the region. As the Watershed Plan-EIS document is still draft it is not yet public so details cannot be included in this report.

Additional Efforts

Beyond the Watershed Plan-EIS process, the District has expended millions of dollars to retire water rights and secure lands to conduct site-specific hydrologic studies. These efforts are

focused on evaluating the best data available to reduce the water stresses impacting Rattlesnake Creek streamflows and water resource availability at Quivira NWR.

Prevention of Economic Deterioration and Stabilization of Agriculture

This issue is one of significant consideration in the Rattlesnake Creek region. Over the past several years, there have been plans considered or proposed that, based on recent economic studies, would have a significant impact on the local economy of Stafford County. While politically complicated, the District has been meeting with state and federal officials to determine the appropriate course of action to minimize the impact on the agricultural economy while providing a reliable and sustainable water resource for the management goals and objectives for Quivira NWR.

Other Activities from the Management Program

District Hydrologic Modeling

In 2008, the District contracted with Balleau Groundwater Inc. (BGW) to construct a hydrogeologic model for the entire District plus the upstream drainage basins that generate the District supply. Over the following two years, the BGW worked with District staff and a Technical Advisory Committee to develop this hydrogeologic model of the regional aquifer system. The group had two primary tasks:

1. Clarify the relationship between alternative management actions and the resultant hydrologic conditions to the aquifer and streams.
2. Provide a tool capable of addressing questions of watershed management, aquifer sustainability, source-water accounting and conditions of the aquifer and streams.

The District's model has been utilized by several agencies to consider the effects of water management changes on the local aquifer and stream systems. In 2023, the District directed BGW to refine and update the model with up-to-date data and information using the most recent revisions of MODFLOW. This work has been slowed by other priority items happening throughout the District but will be completed within the first quarter of 2024.

Aquifer Water Quality

The water quality of the Great Bend Prairie aquifer has been monitored and studied for several years. Specifically, the District and the Kansas Geological Survey partnered in the 1990s to get a better understanding of the naturally occurring chloride concentrations in the Eastern half of the District. This area has been referred to as the "Mineral Intrusion Area." The District has

regulations in place to monitor this area. In recent years, the District has worked with Kansas State University researchers to collect and analyze water samples for nitrate concentrations. To date, these samples have shown elevated levels of nitrates in the aquifer, but further sampling and assessment is needed to determine a proper course of action. The District is investing in equipment to better assess water quality going forward.

Central Kansas Water Bank Association

Water banking originated out of the Quivira/Rattlesnake Creek Partnership Plan as part of a collective effort to reduce water use in that subbasin. As the program developed, it became apparent that it could be applied in all of the subbasins in the District. The Central Kansas Water Bank Association (CKWBA) is a not-for-profit corporation operated by the same staff but overseen by an independent board of directors. The CKWBA has two distinct programs for providing flexibility to area water users while requiring water conservation. The first program (Savings Account) allows a portion of unused water to be preserved for future use at the same location. The second program (Deposit & Lease) is for the transfer of the historical water use of a water right(s) to other areas within the same subbasin. These programs have gained in popularity and give water users added water use flexibility while conserving water. Currently, the CKWBA is undergoing significant revisions to the programs to adapt to changing hydrologic conditions in the region and to address a variety of management concerns highlighted by the 2018 independent review panel. The panel finalized their findings in 2023.

ACTION PLAN (2025)

This section of the District's annual report is reserved for the action plan that is currently being developed by the District board and staff.

Summary

Priority Areas of Concern

Activities Related to Priority Areas of Concern

ATTACHMENT A