REPORT OF THE ENGINEERING COMMITTEE
TO THE
KANSAS-NEBRASKA BIG BLUE RIVER COMPACT ADMINISTRATION

May 9, 2023

The engineering committee was not given any special assignments from the Compact Administration and did not meet during the past year. The United States Geological Survey (USGS) and the Lower Big Blue Natural Resources District (LBBNRD) provided the 2022 data for this report.

Review of Streamflow Data

The Compact sets forth the following streamflow targets at the Stateline gaging stations:

	Big Blue River	Little Blue River
May	45 cfs	45 cfs
June	45 cfs	45 cfs
July	80 cfs	75 cfs
August	90 cfs	80 cfs
September	65 cfs	60 cfs

During the May through September time period of the 2022 water year (October 1, 2021 through September 30, 2022) there were extended shortages for Compact target flows. The mean daily streamflow at the Barneston gage on the Big Blue River (Exhibit A) was below target flows for 18 days and the Hollenberg gage (Exhibit B) on the Little Blue River was below target flows for 64 days.

Real-time and historical data for these gaging stations can be found at the following websites:
Big Blue River – https://waterdata.usgs.gov/monitoring-location/06882000/
Little Blue River – https://waterdata.usgs.gov/monitoring-location/06884025/

Review of Groundwater Data

The Lower Big Blue Natural Resources District provided the groundwater levels (Exhibit C) for the Big Blue Basin near Beatrice.

Review of Wells in the Regulatory Reaches

Exhibit D is a listing of the active irrigation wells within the regulatory reaches. There were no new wells drilled in the Big Blue River regulatory area and no new wells drilled in the Little Blue River regulatory area during this reporting period.

Respectively Submitted,

Jeremy F. Gehle, Chair
Nebraska

Elizabeth Hickman, I.E.
Kansas

Exhibit A

SUMMARY STATISTICS

	Water Year 2022		Water Years 1933 - 2022	
Annual total	160,600			
Annual mean	439.9		855.6	
Highest annual mean			2,781	1993
Lowest annual mean			115.0	1934
Highest daily mean	7,030	May 26	50,000	Jun 09, 1941
Lowest daily mean	52.0	Sep 01	1.00	Nov 30, 1945
Annual 7-day minimum	62.9	Aug 29	15.1	Aug 03, 1934
Maximum peak flow	7,930	May 26	57,700	Jun 09, 1941
Maximum peak stage	13.51	May 26	34.30[a]	Jun 09, 1941
Annual runoff (cfsm)	0.099		0.192	
Annual runoff (inches)	1.34		2.61	
10 percent exceeds	842.6		1,750	
50 percent exceeds	280.0		288.0	
90 percent exceeds	109.0		110.0	

[a] Gage height at different site and(or) datum

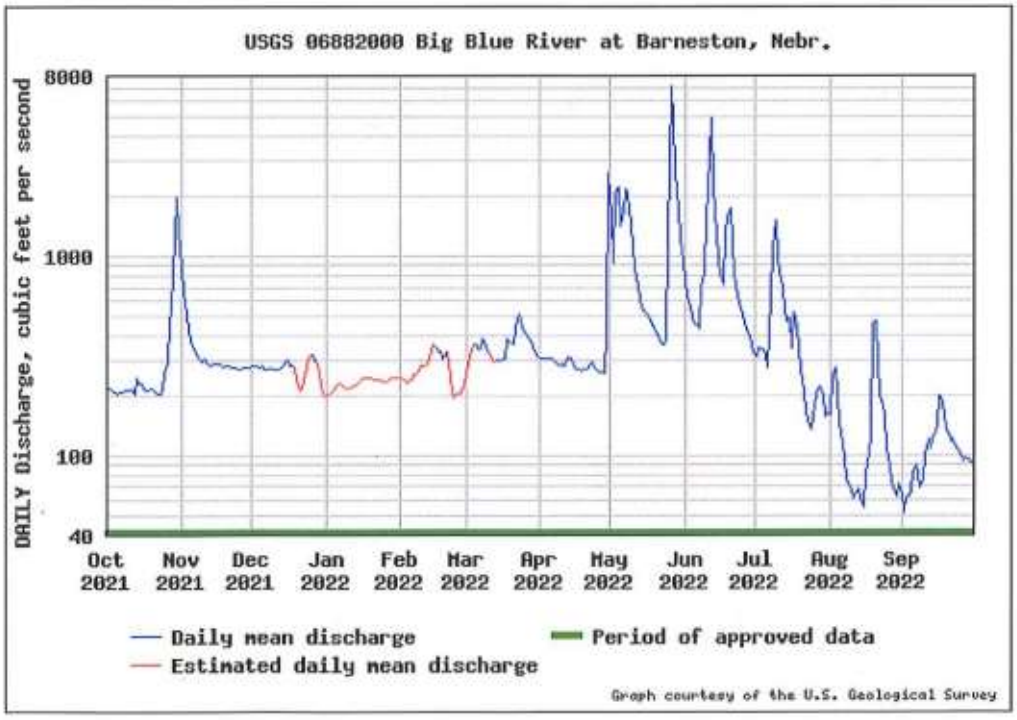


Exhibit B

Water-Data Report 2022
06884025 Little Blue River at Hollenberg, KS -- Continued

SUMMARY STATISTICS

	Water Year 2022		Water Years 1974 - 2022	
Annual total	65,000			
Annual mean	178.1		484.2	
Highest annual mean			1,891	1993
Lowest annual mean			172.9	2006
Highest daily mean	3,480	Jul 08	39,300	Jul 26, 1992
Lowest daily mean	22.6	Sep 05	22.6	Sep 05, 2022
Annual 7-day minimum	23.6	Sep 03	23.6	Sep 03, 2022
Maximum peak flow	4,230	Jul 08	59,200	May 07, 2015
Maximum peak stage	7.46	Jul 08	23.07	Oct 12, 1973
Annual runoff (cfsm)	0.065		0.175	
Annual runoff (inches)	0.878		2.38	
10 percent exceeds	242.8		802.0	
50 percent exceeds	130.0		188.0	
90 percent exceeds	33.1		96.0	

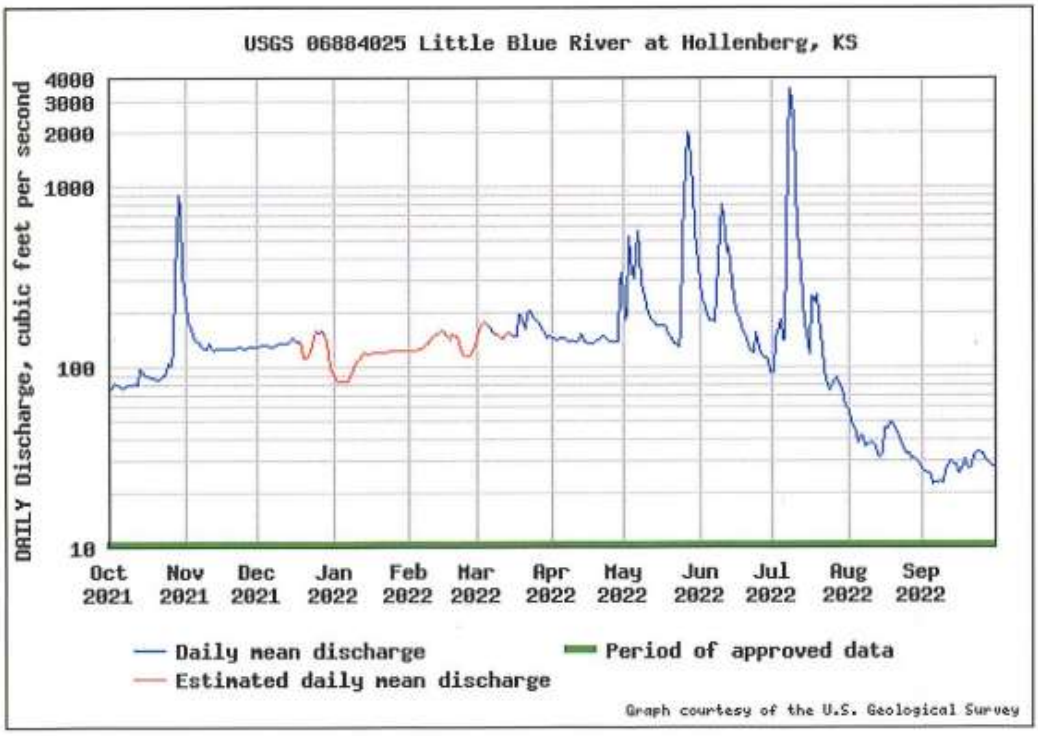


Exhibit C

BIG BLUE RIVER COMPACT STATIC WATER LEVELS 2022

LEGAL	SECT	SITE	TYPE	SPRING 2022	FALL 2022
4N-5E	2	AAAA	OW	92.71	96.02
4N-5E	2	DDAA	IW	18.01	21.02
4N-5E	4	BBBC	IW	19.75	22.59
4N-5E	9	CBCC	IW	72.69	75.10
4N-5E	10	DDAA	IW	26.15	30.26
4N-5E	11	DACA	IW	16.21	18.34
4N-5E	14	ABBB	IW	15.14	18.30
4N-5E	25	AACD	IW	18.70	18.53
5N-4E	12	ABBA	IW	18.99	20.49
5N-4E	13	BADD	IW	16.95	17.18
5N-4E	23	BABB	IW	17.46	18.48
5N-4E	24	AACD	IW	19.08	19.72
5N-5E	7	CADD	IW	61.44	65.82
5N-5E	20	BCCD	IW	19.68	21.54
5N-5E	21	DDBB	IW	55.11	63.87
5N-5E	29	CBBB	IW	13.70	16.37
5N-5E	33	AADD	IW	19.71	21.33

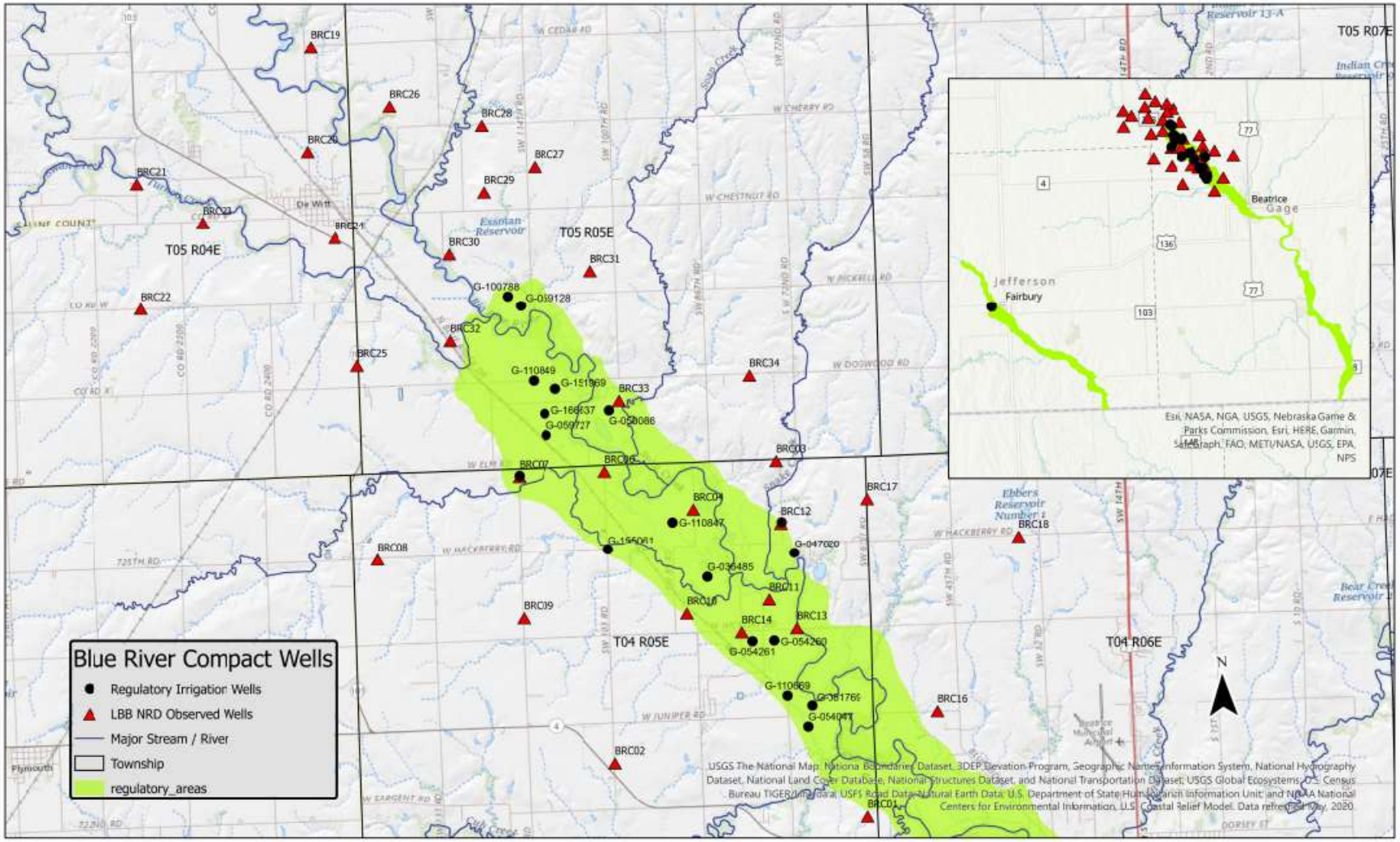
OW - OBSERVATION WELLS IW - IRRIGATION WELLS

Exhibit D

Big Blue River Regulatory Area Wells					
Registration Number	Location T-R-S	Completion Date	Depth (FT)	Registration Pumping Capacity (GPM)	Filing Date
G-036485	4N-5E-11BC	3/28/1972	82	750	4/24/1972
G-038314	4N-5E-2DD	1/16/1973	188	1,300	1/29/1973
G-047820	4N-5E-12BB	11/1/1975	117	1,200	12/4/1975
G-050086	5N-5E-33AD	5/26/1976	123	800	6/9/1976
G-054047	4N-5E-24BB	3/1/1976	84	800	1/6/1977
G-054260	4N-5E-14AA	6/1/1974	70	800	1/14/1977
G-054261	4N-5E-14AB	5/2/1970	70	800	1/14/1977
G-056152	4N-5E-4BB	4/14/1977	91	1,000	5/11/1977
G-059128	5N-5E-29AA	4/25/1977	60	400	1/4/1978
G-059727	5N-5E-33CB	4/19/1978	91	1,200	4/20/1978
G-081769	4N-5E-13CD	4/22/1994	65	250	6/24/1994
G-100788	5N-5E-29AB	3/19/1999	65	500	6/2/1999
G-110669	4N-5E-13CC	7/12/1995	64	375	6/29/2001
G-110847	4N-5E-3DA	5/4/1979	82	800	7/2/2001
G-110849	5N-5E-29DD	4/30/1983	102	800	7/2/2001
G-151969	5N-5E-33BB	12/11/2008	112	800	1/20/2009
G-155061	4N-5E-10BB	12/4/2009	98	800	1/27/2010
G-166637	5N-5E-33BC	03/20/2013	120	1,200	3/28/2013

Little Blue River Regulatory Area Wells					
Registration Number	Location T-R-S	Completion Date	Depth (FT)	Registration Pumping Capacity (GPM)	Filing Date
G-058158	2N-2E-16AD	8/15/1977	29	650	9/6/1977

Compact Monitoring and Regulatory Irrigation Wells in the Big Blue River Basin



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