2025 ANNUAL INTEGRATED MANAGEMENT PLAN REPORT:

NEBRASKA DEPARTMENT OF WATER, ENERGY, & ENVIRONMENT

&

UPPER NIOBRARA WHITE NATURAL RESOURCES DISTRICT

REPORTING ON 2024 DATA AND MANAGEMENT ACTIONS

ANNUAL MEETING HELD ON OCTOBER 30, 2025

Purpose

This report fulfills the Department of Water, Energy, and Environment (Department[1] or DWEE) responsibilities as outlined in the Upper Niobrara White Natural Resources District (District or UNWNRD) integrated management plan (IMP) and provides updates on ongoing projects and studies in the area.

The information presented herein, including streamflow measurements, monitoring data, and related analyses, contributes to a more comprehensive understanding of the hydrologically connected surface water and groundwater system. In interconnected systems, the availability of one resource cannot be evaluated independently of the other. Data collected through the IMP's monitoring plan, and compiled in this report, support the evaluation of progress toward the IMP's objectives. This exchange of information also serves to confirm and refine the technical assumptions, data, and conclusions upon which the IMP is based.

Department Reporting

The IMP requires that the Department annually report on the following:

1. **Surface water permitting**
    a. Any orders of cancellation issued pursuant to Neb. Rev. Stat. § 46-229.04(5) or assignment of rights to use that portion of an appropriation which was relinquished.
    b. Variances granted by the Department, including facts offered as justification for the variance to be granted and the reasons for the action taken. See **Appendix C** for full text of the Department's Rules of Surface Water, Title 457, Neb. Admin. Code, Chapter 23, concerning variances.
    c. Surface water pump site inspections completed by field staff during 2024.
2. **Streamflow**
    a. Records of streamflow measurements from non-gaged streams within the District.
3. **Diversions**
    a. Records of surface water diversions collected by the Department upstream of Box Butte Reservoir.

[1] Prior to July 1st, Department refers to NeDNR and from July 1st forward, Department refers to DWEE.

The Department also reports on other actions that are not required by the IMP but will be covered in this report.

1. Surface Water Use

Table 1 below provides a breakdown of active surface water permits within the UNWNRD, categorized by the type and purpose of the permit. It includes the total number of permits, as well as the totals for associated acres, and allowable grants (cfs or af).

Table 1. Active surface water permits in Upper Niobrara White NRD as of December 31, 2024.

Active Surface Water Permits in the Upper Niobrara White NRD as of December 31, 2024				
Purpose of Permit	**Number of Permits**	**Acres Approved for Irrigation**	**Grant (cfs)**	**Grant (af)**
Direct Flow Irrigation	378	54,194.38	691.98	N/A
Storage Use Irrigation	121	6307.1	N/A	69,868.69
All Irrigation Permits	**499**	**60,501.48**	**691.98**	**69,868.69**
Storage	175	N/A	N/A	81,552.69
Fish culture	6	5	0.5	N/A
Manufacturing	8	N/A	N/A	60
Public Water Supply	5	N/A	9.14	143
Domestic	5	5	0.5	N/A

2. Surface Water Permitting

a. Any order of cancellation issued pursuant to Neb. Rev. Stat. § 46-229.04(5) or any assignment of the right to use that portion of an appropriation which was relinquished.

In 2024, there were six cancellations for temporary manufacturing (MF) permits that expired. Because these permits were located within the surface water control area, and therefore subject to a moratorium, they were issued under variances, which were reported in the Department's 2024 report.

Figure 1 shows the surface water control area and the location of all surface water permitting actions in 2024. **Table 2** provides a summary of new permits, while **Table 3** provides a summary of all cancelled, expired and dismissed/denied permits, and associated variances.

b. Variances granted by the Department, facts offered as justification for the variance to be granted and the reasons for the action taken.

In 2024, the Department granted variances for surface water permits within the surface water control area. This process consists of two steps. First, a petitioner must file a request for leave. If a variance is granted, the petitioner then has one year from the Departments order to file an application for a permit to appropriate water.

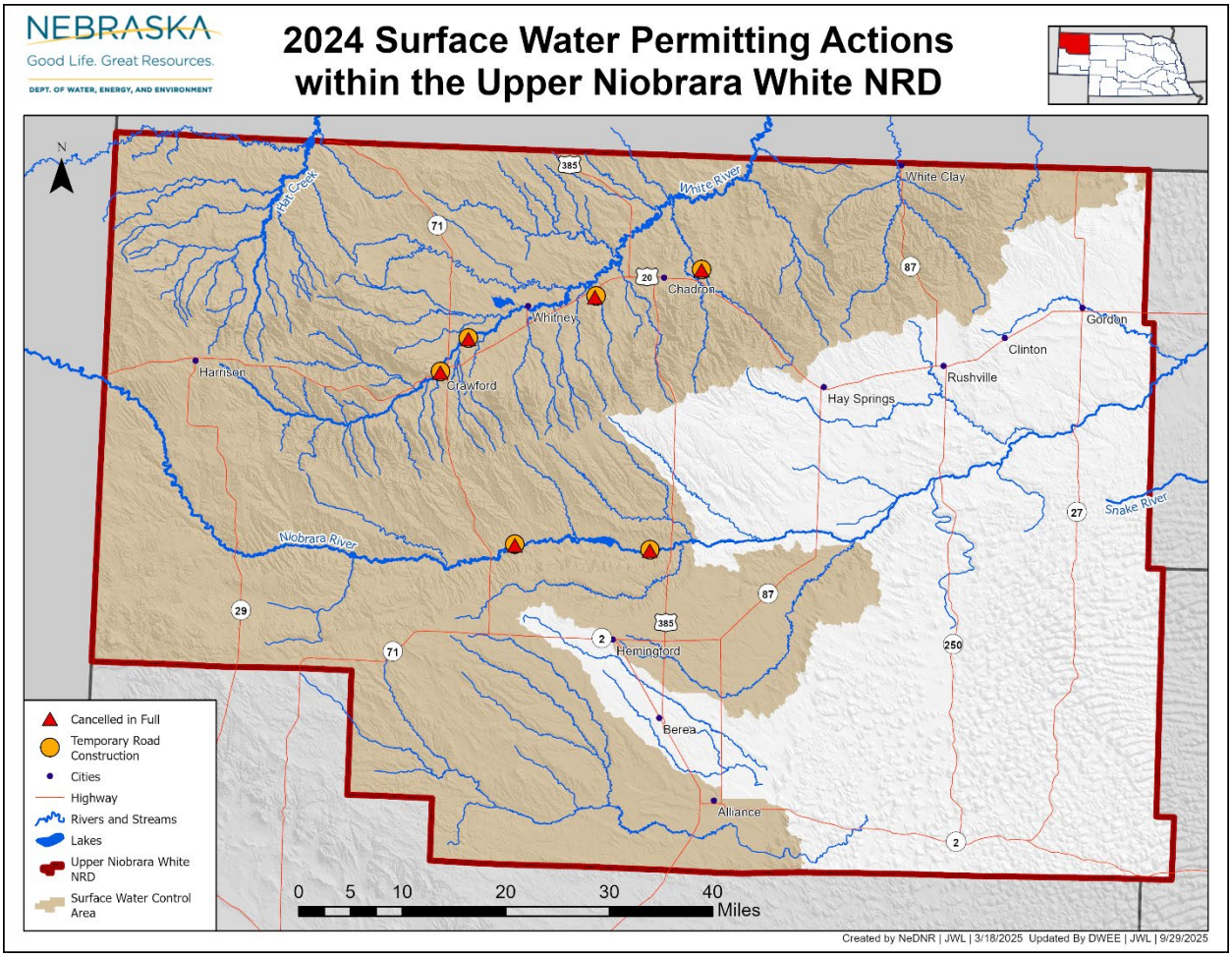


Figure 1. 2024 surface water permitting actions within Upper Niobrara White NRD.

Table 2. New surface water permitting actions granted in 2024.

New Surface Water Permitting Actions							
Appropriation Number	***Approval Date***	***Point of Diversion Location***	***Use***	***Source***	***Acres***	***Grant***	***Associated Variance[2]***
A-19997	7/18/2024	*S24 T21-R52W*	*MF*	White River	*N/A*	*10 AF*	*VAR-10161*
A-19998	7/18/2024	*S3 T31-R52W*	*MF*	White River	*N/A*	*10 AF*	*VAR-10162*
A-19994	7/18/2024	*S26 T29-R49W*	*MF*	Niobrara River	*N/A*	*10 AF*	*VAR-10163*
A-19996	7/18/2024	*S30 T33-R49W*	*MF*	Dead Horse Creek	*N/A*	*10 AF*	*VAR-10164*
A-19995	7/18/2024	*S35 T29-R51W*	*MF*	Niobrara River	*N/A*	*10 AF*	*VAR-10165*
A-19993	7/18/2024	*S13 T33-R48W*	*MF*	Little Bordeaux Creek	*N/A*	*10 AF*	*VAR-10166*

Table 3. Summary of surface water permits that expired, cancelled or were dismissed/denied in the Upper Niobrara White NRD in 2024.

Expired, Cancelled or Dismissed/Denied Permitting Actions								
Appropriation Number	***Approval Date***	***Cancelled Date***	***Status***	***Point of Diversion Location***	***Use***	***Source***	***Grant***	***Associated Variance[3]***
A-19933	8/3/2023	8/3/2024	*Cancelled in Full*	*S13 T33-R48W*	*MF*	Little Bordeaux Creek	10 AF	VAR-9983
A-19932	8/3/2023	8/3/2024	*Cancelled in Full*	*S35 T29-R51W*	*MF*	Niobrara River	10 AF	VAR-9984
A-19931	8/3/2023	8/3/2024	*Cancelled in Full*	*S30 T33-R49W*	*MF*	Dead Horse Creek	10 AF	VAR-9985
A-19930	8/3/2023	8/3/2024	*Cancelled in Full*	*S26 T29-R49W*	*MF*	Niobrara River	10 AF	VAR-9986
A-19929	8/3/2023	8/3/2024	*Cancelled in Full*	*S3 T31-R52W*	*MF*	White River	10 AF	VAR-9987
A-19928	8/3/2023	8/3/2024	*Cancelled in Full*	*S24 T21-R52W*	*MF*	White River	10 AF	VAR-9983

[2] Variance granted pursuant to 457 Neb Admin. Code Ch. 23 § 001.04.
[3] Variance granted pursuant to 457 Neb Admin. Code Ch. 23 § 001.04.

c. Modifications

Modifications are actions taken on a surface water permits. These actions include expedited and non-expedited transfers, relinquishments, provisional relinquishments, and reassignments of irrigated acres. These actions may involve the White River Irrigation District and the U.S. Bureau of Reclamation. Modifications apply to irrigation and storage permits and do not authorize new irrigation or withdrawals from any streams or reservoirs in the District. A District has up to five years after a provisional relinquishment to reassign acres within that District.

No modifications happened within the District in 2024.

d. Surface water pump site inspections conducted in 2024.

The field office staff regularly inspects pump sites at surface water diversion points as conditions allow. Not all pump sites are inspected every irrigation season, and some sites may be visited more than once per season. In 2024, field office staff conducted 27 pump site inspections (**Table 4**) (**Figure 2**), 25 of which were set up for irrigation. As part of these inspections, field staff collect the following data:

- Evidence of pump site
- Pumps that are running
- Crops in field
- Irrigation method

Table 4. Surface water pump site inspections in the Upper Niobrara White NRD in 2024.

2024 Surface Water Pump Site Inspections		
Total Number of Irrigation Permits	**Number of Pump Sites Set up for Irrigation**	**Total Observations Made[4]**
499	25	27

[4] Can include multiple visits to the same pump site location.

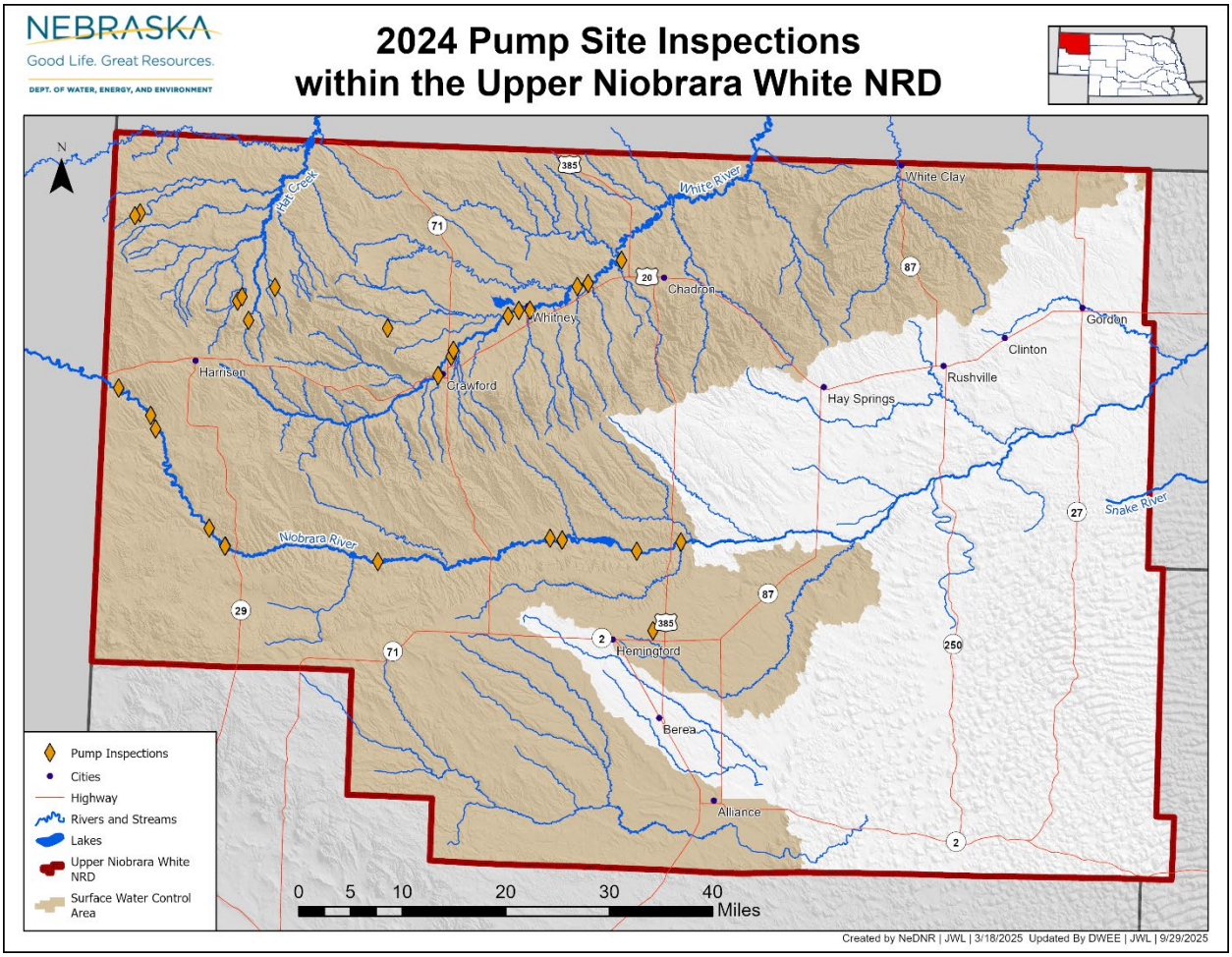


Figure 2. Pump site inspections within the Upper Niobrara White NRD in 2024.

3. Stream Gage Measurements

Streamflow measurements for gaged streams can be found in **Appendix A** or at: https://nednr.aquaticinformatics.net/. Measurements from non-gaged stream locations, pump sites, and reservoirs for the 2024 calendar year are included in **Appendix A1**. The locations of streamgages operated by the Department are shown in **Figure 3**.

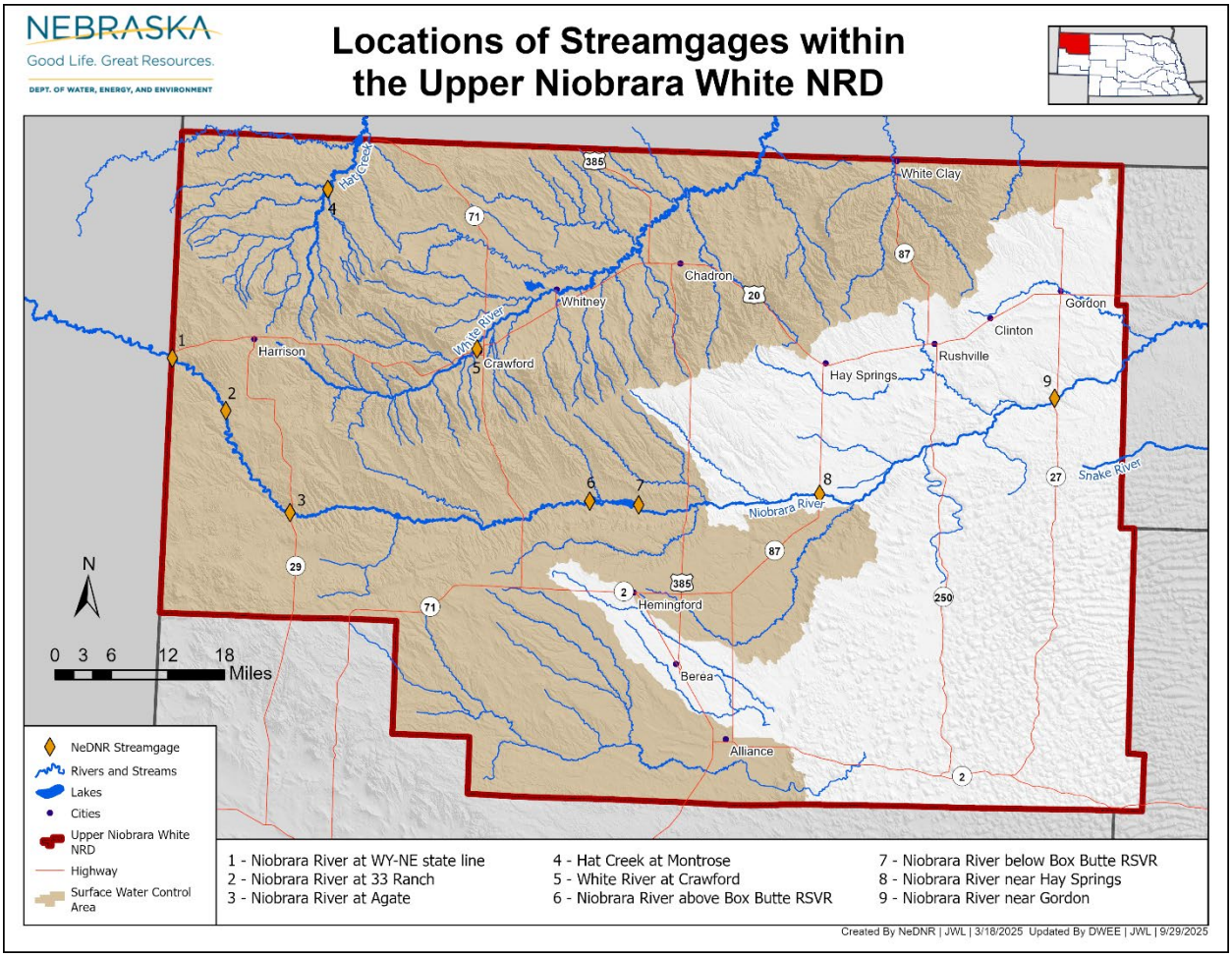


Figure 3. Locations of streamgages in the Upper Niobrara White NRD.

4. Diversions

a. Records of surface water canal diversions collected by the Department

Historical record graphs (1956-2024) of annual total diversions from the Niobrara River (excluding Mirage Flats) and the Mirage Flats (Dunlap)[5] diversion are included in **Appendix B**. Surface water diversion records for the 2024 calendar year are also included in **Appendix B**, and their locations are shown in **Figure 4**. The canals measured include the following: Johnson Canal, Lakotah Canal, Earnest Canal (North), Earnest Canal (South), McGinley-Stover Canal, Cook Canal No. 1, Harris-Neece Canal, Labelle Canal, Mettlen Canal, Bennett-Kay Canal, Moore-Kay Canal, Geo. Hitshew Canal, McLaughlin

[5] Mirage Flats is known as the Dunlap Diversion to the United States Bureau of Reclamation.

Canal, Excelsior Canal, Hughes Canal, Pioneer Canal, Lichte Canal and Mirage Flats (Dunlap Diversion). Although Lichte Canal does not have any measuring equipment installed, it is checked during the summer irrigation season by Department staff. Mirage Flats data is provided by the United States Bureau of Reclamation (USBR). **Appendix B1** includes an additional figure with insets of the canals and diversions in UNWNRD above and including Mirage Flats.

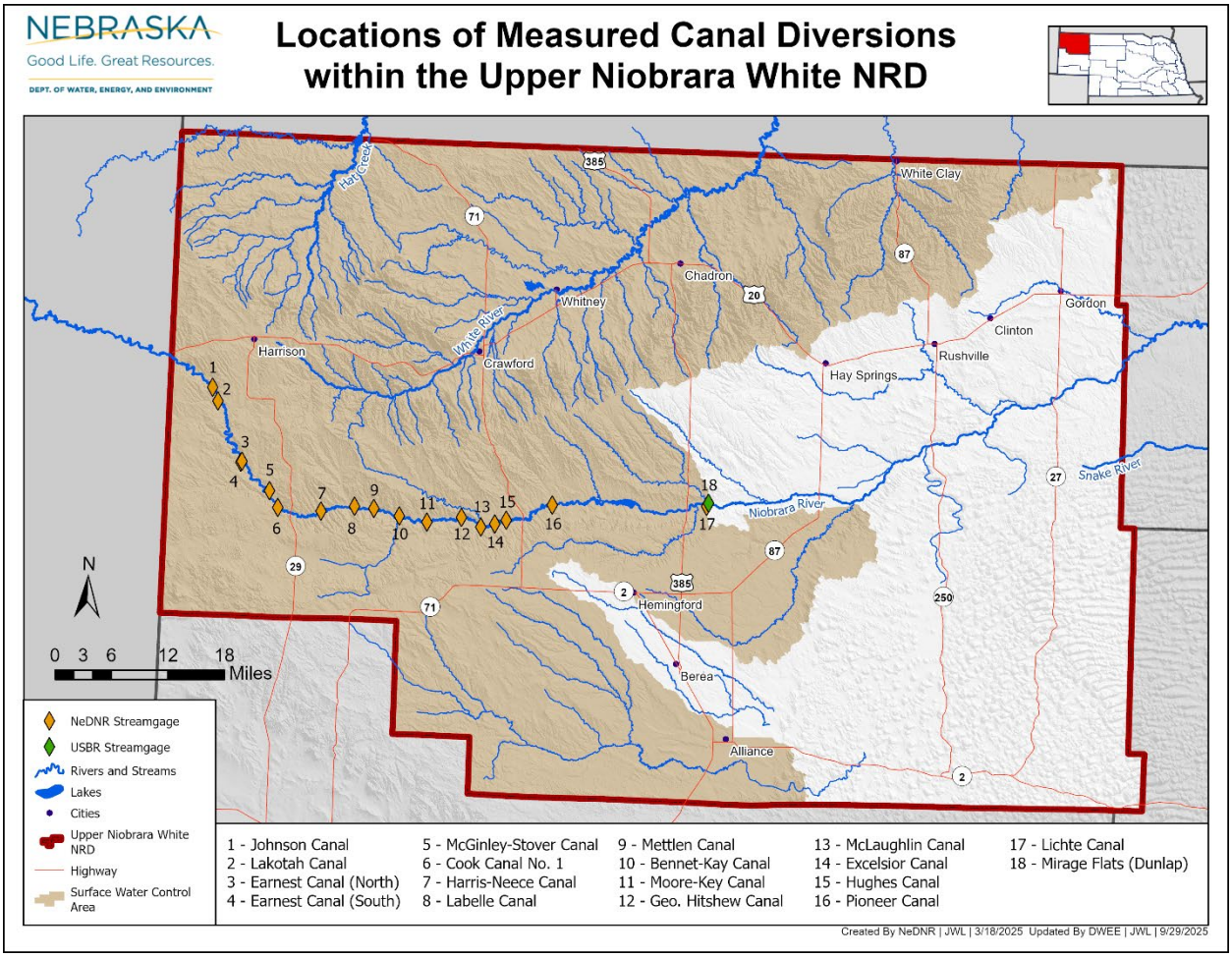


Figure 4. Locations of canal diversions in the Upper Niobrara White NRD.

5. Voluntary Water Use Reporting

The Department requests water use data through its voluntary water use reporting program. Surveys are sent to irrigation permit holders requesting information such as use or non-use, acres irrigated, estimated amount of water applied, types of crops grown and reasons for non-use. **Table 5** contains data collected from voluntary water use surveys regarding surface water irrigated acres and surface water inches applied per acre.

Table 5. Voluntary surface water reporting within the Upper Niobrara White NRD in 2024.

Voluntary Surface Water Reporting							
Natural Resources District	**No. of Water Rights**	**No. of Reports Returned**	**No. of Reports SW Irrigated**	**No. of Reports Not Used**	**No. of GW Irrigated Reports**	**SW Irrigated Acres**	**SW Inches Per Acre**
Upper Niobrara-White	499	105	54	51	3	4,021	7.8

6. Surface Water Administration

Within the Niobrara Basin, administrative closure notices are generally issued at the request of senior water right holders who are unable to divert adequate water to satisfy their permits due to insufficient supplies in the river. **Table 6** outlines all surface water administration in the UNWNRD in 2024. There are no requirements under the Niobrara Compact that would cause water rights to be shut off for Compact compliance.

Table 6. Surface water administration within the Upper Niobrara-White NRD in 2024.

Surface Water Administration							
Water Division	**Date of Closure**	**Date Reopened**	**Days Closed**	**Permit Type**	**No. affected**	**Reason for Closure**	**Reason for Reopening**
2C - Niobrara River	5/17/2024	5/22/2024	6	Direct Flow	163	Instream Basin-Management flows not being met	Instream Basin-Management flows are being met
				Storage	115		
	5/30/2024	6/18/2024	20	Direct Flow	162		
				Storage	113		
	7/8/2024	10/10/2024	85	Direct Flow	154		
				Storage	110		
	7/10/2024	10/1/2024	63	Direct Flow	4	To Protect Mirage Flats – Localized Administration	Mirage Flats Canal is off
				Storage	18		
	7/3/2024[6]			Direct Flow	2	To Protect Lakotah Canal – Localized Administration	Lakotah Canal removed call
				Storage	1		
	10/1/2024	10/8/2024	8	Direct Flow	2		

[6] No opening date was listed in Department records for this closing notice.

7. Groundwater Permitting

There were no groundwater transfers or permits issued within UNWNRD in 2024.

8. Current Studies and Modeling

USGS Niobrara Basin Model

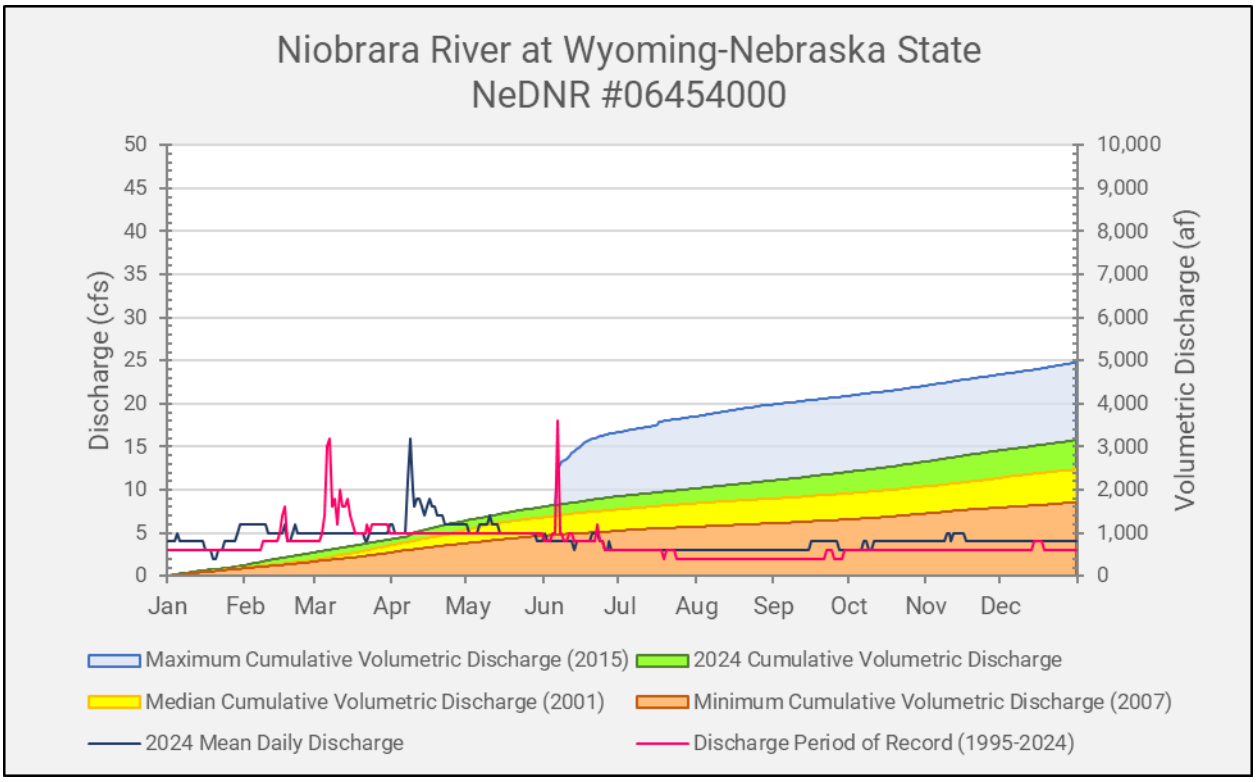
The Department began working with the National Park Service and U.S. Geological Survey in 2020 to develop and calibrate a numerical groundwater model for most of the Niobrara basin in Nebraska, including a portion of the Upper Niobrara White NRD. Model calibration has been completed, and the USGS is currently working on final documentation. The USGS has stated that the modeling project and final report are expected to be complete by the end of 2025.

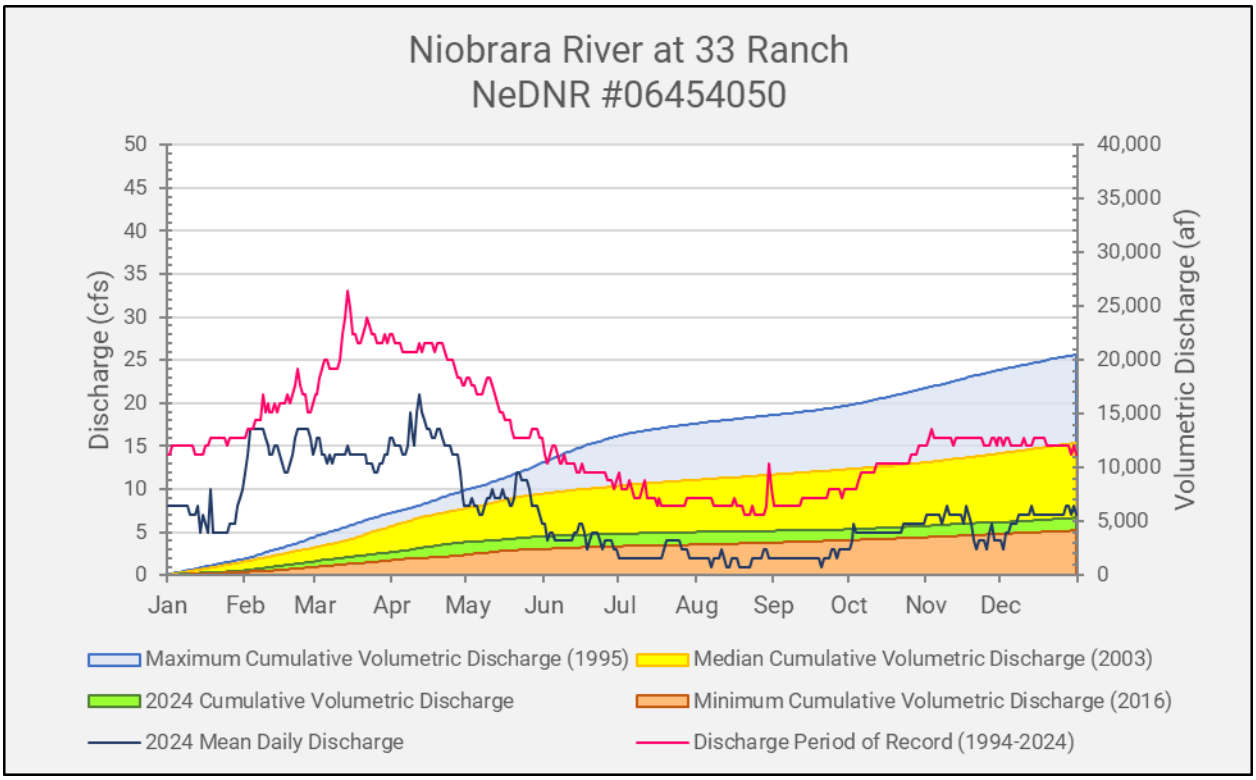
UNWNRD Groundwater Modeling (Upper Niobrara White Groundwater Model)

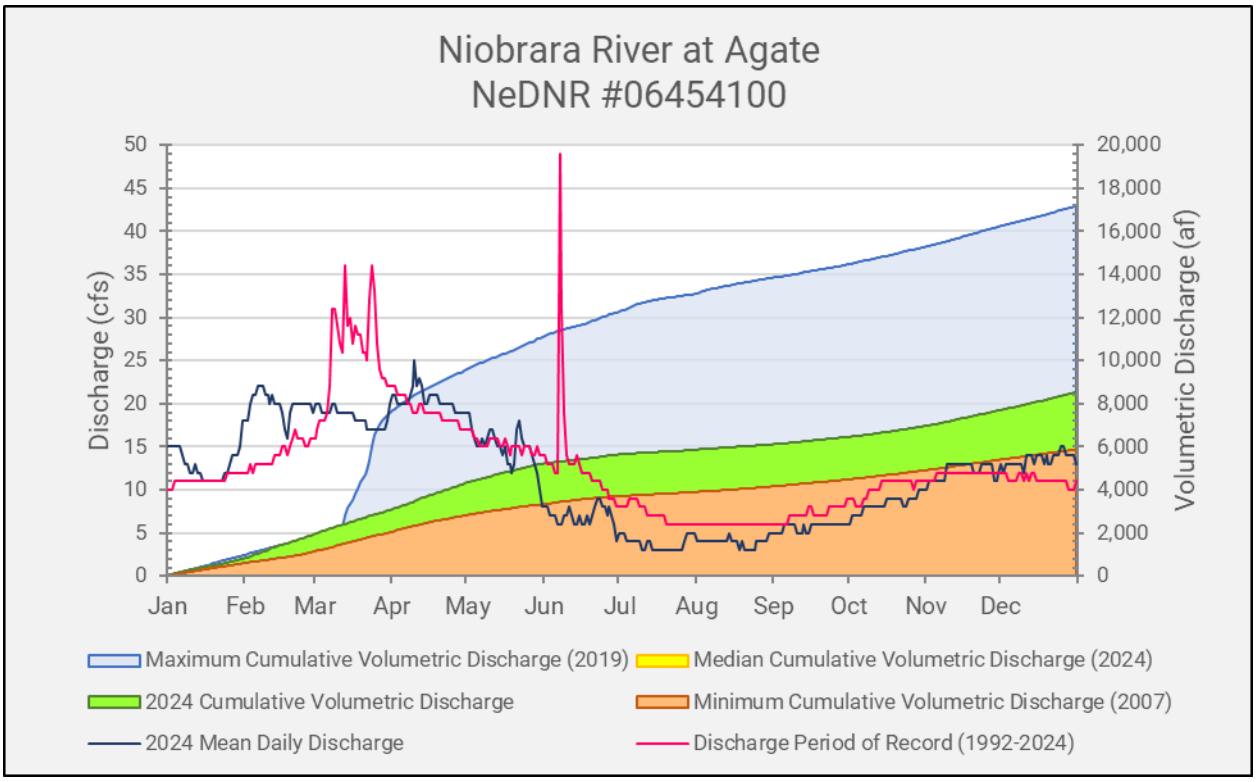
At the 2022 Nebraska Association of Resources Districts (NARD) Annual Conference, NeDNR and UNWNRD staff met to discuss progress on a study to better understand surface water and groundwater interaction in the District. At the meeting, the Department shared preliminary findings of the study, which used the Upper Niobrara White groundwater model and INSIGHT data, to answer the following questions.

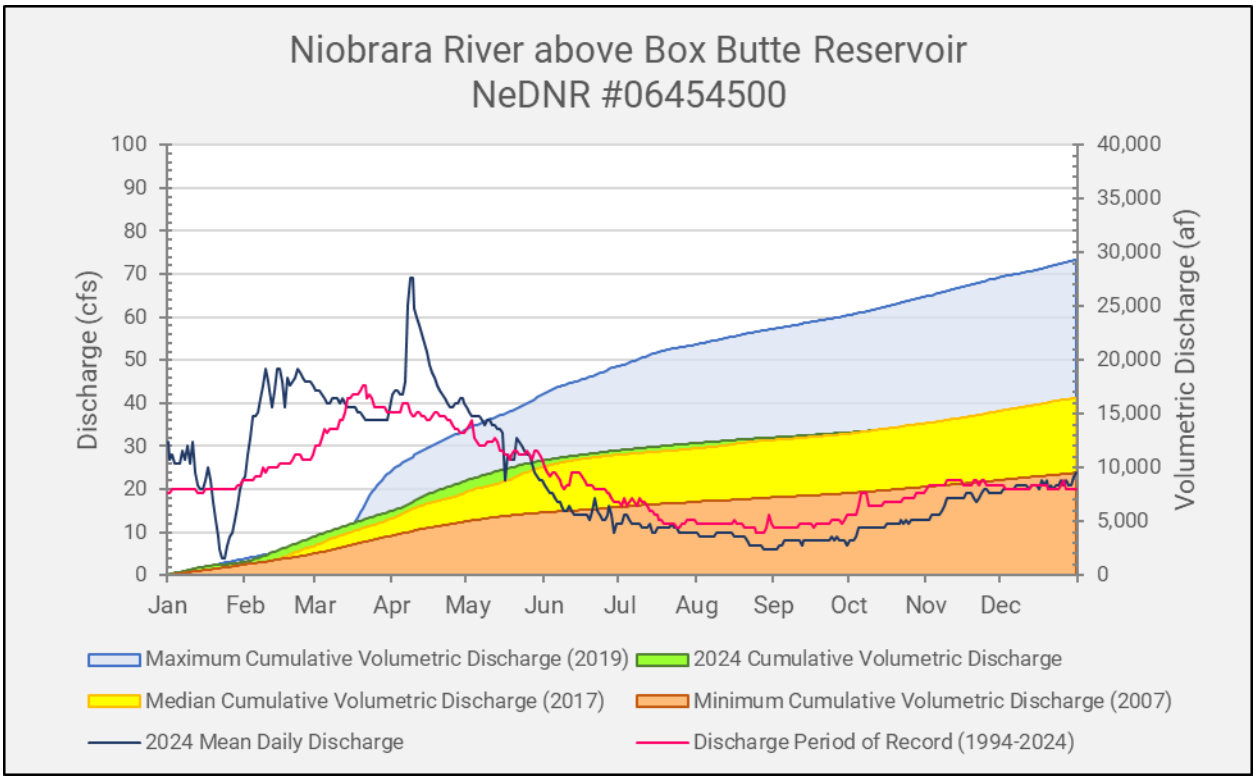
- How has surface and groundwater irrigation impacted streamflow in the Niobrara River?
- What portion of that impact is attributed to groundwater irrigation?
- What is the long term flow trend for the Niobrara River based on the current level of surface and ground water irrigation? Specifically**,** based on 2021 (under 2011, 2012, and 2015 climate conditions) developed acres and average water use.
- Would an allocation result in increased stream flow in the Niobrara River and if so, what would the impact be?
- Would surface water adjudication result in an increase in stream baseflow and if so, what would the impact be? (This could not be modeled)
- What would it take to cause a 6-foot drawdown in Subarea 5?

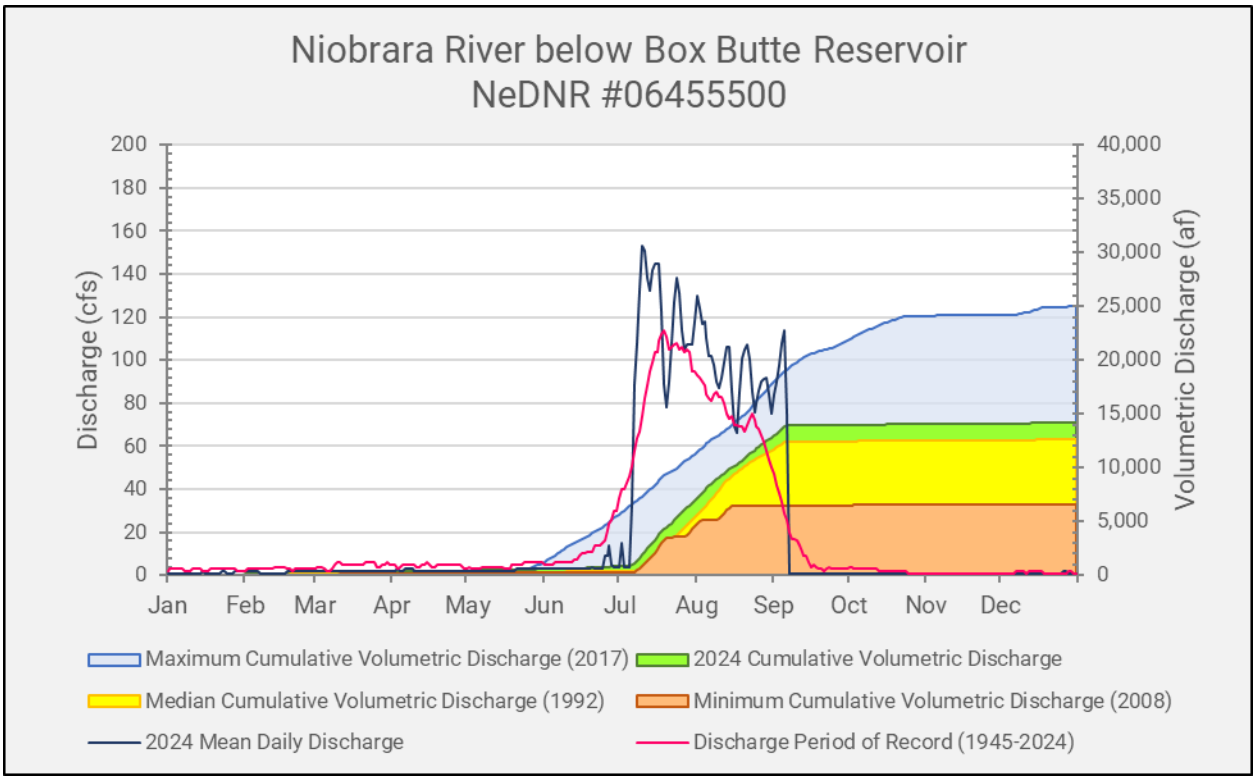
The Department recognized that there are limitations to the study due to the age of the model, which was last updated in 2018. These questions could be answered more completely by updating the model to use MODFLOW 6 and input data through 2021. To address this issue, UNWNRD applied for and was awarded a Water Sustainability Fund grant to help fund these updates. Work on this project began in 2023 and progress continues.

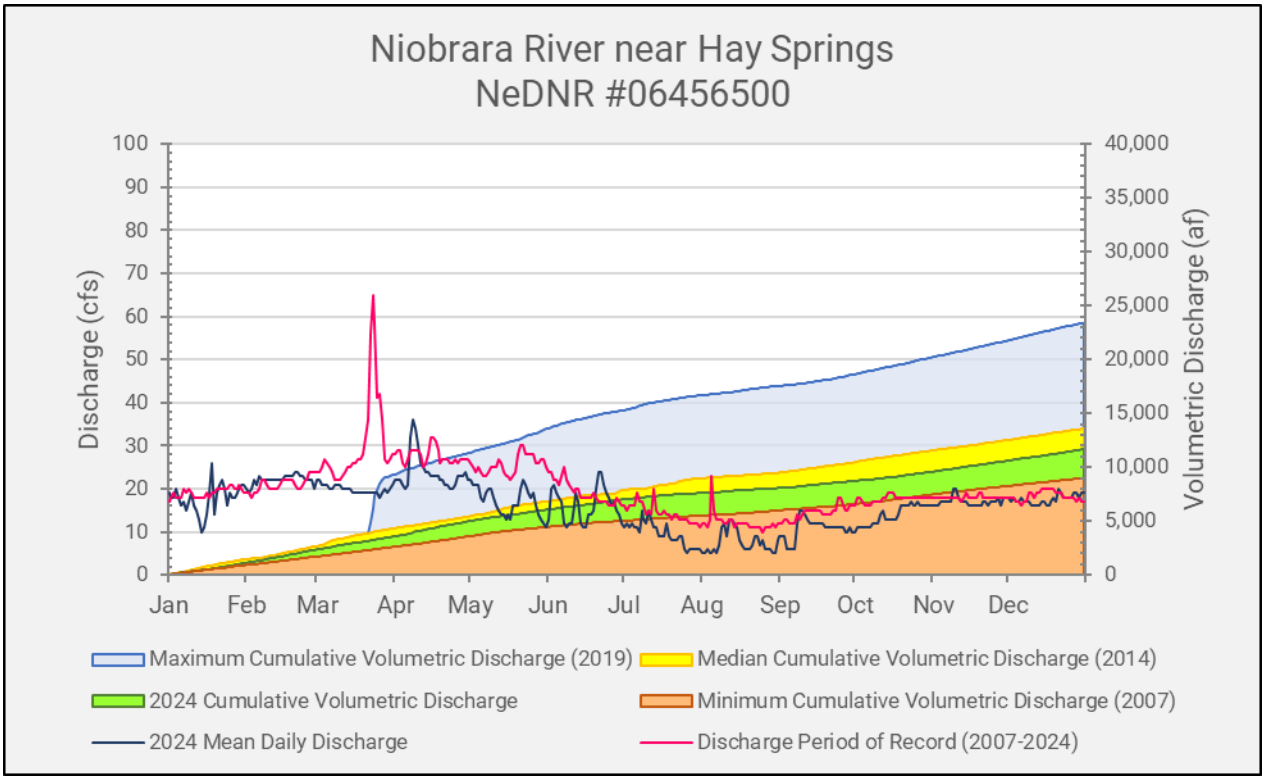

Niobrara River at Wyoming-Nebraska State
NeDNR #06454000
Discharge (cfs)
Volumetric Discharge (af)
50
45
40
35
30
25
20
15
10
5
0
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (2015)
2024 Cumulative Volumetric Discharge
Median Cumulative Volumetric Discharge (2001)
Minimum Cumulative Volumetric Discharge (2007)
2024 Mean Daily Discharge
Discharge Period of Record (1995-2024)

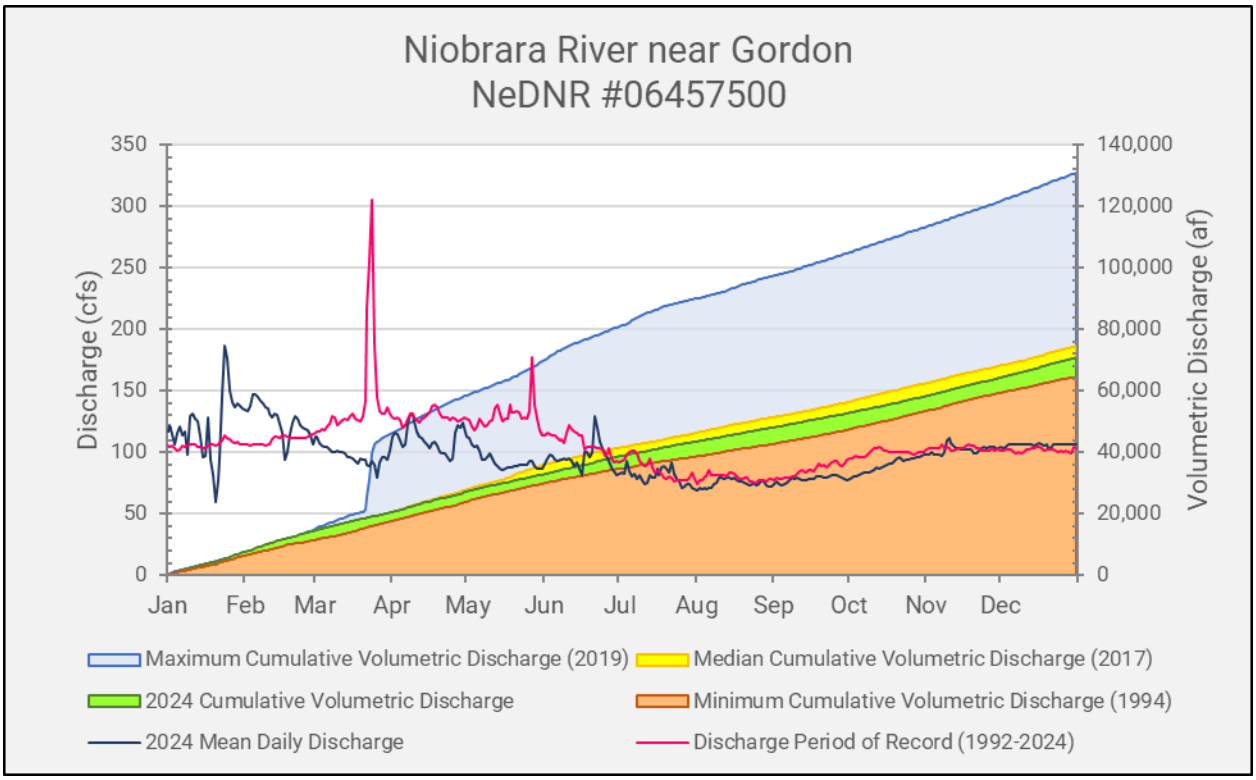

Niobrara River at 33 Ranch
NeDNR #06454050
Discharge (cfs)
Volumetric Discharge (af)
50
45
40
35
30
25
20
15
10
5
0
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (1995)
Median Cumulative Volumetric Discharge (2003)
2024 Cumulative Volumetric Discharge
Minimum Cumulative Volumetric Discharge (2016)
2024 Mean Daily Discharge
Discharge Period of Record (1994-2024)

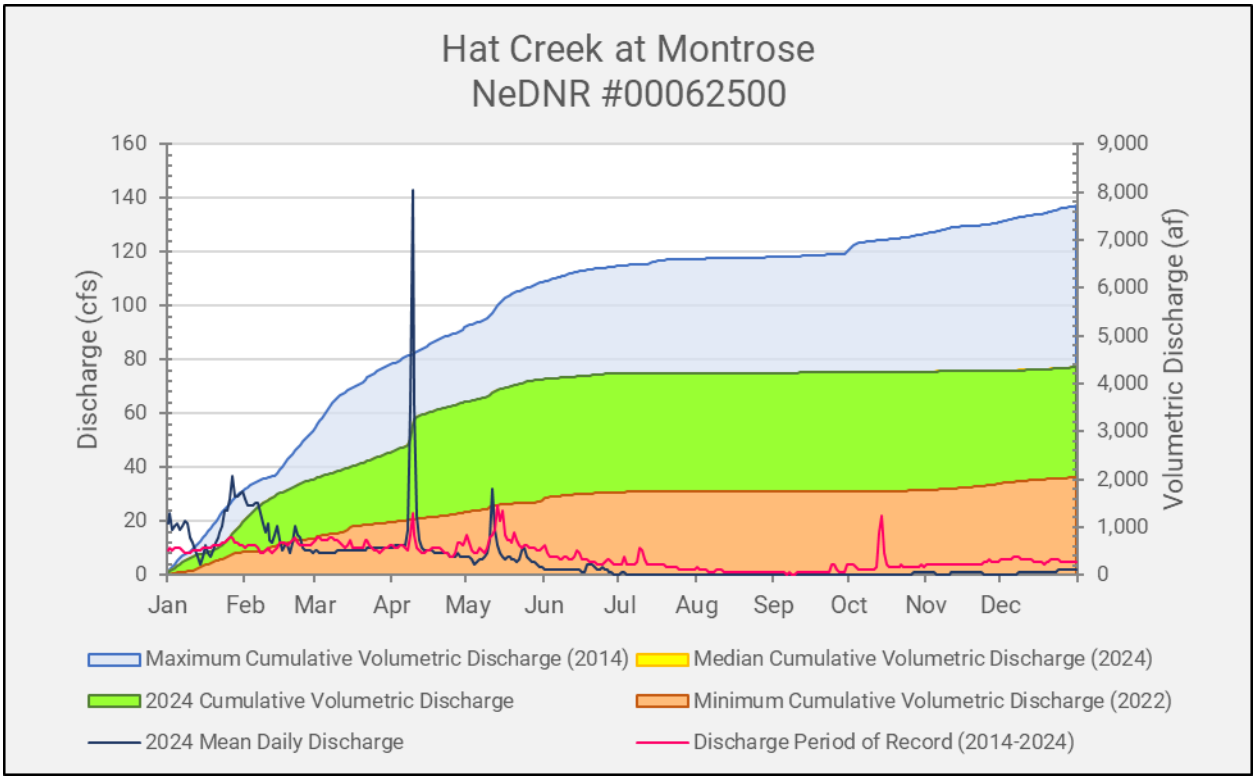

Niobrara River at Agate
NeDNR #06454100
Discharge (cfs)
Volumetric Discharge (af)
50
45
40
35
30
25
20
15
10
5
0
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (2019)
Median Cumulative Volumetric Discharge (2024)
2024 Cumulative Volumetric Discharge
Minimum Cumulative Volumetric Discharge (2007)
2024 Mean Daily Discharge
Discharge Period of Record (1992-2024)

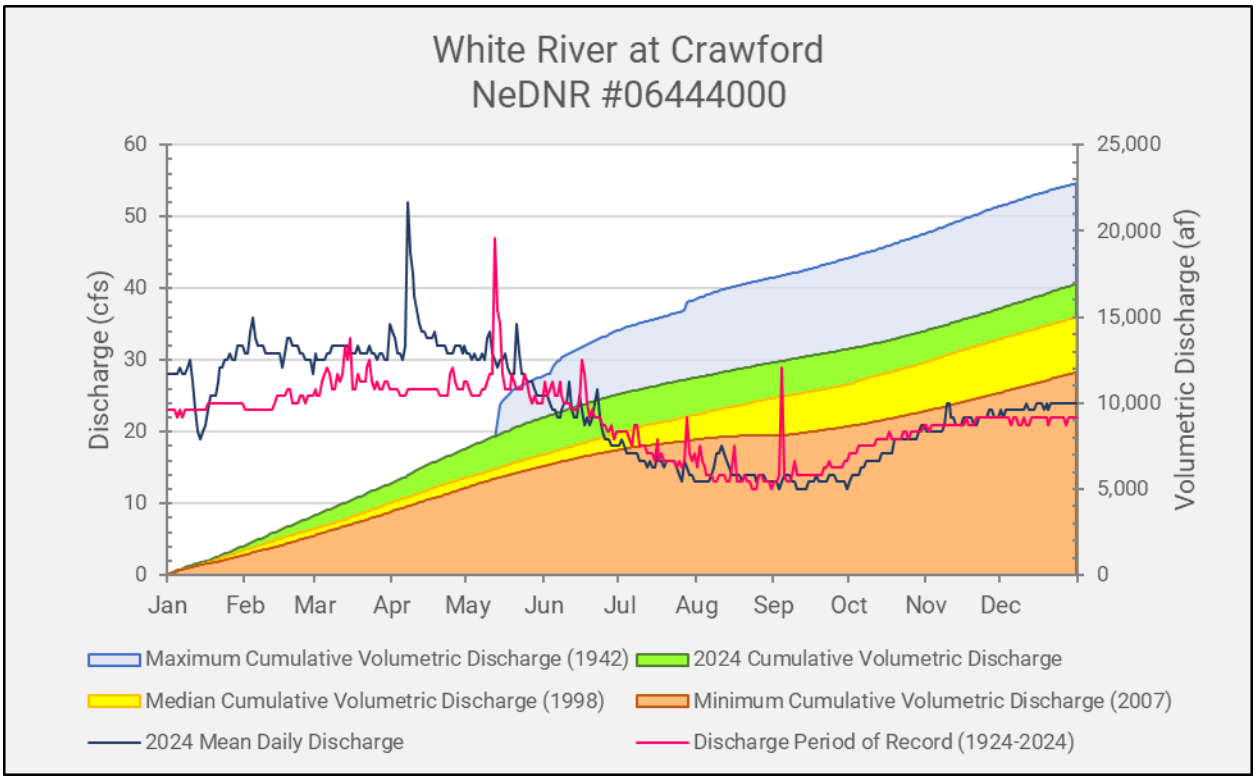

Niobrara River above Box Butte Reservoir
NeDNR #06454500
Discharge (cfs)
Volumetric Discharge (af)
100
90
80
70
60
50
40
30
20
10
0
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (2019)
2024 Cumulative Volumetric Discharge
Median Cumulative Volumetric Discharge (2017)
Minimum Cumulative Volumetric Discharge (2007)
2024 Mean Daily Discharge
Discharge Period of Record (1994-2024)


Niobrara River below Box Butte Reservoir
NeDNR #06455500
Discharge (cfs)
Volumetric Discharge (af)
200
180
160
140
120
100
80
60
40
20
0
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (2017)
2024 Cumulative Volumetric Discharge
Median Cumulative Volumetric Discharge (1992)
Minimum Cumulative Volumetric Discharge (2008)
2024 Mean Daily Discharge
Discharge Period of Record (1945-2024)


Niobrara River near Hay Springs
NeDNR #06456500
Discharge (cfs)
Volumetric Discharge (af)
100
90
80
70
60
50
40
30
20
10
0
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (2019)
Median Cumulative Volumetric Discharge (2014)
2024 Cumulative Volumetric Discharge
Minimum Cumulative Volumetric Discharge (2007)
2024 Mean Daily Discharge
Discharge Period of Record (2007-2024)


Niobrara River near Gordon
NeDNR #06457500
Discharge (cfs)
Volumetric Discharge (af)
350
300
250
200
150
100
50
0
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (2019)
Median Cumulative Volumetric Discharge (2017)
2024 Cumulative Volumetric Discharge
Minimum Cumulative Volumetric Discharge (1994)
2024 Mean Daily Discharge
Discharge Period of Record (1992-2024)

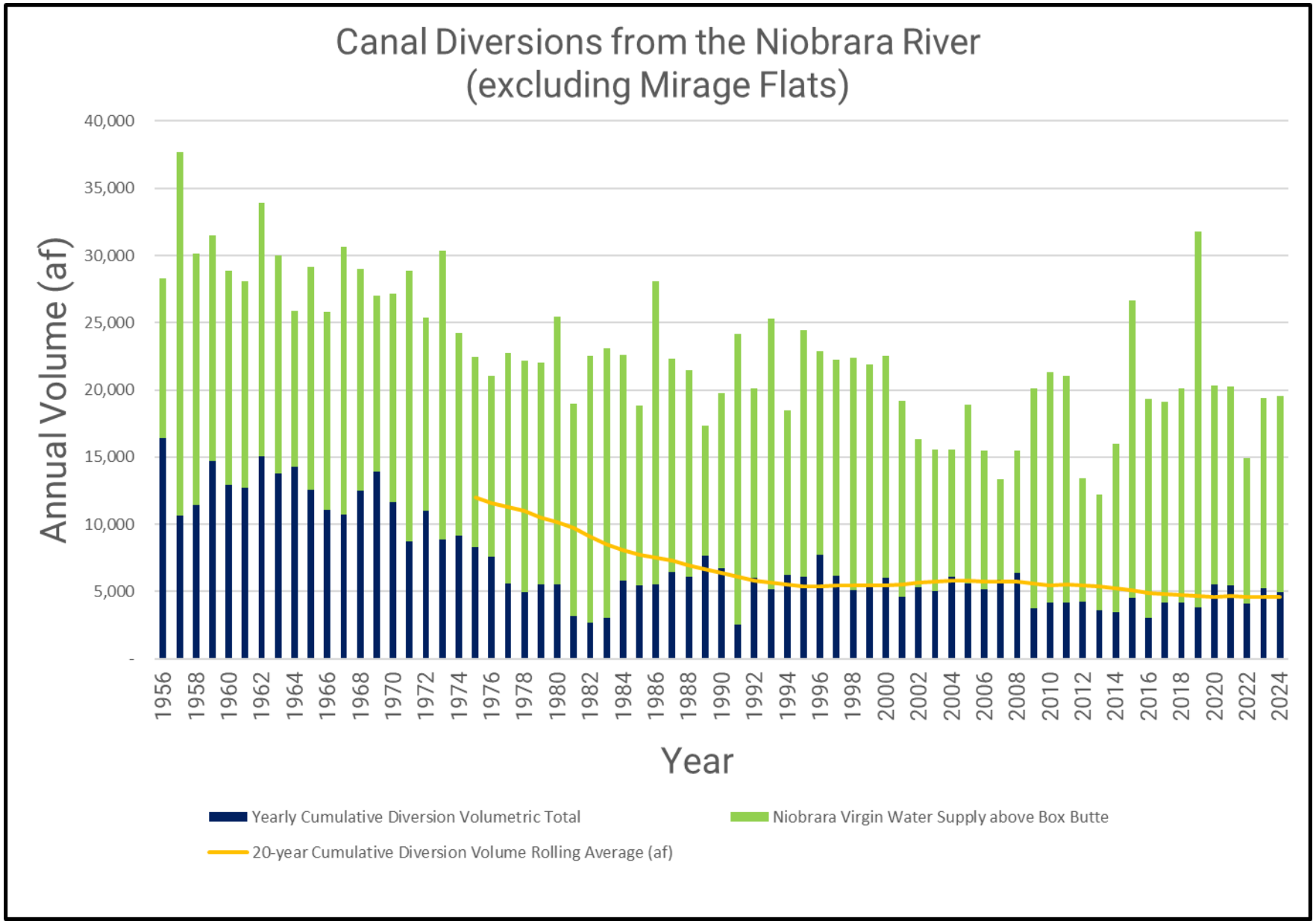

Hat Creek at Montrose
NeDNR #00062500
Discharge (cfs)
Volumetric Discharge (af)
160
140
120
100
80
60
40
20
0
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (2014)
Median Cumulative Volumetric Discharge (2024)
2024 Cumulative Volumetric Discharge
Minimum Cumulative Volumetric Discharge (2022)
2024 Mean Daily Discharge
Discharge Period of Record (2014-2024)


White River at Crawford
NeDNR #06444000
Discharge (cfs)
Volumetric Discharge (af)
60
50
40
30
20
10
0
25,000
20,000
15,000
10,000
5,000
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Maximum Cumulative Volumetric Discharge (1942)
2024 Cumulative Volumetric Discharge
Median Cumulative Volumetric Discharge (1998)
Minimum Cumulative Volumetric Discharge (2007)
2024 Mean Daily Discharge
Discharge Period of Record (1924-2024)

Date	Site Name	Discharge	Gage Height
4/30/2024	Armstrong Pump fr Niobrara River	0	
7/23/2024	Beaver Pump fr White River		
9/6/2024	Blust Pump fr White River	0	
9/10/2024	Chadron Creek at Hwy 20	0	
9/6/2024	Chasek Pump No. 3 fr White River	0	
4/30/2024	Cook Pump fr Niobrara River	0	
6/7/2024	Crawford City Park Pump fr White River	0	
8/8/2024	Crawford Golf Course PL Pump fr White River	0.3	
7/24/2024	Delsing Pump fr Niobrara River	0	
1/30/2024	Eitel Reservoir fr Trib to South Antelope Creek		17.86
2/28/2024	Eitel Reservoir fr Trib to South Antelope Creek		17.78
3/27/2024	Eitel Reservoir fr Trib to South Antelope Creek		14.91
5/10/2024	Eitel Reservoir fr Trib to South Antelope Creek		17.94
5/14/2024	Eitel Reservoir fr Trib to South Antelope Creek		17.68
5/16/2024	Eitel Reservoir fr Trib to South Antelope Creek		17.68
6/24/2024	Eitel Reservoir fr Trib to South Antelope Creek		15.93
7/10/2024	Eitel Reservoir fr Trib to South Antelope Creek		
10/8/2024	Eitel Reservoir fr Trib to South Antelope Creek		9.15
11/13/2024	Eitel Reservoir fr Trib to South Antelope Creek		7.68
12/12/2024	Eitel Reservoir fr Trib to South Antelope Creek		7.27
1/30/2024	Eitel Reservoir No. 1 fr South Antelope Creek		19.4
2/28/2024	Eitel Reservoir No. 1 fr South Antelope Creek		18.44
3/27/2024	Eitel Reservoir No. 1 fr South Antelope Creek		18.76
5/17/2024	Eitel Reservoir No. 1 fr South Antelope Creek		19.5
7/10/2024	Eitel Reservoir No. 1 fr South Antelope Creek		19.32
10/8/2024	Eitel Reservoir No. 1 fr South Antelope Creek		16.15
11/13/2024	Eitel Reservoir No. 1 fr South Antelope Creek		14.63
12/12/2024	Eitel Reservoir No. 1 fr South Antelope Creek		16.56
1/30/2024	Eitel Reservoir No. 2 fr South Antelope Creek		16.88
2/28/2024	Eitel Reservoir No. 2 fr South Antelope Creek		16.01
3/27/2024	Eitel Reservoir No. 2 fr South Antelope Creek		15.66
5/17/2024	Eitel Reservoir No. 2 fr South Antelope Creek		16.68
5/22/2024	Eitel Reservoir No. 2 fr South Antelope Creek		16.72
5/23/2024	Eitel Reservoir No. 2 fr South Antelope Creek		
5/29/2024	Eitel Reservoir No. 2 fr South Antelope Creek		16.6
6/25/2024	Eitel Reservoir No. 2 fr South Antelope Creek		16.34
7/10/2024	Eitel Reservoir No. 2 fr South Antelope Creek		15.56
10/8/2024	Eitel Reservoir No. 2 fr South Antelope Creek		12.05
11/13/2024	Eitel Reservoir No. 2 fr South Antelope Creek		13.59
11/22/2024	Eitel Reservoir No. 2 fr South Antelope Creek		13.98

Date	Site Name	Discharge/Volume	Gage Height
12/12/2024	Eitel Reservoir No. 2 fr South Antelope Creek		12.86
1/30/2024	Eitel Reservoir No. 3 fr South Antelope Creek		18.15
2/28/2024	Eitel Reservoir No. 3 fr South Antelope Creek		16.92
3/27/2024	Eitel Reservoir No. 3 fr South Antelope Creek		17
5/17/2024	Eitel Reservoir No. 3 fr South Antelope Creek		17.81
6/25/2024	Eitel Reservoir No. 3 fr South Antelope Creek		17.69
7/10/2024	Eitel Reservoir No. 3 fr South Antelope Creek		17.36
10/8/2024	Eitel Reservoir No. 3 fr South Antelope Creek	0	
11/13/2024	Eitel Reservoir No. 3 fr South Antelope Creek		14.43
12/12/2024	Eitel Reservoir No. 3 fr South Antelope Creek		15.69
1/30/2024	Eitel Reservoir No. 4 fr South Antelope Creek		17.12
2/28/2024	Eitel Reservoir No. 4 fr South Antelope Creek		16.78
3/27/2024	Eitel Reservoir No. 4 fr South Antelope Creek		16.98
5/10/2024	Eitel Reservoir No. 4 fr South Antelope Creek		18.39
5/16/2024	Eitel Reservoir No. 4 fr South Antelope Creek		18.32
5/22/2024	Eitel Reservoir No. 4 fr South Antelope Creek		18.3
5/23/2024	Eitel Reservoir No. 4 fr South Antelope Creek		18.3
6/24/2024	Eitel Reservoir No. 4 fr South Antelope Creek		18
7/10/2024	Eitel Reservoir No. 4 fr South Antelope Creek		17.56
10/8/2024	Eitel Reservoir No. 4 fr South Antelope Creek		13.3
11/13/2024	Eitel Reservoir No. 4 fr South Antelope Creek		13.33
12/12/2024	Eitel Reservoir No. 4 fr South Antelope Creek		14.25
7/11/2024	Enterprise Pump fr Niobrara River	0	
7/3/2024	Gieser's Pump		
7/25/2024	Gieser's Pump		
8/29/2024	Hall Pump fr White River	0	
7/23/2024	Harris-Cooper Canal fr White River	11.82	
8/8/2024	Harris-Cooper Canal fr White River	11.25	
7/8/2024	Hat Creek at CR 5 near Ardmore SD		
7/8/2024	Hat Creek at Geisers Culvert		
7/3/2024	Hoover Pump fr Niobrara River		
7/12/2024	Hoover Pump fr Niobrara River	0	
7/25/2024	Hoover Pump fr Niobrara River	0	
8/13/2024	Johnson Canal Diversion from Niobrara River		
8/14/2024	Johnson Canal Spill	0	
8/27/2024	Lichte Canal at Old Dunlap Rd	0	0
7/8/2024	Long Branch Creek at Hat Creek Rd near Ardmore SD	0	
9/6/2024	Mader Pump fr White River	0	
9/6/2024	Mccance Pump fr White River	0	
8/27/2024	Montague Canal from Niobrara River	0	0

Date	Site Name	Discharge/Volume	Gage Height
7/24/2024	Montague Canal Pump fr Niobrara River	0	
8/27/2024	Montague Canal Pump fr Niobrara River		
9/6/2024	Newman Pump fr White River		
7/12/2024	Niobrara River at Wilson's Culvert (5' culvert)	2.91	
7/3/2024	Niobrara River Passing Lakotah Diversion	0	
9/6/2024	Palser Pump fr White River	0	
7/8/2024	Schaefer Pump from Andrews Reservoir		
9/6/2024	Schumacher Pump fr White River	0	
1/29/2024	South Antelope Creek at Oldaker Culvert	0.46	
2/27/2024	South Antelope Creek at Oldaker Culvert	0.29	
3/15/2024	South Antelope Creek at Oldaker Culvert		
3/22/2024	South Antelope Creek at Oldaker Culvert		
3/25/2024	South Antelope Creek at Oldaker Culvert		
3/26/2024	South Antelope Creek at Oldaker Culvert		
3/27/2024	South Antelope Creek at Oldaker Culvert	0	
4/5/2024	South Antelope Creek at Oldaker Culvert	0.26	1.98
5/29/2024	South Antelope Creek at Oldaker Culvert		2.77
5/30/2024	South Antelope Creek at Oldaker Culvert		2.79
7/10/2024	South Antelope Creek at Oldaker Culvert		2.58
11/18/2024	South Antelope Creek at Oldaker Culvert	0.65	2.57
12/13/2024	South Antelope Creek at Oldaker Culvert	0.06	2.58
1/29/2024	South Antelope Creek at Schnurr Rd	0.38	
2/27/2024	South Antelope Creek at Schnurr Rd	0.16	
3/27/2024	South Antelope Creek at Schnurr Rd	0.23	
11/18/2024	South Antelope Creek at Schnurr Rd	0.07	
12/13/2024	South Antelope Creek at Schnurr Rd	0.13	
1/29/2024	South Antelope Creek at Whitman Rd	0.47	


Canal Diversions from the Niobrara River
(excluding Mirage Flats)
Annual Volume (af)
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
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1992
1994
1996
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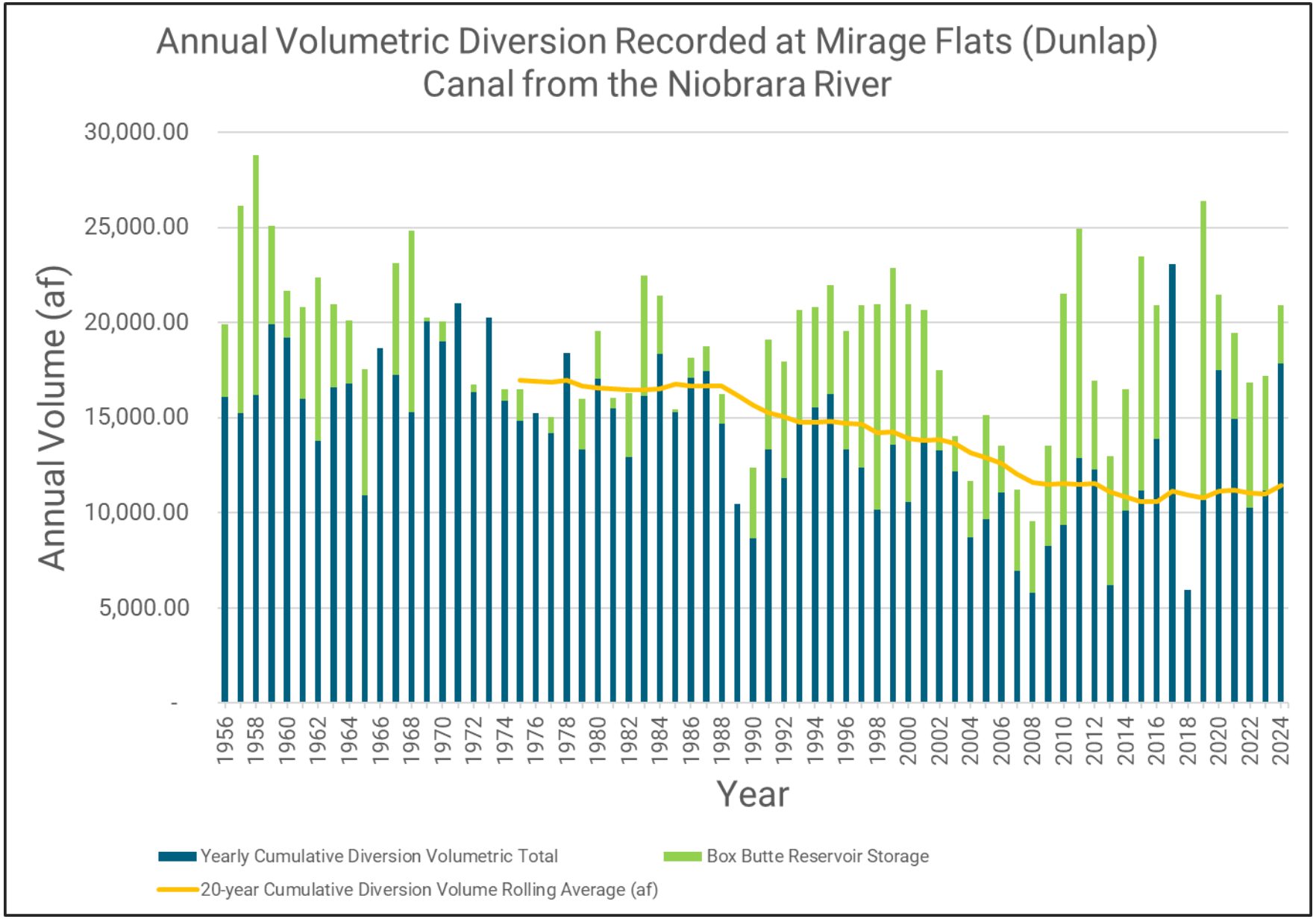
2008
2010
2012
2014
2016
2018
2020
2022
2024
Year
Yearly Cumulative Diversion Volumetric Total
Niobrara Virgin Water Supply above Box Butte
20-year Cumulative Diversion Volume Rolling Average (af)


Annual Volumetric Diversion Recorded at Mirage Flats (Dunlap) Canal from the Niobrara River
Annual Volume (af)
30,000.00
25,000.00
20,000.00
15,000.00
10,000.00
5,000.00
-
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
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1998
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2002
2004
2006
2008
2010
2012
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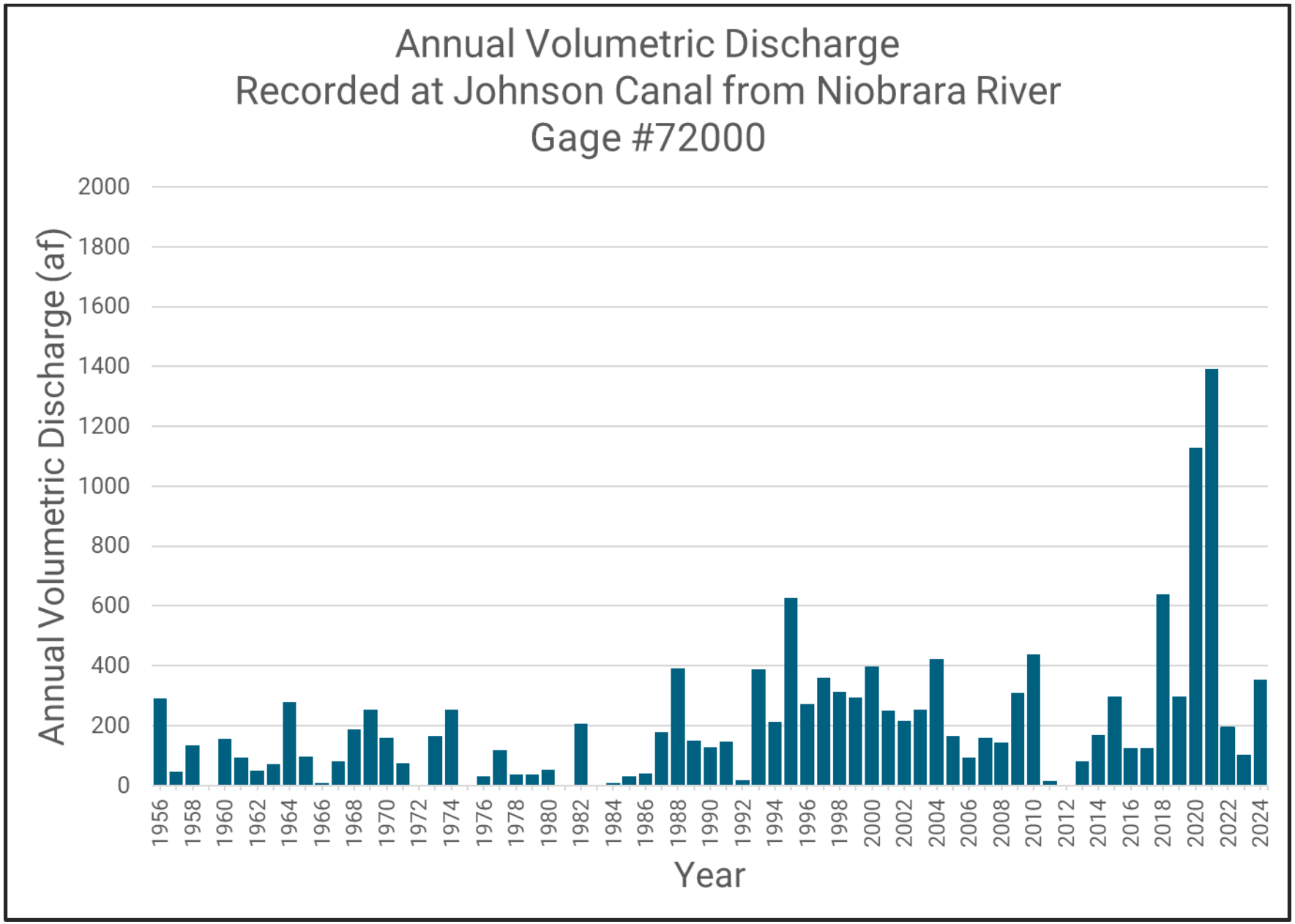
2016
2018
2020
2022
2024
Year
Yearly Cumulative Diversion Volumetric Total
Box Butte Reservoir Storage
20-year Cumulative Diversion Volume Rolling Average (af)


Annual Volumetric Discharge
Recorded at Johnson Canal from Niobrara River
Gage #72000
Annual Volumetric Discharge (af)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
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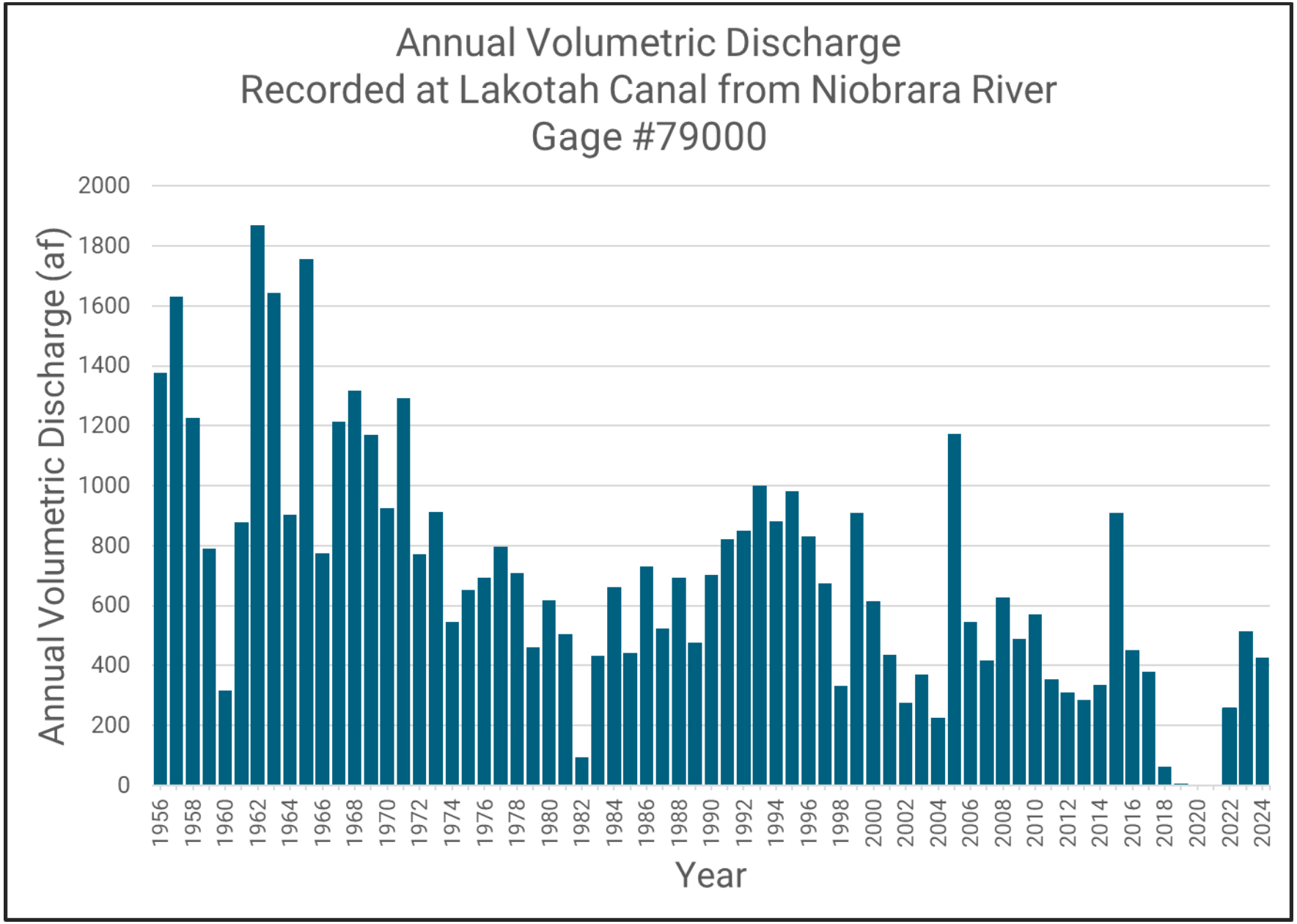
2018
2020
2022
2024
Year


Annual Volumetric Discharge
Recorded at Lakotah Canal from Niobrara River
Gage #79000
Annual Volumetric Discharge (af)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1956
1958
1960
1962
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1966
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1972
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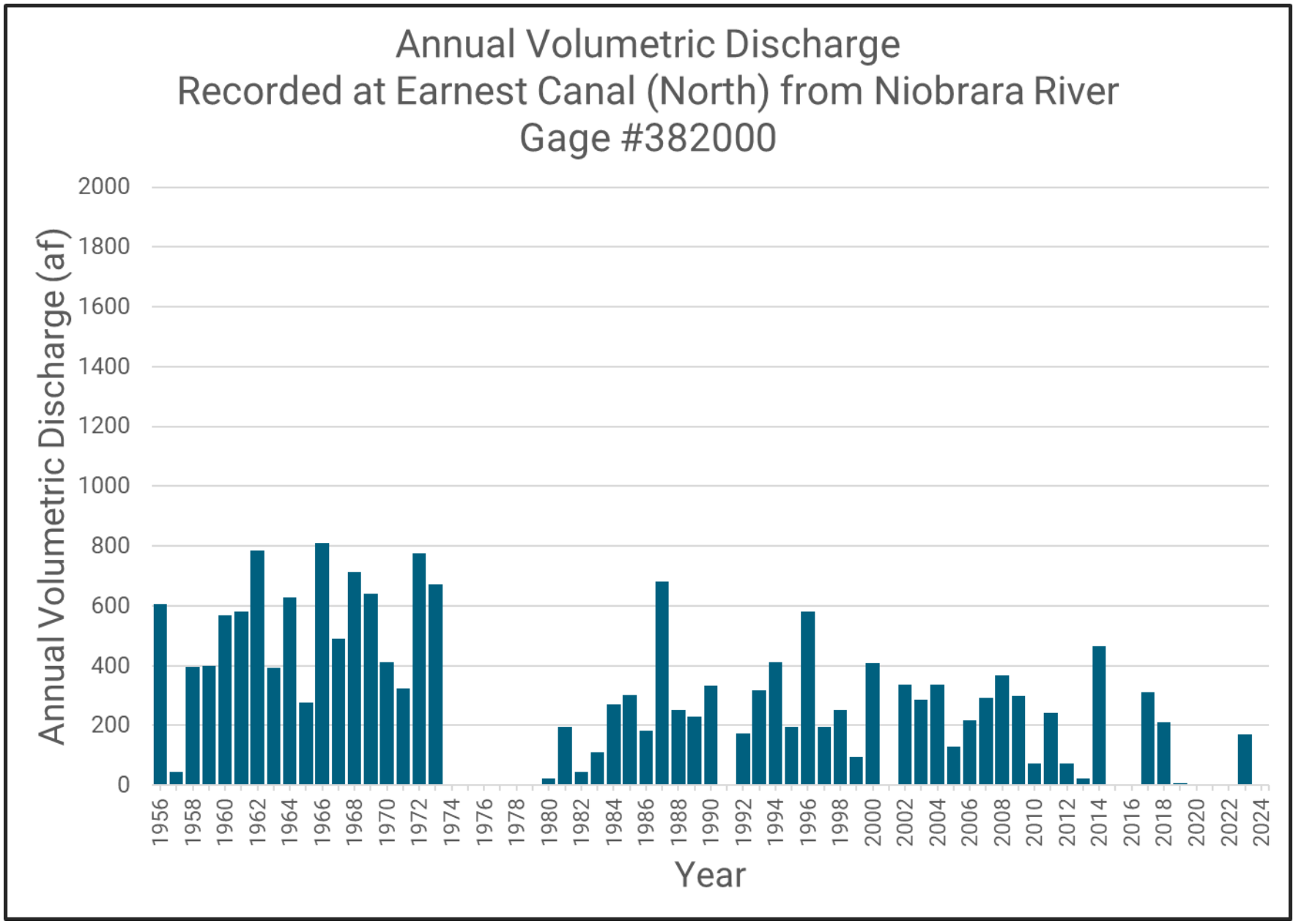
2018
2020
2022
2024
Year


Annual Volumetric Discharge
Recorded at Earnest Canal (North) from Niobrara River
Gage #382000
Annual Volumetric Discharge (af)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1956
1958
1960
1962
1964
1966
1968
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1972
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2018
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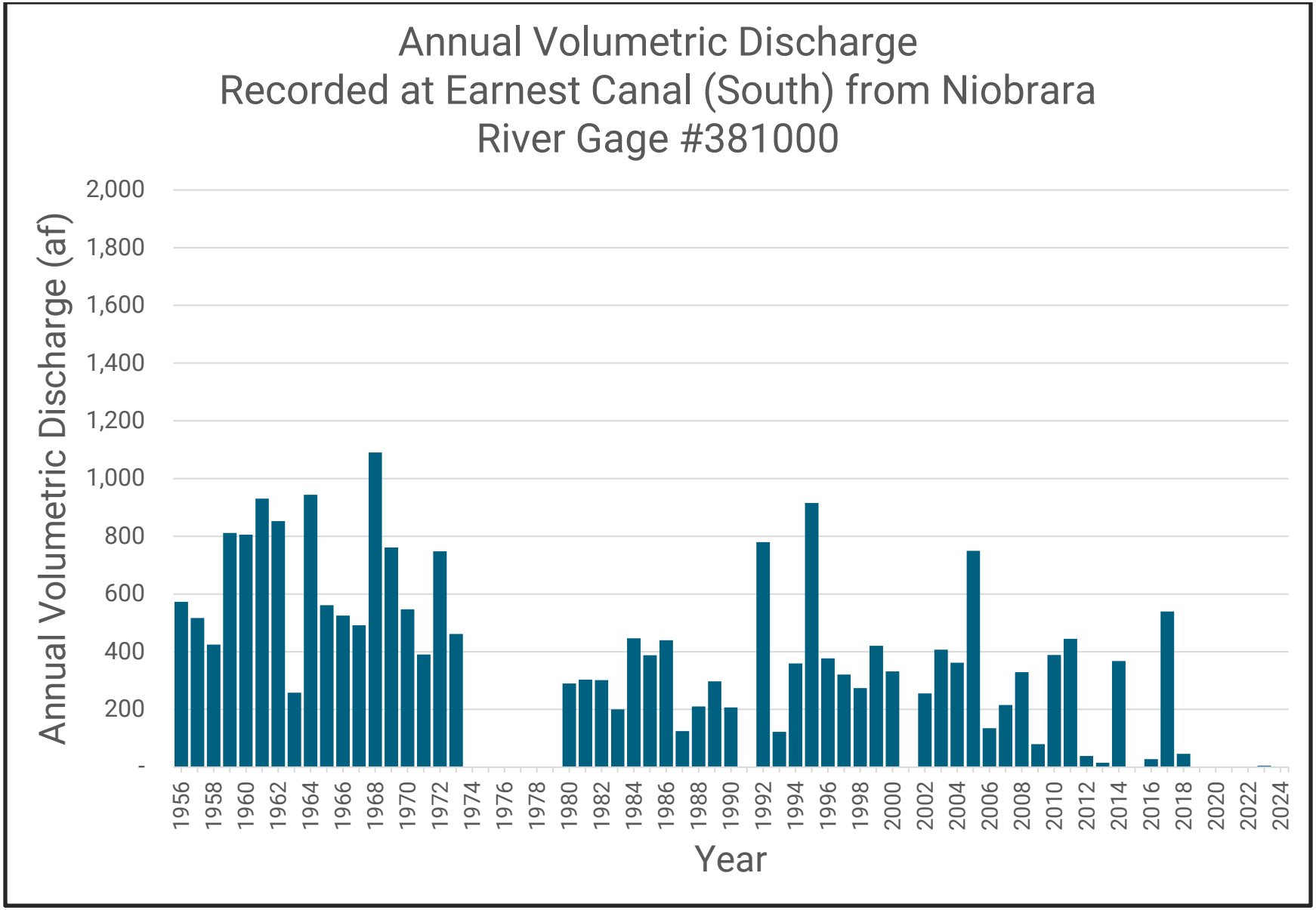
2022
2024
Year


Annual Volumetric Discharge
Recorded at Earnest Canal (South) from Niobrara River Gage #381000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
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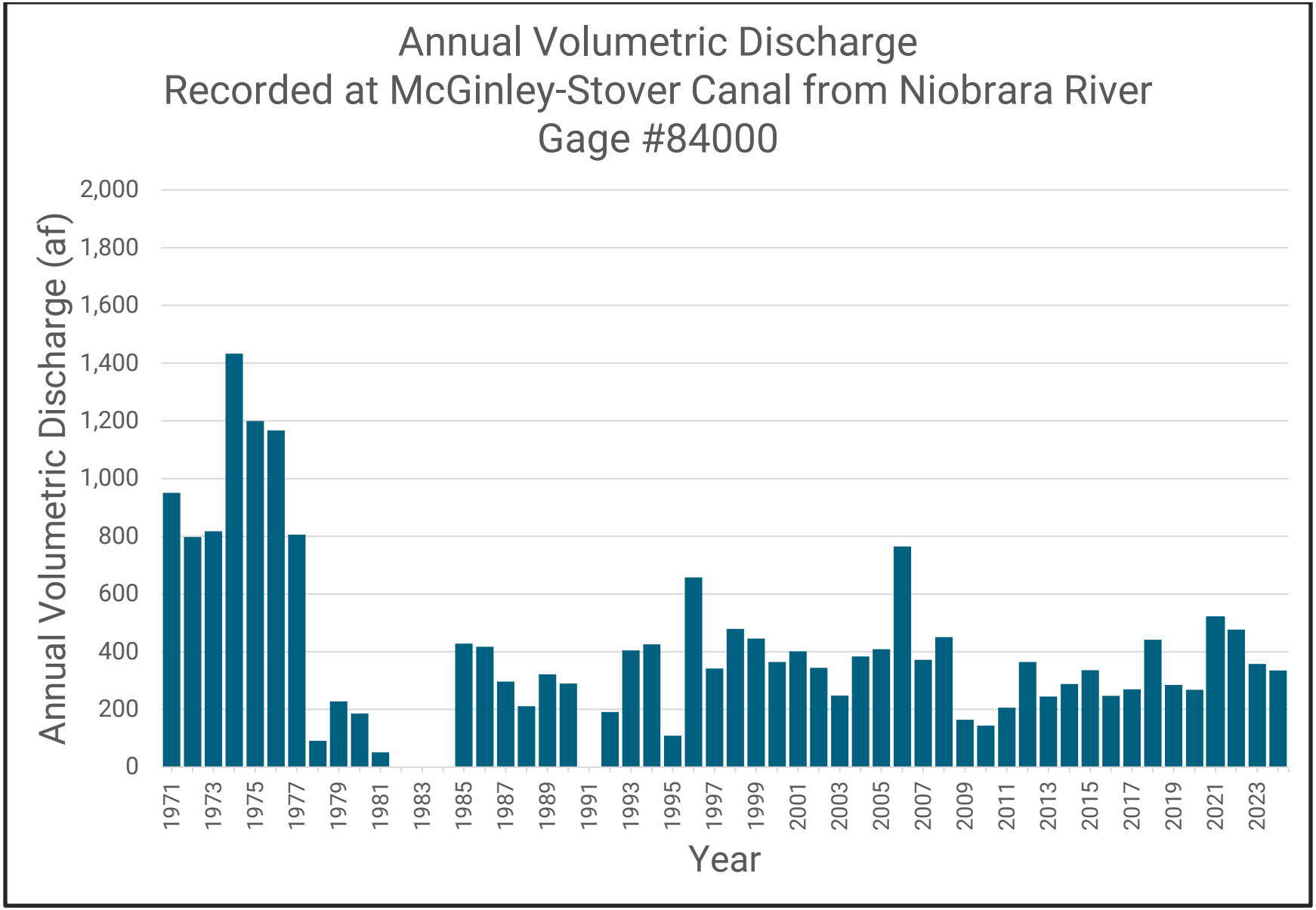
2018
2020
2022
2024
Year


Annual Volumetric Discharge
Recorded at McGinley-Stover Canal from Niobrara River
Gage #84000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
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1997
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2001
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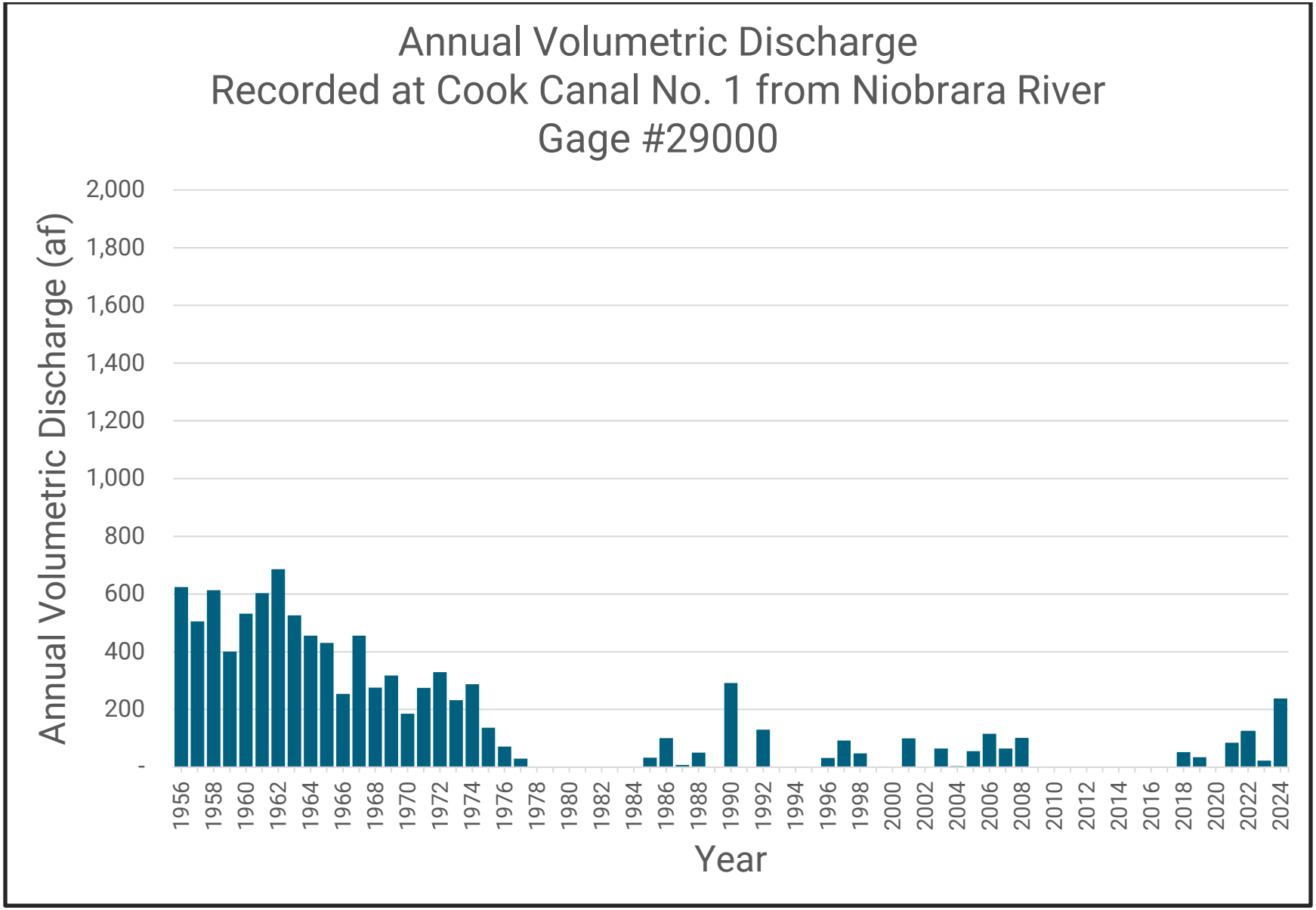
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
Year


Annual Volumetric Discharge
Recorded at Cook Canal No. 1 from Niobrara River
Gage #29000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
1968
1970
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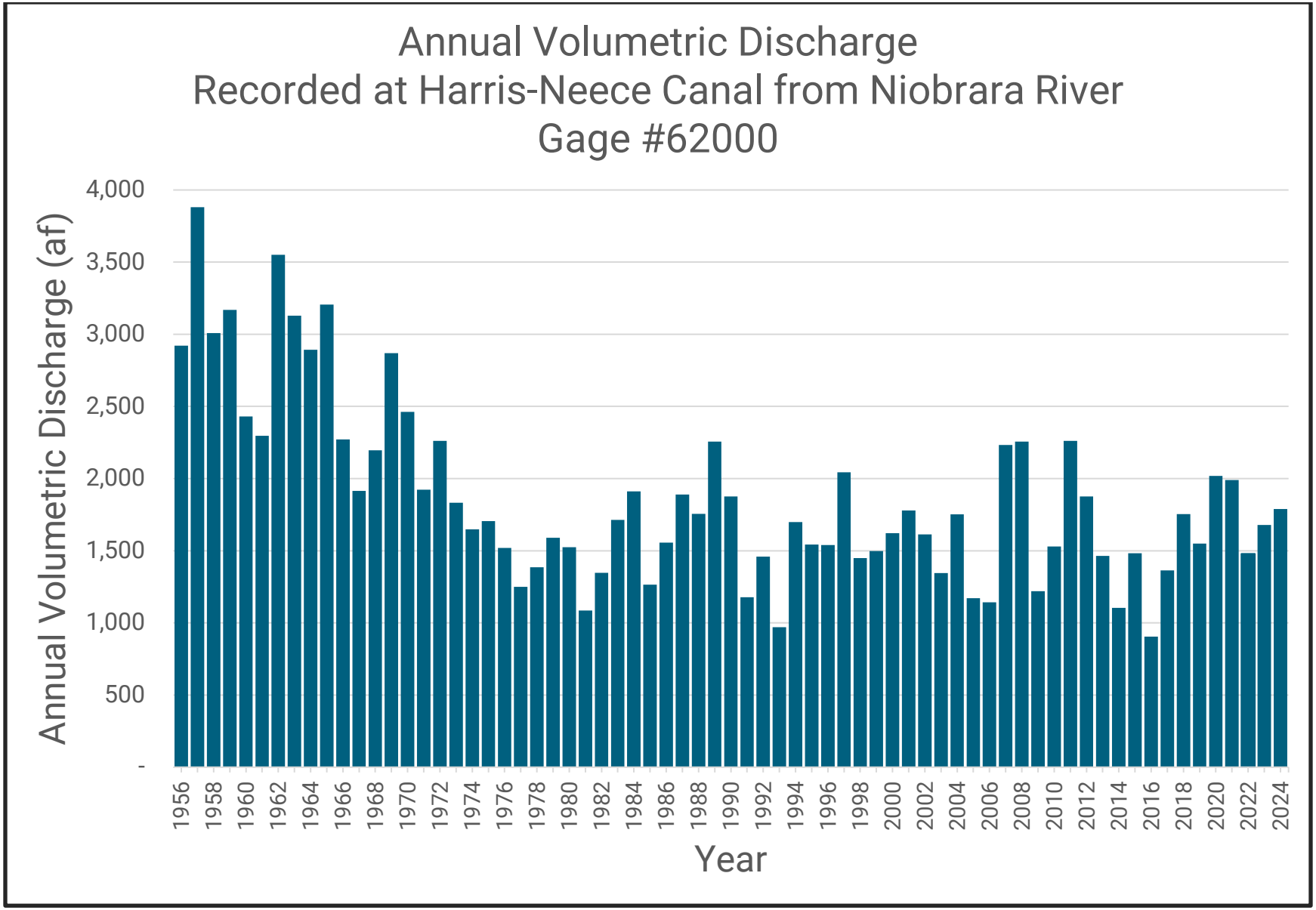
2022
2024
Year


Annual Volumetric Discharge
Recorded at Harris-Neece Canal from Niobrara River
Gage #62000
Annual Volumetric Discharge (af)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
1956
1958
1960
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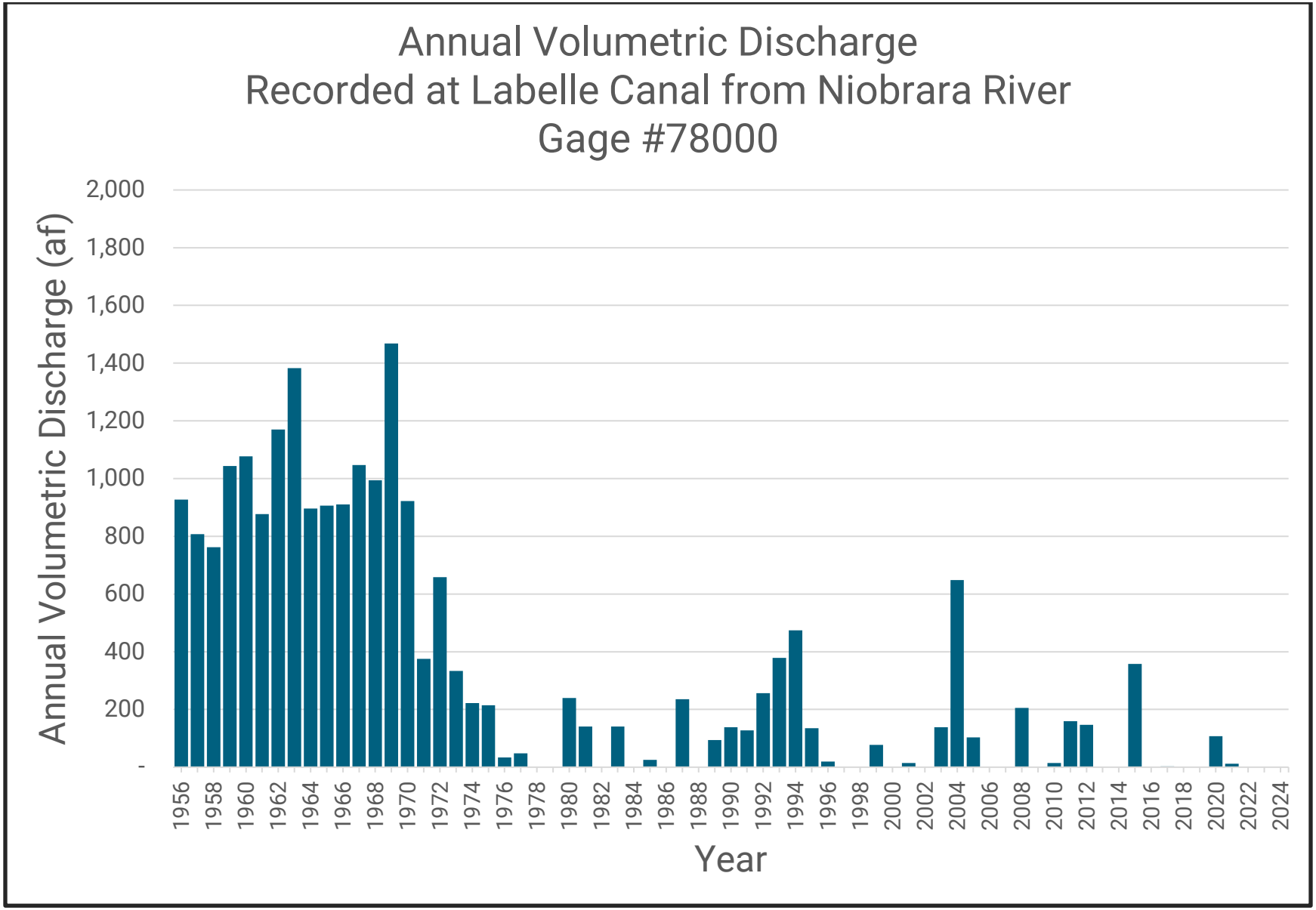
2022
2024
Year


Annual Volumetric Discharge
Recorded at Labelle Canal from Niobrara River
Gage #78000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
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1956
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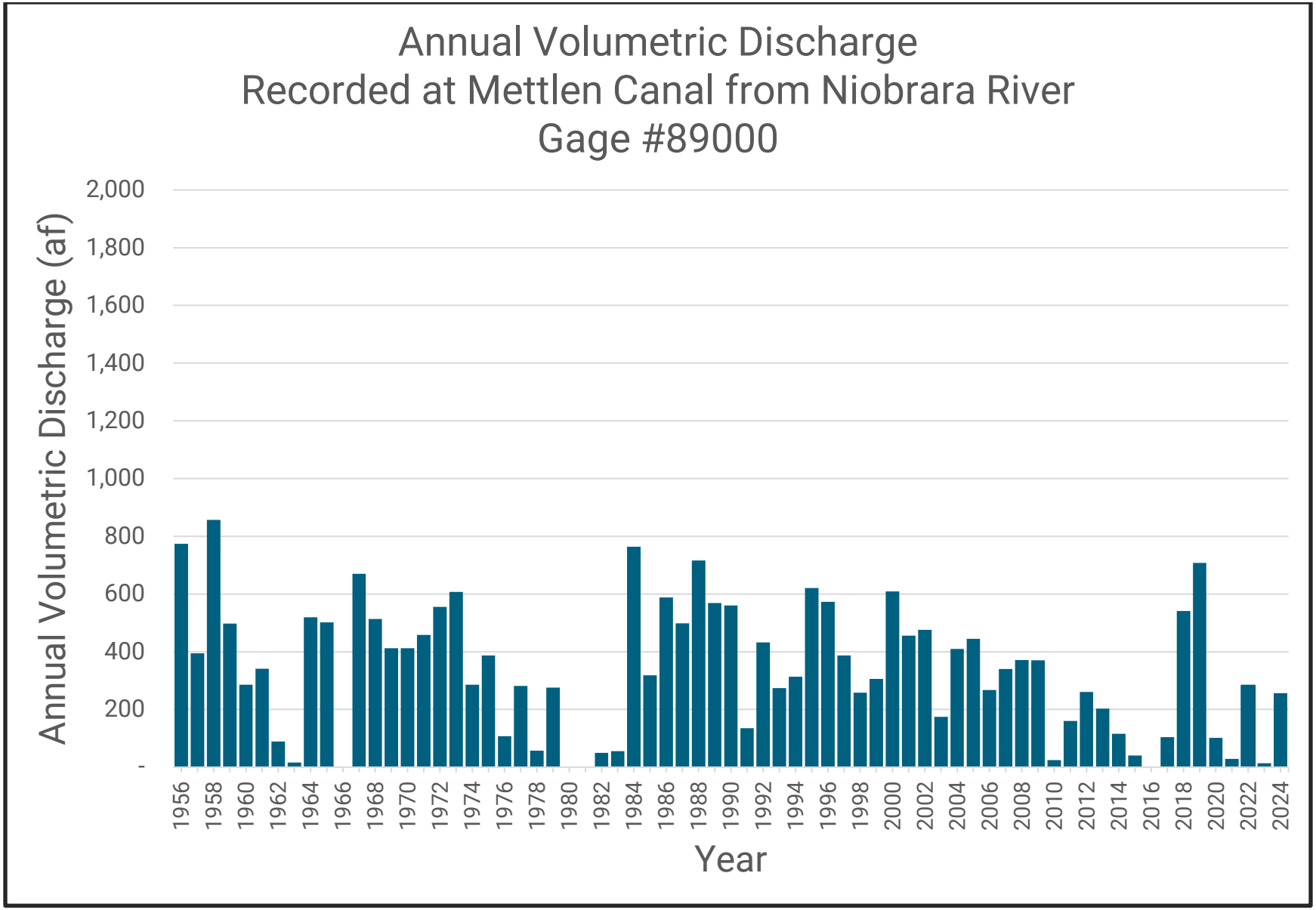
2022
2024
Year


Annual Volumetric Discharge
Recorded at Mettlen Canal from Niobrara River
Gage #89000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
1968
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2022
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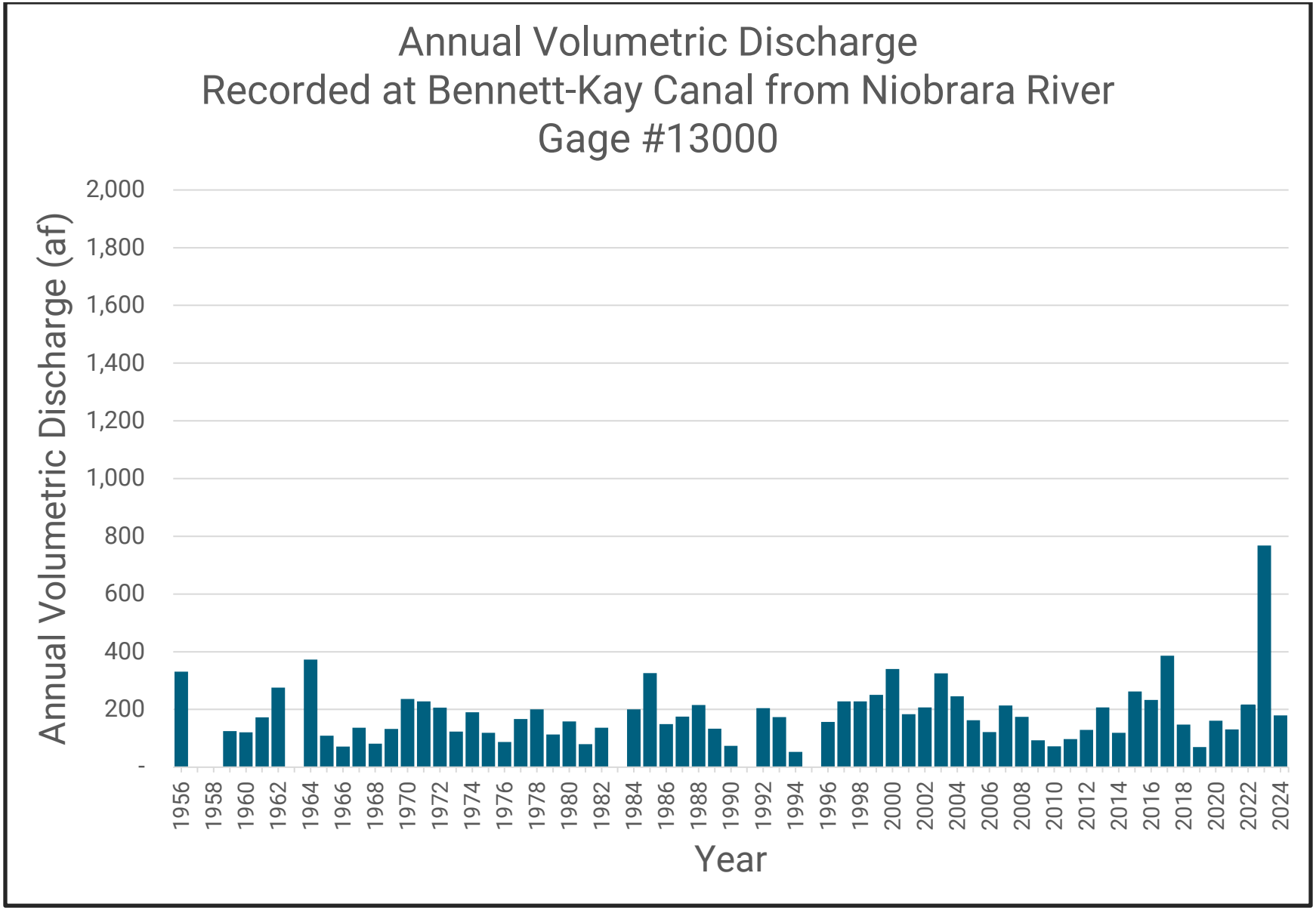
Year


Annual Volumetric Discharge
Recorded at Bennett-Kay Canal from Niobrara River
Gage #13000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
1968
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2022
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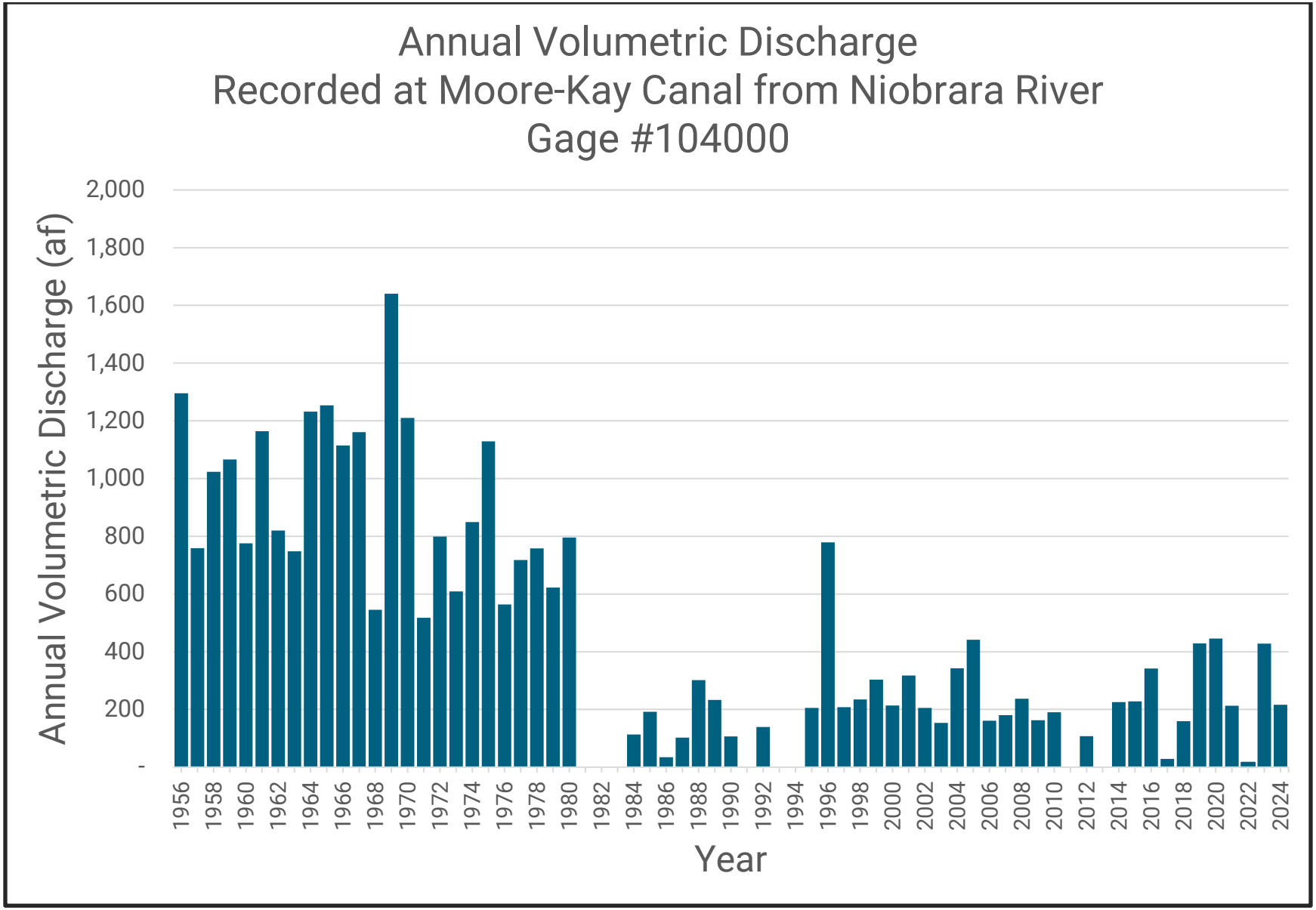
Year


Annual Volumetric Discharge
Recorded at Moore-Kay Canal from Niobrara River
Gage #104000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
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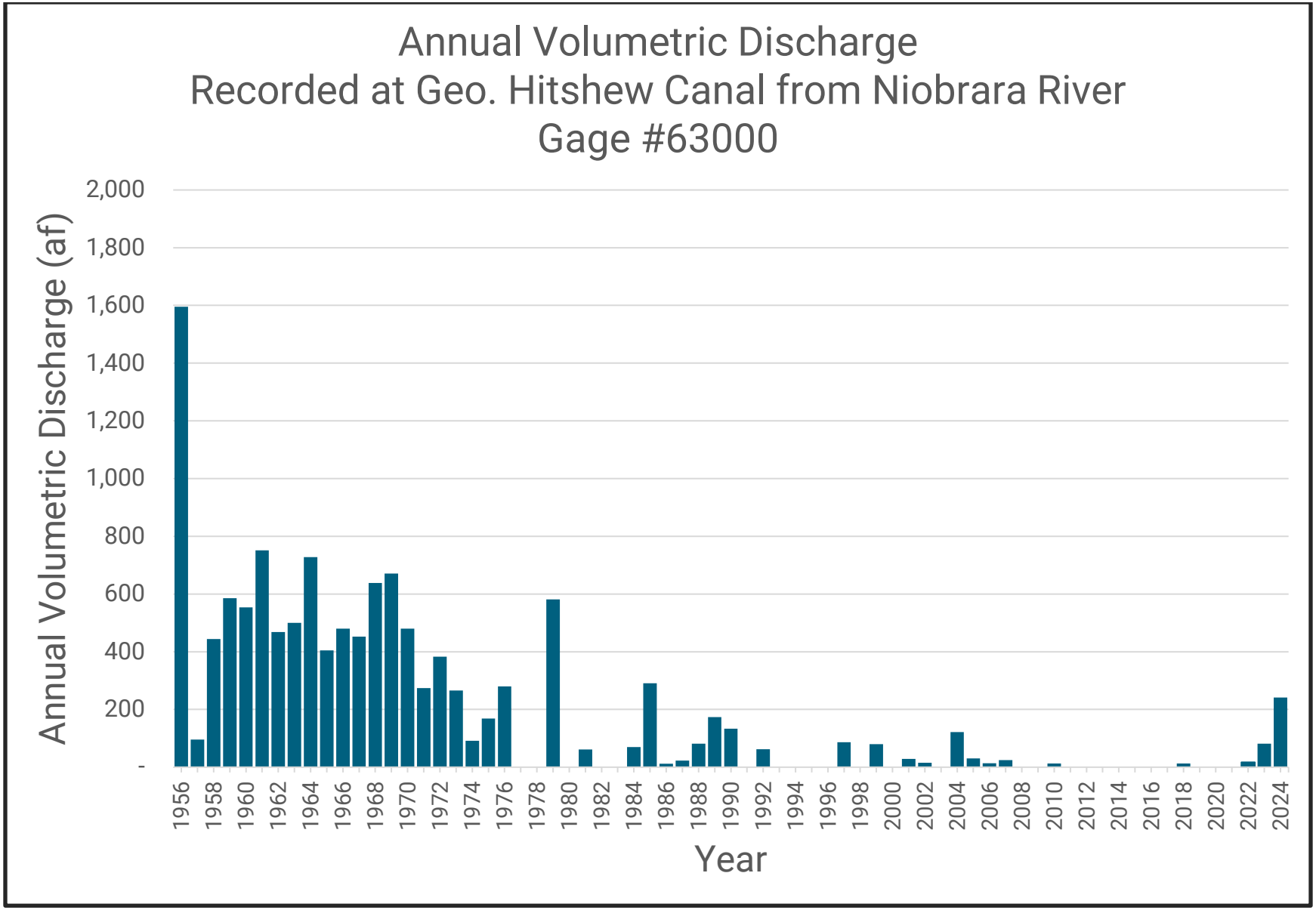
2022
2024
Year


Annual Volumetric Discharge
Recorded at Geo. Hitshew Canal from Niobrara River
Gage #63000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
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1962
1964
1966
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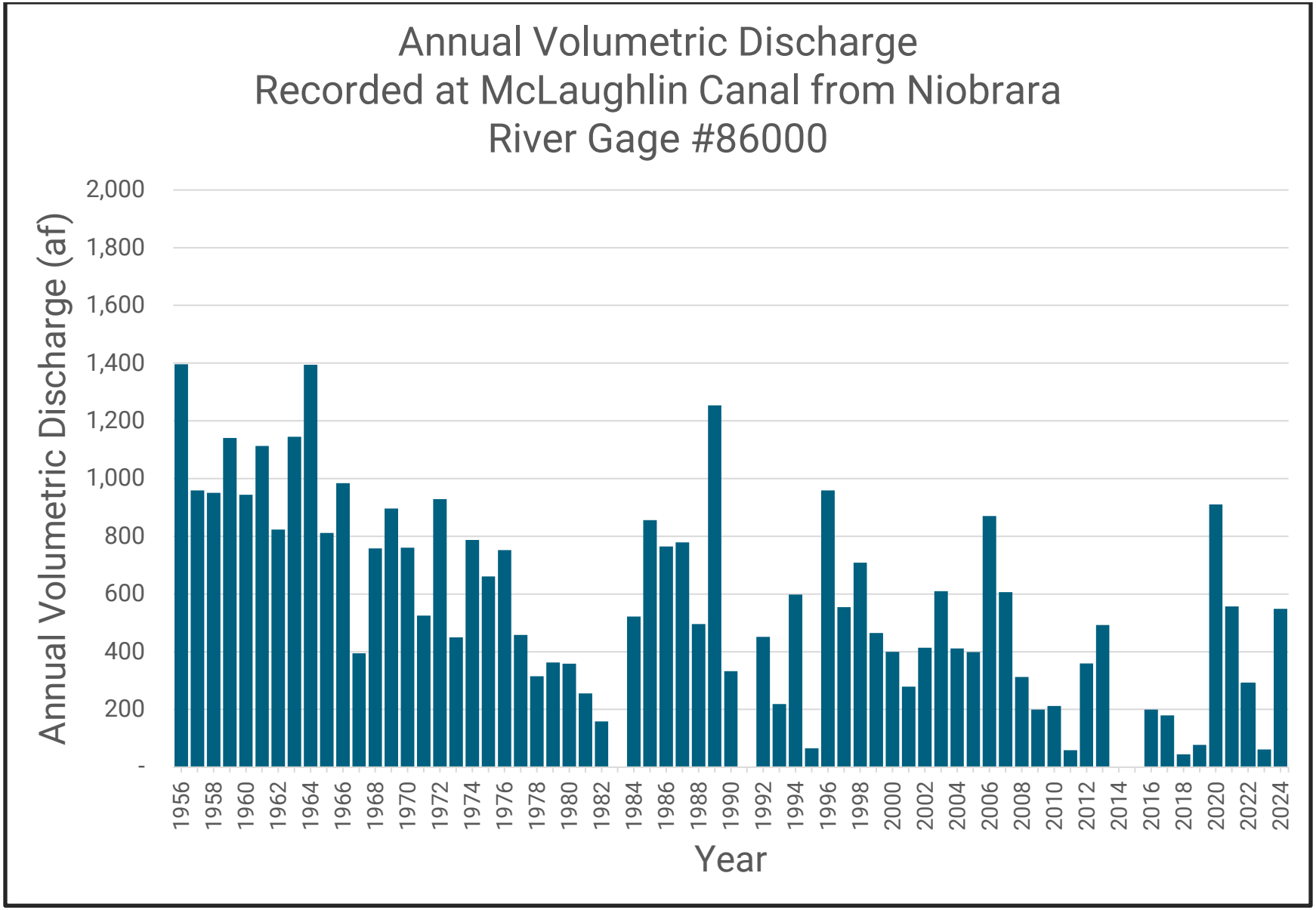
2022
2024
Year


Annual Volumetric Discharge
Recorded at McLaughlin Canal from Niobrara
River Gage #86000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
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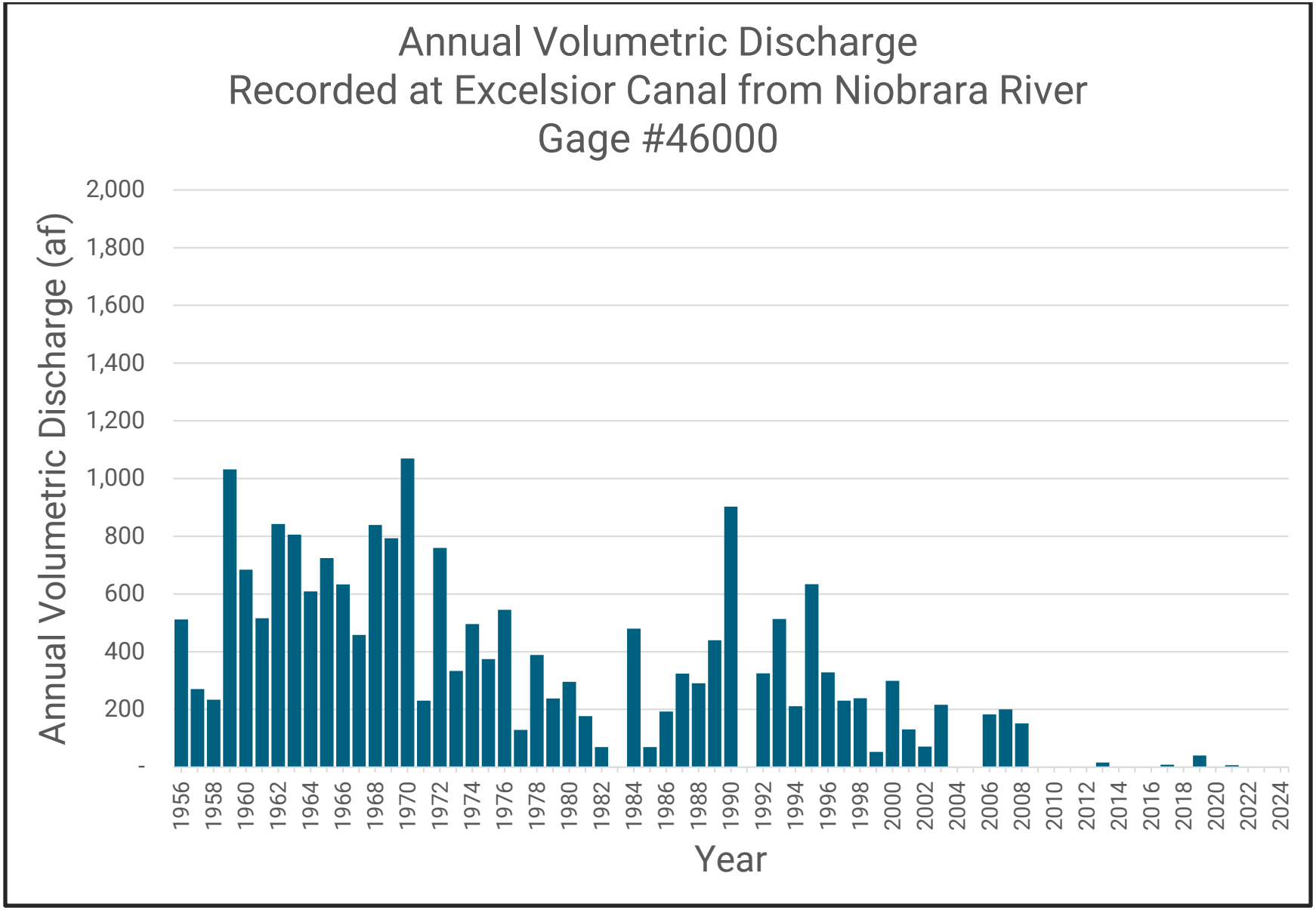
2022
2024
Year


Annual Volumetric Discharge
Recorded at Excelsior Canal from Niobrara River
Gage #46000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
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2022
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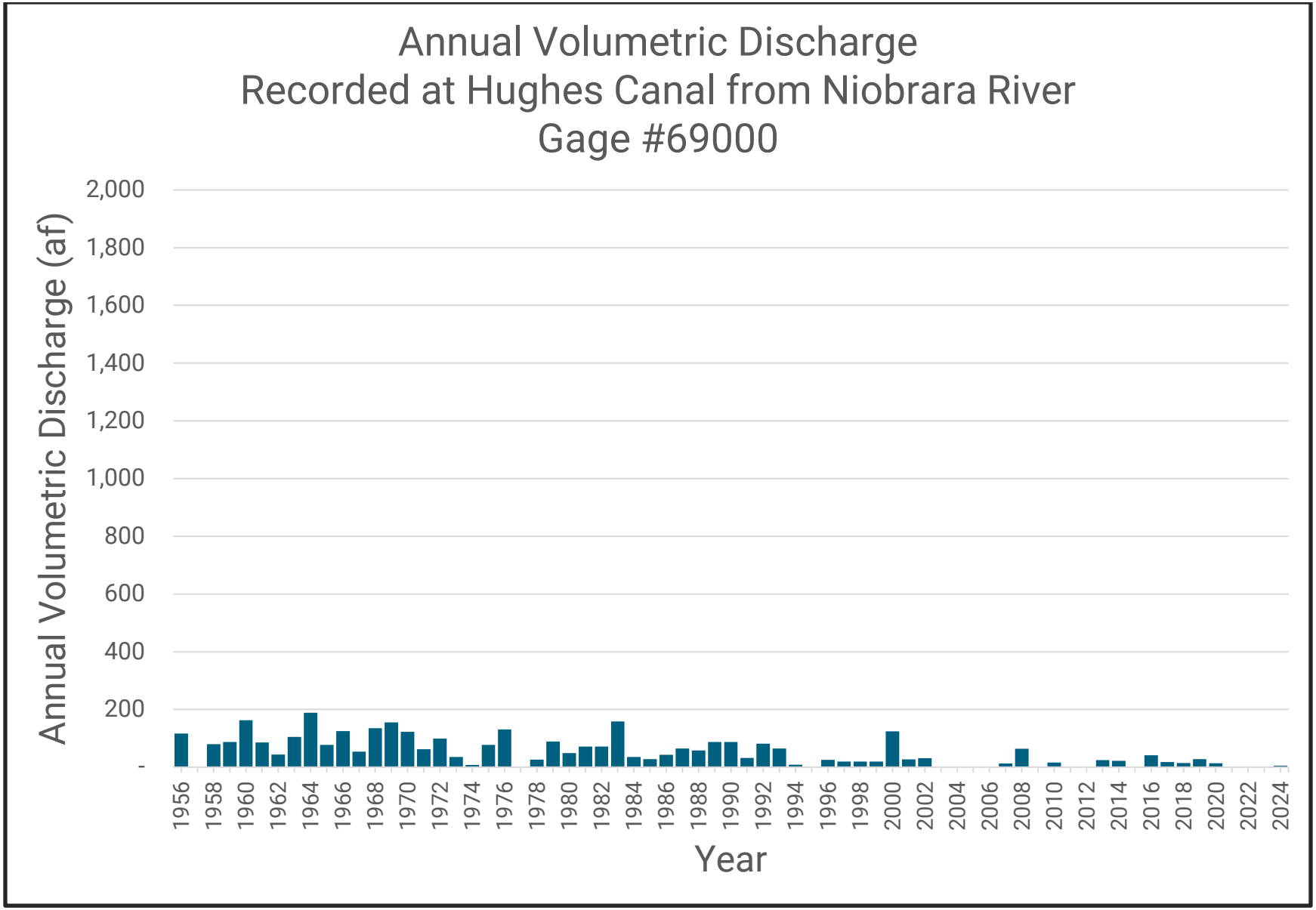
Year


Annual Volumetric Discharge
Recorded at Hughes Canal from Niobrara River
Gage #69000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
1956
1958
1960
1962
1964
1966
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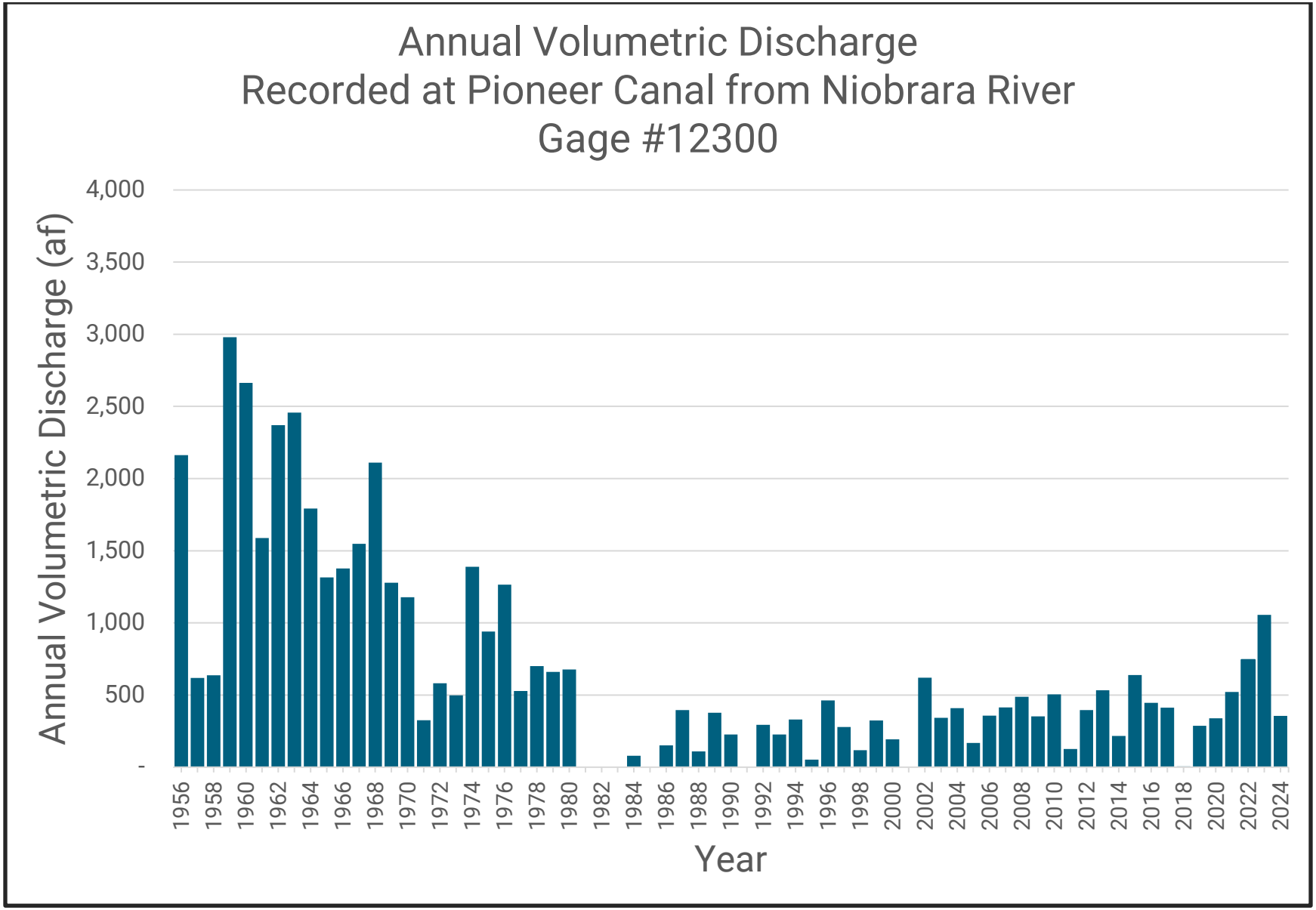
2022
2024
Year


Annual Volumetric Discharge
Recorded at Pioneer Canal from Niobrara River
Gage #12300
Annual Volumetric Discharge (af)
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
1956
1958
1960
1962
1964
1966
1968
1970
1972
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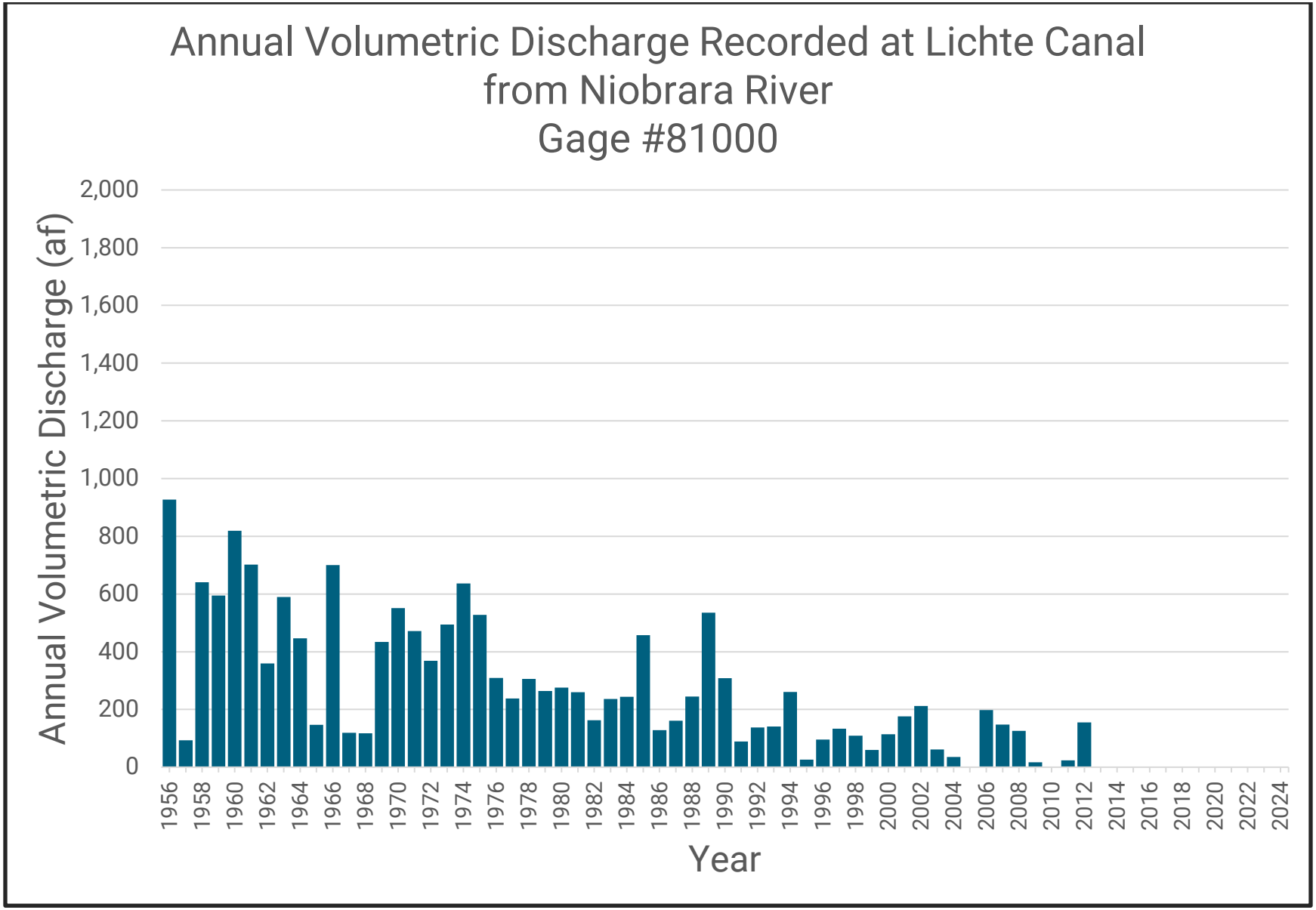
2022
2024
Year


Annual Volumetric Discharge Recorded at Lichte Canal from Niobrara River Gage #81000
Annual Volumetric Discharge (af)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
1956
1958
1960
1962
1964
1966
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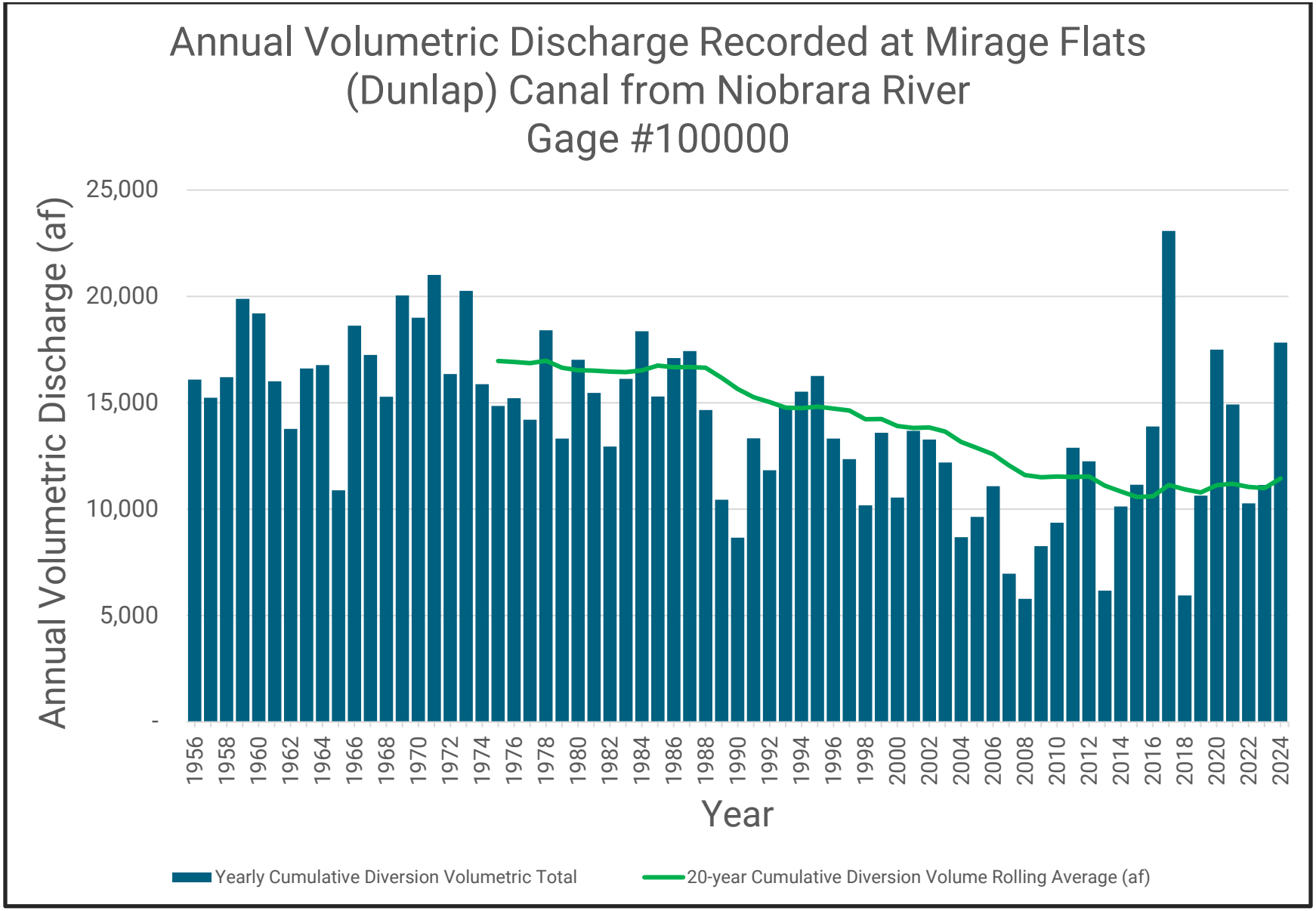
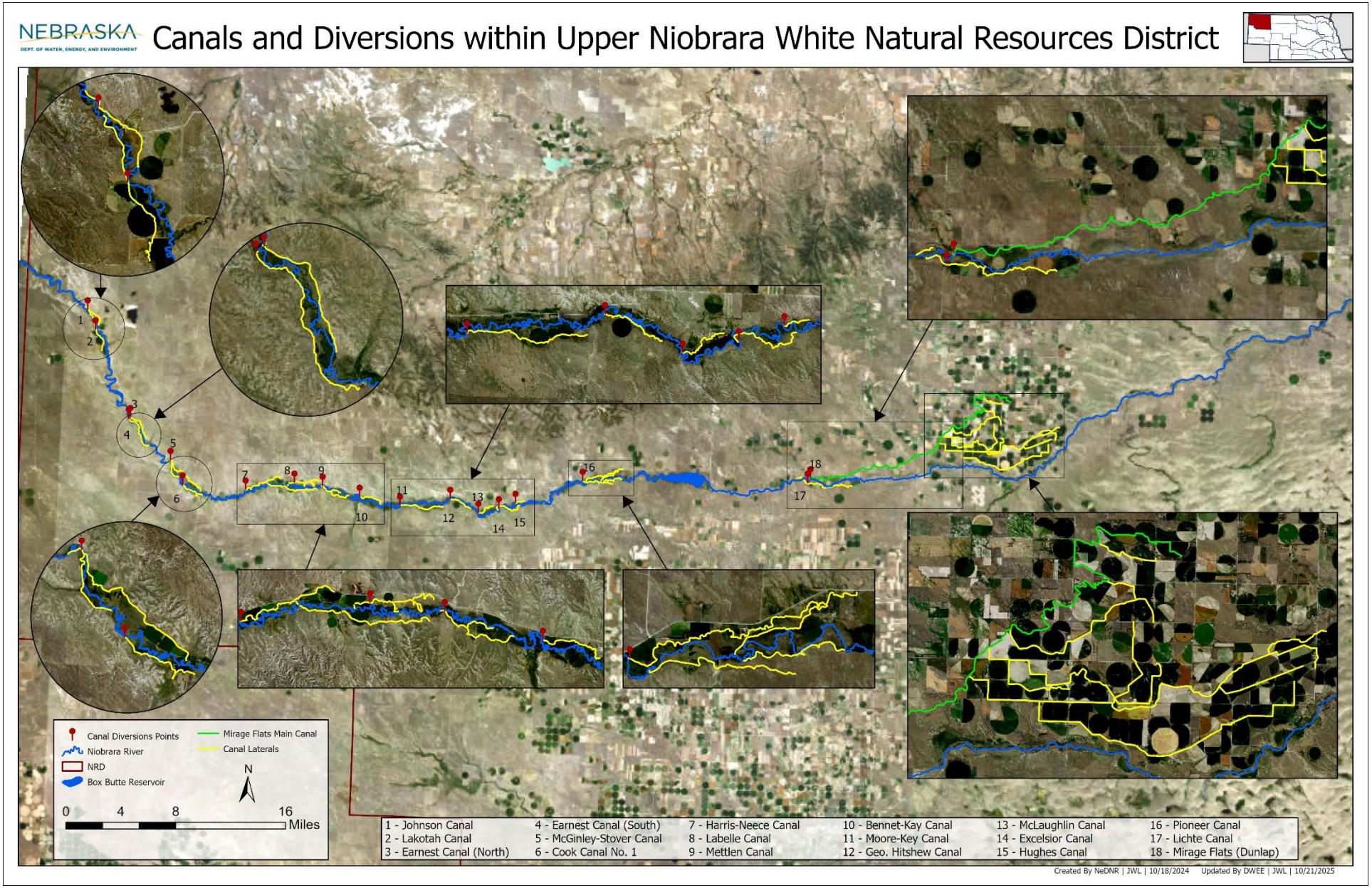
2012
2014
2016
2018
2020
2022
2024
Year


Annual Volumetric Discharge Recorded at Mirage Flats (Dunlap) Canal from Niobrara River Gage #100000
Annual Volumetric Discharge (af)
25,000
20,000
15,000
10,000
5,000
-
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
Year
Yearly Cumulative Diversion Volumetric Total
20-year Cumulative Diversion Volume Rolling Average (af)


NEBRASKA
DEPT. OF WATER, ENERGY, AND ENVIRONMENT
Canals and Diversions within Upper Niobrara White Natural Resources District
Canal Diversions Points
Niobrara River
NRD
Box Butte Reservoir
Mirage Flats Main Canal
Canal Laterals
N
0 4 8 16
Miles
1 - Johnson Canal
2 - Lakotah Canal
3 - Earnest Canal (North)
4 - Earnest Canal (South)
5 - McGinley-Stover Canal
6 - Cook Canal No. 1
7 - Harris-Neece Canal
8 - Labelle Canal
9 - Mettlen Canal
10 - Bennet-Kay Canal
11 - Moore-Key Canal
12 - Geo. Hitshew Canal
13 - McLaughlin Canal
14 - Excelsior Canal
15 - Hughes Canal
16 - Pioneer Canal
17 - Lichte Canal
18 - Mirage Flats (Dunlap)
Created By NeDNR | JWL | 10/18/2024
Updated By DWEE | JWL | 10/21/2025

NEBRASKA ADMINISTRATIVE CODE

Title 457 - DEPARTMENT OF NATURAL RESOURCES RULES FOR SURFACE WATER

Chapter 23 - MORATORIUM AREA VARIANCES FOR SURFACE WATER APPROPRIATIONS

001 PETITION FOR LEAVE TO FILE OR CONSIDER AN APPLICATION. Any person wanting to apply for a new surface water appropriation within a moratorium or stay area must file a petition in the Department requesting leave to file an application. The petition must be accompanied by a copy of the completed proposed application. The application shall not be considered filed at the time it is submitted with the petition. Anyone who currently has an unapproved application on file in the Department for a new appropriation for a project that is within a moratorium or stay area must file a petition requesting a variance to the moratorium or stay. The fee for filing the petitions shall be that described in § 33-105(8) R.R.S. 1943, as amended.

The petition shall include sufficient information to indicate:

001.01 The proposed project is for a non-consumptive use; or

001.02 The applicant has a credible proposal for replacing any consumptive use that will occur in a manner such that the project will not harm other users; or

001.03 The applicant has credible information that indicates there **may be** unappropriated water available at the proposed location at the time the depletion is likely to occur; or

001.04 The project existed prior to any informal moratorium, formal moratorium or stay.

001.05 There is a public safety issue that must be addressed and the proposed project addresses such issue.

001.06 The proposed use is a temporary use for public construction and the total volume requested is less than ten (10) acre-feet.

002 REVIEW. The Department shall review the information provided with the petition and shall make a determination as to whether it is sufficient to indicate good cause for allowing further consideration of the application.

003 DECISION. A written decision shall be issued. The decision shall either deny the petition and state the reasons for such denial, or grant the petition and state either (a) the

petitioner may file the application and supporting documentation, or (b) the Department will proceed to process the existing filed application. Any decision approving a petition shall not bind the Director to approve any application to which it relates, or in any way be used as evidence of prejudice for the Director's future decisions concerning the specific approval requirements of such application. Allowance of a leave to file does not negate the necessity to meet the specific approval requirements for an appropriation.

004 APPEAL. If the petitioner wishes to appeal the decision of the Department, he or she may request a hearing before the Department within 15 days of the date the decision is rendered in accordance with the Department's Rules of Practice and Procedure, Title 454.