

Water Plan Updates

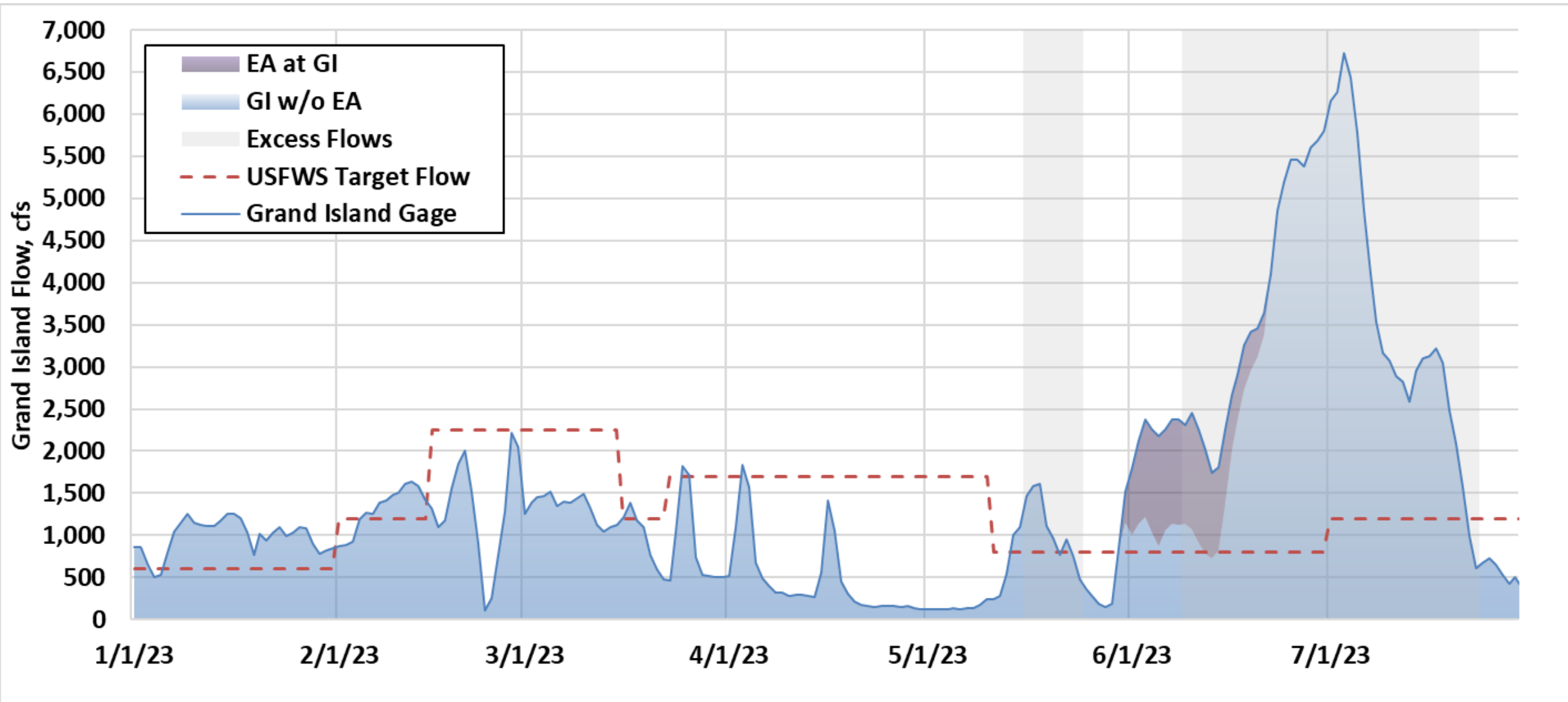
Seth Turner

Platte River Recovery Implementation Program

Water Advisory Committee Meeting

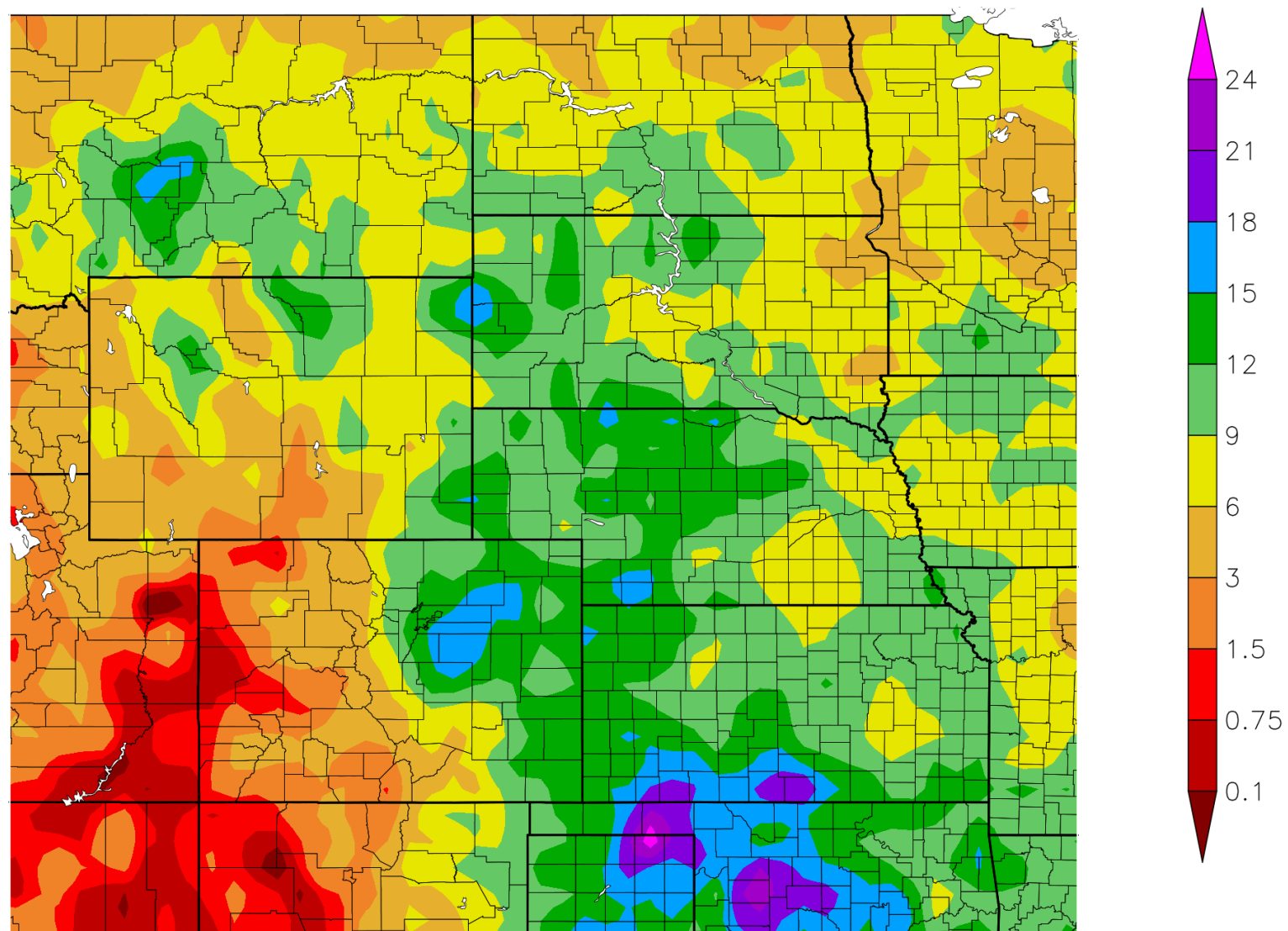
August 1, 2023

Platte Basin Hydrology – Grand Island Flow



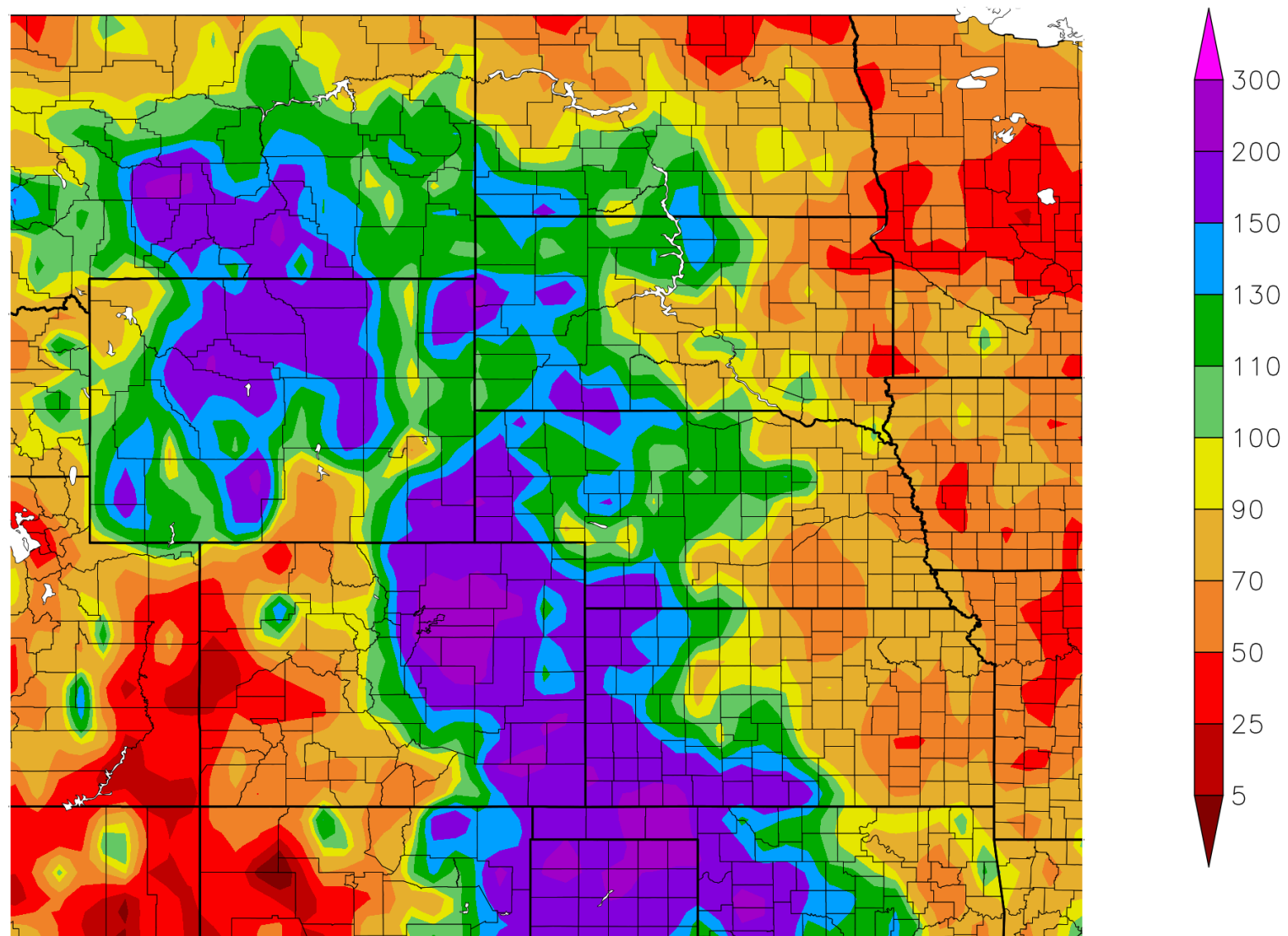
Precipitation (in)

5/2/2023 – 7/30/2023

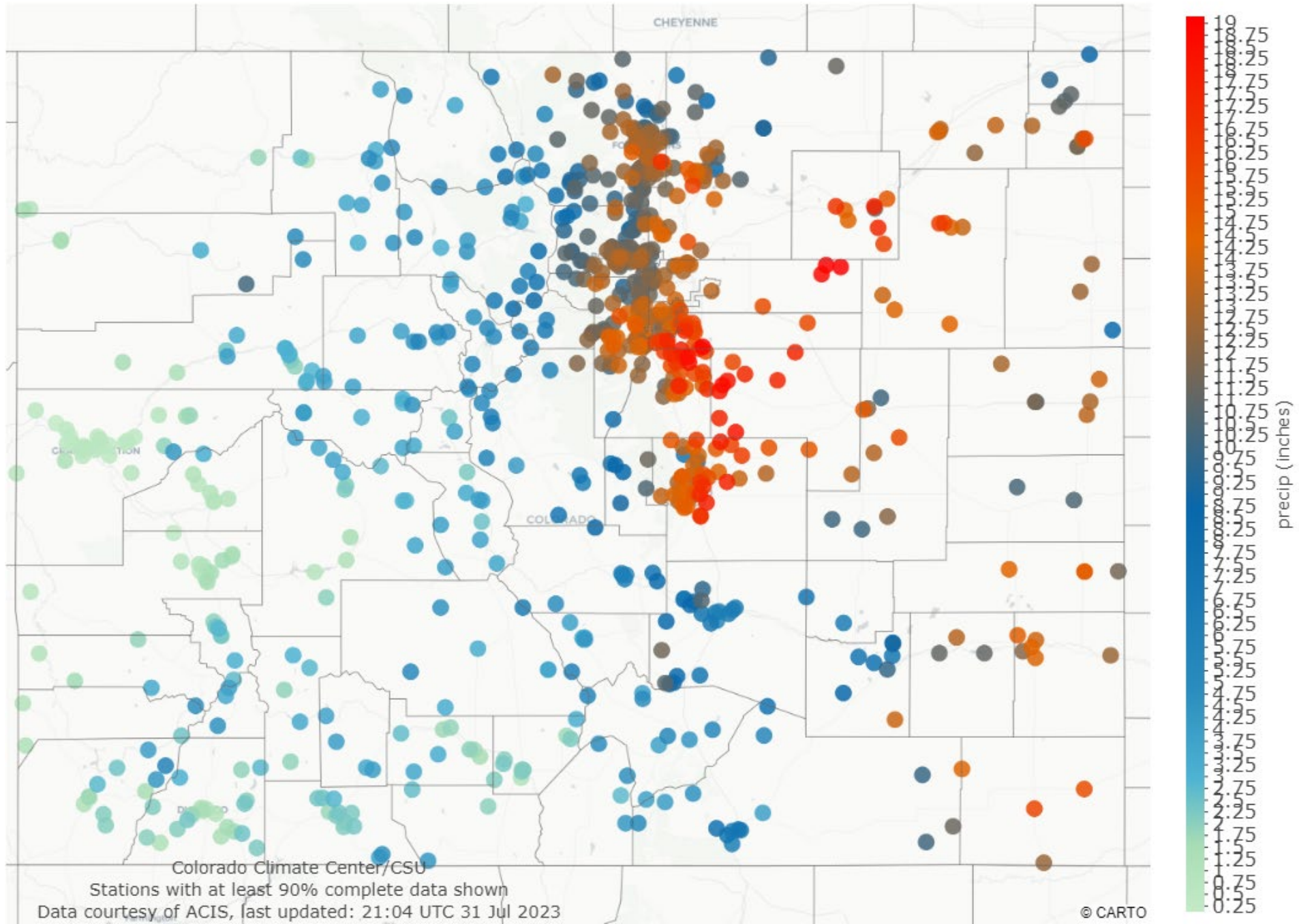


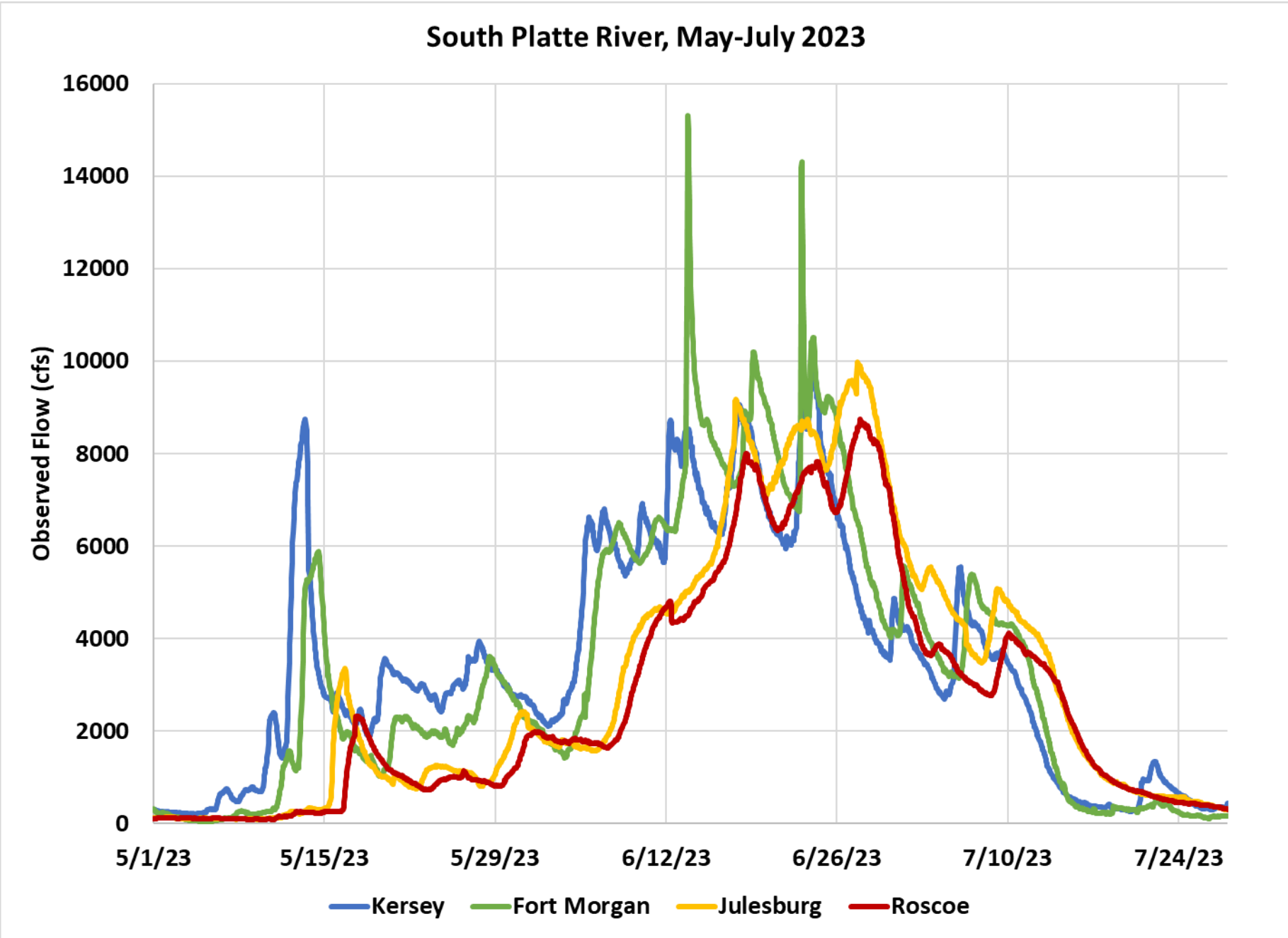
Percent of Normal Precipitation (%)

5/2/2023 – 7/30/2023



precipitation in last 90 days: 01 May 2023 to 30 Jul 2023





U.S. Drought Monitor

High Plains

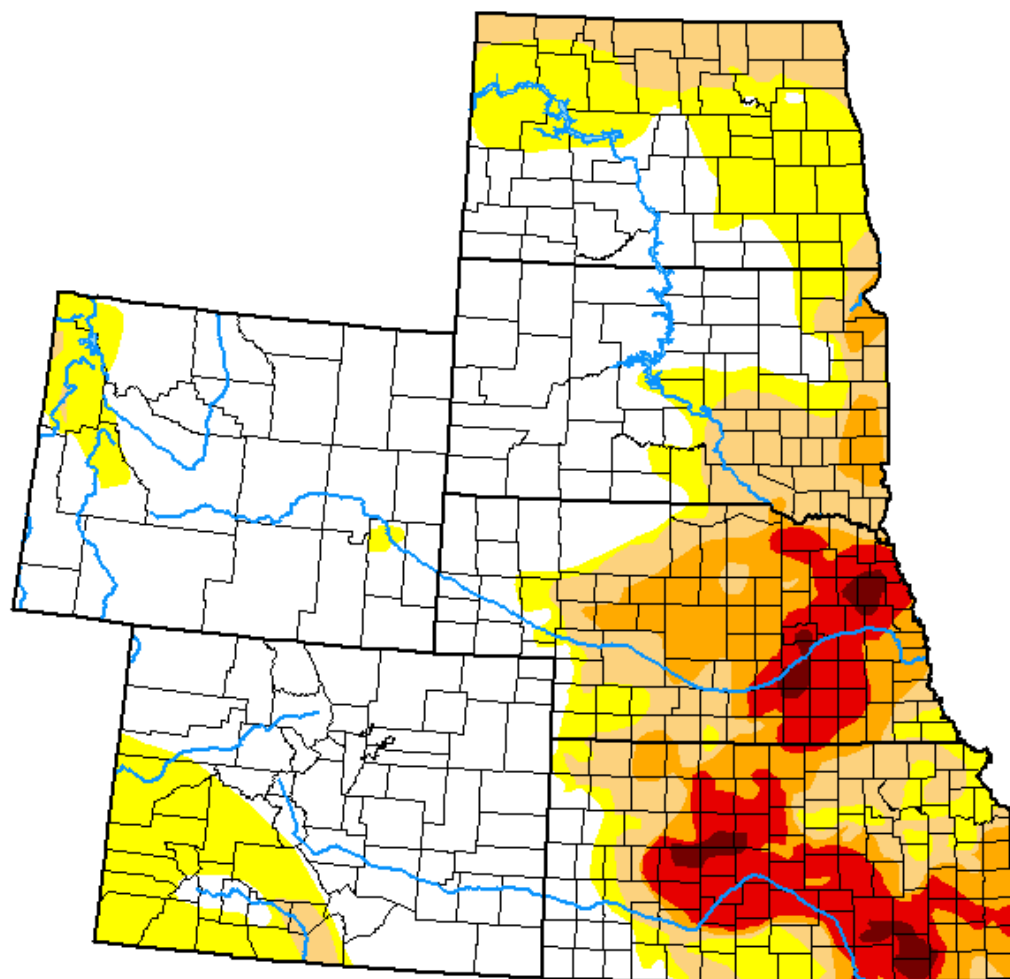
July 25, 2023

(Released Thursday, Jul. 27, 2023)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	52.82	47.18	29.04	15.49	7.64	0.99
Last Week 07-18-2023	53.98	46.02	29.13	17.33	8.17	1.18
3 Months Ago 04-25-2023	28.21	71.79	50.53	28.40	17.82	8.52
Start of Calendar Year 01-03-2023	13.54	86.46	66.35	37.03	18.35	7.83
Start of Water Year 09-27-2022	7.60	92.40	66.34	33.68	15.17	5.92
One Year Ago 07-26-2022	27.22	72.78	56.12	27.24	8.45	1.28



Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

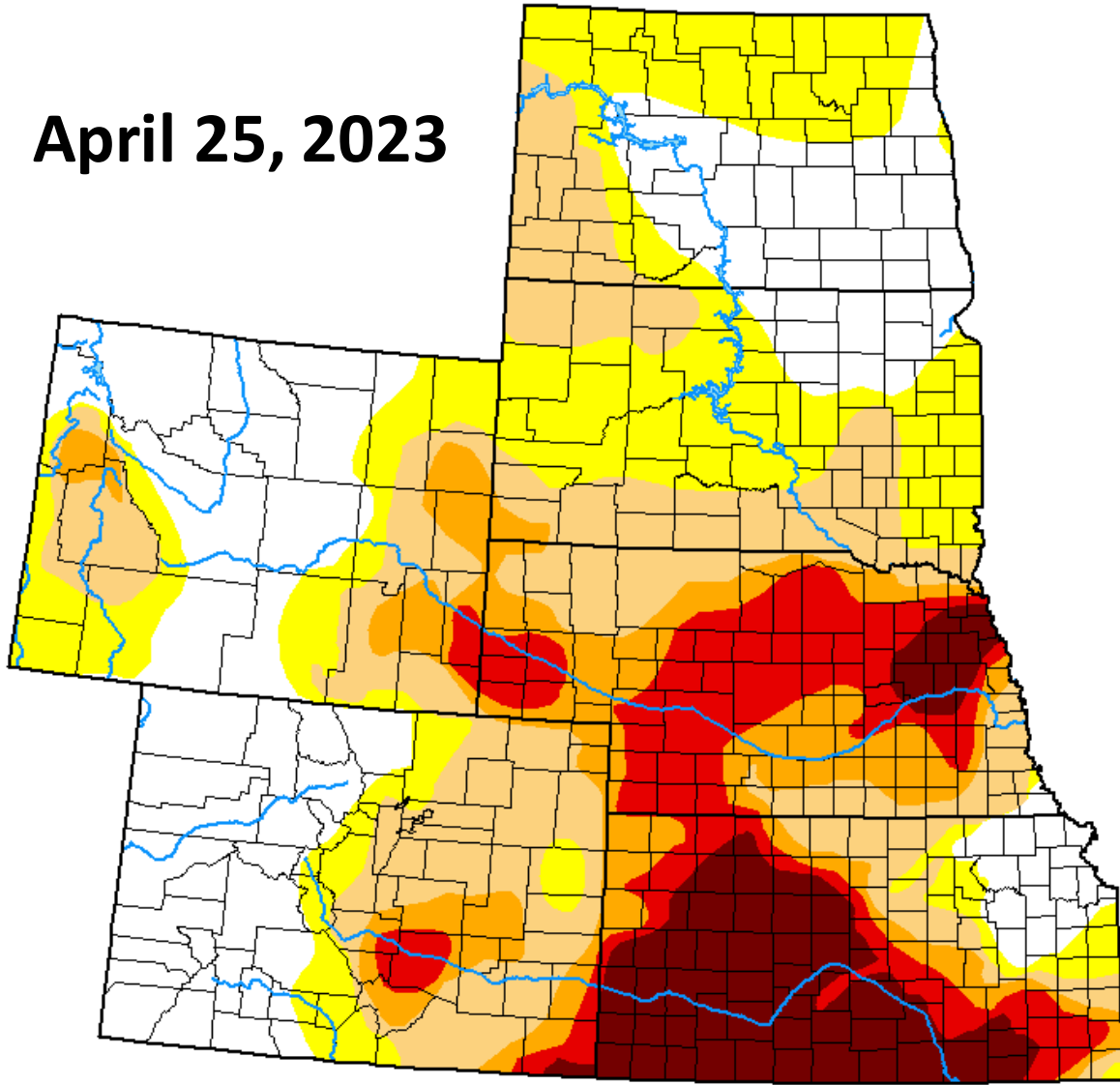
Author:

Brian Fuchs
National Drought Mitigation Center

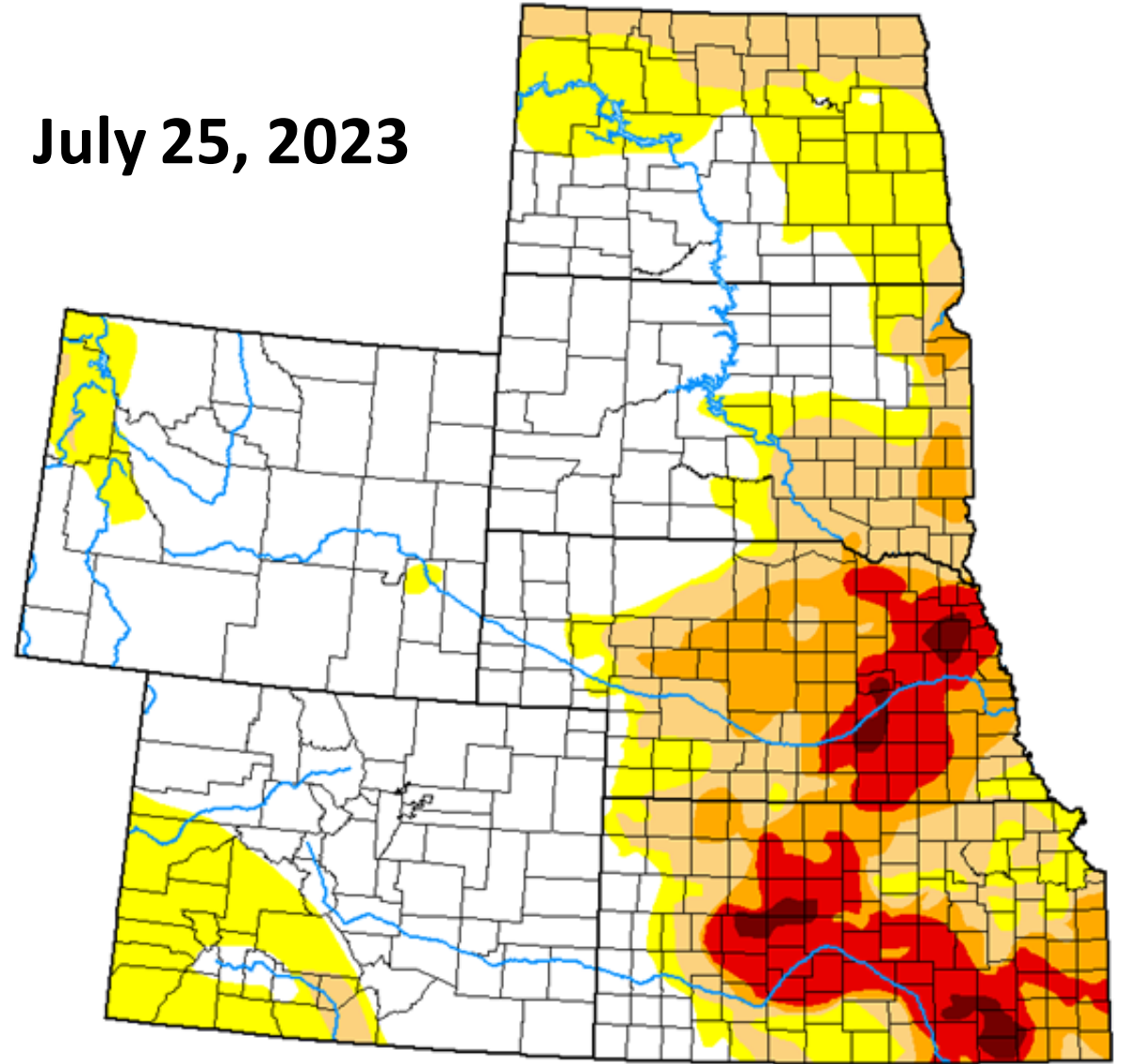


droughtmonitor.unl.edu

April 25, 2023



July 25, 2023



WAP Leasing & Recharge Projects

- Recapture Wells
 - 2023 cumulative pumping through May 16 = 1,018 AF (10-12 cfs)
 - Wells #4 and #5 ran from July 17-24 to lower groundwater (~33 AF)
 - All wells resumed pumping July 27
- Excess Flow Diversions
 - May 16-24 and June 9-July 24
 - Elwood Reservoir = 3,346 AF
 - Cottonwood Ranch BSR = 1,741 AF

Cottonwood Ranch – North of Peterson Drain

- Cells 3, 6, and 8
- May 16-24 deliveries = 339 AF
- June 9-July 24 deliveries = 558.4 AF
- Total north deliveries = 897.4 AF





Cottonwood Ranch – South of Peterson Drain

- Cells 1, 2, 4, 5, and 7
- May 16-24 deliveries = 287.7 AF
- June 9-July 24 deliveries = 555.9 AF
- Total south deliveries = 843.6 AF

WAP Leasing & Recharge Projects

- Pathfinder Municipal Account Lease
 - 9,600 AF transferred to Glendo on June 21 (764 AF conveyance loss)
 - 8,836 AF released from Guernsey from June 22-30 (1,666 AF conveyance loss)
 - 7,170 AF credited to Lake McConaughy EA (overall 25% losses)
- Pathfinder Environmental Account
 - Filled to capacity (33,493 AF) on June 11
 - Release expected late August/early September

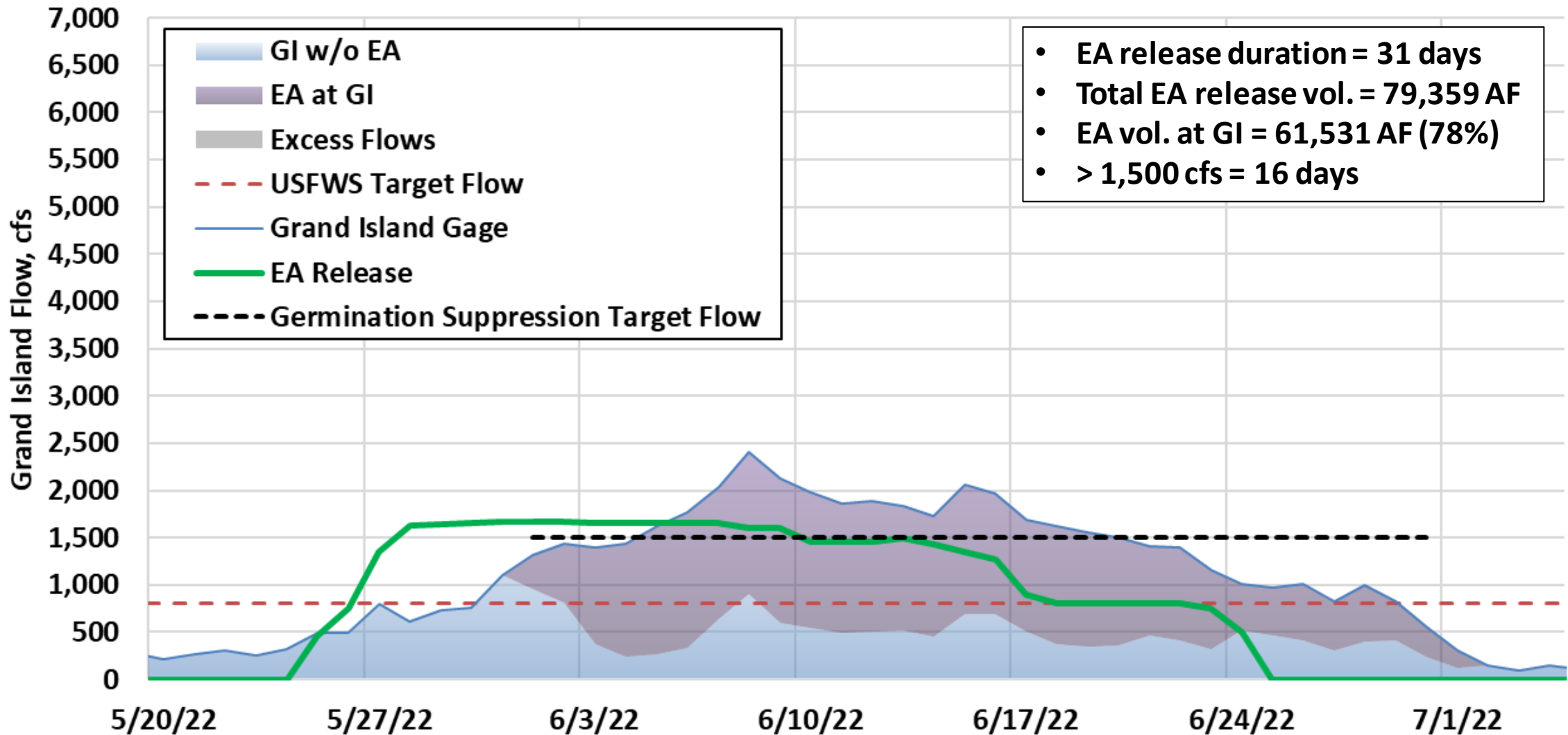
North Platte Chokepoint Study

- Anderson Consulting Engineers contracting completed late May
 - Subs: RiverWorks, ERO Resources, Dr. Peter Nelson
- Kickoff meeting on May 24
- Task Order #1 underway
 - Document review and preliminary list of alternatives (by August 10-11)
 - Meeting with Chokepoint Planning Workgroup (week of August 21)
 - Scoping for alternatives analysis—TO#2 (by September 8)
 - Initial existing conditions model updates (ongoing)
 - Present initial progress update at September GC meeting

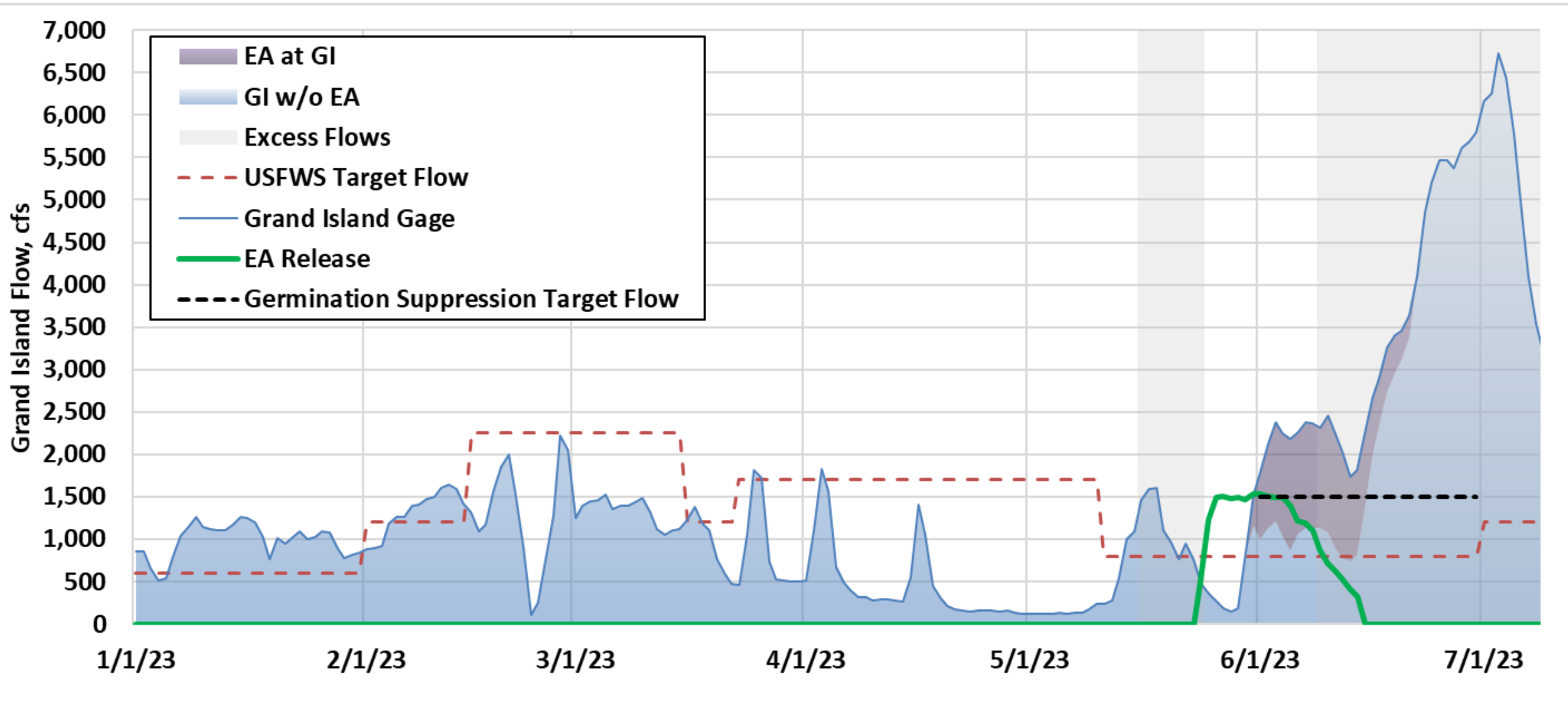
Expanded Recapture Reconnaissance Study

- 4 proposals submitted: EA Engineering, Houston, JEO, LRE Water
- July 31: Proposal selection panel meeting
- August 24: final decision on award
- Early September: Contracting, project kickoff
- Mid-September: Potential site visit (coincide with GC meeting)

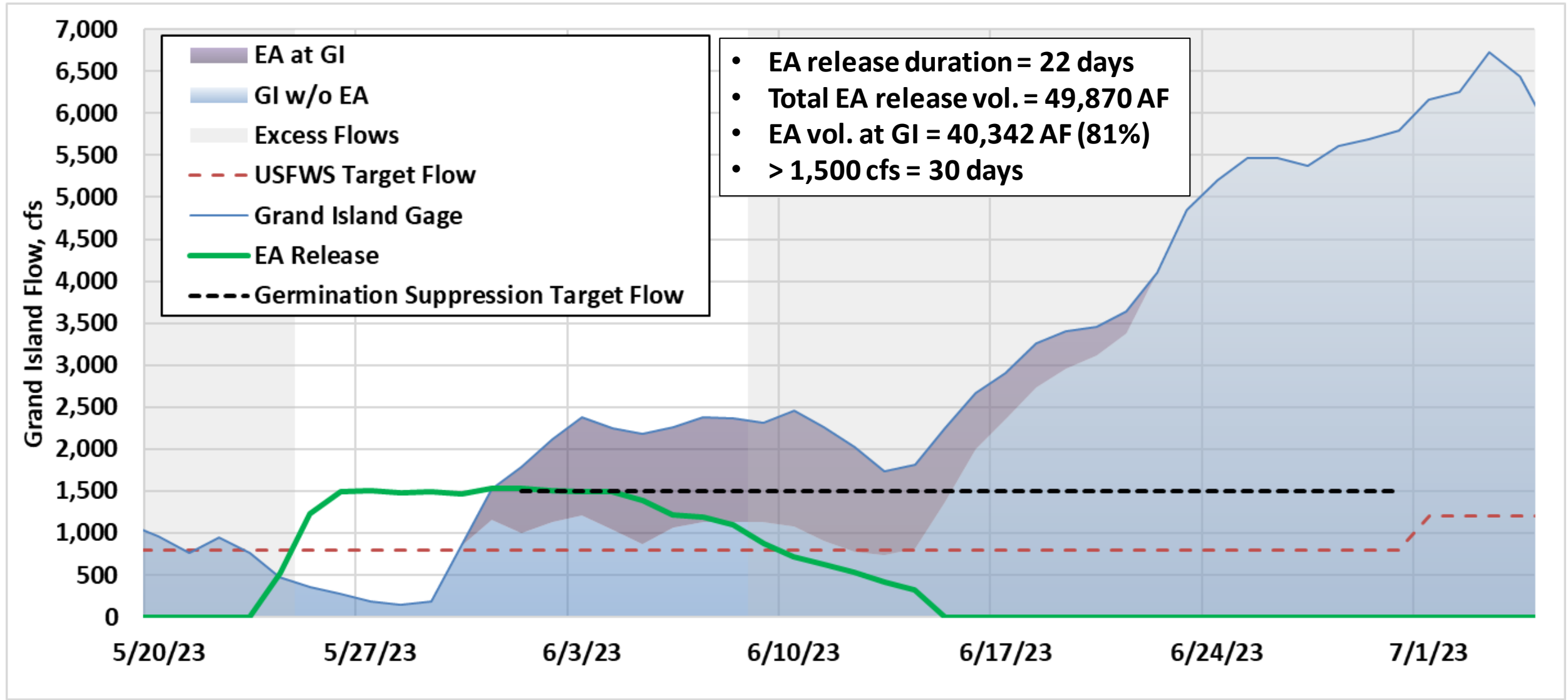
Lake McConaughy Environmental Account Release for Germination Suppression



2022 EA Release for Germination Suppression



2023 Grand Island Gage Year-to-Date



CNPPID Irrigator Lease

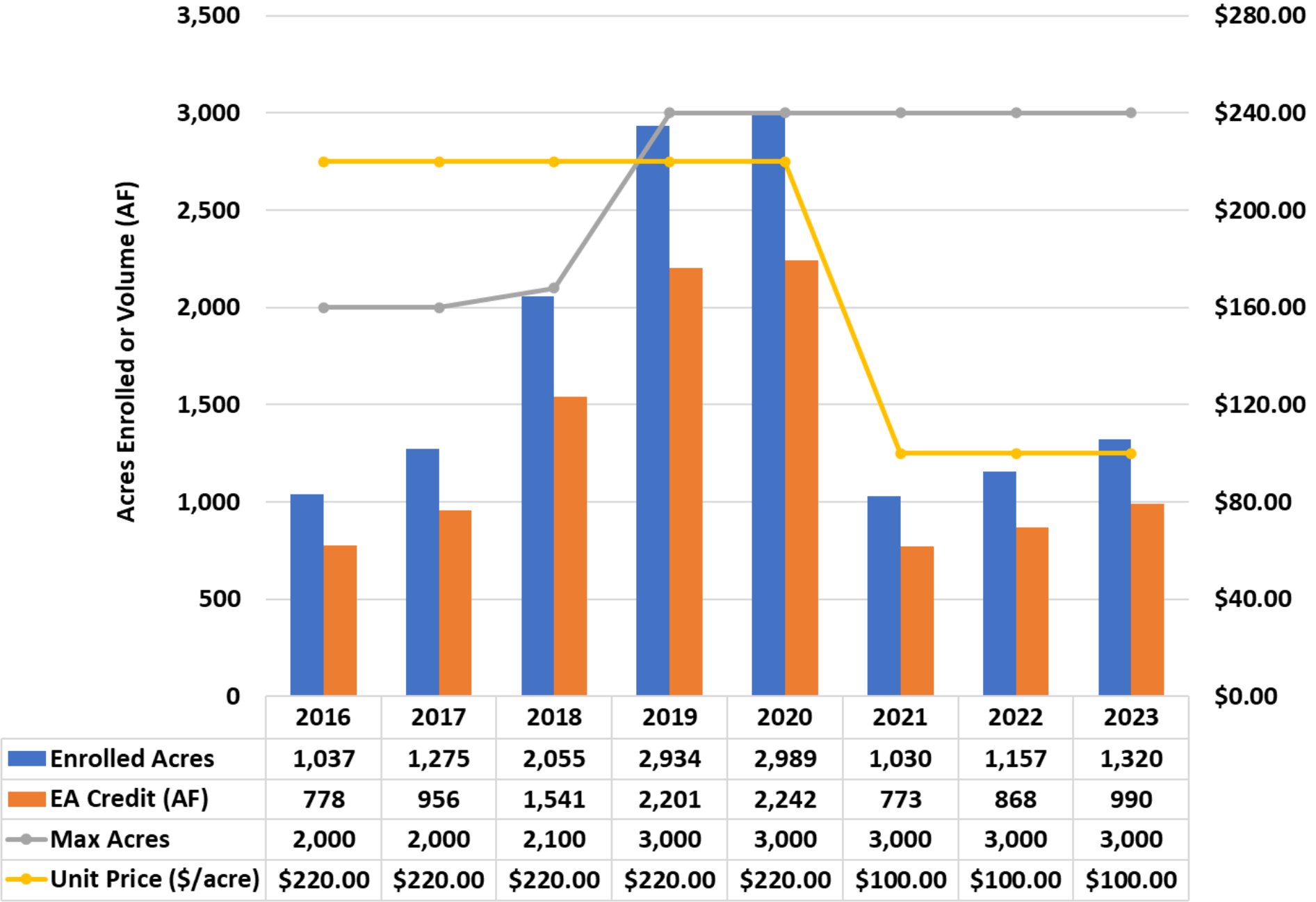
WAP Project: CNPPID Irrigator Lease

- Lease agreement for pilot project Fall 2015 (for 2016 irrigation season)
 - Has to be full allocation irrigation deliveries (Program only customer)
 - CNPPID customers enroll parcels, do not irrigate (dryland or fallow)
 - Program receives 9" (0.75 AF) per enrolled acre, added to Lake McConaughy EA in October

WAP Project: CNPPID Irrigator Lease

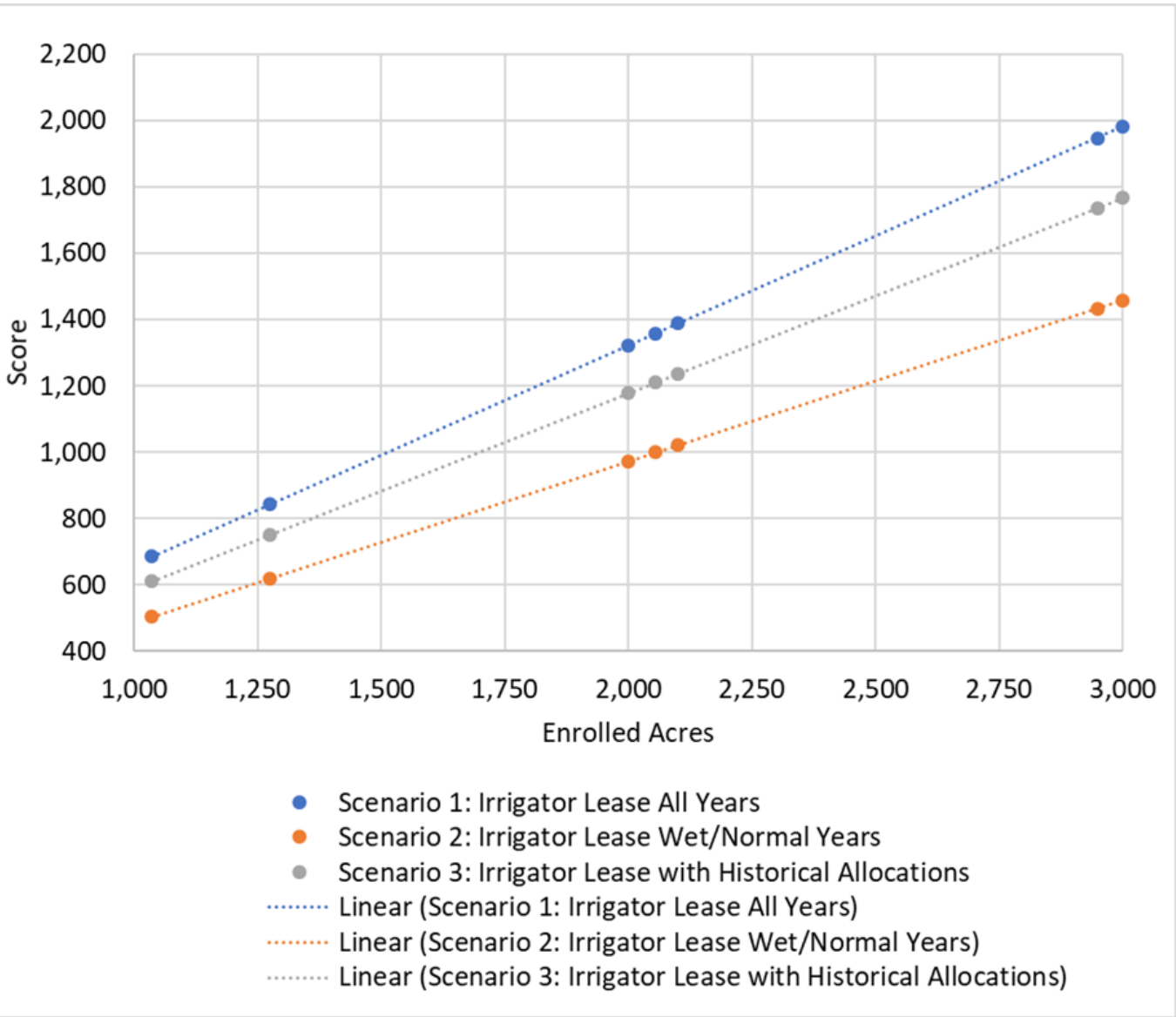
- 1-year agreements for 2016-2018 irrigation seasons
 - Max 2,000 acres enrolled (2,100 acres in 2018)
 - Program paid \$220/acre (\$293/AF)
 - \$10,000 admin fee to CNPPID
- 5-year agreement for 2019-2023 irrigation seasons
 - Max 3,000 acres enrolled
 - Program initially paid \$220/acre (\$293/AF)
 - Reduced to \$100/acre (\$133/AF) starting 2021
 - \$10,000 admin fee to CNPPID
 - EXPIRES December 31, 2023 (effectively at end of current irrigation season)

CNPPID Irrigator Lease, 2016-2023



WAP Project: CNPPID Irrigator Lease

- Project Score = 1,900 AF (approved by GC in June 2019)
- Assumptions
 - CNPPID full irrigation allocation all years (no reduced allocation during 1947-1994 analysis period)
 - 2019 enrollment = 2,948 acres
 - Mathematical score = 1,948 AF but rounded down for year-to-year variability
- Recommended score is “subject to review and modification at the end of the current 5-year lease agreement, or sooner if there is a substantial change (increase or decrease) in project enrollment.”
- Recommendation that any revision to the score be based on Scenario 1 (full allocation all years) results presented in Table 7 and Figure 1 of the score memo (final dated 6/12/2019)



CNPPID Irrigator Lease Score Memo, Figure 1

CNPPID Irrigator Lease Score Memo, Table 7

Acres Enrolled	Credit to EA [AF]	Scenario 1	
		Score	Efficiency
1,037	778	686	88%
1,275	956	842	88%
2,000	1,500	1,322	88%
2,055	1,541	1,358	88%
2,100	1,575	1,388	88%
2,948	2,211	1,948	88%
3,000	2,250	1,983	88%

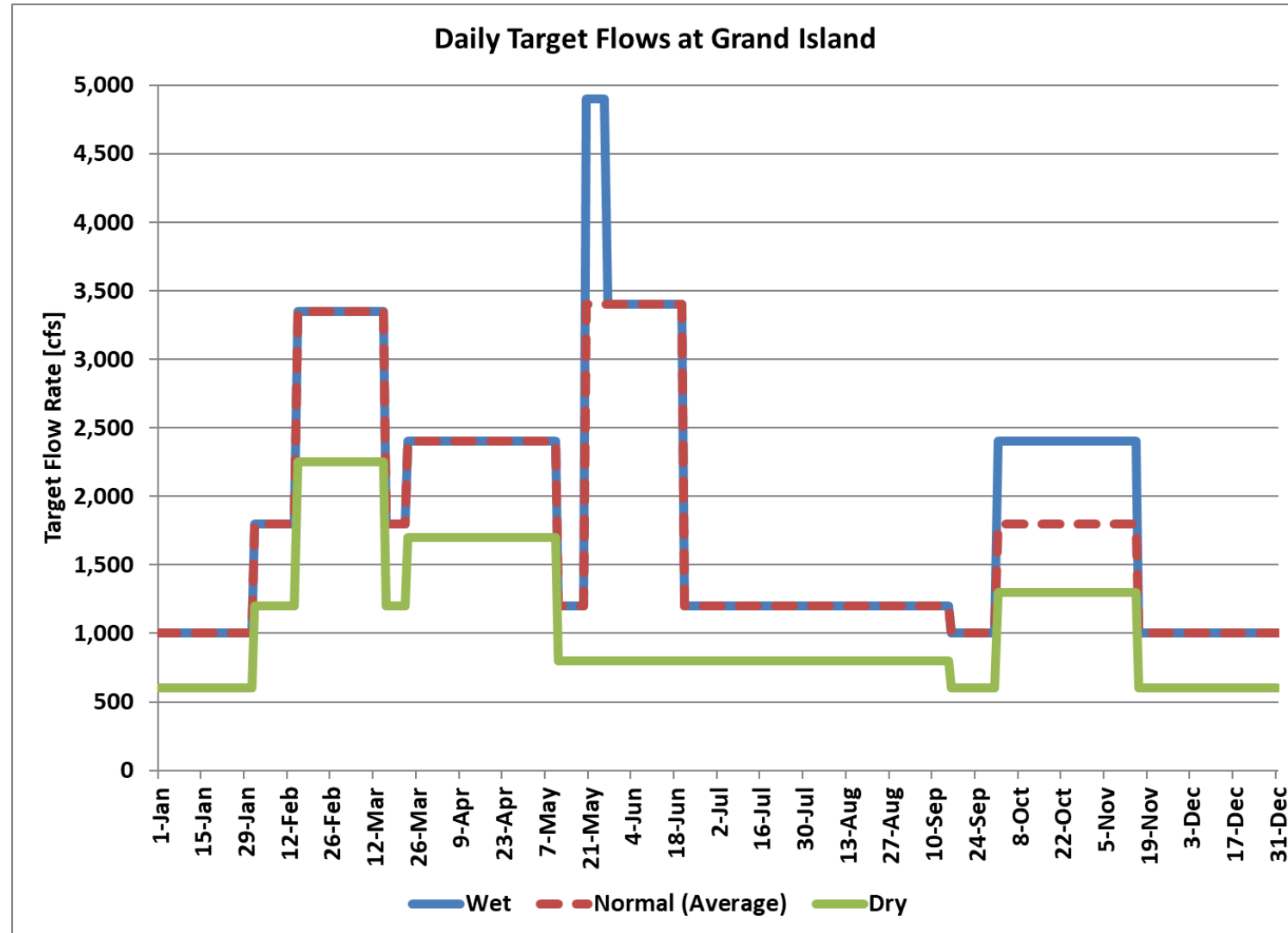
WAP Project: CNPPID Irrigator Lease Options

1. Renew lease agreement through end of Extension, revise score
2. Renew lease agreement for shorter duration, revise score
3. End lease agreement, eliminate score

Temporary Hydrologic Condition

Hydrologic Condition: Wet, Normal, or Dry

- Method developed by USFWS (Anderson and Rodney 2006)
- Sets target flows at Grand Island
- Real-time HC
 - Helps determine excess flows (Grand Island > target flows)
 - Guides water project operations
- Annual HC
 - Based on average Grand Island flow for entire year
 - Set retroactively



Platte River Recovery Implementation Program

[ABOUT](#)[INFORMATION FOR ...](#)[FLOW CONDITIONS](#)[RESOURCES](#)[Home](#) > [Hydrologic conditions](#)

Hydrologic conditions

One of the goals of the Program is to achieve target flows based on the current conditions calculated using a formula contained in the Program's [Water Plan](#).

For more information, see these documents:

- [Characterization of Hydrologic Conditions to Support Platte River Species](#)
- [PRRIP 2011 Hydrologic Condition Annual and Periodic Designations](#)

[VIEW STREAMFLOW CONDITIONS](#)[VIEW TARGET FLOWS](#)

CURRENT HYDROLOGIC CONDITION

**NORMAL**Report Period | **July 1 - 31, 2023**Target flow for July 1 - 31 |
1,200[Log in](#)

Hydrologic Conditions

[Current and past hydrologic condition designations](#)[USFWS Target Flows](#)[Target flows designed to benefit target species habitat](#)[Flow Reports](#)[Current and past stream flow data visualization](#)[ANNUAL DESIGNATIONS](#)**JULY 2023**REPORT PERIOD
July 1-31, 2023**NORMAL**riverprogram.org/hydrologic-conditions/**PLATTE RIVER**
RECOVERY IMPLEMENTATION PROGRAM

Hydrologic Condition Periods (metric weights shown in parenthesis)							
Hydrologic Condition Period Metric (units*)	Dec to Feb	Mar to Apr	May	June	July	Aug to Sep	Oct to Nov
Average Previous Month's Flow Platte River near Grand Island (cfs)	X (0.579)	X (0.12)	X (0.601)	X (0.648)	X (0.237)		X (0.658)
Average Previous Month's Flow, Platte River Near Julesburg, CO (cfs)				X (0.023)	X (0.218)		
End-of-Month Content, 7 N. Platte WY Reservoirs (AF)	X (0.317)	X (0.198)			X (0.105)		
End-of-Month Content, Lake McConaughy (% capacity)	X (0.138)		X (0.271)		X (0.109)	X (0.404)	
End-of-Month Content, 3 Upper S. Platte CO Reservoirs (AF)	X (0.236)		X (0.031)				
April 1 Snow Pack, 7 WY N. Platte Sites (% of Normal)			X (0.252)	X (0.082)			
Previous Month's Palmer Drought Severity Index (PDSI)		X (0.662)		X (0.097)	X (0.441)	X (0.464)	X (0.342)



Temporary Hydrologic Condition

- Monthly PDSI not available until second week of month
 - Uncertainty about excess flows
- Temporary HC
 - EDO developed method in 2015, WAC approved
 - Use most recent weekly PDSI in HC calculations
 - Most of the time, Temporary HC same as Final HC
 - Since October 2015, Temp HC different from Final HC in 8 of 39 periods using PDSI
- **Exploring new approaches to improve Temporary HC**

Period	Temp HC	Final HC
Oct-Nov 2015	Normal	Wet
Oct-Nov 2016	Normal	Wet
Mar-Apr 2021	Normal	Dry
July 2021	Normal	Dry
Aug-Sep 2021	Dry	Normal
Mar-Apr 2022	Normal	Dry
Mar-Apr 2023	Normal	Dry
June 2023	Normal	Dry