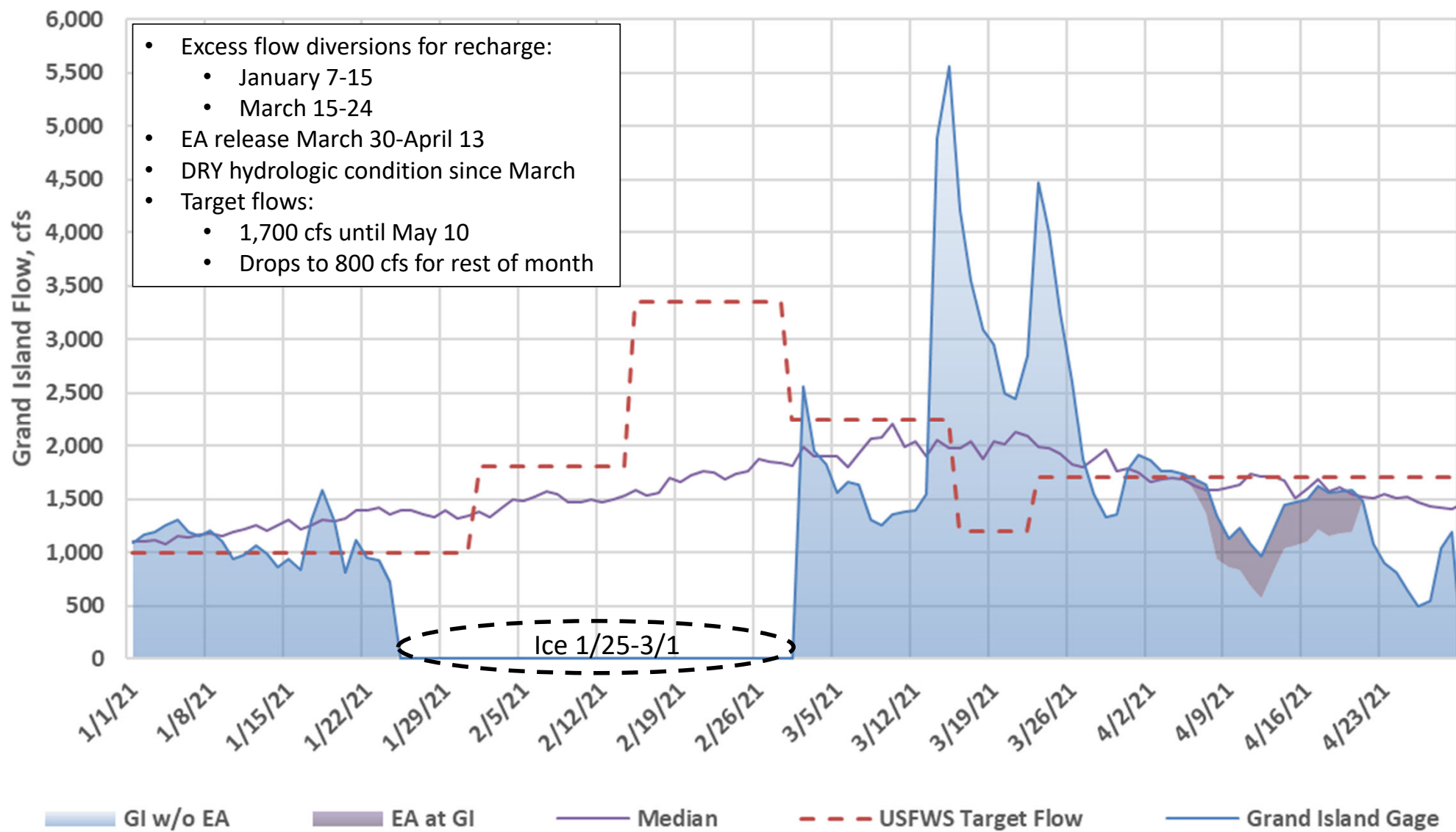


Platte Basin Hydrology Update

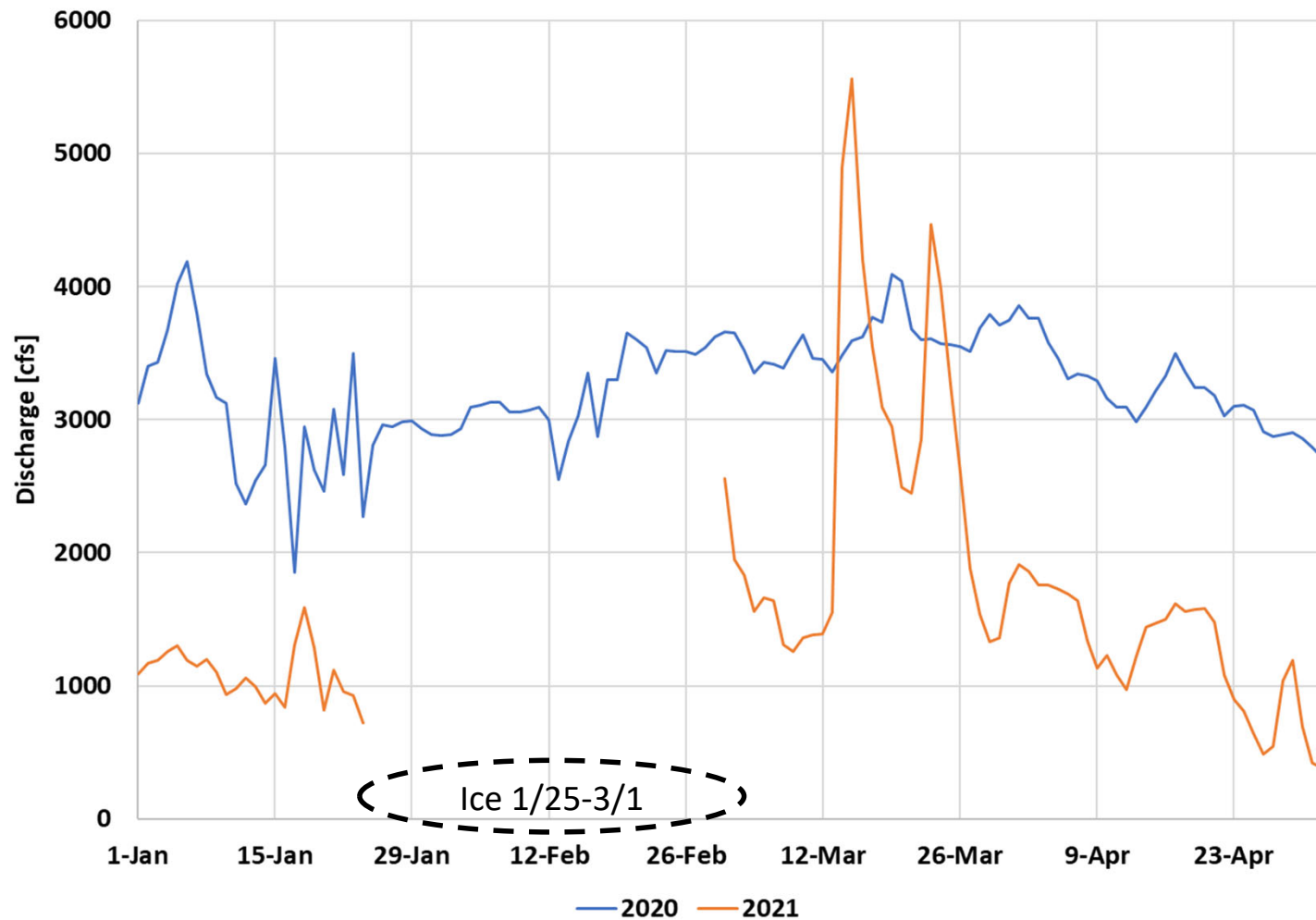
PRRIP Water Advisory Committee

May 4, 2021

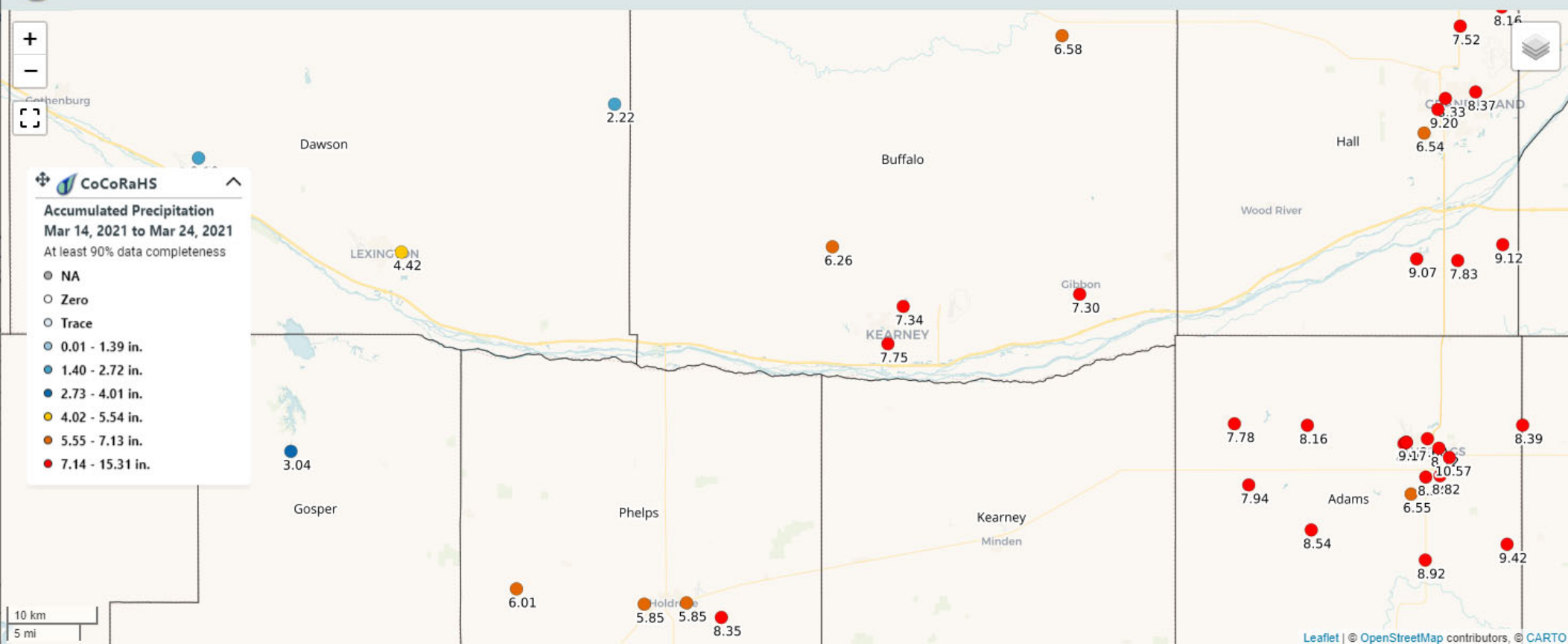
Seth M Turner, PE



USGS 06770500 Platte River near Grand Island, 2020 vs 2021



- Provisional Data after 1/20/2021.
- 2021 averaging 1,675 cfs less than 2020.
- USGS revised rating curve in April.



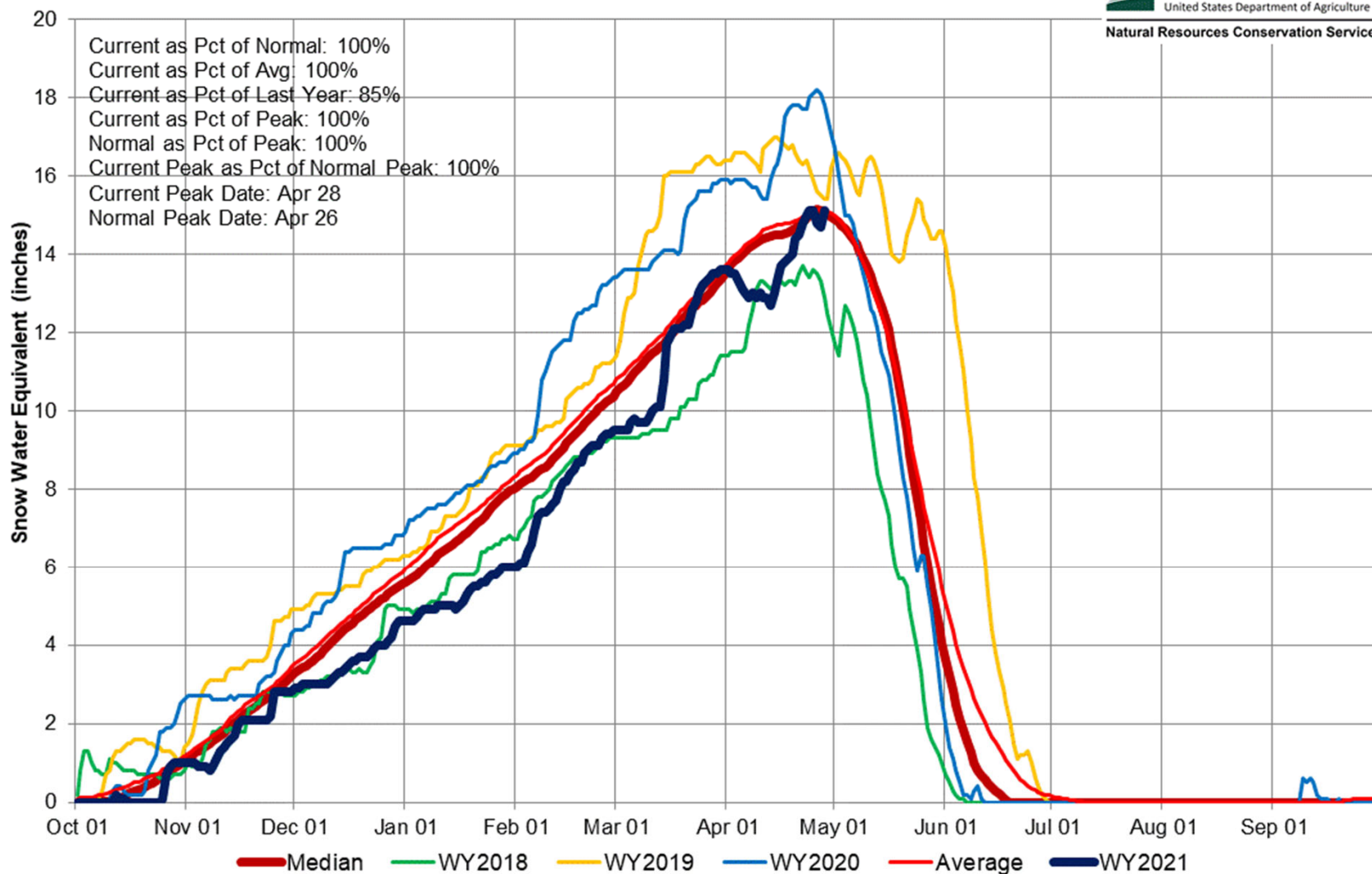
South Platte River Basin Time Series Snowpack Summary

Based on Provisional SNOTEL data as of Apr 28, 2021



United States Department of Agriculture

Natural Resources Conservation Service



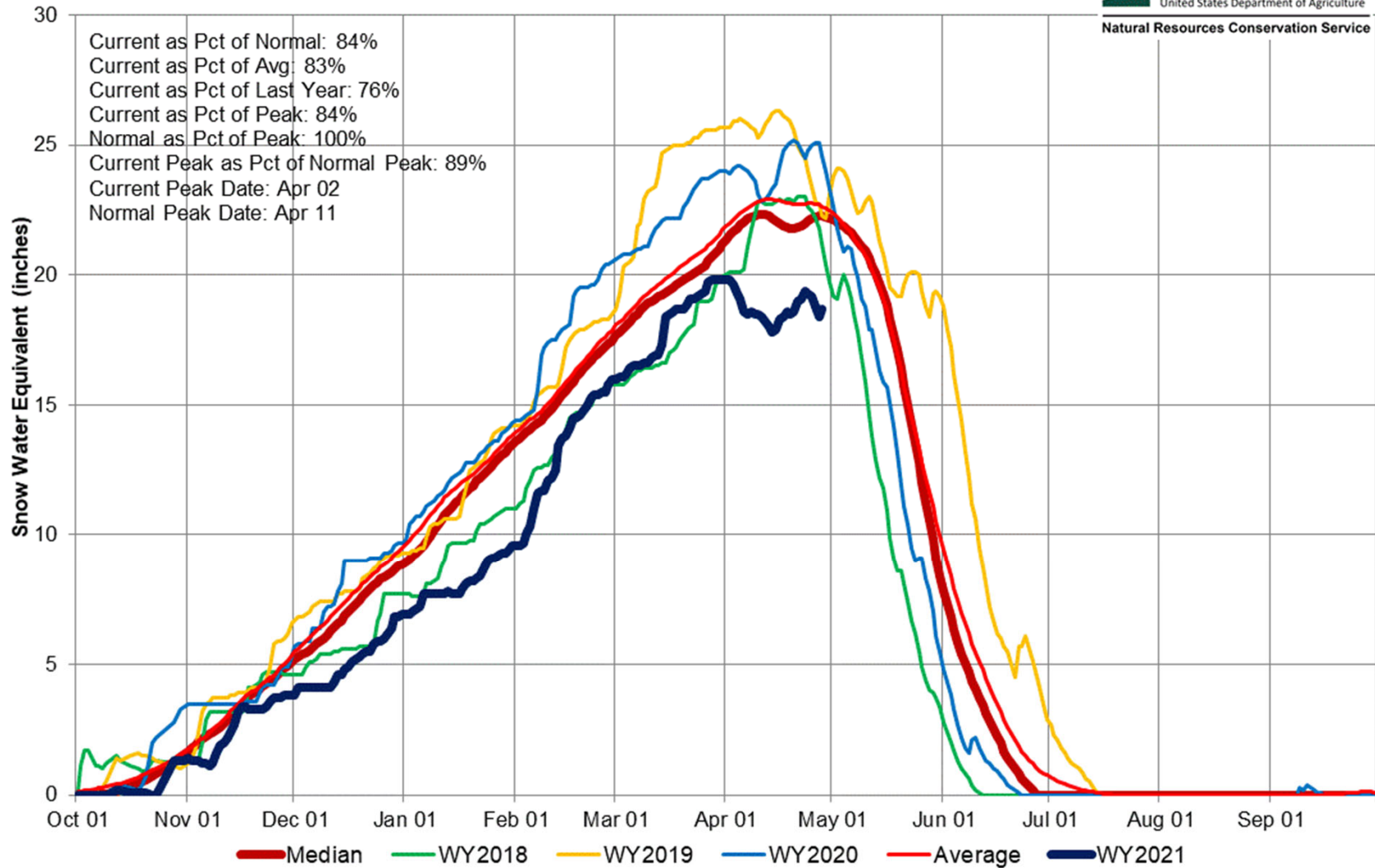
Laramie & North Platte River Basins Time Series Snowpack Summary

Based on Provisional SNOTEL data as of Apr 28, 2021

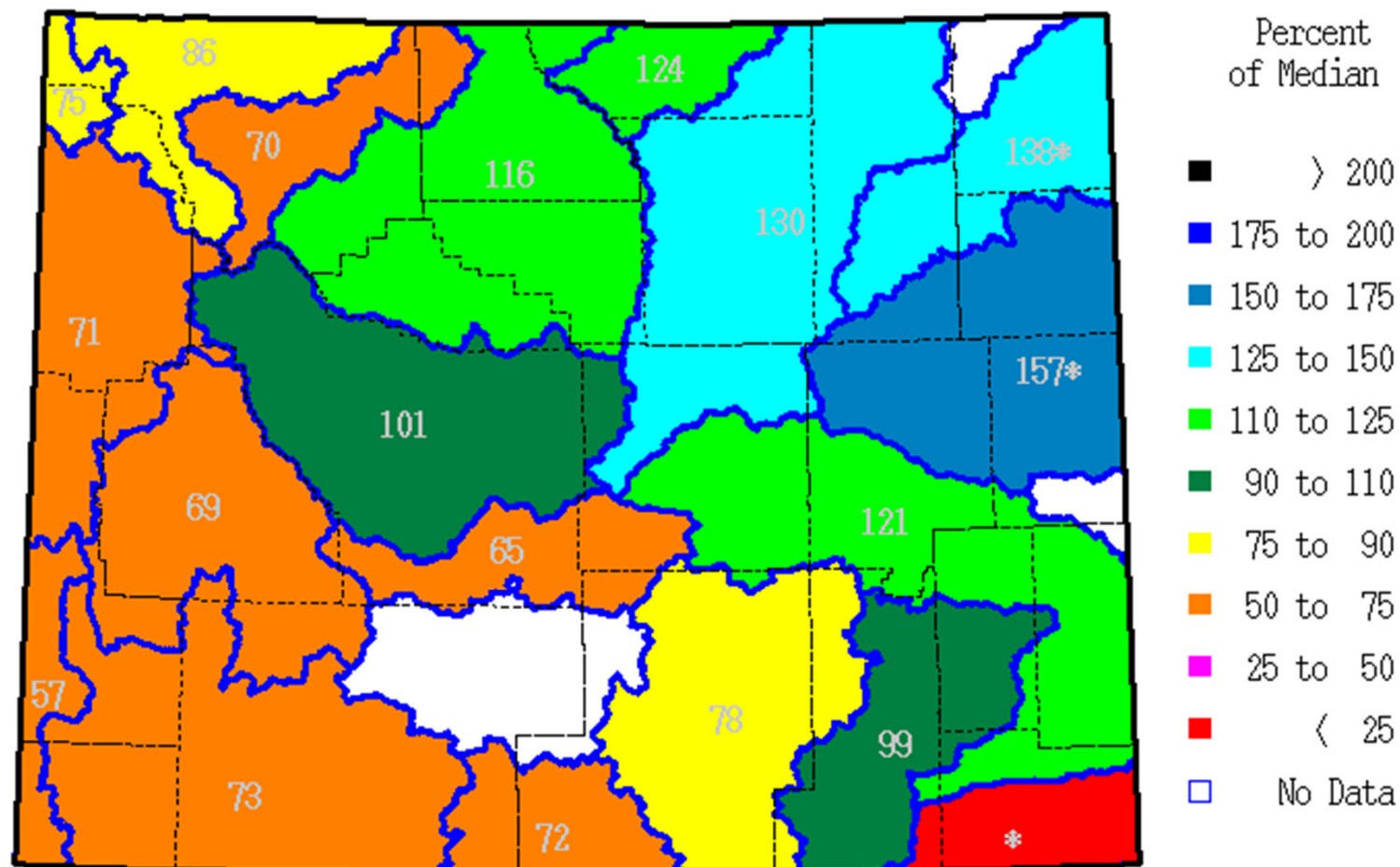


United States Department of Agriculture

Natural Resources Conservation Service



SWE % of Median as of Monday, 03 May 2021



Produced by the Wyoming Water Resources Data System: <http://www.wrds.uwyo.edu>

* = Data may not provide a valid measure of conditions

U.S. Drought Monitor High Plains

April 27, 2021

(Released Thursday, Apr. 29, 2021)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.35	81.65	63.52	40.57	22.13	3.41
Last Week <i>04-20-2021</i>	19.90	80.10	64.58	39.96	21.18	2.99
3 Months Ago <i>01-26-2021</i>	6.65	93.35	85.76	51.74	25.51	5.09
Start of Calendar Year <i>12-29-2020</i>	3.82	96.18	82.46	50.36	27.09	5.71
Start of Water Year <i>09-29-2020</i>	6.73	93.27	62.11	36.56	16.16	0.54
One Year Ago <i>04-28-2020</i>	65.54	34.46	12.69	7.15	0.00	0.00

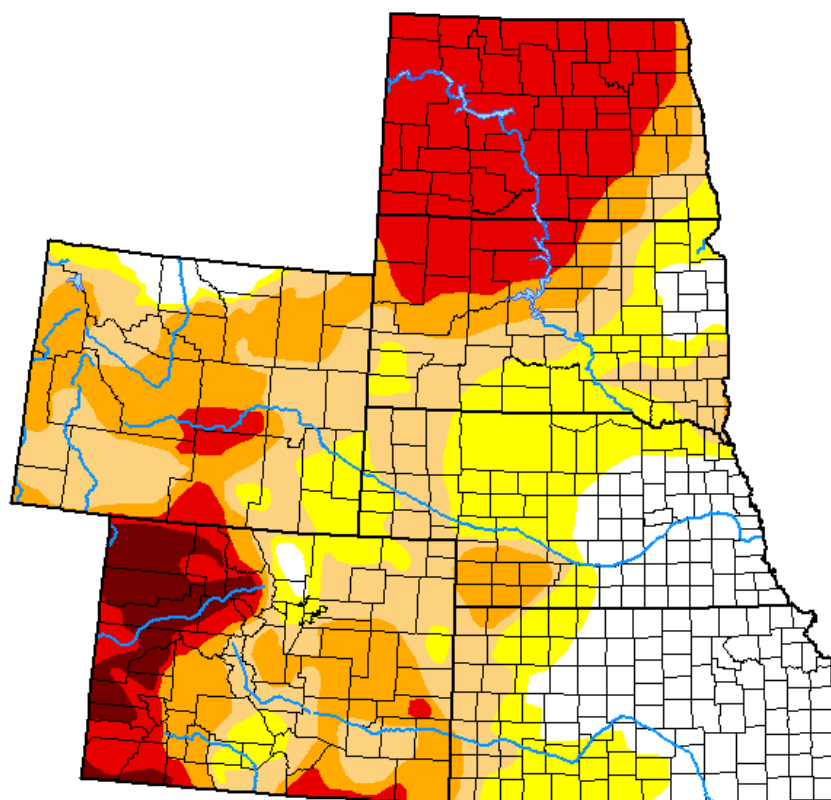
Intensity:

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>

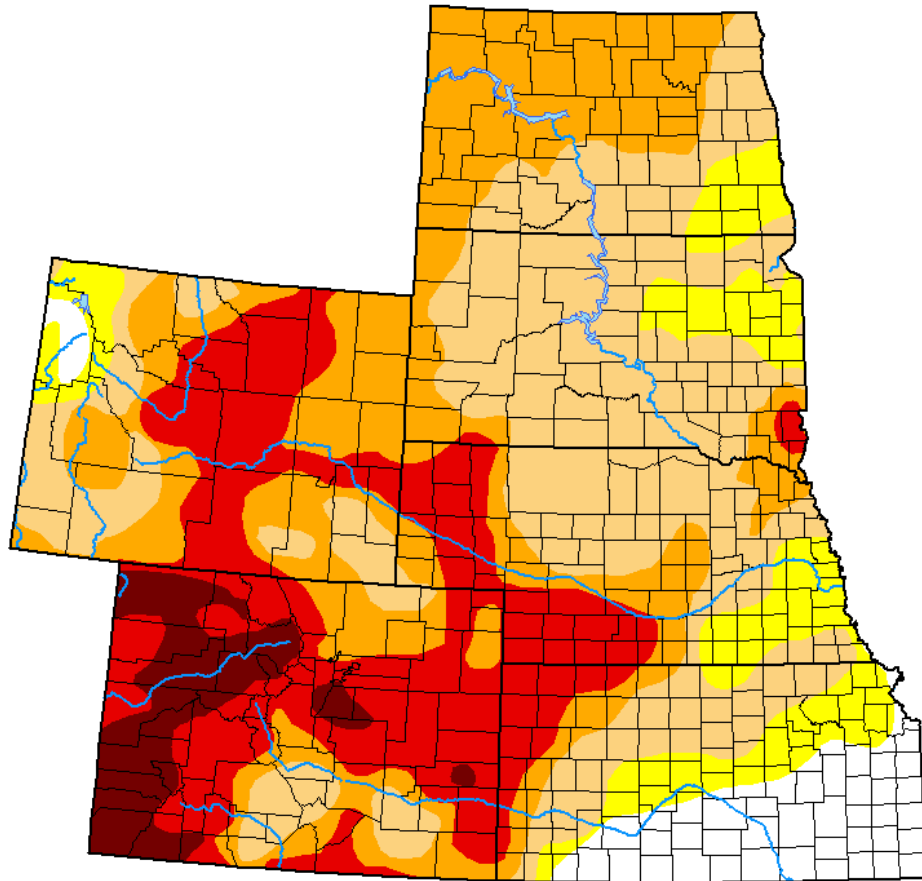
Author:

Richard Heim
NCEI/NOAA

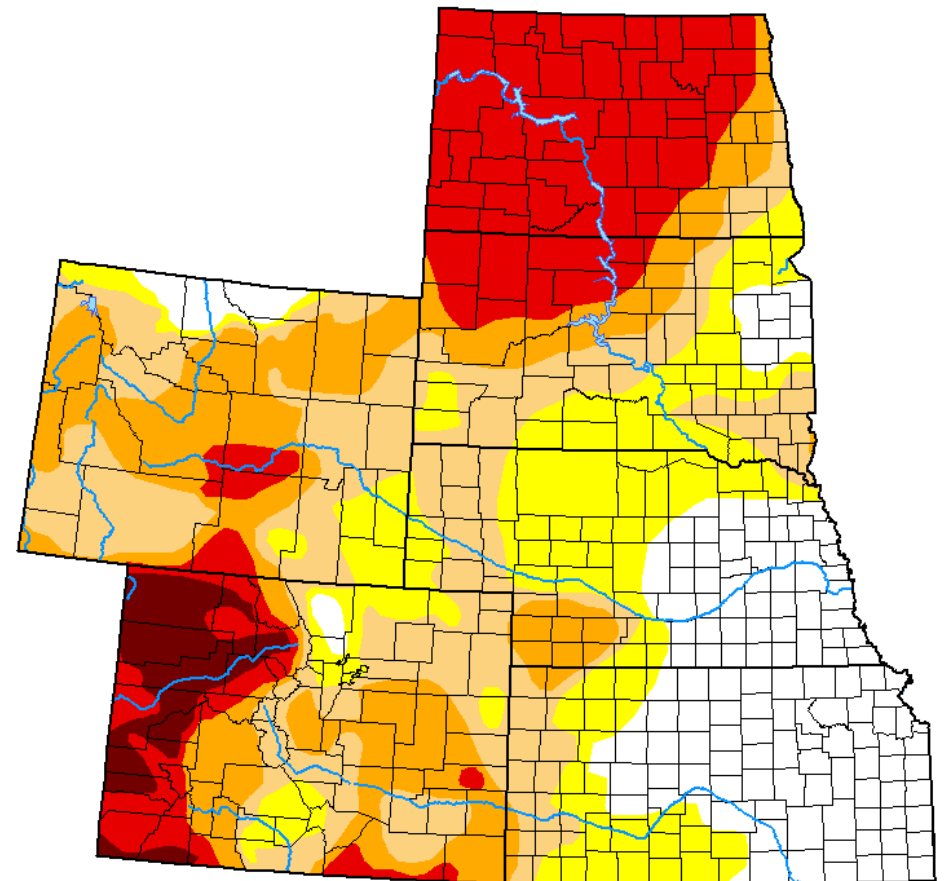


droughtmonitor.unl.edu

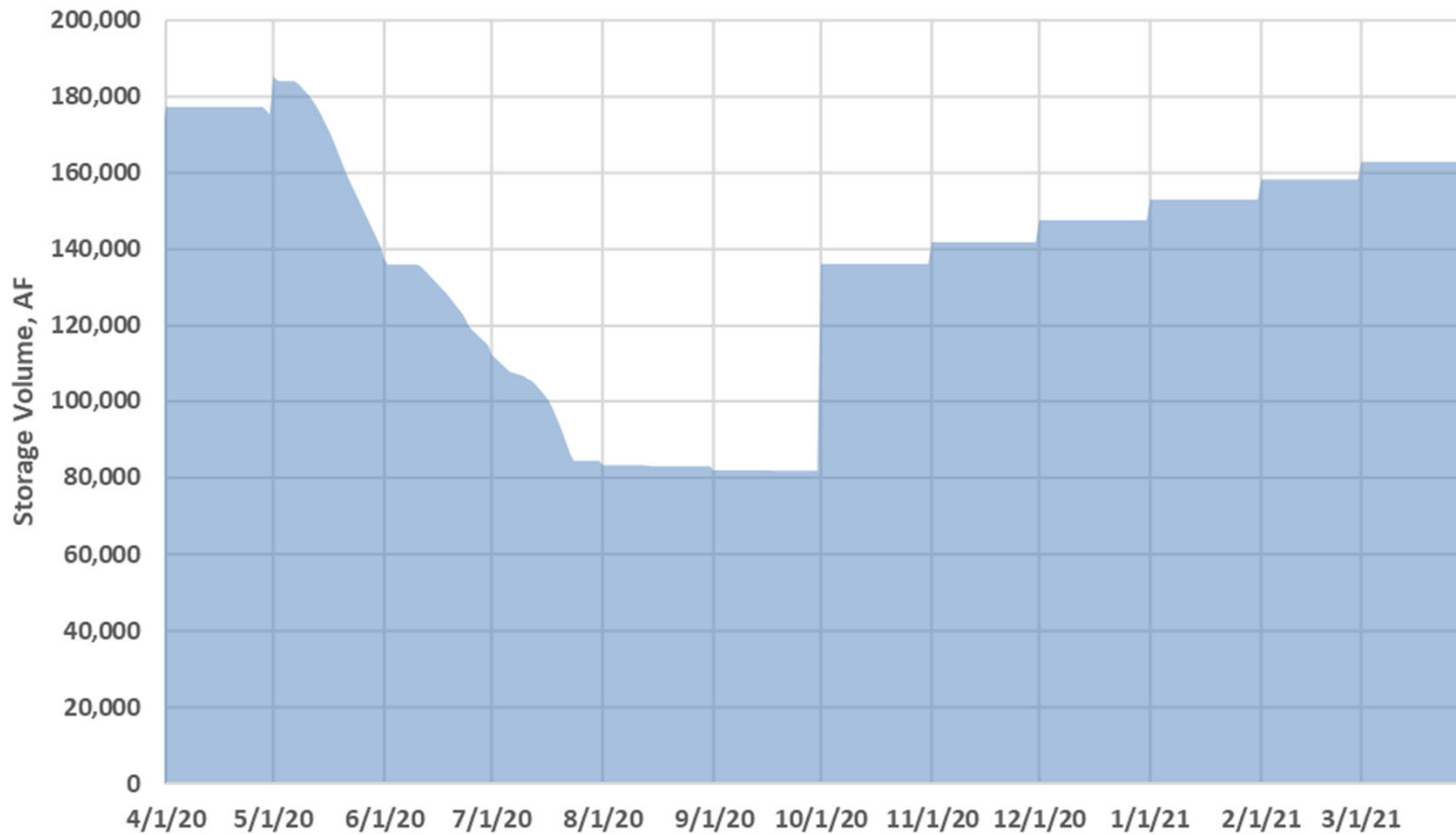
February 2, 2021



April 27, 2021



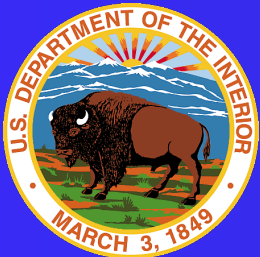
Lake McConaughy EA Storage



- EA balance, end of March = 167,562 AF
- 10% Storable Natural Inflows (SNI)
 - Oct = 7,089 AF
 - Nov = 6,548 AF
 - Dec = 6,030 AF
 - Jan = 6,010 AF
 - Feb = 6,053 AF
 - Mar = 6,550 AF
 - Apr = TBD

Environmental Account Update

WAC
May 4, 2021



U.S. Fish and Wildlife Service
Region 5 & 7
Water Resources



Topics

- EA volume summary
 - If no additional releases, cap may be reached
 - ~206 kaf by Oct 1
- Releases
 - Spring Whooping Crane – 12.5 kaf (completed)
 - Upcoming Germination Prevention (June) - ~78 kaf
 - May 1, 2022 volume with release ~ 169 kaf



U.S. Fish and Wildlife Service
Region 5 & 7
Water Resources



EA Carryover Accounting

WY2021 – early WY2022

Asset/Debit	Volume (acre feet)
March 31, 2021 Volume (DNR)	167,562
Est. 10% SNI Estimate (Apr)	5,244
Est. Pathfinder Delivery (EA & WY)	32,130
Spring Whooping Crane Release	-12,500
Est. June Germination Suppression Release	-78,000
Evaporation & Seepage Loss (Apr-Sep)	-5,301
Estimated WY21 EA Carryover	109,135
Estimate Volume 2021-Oct-1	128,000
Estimated Volume 2022-May-01	169,000



U.S. Fish and Wildlife Service
Region 5 & 7
Water Resources



Whooping Crane Release

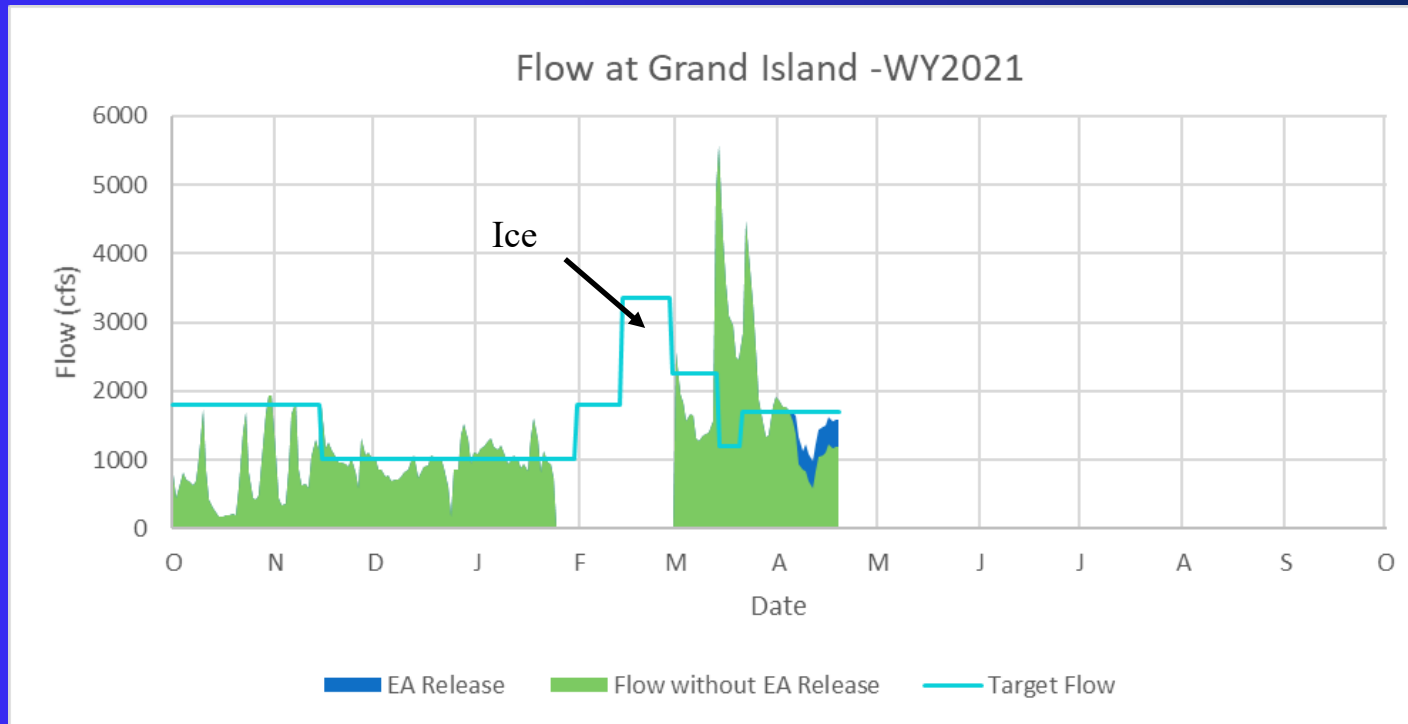
- Release 30-Mar to 13-Apr
 - 12,496 af released
 - 10,788 af at Grand Island
 - 86 percent of total release
 - Approximately 12 cranes on central Platte



U.S. Fish and Wildlife Service
Region 5 & 7
Water Resources



WY2020 EA Releases and Grand Island Flow



**U.S. Fish and Wildlife Service
Region 5 & 7
Water Resources**



June Germination Prevention Flow

- Target – 2,000 cfs for entire month
- Estimate of release volume required to reach target
 - Median ~78 kaf
 - High ~123 kaf
 - Low 0



**U.S. Fish and Wildlife Service
Region 5 & 7
Water Resources**



Summary

- 200 kaf cap may be reached without additional releases
- Spring whooping crane release
 - ~12,500 af
- Upcoming June germination suppression flow
 - Median of ~78 kaf
 - No additional releases if median or greater.



U.S. Fish and Wildlife Service
Region 5 & 7
Water Resources



Nebraska New Depletion Plan Update

PRRIP Water Advisory Committee Meeting
May 4, 2021

Kari Burgert

Integrated Water Management
Analyst



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Water Planning
and Integrated
Management



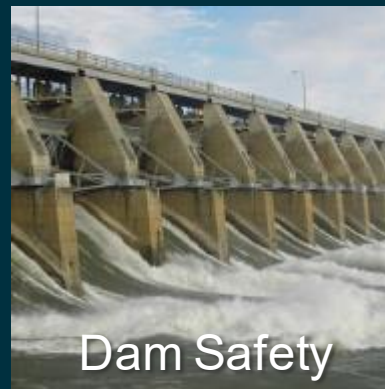
Surface Water



Groundwater



Floodplain
Management



Dam Safety



Field Offices

Update on Nebraska's New Depletion Plan

- 2019 Permitted Activities
- Estimated Depletions
- Offsets and Accretions
- Update on other activities



2019 Permitted Water Uses

- Permits issued by the NRDs and the Department

Type	Total
Groundwater Transfers	17
Groundwater Wells	33
Groundwater Variances	4
Surface Water Permits	20

2019 Groundwater Transfer Permits

	Upstream of CHR	Within CHR	Total
Groundwater Transfers	8	9	17

2019 Groundwater Well Permits

Type	Upstream of CHR	Within CHR	Below CHR	Total
Aquaculture	1	-	-	1
Dewatering	1	6	-	7
Industrial/ Commercial	3	-	-	3
Municipal	-	1	-	1
Transfer/ New Well	1	-	-	1
Replacement	4	10	1	15
Supplemental Groundwater	1	4	-	5
Total	11	21	1	33

2019 Groundwater Variance Permits

Type	Upstream of CHR	Within CHR	Total
Acre Correction	1	2	3
Other*	1	-	1
Total	2	2	4

*Transfer Across Subarea Boundary

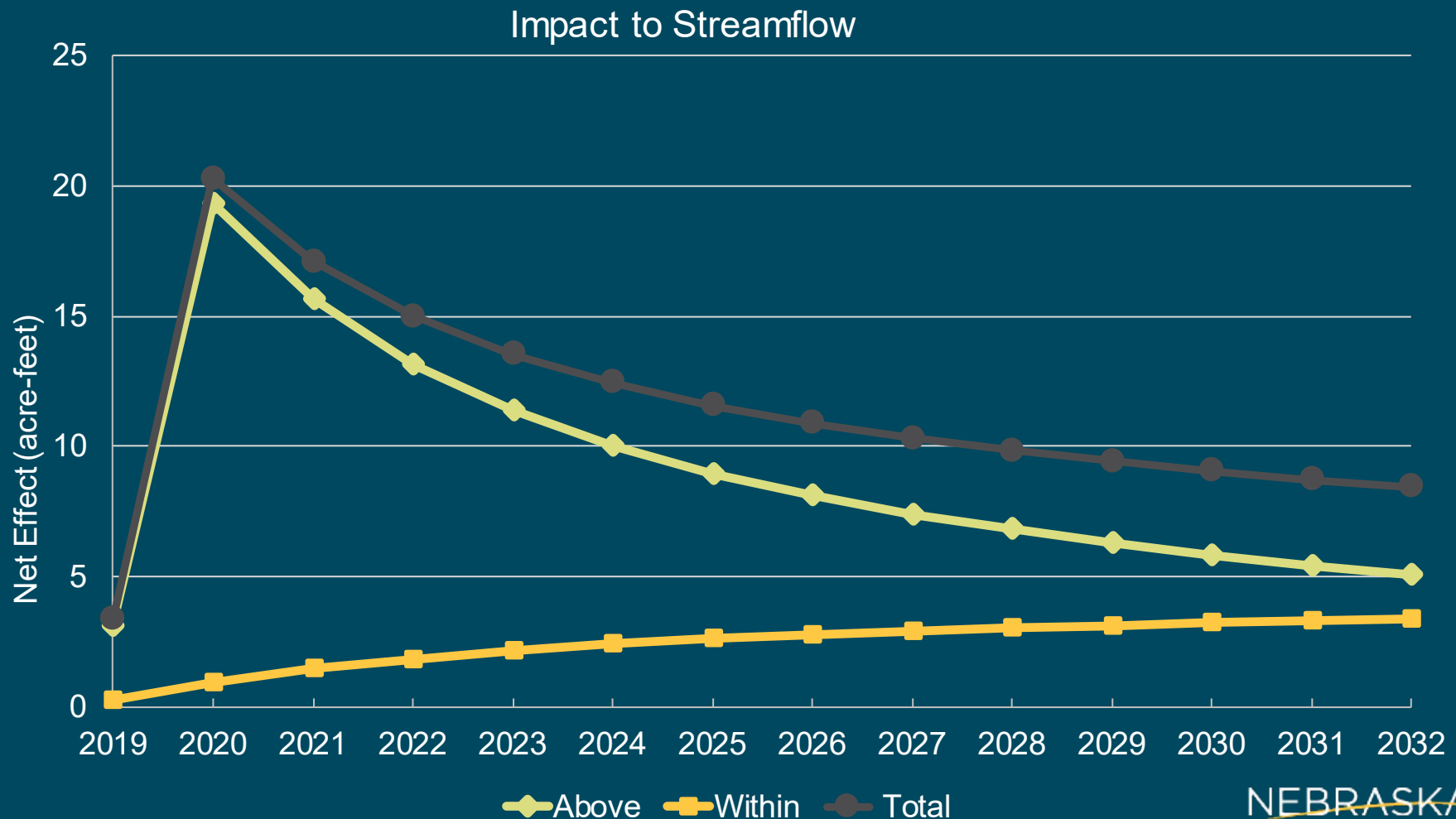
2019 Surface Water Permits

Type	Upstream of CHR	Within CHR	Total
Recharge (Temporary)	17	-	17
Manufacturing (Temporary)	3	-	3
Total	20		20

Effects to Streamflow from 2019 Permitted Activities

Year	Upstream of CHR			Within CHR			Both Reaches
	New Uses	Mitigations	Net Effect	New Uses	Mitigations	Net Effect	Net Effect
2019	25.83	-22.71	3.12	1.38	-1.1	0.29	3.41
2020	35.99	-16.65	19.35	4.04	-3.11	0.93	20.28
2021	42.04	-26.4	15.64	6.35	-4.89	1.45	17.1
2022	46.2	-33.06	13.14	8.21	-6.36	1.85	15
2023	49.3	-37.94	11.36	9.74	-7.57	2.16	13.53
2024	51.73	-41.7	10.03	11.01	-8.59	2.41	12.44
2025	53.7	-44.72	8.98	12.08	-9.47	2.61	11.59
2026	55.34	-47.22	8.12	13.01	-10.23	2.78	10.9
2027	56.73	-49.32	7.41	13.81	-10.9	2.91	10.33
2028	57.94	-51.13	6.81	14.52	-11.49	3.03	9.84
2029	58.99	-52.7	6.29	15.16	-12.02	3.14	9.42
2030	59.92	-54.09	5.84	15.73	-12.5	3.22	9.06
2031	60.75	-55.32	5.43	16.24	-12.94	3.3	8.74
2032	61.5	-56.43	5.08	16.71	-13.34	3.37	8.45

Net Effect to Streamflow from 2019 Permitted Activities



Other Basin-Wide Activities

- 2019 report was last under the first increment of NeDNR and Upper Platte NRDs integrated water management plans
- Second increment Upper Platte Basin-Wide Plan and Integrated Management Plans between the Natural Resources Districts and Nebraska Department of Natural Resources effective in September 2020
- 2023 Robust Review
- Updating COHYST and WWUM models
- Updating depletions/accretions analysis with updated datasets

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Questions?

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