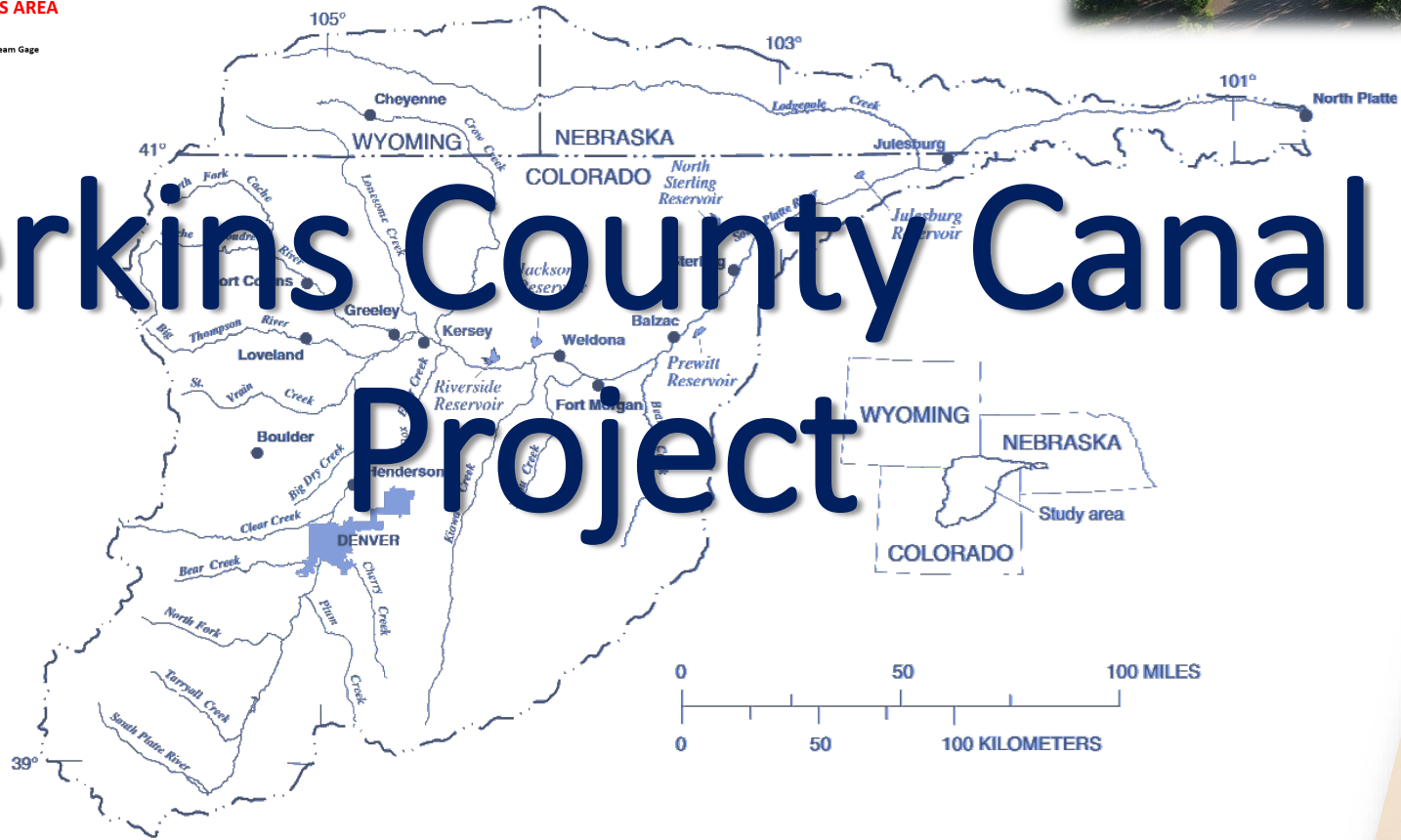
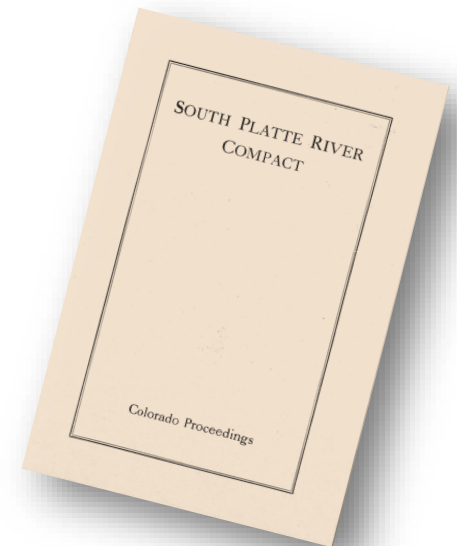


Perkins County Canal Project



Base from U.S. Geological Survey and U.S. Census Bureau digital data, 1974 to 1993



Article VI of South Platte Compact

ARTICLE VI.

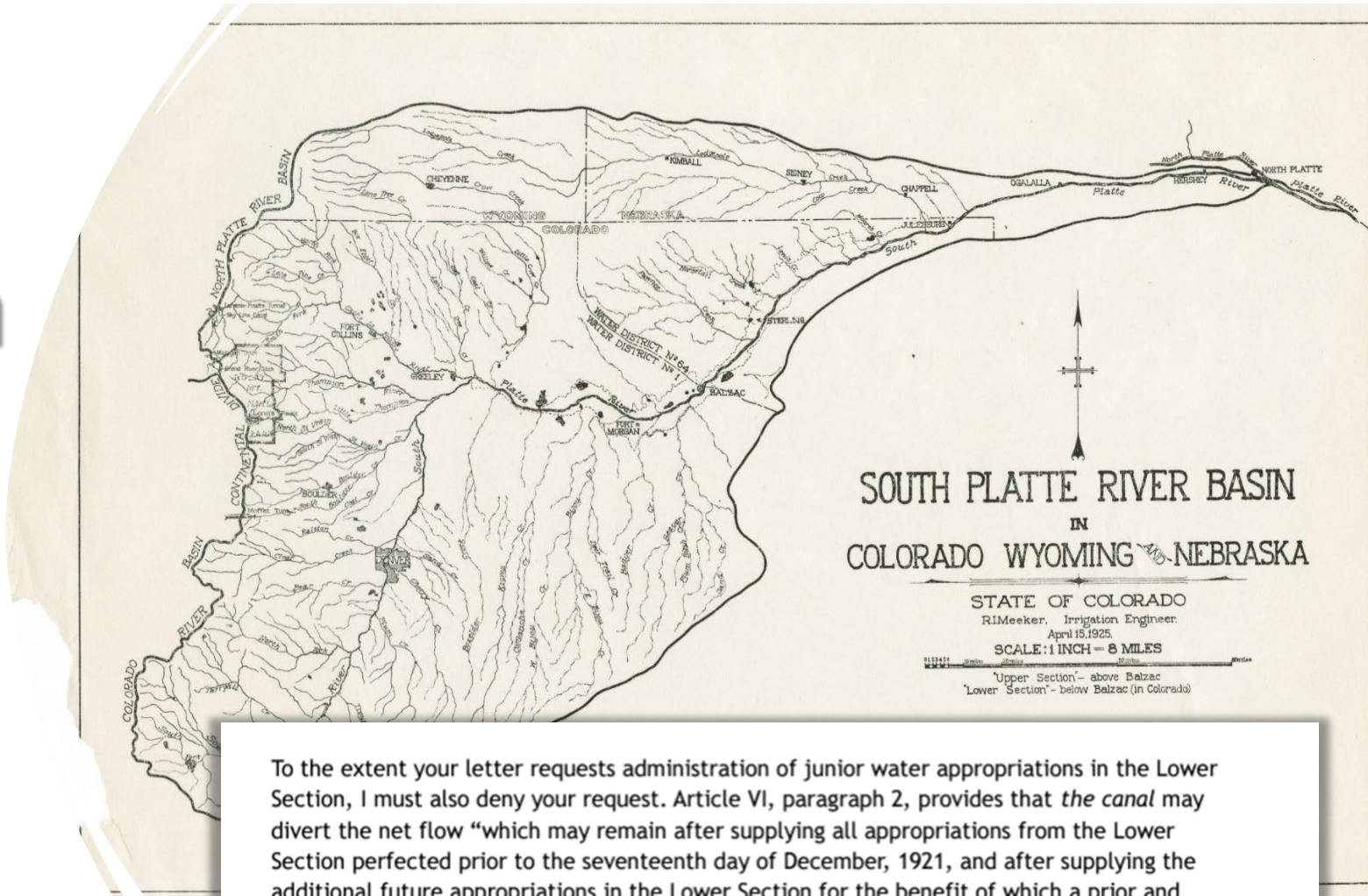
It is the desire of Nebraska to permit its citizens to cause a canal to be constructed and operated for the diversion of water from the South Platte River within Colorado for irrigation of lands in Nebraska; that said canal may commence on the south bank of said river at a point southwesterly from the town of Ovid, Colorado, and may run thence easterly through Colorado along or near the line of survey of the formerly proposed "Perkins County Canal" (sometimes known as the "South Divide Canal") and into Nebraska, and that said project shall be permitted to di-

“It is the desire of Nebraska to ... cause a canal to be constructed and operated for the diversion of water from the South Platte River within Colorado, for irrigation of lands in Nebraska; ... and that said project shall be permitted to divert waters of the river as hereinafter provided.”

MAP
of the
SOUTH DIVIDE CANAL.

Scale, 100 feet = 1 inch.
Contract, Plans & Location, Marked Points,
Surveying Party, etc. etc. (unintelligible)
James Wilson, E. M. Smith, C. C. Spivey.

Why is Nebraska building the Perkins County Canal?

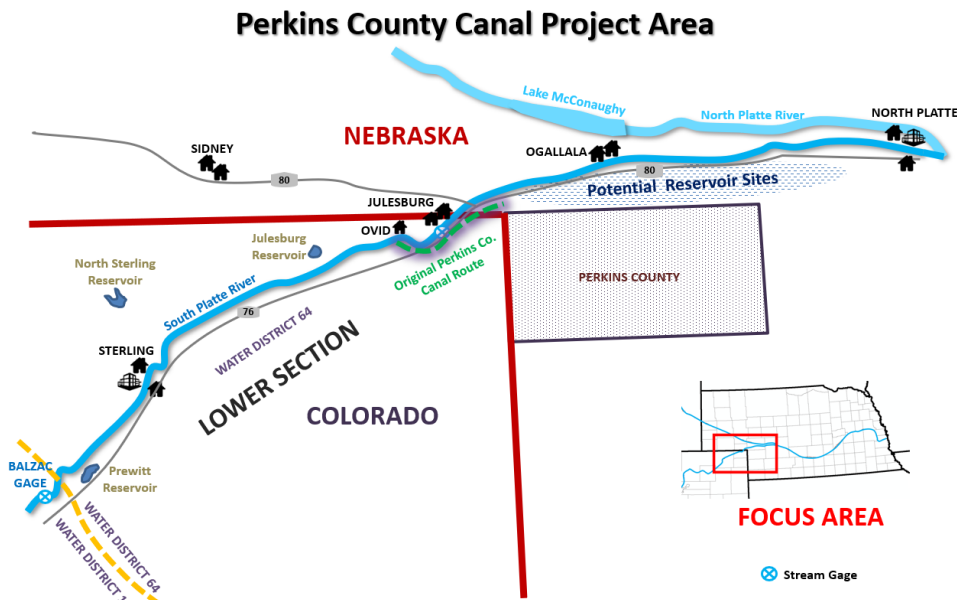


To the extent your letter requests administration of junior water appropriations in the Lower Section, I must also deny your request. Article VI, paragraph 2, provides that *the canal* may divert the net flow “which may remain after supplying all appropriations from the Lower Section perfected prior to the seventeenth day of December, 1921, and after supplying the additional future appropriations in the Lower Section for the benefit of which a prior and preferred use of thirty-five thousand acre-feet is reserved” for Colorado, among additional limitations in the Compact. Because Nebraska has not constructed the Perkins County Canal, there is no basis for Colorado to administer junior water appropriations in the Lower Section

1313 Sherman Street, Room 821, Denver, CO 80203 P 303.866.3581 dwr.colorado.gov
Jared S. Polis, Governor | Dan Gibbs, Executive Director | Kevin G. Rein, State Engineer/Director

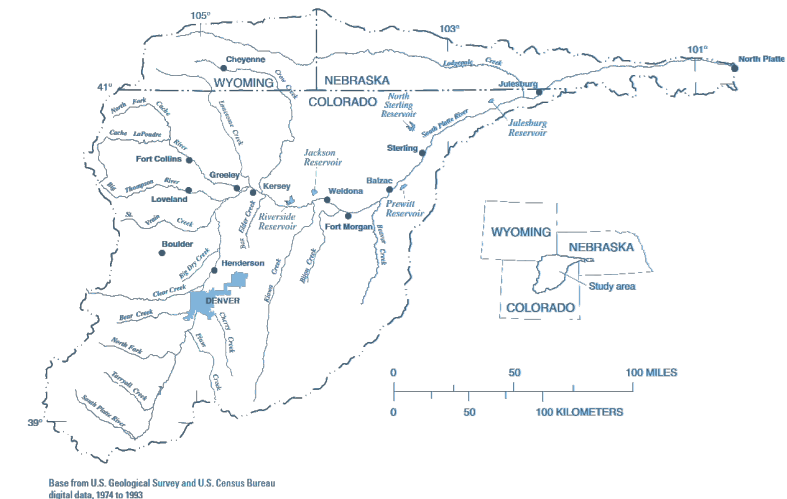
December 15, 2022, Letter from Kevin Rein (Colorado State Engineer)



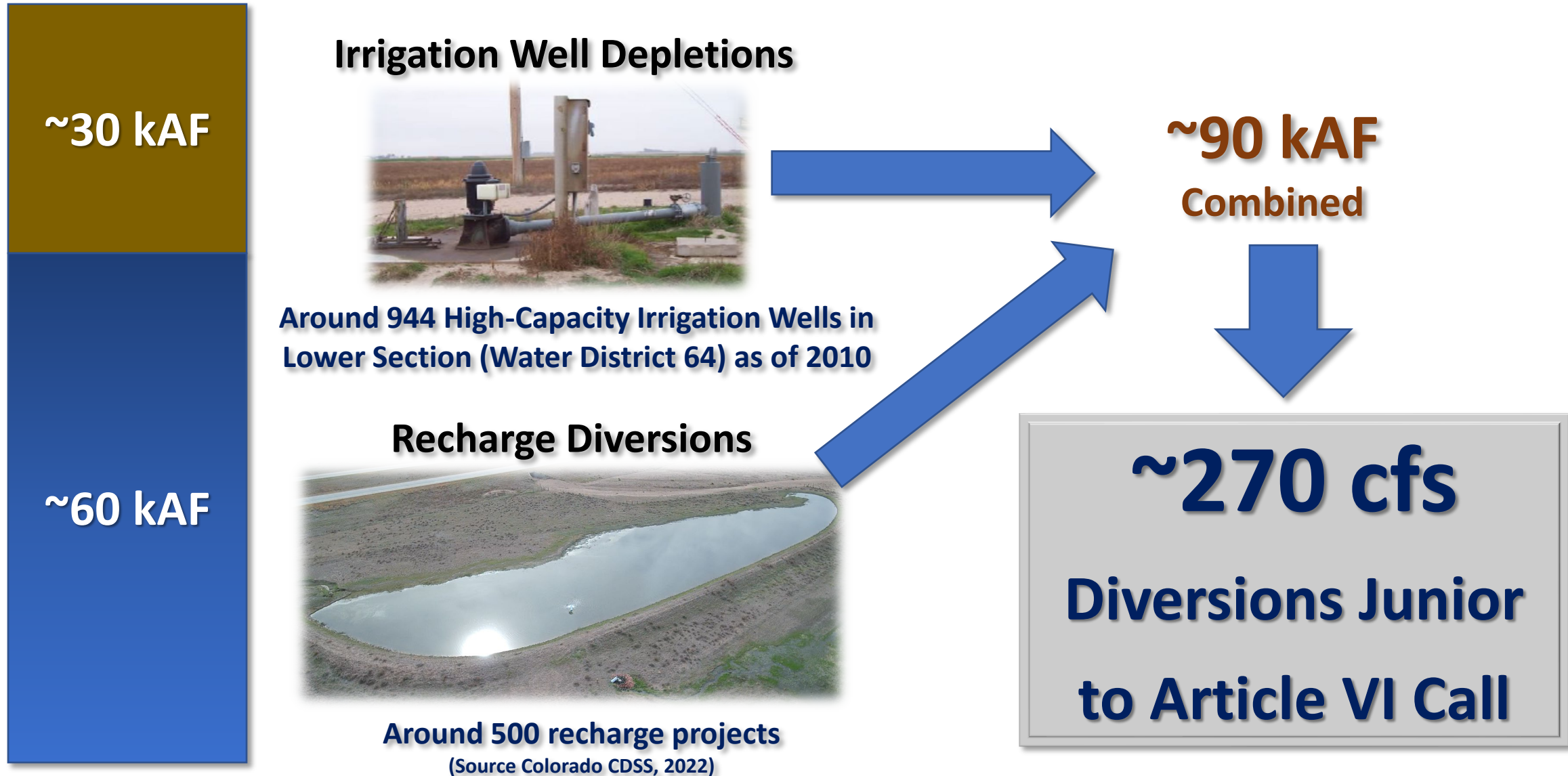


The South Platte River Compact conditions Nebraska's winter season water entitlement on construction of the Canal. Without the Canal, Nebraska cannot exercise this entitlement.

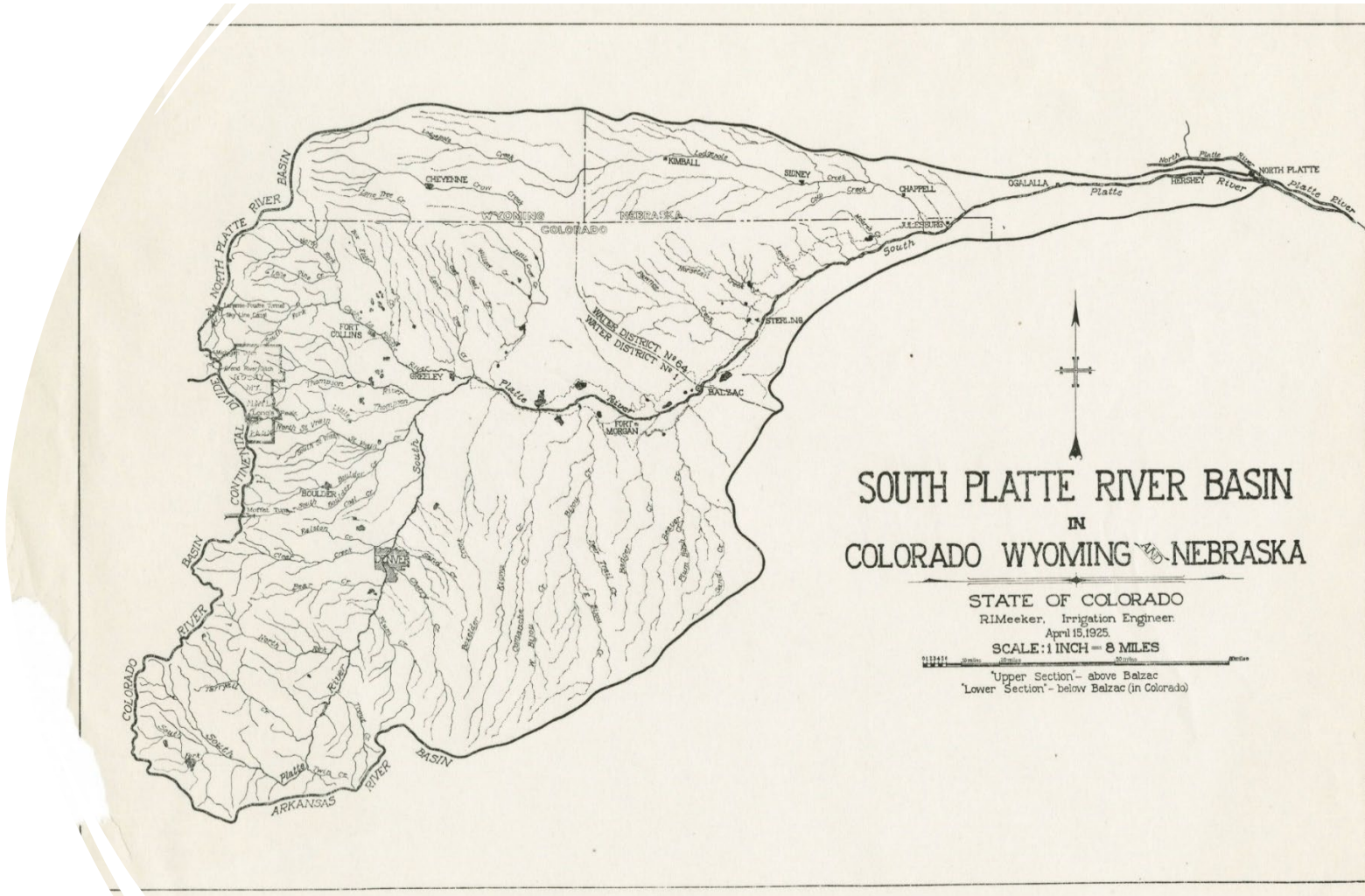
When the Canal is constructed, water will continue to flow into Nebraska when Nebraska calls on its 1921 priority.

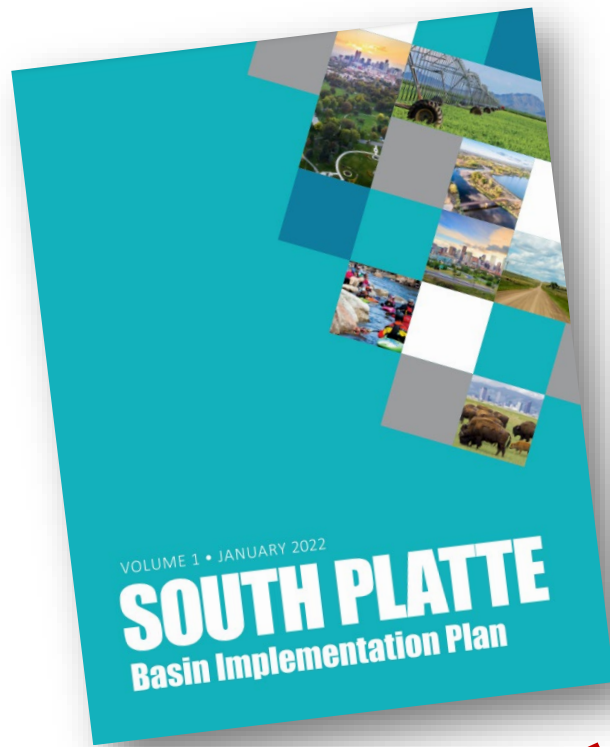


“Junior” Non-Irrigation Season Diversions in Colorado



Foreseeable Future Without the Canal





Colorado legislation, policies, and planning documents identify a substantial shortage (over **400 kaf** for agriculture and around **250 kaf** for municipal uses) needed to meet Colorado's 2050 demand in South Platte Basin (Colorado's South Platte Basin Implementation Plan 2022)

Figure 6. Baseline and 2050 Projected Average Annual Agricultural Diversion Demand, Demand Met, and Gaps

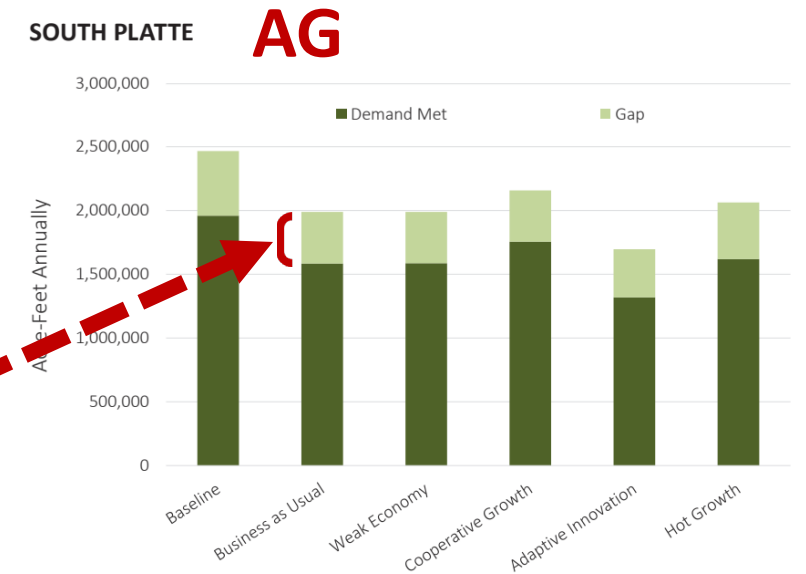
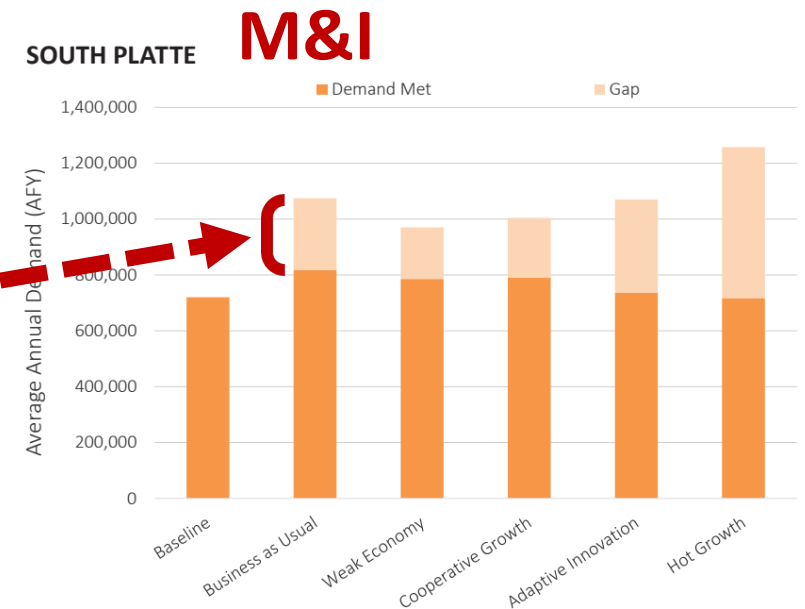
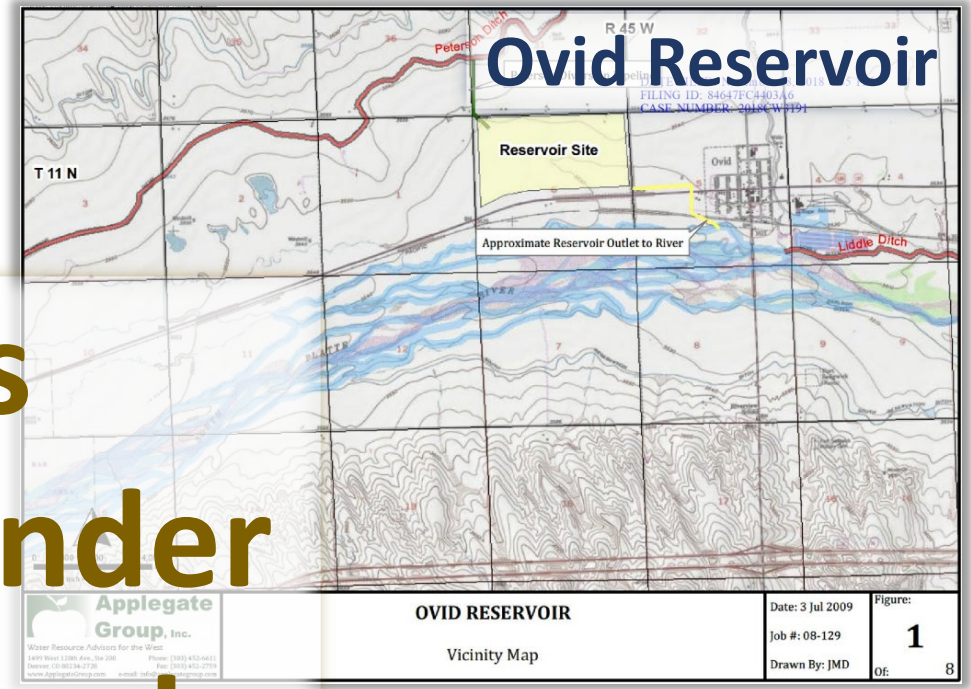
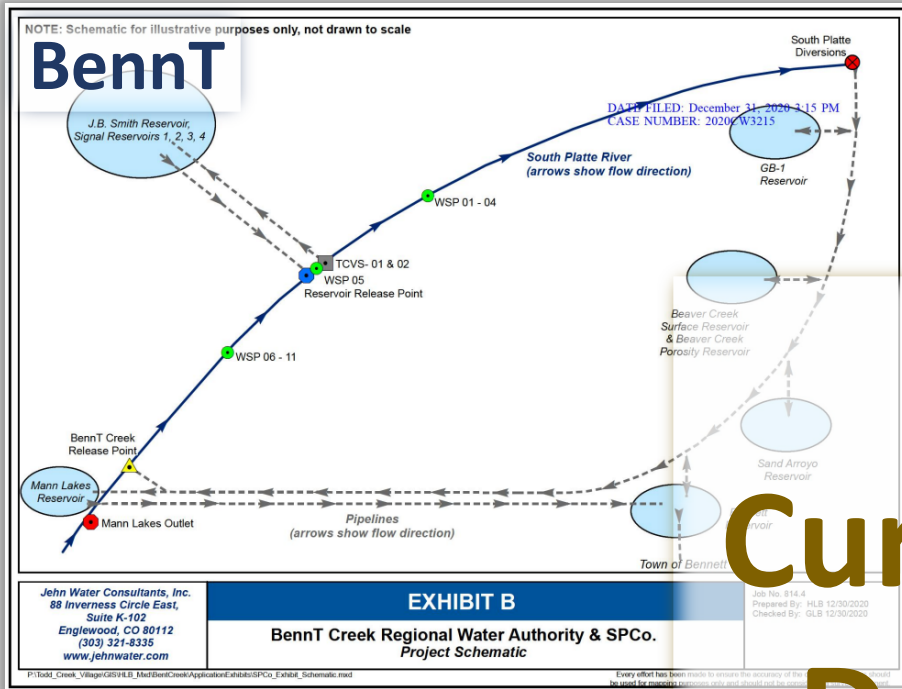
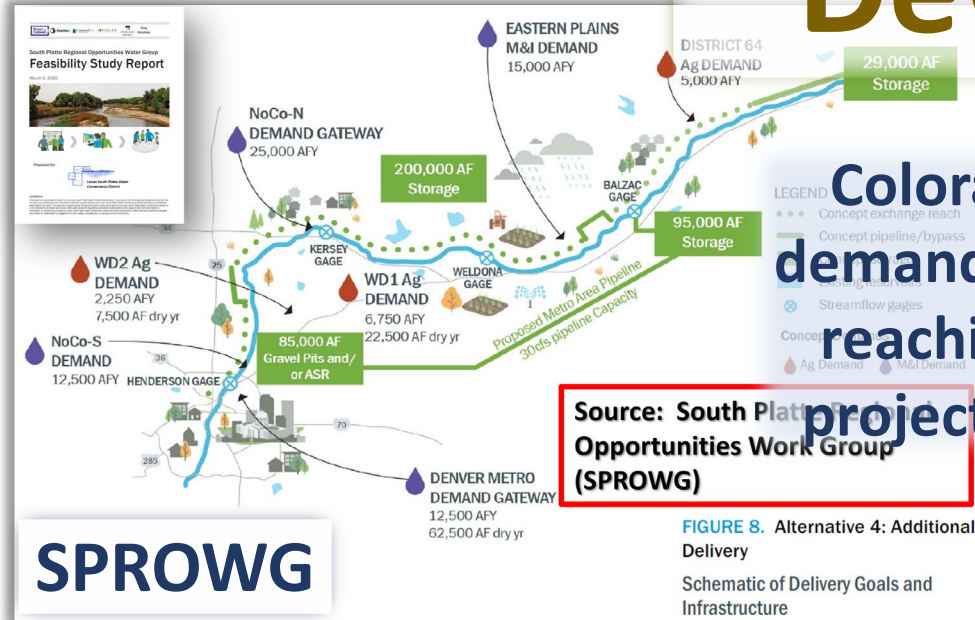


Figure 4. Baseline and 2050 Projected Maximum Annual M&I Demand Met and Gaps





Projects Currently Under Development



Projects Currently Under Construction

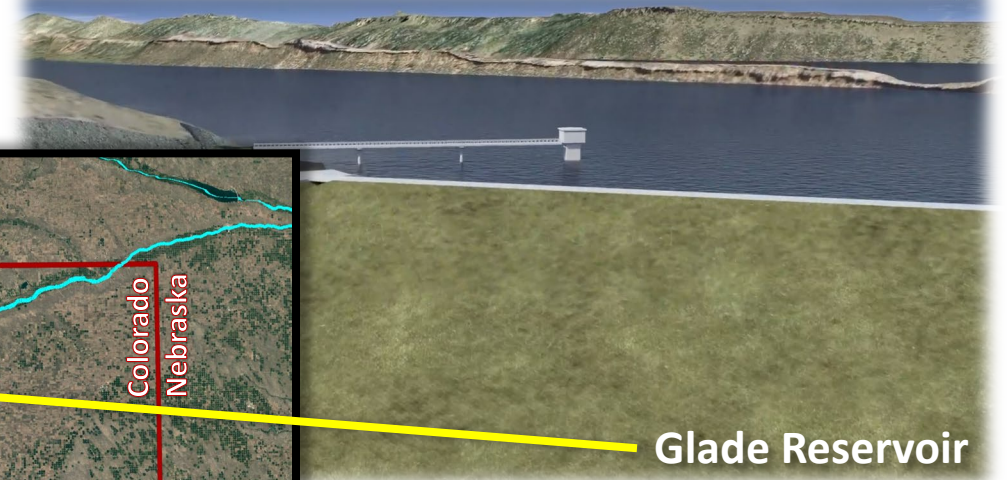
Chimney Hollow Reservoir Project



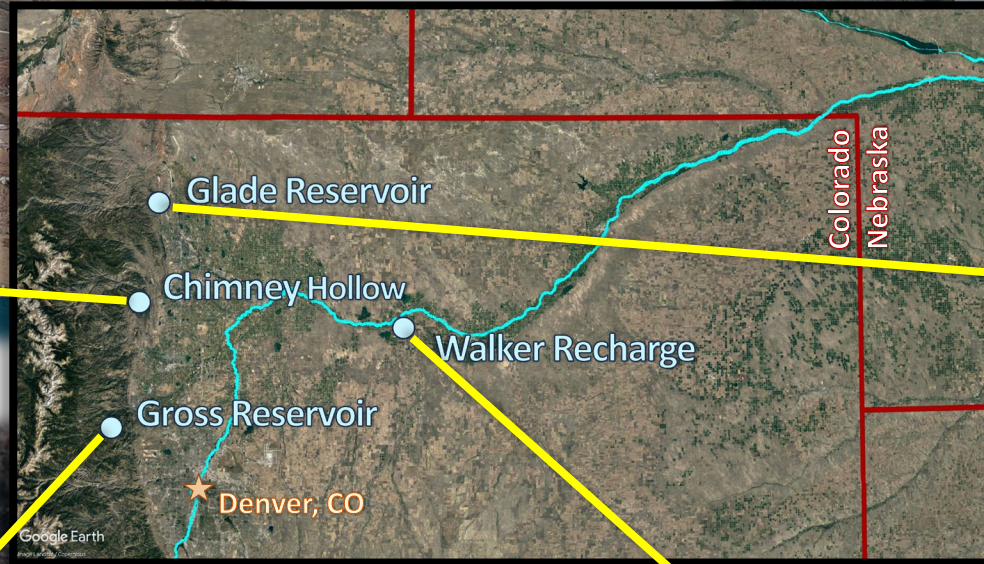
Chimney Hollow

Chimney Hollow - Nov. 14, 2022

Glade Reservoir Flyover



Glade Reservoir

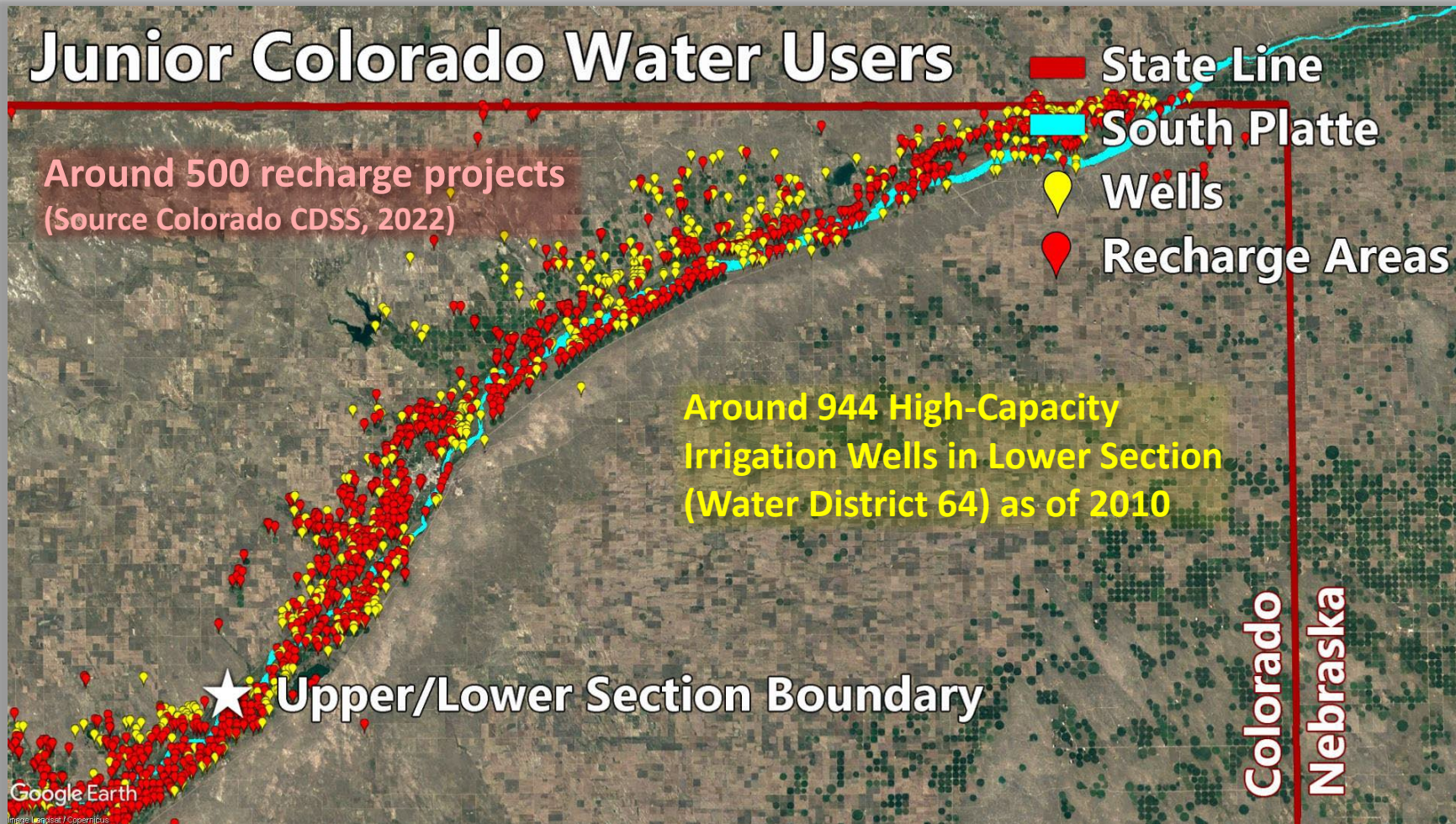


Gross Reservoir Expansion Project



Walker Recharge Project

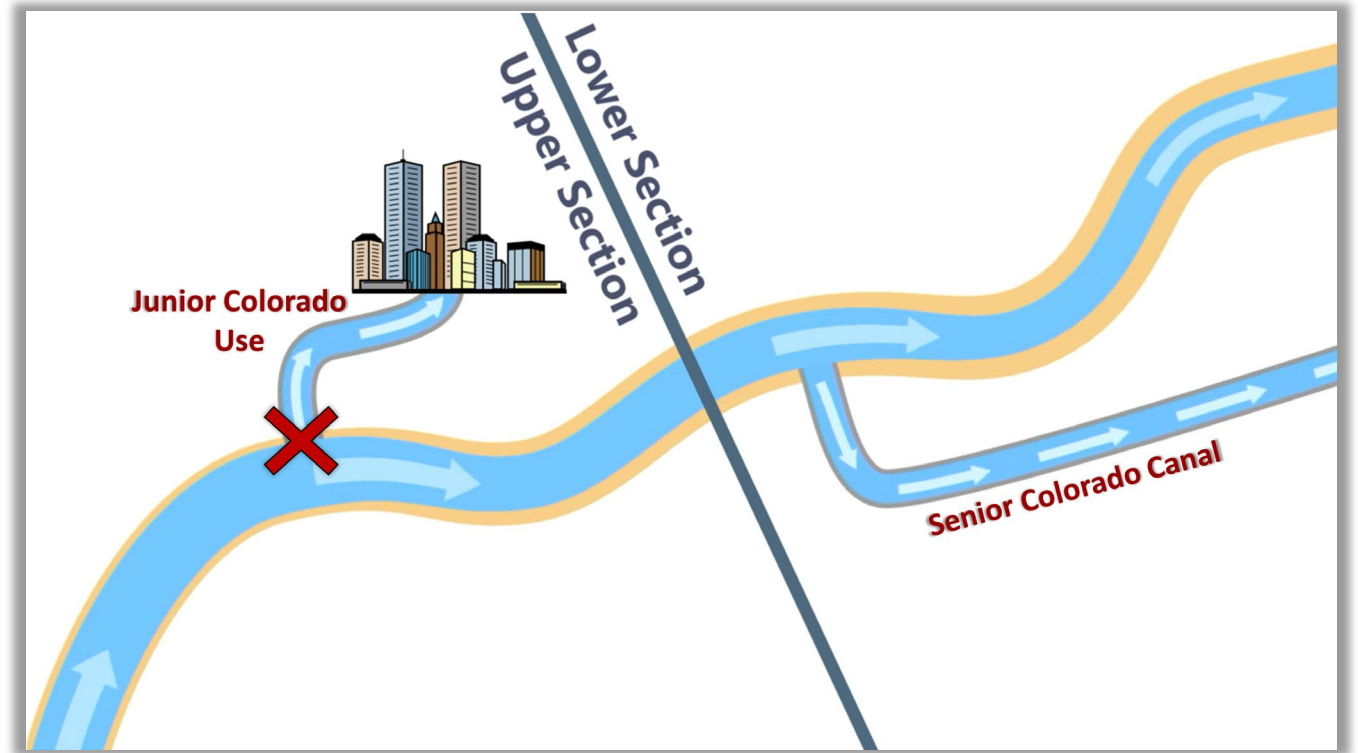
Existing Junior Groundwater Wells and Augmentation Structures



These uses (as well as existing Colorado augmentation projects and groundwater wells) will be junior to the Canal.

Upper/Lower Section Connections

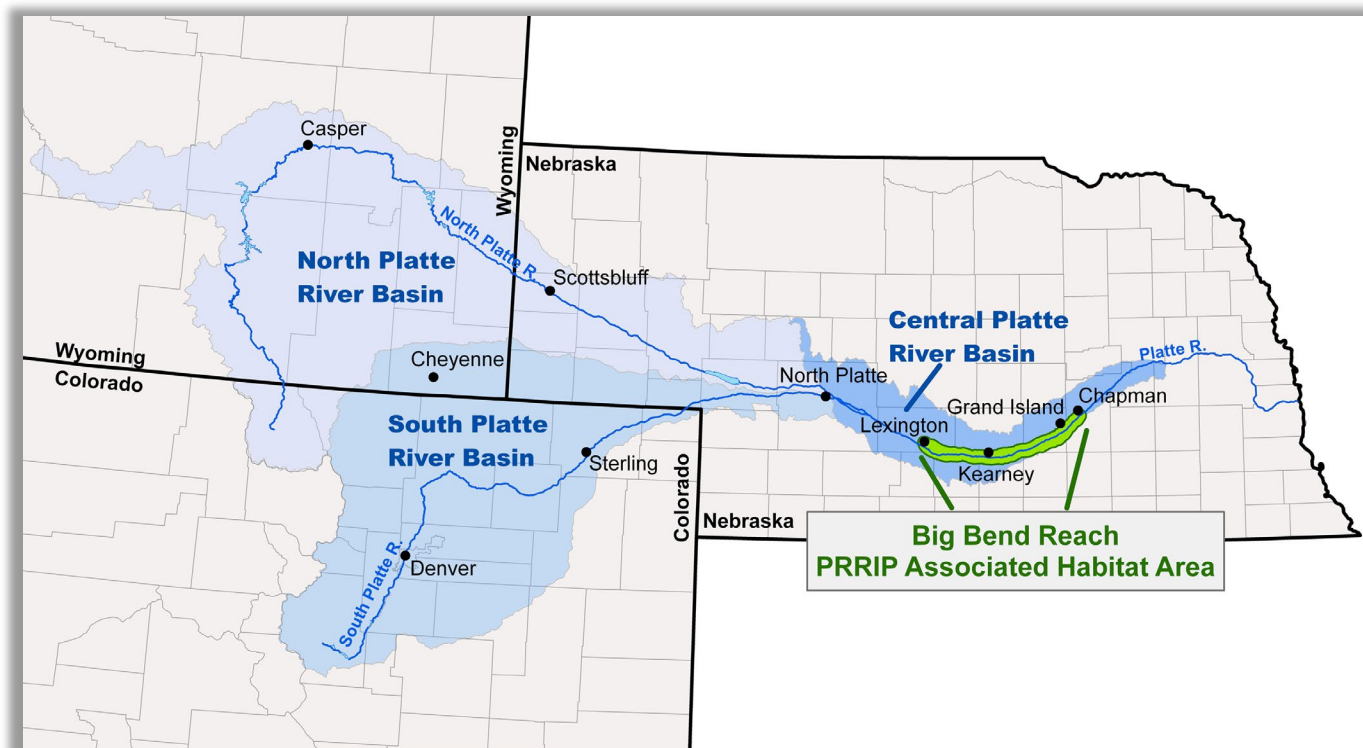
While the Compact divides this portion of the basin into an Upper and Lower Section, Colorado law does not recognize that distinction, so Lower Section users junior to the Perkins County Canal could still call out users in the Upper Section with rights junior to theirs.



PRRIP

Both the Platte River Recovery Implementation Program and Colorado's New Depletions Plan (a Program element) will allow South Platte River depletions to increase by about 100 kaf.

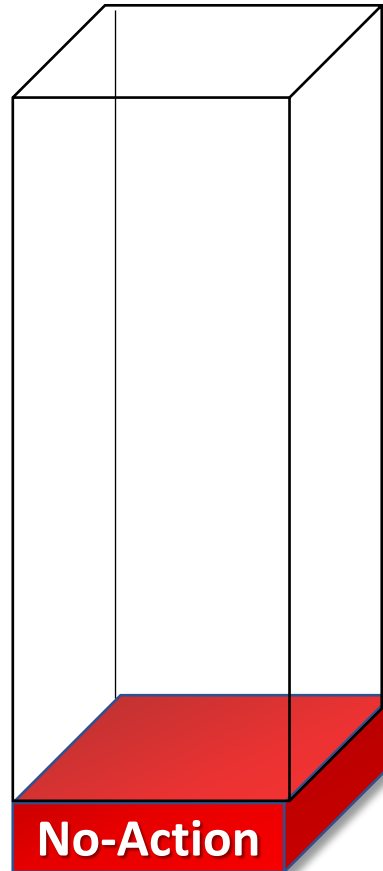
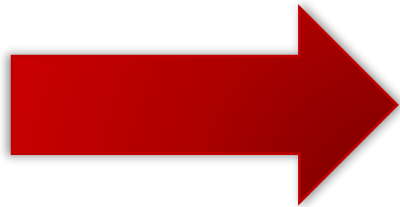
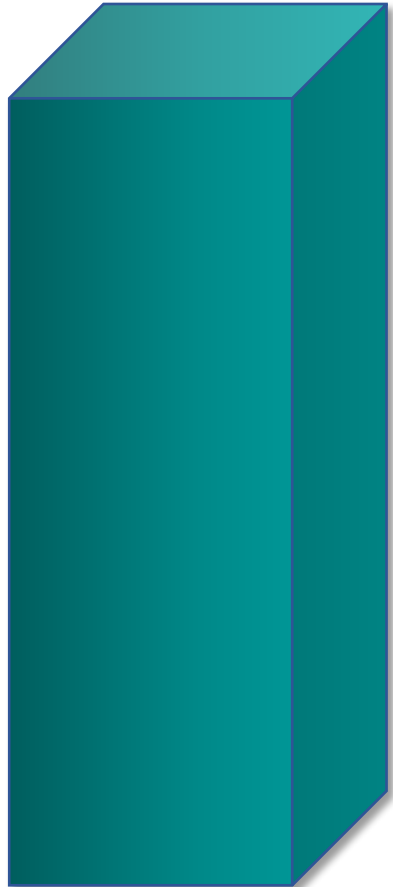
These environmental impacts have already been considered and accepted by the Program participants and the U.S. Department of Interior.



NO ACTION: Stateline Flows

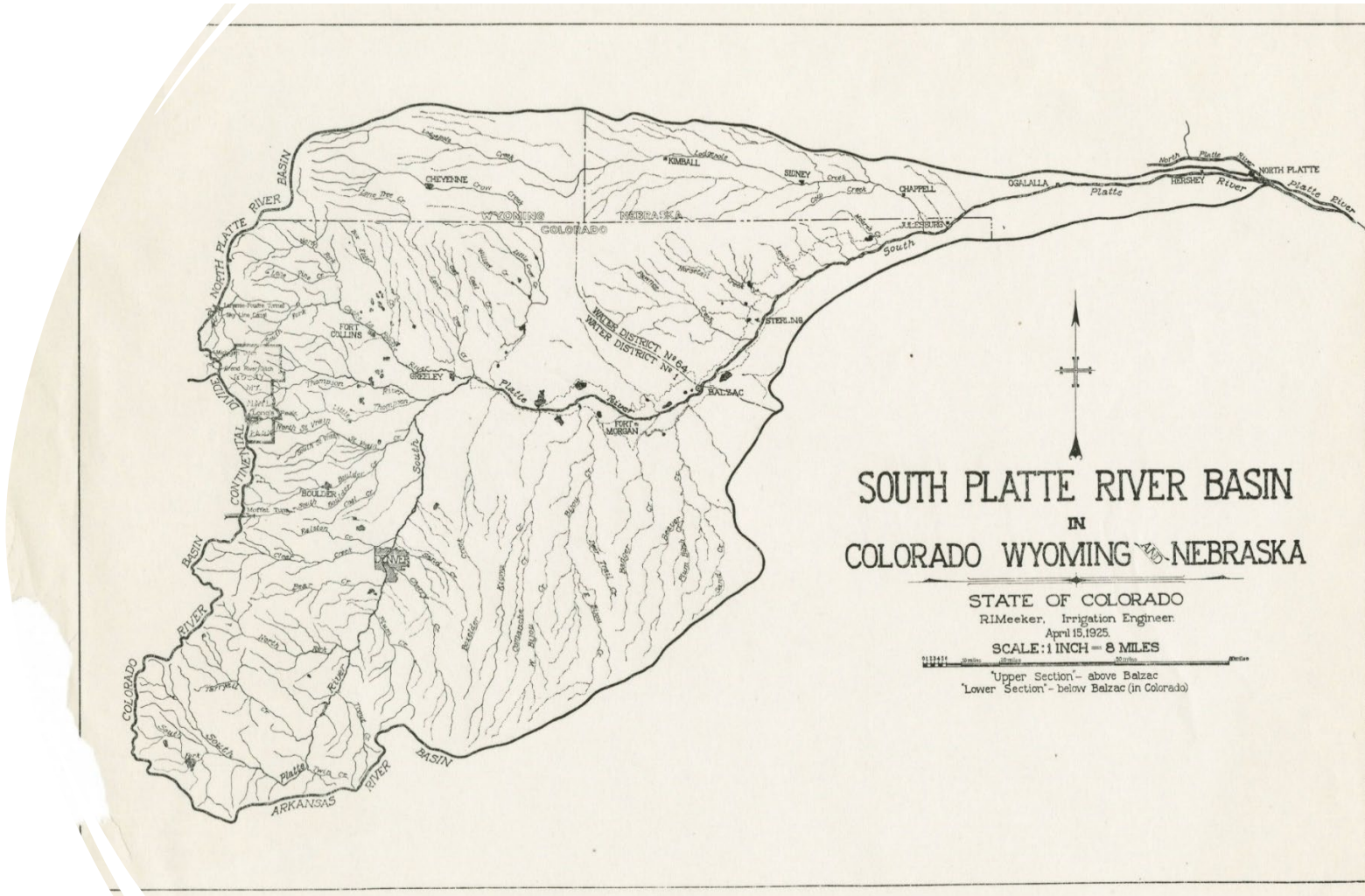
Current

Future

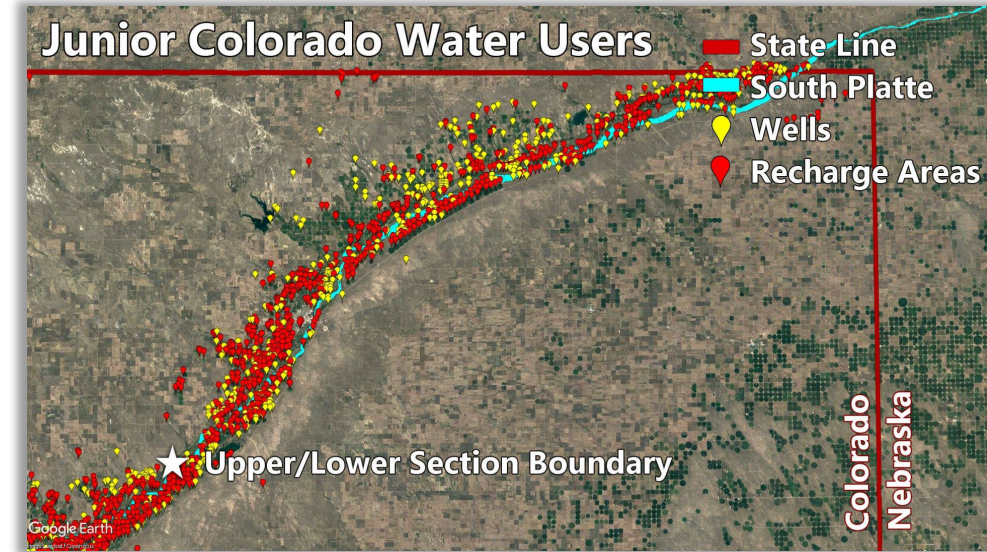


Without the Canal, Colorado plans to increase its consumptive uses such that the only water crossing the state line is the minimum flow of 120 cfs from April 1 – October 15 (roughly 47 kaf).

Foreseeable Future WITH the Canal

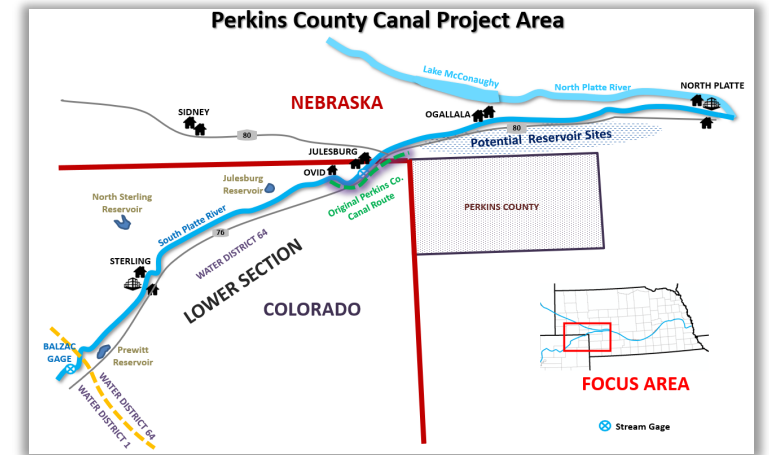
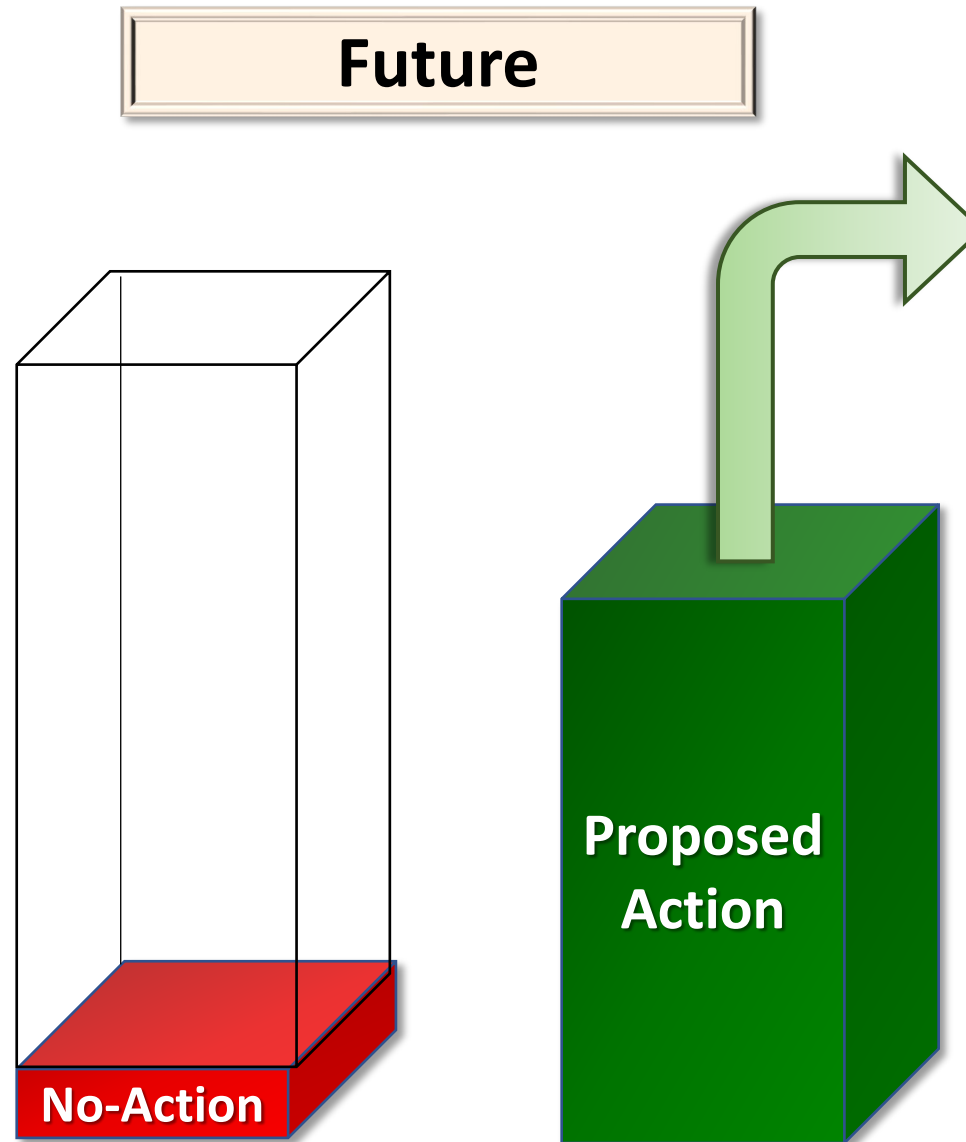


When the canal is operational, Nebraska can call out junior uses in the Lower Section.



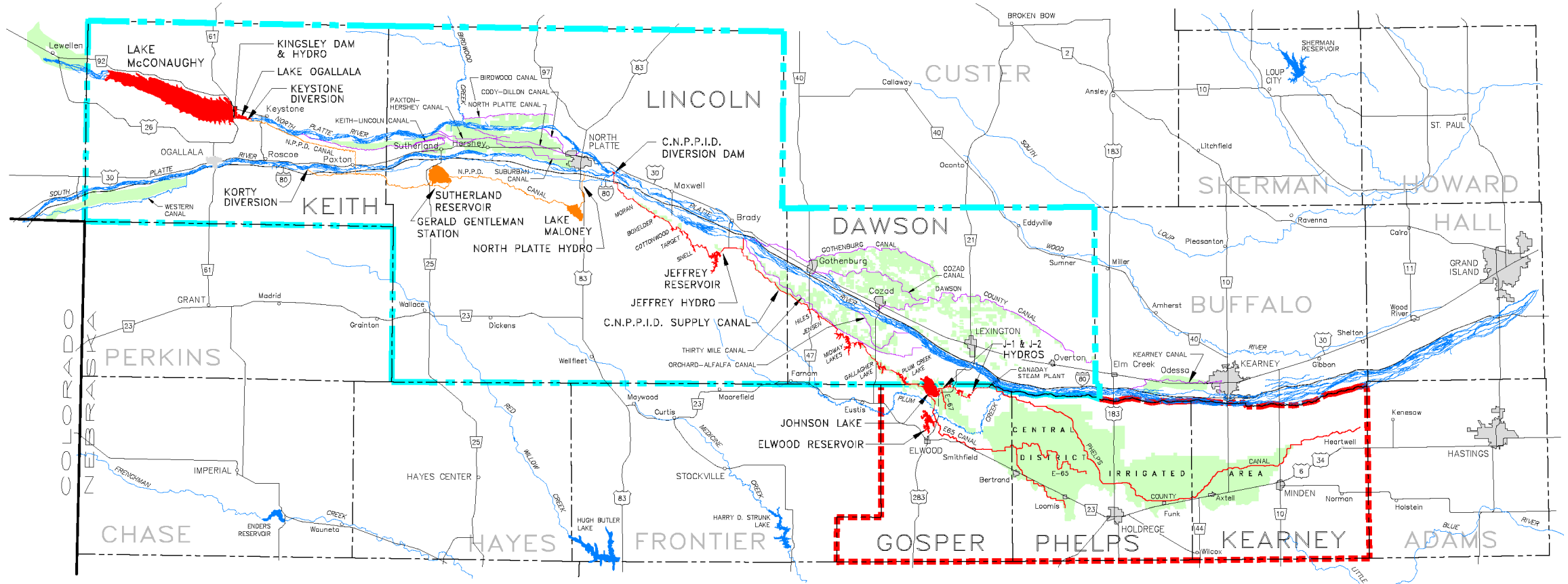
Nebraska's full exercise of its rights under the Compact and Nebraska's laws will preserve current flows because Nebraska state laws and the Nebraska New Depletions Plan require post-1997 uses to be mitigated.

WITH Project: Stateline Flows



With the Canal, state line flows will be protected. Return flows originally intended for Nebraska would no longer be consumptively used by Colorado and instead would flow into Nebraska.

Nebraska is not constructing the Canal for the purpose of expanding its water consumption – the intent is to firm existing supplies.



0 10 Mi

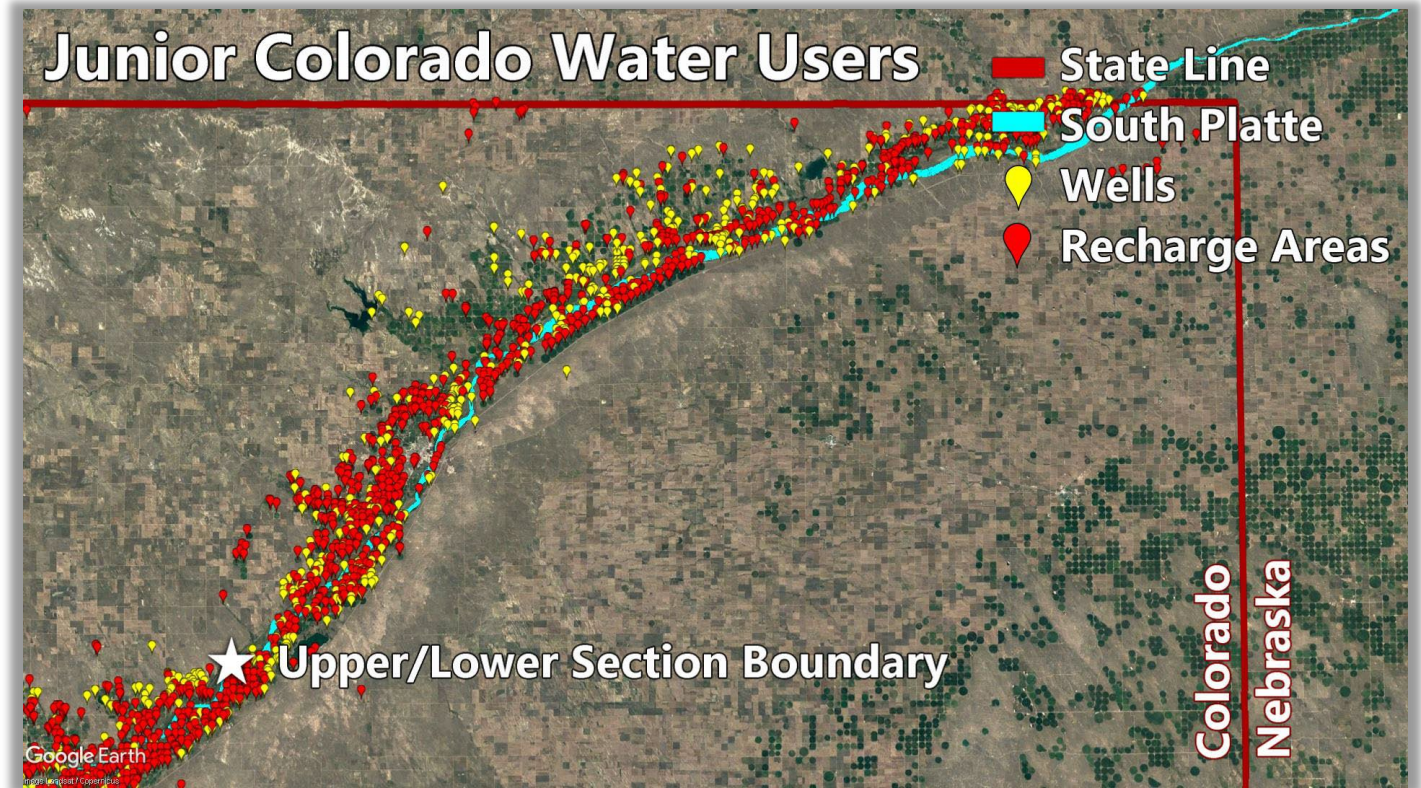
 = SURFACE IRRIGATION



CENTRAL
Nebraska Public Power
and Irrigation District
Holdrege, Nebraska



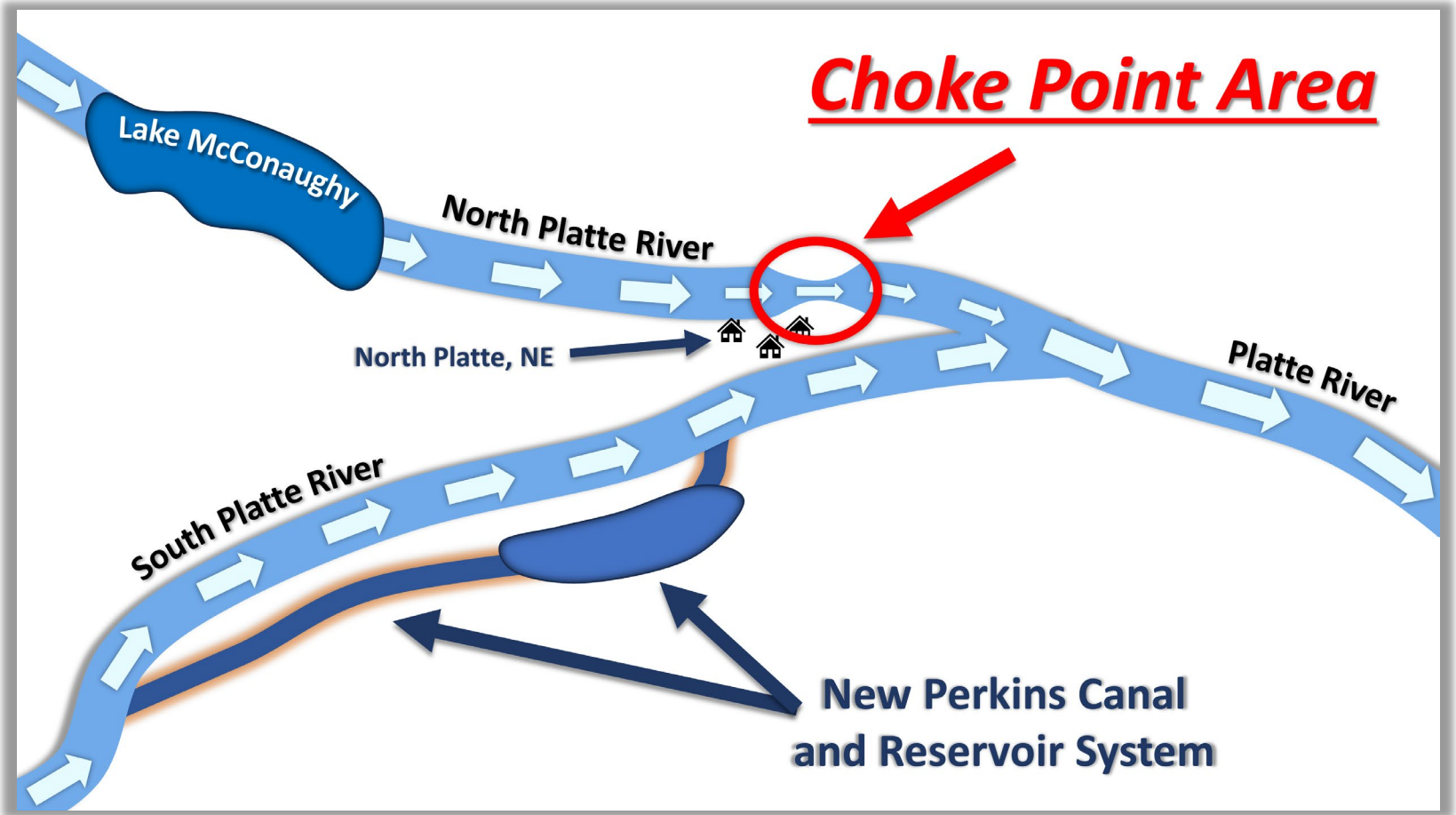
Analyses show that roughly 75 kaf – 100 kaf of water will be available to Nebraska during the winter season when the canal is operating.



So, Canal depletions would be no greater than current junior Colorado depletions that have already been authorized in the Lower Section under the Program.

Addressing #1 Issue for USFWS

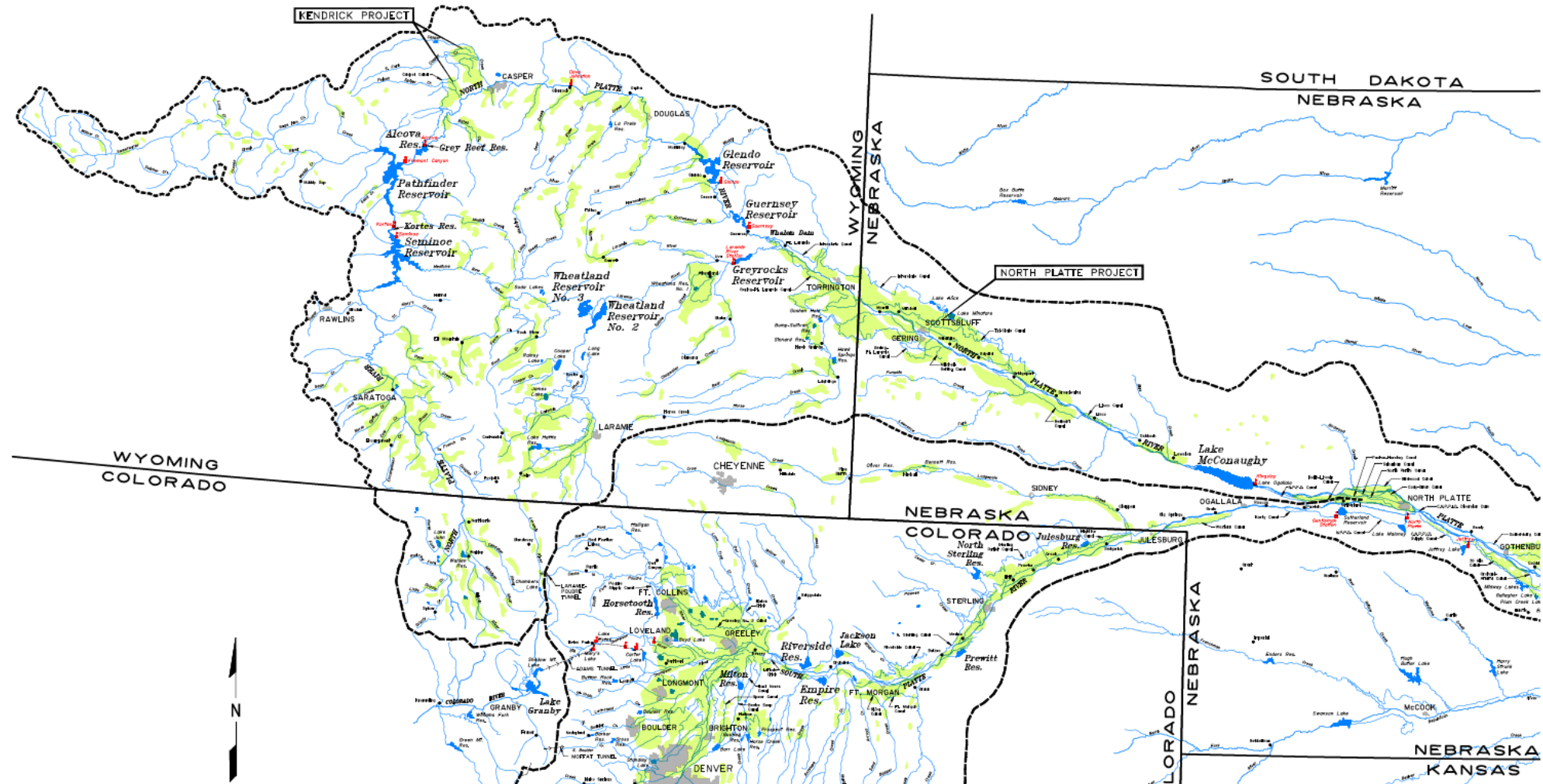
Cooperative management of the Canal can create opportunities to solidify Program water objectives and maximize outcomes for all three states and the Federal parties.



For example, the Canal and reservoir system offers a unique opportunity to fully address conveyance limitations that are critical to USFWS water management and fully attaining Program milestones.

Relieving Pressure on USBR Facilities

The Canal will lessen stress on North Platte River flows for mitigation water and minimize controversy during negotiations over a second increment for the Program.



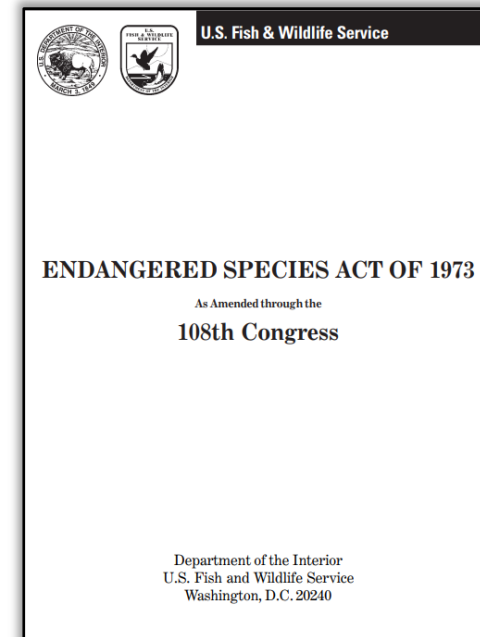
PCC Requires NEPA and ESA Analysis

No federal funding or direct federal action involved. The primary “hook” is likely to be issuance of CWA 404 permit(s) to construct infrastructure in and through waters of US.



No Action Alternative

1. Will reduce the amount of water entering the program reach.
2. Continued constraints associated with the chokepoint.
3. Leaves water action plan projects in limbo.



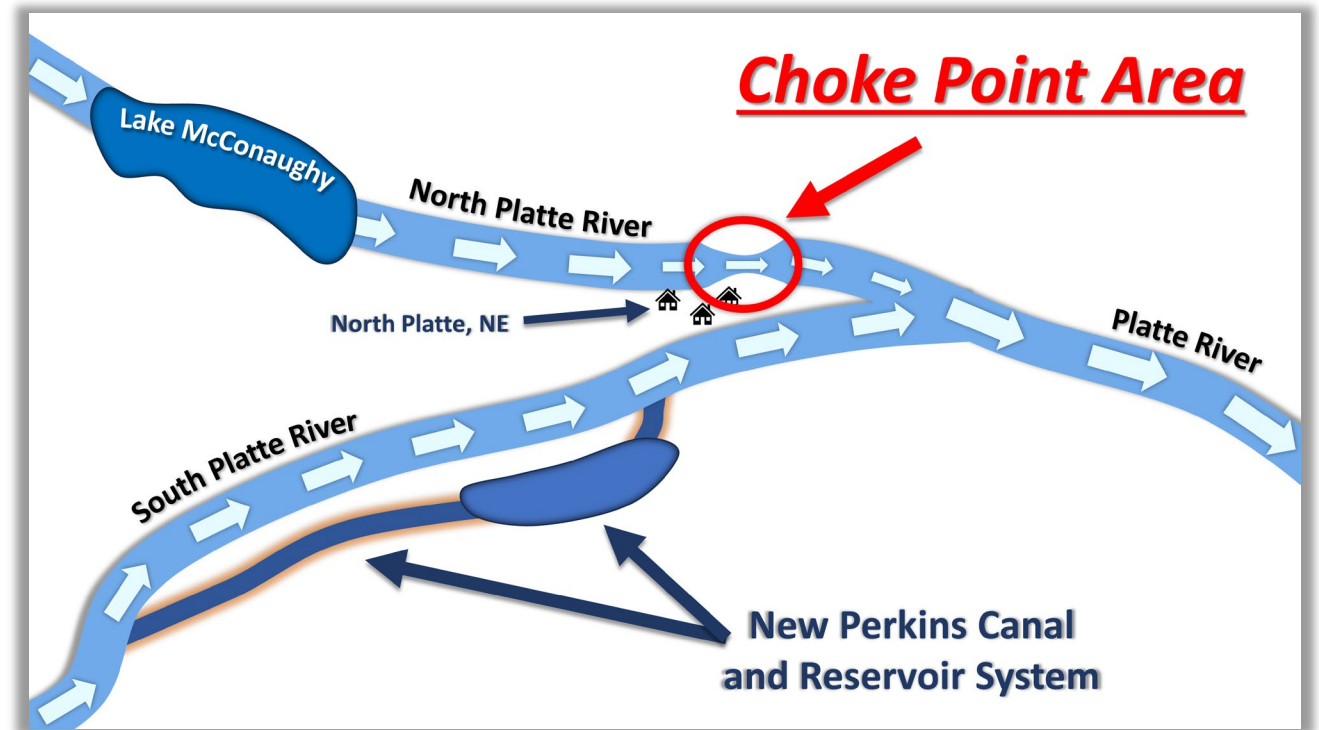


PRRIP Second Increment Would Require NEPA and ESA Analysis

The program is yet undefined.

Needs appear minimally to include:

- 1) Securing water supply.
- 2) Resolution of the “Choke Point” problem.

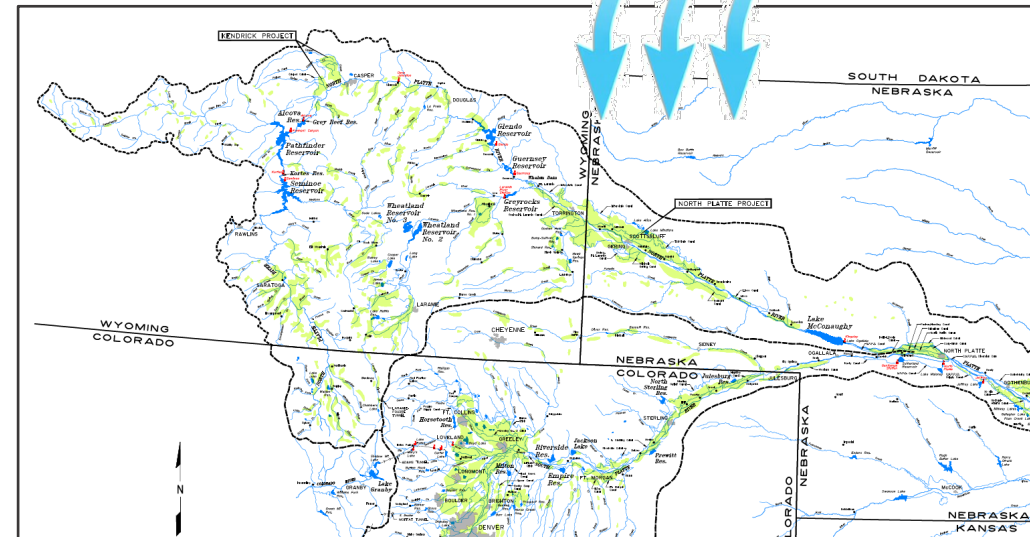
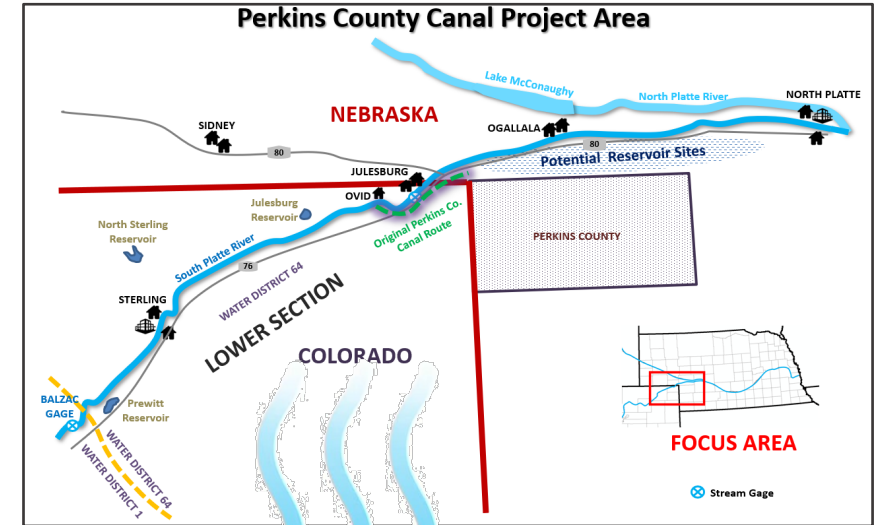


Potential Benefits of a PCC Proposed Action Including PRRIP Dedicated Water

Nebraska could provide water through the PCC project (exchanges and surplus water) to be used for PRRIP purposes.

Benefits

1. Secures water supply.
2. Increases operational flexibility and resolves choke point problem.
3. Reduces stress on water supplies in North Platte System, including federal reclamation projects.
4. Improves chances of ensuring a second increment.





NEPA Analysis for PCC Will Precede NEPA Analysis for PRRIP Second Increment

Planned PCC Timeline	Likely Second Increment Timeline
Finalize Proposed Action - Spring 2024	Finalize Proposed Action - 2029?
Initiate Scoping Spring - 2024	Initial Scoping - 2029
Draft EIS Spring - 2025	Draft EIS - 2030
Final EIS / ROD Issued Spring - 2026	Final EIS /ROD - 2031
Implement Selected Alternative Summer - 2026	Implement Selected Alternative - 2032

END

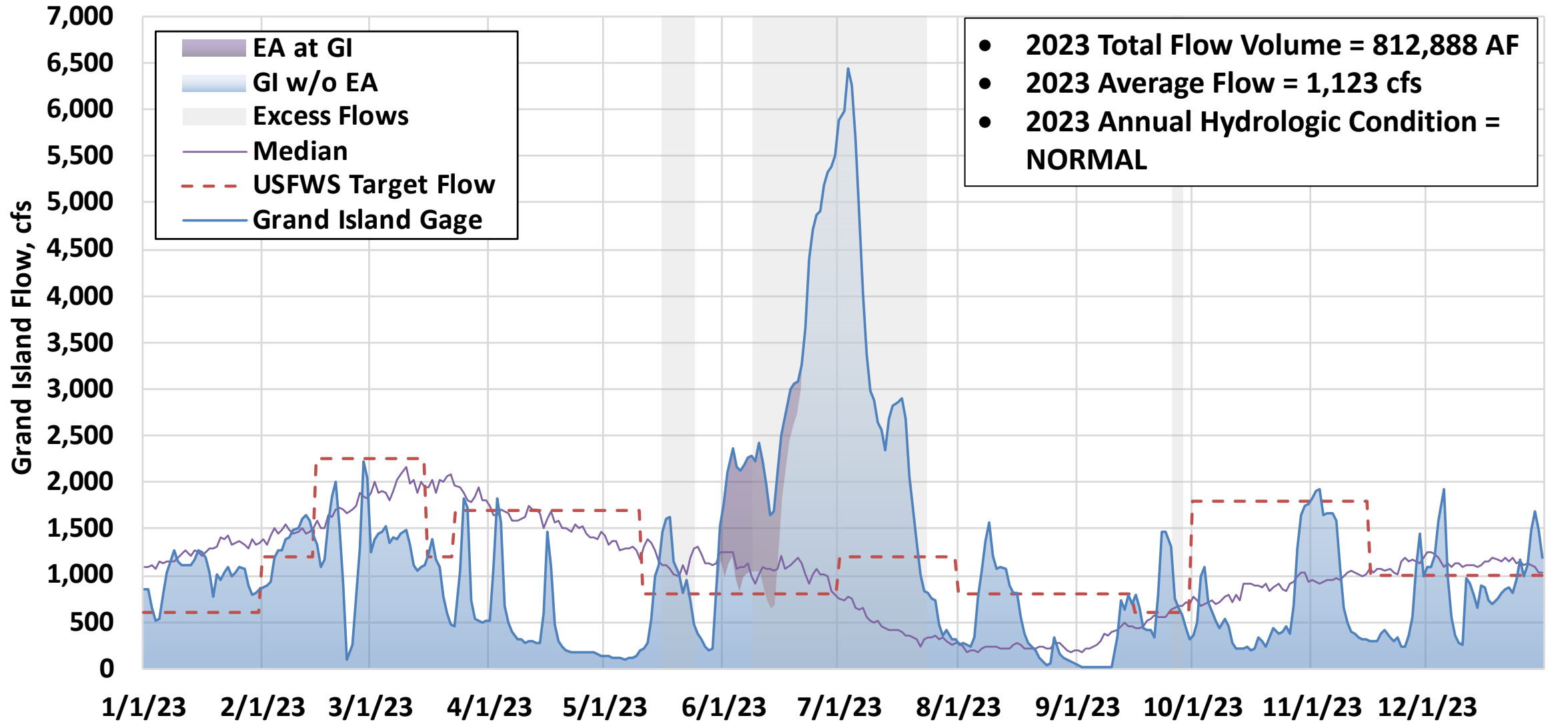
Platte Basin Hydrology Update

PRRIP Water Advisory Committee

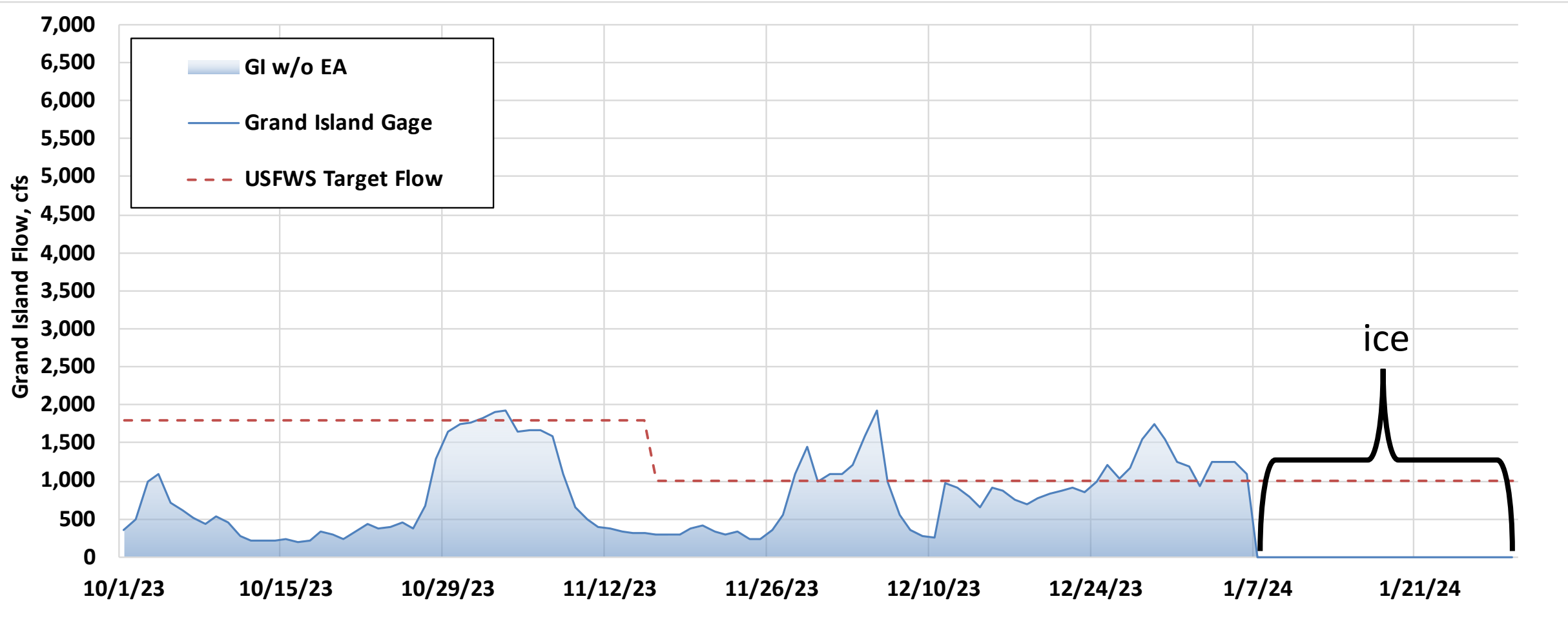
February 6, 2024

Ed Weschler, E.I.

Flow updates

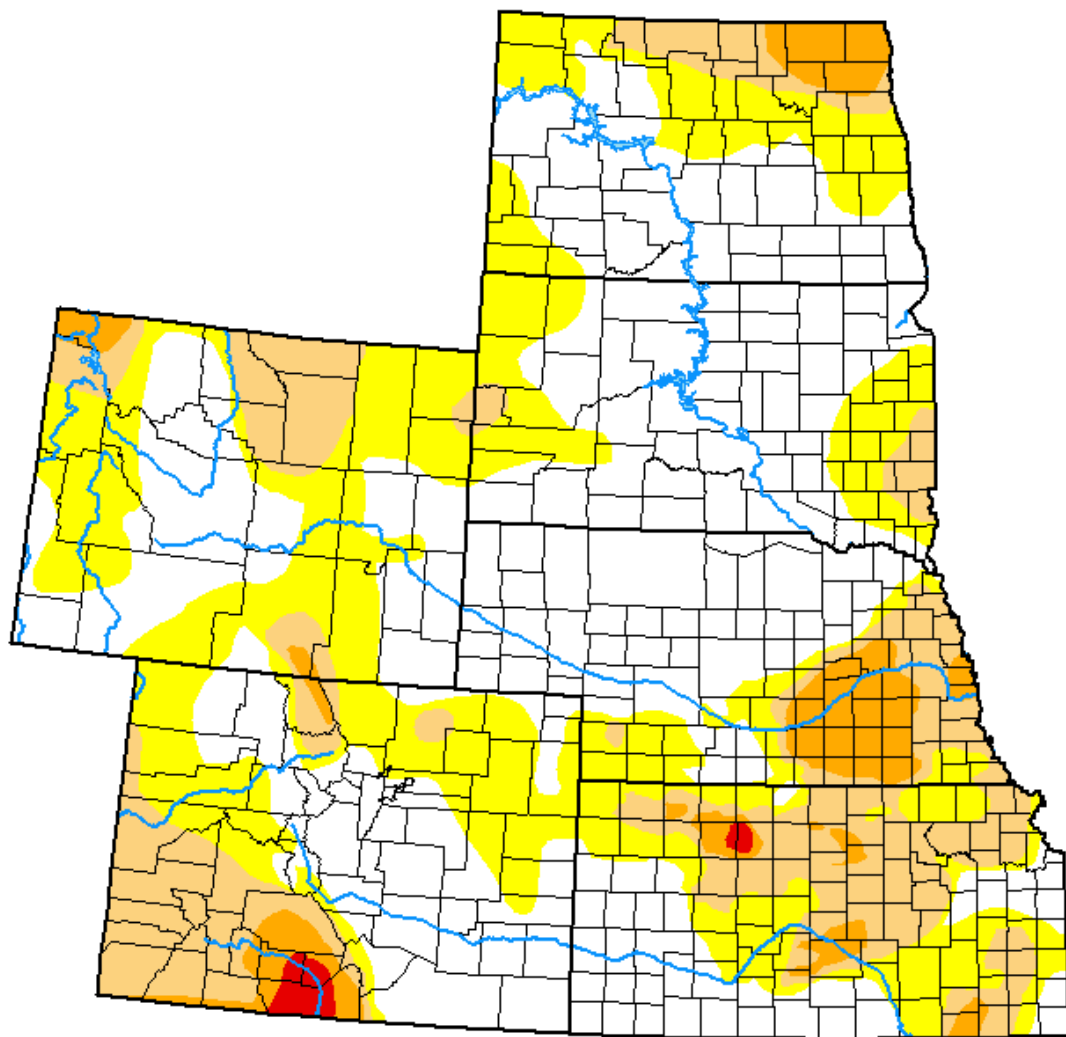


Flow updates

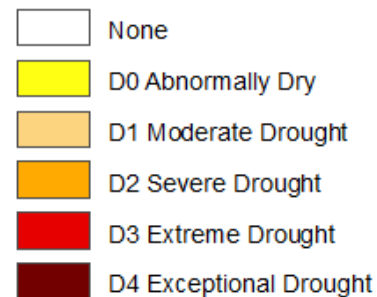


U.S. Drought Monitor High Plains

January 30, 2024
(Released Thursday, Feb. 1, 2024)
Valid 7 a.m. EST



Intensity:



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>

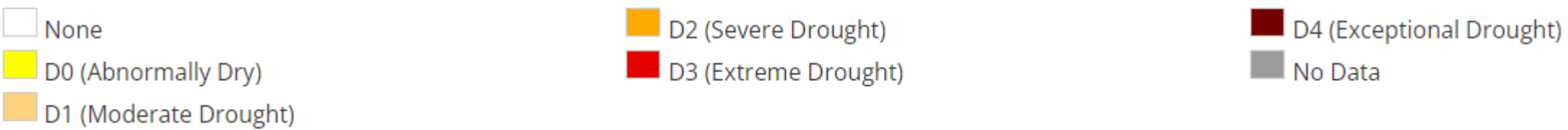
Author:

Brian Fuchs
National Drought Mitigation Center

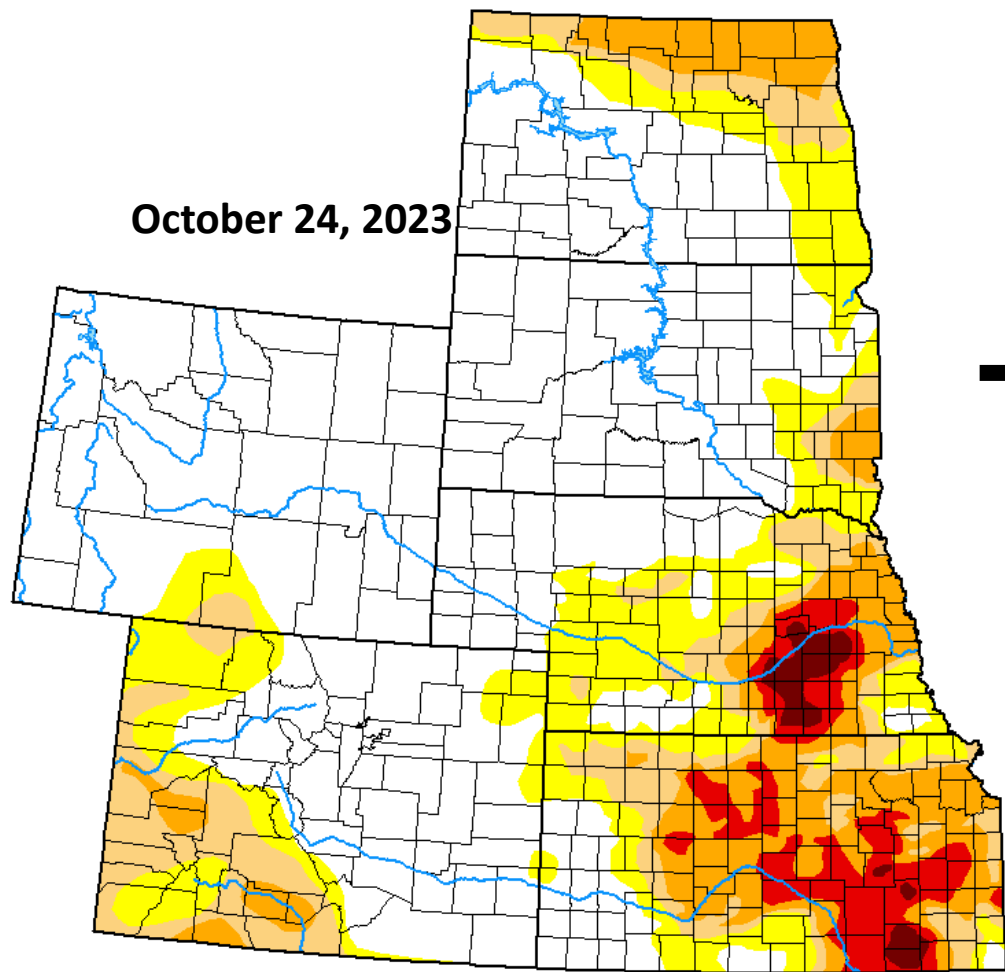


droughtmonitor.unl.edu

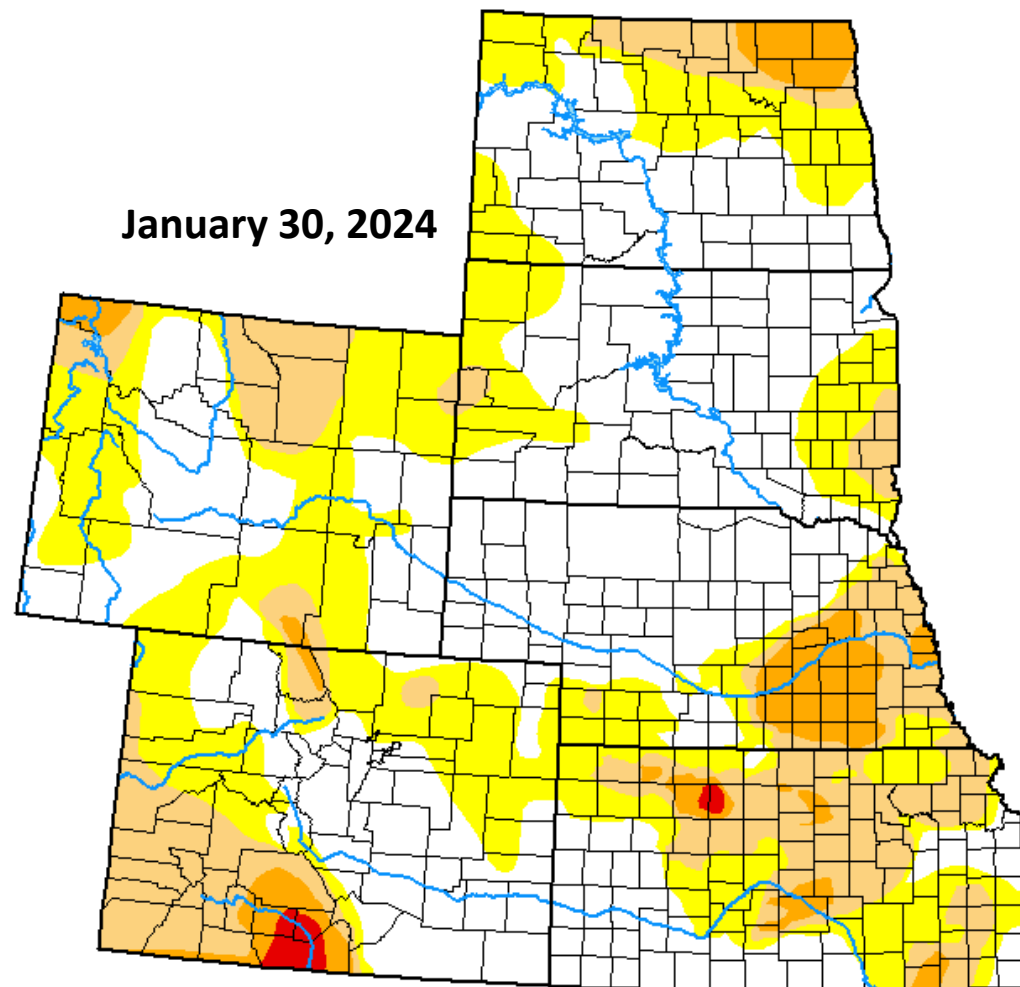
Drought Classification



October 24, 2023



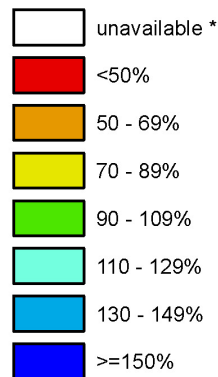
January 30, 2024



Colorado SNOTEL Current Snow Water Equivalent (SWE) % of Normal

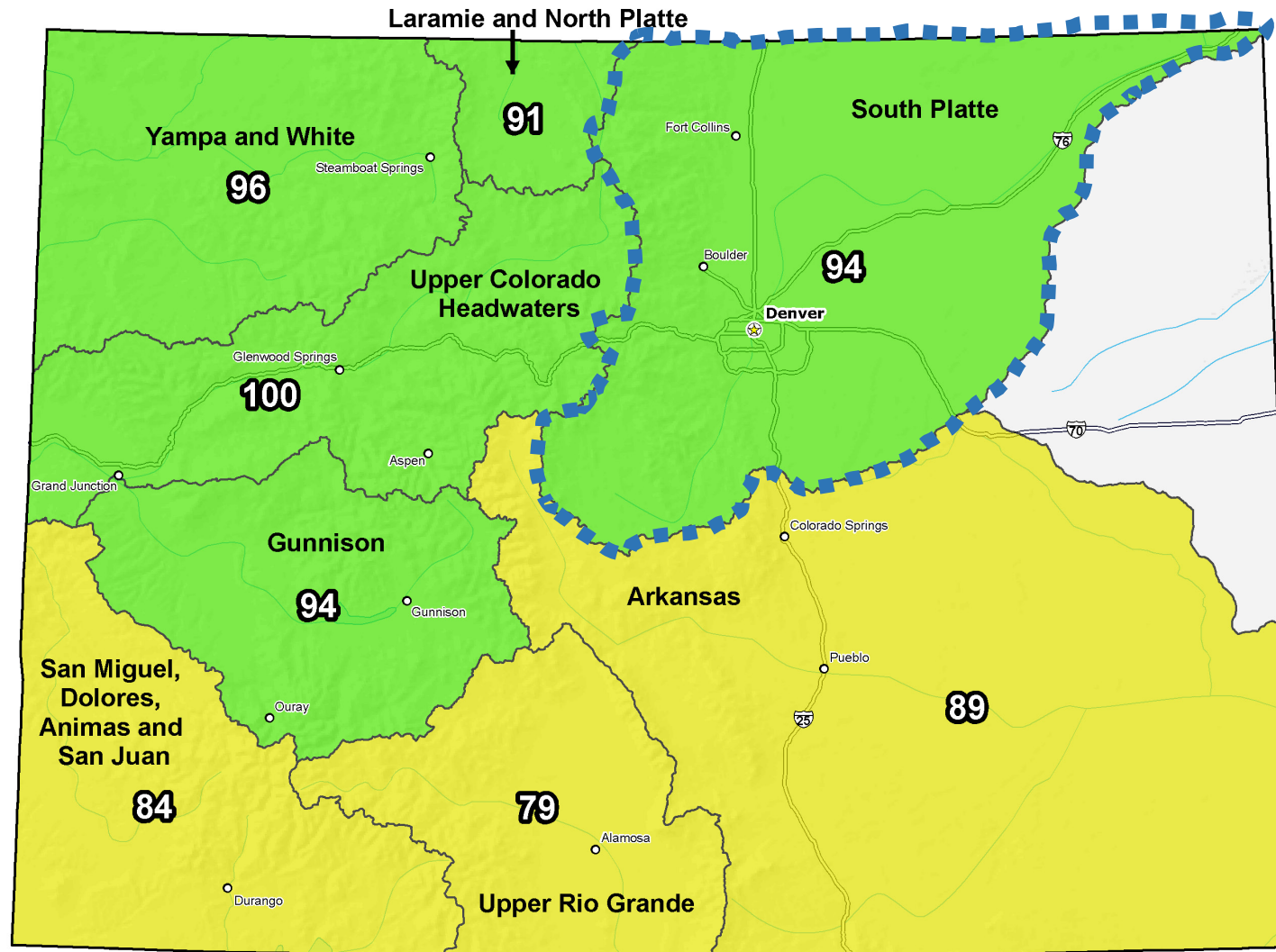
Feb 05, 2024

Current Snow Water
Equivalent (SWE)
Basin-wide Percent
of 1991-2020 Median

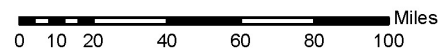


* Data unavailable at time
of posting or measurement
is not representative at this
time of year

*Provisional Data
Subject to Revision*



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).



Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<https://www.nrcs.usda.gov/wps/portal/wcc/home/>

SNOW WATER EQUIVALENT IN SOUTH PLATTE

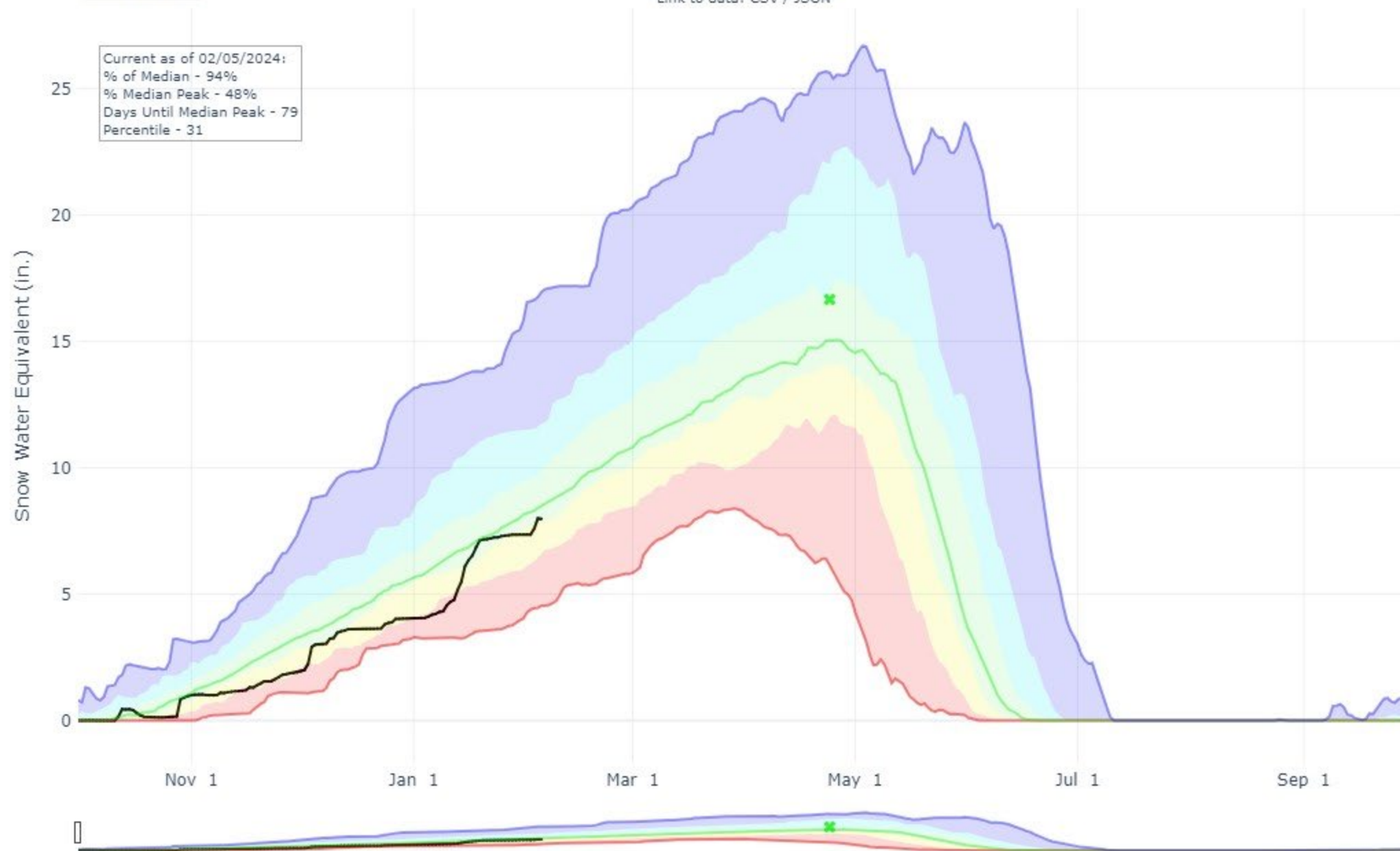
Reset Range

[Link to data: CSV / JSON](#)

Current as of 02/05/2024:
% of Median - 94%
% Median Peak - 48%
Days Until Median Peak - 79
Percentile - 31

Station List

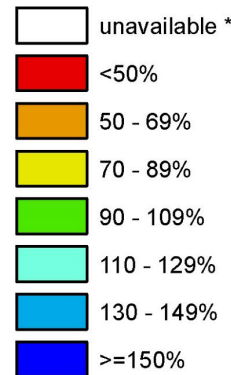
- ✱ Median Peak SWE
- Max
- Median ('91-'20)
- Min
- Stats. Shading
- 2024 (21 sites)



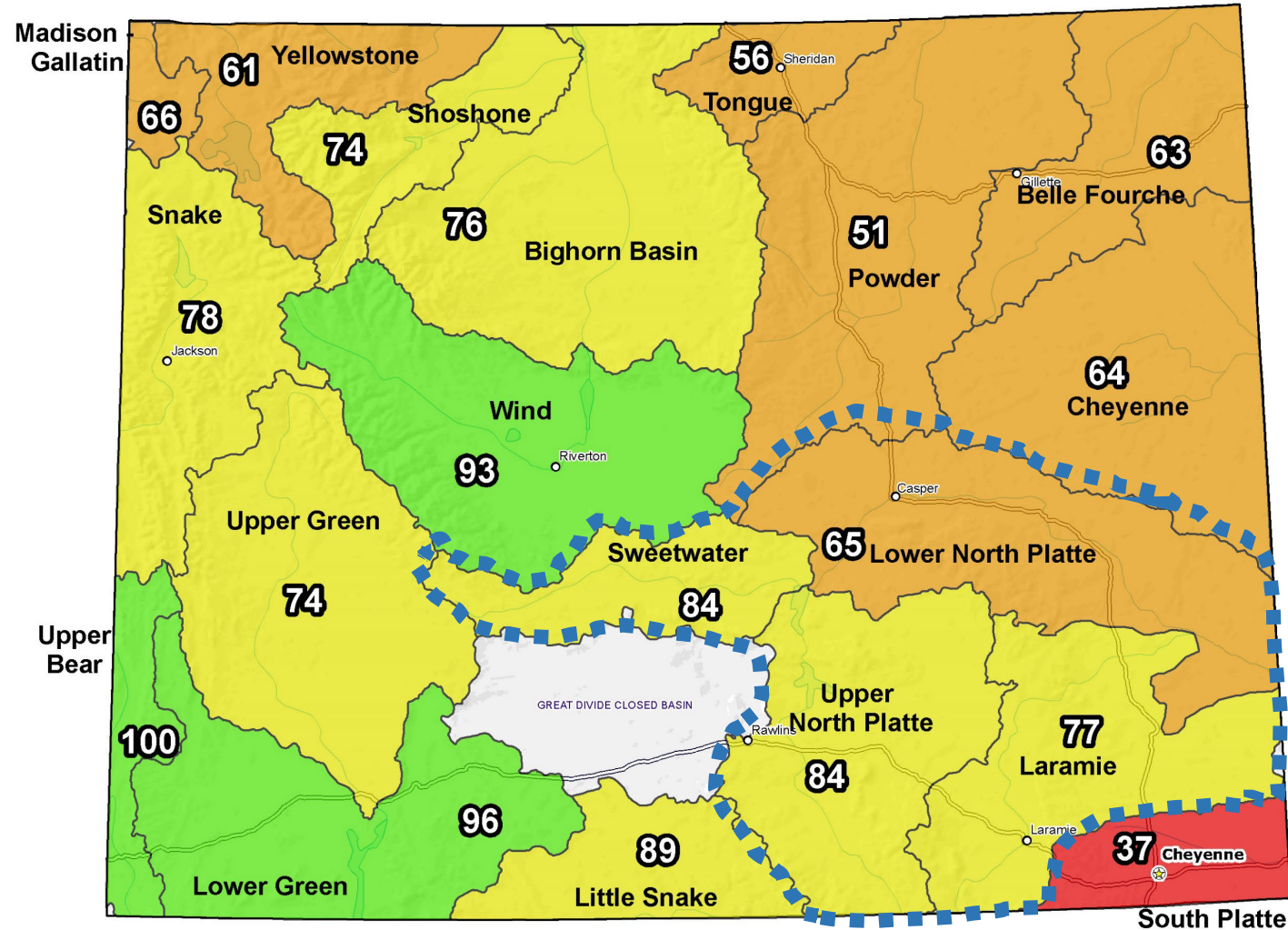
Wyoming SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Feb 05, 2024

Current Snow Water Equivalent (SWE)
Basin-wide Percent
of 1991-2020 Median



*Provisional Data
Subject to Revision*



0 10 20 40 60 80 100 Miles



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<https://www.nrcs.usda.gov/wps/portal/wcc/home/>

SNOW WATER EQUIVALENT IN UPPER NORTH PLATTE

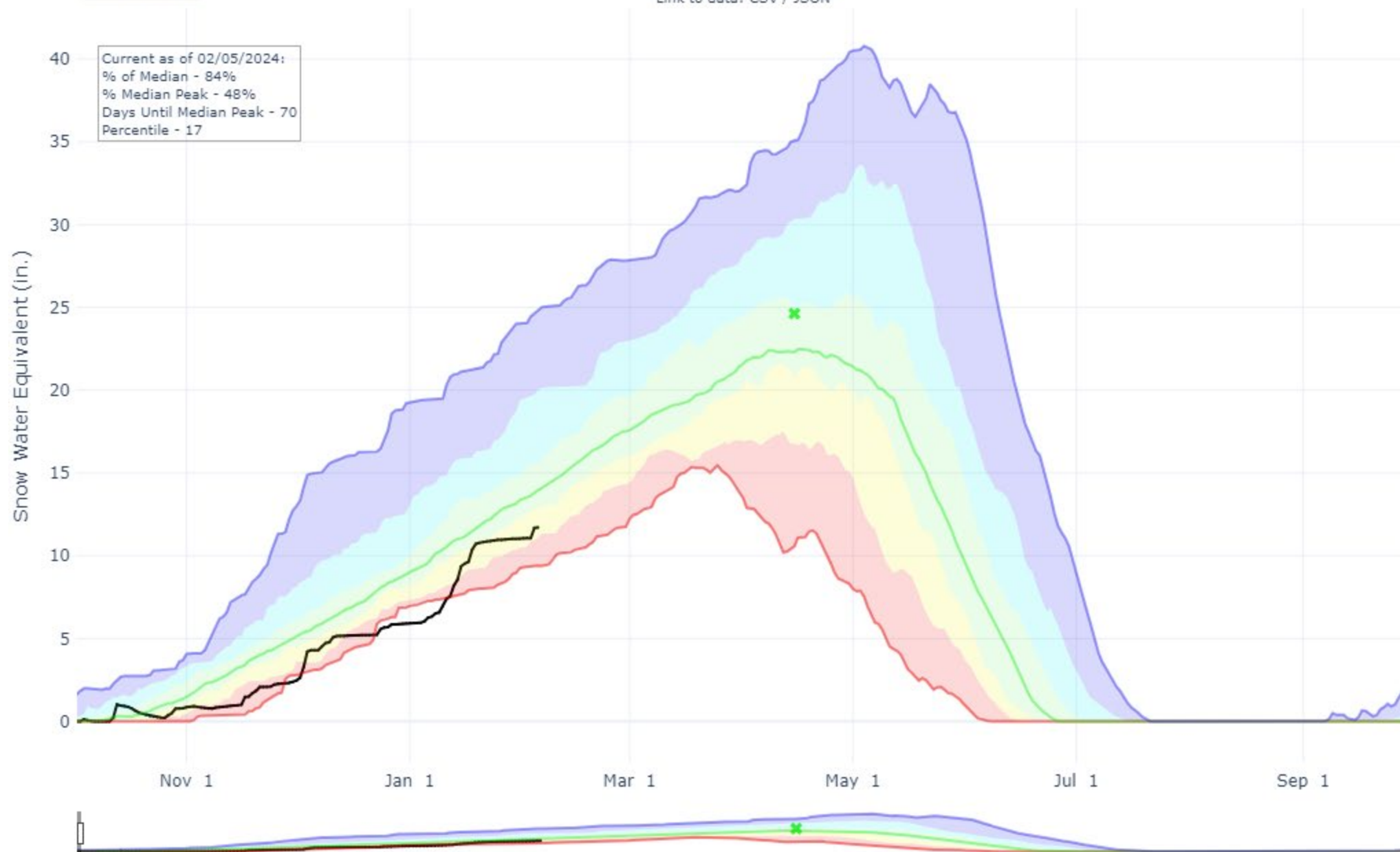
Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 02/05/2024:
% of Median - 84%
% Median Peak - 48%
Days Until Median Peak - 70
Percentile - 17

- ✱ Median Peak SWE
- Max
- Median ('91-'20)
- Min
- Stats. Shading
- 2024 (19 sites)



SNOW WATER EQUIVALENT IN LOWER NORTH PLATTE

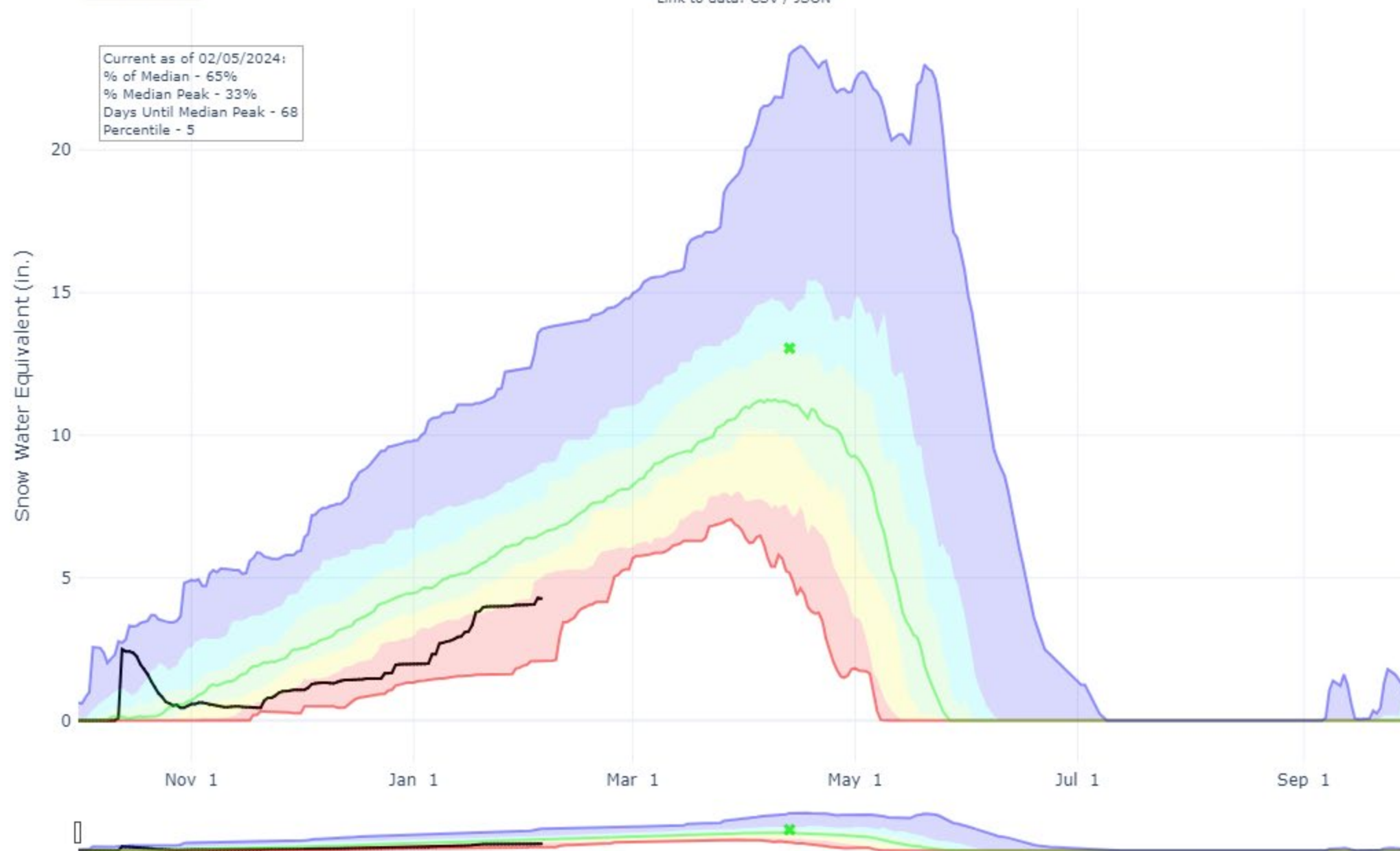
Reset Range

[Link to data: CSV / JSON](#)

Current as of 02/05/2024:
% of Median - 65%
% Median Peak - 33%
Days Until Median Peak - 68
Percentile - 5

Station List

- * Median Peak SWE
- Max
- Median ('91-'20)
- Min
- Stats. Shading
- 2024 (4 sites)



Questions?

Water Plan Updates

A photograph of a flooded field with a wooden gate in the background. The water is a light blue-grey color, and the field is covered in tall, dry, yellowish-brown grass. In the background, there is a line of trees under a pale sky.

Seth Turner
Platte River Recovery Implementation Program
Water Advisory Committee Meeting
February 6, 2024

WAP Leasing & Recharge – 2023 Totals

- Excess flow diversions for recharge
 - Cottonwood Ranch BSR = 2,294 AF (credit balance ~28,700)
 - Elwood Reservoir = 3,173 AF (credit balance ~131,750 AF)
 - Phelps County Canal = 410 AF (credit balance ~49,600 AF)
 - NPPD Dawson County Canal = 252 AF (net recharge)
 - Total = 6,130 AF
- Recapture well pumping = 2,768 AF (8 wells)

WAP Leasing & Recharge Projects

- CNPPID and NPPD temporary recharge permits expire March 1, 2024, will be renewed
- CNPPID irrigator lease 2024 enrollment
 - 1,053 acres (2nd lowest: 1,037 acres in 2016)
 - 790 AF credit to Lake McConaughy EA in October
- Excess flows began February 2
 - CNPPID delivering to Phelps and Cottonwood Ranch
 - Potential through February 14
 - Target flows increase to 3,350 cfs on February 15

North Platte Chokepoint Study

- Field work (sediment sample collection, floated entire reach, toured Tri-County Diversion Dam) and cross-section surveying in October
 - Geomorphic assessment in progress, EDO reviewed preliminary findings
 - Baseline hydraulic and sediment transport models updated based on 2017 bathymetric LiDAR, calibrating based on new survey
- Development/review of alternatives in progress
- Chokepoint Planning Workgroup meeting Tuesday February 13
 - Alternatives analysis (memo to be distributed this week)
 - Planning for final phase
- Anticipate presentations to WAC in May, GC in June, completion at end of June

Expanded Recapture Reconnaissance Study

- Field surveying/data collection by Inter-Fluve and LRE Water in November
- Data analysis and modeling of Plum Creek in progress, safe conveyance capacity TBD
- RJH developed preliminary Elwood Reservoir gravity outlet concepts, presented to EDO
- LRE Water evaluating potential recapture well sites in floodplain and along Plum Creek
- Tradeoff analysis to proceed soon
- Study completion expected in August

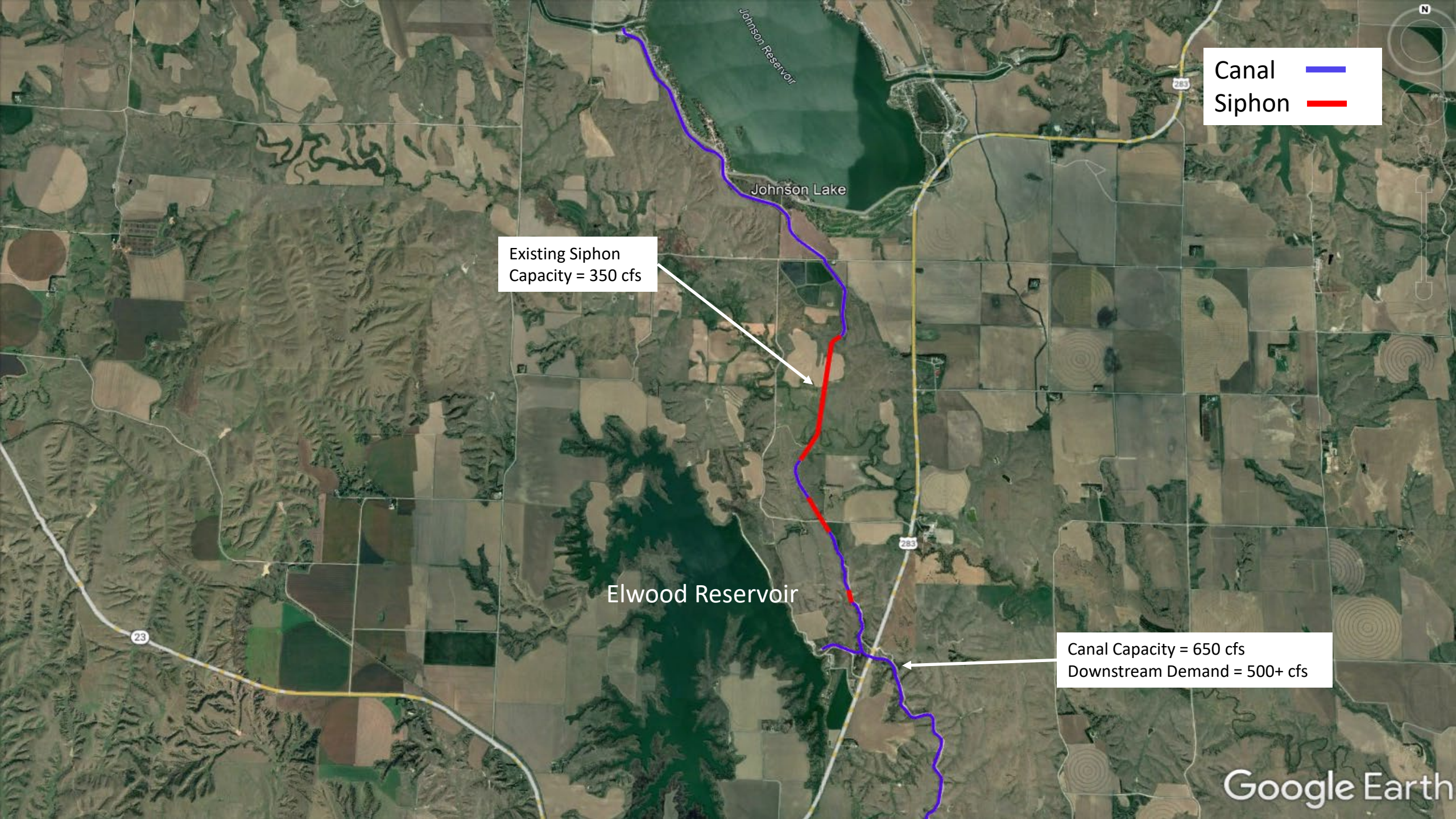
2024 Water Plan Tasks

- Cottonwood Ranch pipeline cavitation
 - Limits range of operation for outlet control valves ($\leq 20\%$ or $\geq 65\%$)
 - Diagnose and repair
- Cottonwood Ranch monitoring wells
- Cottonwood Ranch groundwater model development
 - Goal: Develop URFs for broad-scale recharge and recapture wells for scoring and accounting
 - Preliminary model using COHYST
 - Coordination with Nebraska DNR, eventually Scoring Subcommittee
- CNPPID irrigator lease
 - Contracted George Oamek as Special Advisor
 - Economics and alternatives
 - Coordinating with CNPPID, planning workshop with irrigators



Elwood Reservoir Projects

2/6/24



Canal ———

Siphon ———

Existing Siphon
Capacity = 350 cfs

Elwood Reservoir

Canal Capacity = 650 cfs
Downstream Demand = 500+ cfs

Elwood Reservoir Background

- Elwood Reservoir was constructed in mid to late 1970s
- Purpose is to supplement canal flows when irrigation demand (up to 500+ cfs) exceeds upstream siphon capacity (350 cfs)
- Water is pumped into Elwood in the spring and released for irrigation
- Maximum water surface elevation of 2607
- Maximum live storage of 25,700 AF
- Maximum total storage of 37,800 AF

Elwood Reservoir Seepage

- In summer of 2019 we noticed significant seepage at the toe of the Pump Station Dam
- In years prior to observed seepage the average water surface elevation was higher due to recharge
- Hired RJH consultants to investigate
- RJH determined that there was potentially unsafe seepage at the Pump Station Dam and the Main Dam when the WSE is above 2597
- Temporary max WSE 2597 until repairs are made



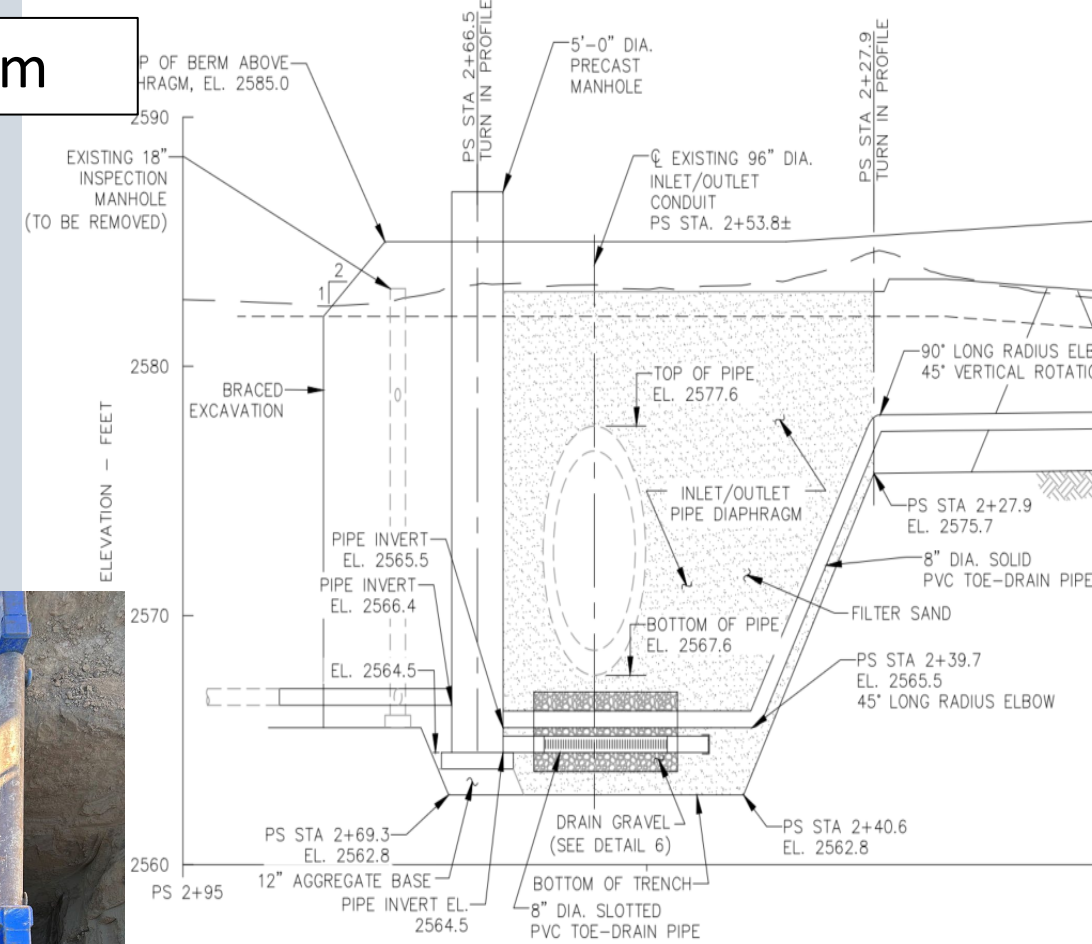


12.05.2019

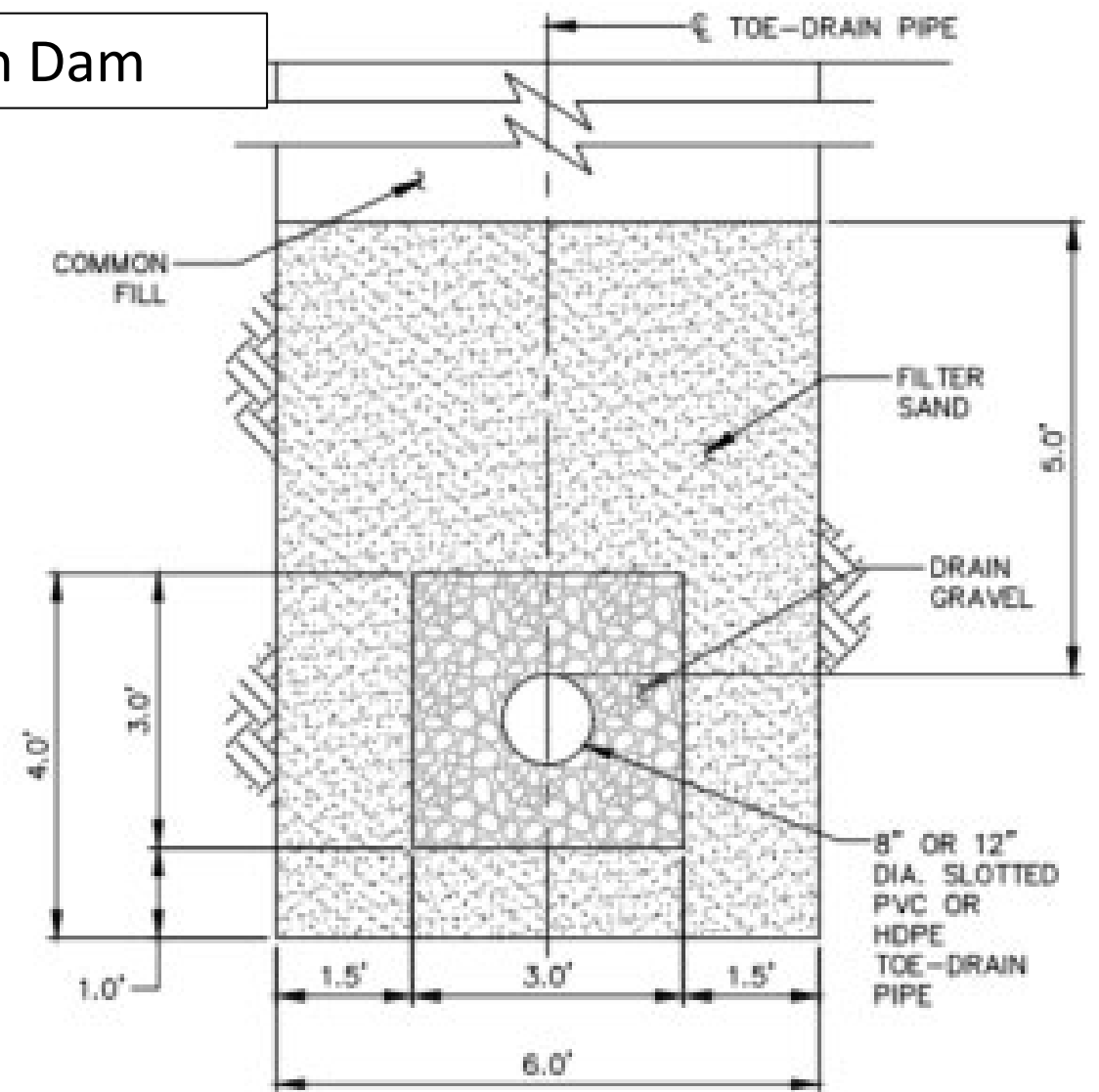
Elwood Seepage Repair Status

- Maximum WSE temporarily limited to 2597
- Construction began in September 2023
 - Currently working on south half of main dam and around inlet/outlet conduit at pump station dam
 - Contractor has installed approximately 660 ft of the 7,250 ft of pipe
- Construction to be completed by summer 2024

Pump Station Dam



Main Dam







DETAIL

9

22



New E65 Canal and Siphon

Canal	
Siphon	
New Canal	
New Siphon	

New Canal and Siphon
Capacity = ~ 450+ cfs

Existing Siphon
Capacity = 350 cfs

Canal Capacity = 650 cfs
Downstream Demand = 500+ cfs



Existing E65 Route

This aerial map illustrates a proposed infrastructure project. A yellow dashed line, labeled 'Existing E65 Route', shows the current path of the road. The road runs from the top left, curves around a cluster of three blue ponds, and then continues down the left side of the image. A second yellow dashed line, labeled 'Proposed E65 Canal and Siphon', branches off from the existing route and runs diagonally across the center of the map. The terrain is a mix of green fields, brown patches, and dark green forested areas. A large body of water is visible on the far left, and a road or railway line runs along the bottom edge.

Proposed E65 Canal
and Siphon

Existing E65 siphons

- Siphons have been in service for over 80 years
- 78" – 84" steel pipes
- Approximately 7,300 ft in total length
- Capacity is only 350 cfs
- Pipes are near the end of useful life

New E65 Canal and Siphon

- Approximately 5,500 ft of new canal and 5,800 ft of new siphon
 - New alignment is approximately 2 miles shorter than existing
- ~102" outside diameter fusion welded HDPE pipe for the siphon
- Gravity flow water into Elwood instead of pumping
- Capacity is estimated at approximately 450+ cfs
 - Increase conveyance to better meet irrigation demand
 - Increase amount of storage availability in Elwood (ie. Recharge)
- Save water by allowing Central to capture rejected irrigation water in Elwood after rains

New E65 Canal and Siphon Status

- Feasibility Study completed by JEO
- Estimated Construction cost of \$15 million
- Applied for and received a Water Sustainably Fund Grant for \$8.9 million
- Central selected JEO/HDR to design the project
- ~~■ Design anticipated to be completed January 2024~~
- Central just completed access agreements with landowners
 - 1 year delay
- ~~■ Construction beginning early 2024~~
- ~~■ Project anticipated to be completed by the end of 2024~~

Questions?