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To: Governance Committee (GC), Water Advisory Committee (WAC) and Executive Director's Office (EDO) of the Platte River Recovery Implementation Program (PRRIP)

From: Richard Belt, P.E., Executive Director, SPWRAP
Kara Scheel, P.E., Endangered Species Recovery Program Manager, CWCB
Jon Altenhofen, P.E., Colorado Water User Member, WAC

Memo Subject: Colorado's Annual Depletion Report for 2024 in the South Platte River Basin

# Colorado's Plan for Future Depletions (CPFD)—Annual Review 2024

**BASIS:** Mitigate the adverse impacts of new water related activities in the South Platte River Basin in Colorado on FWS Target Flows and on Program Water Projects by replacing monthly net depletions in river flow caused by population growth since July 1, 1997, on an average annual basis. Artificial groundwater recharge captures and retimes monthly net river accretions resulting from population growth into months of net river depletions (May and June) to offset such depletions. The Table below shows that adequate mitigation has occurred.

**The following basic assumptions used for 2024 accounting.** These assumptions were updated in 2020 with the PRRIP requirement that updates occur every 5 years with the last update in 2015. A Questionnaire was sent to municipal members of SPWRAP in 2020. Appendix A of the 2021 Report summarizes the 2020 Questionnaire analysis which is the basis of the assumptions below. These assumptions will be used for the first five years (2020-2024) of the PRRIP Extension.

(1) Process still based on South Platte Basin in Colorado divided into North, Central, and South Regions based on counties and data collected and analyzed by Region.

(2) Population Increase by Region since July 1, 1997 (baseline) via Colorado State Demographer (SDO) reports. The current SDO March 25, 2025 report is attached to this report and shows a population for January 1, 2024 in the South Platte River Basin of 4,139,423 an increase of about 2.0% per year since 1997. From this current SDO Report, the percent distribution of population by region is 28%, 60% and 12% for the North, Central and South Regions, respectively.

(3) GPCD--Gross Water Use ac-ft/person/year at 0.1771 (down from 0.2504 prior to 2020 due to more conservation).

(4) % Water Source Mix by Region of 6 sources; 4 basic sources of transbasin imports, nontributary groundwater, agricultural conversion and new native South Platte flow development plus a 5$^{th}$ source of reuse mainly through exchange and a 6$^{th}$ source of water conservation. Each source has a monthly accretive and/or depletive effect. See attached Figure 1 for graph of depletive and accretive effects and resulting net effect at the Stateline at Julesburg.

(5) Monthly effects are routed to the Colorado-Nebraska Stateline using the same administrative routing loss factors.

## CPFD Operations through 2024

SPWRAP, Inc.--South Platte Water Related Activities Program is a non-profit group of mainly municipal Colorado water users collecting assessments ($1.26 per tap in 2024) to pay for Colorado's water obligations for PRRIP in partnership with the State of Colorado where the State covers other Program costs. SPWRAP obtains creditable river accretions for use in Colorado's Plan for Future Depletions from (1) dedicated groundwater recharge projects collaboratively developed and operated by SPWRAP, Inc. and (2) by paying for creditable accretions not used by existing recharge plans.

Colorado's Plan for Future Depletions also states in Section I.H.1., that new water related activities would not be covered by this plan after the average annual water supply/deliveries to serve Colorado's population increase from the subgroups of "Wastewater Exchange/Reuse" and "Native South Platte Flows" (first used post-1997) exceeds 98,010 acre-feet on an average annual basis during the February-July period. The amount of new storage allowing the 98,010 acre-feet does not impact peak flows in the Central Platte (from Final PRRIP EIS). For 2024, these water supply subgroups for the February-July period total 20,410 acre-feet with an average annual since start of program of 30,384 acre-feet so less than the limit of 98,010 acre-feet.

May and June Depletions (acre-feet) at Stateline from population growth:

| | |
|---|---|
| 2007 | 1,410 |
| 2008 | 1,552 |
| 2009 | 1,679 |
| 2010 | 1,807 |
| 2011 | 1,949 |
| 2012 | 2,055 |
| 2013 | 2,281 |
| 2014 | 2,420 |
| 2015 | 2,568 |
| 2016 | 2,728 |
| 2017 | 2,858 |
| 2018 | 2,983 |
| 2019 | 3,098 |
| 2020 | 2,264 |
| 2021 | 2,316 |
| 2022 | 2,351 |
| 2023 | 2,410 |
| 2024 | 2,461 |
| Avg | 2,288 |

Managed groundwater recharge retimed accretions (ac-ft) into May and June at Stateline for replacement supplies:

| | |
|---|---|
| 2007 | 3,277 |
| 2008 | 1,470 |
| 2009 | 4,220 |
| 2010 | 5,790 |
| 2011 | 6,545 |
| 2012 | 2,219 |
| 2013 | 1,845 |
| 2014 | 6,827 |
| 2015 | 7,653 |
| 2016 | 7,918 |
| 2017 | 5,714 |
| 2018 | 6,802 |
| 2019 | 5,789 |
| 2020 | 4,811 |
| 2021 | 5,079 |
| 2022 | 3,027 |
| 2023 | 5,549 |
| 2024 | 5,757 |
| Avg | 5,016 |

On the average annual basis, adequate retimed accretions with a buffer (5,016 ac-ft) available to replace depletions (2,288 ac-ft).

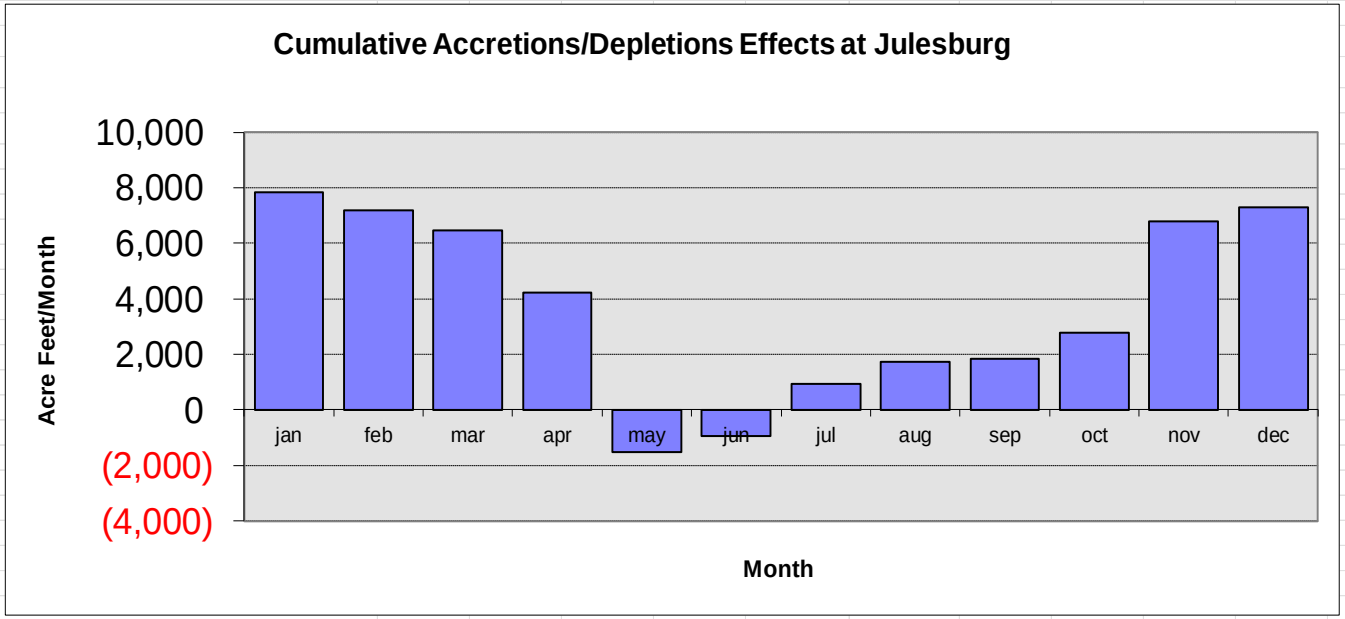
# FIGURE 1

**Based on Population Increase from July 1, 1997 to:** July 1, 2024 **Based on GPCD (ac-ft/person/year):** 0.1771

1,581,094

**Based on average % water supply sources (see table below)**

**Based on original Transit Loss Assumptions, Paragraph C of CPFD**




(Acre--Feet Per Month); Negative values in ( )

| Seasonal Accretions/Depletions | jan | feb | mar | apr | may | jun | jul | aug | sep | oct | nov | dec | total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transbasin Imports | 5671 | 5330 | 4677 | 3844 | 2367 | 1742 | 1351 | 1665 | 1393 | 2038 | 4800 | 5072 | 39,951 | | |
| Nontributary Groundwater | 465 | 462 | 464 | 614 | 506 | 287 | 240 | 242 | 192 | 315 | 573 | 579 | 4,938 | | |
| In-basin Agricultural Conversion | 76 | 76 | 72 | 166 | 332 | 184 | 134 | 134 | 134 | 73 | 66 | 76 | 1,525 | | |
| Conservation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Water Reuse | (25) | (25) | (52) | (293) | (936) | (372) | (675) | (607) | (253) | (158) | (22) | (25) | (3,443) | | |
| New Native South Platte Flow Development | 1659 | 1337 | 1296 | (100) | (3802) | (2770) | (127) | 307 | 367 | 504 | 1378 | 1580 | 1,630 | | |
| Total Accretions/Depletions | 7,845 | 7,181 | 6,457 | 4,231 | **(1,533)** | **(928)** | 923 | 1,742 | 1,833 | 2,772 | 6,794 | 7,282 | 44,600 | **(2,461)** | 42,563 |
| | | | | | | | | | | | | | | May+Jun | Oct-Apr |
| Total Accretion/Depletion, cfs | 128 | 128 | 105 | 71 | (25) | (16) | 15 | 28 | 31 | 45 | 114 | 118 | | Total | Total |

**Regional % Water Supply "Mix"**

| Northern | Central | Southern | |
|---|---|---|---|
| 49.8% | 38.2% | 4.8% | Transbasin Imports |
| 0% | 0.2% | 44.4% | Nontributary Groundwater |
| 23.6% | 12.4% | 0% | In-basin Agric. Conversion |
| 19.9% | 29.7% | 30.5% | Conservation |
| 0.4% | 12.8% | 12.2% | Water Reuse (Exchange) |
| 6.3% | 6.7% | 8.1% | Native S. Platte Flow Development (first use after July 1, 1997) |
| 100.0% | 100.0% | 100.0% | Total |