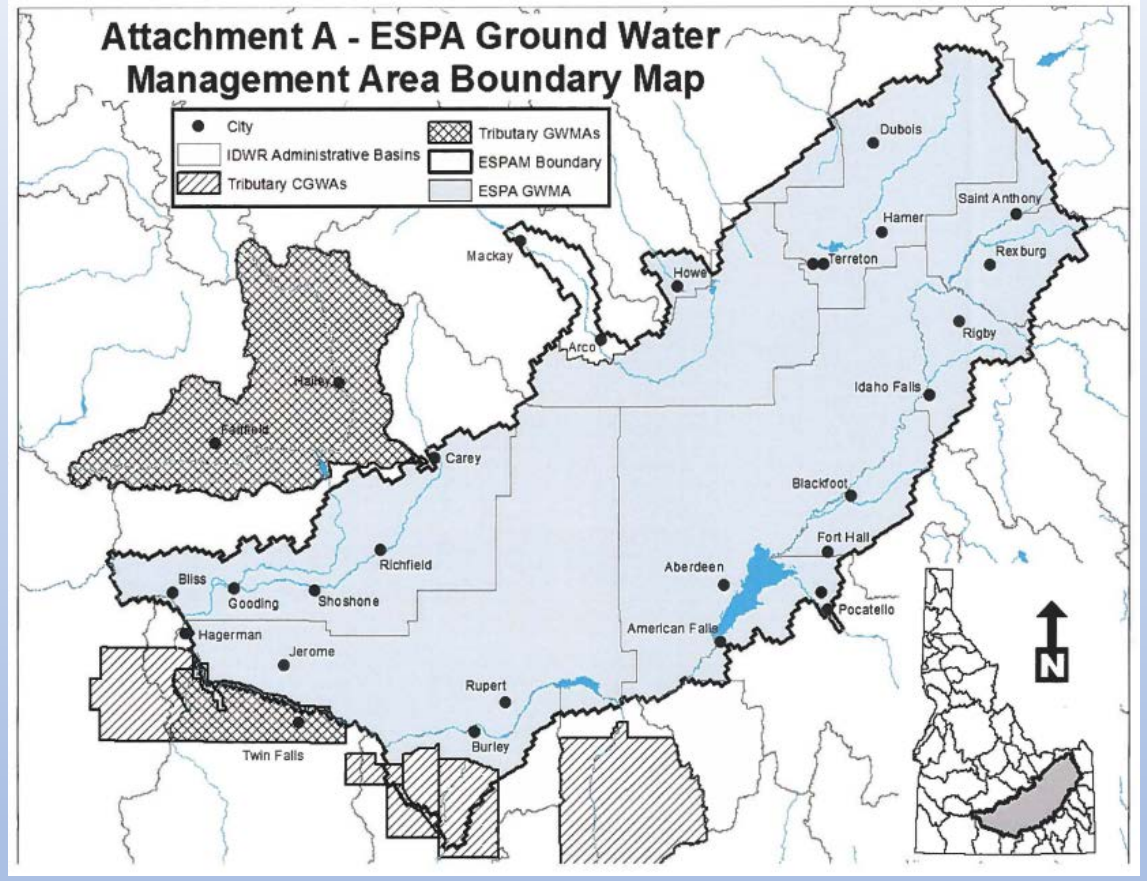
Cities' Proposed Framework for ESPA Ground Water Management Plan (GWMP)



Jeff Mansfield, City of Pocatello

Mike Williams, City of Jerome

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Due to Cities' Minor Effect on the ESPA, the Cities' GWMP Obligations = Cities' Mitigation Plan Obligations

SETTLEMENT AGREEMENT ("AGREEMENT") BETWEEN THE SURFACE WATER COALITION[1], PARTICIPATING MEMBERS OF IDAHO GROUND WATER APPROPRIATORS, INC.[2], AND SIGNATORY CITIES[3]

II. SIGNATORY CITIES' MITIGATION OBLIGATION:

A. Initial Mitigation Obligation: The Signatory Cities will collectively supply average annual mitigation water in the amount of 7,650 acre-feet per year ("AF/y"), with a minimum requirement to supply 1,000 AF/y, commencing January 1, 2019, with compliance as set forth in section II.C.

IV. INCORPORATION INTO ESPA GROUND WATER MANAGEMENT PLAN:

A. The Signatory Cities will withdraw their opposition to the ESPA-GWMA Order that is subject to a contested case before IDWR (Docket No. AA-GWMA-2016-001), provided, however, that all Parties may remain as parties to the contested case to monitor the proceedings and participate as necessary.

B. At such time as IDWR undertakes to develop a ground water management plan for the ESPA-GWMA, the mitigation obligations set forth in section II of this Agreement will be submitted to IDWR for approval as a ground water management plan for the Cities. The Parties agree to support a ground water management plan that incorporates such obligations.

1. If the ground water management plan imposes mitigation obligations that are materially greater or more burdensome than the obligations set forth in section II of this Agreement, section IV of this Agreement shall be of no force and effect and the cities reserve all right to challenge the ESPA-GWMA ground water management plan.

C. At such time as IDWR undertakes to develop a ground water management plan for the ESPA-GWMA, the mitigation obligations set forth in the IGWA-SWC Settlement Agreement will be submitted to IDWR for approval as a ground water management plan for IGWA members. The Parties agree to support a ground water management plan that incorporates such obligations.

IX. TERM:

A. The term of this Agreement shall be until the average annual ESPA pumping of the Cities reaches 120,000 AF/y as determined by a five-year rolling average, or December 31, 2053, whichever is earlier.

Source: *Coalition of Cities, City of Idaho Falls, and City of Pocatello Joint Mitigation Plan* (Feb. 25, 2019)

Table 2
Summary of Disposition of Annual Mitigation Volumes
ESPA Cities Mitigation Plan
(acre-feet)

Mitigation Supplies	2019	2020	2021	2022	2023
Pocatello Palisades Reservoir Water Assigned to IWRB	6,307.8	3,897.7			
(1) Pocatello Palisades Reservoir Water Leased for Direct Delivery to Surface Water Coalition			5,495.8	6,290.2	
Blackfoot Recharge at Jensen's Grove Site	345.0	345.0			
(2) Idaho Falls Recharge at Sand Creek Site	1,516.6	3,365.0	1,350.0	504.0	
Idaho Falls Recharge of Leased Common Pool Supply			42.0		
Idaho Falls Groundwater-to-Surface water Conversion				361.2	
(3) Rexburg Recharge at Walters Pond		206.1	359.6	475.7	
Total	8,169.4	7,813.8	7,247.4	7,631.1	
Running Average		7,991.6	7,743.5	7,715.4	

Source: *Cities' Revised 2022 Mitigation Report* (Apr. 20, 2023)

Table 2: Signatory City Annual Mitigation and Five Year Average

	2019	2020	2021*	2022	2023	Five Year Average
Total City Mitigation Amount (acre-feet)	8,169.4	7,813.8	7,650 (7247.4)	7,631.1		7,816.1

* In 2021 the parties agreed the Cities would get credit for 7,650 AF of mitigation in exchange for the Cities delivering wet water to the Surface Water Coalition. 7,650 AF is used in this averaging calculation although 7,247.4 AF was the actual mitigation volume.

Source: *IDWR Verification of Cities' 2022 Mitigation Data* (Jun. 29, 2023)

Cities' Consumptive Use By Comparison with Irrigation Uses

Table 1
Summary of WMIS Annual Pumping Totals by City
2010 - 2022 (Acre-Feet)

City	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2010-2014 Average	2016-2020 Average	2017-2021 Average	2018-2022 Average
Jerome	2,358	341	2,137	1,701	1,959	1,897	2,655	2,574	5,336	3,399	3,602	3,933	3,933	1,699	3,513	3,769	4,041
Paul	377	370	414	432	356	369	309	376	350	407	404	425	424	390	369	392	402
(1) Pocatello	15,081	14,182	16,452	14,715	14,315	14,355	14,450	13,866	14,736	13,917	14,938	15,399	14,558	14,949	14,381	14,571	14,710
(1) Pocatello (Irr)	1,865	1,597	1,969	1,782	3,092	2,965	3,184	2,877	2,927	2,670	2,930	2,577	2,561	2,061	2,918	2,796	2,733
Total	71,883	69,172	81,476	77,862	78,204	79,890	81,762	77,188	87,103	80,671	83,713	89,767	83,566	76,110	82,445	83,843	84,991

Source: *Cities' Revised 2022 Mitigation Report* (Apr. 20, 2023)

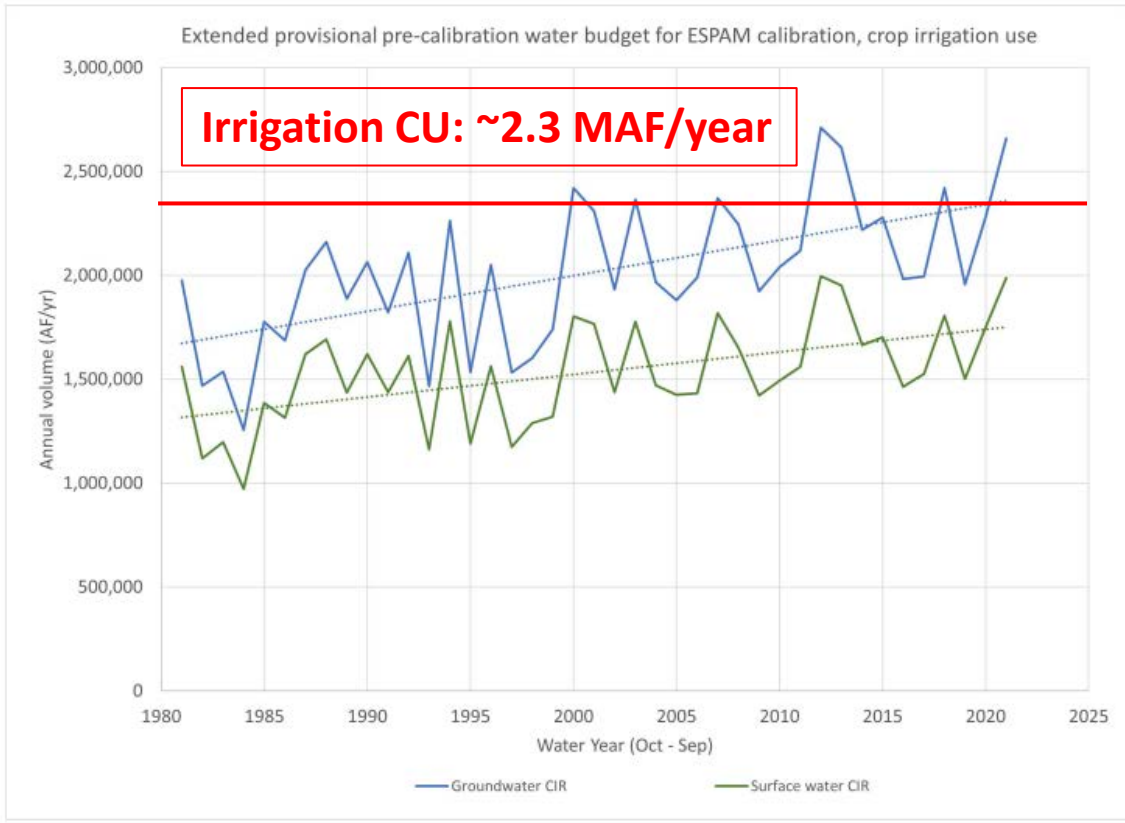
Cities' CU = ~40,000 AF/year

Table 2-1
Preliminary Summary of Average Annual Water Use and Consumptive Use
City Intervenors
Five-Year Average (AF)

	City	(1) Five-Year Average Diversion	(2) System Loss	(3) Total Delivery	(4) Indoor Use	(5) Outdoor Use	Type of Wastewater Returns	(6) Indoor Use CU	(7) Outdoor Use CU	(8) Treated Effluent CU	(6)+(7)+(8) Total CU	((6)+(7)+(8))/(1) Total CU/ Diversion
(10)	Jerome	2,852	285	2,567	1,524	1,043	Land App & Outfall	152	835	640	1,627	57%
	Paul	381	38	343	175	167	To Land App	18	134	126	278	73%
(11)	Pocatello	14,859	1,486	13,373	6,203	7,170	Outfall to Stream	620	5,736	0	6,356	43%
	Total	73,691	7,369	66,322	30,579	35,743		3,058	28,594	2,405	34,057	46%

Source: *Expert Report of G. Sullivan*, Snake River Basin Moratorium (Jul. 11, 2023)

Groundwater consumptive use trend (WY1981-WY2021)



Source: J. Sukow, *ESPA Water Budget Presentation* (Nov. 15, 2023)

The GWMP must impose obligations upon GW Users that that are necessary to "ensure" a "reasonably safe supply" for existing uses, and which will lead to attainable results. A technical committee is necessary to achieve these ends.

4. A "ground water management area" is defined as "any ground water basin or designated part thereof which the director of the department of water resources has determined may be approaching the conditions of a critical ground water area." Idaho Code § 42-233b. A "critical ground water area," in turn, is defined as "any ground water basin, or designated part thereof, not having sufficient ground water to provide a reasonably safe supply for irrigation of cultivated lands, or other uses in the basin at the then current rates of withdrawal, or rates of withdrawal projected by consideration of valid and outstanding applications and permits" as determined by the Director. Idaho Code § 42-233a. A "ground water management area," therefore, is a ground water basin or part thereof that the Director determines may be approaching the condition of not having sufficient ground water to provide a reasonably safe supply for irrigation and other uses in the basin under current or projected rates of withdrawal.

7. The record establishes that as a result of chronic declines in ESPA storage and spring discharges, in many years the ESPA ground water supply is not sufficient to satisfy senior priority water rights diverting from the ESPA and hydraulically connected sources unless ESPA withdrawals under junior priority ground water rights are curtailed, and/or the junior water right holders mitigate. The Director concludes that the ground water basin encompassing the ESPA may be approaching a condition of not having sufficient ground water to provide a reasonably safe supply for irrigation and other uses occurring within the basin at current rates of withdrawal. Idaho Code §§ 42-233b, 42-233a.

Source: *Order Designating the Eastern Snake Plain Aquifer Ground Water Management Area* (Nov. 2, 2016)

The Cities have not seen adequate data to support the idea that the GWMP's goal should be "*restoring* discharges and ground water levels" to prior levels; it is possible that *stabilizing* present "discharges and ground water levels" will suffice to "ensure a reasonably safe supply of ground water" for existing ESPA uses.

22. Idaho Code § 42-233b authorizes the Director to approve "a ground water management plan" for a designated ground water management area. A ground water management plan for the ESPA ground water management area would provide the framework for managing ground water in the areas within the ESPAM 2.1 model boundary to ensure a reasonably safe supply of ground water for irrigation of cultivated lands or other uses in the basin. The record confirms that such an approach is necessary if the objectives of arresting and reversing chronic declines in ESPA storage and spring discharges are to be realized.

Source: *Order Designating the Eastern Snake Plain Aquifer Ground Water Management Area* (Nov. 2, 2016)

Goal:

Restoring discharges and ground water levels to 2001 levels throughout the reaches of the Snake River, springs and within the ESPA, and initially addressing areas where water supply deficits have created conflicts, as the goal, is legally defensible and consistent with the purpose behind the 2009 ESPA CAMP, Idaho statutes and prior agency decisions.

Source: *SW Users Draft Framework Summary* (Jan. 25, 2024)

But the Cities agree that there should be an extended timeframe to meet the GWMP's goal.

Timeframe: 25-year recovery period: 5 years to stop declines and then 20 years to recover and stabilize at 2001 levels

Source: *SW Users Draft Framework Summary* (Jan. 25, 2024)

As Mike McVay's presentation established, the ESPA has vast amounts of storage volumes and there are significant complexities related to effecting stabilization or improvement of storage volumes.

REGIONAL AQUIFER-SYSTEM ANALYSIS—SNAKE RIVER PLAIN, IDAHO

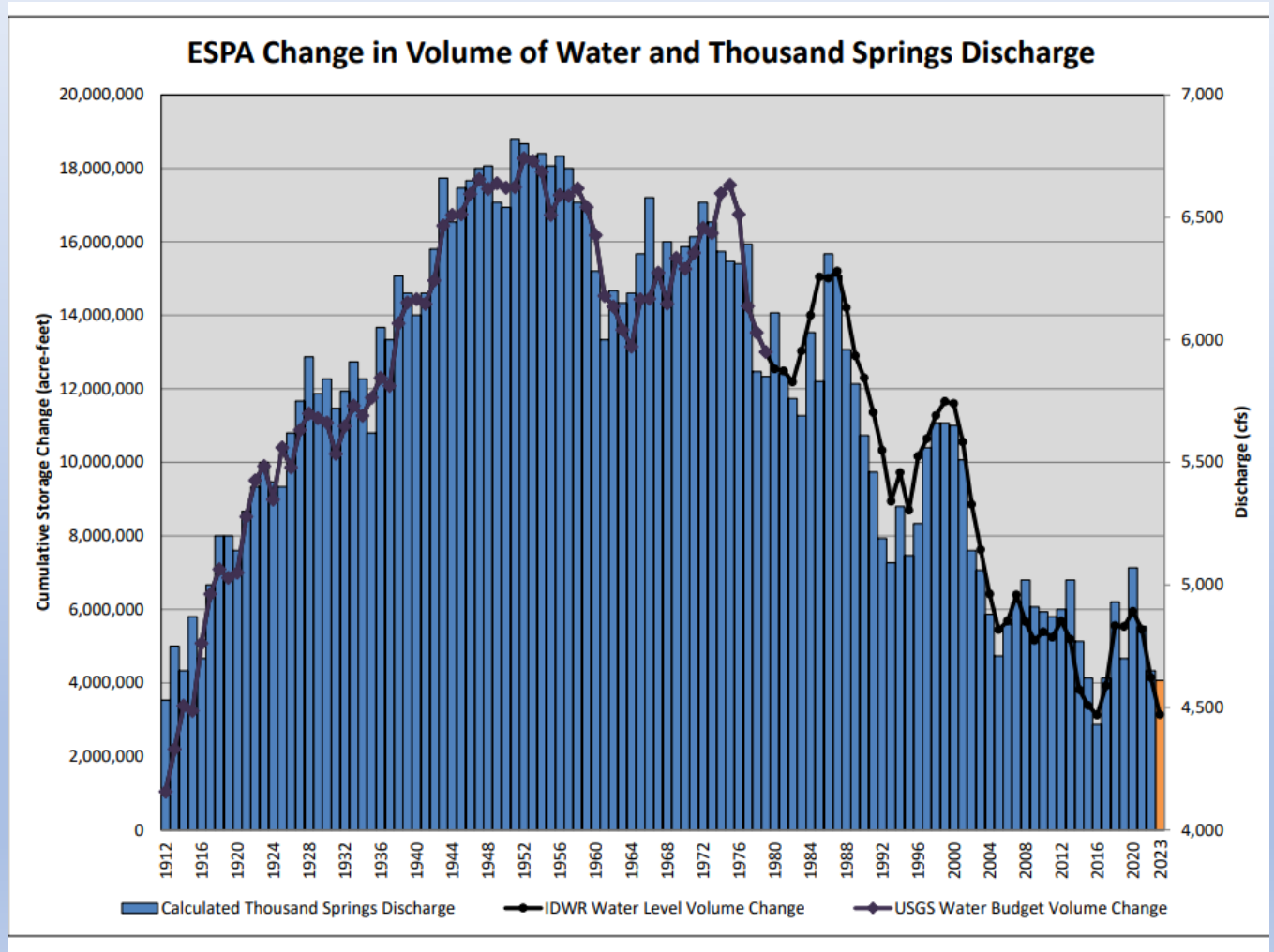
SUMMARY OF THE SNAKE RIVER PLAIN REGIONAL AQUIFER-SYSTEM ANALYSIS IN IDAHO AND EASTERN OREGON

By G. F. LINDHOLM

Hydraulic conductivity of the basalt decreases with depth because of secondary filling of voids with calcite and silica. An estimated 80 to 120 million acre-feet of water is believed to be stored in the upper 200 feet of the basalt aquifer in the eastern plain.

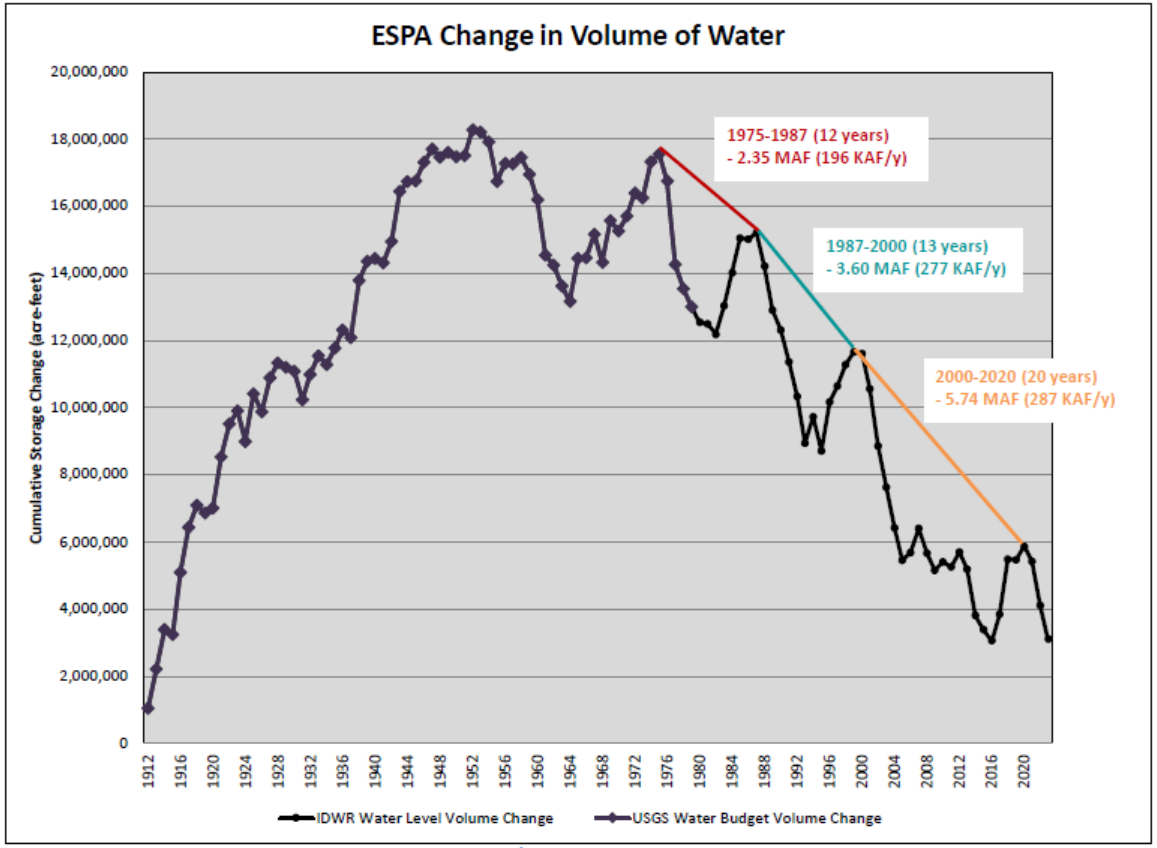
Estimates of total ground water in storage are highly variable because the basalt is heterogeneous and because the storage properties of rocks at depths greater than 500 ft below the water table are generally unknown. Barraclough and others (1981, p. 4) estimated that the ground-water reservoir underlying the eastern Snake River Plain stores 1 billion acre-ft of water. Assuming a specific yield of 0.05 to 0.10, an estimated 200 to 300 million acre-ft of water is stored in the upper 500 ft of the regional aquifer system (Lindholm, 1986, p. 88). That amount is 20 to 30 times greater than the total storage capacity of all surface reservoirs in the Snake River drainage basin upstream from Weiser, Idaho.

Source: G.F. Lindholm, *Summary of the Snake River Plain Regional Aquifer System Analysis in Idaho and Eastern Oregon*, United States Geological Survey (1996)



Source: M. McVay, *ESPA Storage Changes Presentation* (Jan. 10, 2024)

The “chronic declines” in ESPA storage since 1952 have not been linear. In fact, the rate of decline from 2015 to 2023 (36 KAF/year) is much lower than the average rate of decline from 1952 to 2023 (214 KAF/year), showing that recent efforts by GW Users are making a difference.



From McVay Analysis of ESPA Storage

Starting Year	Ending Year	Starting Vol (AF)	Ending Vol (AF)	Change Vol (AF)	Years	Avg Rate (AF/y)
1952	2020	18,270,000	5,862,851	12,407,149	68	182,458
1975	2020	17,550,000	5,862,851	11,687,149	45	259,714
1987	2020	15,203,435	5,862,851	9,340,584	33	283,048
2000	2020	11,600,661	5,862,851	5,737,810	20	286,890
1952	1975	18,270,000	17,550,000	720,000	23	31,304
1975	1987	17,550,000	15,203,435	2,346,565	12	195,547
1987	2000	15,203,435	11,600,661	3,602,774	13	277,136
2000	2020	11,600,661	5,862,851	5,737,810	20	286,890
1987	2016	15,203,435	3,048,082	12,155,353	29	419,150
2005	2023	5,450,408	3,100,235	2,350,173	18	130,565
2015	2023	3,384,630	3,100,235	284,395	8	35,549
2001	2023	10,552,653	3,100,235	7,452,418	22	338,746
1952	2023	18,270,000	3,100,235	15,169,765	71	213,659
1981	2021	12,487,811	5,412,853	7,074,958	40	176,874

Source: Spronk Water Engineers, Inc.

Questions?