



Shoshone Acquisition Hearing

Denver Water

September 17-18, 2025



Overview of Denver Water's Position and Comments

Denver Water supports the acquisition of the Shoshone Water Rights provided the status quo is maintained

Issues of concern for Denver Water include:

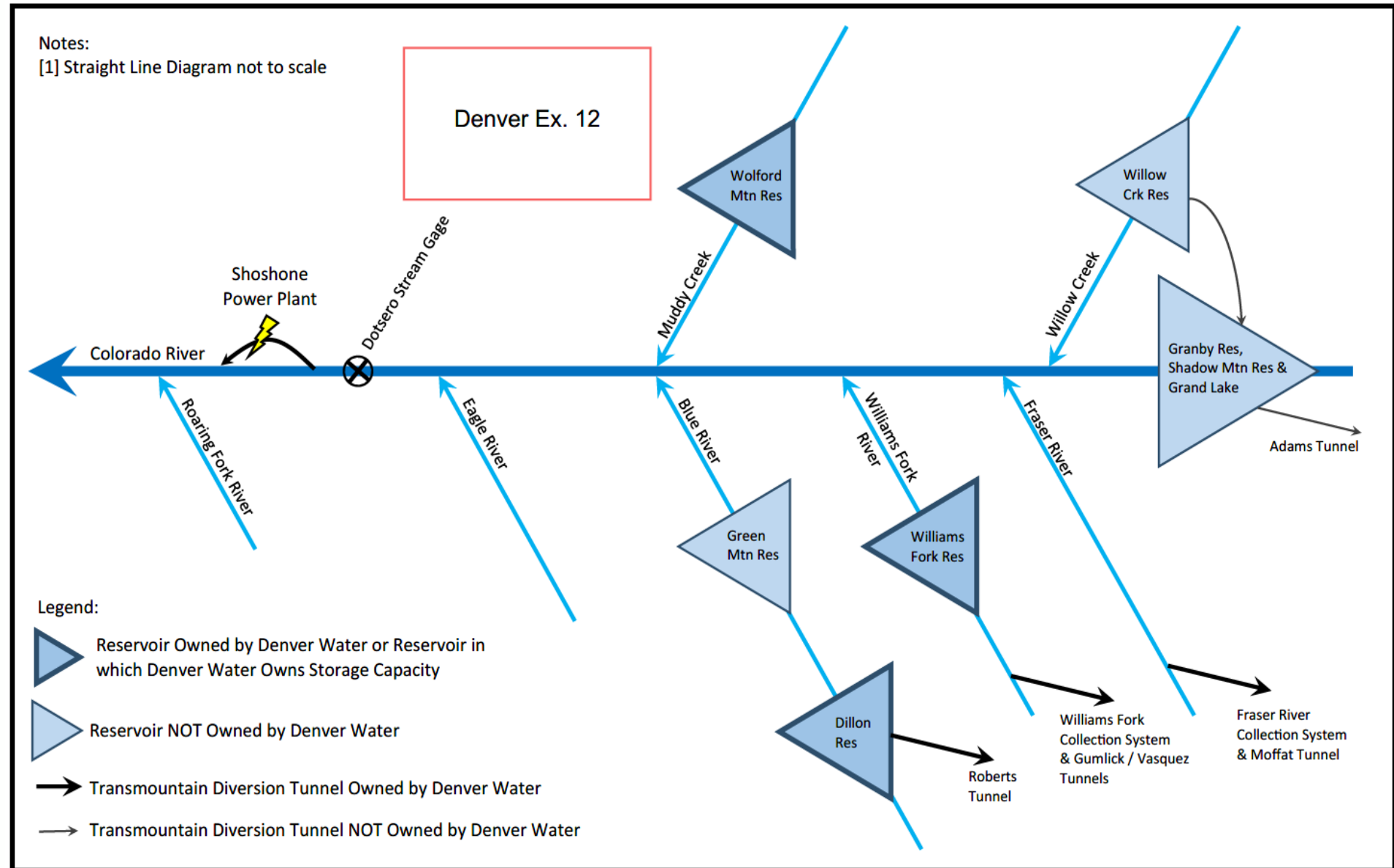
1. The need to maintain the status quo through ShOP
2. Accuracy of historical use analysis and potential for material injury to water rights
3. Preserving CWCB discretion to use and operate Shoshone Water Rights for instream flow purposes



Jeffrey Bandy, P.E.

 DENVER WATER

Denver Water's West Slope Facilities in Relation to Shoshone



Denver Water's Commitment to Shoshone Flows (ShOP)

- Committed to ShOP in perpetuity in CRCA
- ShOP works to preserve historical flow regime of Senior Water Right when flows fall below 1250 cfs in irrigation season and 900 cfs in winter
- ShOP includes water shortage provisions which reduce the call
 - Based on streamflow forecasts and projected Denver Water storage
 - Shortage provisions have not been triggered since ShOP started in 2013.

Historical ShOP Contributions by Denver Water

Volumes in acre-feet

Water Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual
2013	-	-	-	-	-	-	-	-	-	-	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	50	0	0	601	651
2021	585	0	0	0	0	2,489	0	615	4,532	343	0	0	8,564
2022	0	0	0	0	0	480	0	0	0	0	0	0	480
2023	0	0	0	173	4,400	1,352	0	0	0	4,199	9,026	8,571	27,721
2024	6,523	4,772	4,440	3,703	4,995	0	0	0	761	3,544	0	0	28,738
Total	7,108	4,772	4,440	3,877	9,395	4,321	0	615	5,342	8,085	9,026	9,172	66,154

Notes:

[1] Analysis begins September 26, 2013 based on effective date of Colorado River Cooperative Agreement.

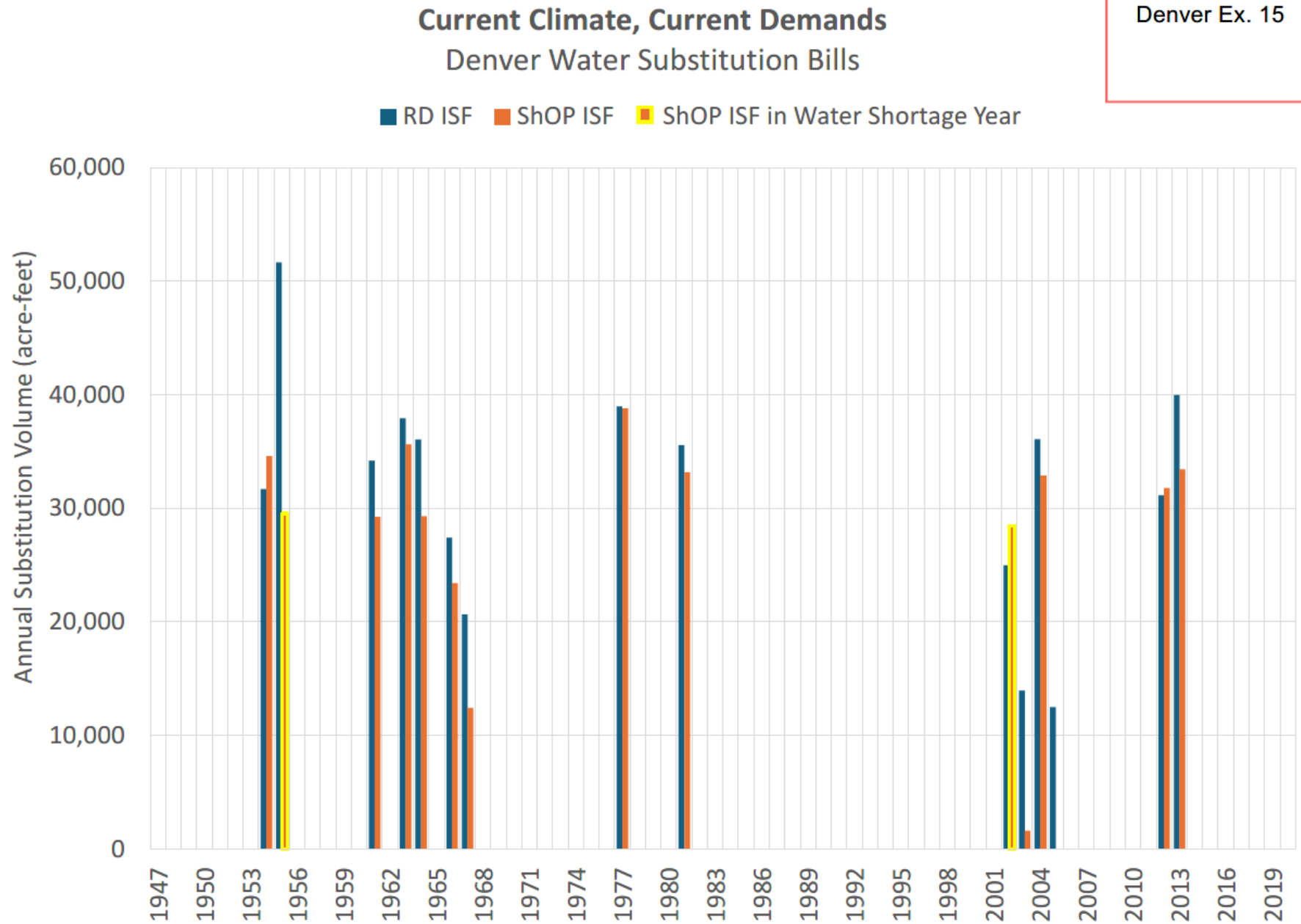
[2] Volume of water Denver Water contributed to ShOP based on Denver Water accounting.

Evaluation of Potential Impacts to Denver Water Supply

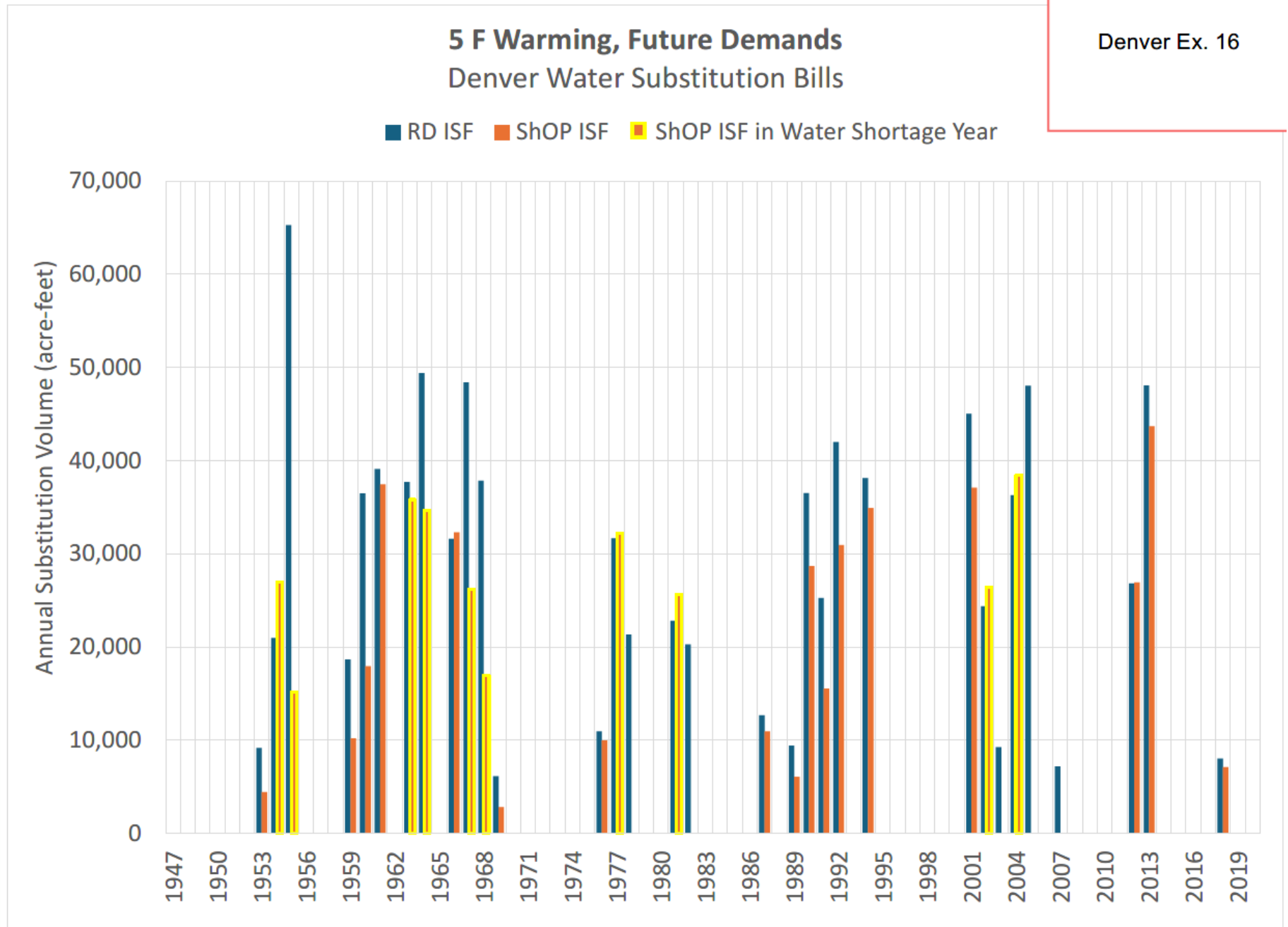
- Evaluated a 1408 cfs ISF (RD ISF) compared to ShOP terms ISF (ShOP ISF)
- Compared for 2 scenarios with Denver Water's planning model, PACSM
 - “Current Conditions” and “Future Conditions”
- Estimates potential water shortage conditions and the effect on Denver Water supplies

Comparison of Green Mountain Substitution under ShOP ISF v. RD ISF (Current Conditions Modeling)

Denver Ex. 15

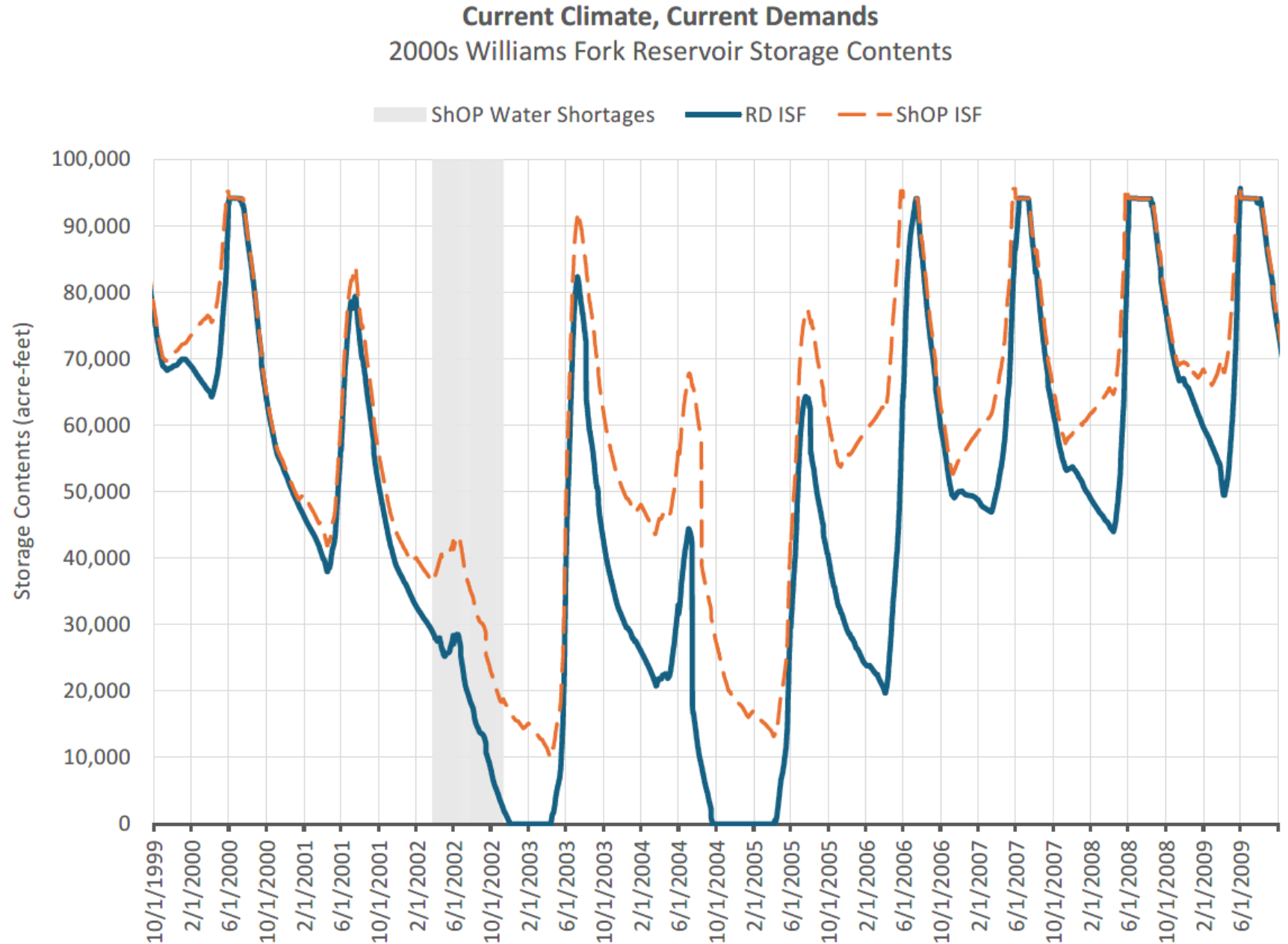


Comparison of Green Mountain Substitution under ShOP ISF v. RD ISF (Future Conditions Modeling)



Williams Fork Reservoir- 2000s, Comparison of ShOP ISF v. RD ISF (Current Conditions Model)

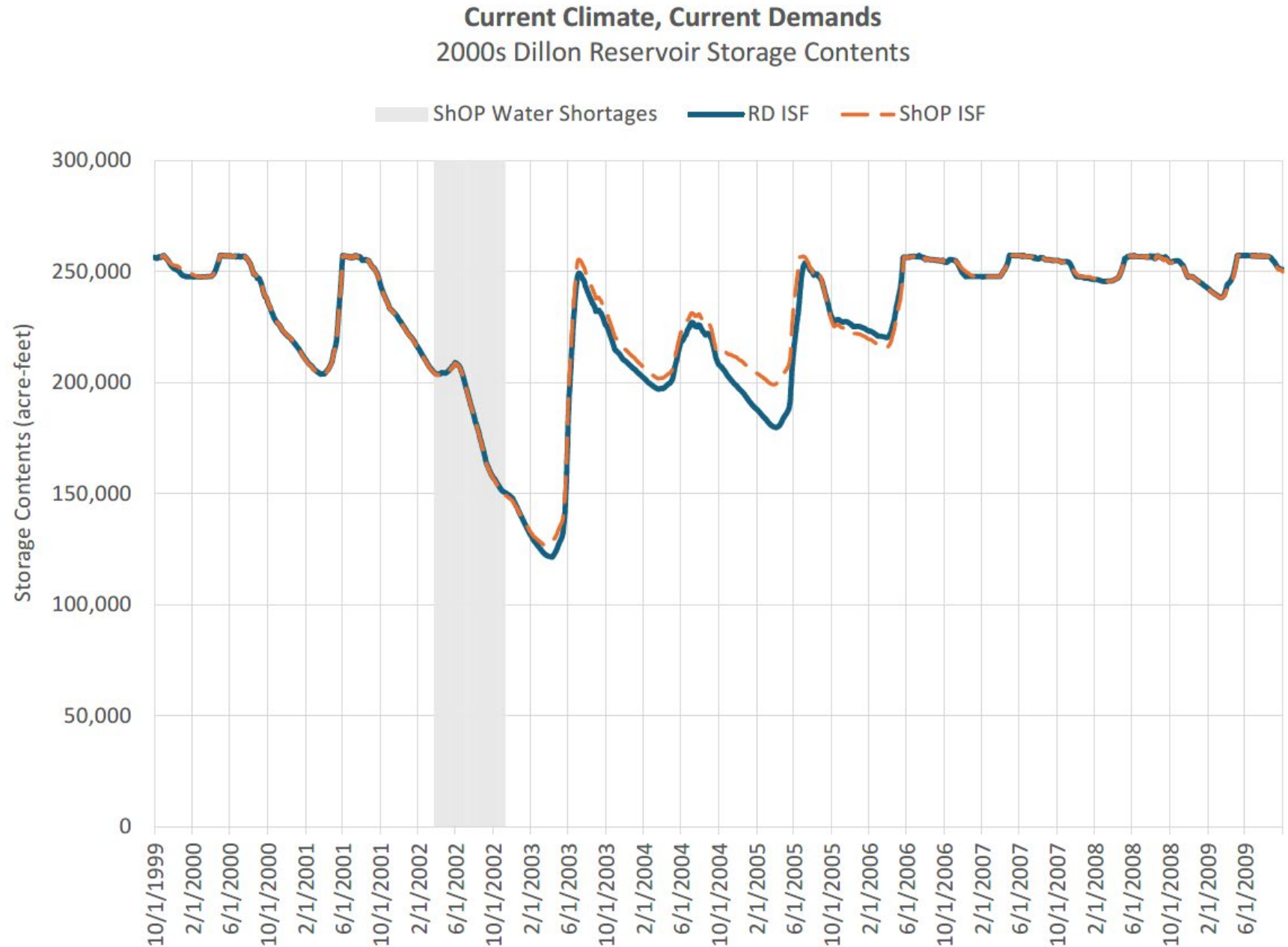
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Dillon Reservoir – 2000s, ShOP ISF v. RD ISF

(Current Conditions Model)

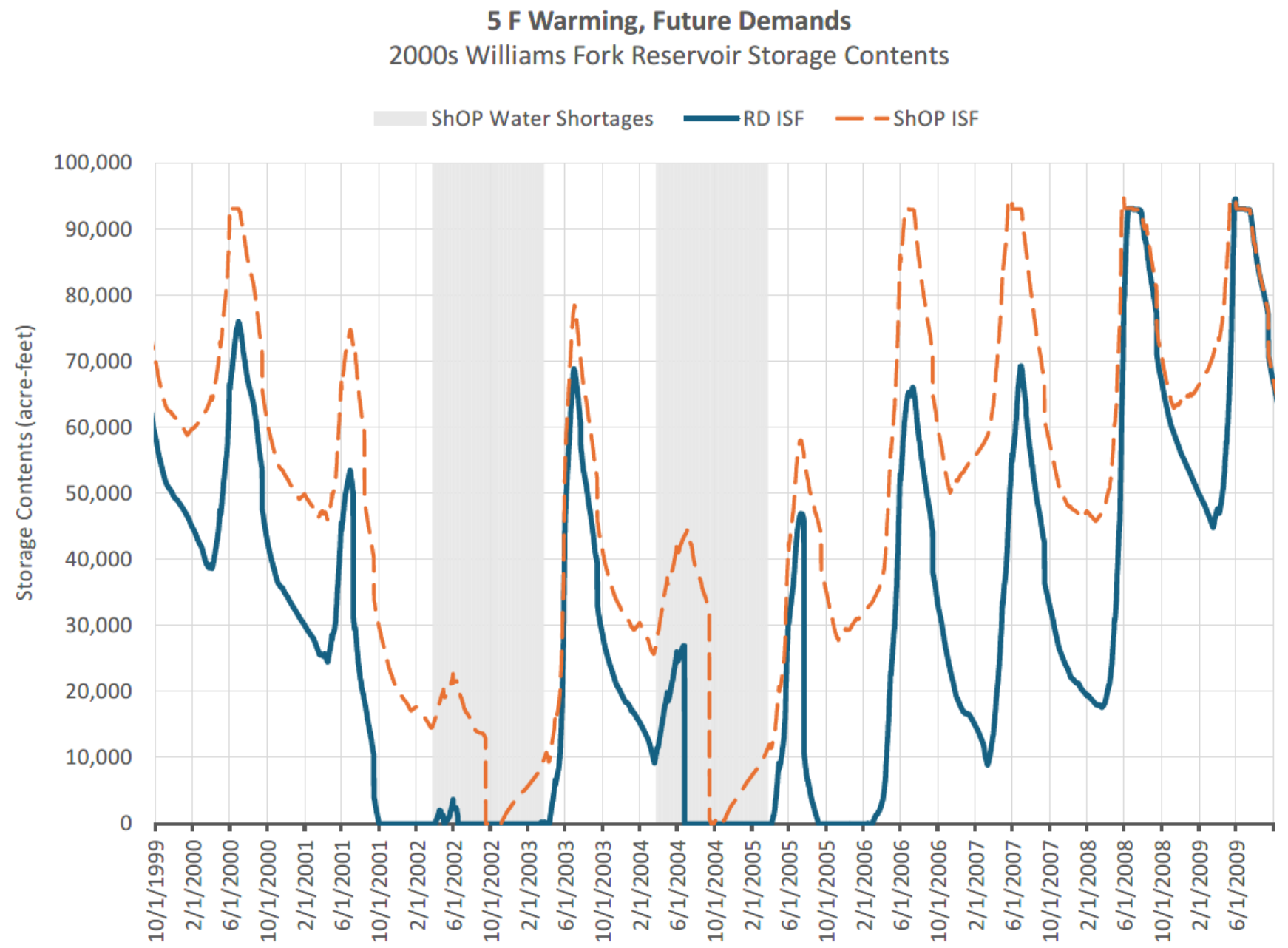
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Williams Fork Reservoir – 2000s, ShOP ISF v. RD ISF

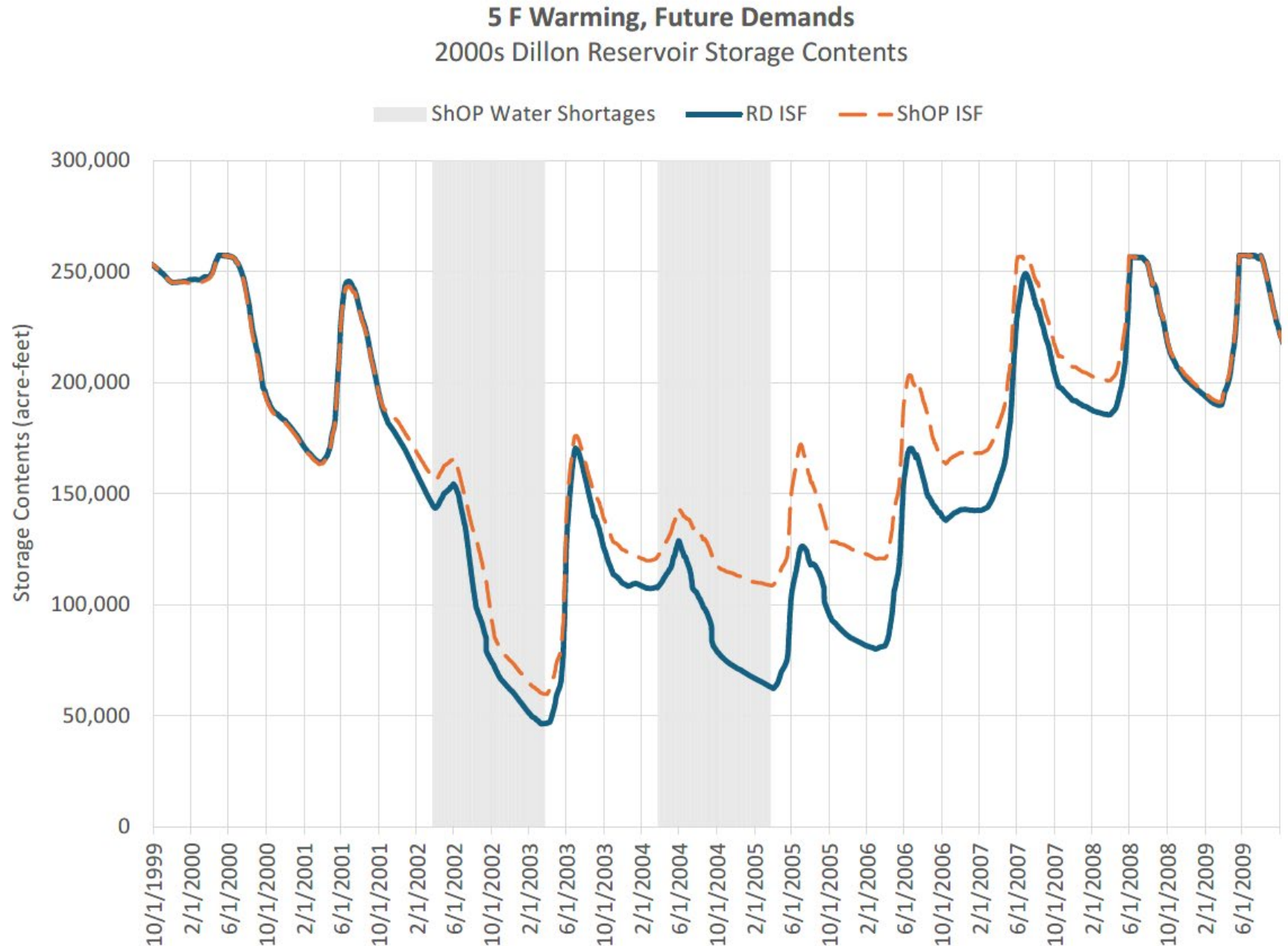
(Future Conditions Model)

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Dillon Reservoir - 2000s, ShOP ISF v. RD ISF

(Future Conditions Model)



Summary of Impacts of the Proposed Acquisition

- A 1408 cfs ISF as compared to ShOP ISF, will result in greater substitution amounts and greater drawdown of replacement reservoirs.
- This increases risk to Denver Water's supply
- Recovery of Denver Water reservoirs in subsequent years will retime river flows and reduce flows when these reservoirs refill during runoff.
- Increased reservoir drawdown will impact flat water recreation in Grand and Summit Counties.

CWCB Hearing and Public Comment

**Proposed Acquisition of an Interest in the
Shoshone Water Rights for Instream Flow
Use on the Colorado River**

September 16-18, 2025

Concerns with BBA's Historical Use Assessment

- BBA estimated the average annual yield of the Shoshone Water Rights to be 844,644 ac-ft/yr.
- BBA's analysis inflates historical use due to:
 - Inappropriate study period (1975–2003)
 - Use of the Dotsero gage instead of official CDSS diversion records reported by the State
 - Incorrect administrative flow prior to 1998
 - Exclusion of all months of full outage

Study Period

- BBA used a study period of 1975-2003 to quantify yield of the Shoshone Water Rights.
- The study period should extend from 1998 to present.

Administrative Flow Prior to 1998

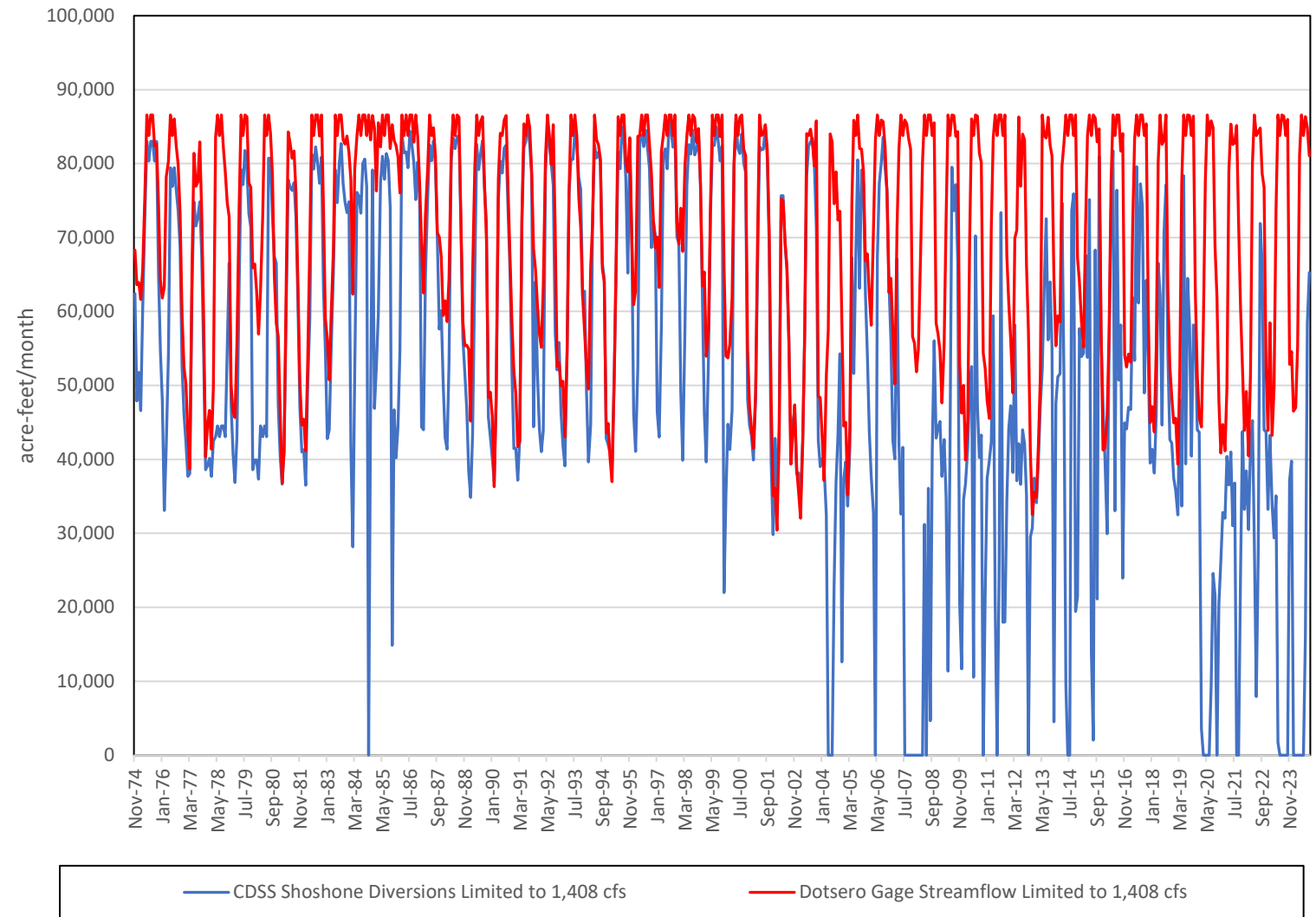
- BBA assumed the administrative flow was equal to the Dotsero gage prior to 1998.
- Should rely on undepleted flow at Dotsero gage reported in USBR Colorado River Accounting ledgers prior to 1998.

Diversion Records

- BBA used the USGS Dotsero gage capped at 1,408 cfs as surrogate for Shoshone diversions.
- Should use CDSS Shoshone diversion records submitted by PSCo and reported by the State of Colorado.

Shoshone Diversions vs. Dotsero Gage

Figure 1: CDSS Shoshone Diversions vs. Streamflow at Dotsero Gage Capped at 1,408 cfs
(ERC, 2025a)



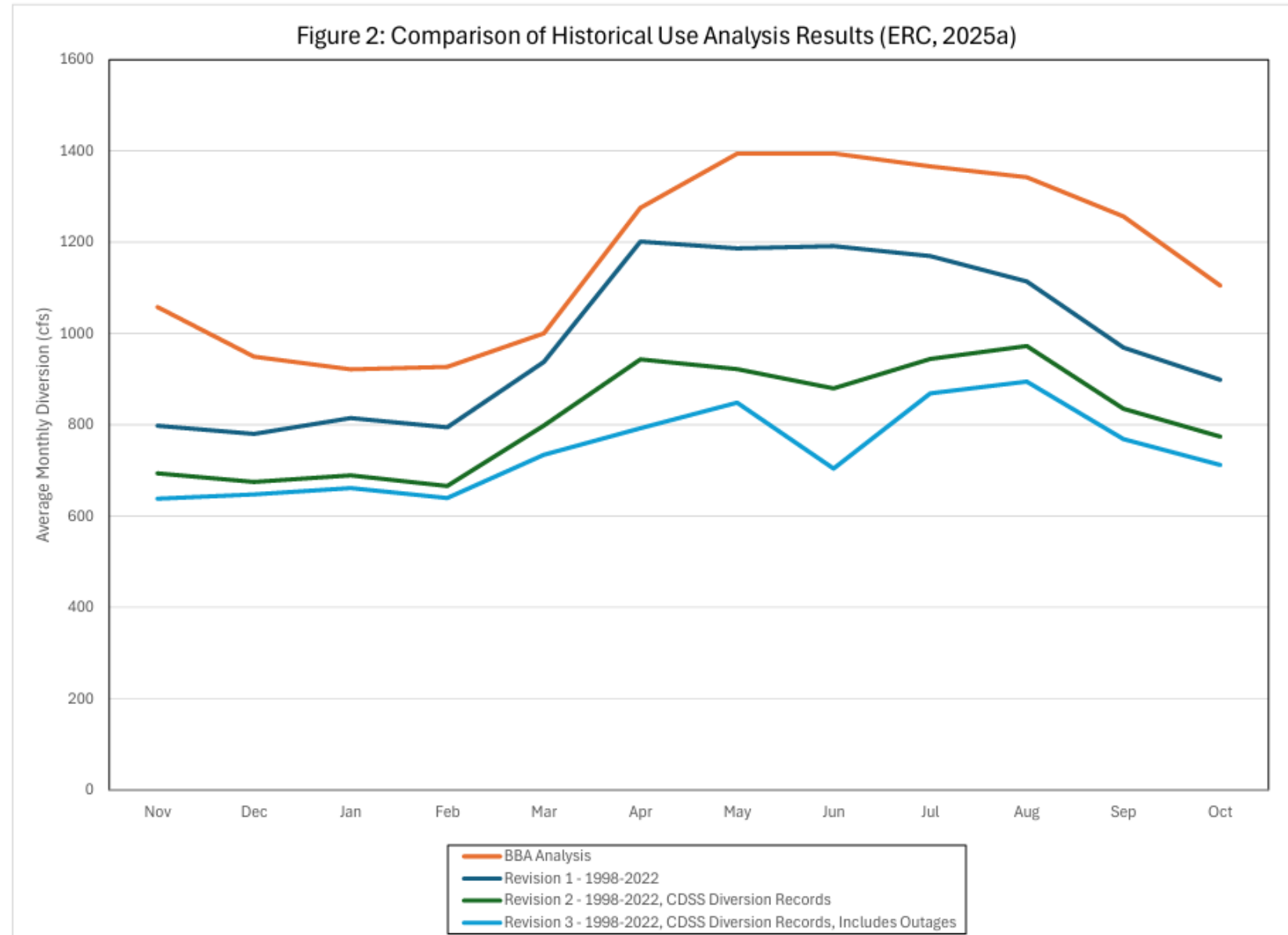
Months of Full Shoshone Outage

- BBA did not include any full months of Shoshone outage.
- If CDSS records show no water diverted for entire month, it may be appropriate to include a zero that month to not overstate monthly averages.

Revised Estimate of Historical Use

- ERC revised the historical use analysis using different, more defensible assumptions.
 - Used a study period of 1998-2022
 - Used official CDSS Shoshone diversion records
 - Included all full months of outage at Shoshone
- Revised annual yield is 538,204 ac-ft or 36% less than BBA's estimated yield.
- Shoshone Rights could be enlarged if volumetric limit of 844,644 ac-ft/yr adopted.
- Unlawful enlargement of Shoshone Rights could materially injure other water rights.

ERC Historical Use Analysis Results



Comparison of BBA and ERC Historical Use Results

Table 1: Revised Estimates of Historical Use (ERC, 2025a)

Mon	BBA Historical Use (ac-ft)	BBA Historical Use (cfs)	Revision 1 (ac-ft)	Revision 2 (ac-ft)	Revision 3 (ac-ft)	Revision 3 (cfs)	Difference BBA vs. Revision 3 (ac-ft)	Difference BBA vs. Revision 3 (cfs)
Nov	62,929	1,058	47,454	41,280	37,978	638	24,951	419
Dec	58,370	949	47,966	41,479	39,819	648	18,551	302
Jan	56,674	922	50,079	43,357	40,663	661	16,011	260
Feb	51,474	927	44,098	36,980	35,500	639	15,974	288
Mar	61,487	1,000	57,661	49,077	45,151	734	16,336	266
Apr	75,877	1,275	71,487	56,130	47,149	792	28,728	483
May	85,687	1,394	72,942	56,684	52,149	848	33,538	545
Jun	82,979	1,394	70,877	52,348	41,878	704	41,101	691
Jul	83,976	1,366	71,907	58,050	53,406	869	30,570	497
Aug	82,515	1,342	68,494	59,791	55,008	895	27,507	447
Sep	74,747	1,256	57,661	49,697	45,721	768	29,026	488
Oct	67,929	1,105	55,237	47,588	43,781	712	24,148	393
Total	844,644		715,863	591,460	538,204		306,441	

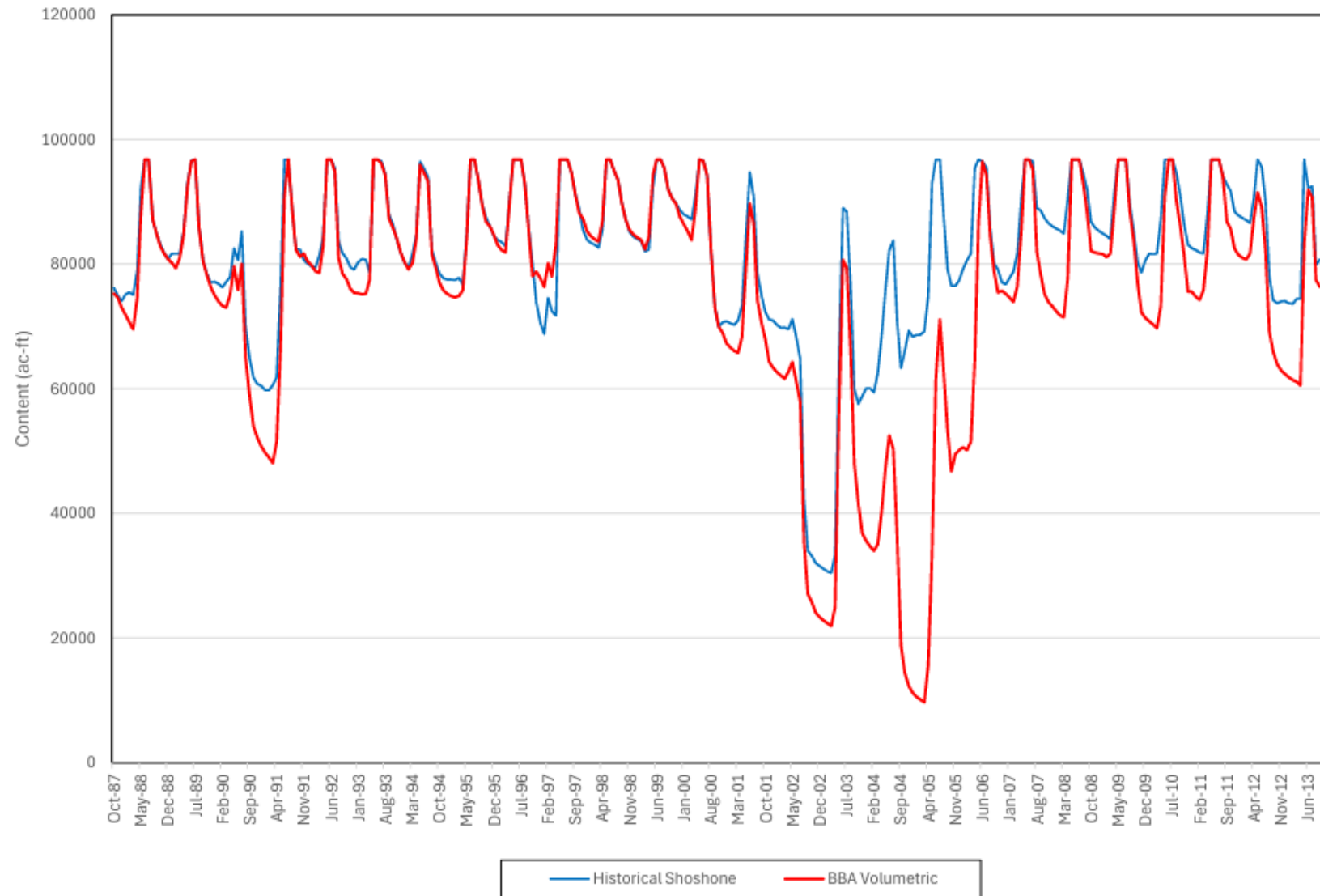
Potential Injury due to Enlargement of the Shoshone Water Rights

ERC modeling shows following impacts if use of Shoshone Water Rights enlarged:

- More frequent curtailment of diversions by upstream TM projects and HUP beneficiaries.
- Increased drawdown of replacement reservoirs and accounts (e.g. Williams Fork and Green Mountain Reservoirs)
- Increased substitution bill, which increases draw down at Williams Fork and Wolford Mountain to pay bill.

Additional Drawdown at Williams Fork Reservoir

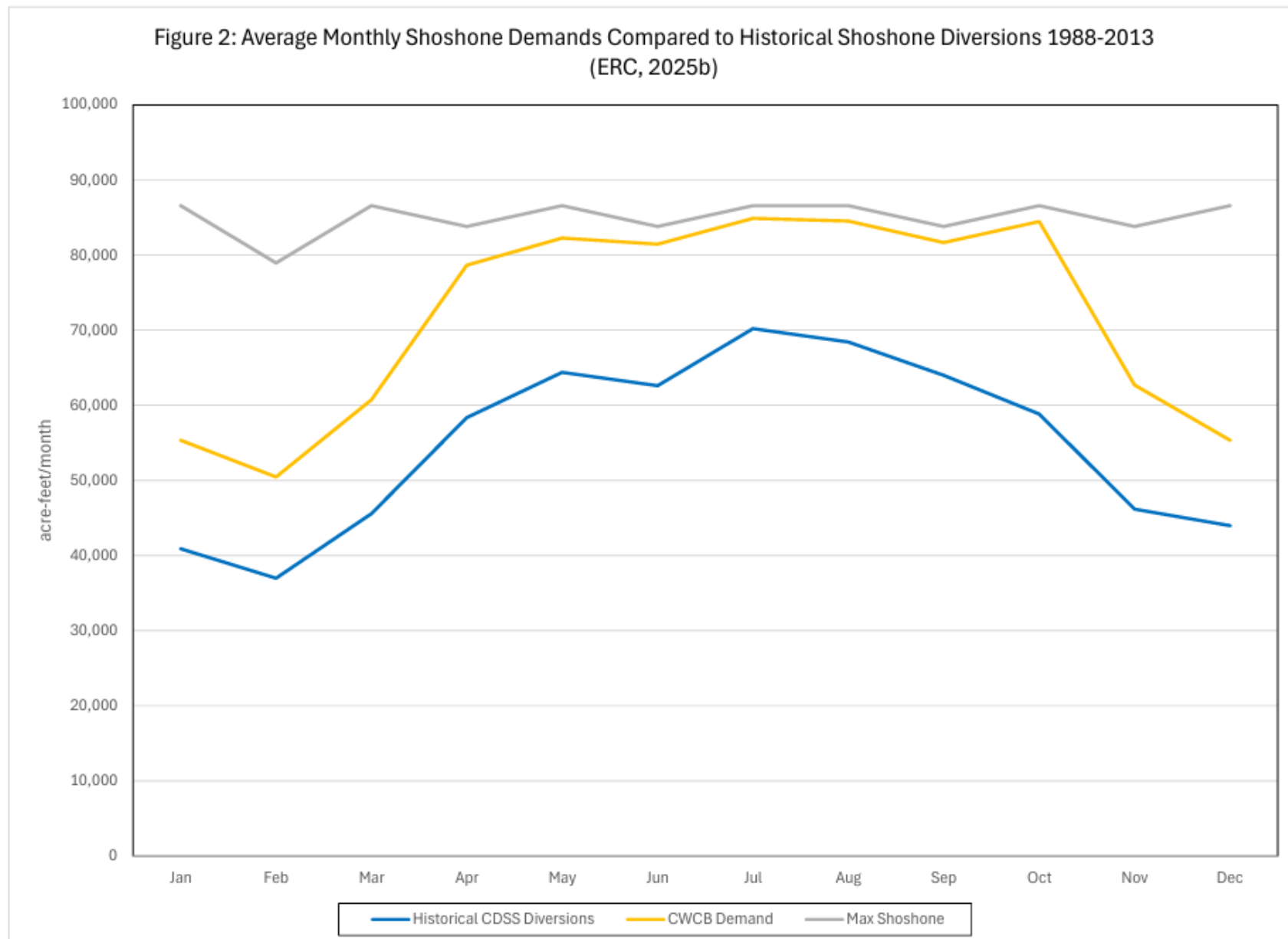
Figure 4: Williams Fork Reservoir End-of-Month Contents (ERC, 2025b)



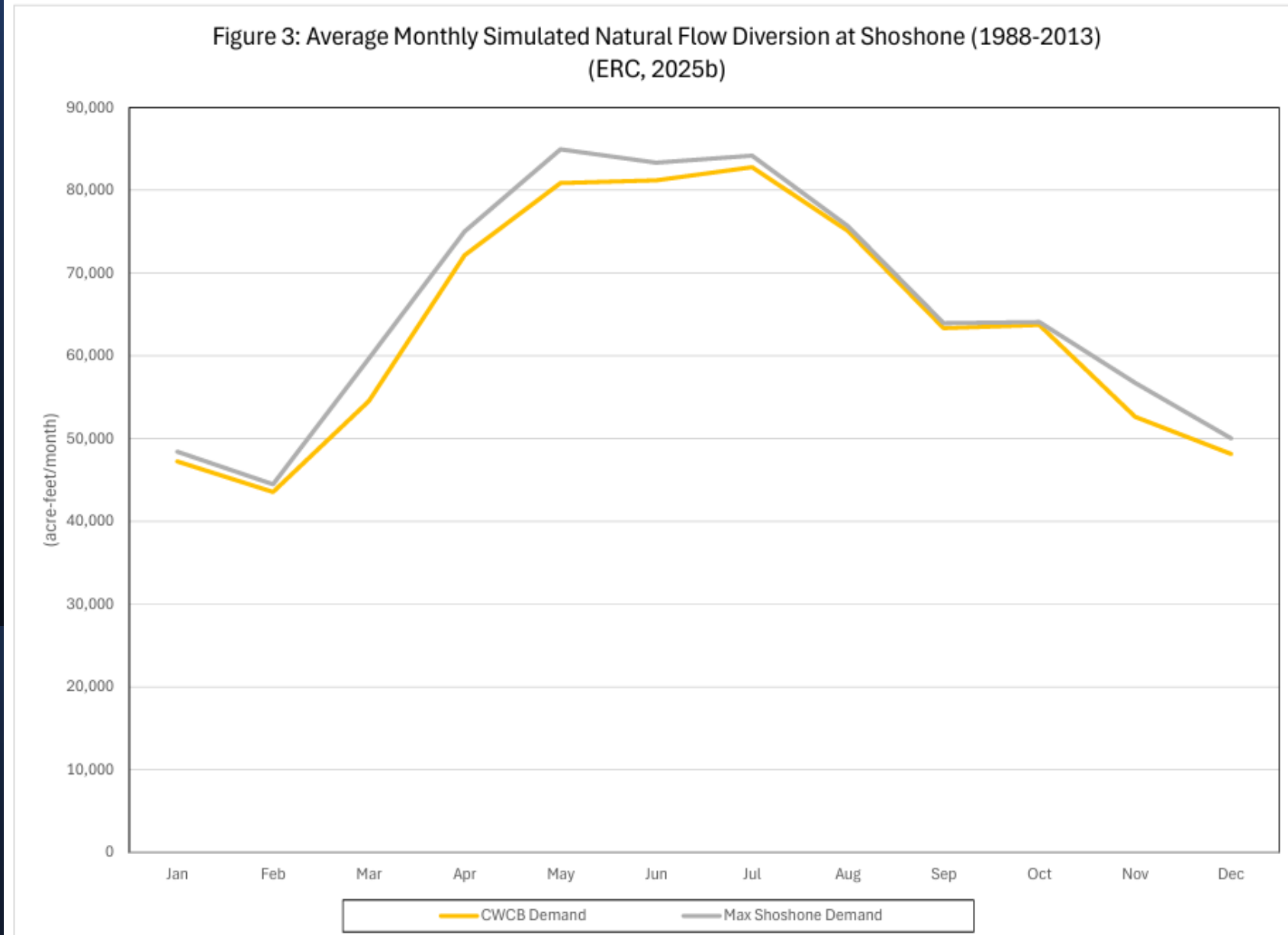
Hydros Analysis

- Hydros modeling underestimates impacts on storage and transmountain projects.
- Impacts based on comparisons against a baseline scenario with simulated Shoshone diversions that do not reflect historical diversions.
- The scenarios Hydros compared generated very similar Shoshone diversions that are much higher than historical diversions. Since simulated Shoshone diversion are similar, changes at other facilities are minimal.

Shoshone Demand Levels



Simulated Natural Flow Diversions at Shoshone



Conclusions

- FRWC entities support CWCB acquisition and use of the Shoshone Water Rights for ISF use - if status quo is maintained and there is no enlargement.
- BBA's proposed volumetric limit overestimates historical use of Shoshone Water Rights by 36%.
- If BBA's volumetric is adopted that will cause material injury to decreed water rights including:
 - More frequent curtailment of upstream junior water rights.
 - Increased drawdown of replacement reservoirs which decreases the reliability of those reservoirs.
 - Increased substitution bill and drawdown of reservoirs used to pay that bill.

CWCB Discretion

7. It is the intent of the parties that the Shoshone Water Rights will be protected for instream flow use to the maximum extent possible as allowed under the Water Court Decree, to the extent the Shoshone Water Rights are not being used for power generation. To implement this mutual intent, the CWCB agrees that it will request administration of the Shoshone Water Rights for instream flow use in the Shoshone Reach of the Colorado River to preserve and improve the natural environment to a reasonable degree ~~at all times when the Natural Flow of the Colorado River as measured at the Dotsero Gage is less than 1,408 c.f.s.~~, subject only to the limitations set forth below:

- a. Any terms, conditions, and limits set forth in the Decree;
- b. Any reduction in instream flow use made pursuant to the terms and conditions of Paragraph 9, below, due to use or planned use of the Shoshone Water Right for power generation; and
- ~~c. During any period wherein the CWCB and the River District jointly agree in writing to reduce the flow rate requested for administration of the Shoshone Water Rights for instream flow purposes.~~

9. The CWCB ~~and the River District~~ shall notify PSCo ~~and the River District~~ of any request for administration required by the provisions of this Agreement. PSCo shall provide advance written notice to the River District and the CWCB at least thirty (30) days prior to any scheduled operations or maintenance activities that result in a full or partial shutdown of the Shoshone Power Plant, and shall provide notice as soon as reasonably possible of any unscheduled shutdown or reduction of Shoshone Power Plant operations. During the term of the Lease, the parties will coordinate on at least an annual basis to determine how the Shoshone Water Rights will be allocated between hydropower generation and instream flow use in a manner consistent with the terms and conditions of the Decree that (1) maximizes PSCo's ability to exercise the Shoshone Water Rights for hydropower generation purposes; and (2) maximizes the ability ~~of the CWCB~~ to use the Shoshone Water Rights for instream flow purposes to the extent the water rights are not being used for hydropower generation purposes at the Shoshone Power Plant, in a manner that does not reduce the availability of the Shoshone Water Rights for subsequent hydropower use. . . .

CWCB
Discretion
Cont'd

Exclusive
Statutory
Authority

C.R.S. § 37-92-102(3) Further recognizing the need to correlate the activities of mankind with some reasonable preservation of the natural environment, the [CWCB] . . . is hereby vested with the exclusive authority, on behalf of the people of the state of Colorado, to appropriate . . . such waters of natural streams and lakes as the board determines may be required for minimum streamflows . . . to preserve the natural environment to a reasonable degree.

10. ENFORCEMENT AGREEMENTS.

ISF Rule 10 The Board may attach conditions to an appropriation, decreased appropriation, or acquisition, and may enter into any enforcement agreements that it determines will preserve or improve the natural environment to a reasonable degree. The Board may enter into enforcement agreements that limit the Board's discretion in the protection, approval of inundation, modification or disposal of ISF right, and/or may delegate limited authority to act on the Board's behalf.

Denver Water's Request for Relief

1. As a policy, adopt terms that mimic ShOP.
 - a. Strikes balance between the protection and improvement of the environment with need to maximize other beneficial uses of water.
 - b. Provides a means to protect essential water supplies in times of extreme shortage.
2. Remain neutral on historical use quantification and methodology.
3. Modify paragraph 7.c and 9 in Use Agreement to retain discretion to use and operate Shoshone Water Rights

Questions?