8/4/2025

Denver Ex 1

Attachment 4

DRAFT

SHOSHONE WATER RIGHTS DEDICATION AND ISF AGREEMENT

(Shoshone Water Rights)

This WATER RIGHT DEDICATION and ISF AGREEMENT ("Agreement"), is made as of this ____ day of_____, 2025, by and between the Colorado Water Conservation Board ("CWCB"), an agency of the State of Colorado, the Colorado River Water Conservation District ("River District"), a political subdivision of the State of Colorado, and Public Service Company of Colorado, a Colorado corporation ("PSCo"). The CWCB, the River District, and PSCo may be hereinafter referred to individually as a "party," and together as the "parties."

RECITALS

A. The CWCB is an agency of the State of Colorado created to aid in the protection and development of the waters of the state for the benefit of its present and future inhabitants. In 1973, the General Assembly vested the CWCB with the exclusive authority to appropriate waters of the natural stream for minimum stream flows between specific points on a stream to preserve the natural environment to a reasonable degree.

B. Pursuant to section 37-92-102(3), C.R.S., the General Assembly has also vested the CWCB with the ability to acquire, by grant, purchase, donation, lease, or other contractual agreement, such water, water rights, and interests in water that are not on the division engineer's abandonment list in such amount as the CWCB determines is appropriate for stream flows to preserve and/or improve the natural environment to a reasonable degree.

C. The River District was created by the provisions of sections 37-46-101, C.R.S., *et seq*., to promote the health and general welfare of the State of Colorado by the conservation, use, and development of the water resources of the Colorado River and its principal tributaries. The River District constituents include West Slope governmental entities and water interests that desire to maintain in perpetuity the flow regime within Water Division 5 created by the historical exercise of the water rights that are the subject of this Agreement.

D. PSCo is a Colorado corporation and is the owner and operator of the hydroelectric power plant (the "Shoshone Power Plant") located on the mainstem of the Colorado River in Glenwood Canyon, approximately six miles upstream of Glenwood Springs, Colorado. The Shoshone Power Plant produces hydroelectric energy by means of PSCo's diversion of the following water rights:

(i) The Glenwood Power Canal and Pipeline water right, decreed on December

9, 1907, in Civil Action No. 466, Eagle County District Court, at~~in~~ the flowrate~~amount~~ of 1,250 cubic feet per second of time ("c.f.s.") with an appropriation date of January 7, 1902, for power, mining, milling, manufacturing, lighting and heating and traction purposes, and as decreed absolute by the Eagle County District Court on February 27, 1911, in Civil Action No. 553 (the "Senior Shoshone Water Right"); and

(ii) The Shoshone Hydro Plant Diversion No. 2 water right, decreed absolute on February 7, 1956, in Civil Action No. 1123, Eagle County District Court, at~~in~~ the flowrate~~amount~~ of 158 c.f.s. with an appropriation date of May 15, 1929, for manufacturing and generation of electrical energy (the "Junior Shoshone Water Right").

Together, these two water rights are referred-to as the "Shoshone Water Rights".

E. The Senior Shoshone Water Right is one of the most senior water rights on the Colorado River. During significant periods of the year, there is not sufficient water to satisfy all water rights decreed on the Colorado River and its tributaries within the State of Colorado. At such times, when the measurable Natural Flow of the Colorado River drops below 1,408 c.f.s. (the sum of 1,250 c.f.s. attributable to the Senior Shoshone Water Right and 158 c.f.s. attributable to the Junior Shoshone Water Right) at the streamflow gauge (USGS 09070500) located on the Colorado River near Dotsero, Colorado ("Dotsero Gage"), to the extent in priority, the Colorado Division of Water Resources ("DWR") administers a call (if, when, and to the extent a valid call is requested) for the Shoshone Water Rights ~~which~~ that can result~~s~~ in the curtailment of junior water rights upstream of the Shoshone Power Plant. The Dotsero Gage is the location where the administration ~~and measurement~~ of the Shoshone Water Rights has historically occurred. The "Natural Flow" is the ~~amount~~ rate of flow of water in the Colorado River measured at the Dotsero Gage, including the ~~amount~~ flowrate of water usable by the Shoshone Water Rights when those water rights are in priority, except that the "Natural Flow" does not include any water released from storage and conducted into the Colorado River upstream of the Dotsero Gage (accounting for evaporation and transit loss), which water is intended for delivery for use downstream of the discharge outlets for the Shoshone Power Plant.

Commented [A1]: The phrase "and measurement" should be stricken. This is not accurate.

F. The Shoshone Water Rights are decreed for non-consumptive hydropower generation use at the Shoshone Power Plant. A portion of ~~All of~~ the water diverted by PSCo for hydropower generation use is returned to the Colorado River after ~~such water is~~being conveyed through the Shoshone Power Plant's penstocks and turbines, to a point of return at the plant's discharge outlets that is approximately 2.4 miles downstream of the point of diversion at the Shoshone Diversion Dam and Tunnel, as depicted on the map attached as **Exhibit A**. The approximate locations of the "Shoshone Diversion Dam and Tunnel" and the outfall for the "Shoshone Power Plant Discharge Outlets" are as follows:

Commented [A2]: Without modifications, this statement represents that all water diverted returns to the Colorado River after being used to generate power, whereas in reality, a portion of the water diverted is discharged as conveyance loss back to the Colorado River via adits.

i. **Shoshone Power Plant Diversion Dam and Tunnel:** on the right bank, being the northerly bank, of the Colorado River whence the North quarter corner of Section Thirty (30), Township Five (5) South, Range Eighty-Seven (87) West of the 6th Principal Meridian bears North 23° 48'20" East 2,414.64 feet, in Garfield County, Colorado.

ii. **Shoshone Power Plant Discharge Outlets:** on the right bank, being the northerly bank, of the Colorado River whence the Southeast corner of Section Thirty-five (35), Township Five (5) South, Range Eighty-Eight (88) West of the 6th Principal Meridian bears South 29° 24' 14" East, 1,771 feet, in Garfield County, Colorado.[1]

The reach of stream between the Shoshone Power Diversion Dam and Tunnel and the Shoshone Power Plant Discharge Outlets is referred to herein as the "Shoshone Reach." Through this Agreement, the parties seek to preserve and improve the natural environment of the Colorado River within the Shoshone Reach to a reasonable degree.

G. Pursuant to the Purchase and Sale Agreement between the River District and PSCo, with an effective date of January 1, 2024 (the "PSA"), the River District is the contract purchaser of the Shoshone Water Rights. The PSA provides that PSCo, and its successors and assigns, is entitled to a perpetual leasehold interest in the Shoshone Water Rights for continued use of the Shoshone Water Rights for hydropower generation at the Shoshone Power Plant (the "Lease," the form of which is attached to the PSA as "Exhibit D"). The PSA (including all its Exhibits and Attachments) is attached and incorporated hereto as **Exhibit B**.

H. ~~PSCo's historical exercise of the Shoshone Water Rights has resulted in a streamflow regime that has benefitted the natural environment of the Colorado River basin both upstream and downstream of the Shoshone Power Plant. In addition, the historical exercise of the Shoshone Water Rights has provided benefits to water users throughout the Colorado River basin by providing a relatively predictable water rights administration regime both upstream and downstream of the Shoshone Power Plant.~~

I. The parties wish to continue the general historical call operations and maintain the historical flow regime of the Colorado River that has prevailed in recent decades~~, both upstream and downstream of the Shoshone Power Plant~~. In furtherance of that effort, and subject to the terms of this Agreement, the River District wishes to dedicate to the CWCB, at no additional cost to the CWCB, the exclusive right to use the Shoshone Water Rights for instream flow purposes within the proposed Shoshone Reach ~~to the extent~~when the water rights are not being used for hydropower generation purposes at the Shoshone Power Plant, subject to the requirements of this Agreement. To that end, and subject to the terms set forth herein, the River District, PSCo, and the CWCB agree to jointly file an application to adjudicate a change of the Shoshone Water Rights in Garfield County District Court, Water Division No. 5, (the "Water Court") to add instream flow use to preserve and improve the natural environment of the Shoshone Reach of the Colorado River to a reasonable degree as an additional beneficial use of the Shoshone Water Rights. Use of the Shoshone Water Rights for instream flow and hydropower purposes shall be subject to any terms and conditions imposed by the change of water right decree to be entered by the Water Court, further described in Paragraphs XX and XX below (the "Decree"), as well as the rest of the provisions of this Agreement.

Commented [A3]: This goes beyond the grounds that the CWCB may acquire water for instream flow use as it extends beyond the affected reach beginning at the Shoshone Diversion Dam.

Commented [A4]: Strike for same reasons as Recital H.

Commented [A5]: Under the CRCA ShOP, Denver Water committed to either/or (power use or operation of ShOP to preserve Shoshone Call Flows), not that ShOP would apply while the power plant is operating to make up any gap in the decreed flow rate being beneficially used.

Additionally, simultaneous use on the same day has the potential to lead to enlargement of the right, and may require additional measurement devices to separately measure the divisions and uses.

[1] The legal description set forth above for the Downstream Terminus (Shoshone Power Plant

Discharge Outlets) is an approximate location developed by River District staff and may be supplemented or modified at the time a water court application is filed in Water Division No. 5.

J. At two regularly scheduled public meetings of the CWCB held on [date], and [date], the CWCB considered the River District's proposed dedication of the exclusive right to use the Shoshone Water Rights for instream flow purposes to the CWCB in accordance with section 37-92-102(3), C.R.S., and the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program ("ISF Rule(s)"), 2 CCR 408-2. At its regularly scheduled meeting on [date], the CWCB determined that it is appropriate to enter this Agreement and that the best use of the acquired interest in the Shoshone Water Rights in accordance with the terms of this Agreement ~~is use up to the full decreed amount of 1,408 c.f.s.~~, is for instream flow use to preserve and improve the natural environment to a reasonable degree within the Shoshone Reach. Such use of the Shoshone Water Rights for instream flow purposes can occur within the Shoshone Reach up to the maximum "improve" streamflow rate of 3,000 cfs and ~~to the extent~~ when the Shoshone Water Rights are not being exercised for hydropower generation purposes at the Shoshone Power Plant, ~~up to the full amount of 1,408 c.f.s. of Natural Flow (hereinafter, the "ISF Rate")~~ in accordance with the terms of this Agreement, ~~subject to~~ including the limitations described in Paragraphs 7 and 9 below.

K. The CWCB, the River District, and PSCo wish to cooperate to implement such legal mechanisms and to obtain such court decree and approvals as are necessary to change the Shoshone Water Rights to include instream flow use for the purpose of preserving and improving the natural environment to a reasonable degree within the Shoshone Reach~~, and to protect the Natural Flow ISF Rate through the Shoshone Reach to the extent it is not being exercised for hydropower generation purposes at the Shoshone Power Plant~~.

Commented [A6]: "To a reasonable degree" should be included consistent with statutory requirements.

Commented [A7]: This does not appear to be a legitimate or lawful purpose. And would unlawfully enlarge the right.

AGREEMENT

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

DEDICATION

1. The Recitals to this Agreement are incorporated by this reference and shall constitute part of this Agreement.

2. The River District hereby dedicates to the CWCB in perpetuity, effective as of the date of closing of the PSA, at no additional cost to the CWCB, the exclusive right to use the Shoshone Water Rights for instream flow use within the Shoshone Reach, when~~to the extent~~ such water rights are not being used for hydropower generation purposes at the Shoshone Power Plant pursuant to the Lease, and subject to the requirements of Paragraph 9 below. The River District shall retain title to the Shoshone Water Rights.

3. This Agreement acknowledges the CWCB's consideration of the Colorado Parks and Wildlife analysis showing a biological need to preserve and improve the natural environment of the Shoshone Reach of the Colorado River to a reasonable degree.

4. The parties ~~intend~~ will request that the Decree, as further described in Paragraphs XX and XX below, ~~shall~~ confirm that the water attributable to the Shoshone Water Rights up to the ~~available ISF Rate~~flowrates allowed for in paragraph 7 ~~will~~may remain in the stream to preserve and improve the environment to a reasonable degree within the Shoshone Reach where the CWCB does not presently have a decreed instream flow right, when ~~to the extent~~ the Shoshone Water Rights are not being used for hydropower generation purposes.

5. The parties will request~~intend~~ that the Decree ~~shall~~ confirm that the Shoshone Water Rights shall be administered by the State Engineer and the Division Engineer for Water Division No. 5 ("Engineers") based on the Natural Flow at the Dotsero Gage, or based on other gages or measurement devices as determined necessary by the Engineers in their discretion in discharging their statutory duties. Instream flow use of the Shoshone Water Rights will be administered through the Shoshone Reach where the intended instream flow use will occur with the goal of utilizing the Shoshone Water Rights up to the available ~~ISF Rate~~flow rates allowed under paragraph 7 without diversion or exchange by intervening water users. The parties ~~intend~~ will request that the Decree ~~shall~~ also contain an affirmative finding which confirms that the change of the Shoshone Water Rights for the additional instream flow use is administrable by the Engineers and ~~is capable of~~ meet~~sing~~ all applicable statutory requirements.

6. In the event any new infrastructure or stream gaging stations are either necessary or desirable for the implementation of this Agreement, or in the event that any new infrastructure—including measuring devices—are deemed necessary by the Engineers with respect to exercise and administration of the Shoshone Water Rights, the parties agree to work cooperatively with each other in good faith to accommodate the installation of any such infrastructure or gaging stations~~, which are~~ necessary to make water available for use under this Agreement, in an efficient and economical manner.

CONDITIONS ON THE ADMINISTRATION AND EXERCISE OF THE SHOSHONE WATER RIGHTS FOR INSTREAM FLOW USE

7. It is the intent of the parties that the Shoshone Water Rights will be ~~protected~~ used for instream flow use ~~to the maximum extent possible~~ as allowed under the Water Court Decree, when~~to the extent~~ the Shoshone Water Rights are not being used for power generation. ~~To implement this mutual intent,~~ T~~t~~he CWCB ~~agrees that it will~~will exercise its sole discretion, as the exclusive holder of interests in water for instream flow use, whether to~~, subject to its discretion as reserved in § L.,~~ 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, and if so to what extent, 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.~~rights are in priority and not being used for power generation, subject ~~only~~ to the limitations set forth below:

   a. Any terms, conditions, and limits set forth in the Decree;

   b. No more than 1,250 cfs may be called under the Senior Shoshone Water Right during the Irrigation Season (March 25 to November 10), to the extent the flow is at or less

Commented [A8]: If the CWCB were to agree to this second sentence it would impermissibly be contracting away the policy discretion of future Boards. For this reason, the sentence should be deleted.

The CWCB should also retain discretion to place calls under the Shoshone Water Rights so as to provide for the maximum utilization of water particularly during drought conditions when water supplies are required for municipal purposes for the purposes of public safety.

Commented [A9]: Term from the CRCA.

than 1,250 cfs at the Dotsero gage, and no more than 900 cfs may be called under the Senior Shoshone Water Right in the Winter Season (November 11 to March 24), to the extent the flow is at or less than 900 cfs at the Dotsero gage, subject to the additional terms contained herein;

c. The Senior Shoshone Water Right shall not call for instream flow use for 17 cumulative days during the Winter Season to duplicate the effect of current scheduled outages for maintenance;

d. In the event the Green Mountain Reservoir 52,000 acre-foot Replacement Pool is fully depleted, a call shall not be made under the Senior Shoshone Water Right that would result in the curtailment of diversions under the Colorado-Big Thompson Project;

e. A call under the Junior Shoshone Water Right may only be placed using a date of September 18, 2025.

~~b.~~f. 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

g. During any period wherein the CWCB ~~and the River District jointly agree in writing to~~requests that the Water Commissioner reduce ~~to~~ ~~reduce~~ the flow-rate ~~requested for administration~~ of the Shoshone Water Rights administered for instream flow purposes.

h. The Shoshone Water Rights shall not place a call for instream flow purposes during the Irrigation Season (March 25 through November 10) and Winter Season (November 11 through March 24) as provided below:

i. The- Shoshone Water Rights will not call for instream flow purposes during the Irrigation Season when a Water Shortage occurs. A "Water Shortage" occurs when the following two conditions are met: Using Denver Water's regular methodology and based on the "normal" scenario, Denver Water predicts that reservoir storage in its system on July 1 will be at or below 80% full; and the Most Probable forecast of streamflow prepared by the Natural Resources Conservation Service (NRCS) or jointly by NRCS and the Colorado Basin River Forecast Center indicates that the April - July flow of the Colorado River at the Kremmling gage will be less than or equal to 85% of average. If no forecast for the Kremmling gage is available, then the Dotsero gage will be used. For purposes of this paragraph, the reservoirs that will be considered in determining overall storage are Antero, Eleven Mile, Cheesman, Marston, Chatfield, Gross, Ralston, Dillon, Williams Fork, and Wolford Mountain, but excluding any reservoirs under storage restrictions due to maintenance, repairs or orders from the Colorado State Engineer.

ii. During the Irrigation Season, Denver Water will make projections in March prior to March 25, and again in early May and late June to determine whether a Water

Commented [A10]: Term from the CRCA.

Commented [A11]: It's unclear what legal authority exists for the River District to have a joint say in the operation of the Shoshone Water Rights for instream flow purposes given the CWCB's exclusive authority to appropriate and use water for instream flow use. This phrase also usurps the CWCB's discretion to operate for instream flow purposes as needed.

Commented [A12]: These terms are the water shortage terms from the CRCA that would be applied to future ISF use.

Shortage is occurring. If a Denver Water projection in March or May meets the conditions for a Water Shortage, then the Shoshone Water Rights may not place a call for instream flow purposes during the period from that projection to the next projection. If a Denver Water projection made in March or May does not meet the conditions for a Water Shortage, then the Shoshone Water Rights may call for instream flow purposes during the period from that projection to the next projection; provided, however, that the Shoshone Water Rights may not place a call for instream flow purposes during any period when the Shoshone Call is relaxed under the 2007 Shoshone Agreement.

ii. If a Denver Water projection made in June meets the conditions for a Water Shortage, then the Shoshone Water Rights may not place a call for instream flow purposes during the remainder of the Irrigation Season that year. If the projection made in June does not meet the conditions for a Water Shortage, then the Shoshone Water Rights may place a call, to the extent in priority and short of water, for instream flow purposes during the remainder of the Irrigation Season that year.

iii. During the Winter Season (November 11 to March 24), the Shoshone Water Rights may not call fully for instream flow purposes when the overall storage in Denver Water's system is less than 79% of capacity on November 1. If Denver Water storage is less than 79%, but more than 63%, then the Shoshone Water Rights may call for no more than 704 cfs during that Winter Season. If Denver Water storage is equal to or less than 63%, but more than 49%, then the Shoshone Water Rights may call for no more than 352 cfs during that Winter Season. If the storage is equal to or less than 49%, then the Shoshone Water Rights may not call during that Winter Season.

Commented [A13]: This portion of the term deviates from the CRCA,, but reflects Denver Water's best attempt to convert the CRCA term to a term that would apply to a right with ISF use.

~~c.~~i. Shoshone Outage Protocol Agreement, No. 13XX6C0129, June 27, 2016, a copy of which is attached hereto as Exhibit [X] ("2016 ShOP Agreement"): CWCB's exercise of the Shoshone Water Rights for instream flow purposes is considered a "Shoshone Outage" as defined in the 2016 ShOP. Except as provided for above in this paragraph 7, whenever CWCB exercises the Shoshone Water Rights for instream flow purposes, a CWCB instream flow call is subject to all the conditions and limitations described in the 2016 ShOP Agreement, including specifically the limitations described in Sections IV. B through G. for Shoshone Outages. This includes all the conditions and limitations incorporated into the 2016 ShOP Agreement from the WGFP IGA for a Shoshone Outage as defined in paragraph IV.B.2.a. and therefore subject to all terms and limitations described under the "Actions by the Subdistrict" in IV.B

8. Pursuant to ISF Rule 10, 2 CCR 408-2, the parties shall cooperate in the ~~administration~~ use and monitoring of the instream flow use of the Shoshone Water Rights dedicated to the CWCB under this Agreement ~~so that, subject to the terms of this Agreement and the~~

Commented [A14]: Administration is the Engineers' role.

~~Decree, the CWCB will maximize the use of the Shoshone Water Rights for instream flow purposes to the extent the rights are not being used for hydropower generation purposes at the Shoshone Power Plant~~. ~~PSCo, T~~the CWCB ~~and the River District~~ ~~shall~~ will coordinate with DWR to ~~monitor the shall~~ determine when and to what extent to call for water for instream flow purposes pursuant to the Shoshone Water Rights based on, among other factors, the actual river flow and ~~calculate~~ the Natural Flow (as determined by DWR) of the Colorado River at the Dotsero Gage, which shall be used as the point of administration for the Shoshone Water Rights for hydropower generation and instream flow use, unless an additional measurement point is required.

Commented [A15]: It is unclear why PSCO and the River District need to coordinate with DWR to monitor the flow and calculate the natural flow when used for instream flow purposes. This raises questions whether the CWCB is using the water rights for instream flow purposes or if non-CWCB entities are operating the water rights for instream flow purposes contrary to state law.

Commented [A16]: This portion is deleted because it appears to impede the CWCB's discretion and impose an obligation on CWCB to "maximize" instream flows.

9. The CWCB ~~and the River District~~ shall notify the River District and PSCo of any request for administration for instream flow use under~~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 in its discretion to use the Shoshone Water Rights for instream flow purposes when~~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. Upon termination of the Lease, this paragraph, and any other restrictions on the Shoshone Water Rights throughout this Agreement due to or relating to hydropower use, shall no longer be in effect, and, subsequent to any permanent decommissioning of the Shoshone Power Plant, instream flow shall be the only use of the Shoshone Water Rights.

10. Each party to this Agreement shall ~~also~~ immediately report, in writing, to the other parties the nature of any communications with the Engineers concerning the administration of the Shoshone Water Rights as contemplated by this Agreement. Following the closing of the PSA, the parties shall identify those persons and provide such contact information (including email and telephone number) to the other parties necessary to effectuate the purposes hereof.

11. Any rights created by this Agreement are contractual rights. Use by the CWCB for instream flow purposes in accordance with this Agreement does not provide the CWCB an ownership ~~right~~ interest in the Shoshone Water Rights or in any of the River District or PSCo's facilities or water rights as they exist now or may exist in the future.

12. This Agreement does not authorize either the River District or PSCo to use the Shoshone Water Rights for instream flow use, which authority is exclusive to the CWCB. The CWCB's contractual rights to and interest in the Shoshone Water Rights dedicated to the CWCB for use in the Shoshone Reach under this Agreement extends to and terminates at the downstream termination point of the Shoshone Reach, which is the stream accrual point

for the current Shoshone Power Plant Discharge Outlets.

NO CREATION OF RIGHT OF SUCCESSIVE USE OF THE SHOSHONE WATER RIGHTS DOWNSTREAM OF THE SHOSHONE REACH

13. This Agreement does not recognize any use or create any right of use by the CWCB, the River District, or PSCo of the Shoshone Water Rights downstream of the Shoshone Reach. Notwithstanding the foregoing, this Paragraph 13 does not prevent any lawful use ~~by the River District, or its constituents, or any water user~~ of the natural stream flow downstream of the Shoshone Reach within the priority system and in accordance with Colorado law and the Decree.

Commented [A17]: This should more broadly apply to any water user.

WATER COURT PROCEEDINGS

14. The parties shall file and diligently pursue a Water Court application and any necessary appeals to obtain the Decree in a final, unappealable form confirming a change of water right for the Shoshone Water Rights to include the additional use for instream flow purposes by the CWCB and confirming that the water attributable to the Shoshone Water Rights may~~will~~ be used for instream flow to preserve and improve the natural environment in the Shoshone Reach of the Colorado River to a reasonable degree up to the full ~~amount of the ISF Rate~~flowrate allowed under paragraph 7, subject to the terms and conditions of the Decree and this Agreement. In such water court application, the CWCB, the River District, and PSCo shall be co- applicants for the purpose of advancing and protecting their contractual rights under this Agreement, including adjudicating a decreed right for the CWCB to use ~~of~~ the Shoshone Water Rights ~~by the CWCB~~ to preserve and improve the natural environment to a reasonable degree within the Shoshone Reach. Except as otherwise provided in the PSA, to which the CWCB is not subject, each party shall bear its own attorney fees and costs related to its participation in any water court adjudication contemplated under this Paragraph 14. Except for its own attorney fees and court filing fees, the CWCB is not responsible for paying costs of prosecuting the water court application, including the costs of hiring a consulting engineer or other witnesses in furtherance of such application, or attorney fees of any other party incurred in relation thereto.

Commented [A18]: Delete this sentence which appears to be redundant given the first sentence.

15. The parties will request a Decree that provides~~intend that the Decree shall confirm~~ that when~~to the extent the~~ no water dedicated under this Agreement is ~~not~~ being used for hydropower generation at the Shoshone Power Plant, the Shoshone Water Rights ~~such water shall~~ may be beneficially used by the CWCB in its discretion for instream flow purposes to preserve and improve the natural environment of the Colorado River within the Shoshone Reach to a reasonable degree, subject to the terms and conditions of the Decree and this Agreement.

16. The parties agree that the Decree shall not confirm any new appropriation of water. Nor shall any claim be included in the Water Court application except as expressly described

in this Agreement. The parties further agree that, upon the successful prosecution of the Water Court application described in Paragraph 14, above, and upon the issuance of the Decree by the Water Court, no further claim for approval of any change of water right with respect to the Shoshone Water Rights shall be sought by any of the parties to this Agreement in the future without first obtaining the prior written consent of all the parties hereto. The River District agrees it will not transfer or otherwise encumber the Shoshone Water Rights or its contractual rights pursuant to this Agreement to any other person or entity without the express written consent of the CWCB, with the exception of the right to enter into a promissory note and deed of trust to the benefit of PSCo as provided by paragraph 3.1.d.2 of the PSA. The parties agree to request that the Water Court include an express statement in the Decree setting forth the limitations described in this Paragraph 16, to wit:

a. the decree does not confirm any new appropriation or change except to add instream flow;
b. no further claim for approval of any change of the Shoshone Water Rights will be sought by any of the applicants without written consent of the other applicants hereto; and
c. the River District will not transfer or otherwise encumber the Shoshone Water Rights to any other person or entity without the express written consent of the CWCB.

RECORDS AND ACCOUNTING

17. The ~~River District~~CWCB shall be responsible for maintaining all records and accounting necessary for the implementation of this Agreement, using forms mutually agreeable to the parties, and all records required by the Engineers for the administration of the changed Shoshone Water Rights.

18. The ~~River District~~ CWCB will provide accounting related to the operation of this Agreement to the ~~CWCB~~River District and PSCo.

MISCELLANEOUS PROVISIONS

19. The term of this Agreement is perpetual unless terminated in accordance with the terms of this Agreement, including paragraph 20 below.

20. This Agreement will automatically terminate and be of no further effect in the event that (i) the sale of the Shoshone Water Rights from PSCo to the River District under the terms of the PSA does not close or occur, or (ii) the PSA is terminated or otherwise expires prior to closing. Except as otherwise provided in the immediately preceding sentence in this Paragraph 20, this Agreement may be amended or terminated by the written agreement of the parties, and any such termination or amendment shall take effect only when signed by all of the parties to this Agreement or their successors in interest. Any amendment or termination of this Agreement by written agreement can only occur after the CWCB provides public notice of such amendment or termination and accepts and considers public comment pursuant to ISF Rule 11.

21. Neither the CWCB nor PSCo is responsible for construction or modification of any structures that may be necessary for use or administration of the Shoshone Water Rights for instream flow purposes.

22. This Agreement shall not be assignable by any party without the written consent of all the parties hereto. Notwithstanding the foregoing, an assignment by PSCo of this Agreement to any successor or assign of its rights under the Lease is approved by the CWCB and River District without separate written consent, however thirty (30) days advanced written notice of the assignment to the River District and the CWCB is required, and PSCo may assign the Lease only to a successive owner or operator of the Shoshone Power Plant for power generation purposes. Notice and contact information shall be provided to all parties concurrent with any assignment. In the event of the termination of the Lease by PSCo or its successors or assigns pursuant to Paragraph 26, below, the River District and CWCB will not be required to obtain the written consent of PSCo or its successors or assigns to assign this Agreement.

23. Pursuant to section 37-92-102(3), C.R.S., this Agreement shall be enforceable by each of the parties hereto as a water matter according to the terms and conditions of this Agreement. The parties further agree that the exclusive venue for and jurisdiction of any dispute pertaining to the interpretation or enforcement of this Agreement shall be the Water Court (as defined herein); *provided, however*, that before commencing any action for enforcement of this Agreement, the party alleging the violation shall notify the other parties in writing of the alleged violation and the parties shall make a good faith effort to resolve their differences through informal ~~consultation~~negotiation.

24. The parties hereto acknowledge and agree that specific performance of this Agreement shall be the exclusive remedy for failure of any party to comply with any provision of this Agreement. The parties hereby waive any right to seek or collect damages for any breach or violation of this Agreement.

25. Enforcement of this Agreement and all rights and obligations hereunder are reserved solely to the CWCB, the River District, and PSCo, and not to any third party. Any services or benefits which third parties may receive or provide as a result of this Agreement are incidental to the Agreement and do not create any rights for such third parties.

26. The parties anticipate that at some point in the future, PSCo may permanently decommission the Shoshone Power Plant, and the Lease will terminate. In the event that the Lease terminates, then PSCo shall provide written notice to the parties of the termination of the Lease and PSCo's rights and obligations under this Agreement will also be deemed to be terminated; however, all rights and responsibilities between the CWCB and the River District will remain in effect. Upon termination of the Lease, all restrictions on the Shoshone Water Rights throughout this Agreement due to hydropower use shall no longer be in effect (however all limitations on instream flow use remain in effect, including the limitations in paragraph 7), and, subsequent to any permanent decommissioning of the Shoshone Power Plant, instream flow shall be the only use of the Shoshone Water Rights subject to paragraph 20 above.

27. The provisions of §§37-92-102(3) and 305(3)(b), C.R.S. that require that all contracts or agreements for interests in water, and the water court decree implementing the contracts or agreements, to state the board or the lessor, lender, or donor may bring about beneficial

use of the historical consumptive use of the leased, loaned, or donated water right downstream of the instream flow reach as fully consumable water are not relevant and do not apply to this acquisition.

28. In the event the Decree and this Agreement are inconsistent, the Decree shall control.

29. This Agreement shall be construed in accordance with the laws of the State of Colorado and shall be interpreted broadly to give effect to its purposes; provided, however, that in no instance shall interpretation of this Agreement have the effect of causing injury to other vested water rights or decreed conditional water rights.

30. Any failure or delay by a party in exercising any of its rights, power, and remedies hereunder or in accordance with laws shall not lead to a waiver of such rights, and the waiver of any single or partial exercise of a party's rights shall not preclude such party from exercising such rights in any other way and exercising the remaining part of the party's rights.

31. Any notice, consent, waiver, request or other communication required or provided to be given under this Agreement shall be in writing and shall be sufficiently given and shall be deemed delivered when: (a) delivered personally; (b) transmitted by email to the then-designated address of the party, provided that a delivery receipt sent by the recipient is received by the sender, provided if the delivery receipt is sent on a non-business day, or after 5:00 p.m. local time at the physical address of the recipient, then the notice will be deemed received on the next business day; (c) two (2) business days after deposit with the United States Postal Service by certified or registered mail, return receipt requested, postage prepaid; or (d) one (1) business day following deposit with a nationally recognized overnight delivery service, in any event, addressed to the applicable party as set forth below, or at such address as either party may from time-to-time specify in writing to the other:

If to the CWCB:

Section Chief
Colorado Water Conservation Board
Stream and Lake Protection Section
1313 Sherman Street, Room 721
Denver, CO 80203
DNR_CWCBISF@state.co.us

and

Jen Mele
First Assistant Attorney General
Natural Resources and Environment Section
1300 Broadway, 7th Floor
Denver, CO 80203
jen.mele@coag.gov

If to PSCo:

Public Service Company of Colorado

Attn: Environmental Services
1800 Larimer Street, Suite 1300
Denver, CO 80202

and

Public Service Company of Colorado
Attn: Legal Dept. – Real Estate
1800 Larimer Street, Suite 1400
Denver, CO 80202
(303) 294-2222
Frances.A.Folin@xcelenergy.com

and

Welborn Sullivan Meck & Tooley, P.C.
Carolyn F. Burr, Esq.
James M. Noble, Esq.
1401 Lawrence Street, Suite 1800
Denver, CO 80202
(303) 830-2500
cburr@wsmtlaw.com
jnoble@wsmtlaw.com

If to the River District:

Colorado River Water Conservation District General Manager
Andrew Mueller
201 Centennial St., Suite 200
Glenwood Springs, CO
81601 edinfo@crwcd.org

and

General Counsel,
Peter Fleming, Esq.
201 Centennial St., Suite 200
Glenwood Springs, CO 81601
(970) 945-8522
pfleming@crwcd.org

32. Each provision contained herein shall be severable and independent from each of the other provisions such that if at any time any one or more provisions herein are found to be invalid, illegal, or unenforceable, the validity, legality, or enforceability of the remaining provisions herein shall not be affected as a result thereof.

33. The effective date of this Agreement shall be the last date shown on the signature page or

pages of this Agreement, provided however that parties' rights and obligations under this Agreement with specific regard to the exercise of the Shoshone Water Rights for instream flow purposes shall not commence until the closing date of the PSA. As provided in Paragraph 20, if the PSA is terminated according to its terms, then this Agreement shall also automatically terminate. This Agreement may be executed in two or more counterparts, each of which when so executed shall be deemed to be an original and all of which when taken together shall constitute one and the same instrument. The counterparts of this Agreement may be executed and delivered by electronic means (including portable document format) by either of the parties and the receiving party may rely on the receipt of such document so executed and delivered electronically as if the original had been received.

[remainder of page intentionally blank]

[signature page(s) follow]

IN WITNESS WHEREOF, the CWCB, the River District, and PSCo have executed this Agreement as of the last date of execution.

COLORADO WATER CONSERVATION BOARD

By:_____
Lauren Ris, Director

Date: _____

[signatures continue on next page]

[signature page to Water Right Dedication Agreement (Shoshone Water Rights)]

8/4/2025

8/4/2025

COLORADO RIVER WATER CONSERVATION DISTRICT

ATTEST:

By:_____
Andy Mueller, General Manager

BY: _____

Date: _____

[signatures continue on next page]

[signature page to Water Right Dedication Agreement (Shoshone Water Rights)]

8/4/2025

8/4/2025

PUBLIC SERVICE COMPANY OF COLORADO

By:_____
Robert Kenney, President

Date:_____

[signature page to Water Right Dedication Agreement (Shoshone Water Rights)]

8/4/2025

8/4/2025

Exhibit A
(Shoshone Diversion Dam and Tunnel)

8/4/2025

8/4/2025

Exhibit B
(Purchase and Sale Agreement)

8/4/2025

8/4/2025

Denver Ex. 2

COLORADO RIVER COOPERATIVE AGREEMENT

This Agreement is entered into among the following listed Signatories, to become effective upon the first business day at least seven days after the last Signatory has signed this Agreement. The Effective Date of this Agreement is the 26th day of September, 2013. The Signatories acknowledge the mutual exchange of consideration in entering into this Agreement.

City and County of Denver, acting by and through its Board of Water Commissioners (Denver Water)
Board of County Commissioners, County of Eagle
Board of County Commissioners, County of Grand
Board of County Commissioners, County of Summit
Colorado River Water Conservation District
Middle Park Water Conservancy District
Clinton Ditch and Reservoir Company
Eagle Park Reservoir Company
Eagle River Water and Sanitation District
Upper Eagle Regional Water Authority
Grand Valley Water Users Association
Orchard Mesa Irrigation District
Ute Water Conservancy District
Palisade Irrigation District
Mesa County Irrigation District
Grand Valley Irrigation Company
City of Glenwood Springs
City of Rifle

This Colorado River Cooperative Agreement consists of the 51-page agreement dated May 15, 2012 (pages 44, 45, 50, and 51 dated January 7, 2013); Attachments A through T, which have varying dates; and the CRCA Addendum dated April 5, 2012.

COLORADO RIVER COOPERATIVE AGREEMENT

ARTICLE I
Limitations on Denver Water's Water Supply Obligations

A. Geographic Limit on Service Area. All water available to Denver Water under its existing absolute and conditional water rights listed in Attachment A ("Attachment A Rights") shall be used within the City and County of Denver and Denver Water's current Service Area described in Attachment B ("Service Area"), except as provided in Article I.B. The Service Area shall not be expanded beyond the boundaries depicted in Attachment B.

B. Limits on Use of Attachment A Water Rights Outside Service Area.

1. Fixed-Amount Contracts. The Attachment A Rights may be used outside the current Service Area to provide up to 67,927 acre-feet of water under the existing contracts listed in Attachment C ("2010 Contracts"). In addition, Denver Water may enter into contracts to deliver an additional 4,000 acre-feet of water annually to be used in new permanent contractual arrangement not listed in Attachment C.

Of the 67,927 acre-feet currently obligated under 2010 Contracts, Denver Water may transfer up to 45,000 acre-feet from a pre-existing water delivery obligation under a 2010 Contract to a different recipient under a new permanent contract ("Future Contract"), subject to the following limitations.

a. Previously Delivered Water. The amount of water transferred to a Future Contract recipient must fall within the volume of water previously delivered to the 2010 Contract holder during a prior calendar year, and Denver Water's obligation to the 2010 Contract holder must be reduced by a like amount. Some 2010 Contracts include an amount of water not previously delivered by Denver Water ("Unused 2010 Water") A 2010 Contract holder may not substitute Unused 2010 Water for transferred water. The 2010 Contract holder may access the volume of Unused 2010 Water only at a rate equivalent to growth in demand in the holder's service area after the date of the transfer.

b. Future Contract Service Area. The service area of any Future Contract recipient must be located in Adams, Arapahoe, Broomfield, Douglas or Jefferson County.

c. Drought Reductions. All Future Contracts must provide for reductions in deliveries during such times as Denver Water imposes mandatory water use restrictions as part of a drought response program.

d. Reuse Under Future Contracts. If the 2010 Contract did not expressly grant to the recipient of the water the right of reuse or successive use, then the Future Contract may grant the right of reuse and successive use of the transferred water only if such reuse is subject to the provisions of Article I.B.2.e and Article II. Nothing in this paragraph shall prevent a recipient of a Future Contract from making an initial fully consumptive use of the transferred water that will not generate effluent or return flows.

e. Recycle Water Contracts. Any water transferred from one of the Recycle Water contracts listed on Attachment C shall retain recycled water as the source of water delivered under the Future Contract.

f. Payment of West Slope Charge. As a condition of receiving water under a Future Contract, any Future Contract holder shall enter into a West Slope Charge Agreement in substantially the form of Attachment D, and shall pay a West Slope Charge of 12.5%.

g. Prohibition on Seeking West Slope Supplies. Any recipient of water under a Future Contract must agree to comply with the Abstention Provisions.

2. Other Contractual Water Supply Obligations. Some of Denver Water's supply obligations to entities or areas outside the Service Area present unique circumstances or opportunities and are not included within the volumetric limit established in Article I.B.1. Denver Water may use the Attachment A Rights outside the Service Area to provide water under the following circumstances:

a. Obligations to Littleton under Littleton's Total Service Distributor Contract dated March 9, 2011.

b. Water to be provided to Public Service Company and to West Slope entities in the event of a relaxation of the Shoshone Call under the provisions of the 2007 Shoshone Agreement or the provisions of Article VI of this Agreement.

c. Use of Denver Water's water rights on the West Slope: (1) for beneficial use by the West Slope entities; or (2) to meet regulatory obligations required for Denver Water's operations or projects; or (3) for other purposes specifically authorized under this Agreement.

d. Water delivered from the potable water distribution system at Denver International Airport that would otherwise need to be discharged from the system to maintain the chlorine residual and avoid nitrification within the potable water system.

e. Reusable return flows in excess of Denver Water's obligations under Article II or not committed to a 2010 Contract may be used in Joint Use Projects, subject to the following limitations in this subsection. The use of reusable return flows under this section does not in any way diminish Denver Water's obligations under Article II. As a condition of such use, East Slope lessees or purchasers of Denver Water's reusable return flow for use outside the Service Area:

i. Shall enter into a West Slope Charge Agreement in substantially the form of Attachment D, and shall pay a West Slope Charge of 12.5%.

ii. Must comply with the Abstention Provisions.

iii. Will maximize using best efforts the reuse or successive use of reusable water available to them.

iv. Will adopt and implement a conservation plan that would achieve results similar or proportionately the same as Denver Water's.

3. Deliveries of Water on a Temporary Basis. Denver Water may use the Attachment A Rights to deliver water on a temporary basis outside the Service Area, as limited by the following provisions.

a. For spot sales, subject to the following limitations:

i. Definition. The definition of a spot sale for purposes of this agreement is a lease of water available to Denver Water on a sporadic basis as a result of temporary hydrologic conditions or operational constraints, which is delivered to the recipient over a period no longer than 14 consecutive days.

ii. Holiday Restrictions: Spot sales of Blue River water will not be made for use during the Memorial Day, Fourth of July and Labor Day weekends. For purposes of this paragraph 11, Memorial Day and Labor Day weekends means Friday, Saturday, Sunday and Monday of that holiday. Fourth of July weekend means (1) if the holiday falls on a Thursday then the weekend is Thursday, Friday, Saturday, and Sunday; (2) if the holiday falls on either Friday, Saturday, Sunday, or Monday, then the weekend is Friday, Saturday, Sunday, and Monday; (3)

if the holiday falls on a Tuesday then the weekend is Saturday, Sunday, Monday, and Tuesday; and (4) if the holiday falls on a Wednesday, then the weekend is only on Wednesday.

iii. Reservoir Level Restrictions: Spot sales of Blue River water will be made only when: (1) the Dillon Reservoir lake level is projected to be at or above the Frisco Marina elevation from June 18 to Labor Day weekend, and will not be reduced below that elevation as a result of the spot sales. For purposes of this paragraph 11, the Frisco Marina elevation means the elevation at which the Frisco Marina can be fully operational. At the time of execution of this agreement, the Signatories agree that the Frisco Marina elevation is 9012. However, Summit County and Denver Water may later agree that a lower elevation has become suitable as the result of physical changes to the Marina or the Reservoir.

If Denver Water makes a spot sale of Blue River water during the runoff season prior to June 18 based on projections of reservoir level, and the reservoir level fails to reach the Frisco Marina elevation by June 18 or falls below that elevation prior to Labor Day, then Denver Water will forfeit the revenue received from the spot sale and deposit an equivalent amount into the West Slope Fund for water supply and water quality projects.

iv. Dillon Outflow Restrictions. Spot sales of Blue River water will not be made:

a) From Memorial Day weekend to the end of July, if outflow from Dillon Reservoir is less than 300 cfs during any diversion and delivery of spot sale water; or

b) At other times of the year, if outflow from Dillon Reservoir is less than 100 cfs during any diversion and delivery of spot sale water.

v. Limit on Temporary Water Deliveries. The total combined volume of all spot sales and temporary leases of water resulting from the Attachment A Rights will not exceed a three-year running average of 7,300 acre feet, with an annual maximum of 12,300 acre-feet in a given year.

vi. Payment by Recipients. Purchasers of spot sale water shall enter into a West Slope Charge Agreement in substantially the form of Attachment D, and shall pay a West Slope Charge of

15%.

vii. Shoshone Call Restriction. Spot sales will not be made when the senior Shoshone call is subject to relaxation under the provisions of the 2007 Shoshone Agreement or the provisions of Article VI.E of this Agreement.

b. For temporary leases, subject to the following limitations:

i. The definition of temporary leases for purposes of this agreement is a lease of water for a duration not to exceed five consecutive years.

ii. Any lessee would be limited to no more than five years of water delivery in any ten year period under one or more temporary leases.

iii. The total volume of spot sales and temporary leases of water from west slope sources will not exceed 3,300 acre-feet in any given year.

iv. The total combined volume of all spot sales and temporary leases of water resulting from the Attachment A Rights will be limited as described in paragraph I(B)(3)(v).

v. Lessees shall enter into a West Slope Charge Agreement in substantially the form of Attachment D, and shall pay a West Slope Charge of 15%.

vi. All temporary leases must provide for reductions in deliveries during such times as Denver Water imposes mandatory water use restrictions as part of a drought response program.

4. WISE Partnership Agreement. The Attachment A Rights may be used to provide water under the WISE partnership agreement with the City of Aurora and the South Metro Water Authority, so long as the use of the rights is otherwise authorized under this Article I.B, and subject to the following limitations:

a. The recipients of WISE water shall enter into a West Slope Charge Agreement in substantially the form of Attachment D, and shall pay a West Slope Charge of 12.5% on all water provided by Denver Water, regardless of which provision of Article I.B authorizes the use.

b. The recipients of WISE water must comply with the Abstention Provisions.

c. The recipients of WISE water must maximize using best efforts the reuse or successive use of reusable water available to them.

d. The recipients of WISE water must adopt and implement a conservation plan that would achieve results similar or proportionately the same as Denver Water's.

C. Other Water Rights.

1. Joint Use Projects. Denver Water may use its existing East Slope water rights listed in Attachment E in Joint Use Projects on the Front Range, so long as such use of the water rights does not result in a decrease in the supply of water available to Denver Water under the Attachment A Rights or in an increase in diversions of water by participants in the Joint Project, including Denver Water, from the West Slope to the East Slope. Participants in these projects must agree to comply with the Abstention Provisions.

2. New East Slope Water Rights. Denver Water may use outside the Service Area any water made available: (a) as a result of East Slope water rights appropriated or acquired after execution of this Agreement or (b) by means of contractual arrangements with East Slope entities entered into after execution of this Agreement involving East Slope water rights. Such use of the water shall not result in a decrease in the supply of water available to Denver Water under the Attachment A Rights, or in an increase in diversions of water by participants in the project, including Denver Water, from the West Slope to the East Slope.

3 West Slope Water Rights. After the Effective Date of this Agreement, Denver Water will not seek to: (a) develop any of its Division 5 water rights listed in Attachment E; or (b) create any new depletion, not caused by the exercise of the Division 5 water rights listed in Attachment A, from the Colorado River and its tributaries, for diversion to the East Slope; or (c) acquire any water right on the West Slope that would increase the yield Denver Water currently calculates based on the full use of the Division 5 water rights listed in Attachment A, without the prior approval of the River District and the County Commissioners for each county in which a new facility would be located or in which a new water right would be exercised.

Denver Water will not seek to appropriate or acquire any other water right on the West Slope, without first consulting in good faith with potentially affected

West Slope Signatories in order to identify and attempt to mitigate any potential adverse effect on West Slope interests, subject to the other provisions of this Agreement. The West Slope Signatories reserve the right to oppose any such development, appropriation or acquisition of water rights in water court, permit proceedings, or other forums.

ARTICLE II
Denver Water's Conservation and Reuse Commitments

A. Reuse of Blue River Water. Denver agrees to reuse its Blue River water and other lawfully available reusable water through exchanges into its South Platte diversion and storage facilities and through its recycled water treatment plant that provides water for nonpotable purposes. For use within the Service Area and to provide up to 6,400 acre-feet of recycled water outside the Service Area under the Recycle Water contracts listed in Attachment C or Future Contracts resulting from the transfer of those contracts pursuant to Article I.B.1, Denver Water will fully construct its recycled water system with the capacity to provide 17,500 acre-feet annually and will maximize its exchanges within legal and water availability constraints.[1] To achieve this level of reuse, Denver Water will complete construction of at least 30,000 acre-feet of gravel pit storage or other functionally equivalent storage.[2] The fully constructed recycled water plant is scheduled to be operational in 2020. The 30,000 acre-feet of gravel pit storage is also anticipated to be completed in 2020. However, the timing of development of gravel pit storage is directly related, in part, to the need for aggregate for construction purposes in the metro area, and is not within Denver Water's control. Denver Water commits to construct sufficient infrastructure to achieve the volumes listed in this paragraph subject to the uncertainties of timing described in this paragraph.

B. Conservation Plan. Denver Water's 1996 IRP predicted that 29,000 acre-feet of water could be saved through active conservation efforts by 2045. In 2006, the Denver Water Board mandated an accelerated conservation program to accomplish that level of savings by the end of 2016. Denver Water agrees to continue to implement its existing conservation program described in Attachment F to achieve the savings of 29,000 acre-feet contemplated by the 1996 IRP, in addition to natural replacement, consistent with its goal of achieving the targeted savings by the end of 2016. (It is often not possible to measure precisely the volume of water saved as a result of a specific action, e.g., requiring soil amendment, but Denver will implement the

[1] The volume of water that can be reused is determined by legal, regulatory and hydrologic conditions that vary significantly from year to year and over time, and may be fundamentally different in the future. Over the past 20 years with an annual average demand of 285,000 acre-feet, Denver Water's reuse by exchange and replacement has averaged 16,300 acre-feet per year, with a maximum of 29,900 acre-feet and a minimum of 5,800 acre-feet. With regard to future exchanges, Denver Water's computer simulation model predicts that, with an annual average demand of 345,000 acre-feet and completion of the storage described in this Article II.A, the annual average for exchanges and replacement will be 38,000 acre-feet. These modeled predictions are based on historic hydrology, past administrative practices and numerous operational assumptions, and consequently may not be construed as any sort of mandated or targeted operational requirement.

[2] If Denver Water's water rights cannot be exercised as anticipated to operate exchanges, making a portion of the proposed 30,000 acre-feet of storage not useful in maximizing Denver Water's exchanges, then Denver Water will notify the West Slope Signatories and identify the functionally equivalent storage, other infrastructure, or other means that it proposes to utilize to maximize its exchanges and the parties shall discuss in good faith whether to modify the provisions of this Article II.A.

conservation measures necessary to result in the volume of savings described in this paragraph.) Denver Water will inform the West Slope Signatories in an annual progress report if it decides to substitute a different conservation measure than the ones listed in Attachment F. Once Denver Water determines the conservation goal has been met, it will retain a reputable and qualified third party to confirm that the methodology used to quantify savings was reasonable. If the third party determines the methodology was not reasonable, Denver Water will correct the identified defects in the methodology, and if necessary, undertake additional conservation measures to achieve the goal.

C. Commitment to Additional Efforts. In addition to taking actions necessary to achieve the results described in Articles II.A and II.B, Denver Water agrees to develop, for use within the Service Area and to satisfy the obligations listed in Article I.B, an additional 10,000 acre-feet on an average annual basis through reuse, including use of reusable sources of water for augmentation, and/or conservation measures not described in Articles II.A and II.B. The development of the additional 10,000 acre-feet will commence no later than the completion of the efforts described in Articles II.A and II.B, and are anticipated to be completed by the end of calendar year 2030. Once Denver Water determines the additional 10,000 acre-feet has been attained, it will retain a reputable and qualified third party to confirm that the methodology used to quantify the attainment was reasonable. If the third party determines the methodology was not reasonable, Denver Water will correct the identified defects in the methodology, and if necessary, undertake additional reuse or conservation measures to achieve the goal.

ARTICLE III
Denver Water's Other Commitments

A. General

1. Denver Water agrees to make a good faith effort to identify which of its West Slope conditional water rights might be needed and to abandon those conditional water rights that it deems are not needed.

2. As used in this Article III, "Resolution of Blue River Decree Issues" means the entry of final judgments and decrees no longer subject to appeals which make absolute 654 cfs in 06CW255, Water Division 5, and in 49-cv-2782, U.S. District Court, and 141,712 acre-feet in 03CW039, Water Division 5, in accord with the Amended Application to Make Absolute, filed with the court on February 16, 2006.

3. Use of Denver Water's Water Rights on West Slope.

   a. Denver Water will be responsible for providing substitution water and power interference charges to Green Mountain Reservoir and replacement water to other senior downstream water rights as necessary to ensure that West Slope recipients of the water provided by Denver Water under this Article III may use the water as provided in this Agreement.

   b. The signatories to this Agreement will cooperate to obtain such court decrees and approvals as are necessary to ensure that Denver Water's water that is made available to West Slope users under this Agreement, the 1985 Summit Agreement and the 1992 Clinton Agreement may be used on the West Slope for all uses, including but not limited to, fully consumptive uses, reuse and successive uses.

4. Replacement Water. Certain provisions of this Article III require recipients of water deliveries from Denver Water to make available to Denver Water "Replacement Water." Replacement Water may be made available to Denver Water from Green Mountain Reservoir, Wolford Mountain Reservoir, West Slope supplies of Windy Gap Project water, water made available to the West Slope from relaxation of the Shoshone Call pursuant to the 2007 Shoshone Agreement or the provisions of Article VI.E, water stored in Old Dillon Reservoir, water made available to West Slope water users pursuant to the 2003 Colorado Springs Substitution Agreement including return flows of such water, decreed consumptive use credits and reusable return flows, water diverted from Straight Creek into Dillon Reservoir by Summit County users, or any other substitution source reasonably acceptable to the Bureau of Reclamation and the Signatories. Where Replacement Water is required, Denver Water's delivery of water is contingent upon the Replacement Water

being on hand and physically and legally available for Denver Water's use for substitution purposes and will be provided to Denver Water for each acre foot of water delivered.

5. Escalation. The amounts of money that Denver Water is committed to pay under this Article III will be subject to escalation beginning on the fourth anniversary of the Effective Date of this Agreement, based on changes in the Consumer Price Index for All Urban Consumers ("CPI-U") for the Denver-Boulder-Greeley Metropolitan Area.

B. Summit County – Blue River

1. Payment by Denver Water. $11 million will be paid by Denver Water, subject to the terms set forth below.

2. Waste Water Treatment Plant Fund. $1 million of the $11 million shall be deposited into an interest-bearing fund to be administered by Summit County to offset the impacts of lower Dillon Reservoir levels or reduced outflows from Dillon Dam on permitted wastewater dischargers in Summit County.

3. Environmental Enhancement Fund. $1 million of the $11 million shall be deposited into an interest-bearing fund to be used as 50% matching funds for Environmental Enhancement projects in Summit County. The Environmental Enhancement projects shall be selected by a committee composed of one representative from each of the five entities listed in Article III.B.4 below. If these entities cannot unanimously agree on a project or projects, then each entity will be entitled to use one-fifth of the funds for a 50% match for an Environmental Enhancement project selected by that entity.

4. Payments for Projects in Summit County. $9 million of the $11 million will be distributed in five equal shares to the following entities to offset the costs of the projects listed in Attachment G:

- Town of Dillon
- Town of Silverthorne
- Town of Frisco/Frisco Sanitation District
- Town of Breckenridge
- Summit County/other water districts listed in Attachment G

5. Reallocation of Funds. Denver Water will not object to the reallocation of the $9 million as may be agreed by these entities, and these entities will determine the allocation of these funds for the projects described in Attachment G without restrictions imposed by Denver Water. Funds can be used to reimburse the sponsoring entity for project costs incurred before the funding is to be provided by Denver Water under Article III.B.6 below.

6. Timing of Payments. The schedule for payment of the $11 million is as follows:

   a. $4.5 million of the $9 million described in Article III.B.4 above within one year of Resolution of Blue River Decree issues.

   b. $4.5 million of the $9 million described in Article III.B.4 above within six months upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project.

   c. The $1 million for Environmental Enhancements under Article III.B.3 will be deposited into the interest-bearing fund at the time of execution of the Agreement. These funds would be immediately available as matching funds whenever an Environmental Enhancement project is selected pursuant to Article III.B.3.

   d. The $1 million dedicated to assisting wastewater treatment plants under Article III.B.2 will be deposited into the interest-bearing fund at the time of execution of this Agreement.

7. 250 Acre Feet of Dillon Storage Water. Upon Resolution of Blue River Decree Issues, Denver Water will provide an additional 250 feet per year of water from Dillon Reservoir with a yield as reliable as the yield available to Denver Water at Dillon Reservoir. This water will be allocated as follows:

Town of Silverthorne	=	60 acre feet
Summit County	=	56 acre feet
Snake River Water District	=	45 acre feet
Town of Dillon	=	45 acre feet
Copper Mt. Metro District	=	29 acre feet
Dillon Valley Metro District	=	15 acre feet

   There shall be no Replacement Water or other compensation for this Dillon storage water.

8. Montezuma Shaft.

   a. Denver Water is willing to consider, on a case-by-case basis, use of the Montezuma Shaft by the Snake River Water District, East Dillon Water District and Summit County Government on a space available basis when the Roberts Tunnel is operating. Any such future use will be subject to written acknowledgement by all water users that the supply is interruptible and will be subject to Denver Water's ability, in its sole discretion, to take the Roberts Tunnel out of service for maintenance, inspection and operational needs.

b. Any water resulting from use of the Montezuma Shaft as described in the preceding paragraph will come out of the users' allocations of water under the 1985 Summit Agreement, the 1992 Clinton Agreement or this Agreement.

9. Old Dillon Reservoir. Denver Water will not object to the construction and operation of Old Dillon Reservoir in accordance with permits issued by the U.S. Forest Service and U.S. Army Corps of Engineers. Nothing herein shall be construed as a subordination to the operation of this project of any of Denver Water's decreed water rights and exchanges. Upon execution of the agreement between Denver Water and Old Dillon Reservoir Water Authority, Denver Water will withdraw its statements of opposition to all pending Old Dillon Reservoir water court applications by Summit County and Towns of Dillon and Silverthorne.

10. Dillon Reservoir Levels. Denver Water agrees to use its best efforts to maintain the water level of Dillon Reservoir for recreational and aesthetic purposes at or above 9012 feet in elevation, above mean sea level, from June 18 to Labor Day of each year. This is a target elevation that may not be achieved, depending upon various factors, and is subject to Denver Water's water supply obligations. Under the Blue River Decree, Denver Water's diversions are limited to municipal purposes only. Denver Water will continue to comply with the Blue River Decree and to operate the Roberts Tunnel to meet its water supply obligations and not solely for recreational or hydropower purposes.

11. Town of Frisco. Denver Water has allowed the Town of Frisco to use its Future Dillon Water under the 1985 Summit Agreement as a source of augmentation supply for snowmaking at its winter sports area pursuant to the Future Dillon Water Agreement dated November 18, 2009 between Denver Water and Frisco. Denver Water and Frisco agree to participate in a joint study on the amount and timing of snowmaking return flows from the winter sports area and to cooperate in maximizing the amount of snowmaking return flows in any Water Court proceeding.

12. Additional Exchanges. Denver Water will allow additional exchanges through Dillon Reservoir for the benefit of Summit County users, so long as Denver Water's firm yield is kept whole, such exchanges do not interfere with Denver Water's operations, and Denver Water is afforded an opportunity to protect its interests in any legal or administrative proceeding.

13. Temporary Storage. At its sole discretion, Denver Water will allow Summit County entities to temporarily store additional water in Dillon Reservoir on a space available basis.

14. Additional 1493 Acre Feet.

a. Upon resolution of Blue River Decree issues, Denver Water will provide to the entities listed below 1493 acre feet per year from Dillon Reservoir with a yield as reliable as the yield available to Denver Water at Dillon Reservoir. This water shall be made available directly in Dillon Reservoir each year or, at the option of an individual recipient, the portion of this water to which the recipient is entitled shall be provided in Clinton Gulch Reservoir (the Clinton Bookover Water") in lieu of an equal amount of water that would be available to such recipient in Dillon Reservoir, by operating Denver Water's Blue River Diversion Project water rights to allow storage of the Clinton Bookover Water in Clinton Reservoir. In the event Denver Water does not have an account balance in Clinton Gulch Reservoir pursuant to the terms of the 1992 Clinton Agreement, the Clinton Bookover Water shall be booked over to the recipient from water in storage in Clinton Gulch Reservoir, pursuant to separate operating procedures to be agreed upon by Denver Water and the Reservoir Company. In the event Denver Water has an account balance in Clinton Reservoir pursuant to the terms of the 1992 Clinton Agreement, the Clinton Bookover Water shall be booked over to that recipient from Denver Water's account in Clinton Gulch Reservoir. Any Clinton Bookover Water may not be carried over in Clinton Gulch Reservoir from year to year. Such water will be allocated as follows:

- Vail Summit Resorts (Keystone) = 302 acre feet (1)
- Unallocated future supply pool = 175 acre feet (2)
- Copper Mountain Resort = 142 acre feet (1)
- Town of Silverthorne = 140 acre feet
- Summit County = 134 acre feet
- Vail Summit Resorts (Breckenridge) = 126 acre feet (1)
- Town of Breckenridge = 108 acre feet (3)
- Town of Dillon = 105 acre feet
- Snake River Water District = 105 acre feet
- Copper Mountain Metropolitan District = 69 acre feet
- Arapahoe Basin Ski Area = 52 acre feet (1)
- Dillon Valley Metro District = 35 acre feet

[1]This water may be used for snowmaking purposes and is entitled to a snowmaking ratio of not more than 5 to 1 (or such other ratio based on the amount of credited snowmaking return flows established by subsequent decrees.) Denver Water and each ski area agree to participate in joint studies on the amount and timing of snowmaking return flows from each ski resort using the foregoing water, and to cooperate in maximizing the amount of snowmaking return flows in any Water Court proceeding. The combined

volume of water for snowmaking amounts under this Article III, excluding snowmaking by the Town of Frisco under Article III.B.11, and the 1992 Clinton Agreement shall not exceed the 6000 acre feet limit on snowmaking water contained in the 1992 Clinton Agreement.

[2]The unallocated pool will be administered by a board consisting of one representative from the Towns of Breckenridge, Dillon, Frisco and Silverthorne and the Summit County Commissioners

[3]A portion of this water is entitled to the snowmaking ratio described in note 1 above. Denver Water and the ski area agree to participate in a joint study on the amount and timing of snowmaking return flows from the ski resort, and to cooperate in maximizing the amount of snowmaking return flows in any Water Court proceeding. The combined volume of water for snowmaking amounts under this Article III, excluding snowmaking by the Town of Frisco under Article III.B.11, and the 1992 Clinton Agreement shall not exceed the 6000 acre feet limit on snowmaking water contained in the 1992 Clinton Agreement.

b. The recipients of this water shall provide to Denver Water Replacement Water for each acre foot of the yield water. The ratio shall be 1 acre foot of Replacement Water for each acre foot of water delivered above or into Dillon Reservoir and 1.4 acre feet of Replacement Water for each acre-foot made available below Dillon Reservoir.

c. The Summit County users shall be responsible for accounting for the use of all water provided by Denver Water under this Agreement. This accounting will be coordinated by a single engineering firm with accounting under the 1985 Summit Agreement and the 1992 Clinton Agreement.

15. Place of Use. The place of use of any of the water provided under this Article III.B will be a matter of internal agreement among Summit County water users and will not be limited by Denver Water, provided that any water booked over to Denver Water under the 1992 Clinton Agreement will be retained in Clinton Reservoir.

16. Dillon Bypass Flows. Denver Water's release of water from Dillon Reservoir is subject to the terms of its 1966 right-of-way from the Department of Interior for Dillon Reservoir. Upon resolution of Blue River Decree issues, Denver Water agrees: (1) to waive its right to reduce releases under section 2 (C) of the 1966 right-of-way; and (2) to add the following new limitation upon its ability to reduce releases in addition to the conditions described in the right of way: Denver Water will not reduce releases below those required by section 2 (A) of the right of way unless an emergency

declaration banning residential lawn watering during the irrigation season is in force within its Service Area. Nothing herein shall alter or amend Denver's ability to reduce bypasses under paragraph 2(A) of the right of way during an emergency or during temporary periods of time involving maintenance or repairs on the water facilities involved. Nothing herein shall alter or amend any other obligation of Denver Water with respect to releases from Dillon Reservoir, including, without limitation, the terms of the Record of Decision for the Wolford Mountain (Muddy Creek) Reservoir; the Memorandum of Agreement among the U.S. Bureau of Reclamation, Northern Colorado Water Conservancy District, Colorado River Water Conservation District, and Denver Water dated December 30, 1991, regarding substitutions from Wolford Mountain Reservoir (MOA No. 2-AG-60-01550); the decree in Case No. 91CW252, Water Division No. 5 (also entered in Consolidated Case Nos. 2782, 5016, and 5017, U.S. District Court, District of Colorado); and the 1992 Clinton Agreement.

17. Silverthorne's Dillon Storage Water. Upon resolution of Blue River Decree issues, Denver Water and Summit County will amend the 1985 Summit Agreement to eliminate the current restrictions on the use of the 300 acre feet of Dillon Storage Water made available to the Town of Silverthorne. A form of the revisions to the 1985 Summit Agreement to accomplish this result is attached as Attachment H. The Silverthorne RICD will not be used to prevent or otherwise limit the exchange or substitution of any replacement or exchange water into Dillon Reservoir under this Agreement, the 1985 Summit Agreement or the 1992 Clinton Agreement.

18. Colorado Springs Substitution Agreement. Denver Water will agree to support extension of the Colorado Springs substitution agreement adjudicated in Case No. 03CW320, Water Division 5, as long as it is in substantially the same form as the present agreement.

C. Clinton Reservoir Agreements.

1. Upon the execution of this Agreement, the 1992 Clinton Agreement shall be amended to add a new whereas clause after the second whereas clause to read as follows:

Whereas, by decree of the District Court in and for Water Division No. 5, State of Colorado, in Case No. 98CW57, Clinton Reservoir was granted a Use Enlargement and Second Filling in the amount of 4,250 acre feet for domestic, municipal, industrial, snowmaking, recreation, fish and wildlife propagation and augmentation purposes, both on the eastern and western slopes of Colorado, and an application is pending in Case No. 06CW252 for Clinton Gulch Reservoir 1st Enlargement and Refill Right for an additional

210 acre feet. All references to Clinton Reservoir herein collectively refer to the storage rights decreed in Case Nos. W-2559, 98CW57 and 06CW252;

2. Upon the execution of this Agreement, paragraph 1(b) of the 1992 Clinton Agreement shall be amended to read as follows:

(b) Clinton Reservoir will retain for the uses set forth in paragraph 1(c) below any water stored in an accounting year if an allowable fill occurs. An allowable fill occurs each year except: (i) when Green Mountain Reservoir does not fill under its own right and the Water Board is required to provide substitution water to Green Mountain Reservoir in order to retain water diverted at Dillon Reservoir; or (ii) when the contents of Dillon Reservoir are less than 100,000 acre feet on August 1 for reasons other than the Water Board's maintenance or repair of its Dillon Reservoir facilities and the total combined contents of the Water Board's Dillon, Gross, Cheesman, Eleven Mile and Antero Reservoirs are less than 51% of their total usable capacity on August 1. Subject to the provisions of Paragraph 9 below, if an allowable fill does not occur in a given accounting year, the water stored in Clinton Reservoir during that accounting year will be credited to the Water Board's account and retained in Clinton Reservoir until the contents of Dillon Reservoir as measured above the invert of the west portal of the Roberts Tunnel are 100,000 acre feet or less, in which event the water shall be released from Clinton Reservoir to Dillon Reservoir when requested by the Water Board, or until an allowable fill occurs, whereupon the Water Board's account balance of water stored in Clinton Reservoir will be reset to zero. The release of the Water Board's water stored in Clinton Reservoir shall be scheduled in such a manner as to meet the Water Board's needs in a timely manner and also to avoid the erosion of the Clinton Canal.

3. Clinton Flood Control Exchanges. At its sole discretion, Denver Water will allow the Clinton Ditch & Reservoir Company to temporarily store Clinton Reservoir water released from storage for flood control purposes in Dillon Reservoir, limited to a space available basis, and to use the stored water as an exchange supply, pursuant to operating procedures to be agreed upon at the time of the proposed exchange.

4. Clinton Reservoir Dead Storage Pool. Upon execution of this Agreement, Denver Water and the Clinton Ditch & Reservoir Company will enter into the Interim Agreement regarding the Clinton Reservoir dead storage pool attached hereto as Attachment I. Upon Resolution of Blue River Decree Issues, Denver Water and the Clinton Ditch & Reservoir Company will enter into the permanent Agreement regarding the Clinton Reservoir dead storage pool attached hereto as Attachment J. The interim agreement will renew on a

year-to-year basis so long as the Signatories are still engaged in efforts to achieve Resolution of Blue River Decree Issues.

5. Denver Water Opposition. Upon the execution of this Agreement, Denver Water will consent to the decree in Water Division No. 5 Case No. 06CW252 attached hereto as Attachment K for a total reservoir capacity of 4460 acre feet which includes a dead storage pool of 801 acre feet.

6. Spillway Enlargement Water. Upon Resolution of Blue River Decree Issues, Denver Water and the Clinton Ditch & Reservoir Company will modify their existing 1992 Clinton Agreement to add the spillway enlargement water (up to a maximum of 500 acre feet). The water from the total reservoir capacity, including the dead storage pool and spillway enlargement, will be allocated to existing shareholders of the Clinton Ditch & Reservoir Company on a pro rata basis as either fourth year supply, or one-third of that amount will be so allocated as an increase in the "Reservoir Yield" of Clinton Reservoir, as that term is defined in the1992 Clinton Agreement.

7. Upon the execution of this Agreement, paragraph 10(a) of the 1992 Clinton Agreement shall be amended to read as follows:

(a) Whenever water cannot be diverted from the Snake River or its tributaries because of decreed instream flows, or the operation of the instream flow memorandum of agreement between Keystone Resorts Management, Inc. ("Keystone") and the Department of Natural Resources, or the water quality of the Snake River, Keystone may pump up to 1500 acre feet of water from September 1 of each year to March 31 of the following year from the Montezuma Shaft of the Roberts Tunnel, subject to the provisions of this paragraph.

D. Eagle County.

1. Any development and use of Wolcott Reservoir shall be in compliance with the terms of the settlement agreement between Denver Water and the Eagle River Water & Sanitation District and Upper Eagle Regional Water Authority and the subsequent decrees in Water Division No. 5 Case Nos. 02CW125 and 07CW126.

2. Denver Water will not seek any new appropriation of water in the Eagle River basin or pursue or participate in any acquisition of water rights or any project that would result in any new depletion from the Eagle River basin without the prior approval of the Eagle County Commissioners, the River District, the Eagle Park Reservoir Company, the Eagle River Water & Sanitation District, and the Upper Eagle Regional Water Authority.

In addition, the Abstention Provisions applied in Article I of this Agreement provide that any entity receiving water from Denver Water under any Future Contract or any contract for Reusable Return Flows will not seek any new appropriation of water, or pursue or participate in any project that would result in any new depletion from the Eagle River basin.

3. Denver Water will not oppose any future interconnect between Clinton and Eagle Park Reservoirs, provided that the water in Clinton Reservoir that has been booked over to Denver Water pursuant to the terms of the 1992 Clinton Agreement remains in Clinton Reservoir.

4. Upon execution of this Agreement, Denver Water will withdraw its pending motion and statement of opposition in Water Division No. 5 Case No. 02CW403.

E. **Grand County and Fraser, Williams Fork and Upper Colorado River Basins**

1. General Provisions for Article III.E.

a. Relationship to Moffat Project Permitting Process. Denver Water has applied for a permit for the Moffat Project from the Corps of Engineers ("COE") under Section 404 of the Clean Water Act. The Moffat Project involves enlargement of Gross Reservoir located in Boulder County and the diversion of additional water from the Upper Colorado, Williams Fork and Fraser River watersheds in Grand County. Grand County is a consulting agency in that permitting process and has submitted comments to COE that are a part of the regulatory record. As part of the permitting process, the COE will approve a Mitigation Plan designed to avoid, minimize, or mitigate any new impacts to the stream environment that might be caused by the Moffat Project.

i. Mitigation. The provisions of this Article III.E are not intended to define and do not substitute for the Mitigation Plan that will be required by COE. Denver Water will comply with the Mitigation Plan approved by COE in addition to fulfilling the commitments contained in this Article III.E. The funds committed by Denver Water in Articles III.E.2 and III.E.3 are subject to proportional reduction if the Mitigation Plan required in the permitting process mandates funds for the purposes described in those sections.

ii. Improvements. Denver Water's commitments in sections E.5 through E.24 include several measures designed to improve current stream conditions ("Improvements") and do not represent mitigation for the Moffat Project. The Signatories agree that they shall not represent

that the Improvements are designed or intended to avoid, minimize, or mitigate any impacts associated with the Moffat Project..

b. Water Rights Issues. The Signatories to this Agreement will cooperate to implement such legal mechanisms and to obtain such administrative and judicial approvals as Denver Water, Grand County, the River District, and Middle Park agree are necessary to ensure that the water provided under this Article III.E will be physically and legally available for the intended purposes of protecting and enhancing stream flows in the Fraser, Williams Fork, and Colorado Rivers and their tributaries. Denver Water agrees not to divert any water through the Moffat Project for storage in an enlarged Gross Reservoir until such time that the water committed by Denver Water pursuant to this Article III.E is legally available for use by Grand County.

c. Responsibility for Infrastructure. Several provisions of this Article III.E require Denver Water to deliver or make water available for various uses within Grand County. Except for the funding for water projects pursuant to Article III.E.14, Denver Water will not be responsible for the costs of any new infrastructure required to deliver or make the water available.

2. $2 million to Address Water Quality Upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project, Denver Water will provide $2 million to pay for measures to address water quality, including but not limited to improvements to the capacity of wastewater treatment plants. If the Mitigation Plan required in the permitting process for the Moffat Project mandates funds for nutrient removal/water quality, then the direct funding to Grand County under this paragraph would be proportionately reduced. For example, if the mitigation plan requires the expenditure of $500,000 for nutrient removal/water quality, then the direct funding to Grand County would be reduced to $1.5 million. The water quality funds will be allocated and administered by a board consisting of one representative from each of the following entities: Grand County Commissioners, Town of Fraser, Grand County Water and Sanitation District No. 1, Winter Park Water and Sanitation District, Tabernash Meadows Water and Sanitation District, Granby Sanitation District, and Winter Park Ranch Water and Sanitation District.

3. $1 Million for Aquatic Habitat. Upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project, Denver Water will provide $1 million to be used in the Cooperative Effort process described in Article III.E.6 for the purpose of improving aquatic habitat in the Upper Colorado, Fraser and Williams Fork River basins. If the Mitigation Plan required in the permitting process for the Moffat Project mandates funds for this purpose, then the direct funding to Grand County under this paragraph would be proportionately reduced.

4. Berthoud Pass Sedimentation Pond. Denver Water has entered into an agreement with CDOT to construct a sediment catch basin above Denver's diversion structure on the Fraser River. Denver Water has agreed to operate and maintain the project

and has also contributed $50,000 for this effort. Grand County agrees that Denver Water may seek mitigation credit for sediment removal in the Fraser River from COE for its participation in the sediment project.

5. Environmental Pool in Gross Enlargement. Denver Water has entered into an agreement with the Cities of Boulder and Lafayette dated February 24, 2010, to create a 5,000 acre-foot Environmental Pool within the enlargement of Gross Reservoir as part of the Moffat Project. Denver Water agrees not to store water, directly or by exchange, any of its West Slope water rights listed in Attachments A and E in the Environmental Pool in Gross Reservoir, unless the River District, Middle Park and Grand County have agreed in advance and in writing.

6. Cooperative Effort for Aquatic Environment. Denver Water, the River District, Middle Park, and Grand County agree to execute an intergovernmental agreement establishing the Learning by Doing Cooperative Effort ("Cooperative Effort") to protect, restore, and when possible enhance, the aquatic environment in the Upper Colorado, Fraser and Williams Fork River basins. Denver Water and Grand County will jointly request that the COE acknowledge the Learning by Doing IGA in the Record of Decision for the Moffat Project.

7. Additional $1 Million for Aquatic Habitat. Upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project, Denver Water will provide $1 million to Grand County, in addition to the funds committed in Article III.E.3, to be used in the Cooperative Effort process for the purpose of improving aquatic habitat.

8. $2 Million for Future Environmental Enhancements. Denver Water will place $2 million in an interest bearing account acceptable to the Management Committee established as part of the Cooperative Effort within two years after the Moffat Project becomes operational to address potential future environmental enhancements in Grand County as part of the Cooperative Effort.

9. Funds for Windy Gap Pumps to Provide Environmental Flows. Beginning with the year the Moffat Project becomes operational, Denver Water will place $500,000 into an interest bearing fund (WG Pumping Fund) acceptable to and controlled exclusively by Grand County. Two years after the fund is established, Denver Water will place a second $500,000 into the Fund. The WG Pumping Fund shall be used by Grand County for the sole purpose of paying up to 50% of the annual costs for using the Windy Gap Pumps to pump water for environmental purposes. The WG Pumping Fund may increase over time due to interest income and lower-than-expected use of the Fund, and will be capped at $2 million dollars. Any amount in excess of $2 million at the end of a calendar year will be transferred to the Cooperative Effort established in Article III.E.6 above for environmental improvement projects identified in that process. Grand County, in its sole discretion, can elect to transfer all or a portion of the WG Pumping Fund to the Cooperative

Effort if Grand County determines that such a transfer would provide greater environmental value.

10. Annual Bypasses on Fraser River Collection System. Each calendar year beginning with the year the Moffat Project becomes operational, Denver Water agrees to make available to Grand County 1,000 acre feet of water from its Fraser Collection System ("Fraser 1,000 af") for use for environmental purposes and any incidental recreational benefit. The Fraser 1,000 af shall be in addition to bypasses of water by Denver Water required under the Amendatory Decision and existing contracts.

    a. As referenced in Article III.E.1.b, Denver Water will cooperate with Grand County and the other Signatories to implement such legal mechanisms, including the possibility of augmenting instream flows and making deliveries to downstream demands, and to obtain such court decrees and approvals as are necessary to protect the Fraser 1,000 af in the Fraser and Colorado Rivers so that it reaches critical stream segments and is not diverted directly or by exchange by intervening structures within Grand County.

    b. The Fraser 1,000 af shall be bypassed from Denver Water's existing facilities in coordination with the Cooperative Effort, at times, in locations and in the amounts requested by Grand County for environmental purposes. As part of the Cooperative Effort and on a case-by-case basis, Denver Water agrees to consider making available more than 1000 acre feet in a calendar year.

    c. The Fraser 1,000 af shall be measured at appropriate points of measurement for bypasses from the Fraser Collection System and shall be converted to acre feet with the standard factor, i.e.1 cfs for 24 hours = 1.983 af.

    d. Upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project, Denver Water will undertake voluntary pilot projects using the Fraser 1,000 af for environmental purposes.

11. Annual Releases from Williams Fork. Each calendar year beginning with the year the Moffat Project becomes operational, if a portion of the Fraser 1,000 af is made available during a call on the river or when a Shoshone Outage Protocol is in effect as described in Article VI, Denver Water agrees to make available for release a like amount of water, up to 1,000 acre feet of water per year, from Williams Fork Reservoir ("Williams Fork 1,000 af") to Grand County for environmental purposes and any incidental recreational benefit. The Williams Fork 1,000 af shall be in addition to releases of water by Denver Water required under pre-existing contracts and other legal obligations.

    a. As referenced in Article III.E.1.b, Denver Water agrees to cooperate with Grand County and the other Signatories to implement such legal mechanisms, including augmenting instream flows and deliveries to downstream demands, and to obtain such court decrees and approvals as are necessary to protect the

Williams Fork 1,000 af in the Williams Fork and Colorado Rivers so that it reaches critical stream segments and is not diverted directly or by exchange by intervening structures within Grand County.

b. The Williams Fork 1,000 af releases shall be coordinated with the Cooperative Effort and shall be made available at times and in the amounts requested by Grand County for use in the stream.

c. The Williams Fork 1,000 af shall be measured at the gage immediately below Williams Fork Reservoir and converted to acre feet with the standard factor, i.e.1 cfs for 24 hours = 1.983 af.

d. All or part of the Williams Fork 1,000 af, up to 2500 acre-feet, may be carried over in Williams Fork Reservoir by Grand County into subsequent years, subject to space available, payment of pro rata evaporative loss, and so long as the carryover does not count against the Reservoir's fill or otherwise jeopardize Denver Water's decreed water rights. The Williams Fork 1,000 af and any amount carried over shall be the first to spill from Williams Fork Reservoir. Denver Water will notify Grand County as soon as it reasonably can that Williams Fork Reservoir is anticipated to spill, so that Grand County can determine whether to request a release prior to the anticipated spill.

e. In addition to carrying over all or part of the Williams Fork 1,000 af, as described in Article III.E.11.d above, Grand County may also exchange or substitute into the 2,500 acre-feet of carryover capacity in Williams Fork Reservoir, water Grand County has introduced to the river upstream of the confluence of the Colorado and the Williams Fork Rivers. The additional water stored in the carryover capacity will be subject to all the provisions of Article III.E.11.d.

f. Upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project, Denver Water will undertake voluntary pilot projects using up to 1,000 acre-feet of releases from Williams Fork Reservoir, for environmental purposes.

12. Limits on Ability to Reduce USFS Bypass Flows. Denver Water is required by the United States Forest Service or the Bureau of Land Management to bypass the natural inflow at its points of diversion on the Fraser River, Vasquez Creek, St. Louis Creek and Ranch Creek under the stipulations 3(a), 3(b), 3(c), and 3(d) of the Amendatory Decision dated April 22, 1970, Serial No. 027914 (the "Amendatory Decision"). Beginning with the year the Moffat Project becomes operational, Denver Water agrees not to reduce bypasses of water as authorized by stipulations 3(e) and 5 of the Amendatory Decision, except when Denver Water has banned residential lawn watering during the irrigation season. However, Denver Water will not reduce the bypass flow on a particular stream to an extent that would cause a municipal water provider in Grand County to impose mandatory restrictions on

indoor water use, unless Denver Water is also imposing mandatory restrictions on indoor water use within its Service Area. Prior to the Moffat Project becoming operational, Denver Water agrees to undertake voluntary pilot projects limiting its ability to reduce bypass flows as described in this paragraph.

13. Ditch Operational Changes. Denver has acquired several irrigation water rights in Grand County and agrees to make those water rights available to enhance environmental flows.

    a. Big Lake Ditch. Upon execution of this Agreement, Denver Water will participate in a joint study of how to maintain the historic agricultural uses of the Big Lake Ditch so as to maximize the environmental benefits, while substantially preserving the yield for Denver Water that it has paid for and is counting on by retiring the Big Lake Ditch demand. If the study finds the balance described in this paragraph, then Denver Water will implement the study beginning with the year the Moffat Project becomes operational.

    b. Rich Ditch and Hammond No. 1 Ditch. Upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project Denver Water and Grand County agree to fund a study to determine how best to enhance stream flows with Denver Water's rights in the Rich Ditch and Hammond No.1 Ditch. Any enhancements would be in addition to the Fraser 1,000 af and would begin with the year the Moffat Project becomes operational.

14. Financial Contribution to Infrastructure Projects in Grand County. Denver Water agrees to pay the following amounts to offset the costs of the water supply projects listed in Attachment L. The funds will be distributed by Grand County.

    a. Denver Water will place $1.95 million in the water supply project fund upon execution of an Article III Implementation Agreement in the form set forth in Attachment M by the recipients of those funds.

    b. Denver Water will place $2 million in the water supply project fund within six months after Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project or Resolution of the Blue River Decree issues, whichever occurs later.

15. Year-Round Deliveries of Clinton Bypass Water. Upon the signing of an Article III Implementation Agreement by all recipients of Clinton Bypass Water, Denver Water will provide Clinton Bypass Water under the 1992 Clinton Agreement on a year round basis if the Grand County Water Users provide replacement water in accordance with the Replacement Water criterion of 4/3 to 1 in the summer, and if that water is in-hand and usable by Denver Water. Grand County Water and Sanitation District No. 1, Winter Park Water and Sanitations District, Town of Granby and Town of Fraser have previously dedicated to Denver Water Replacement Water in Wolford Mountain Reservoir at a ratio of 2/3 to 1 for winter use. If any of

those entities opts to take their Clinton Bypass Water in the summer, that entity would be credited with the previously dedicated 2/3 acre-foot, and would only owe an additional 2/3 of an acre-foot of Replacement Water for summer releases. Denver Water agrees that the Grand County Operating Plan can be amended to add the Jim Creek diversion as a point of delivery for the Clinton Bypass Water.

16. Twenty Percent Water. Denver Water has had a policy whereby any party who purchases water rights for conveyance to the east slope through Denver Water's system will make 20% of that water available to in-basin users in the Fraser River Basin. Denver Water agrees to make the temporary 20% contracts permanent after the snowmaking return flow recapture plan described in the Grand County Operating Plan is implemented, and provided that snowmaking is within the 6,000 acre-foot limit established by the 1992 Clinton Agreement.

17. Municipal Use of Denver's Facilities. On a case-by-case basis, Denver Water may allow water treatment plants on the Fraser River to use Denver Water's Fraser River Collection System to convey water as a temporary source of supply, if a back up supply is available and the necessary infrastructure has been installed.

18. Use of Unused Capacity. Denver Water is willing to explore, on a case-by-case basis, the possibilities for using its system to benefit Grand County if Denver Water's yield and operational needs are not impacted and its costs are not materially increased.

19. Future West Slope Water Rights Development. In addition to the limitations on Denver Water provided by Article I.C.3, Denver Water further agrees that it will not undertake any future water development projects or appropriations or acquisitions of water rights located in Grand County without the prior approval of the Grand County Commissioners and the River District.

20. Grand County 375 Acre-Feet of Water. Upon Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project, Denver Water agrees to make an additional 375 acre feet of water available to Grand County Water Users, to be managed in accordance with the 2012 Grand County Operating Plan with a Replacement Water ratio of 4/3 to 1 summer and 2/3 to 1 winter.

    a. One hundred acre feet of the 375 acre feet will be allocated to the Winter Park Recreational Association for use in connection with the Winter Park Ski Area and Resort. Any use of the 100 acre-feet for snowmaking will be governed by the provisions of footnote 1 in Article III.B.14; and snowmaking return flows must be above the Denver Water system.

    b. The remaining 275 acre feet will be allocated in equal shares of 68.75 acre feet to the Town of Fraser, the Town of Granby, the Grand County Water and Sanitation District No. 1, and the Winter Park Water and Sanitation District.

21. Water Supply for Grand County from Vail Ditch Shares. A group of governmental entities in Grand County has formed the Grand County Mutual Ditch and Reservoir Company (GCMD&RC), which has acquired shares in the Grand County Irrigated Land Company (Vail Ditch shares), and may acquire additional shares in the future. Upon execution of an Article III Implementation Agreement by GCMD&RC, Denver Water agrees to allow GCMD&RC's Vail Ditch shares to be traded for a like amount of water in Denver Water's Fraser Collection System and carried through that system for delivery and use in the headwaters of the Fraser River Basin, without any increase or decrease in yield to Denver Water's system, provided that GCMD&RC pays for any necessary new infrastructure and reimburses Denver Water for any additional operational costs.

    Denver Water agrees not to oppose any changes of Vail Ditch shares or such other legal or administrative mechanisms that allow the GCMD&RC to use this water. Denver Water may file statements of opposition to such change applications for the limited purpose of ensuring compliance with the obligations of this agreement. Denver Water will cooperate in seeking Englewood's approval for use of its system to transport Vail Ditch shares. If GCMD&RC is able to divert the Vail Ditch shares at other locations, Denver Water agrees not to object to such alternative diversions, provided that there is no adverse impact to Denver Water's supply or operations.

22. Denver Water Lands for Habitat or Access. Denver Water and Grand County will study which of Denver Water's lands in Grand County may have potential value for wildlife habitat and public fishing access without impacting present and future operational needs. Within one year of Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project, Denver Water will decide which identified lands should be set aside for these purposes and what mechanism should be used.

23. Support for CWCB Filing. If information made available on the locations being considered, the impacts of the Wild and Scenic River issues, and the purpose and amounts of the filing demonstrates the lack of an impact on Denver Water's operations, Denver Water agrees not to oppose CWCB instream flow filings on those segments of the Colorado River below the confluence of the Blue River where currently there are no instream flow rights.

24. Support for RICD. If information made available on the locations being considered, the impacts to the Wild and Scenic River issues, and the purpose and amount of the filing demonstrate the lack of an impact on Denver Water's operations, Denver Water agrees not to oppose a Recreational In-Channel Diversion ("RICD") filing for the Colorado River below Gore Canyon in the Pumphouse reach above the Grand/Eagle County line.

F. Grand Valley.

Denver Water shall pay $1.5 million into a fund (the "Grand Valley Fund") to be designated by and controlled by the Grand Valley Signatories to this Agreement (the "Grand Valley Entities"). The following provisions shall apply to the Grand Valley Fund:

1. The Grand Valley Fund and any accruals to the Grand Valley Fund shall be used for water supply, water quality and/or water infrastructure projects in or benefiting the Grand Valley. Subject to such limitation, the projects for which the money in the Grand Valley Fund will be used shall be determined in the sole discretion of the Grand Valley Entities.

2. Denver Water shall pay the $1.5 million into the Grand Valley Fund pursuant to the following schedule:

   a. $1 million shall be paid within 2 years after resolution of Blue River Decree issues.

   b. $500,000 shall be paid within 2 years after the Effective Date of this Agreement.

G. **Middle Colorado River**.

1. Within two years after the Effective Date of this Agreement , Denver Water shall place $500,000 in an interest-bearing account to offset additional operation and maintenance costs or the costs of upgrading diversion structures of water treatment plants in Garfield County, pursuant to the provisions of Article VI.E.3.

2. Within one year of issuance of an acceptable permit for the Moffat Project, Denver Water agrees to place $1 million in a fund for flow-related projects to protect Wild & Scenic Outstandingly Remarkable Values, and to propose this contribution as an element of the Mitigation Plan described in Article III.E.1.a.

ARTICLE IV
Agreements Regarding Denver Water's Water Rights

A. Blue River Decree. The West Slope Signatories shall support and cooperate in any legal or administrative proceedings necessary to implement the provisions of this Agreement related to the Blue River Decree.

1. Current Water Court Proceedings. The West Slope Signatories shall not contest and the Signatories that are parties to the case will stipulate to the entry of the proposed decrees included in Attachment N in Case No. 2006CW255 (Roberts Tunnel) making 654 cfs absolute and finding diligence for the remaining conditional amount; and Case No. 2003 CW039 (Dillon Refill) making 141,712 acre-feet absolute in accord with the Amended Application to Make Absolute, filed with the court on February 16, 2006, and finding diligence for the remaining conditional amounts and uses.

2. Waiver of Claims Related to Blue River Decree. The West Slope signatories agree that claim preclusion applies to all claims and objections to Denver Water's operations under the Blue River Decrees raised or which could have reasonably been raised in Case Nos. 06CW255 and 03CW039, or which could have reasonably been raised in previous diligence proceedings for these water rights. The Signatories agree that the resolution of the current diligence proceeding constitutes an adjudication on the merits of their statements of opposition.

3. Claims Not Precluded. The West Slope signatories may file statements of opposition in future proceedings under the Blue River Decree limited to: 1) Denver Water's compliance with this Agreement, and 2) claims that were not and could not reasonably have been raised in prior proceedings.

B. East Slope Storage of Blue River Water. " Imported Blue River Water" means any water transported through the Roberts Tunnel that was diverted under the Blue River Diversion Project direct flow or Dillon Reservoir storage priorities decreed in C.A. Nos. 1805 and 1806 and Civil Nos. 2782, 5016 and 5017, including water diverted under the decrees in Case Nos. 87CW376 and 91CW252 and water exchanged pursuant to paragraph IV.C.1 below. Denver Water may store any Imported Blue River Water, whether released from Dillon Reservoir or diverted directly through the Roberts Tunnel at any existing or future storage facility on the East Slope; provided that the amount of Imported Blue River Water in storage on the East Slope does not exceed 400,000 acre feet at any point in time. This provision and limitation on the amount of Imported Blue River Water does not apply to the storage of return flows from the use or reuse of Imported Blue River Water either directly or by exchange to any existing or future storage facility.

C. Denver Water's Exchanges.

1. Decreed Exchanges. The West Slope Signatories agree that Denver Water may operate its exchanges from Williams Fork Reservoir to Dillon Reservoir decreed in the Blue River Decrees, Civil Action No. 657, and C.A. 1430, and Case No. 88CW382; and from Williams Fork Reservoir to Williams Fork Diversion Project (Jones Pass) and to the Fraser River Diversion Project decreed in Civil Action Nos. 657 and 1430).

2. Undecreed Exchanges from Dillon Reservoir . The West Slope Signatories will not object to Denver Water's continued operation of and a decree for exchanges from Dillon Reservoir to Williams Fork Reservoir with an appropriation date of April 25, 1983, and to existing points of diversion for the Fraser River and Williams Fork Diversion Projects with an appropriation date of September 20, 1966, provided that the exchanges are exercised and operated and the decree contains terms and conditions that are at least as protective as the following;

a. An application for the exchanges was filed in Case No. 11CW21, the exchanges will be administered with a priority date of 2010, and the priority date or dates of the exchanges will not be antedated pursuant to C.R.S. § 37-92-305(10). The West Slope Signatories may file a statement of opposition but shall limit their opposition to ensuring that the protective conditions in this paragraph are part of the decree.

b. The maximum amount of the exchange to the Williams Fork Reservoir is limited to a rate of 148 cfs (absolute) based on diversions on April 25, 1983 and an annual volume of 6,095 af (absolute) based on diversions in water year 1990. The maximum amount of the exchange to the existing points of diversion on Fraser River and Williams Fork River Diversion Projects is limited to a rate of 56 cfs (absolute) based on diversions on September 9, 1985 and an annual volume of 8,747 af (absolute) based on diversions in water year 1967.

c. The exchanges from Dillon Reservoir to Williams Fork Reservoir or from Dillon Reservoir to the Fraser River and Williams Fork River Diversion Projects shall not be exercised or operated if the Division 5 Engineer advises Denver Water that curtailment of the exchanges is required to satisfy all senior instream flows existing in 2009, and located in the applicable stream reach affected by the diversion, including the following CWCB instream flow decrees:

1) Colorado River (80CW448, 80CW446, 80CW447)

2) Williams Fork River 79CW185, 79CW183, 79CW181, 79CW180, 79CW175, 79CW173, 79CW172, 79CW170, 79CW169, 79CW168, 79CW165)

(a) Bobtail Creek (79CW164, 79CW163)

(b) Steelman Creek (79CW167, 79CW166).

3) Fraser River (90CW308B, 90CW308, 90CW315, 90CW307, 90CW302, 90CW289)

(a) St. Louis Creek (90CW316, 90CW317A, 90CW317, 90CW304)
(b) Vasquez Creek (90CW318)
(c) Ranch Creek (90CW305, 90CW306A, 90CW306, 90CW314)
(d) Cabin Creek (90CW312)
(e) Hamilton Creek (90CW311)
(f) Meadow Creek (90CW310, 90CW309)

d. The provisions in this paragraph IV. C.2. shall apply irrespective of whether any of the CWCB instream flow decrees listed in Article IV.C.2.c above contain provisions that might otherwise protect Denver Water's existing exchanges through these reaches from impairment by CWCB instream flows in the reaches.

D. 1978 Judgment and Decree. The Signatories agree that operations by which Denver Water diverts under its 1946 Roberts Tunnel direct flow right prior to the completion of the annual fill of Green Mountain Reservoir are consistent with the Blue River Decree, including the Supplemental Judgment and Decree entered in the Consolidated Cases on February 9, 1978, so long as such operations are in accordance with the Green Mountain Reservoir Administrative Protocol (Attachment R-1). The Signatories will cooperate to obtain such administrative and judicial approvals as are necessary to ensure that the Protocol is made legally binding and enforceable and is implemented.

E. Substitution Agreements. The West Slope Signatories agree to support and execute, as appropriate, all future renewals of the Memorandum of Agreement among the U.S. Bureau of Reclamation, Northern Colorado Water Conservancy District, Colorado River Water Conservation District, and Denver Water dated December 30, 1991, regarding substitutions from Wolford Mountain Reservoir (MOA No. 2-AG-60-01550), provided that such renewals are consistent with this Agreement and are reasonably the same in form and substance as the existing MOA, as modified by the July 21, 1992 Agreement Amending Lease Agreement between Colorado River Water Conservation District and City and County of Denver. The West Slope Signatories reserve the right to object to the addition of new substitution, exchange or replacement sources, or amounts other than those specified in Article III.A.4 not currently decreed for such use by Denver Water

F. Straight Creek Project. Summit County agrees to extend and not challenge the validity of the 1041 permit for Denver Water's Straight Creek project dated July 17, 1985, so that a new permit will not be required for Denver Water to proceed with the project as permitted in 1985 as described in Attachment O. Consistent with its 1996 Resource Statement, Denver Water agrees that it will develop the Straight Creek project only with the prior approval of the Summit County Commissioners and the River District.

G. Wolford Mountain Reservoir.

1. Repayment Water. With regard to the 1000 acre feet of Repayment Water ("WMR 1KAF") referenced in paragraph 20(b) of the Agreement Amending Lease Agreement between the River District and Denver Water, dated July 12, 1992 ("Wolford Agreement"), the River District and Denver Water agree that the River District shall provide and account for the WMR 1KAF as follows:

a. The first 500 acre feet of the WMR 1KAF, along with the 613 acre feet of water available to Denver Water under paragraph 20(c) of the Wolford Agreement, shall be made available every year and used by Denver Water for substitution purposes.

b. The remaining 500 acre-feet of the WMR1KAF shall be stored and used for substitution purposes in the same manner as the water storage attributable to Denver Water's 40% interest in the Wolford Mountain Reservoir water right and storage space (a volume of 24,000 acre-feet), on a pro rata basis (500 acre-feet = 0.83% of 60,000 acre-feet, so water would be stored at a rate of 40.83%).

2. Second Enlargement of Wolford. Denver Water agrees to waive any right to participate in the second enlargement of Wolford Mountain Reservoir, in the same or **a** lesser amount as claimed in Case No. 03CW302, Water Division 5. The River District agrees that Denver Water is not obligated to pay any capital or OM&R costs associated with a second enlargement.

3. 1041 Permit for Wolford. The River District and Denver Water agree to work cooperatively as co-permittees to obtain any amendment to the Grand County 1041 permit for Wolford Mountain Reservoir that may be necessary (1) to address current operations of Wolford Mountain Reservoir under the Wolford Agreement; and (2) to effectuate the applicable provisions of this Agreement. Upon application for such a permit amendment, Grand County agrees to cooperate to process an amendment as quickly as possible.

4. Replacement Water. In addition to water in Wolford Mountain Reservoir that Denver Water is currently entitled to use for substitution and other purposes, this Agreement requires that Replacement Water be available to Denver Water as a condition of several water deliveries under Article III.

The estimated maximum volume of Replacement Water that might be required under this Agreement is 2,590 acre-feet in any single substitution year. Under the 1992 Clinton Agreement and the 1985 Summit Agreement, West Slope entities have agreed to provide Replacement Water to Denver Water in an amount estimated to be 1,249 acre-feet annually, which could be supplied from Wolford. The Signatories wish to ensure that Wolford Mountain Reservoir could be used to provide the full 3,839 acre feet of Replacement Water, even though it is anticipated that Replacement Water will be provided to Denver Water from other sources. The Signatories agree to cooperate to implement acceptable amendments or approvals as might be necessary to ensure that the 1991 MOA between the Bureau of Reclamation, Denver Water, the Colorado River Water Conservation District and the Northern Colorado Water Conservancy District; the decree in Case No. 91CW252; and the 1041 permit for Wolford Mountain Reservoir allow the use of the full 3,839 acre feet of Replacement Water, in addition to the water in Wolford the Denver Water is currently entitled to use for substitution and other purposes**.**

The West Slope Signatories agree that Replacement Water provided by the West Slope to Denver Water from Wolford Mountain Reservoir as Replacement Water under the 1985 Summit Agreement, the 1992 Clinton Agreement and this Agreement is a permissible use of Wolford Mountain Reservoir by Denver Water.

H. Storage in Gross and Ralston Reservoirs. The West Slope Signatories shall not contest Denver Water's storage of Williams Fork and Cabin-Meadow Creek water as decreed in Case No. 657, in Gross and Ralston Reservoirs. The agreement of the West Slope Signatories in this paragraph is premised on circumstances and consideration unique to this Agreement.

I. Deliveries of Water to the City of Golden. The West Slope Signatories shall not contest whether Denver Water's delivery of water to the City of Golden under the contract dated May 10, 2007, is consistent with Denver's water rights decrees.

J. Moffat Project Permitting. With the exception of Grand County (which is a consulting agency in the NEPA process for the Moffat Project), the West Slope Signatories agree that the concerns raised in the comment letters they submitted on the October 2009 Draft EIS for the Moffat Project will be resolved by the combination of (1) the benefits that will accrue to the West Slope pursuant to the terms of this Agreement, plus (2) the environmental mitigation requirements and conditions that will be imposed by the federal and state permitting agencies in the permits and approvals issued for the Moffat Project. Accordingly, the West Slope Signatories other than Grand County agree not to oppose the issuance of any local, state and federal approvals for the Moffat Project, including those permits listed in Attachment P. Nothing in this paragraph IV.J shall affect Grand County's continuing actions as a consulting agency in the NEPA process on the Moffat Project. Nor shall anything in this paragraph IV.J be deemed a waiver of rights a Signatory may have

upon any breach of this Agreement.

K. Water Rights in Eagle River Basin. The West Slope Signatories that are parties to the cases involving Denver Water's Eagle-Colorado water rights agree to implement the settlement of Denver Water's Eagle-Colorado diligence case and to facilitate the water court case changing the location of Denver Water's Piney River water right to State Bridge. All the West Slope Signatories agree not to oppose a water court application changing the location of Denver Water's Piney River water right to State Bridge.

L. Water Rights in Williams Fork Basin. The West Slope Signatories shall not contest and West Slope Signatories that are parties to the cases will stipulate to the entry of the proposed decrees included as Attachment Q in Case No. 2007CW031 (Jones Pass) making 245 cfs absolute and finding diligence for the remaining conditional amount; and finding diligence in Case Nos. 2007CW030 (Carr Ditch) and 2007CW029 (Darling Creek, Williams Fork Power, Moffat Tunnel.

1. Waiver of Claims. The West Slope Signatories agree that claim preclusion applies to all claims and objections to Denver Water's operations under the decrees listed in this Article IV.L raised or which could have reasonably been raised in the cases listed above, or which could have reasonably been raised in previous diligence proceedings for these water rights. The signatories agree that the resolution of the current diligence proceeding constitutes an adjudication on the merits of their statements of opposition.

2. Claims Not Precluded. The West Slope Signatories may file statements of opposition in future proceedings under the water rights listed above limited to: 1) Denver Water's compliance with this Agreement, and 2) claims that were not and could not reasonably have been raised in prior proceedings.

ARTICLE V
Green Mountain Reservoir Administration

A. Resolution of Disputes. The Signatories agree that resolution of long-standing disputes regarding the proper administration of water rights adjudicated in the Blue River Decree, including the water rights of Green Mountain Reservoir and the Green Mountain Powerplant, will provide significant benefits for water users on both the east and west slopes of Colorado, including maximizing beneficial use of the waters of the state, reducing litigation costs, and providing clarity as to water rights administration. Certain Signatories have negotiated with other entities a protocol to resolve the long-standing disputes, entitled the Green Mountain Reservoir Administrative Protocol ("Protocol"), a copy of which is attached to this Agreement as Attachment R-1.

The primary purpose of the Protocol is to clarify and implement certain provisions of the Blue River Decree by (1) setting forth a protocol for, among other things: (a) the preparation, review, and modification of a fill schedule for Green Mountain Reservoir; (b) definition and administration of the fill season for the 1935 First Fill Storage Right; (c) administration of water rights during the fill season; and (d) operation of the Green Mountain Reservoir Water Rights and the Cities' water rights in response to downstream calls senior to the Cities' water rights; (2) making as much water as possible available for upstream use, including use by the Cities, without impairment of the fill of Green Mountain Reservoir; (3) providing a clear definition of the Cities' replacement obligation operations, including Denver Water's obligations to the City Contract Beneficiaries as defined in Attachment R-1; (4) ensuring that the administration of water rights does not allow the water rights of the Cities to "hide behind" or otherwise benefit from the Green Mountain Reservoir Water Rights; (5) eliminating or reducing as much as possible, the extent to which the Green Mountain Reservoir 60 cfs bypass is accounted against the fill of the Green Mountain Reservoir Storage Rights; and (6) addressing the relative priority of the Green Mountain Water Rights, the Cities' water rights, and the Climax's C.A. 1710 rights in a manner agreed by the Blue River Decree parties and Climax; all in a manner that is consistent with the Blue River Decree.

B. Implementation of Green Mountain Administrative Protocol. The following Signatories are among the parties to an agreement entitled the Green Mountain Reservoir Administrative Protocol Agreement (the "Protocol Agreement", a copy of which is attached to this Agreement as Attachment R-2: Denver Water, the River District, Middle Park Water Conservancy District, Grand Valley Water Users Association, Orchard Mesa Irrigation District, Ute Water Conservancy District, Palisade Irrigation District, and Grand Valley Irrigation Company. The Protocol Agreement provides, among other terms and conditions, that these Signatories (and certain other parties to the Protocol Agreement) approve the Protocol and agree to its implementation. Nothing in this Agreement shall modify the obligations of the parties to the Protocol Agreement in accordance with the terms and conditions contained therein.

C. Non-opposition to Green Mountain Administrative Protocol. The following Signatories are not parties to the Protocol Agreement: the Boards of County Commissioners of Eagle, Grand, and Summit Counties, Clinton Reservoir Company, Eagle Park Reservoir Company, Eagle River Water and Sanitation District, Upper Eagle Regional Water Authority, Mesa County Irrigation District, City of Glenwood Springs, and City of Rifle. These Signatories agree not to oppose the implementation of the Protocol in any adjudication or other proceeding deemed necessary by the parties to the Protocol Agreement to make the Protocol legally binding and effective, or to confirm the consistency of the Protocol with the Blue River Decree, so long as the Protocol is substantially consistent with Attachment R-1. These Signatories may support the Protocol in any proceedings in which they have standing to participate.

ARTICLE VI
Shoshone Call

A. Shoshone Call.

1. The Shoshone Power Plant, which is owned and operated by Public Service Company of Colorado, d/b/a/ Xcel Energy ("Xcel"), is located on the mainstem of the Colorado River in Glenwood Canyon. The Shoshone Power Plant produces hydroelectric energy by means of two water rights, the 1902 Shoshone Senior Right in the amount of 1250 cfs and the 1929 Shoshone Junior Right in the amount of 158 cfs (together, "Shoshone Water Rights").

2. When the Shoshone Power Plant is operating, the Shoshone Water Rights command the flow in the river by exercising the Senior Shoshone Call against upstream junior water rights. When the Senior Shoshone Call is on, upstream reservoirs cannot store water and junior water rights cannot divert unless they provide an equal volume of replacement water to the stream. Over the years, many water users have come to rely on the river flow regime created by the Senior Shoshone Call ("Shoshone Call Flows").

3. Whenever the Shoshone Power Plant is subject to a shutdown for repair, maintenance, or other reasons ("Shoshone Outage"), the Shoshone Call cannot be exercised, and Shoshone Call Flows may not be present in the river.

4. The Signatories agree that a Shoshone Outage could adversely affect water users and recreation interests on the Colorado River. Accordingly, the Signatories agree to implement the operational procedures described in this section during a Shoshone Outage (the "Shoshone Outage Protocol") to mitigate such potential adverse effects. The Signatories also agree to cooperate to achieve permanent management of the flows of the Colorado River as described in Article VI.C, whether or not the Shoshone Power Plant remains operational.

B. Shoshone Outage Protocol.

1. Outage During Irrigation Season. If a Shoshone Outage occurs during the period from March 25 through November 10 (Irrigation Season) and results in a flow of the Colorado River at the Dotsero Gauge below 1,250 cfs (not including any water released for endangered fish species purposes), then the River District, Middle Park and Denver Water agree that they will operate their systems as if the Senior Shoshone Call were on the River, resulting in a flow of not more than 1250 cfs at the Dotsero Gauge (not including any water released for endangered fish species purposes). The Shoshone Outage Protocol

will not apply to Shoshone Outages that occur during certain very dry Irrigation Seasons, as described in the following subparagraphs.

a. The very dry Irrigation Seasons occur when the two conditions for a water shortage, as defined in paragraph 2 of the 2007 Shoshone Agreement, are met. Denver Water will make projections in March prior to March 25, and again in early May and late June to determine whether a water shortage is occurring.

b. If a projection made under subparagraph a above in March or May meets the conditions for a water shortage, then the Shoshone Outage Protocol will not apply during the period from that projection to the next projection. If a projection made in March or May does not meet the conditions for a water shortage, then the Shoshone Outage Protocol will apply during the period from that projection to the next projection; provided, however, that the Shoshone Outage Protocol will not apply during any period when the Shoshone Call is relaxed under the 2007 Shoshone Agreement.

c. If the projection made in June under subparagraph a above meets the conditions for a water shortage, then the Shoshone Outage Protocol will not apply during the remainder of the Irrigation Season that year. If the projection made in June does not meet the conditions for a water shortage, then the Shoshone Outage Protocol will apply during the remainder of the Irrigation Season that year.

2. Green Mountain Reservoir. The Signatories will cooperate with one another and use their best efforts to negotiate a separate agreement with the U. S. Bureau of Reclamation ("Reclamation") pursuant to which Reclamation would agree that if a Shoshone Outage occurs, it will continue to operate Green Mountain Reservoir as if the Senior Shoshone Call were on the river. Such agreement with Reclamation shall be subject to terms and conditions as to which the Signatories and Reclamation shall agree, including the following

a. Any water released from storage in Green Mountain Reservoir would be debited to the appropriate account within the reservoir's 100,000 Acre-Foot Pool to which the releases were attributed, e.g., the historic users pool identified in paragraph 2 of Reclamation's January 23, 1984 Operating Policy for Green Mountain Reservoir,

b. Water that would have been released from the 52,000 Acre-Foot Replacement Pool had the Senior Shoshone Call been on the river shall be debited as discretionary power releases from the 100,000 Acre-Foot

Pool, unless other arrangements are made with Reclamation and the Northern Colorado Water Conservancy District.

c. Reclamation will not be obligated to make releases from storage pursuant to this provision if water is not available in the 100,000 Acre-Foot Pool or if the total volume of Green Mountain Reservoir storage accounts is less than an amount to be agreed upon by the West Slope Signatories and Reclamation.

3. Outage During Winter Season. If a Shoshone Outage occurs during the period from November 11 to March 24 (Winter Season): (1) as a result of conditions other than scheduled maintenance on the Shoshone power plant facilities, and (2) if flows at the Dotsero Gauge are at or below 900 cfs, the River District and Denver Water agree that they will operate their systems as if the Senior Shoshone Call were on the river, subject to the following:

The Shoshone Outage Protocol will not apply fully to Shoshone Outages that occur during certain very dry Winter Seasons, when the overall storage in Denver Water's system is less than 79% of capacity on November 1. For purposes of this paragraph, the reservoirs that will be considered in determining overall storage are those reservoirs listed in Exhibit A to the 2007 Shoshone Agreement, but excluding any reservoirs under storage restrictions due to maintenance, repairs or orders from the Colorado State Engineer.

a. If the storage is less than 79%, but more than 63%, then the Shoshone Outage Protocol will be applied at half the normal effect during that Winter Season. For example, if Denver Water would be required to bypass or replace 60 c.f.s. under the full operation of the Shoshone Outage Protocol, Denver Water would be required to bypass or replace 30 c.f.s. if the Shoshone Outage Protocol is applied at half the normal effect.

b. If the storage is equal to or less than 63%, but more than 49%, then the Shoshone Outage Protocol will be applied at one-fourth the normal effect during that Winter Season.

c. If the storage is equal to or less than 49%, then the Shoshone Outage Protocol will not be applied during that Winter Season.

4. The Signatories will cooperate with one another and use their best efforts to:

a. Obtain the agreement of other diverters to participate in the Shoshone Outage Protocol.

b. Obtain the agreement of the State of Colorado water administration officials to shepherd water released from upstream reservoirs or

otherwise bypassed from upstream water rights under the Shoshone Outage Protocol to the Grand Valley under a donated instream flow, a municipal recreation delivery contract or other acceptable arrangement, and to refrain from accounting for releases from storage under the Shoshone Outage Protocol as storable inflow.

C. Permanency of Shoshone Call Flows.

1. It is the goal of the Signatories to achieve permanent management of the flow of the Colorado River so that the flow mimics the Shoshone Call Flows, whether or not the Senior Shoshone Call is on the river and whether or not the Shoshone Power Plant remains operational.

2. Denver Water and the River District agree to operate their systems on a permanent basis under the Shoshone Outage Protocol described in Article VI.B, even if the Shoshone Power Plant ceases operations altogether, and regardless of whether the plant is acquired under Article VI.D, subject to the following conditions:

a. The relaxation provisions described in Article VI.E below remain in full force and effect.

b. The Shoshone Outage Protocol would not apply for 17 cumulative days during the Winter Season, to duplicate the effect of the current scheduled outages for maintenance.

3. The Signatories agree to use their best efforts to work with Xcel Energy, other diverters, Reclamation and the State of Colorado water administration officials to devise and implement a mechanism or combination of mechanisms that will permanently preserve the Shoshone Call Flows. In addition to the amounts provided in Article VI.E.1.c., Denver Water agrees to pay one-third of the costs, not to exceed $100,000, incurred by West Slope Signatories to begin the process of implementing a mechanism to preserve the Shoshone Call Flows on a permanent basis. If total costs exceed $300,000, the Signatories will confer with regard to further actions.

D. West Slope Acquisition of Shoshone Assets

1. West Slope water users believe that one means to ensure the permanent maintenance of the Shoshone Call is the acquisition and operation of the Shoshone Power Plant and Shoshone Water Rights (the “Shoshone Assets”) by a West Slope governmental entity that is mutually acceptable to the West Slope Signatories (“West Slope Governmental Entity”).

2. Within twenty-four (24) months after the effective date of this Agreement (“Investigation Period”), any of the West Slope Signatories may agree among

themselves and at their own cost, to undertake and complete an investigation of the viability of purchasing the Shoshone Assets and operating the Shoshone Power Plant (the "Initial Investigation"). The Initial Investigation may include direct negotiations with Xcel; the hiring of consultants necessary to evaluate the Plant's physical and financial condition and the value of the Shoshone Assets; an evaluation of the legal and regulatory requirements that must be met in order to transfer the Shoshone Assets to a West Slope Governmental Entity; an evaluation of the appropriate West Slope Governmental Entity to acquire and operate the Shoshone Assets and the steps necessary to create such an entity, if a new entity is to be created; and any other matters that the West Slope Signatories believe are necessary or desirable. Denver Water shall assist the West Slope Signatories upon request in undertaking and completing the investigations during the Investigation Period. The West Slope Signatories may agree among themselves to extend the Investigation Period.

3. If the Initial Investigation determines that it is feasible for a West Slope Governmental Entity to acquire and operate the Shoshone Assets and if Xcel is willing to sell or otherwise transfer the Shoshone Assets to a West Slope Governmental Entity, the West Slope Governmental Entity may pursue the transfer of the Shoshone Assets. Denver Water agrees that it will support such acquisition and will take such reasonable actions as may be necessary to assist the West Slope Governmental Entity in completing the acquisition of the Shoshone Assets. Upon notification by any of the West Slope Governmental Entity of its intent to acquire the Shoshone Assets, Denver Water agrees not to assert its right under paragraph 13 of the 2007 Shoshone Agreement regarding the method of disposition of the Shoshone Water Rights.

4. Denver Water shall not be obligated to pay any of the purchase price for the Shoshone Assets if other mechanisms are reasonably available to preserve the Shoshone Call Flows. If other mechanisms are not reasonably available, and purchase of the Shoshone Assets is determined to be the best viable option to preserve the Shoshone Call Flows, then Denver Water agrees to contribute to the purchase price in a negotiated amount that is proportionate to its share of the overall benefits created by the purchase, and reasonable as compared to the financial contributions to the purchase price by other parties.

5. If a West Slope Governmental Entity acquires the Shoshone Assets, the Shoshone Call relaxation provisions described in Section VI.E below, shall remain permanently in effect.

E. Relaxation of Shoshone Call.

1. Existing Call Relaxation Agreement. Denver Water and Xcel are parties to the 2007 Shoshone Agreement, a copy of which is attached as Attachment S.

The 2007 Shoshone Agreement currently is set to expire on December 31, 2032. The Signatories agree that the Shoshone Call relaxation provisions of the 2007 Shoshone Agreement shall remain in effect during its term and any renewal thereof.

a. Denver Water agrees that, except as provided in Articles V and VI.E.2, it will not seek any relaxation of the Shoshone Call, other than a renewal of the specific provisions of the 2007 Shoshone Agreement beyond the year 2032.

b. The West Slope Signatories will not oppose a renewal of the 2007 Shoshone Agreement, provided that the Shoshone Outage Protocol remains in effect.

c. If the relaxation of the Shoshone Call is made permanent and Denver Water's yield is increased as a result, Denver Water agrees that 500 acre-feet of the increased yield (Relaxation Water) will be made available as potable water for use as blending water in a project using reusable return flows as described in Article I.B.2.e. The water supply created by the Relaxation Water will be added to the list of permissible fixed-amount contracts listed in Article I.B.1. In return for the availability of the Relaxation Water, the recipients must agree to pay the 2010 System Development Charge (SDC) applicable to potable water served outside the Combined Service Area. Denver Water will transmit the SDCs attributable to the Relaxation Water into a Relaxation Water Fund to be used (a) to contribute to the acquisition of the Shoshone Assets under Article VI.D; or (b) to implement a mechanism or combination of mechanisms that will permanently preserve the Shoshone Call Flows. It is anticipated that advance financing may be needed to accomplish the purposes described in this paragraph. The Signatories agree to consult with each other on an appropriate financing mechanism, should one be needed. It is also anticipated that the SDCs for the Relaxation Water may be paid pursuant to a payment schedule. If the Relaxation Water Fund is not fully expended for the purposes described in this paragraph, the money shall be used to contribute to the costs of a future cooperative project, determined by the River District and Denver Water to be beneficial to both the West Slope and the East Slope.

2. Expansion of Call Relaxation Period for Severe Drought Conditions. The 2007 Shoshone Agreement provides that the Shoshone Call may be relaxed during the period from March 14 until May 20, inclusive ("Call Relaxation Period"), under the conditions specified in the 2007 Shoshone Agreement. Denver Water desires to extend the Call Relaxation Period back into the winter months during extreme drought periods. The West Slope Signatories agree to support the amendment of the 2007 Shoshone Agreement to provide

for the relaxation of the Senior Shoshone Call down to 704 cfs (a "one-turbine call") for an expanded period during the winter months ("Expanded Call Relaxation Period"), subject to the following terms and conditions:

a. An Expanded Call Relaxation Period may occur under either of the following circumstances:

   i. The Senior Shoshone Call may be relaxed to a one-turbine call beginning on November 11 if Denver Water has banned outdoor residential lawn watering beginning no later than August 1, and the ban has remained in effect continuously from its inception through November 11.

   ii. The Senior Shoshone Call may also be relaxed to a one-turbine call beginning three (3) days after the date that the Denver Water Board formally adopts a drought declaration requiring that outdoor residential lawn watering be prohibited during the following irrigation season. The call relaxation under this section only applies to the period from November 11 until March 14 of the following year.

b. Denver Water will pay for power replacement costs as provided for in the 2007 Shoshone Agreement.

c. Denver Water will provide ten percent (10%) of the net water savings as defined in the 2007 Shoshone Agreement for use by West Slope Signatories. The West Slope Signatories will allocate the 10% as they may determine pursuant to any future agreement among them.

d. The Expanded Call Relaxation Period will end the earlier of:

   i. The date Denver Water rescinds its ban on outdoor residential lawn watering; or

   ii. The date a Cameo Call is placed on the river; or

   iii. March 14 of the year following implementation of the Extended Call Relaxation Period if implementation occurs on or prior to December 31; or March 14 of the year in which the Expanded Call Relaxation Period was implemented if implementation occurs on or after January 1.

e. Any relaxation of the Shoshone Call after March 14 of any given year shall occur only as provided in the 2007 Shoshone Agreement.

3. Call Relaxation Mitigation. The $500,000 to be placed in a special fund by Denver Water pursuant to Article III.G of this Agreement shall be managed and utilized as follows:

a. The proceeds of this fund will be used to help offset the impacts of, or prepare for, a call relaxation pursuant to the 2007 Shoshone Agreement or during the Expanded Call Relaxation Period, or a Shoshone Outage during the Winter Season pursuant to Section VI.B.3, above.

b. In order for a municipal water provider to access the funds described in this subsection, the provider must either be a signatory to this Agreement or must be located in Garfield County and agree to be bound by the terms and conditions of this Agreement.

c. The West Slope Signatories at their discretion may utilize funds available to any of them pursuant to Article III of this Agreement or the West Slope Fund to either replace or increase the funding for this special fund as may be necessary or desirable from time to time.

F. Environmental and Recreational Pilot Project. The Signatories agree to evaluate a pilot project to determine the feasibility of implementing a partial Shoshone Call relaxation in non-critical winter months and dedicating the saved water to environmental and recreation purposes.

G. Support for Glenwood Springs RICD. The City of Glenwood Springs currently has whitewater features located below the confluence of the Colorado River and the Roaring Fork River near Glenwood Springs, Colorado. Glenwood Springs currently does not have an adjudicated water right for these white water features but anticipates filing for one at some point in the future. In addition, Glenwood Springs anticipates creating additional white water features on the reach of the Colorado River between the Shoshone Power Plant and South Canyon on the main stem of the Colorado River. Denver Water will not oppose the filing of a water rights application for a Recreational In-Channel Diversion ("RICD") for the existing and proposed structures by Glenwood Springs; provided that any such application filed for any proposed structure above the confluence of the Roaring Fork and Colorado Rivers does not: (1) Claim a flow rate that exceeds the amount of water needed to satisfy the senior Shoshone Call for 1,250 cfs at the Dotsero gage; (2) Seek an amount of water in excess of that needed to replicate historic operations under the Senior Shoshone Call; or (3) Impair Denver's ability to divert under Article VI.

As to structures located below the confluence of the Roaring Fork and Colorado Rivers, Denver and Glenwood Springs recognize that the contributing flows of the two rivers make it difficult to predict the exact effect of a RICD on flows above the confluence. Glenwood Springs agrees to consult with Denver regarding such application prior to filing.

ARTICLE VII
Bilateral Commitments

A. Water Rights Peace Pact. With regard to all conditional water rights presently owned by the Signatories to this Agreement, and listed in Attachment T, the Signatories agree to withdraw any statements of opposition in each others' pending diligence filings and not to oppose each other's pending or future diligence applications, including applications to make the listed conditional rights absolute, provided, however, that the parties may file statements of opposition to such applications for the limited purpose of ensuring compliance with the obligations of this agreement.

B. Water Conservation. The Signatories to this Agreement will cooperate to develop and promote best management practices for water conservation appropriate for the various types of water use and regional geographic locations within the state. The Signatories agree to adopt any best management practices developed under this paragraph for their own water uses.

C. Compact Curtailment Plan. The Signatories agree to cooperate in good faith toward the development of a plan to avoid a potential curtailment of existing Colorado water rights under the provisions of the 1922 Colorado River Compact and the 1948 Upper Colorado River Compact, and to mitigate the impacts of any unavoidable curtailment. If joint efforts do not result in agreement on such a plan, each Signatory will take such actions as it may deem necessary to protect its water rights from curtailment.

D. Freedom to Operate. So long as the Signatories meet all of their obligations under this Agreement, their independent legal obligations and any contemporaneous implementing agreements, the Signatories agree that they do not have an obligation to operate their system or to conduct their decision-making in any particular way.

E. No Third Party Beneficiaries. It is expressly understood and agreed that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the Signatories, and nothing contained in this Agreement shall give or allow any such claim to a right of action by any third person. It is the expressed intention of the Signatories that any person other than a signatory receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

F. No Precedent. The various commitments and agreements of the Signatories to this agreement are premised on circumstances and considerations unique to this Agreement. Nothing in this Agreement shall be construed as establishing any legal precedent regarding any matters not expressly addressed in this Agreement. The Signatories agree that they do not intend this Agreement to have the effect of precedent or preclusion on any factual or legal issues in any matter not expressly addressed in this Agreement.

G. Risk Sharing. A fundamental premise of this Agreement is that the Signatories will not actively seek to undermine, or encourage others to undermine, the Signatories' respective interests and resources that have been committed, compromised, dedicated, or otherwise addressed in this Agreement. For purposes of this paragraph, "Adverse Action" means an action of a legislature, court, administrative agency, regulatory body or other governmental

entity that would cause a material adverse impact to a Signatory's interests or resources that have been committed, compromised or otherwise addressed in this Agreement. In the event that an Adverse Action is proposed or is likely to occur, the Signatory whose interests or resources would suffer a material adverse impact will notify the other Signatories. The Signatories will meet and discuss in good faith the potential detrimental effect of such Adverse Action, with the goal of determining whether any action by one or more Signatories could avoid the Adverse Action or mitigate its impact on the affected Signatory. Each party agrees to evaluate in good faith whether it can implement changes in its operations or undertake other efforts that would achieve this goal, and to implement any such efforts as may be agreed to by the Signatories.

H. Preservation of Governmental Powers. Except as specifically provided herein, nothing in this Agreement shall be construed as a limitation on or waiver of any review, approval, or permit authority, or a predetermination of any action taken thereunder, by any governmental or quasi-municipal entity including, without limitation, the legislative or quasi-judicial power or authority of Eagle, Grand and Summit Counties and the City and County of Denver, acting by and through its Board of Water Commissioners.

I. No Property Interest Created. Any rights created by this Agreement are contractual rights. This Agreement does not create and shall not be construed to create or convey any property interest, including any covenant, easement or servitude, in the real property of any Signatory.

J. Implementation of this Agreement.

1. In Article IV.A.1, the West Slope Signatories agree not to contest or to stipulate to the entry of the two proposed decrees included in Attachment N, in Case No. 2006CW255 (Roberts Tunnel – N1) and Case No. 2003 CW039 (Dillon Refill – N2), and to support and cooperate in any proceedings necessary to implement the provisions of this Agreement related to the Blue River Decree. The Signatories agree that, upon execution of this Agreement, Denver Water will file an amended application in 2006CW255 (Roberts Tunnel) for approval of the proposed Roberts Tunnel decree in Attachment N1 and publish supplemental notice thereof in the Division 5 Water Court. The Signatories agree that the amended application in Case No. 2006CW255 and the proposed Roberts Tunnel decree in Attachment N1 are among the mechanisms that will be used to implement Article III.A.3. If statements of opposition are filed as a result of the supplemental notice, the Signatories agree to cooperate to resolve any issues raised by such statements and to finalize the proposed Robert Tunnel decree in 2006 CW255.

2. The Signatories agree that the proposed Roberts Tunnel decree in Attachment N1 will not be presented to the federal court for entry of final judgment until the earlier of the following:

   a. The U. S. Bureau of Reclamation has executed the "separate agreement" described in Article VI.B.2, pursuant to which it agrees "that if a Shoshone

Outage occurs, it will continue to operate Green Mountain Reservoir as if the Senior Shoshone Call were on the river."

b. The Signatories agree that the goal of Article VI.C.3 has been achieved, such that the Signatories, other water users, and the State of Colorado water administration officials have devised and implemented "a mechanism or combination of mechanisms that will permanently preserve the Shoshone Call Flows." If the agreed-upon mechanism requires a water court application, achievement of the goal for purposes of this paragraph 2.b is defined as the entry of a final decree approving the mechanism by the water court, which is no longer subject to appeals.

3. Several provisions of this Agreement are contingent upon the Resolution of Blue River Decree Issues, which is defined in Article III.A.2 and the Definitions as the entry of final judgments and decrees no longer subject to appeals in 06CW255 and 03CW039. The Signatories acknowledge that any delay required by Article VII.J.2 above in the entry of a final judgment will cause an equivalent delay in implementing the various provisions of this Agreement that are contingent upon Resolution of Blue River Decree Issues.

4. The Signatories acknowledge that they are contractually bound upon the Effective Date of this Agreement, regardless of any delay in the entry of a final judgment in Case No. 06CW255 required by Article VII.J.2 above.

5. The Signatories agree to coordinate and provide reasonable assistance to each other in obtaining any necessary license, permit or approval to carry out this Agreement, including those described in this Article VII.J. The Signatories agree that not every issue and problem can be foreseen and dealt with in advance, and that cooperation will be needed to handle future events that might impair implementation of particular provisions of this Agreement. If such an impairment of a particular provision occurs, the Signatories agree to cooperate in good faith in a reasonable manner to develop alternative means to accomplish as nearly as possible the desired outcome of the provision in question.

K. Severability or Reform of Invalid Provisions. Wherever possible each provision of this Agreement shall be interpreted and implemented in such manner as to be effective and valid under applicable law. If any provision or portion of this Agreement is determined to be invalid or unenforceable, the remaining provisions shall remain in full force and effect unless the remaining provision's effectiveness is explicitly dependent upon the invalid or unenforceable provision. The Signatories agree to reform this Agreement to replace any such invalid or unenforceable provision with a valid and enforceable provision that comes as close as possible to the intention of the stricken provision. The provisions of this Agreement shall be reasonably and liberally construed to achieve the intent of the Signatories.

L. Venue. Venue for resolution of any dispute of water matters under this Agreement resulting in litigation shall be the District Court, Colorado, for the appropriate Water Division or federal district court, as appropriate under the Blue River Decree. Venue for all other matters under this Agreement resulting in litigation shall be the Colorado District Court for the county in which any defendant resides.

M. Conflict Resolution. The Signatories agree that if a dispute arises between Denver Water and a West Slope Signatory, the affected Signatories will confer in good faith and endeavor to resolve the concern. If the affected Signatories reach an impasse, they will select a neutral third party mediator who would seek an acceptable voluntary solution to the conflict. For conflicts that involve a technical or scientific matter, the neutral third party mediator may select an independent technical or scientific expert, acceptable to the Signatories involved in the mediation, to review and make a recommendation on the matter. If the conflict cannot be resolved through the efforts of the mediator, then the affected Signatories may pursue any available legal or administrative recourse.

N. Information Sharing. The Signatories shall maintain records in accordance with their normal procedures with regard to their respective obligations under this Agreement, and shall make such records available to each other upon reasonable request.

Article VIII
Definitions

TERM	DEFINITION
1985 Summit Agreement	Agreement between Summit County Board of Commissioners and Denver Water, dated September 19, 1985
1992 Clinton Agreement	Clinton Reservoir - Fraser River Water Agreement, dated July 21, 1992
2007 Shoshone Agreement	Agreement between Denver Water and Public Service Company of Colorado d/b/a Xcel Energy, effective January 1, 2007, concerning reduction of the Shoshone Call
Abstention Provisions	a. Abstain permanently from pursuing or participating in any project that would result in any new depletion from the Colorado River and its tributaries above the confluence with the Gunnison River, including without limitation the Eagle River (with the exception of the Eagle River MOU for Aurora and the Upper Colorado Cooperative Project). Pursuing or participating in a project means seeking formal approval of any aspect of a project in a regulatory or judicial forum, but does not include conducting various planning activities such as feasibility studies. b. Abstain from pursuing or participating in any project that would result in diversions from the Colorado River Basin within Water Divisions Nos. 4 and 6, or downstream from the confluence of the Gunnison and Colorado Rivers in Water Division No. 5 for a period of 25 years. Pursuing or participating in a project means seeking formal approval of any aspect of a project in a regulatory or judicial forum, but does not include conducting various planning activities such as feasibility studies. This abstention period would be reduced to 15 years if, within the first 10 years following execution of this agreement, the NEPA permitting process for the Upper Colorado Cooperative Project has not been initiated. If construction of a cooperative project commences within 20 years from the date of this agreement, then the abstention period under this paragraph would be extended for an additional 10 years (a total of 35 years).
Blue River Decree	The stipulations, judgments, decrees and orders entered in Consolidated Civil Nos. 2782, 5016 and 5017, United States District Court, District of Colorado including determinations of diligence and to make absolute.
Cameo Call	A request to the state water officials to curtail diversions of junior water rights to satisfy any or all of the water rights legally divertible for irrigation and power purposes at the headgates of the Grand Valley Project's Government Highline Canal near Cameo and the Grand Valley

	Irrigation Company's Grand Valley Canal near Palisade. The water rights divertible at these headgates are owned and/or operated by Grand Valley Irrigation Company, Grand Valley Water Users Association, Mesa County Irrigation District, Palisade Irrigation District and Orchard Mesa Irrigation District and are listed on Exhibits A and B to the Stipulation and Agreement dated as of September 4, 1996, in the "Orchard Mesa Check Case," Case No. 91CW247.
Eagle River MOU	The agreement effective December 1, 1997 among the Cities of Aurora and Colorado Springs, Colorado River Water Conservation District, Cyprus Climax Metals Company, and the Vail Consortium consisting of the Eagle River Water and Sanitation District, Upper Eagle Regional Water Authority and Vail Associates, Inc.
Effective Date	The first business day at least seven days after the last Signatory has signed this Agreement.
Environmental Enhancement Project	A project that involves aquatic and riparian species habitat protection or enhancement; wetland creation or enhancement for (1) mined land reclamation or (2) other water quality protection; or watershed protection, including, without limitation, fuel reduction, erosion control or revegetation.
Fraser Collection System	Denver's Water system of diversions, canals, tunnels and other infrastructure located in the headwaters of the Fraser River Basin in Grand County
Grand County Operating Plan	Exhibit B to the 1992 Clinton Agreement
Grand County Water Users	Those entities listed in paragraph 4(c) of the Clinton Agreement
IRP	Denver Water's Integrated Resource Plan, prepared pursuant to the Denver Water Board's October 15, 1996 water resource statement, published in 1997 and updated in 2002
Issuance and Acceptance by Denver Water of Permits Necessary for the Moffat Project	The permits necessary for the Moffat Project are defined to be the 404 permit by the Corps of Engineers; the license amendment by FERC; the section 4(e) conditions and special use permit by the U. S. Forest Service; the 401 certification from the Colorado Water Quality Control Division; and the Boulder County 1041 permit, if one is required. The Denver Water Board must decide, in its sole discretion, whether to accept the permits within 6 months after the last final agency action regarding the permits on this list. If a permit is appealed during the six-month approval period, the deadline for Denver Water to decide whether to accept the permits will be extended until 30 days after the final resolution of the appeal.
Joint Use Project	A water supply project located on the East Slope agreed to by Denver Water and one or more East Slope water suppliers

Moffat Project	Denver Water's Moffat Collection System Project, which is the subject of permit application NWO-2002-80762-DEN, filed with the U. S. Army Corps of Engineers
Moffat Project becomes operational	The capacity of Gross Reservoir has been enlarged, and water has been diverted and stored in the enlarged portion of Gross Reservoir
Resolution of Blue River Decree Issues	The entry of final judgments and decrees in 06CW255, Water Division 5, and in 49-cv-2782, U.S. District Court, and in 03CW039, Water Division 5, that are no longer subject to appeals, in the form of the proposed decrees set forth as Attachment N to this Agreement.
Reusable Return Flows	Flows that return to the river system after the initial beneficial use of water, including reusable effluent, which may be reused or successively used, either directly or by exchange.
Reuse	Use of return flows or effluent directly or by exchange for the same or a different purpose as the initial use.
Senior Shoshone Call	A request to the state water officials to curtail diversions of junior water rights to produce a flow at the Dotsero Gauge of 1250 cfs for power purposes at the Shoshone Power Plant
Service Area	Denver Water's 2010 Service Area as depicted in the map in Attachment B.
Shoshone Call	A request to the state water officials to curtail diversions of junior water rights to produce a flow at the Dotsero Gauge of 1408 cfs for power purposes at the Shoshone Power Plant.
Shoshone Junior Rights	The water rights decreed for and associated with the Shoshone Power Plant (aka the Glenwood Power Canal), adjudicated for 158 cfs on February 7, 1956, with an appropriation date of May 15, 1929.
Shoshone Senior Right	The water right decreed for and associated with the Shoshone Power Plant (aka the Glenwood Power canal), adjudicated for 1,250 cfs on December 9, 1907 with and appropriation date of January 7, 1902.
Signatories	Denver Water, Colorado River Water Conservation District, Middle Park Water Conservancy District, Boards of County Commissioners of Eagle, Grand, and Summit Counties, Clinton Reservoir Company, Eagle Park Reservoir Company, Eagle River Water and Sanitation District, Upper Eagle Regional Water Authority, Grand Valley Water Users Association, Orchard Mesa Irrigation District, Ute Water Conservancy District, Palisade Irrigation District, Mesa County Irrigation District, Grand Valley Irrigation Company, City of Glenwood Springs, and City of Rifle.
Upper Colorado Cooperative Project	A water supply project located on the West Slope, agreed to by Denver Water and the West Slope Signatories to this Agreement, and designed to

	produce water for use on the East and West Slopes, including at least 20,000 acre-feet of average annual diversions for use on the East Slope.
West Slope Charge	A per-acre-foot charge that East Slope recipients of water under Articles I.B.1, I.B.2.e, I.B.3, and I.B.4 agree to pay into the West Slope Fund, to be collected by Denver Water pursuant to a West Slope Charge Agreement, in substantially the form of Attachment D. The payment will be equivalent to the stated percentage of the then-current standard rate for nonpotable or potable water, as applicable, charged by Denver Water to customers outside its Service Area.
West Slope Fund	A fund to be established within six months of the Effective Date of this Agreement to serve as the depository of payments of the West Slope Charge. The West Slope Fund will be managed by the Colorado River Water Conservation District, or other manager acceptable to the parties, and will be used solely for water supply, watershed and water quality projects that benefit the West Slope. No money from the West Slope Fund may be used for litigation costs. a. One-fifth of the West Slope Charge imposed under Articles I.B.1, I.B.2.e, and I.B.4, or 2.5% of the 12.5% (Forest Restoration Funds) will be dedicated to accomplishing the following activities in the watersheds in which Denver Water's facilities in Grand and Summit counties are located: Forest thinning, prescribed fire, tree planting, riparian vegetation improvements, road decommissioning, road improvements, mine reclamation, and other forest and watershed health treatments that benefit water flows or water quality within and below the watershed; and Aquatic restoration or improvement activities that address sediment loading or other water flow or water quality issues caused directly or indirectly by the pine beetle infestation or other forest health issues. b. The Forest Restoration Funds shall be split equally into two interest-bearing accounts, one for Summit County and one for Grand County, to be managed by the River District. The River District shall distribute Forest Restoration Funds from the accounts as directed by the counties. c. During the term of the Memorandum of Understanding between Denver Water and the USDA, Forest Service Rocky Mountain Region (USFS) dated July 29, 2010 (MOU), the Forest Restoration Funds shall be used for projects consistent with USFS activities in the Sulphur and Dillon Ranger Districts that are included in the August 19, 2010 5-Year Operating Plan that supports the MOU, as determined by agreement between Denver Water and the Board of

	County Commissioners of each county for projects located in that county. This use of Forest Restoration Funds will be in addition to, and will not reduce the total amount of planned contributions of Denver Water and USFS under the MOU and the Operating Plan. The Forest Restoration Funds may be used on non-USFS lands. d. Following termination of the MOU, Forest Restoration Funds from Grand County's account will be added to the resources available for use in the Learning by Doing Cooperative Effort established in Article III.E.6. Decisions on how best to use the funds will follow the decision process outlined in the Learning by Doing IGA. The use of Forest Restoration Funds from Summit County's account will be determined by agreement between Summit County and Denver Water.

Colorado River Cooperative Agreement
Counterpart Signature Page

ATTEST:

Secretary

CITY AND COUNTY OF DENVER,
acting by and through its
BOARD OF WATER COMMISSIONERS

President

REGISTERED AND COUNTERSIGNED:
Dennis J. Gallagher, Auditor
CITY AND COUNTY OF DENVER

By:

APPROVED AS TO FORM:

General Counsel

BOARD OF COUNTY COMMISSIONERS, COUNTY OF SUMMIT

By:
Chairman

ATTEST:

By:
Gary Martinez, Summit County Manager

BOARD OF COUNTY COMMISSIONERS, COUNTY OF GRAND

By:
Chairman

ATTEST:

By:
Grand County Clerk and Recorder

CLINTON DITCH & RESERVOIR COMPANY

By:
Chairman

AND ITS ATTORNEYS

By:
General Counsel

MIDDLE PARK WATER CONSERVANCY DISTRICT

By:
President

AND ITS ATTORNEYS

By:
Cazier, McGowan & Walker

5/15/2012

Colorado River Cooperative Agreement
Counterpart Signature Page

BOARD OF COMMISSIONERS OF EAGLE COUNTY

By: _____
Chairman Pro Tem

AND ITS ATTORNEYS

By: _____

EAGLE RIVER WATER AND SANITATION DISTRICT

By: _____
Chairman of the Board of Directors

AND ITS ATTORNEYS

By: _____
Glenn E. Porzak
Porzak Browning & Bushong LLP

UPPER EAGLE REGIONAL WATER AUTHORITY

By: _____
Chairman of the Board of Directors

AND ITS ATTORNEYS

By: _____
Glenn E. Porzak
Porzak Browning & Bushong LLP

EAGLE PARK RESERVOIR COMPANY

By: _____
President

AND ITS ATTORNEYS

By: _____
Glenn E. Porzak
General Counsel

Colorado River Cooperative Agreement
Counterpart Signature Page

COLORADO RIVER WATER CONSERVATION DISTRICT

By: _____
President

AND ITS ATTORNEYS

By: _____
General Counsel

CITY OF GLENWOOD SPRINGS

By: _____
Mayor

ATTEST:

By: _____
City Clerk

APPROVED AS TO FORM:

By: _____
Karp Neu Hanlon PC

CITY OF RIFLE

CITY OF RIFLE SEAL GARFIELD COUNTY, COLORADO

By: _____
Mayor

ATTEST:

By: _____
City Clerk

APPROVED AS TO FORM:

By: _____
Karp Neu Hanlon PC

Colorado River Cooperative Agreement
Counterpart Signature Page

GRAND VALLEY IRRIGATION COMPANY

By: Robert Raymond 9-19-13
President Date

AND ITS ATTORNEYS

By: _____
Frederick G. Aldrich
Aldrich Law Firm, LLC

GRAND VALLEY WATER USERS ASSOCIATION

By: D. Kim Albertson 8/28/2013
President Date

AND ITS ATTORNEYS

By: Mark A Hermundstad 9/6/2013
Mark A. Hermundstad
Williams, Turner & Holmes, P.C.

MESA COUNTY IRRIGATION DISTRICT

By: Dave Voorhees 9/9/13
President Date

AND ITS ATTORNEYS

By: Nathan A. Keever 9/5/13
Nathan A. Keever
Dufford, Waldeck, Milburn & Krohn, LLP

PALISADE IRRIGATION DISTRICT

By: John Kryman 9/9/13
President Date

AND ITS ATTORNEYS

By: Nathan A. Keever 9/5/13
Nathan A. Keever
Dufford, Waldeck, Milburn & Krohn, LLP

ORCHARD MESA IRRIGATION DISTRICT

By: Larry Luller 8-29-13
President Date

AND ITS ATTORNEYS

By: Mark A Hermundstad 9/6/2013
Mark A. Hermundstad
Williams, Turner & Holmes, P.C.

UTE WATER CONSERVANCY DISTRICT

By: _____ 8/30/13
President Date

AND ITS ATTORNEYS

By: Mark A Hermundstad 9/6/2013
Mark A. Hermundstad
Williams, Turner & Holmes, P.C.

Denver Ex. 3

SHOSHONE OUTAGE PROTOCOL AGREEMENT NUMBER 13XX6C0129 INCLUDING THE UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION, THE STATE OF COLORADO, DIVISION OF WATER RESOURCES, THE CITY AND COUNTY OF DENVER, ACTING BY AND THROUGH ITS BOARD OF WATER COMMISSIONERS, THE COLORADO RIVER WATER CONSERVATION DISTRICT, THE MIDDLE PARK WATER CONSERVANCY DISTRICT, THE NORTHERN COLORADO WATER CONSERVANCY DISTRICT, THE MUNICIPAL SUBDISTRICT, NORTHERN COLORADO WATER CONSERVANCY DISTRICT, THE GRAND VALLEY WATER USERS ASSOCIATION, THE ORCHARD MESA IRRIGATION DISTRICT, AND THE GRAND VALLEY IRRIGATION COMPANY

THIS AGREEMENT is made this 27th day of June, 2016, and includes the **UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION** (Reclamation), the **STATE OF COLORADO DIVISION OF WATER RESOURCES** (DWR), **THE CITY AND COUNTY OF DENVER acting by and through its BOARD OF WATER COMMISSIONERS** (Denver Water), the **COLORADO RIVER WATER CONSERVATION DISTRICT** (River District), the **MIDDLE PARK WATER CONSERVANCY DISTRICT** (Middle Park), the **NORTHERN COLORADO WATER CONSERVANCY DISTRICT** (Northern Water), the **MUNICIPAL SUBDISTRICT, NORTHERN COLORADO WATER CONSERVANCY DISTRICT** (Subdistrict), the **GRAND VALLEY WATER USERS ASSOCIATION,** the **ORCHARD MESA IRRIGATION DISTRICT**, and the **GRAND VALLEY IRRIGATION COMPANY**, hereinafter collectively referred to as the "Parties".

I. EXPLANATORY RECITALS

The following statements are made in explanation:

A. When the Shoshone Power Plant is operating, the Shoshone Call can command the flow in the Colorado River and its tributaries in certain stream conditions by exercising the Shoshone Water Rights against upstream junior water rights. When the Shoshone Call is being administered, junior water rights cannot store or divert water without providing replacement water to offset their depletions to the river system as necessary to prevent injury.

B. Whenever the Shoshone Power Plant is subject to a shutdown for repair, maintenance, or other reasons, the Shoshone Call cannot be exercised, and river flows may drop.

C. Certain Parties desire to keep the flow regime of the Colorado River as it has been historically influenced by the Senior Shoshone Call.

D. The Parties agree to implement the operational procedures described in this agreement during a Shoshone Outage.

E. This Agreement will provide greater certainty for the administration of water rights.

F. As is explicitly provided for in this Agreement, certain Parties to this Agreement are only agreeing to be bound by specifically identified sections of this Agreement.

NOW, THEREFORE, in consideration of the foregoing recitals and mutual covenants hereinafter set forth, the Parties hereto agree as follows:

II. DEFINITIONS

Where used herein, unless specifically expressed otherwise or obviously inconsistent with the intent herein, the following definitions apply to this Agreement. Nothing in these definitions alters or amends any existing or future agreement between all or various Parties to this Agreement:

A. "15-Mile Reach" is the reach of the Colorado River which extends from the point at which the tailrace common to the Grand Valley Power Plant and the Orchard Mesa Irrigation District pumping plant returns to the Colorado River below the Grand Valley Irrigation Company diversion dam, downstream to the confluence of the Colorado River and Gunnison River (definition verbatim from the Stipulation and Agreement incorporated into the decree entered in Case No. 91CW247, Colorado Water Division 5).

B. "2007 Shoshone Agreement" is an agreement between Denver Water and Public Service Company of Colorado d/b/a Xcel Energy, effective January 1, 2007, concerning reduction of the Shoshone Call.

C. "Dotsero Gauge" is Gauge Number 09070500 on the Colorado River, near Dotsero, Colorado, which is operated by the United States Geological Survey, Colorado Water Science Center.

D. "End of Fill Season" is the end of the Green Mountain Reservoir fill season as defined in the Green Mountain Reservoir Administrative Protocol.

E. "Grand Valley Entities" are the Grand Valley Water Users Association, the Orchard Mesa Irrigation District, and the Grand Valley Irrigation Company.

F. "Green Mountain Reservoir 1935 First Fill Storage Right" is the storage right for Green Mountain Reservoir with a priority date of August 1, 1935, from the Blue River and its tributaries in the amount of 154,645 acre-feet (AF).

G. "Green Mountain Reservoir 1935 Senior Refill Storage Right" is the storage refill right for Green Mountain Reservoir with a priority date of August 1, 1935, from the Blue River and its tributaries in the amount of 6,316 AF.

H. "Green Mountain Reservoir 1935 Direct Flow Hydropower Right" is the direct-flow right with a priority date of August 1, 1935, from the Blue River and its tributaries in the amount of 1,726 cubic feet per second (cfs) for the generation of electrical power at the Green Mountain Power Plant.

I. "Green Mountain Reservoir Administrative Protocol" is the protocol for administration of Green Mountain Reservoir that will result from the procedures that will be specified in the Green Mountain Reservoir Protocol Agreement by and among Reclamation, Denver Water, Northern Water, the Subdistrict, the City of Colorado Springs acting through its Utilities Department, River District, Middle Park, Grand Valley Water Users Association, Orchard Mesa Irrigation District, Grand Valley Irrigation Company, Palisade Irrigation District, Climax Molybdenum Company, Ute Water Conservancy District, and the State Engineer and Division Engineer for Water Division 5, Colorado Division of Water Resources.

J. Green Mountain Reservoir Historic User Pool Operating Criteria is the operating criteria set forth in Exhibit D of the Orchard Mesa Check Case Stipulation and Agreement.

K. "Green Mountain Reservoir Marketing Allocation" is a 20,000 AF marketable yield available for contracting from the Power Pool.

L. "Green Mountain Reservoir Operating Policy" is the Operating Policy for Green Mountain Reservoir, Colorado-Big Thompson Project, Colorado (Volume 48, No. 247 Federal Register December 22, 1983; as amended in Volume 52, No. 176 Federal Register September 11, 1987).

M. "Historic Users' Pool" ("HUP") is water to be released from the Green Mountain Reservoir Power Pool as described in paragraphs 2 and 3 of the Green Mountain Reservoir Operating Policy.

N. "Non-Winter Season" is the period of any year from March 25 through November 10 of any year.

O. "Orchard Mesa Check Case Stipulation and Agreement" is the September 4, 1996, agreement incorporated into the decree entered October 1, 1996 in Case No. 91CW247, District Court, Colorado, Water Division 5.

P. "Power Pool" is 100,000 AF of water stored primarily for power purposes in Green Mountain Reservoir and available for such other uses in western Colorado as provided in Senate Document 80.

Q. "Senate Document 80" is the "Manner of Operation of Project Facilities and Auxiliary Features" section of the Synopsis of Report document referenced in the Act of August 9, 1937, 50 Stat 564, 75 Congress, 1st Session, which authorized the Colorado-Big Thompson Project.

R. "Senior Shoshone Call" is a request to the state water officials to curtail diversions of junior water rights to produce a flow at the Dotsero Gauge sufficient for diversion at the Shoshone Dam of 1,250 cfs for power purposes at the Shoshone Power Plant.

S. "Shepherded Streamflow Reservoir Releases" are those reservoir releases in rate and volume made for the reservoir owners' purposes of increasing stream flows either at the Shoshone Power Plant, in the 15-Mile Reach, or at other stream locations at rates and volumes in excess of the stream flows that would exist at these locations in the absence of such reservoir releases (including streamflows that may exist as a result of releases, power diversions, or bypasses made pursuant to this Agreement), provided such releases are made for decreed beneficial uses for instream or in-channel purposes at any such locations including, but not limited to, endangered fish species purposes within the 15-Mile Reach.

T. "Shoshone Call" is a request to the state water officials to curtail diversions of junior water rights to produce a flow for beneficial use at the Shoshone Power Plant pursuant to the Shoshone Senior Right or the Shoshone Junior Right.

U. "Shoshone Junior Right" is the water right decreed for and associated with the Shoshone Power Plant adjudicated for 158 cfs on February 7, 1956, with an appropriation date of May 15, 1929.

V. "Shoshone Outage" is whenever the Senior Shoshone Call cannot be fully exercised because the Shoshone Power Plant is subject to a shutdown for repair, maintenance, or other reasons. For the purposes of this Agreement, a Shoshone Outage does not include a cumulative total of 17 days during January and February of each Winter Season, when the Shoshone Senior Right is not calling for water due to regularly scheduled maintenance at the Shoshone Power Plant.

W. "Shoshone Outage Protocol" is a combination of the respective described actions to be taken by each of the Parties.

X. "Shoshone Power Plant" is owned and operated by Public Service Company of Colorado, d/b/a/ Xcel Energy ("Xcel"), and is located on the mainstem of the Colorado River in Glenwood Canyon. The Shoshone Power Plant produces hydroelectric energy by means of the Shoshone Water Rights.

Y. "Shoshone Senior Right" is the water right decreed for and associated with the Shoshone Power Plant adjudicated for 1,250 cfs on December 9, 1907, with an appropriation date of January 7, 1902.

Z. "Shoshone Water Rights" are both the Shoshone Senior Right and the Shoshone Junior Right.

AA. "Start of Fill Date" is the date between April 1 and May 15 fixed annually by the Secretary of the Interior as the start of fill of Green Mountain Reservoir.

BB. "Windy Gap Project" and "Windy Gap Firming Project" shall have the meanings defined in the Windy Gap Firming Project Intergovernmental Agreement ("WGFP IGA").

CC. "Winter Season" is the period from November 11 of any calendar year through March 24 of the next calendar year.

III. TERM OF AGREEMENT

A. This Agreement will remain in effect for 40 years unless terminated sooner pursuant to paragraph III.B, below. Any of the Parties have the right to request renewal of this agreement for an additional 40-year term upon written request to all other Parties on or before two years prior to the expiration of this agreement. The Parties agree to negotiate any requests for renewal in good faith.

B. This Agreement may be terminated upon written mutual agreement of all Parties.

C. This Agreement may be amended at any time by written consent of all Parties hereto.

D. Notwithstanding paragraph III.B, Reclamation may, at any time, terminate its participation in this Agreement for just cause upon providing written notice to all other Parties.

IV. DESCRIPTION OF SHOSHONE OUTAGE PROTOCOL ACTION BY PARTIES

A. Actions by the River District, Middle Park and Denver Water.

1. This Section IV.A is an Agreement between the River District, Middle Park and Denver Water. Other parties are not bound by this Section IV.A.

2. Outage During the Non-Winter Season. If a Shoshone Outage occurs during the Non-Winter Season and results in a flow of the Colorado River at the Dotsero Gauge below 1,250 cfs (not including Shepherded Streamflow Reservoir Releases), then the River District, Middle Park and Denver Water agree that they will operate their water resources as if the Senior Shoshone Call was being administered in order to result in a flow of not more than 1,250 cfs at the Dotsero Gauge (not including Shepherded Streamflow Reservoir Releases).

3. Denver Water, the River District, and Middle Park will not participate in the Shoshone Outage Protocol during periods of certain very dry Non-Winter Seasons that meet the definition of a Water Shortage in accordance with this paragraph IV.A.3. For the purposes of this paragraph IV.A, a Water Shortage exists when the following two conditions exist:

a. Using the procedures described in Exhibit A of the 2007 Shoshone Agreement (copy attached hereto for reference) and based on the "normal" scenario, Denver Water predicts that reservoir storage in its system on July 1 will be at or below 80% full; and

b. The "most probable" forecast of streamflow prepared by the Natural Resources Conservation Service (NRCS) or jointly by NRCS and the Colorado Basin River Forecast Center (or such other forecast that the River District, Denver Water and Middle Park agree to use) indicates that the April – July undepleted flow of the Colorado River at the Kremmling gage will be less than or equal to 85% of average. If no forecast for the Kremmling gage is available, then the Dotsero gage will be used.

4. Denver Water will make projections prior to March 25th, and again in early May and late June to determine whether a Water Shortage exists.

a. If a projection made under paragraph IV.A.3 above meets the conditions for a Water Shortage, then the Shoshone Outage Protocol will not apply during the period from that projection to the next projection. If a projection does not meet the conditions for a Water Shortage, then the Shoshone Outage Protocol will apply during the period from that projection to the next projection; provided, however, that the Shoshone Outage Protocol will not apply during any period when the Shoshone Call is relaxed under the 2007 Shoshone Agreement.

b. If the projection made in June under paragraph IV.A.3 above meets the conditions for a Water Shortage, then the Shoshone Outage Protocol will not apply during the remainder of the Non-Winter Season that year. If the projection made in June does not meet the conditions for a Water Shortage, then the Shoshone Outage Protocol will apply during the remainder of the Non-Winter Season that year.

5. Outage During Winter Season. If a Shoshone Outage occurs during the Winter Season and flows at the Dotsero Gauge are at or below 900 cfs, the River District, Denver Water, and Middle Park agree that they will operate their water resources as if the Senior Shoshone Call were on the Colorado River in the amount of 900 cfs, subject to the following:

The Shoshone Outage Protocol will not apply fully to Shoshone Outages that occur during certain very dry Winter Seasons, when the overall storage in Denver Water's system is less than 79% of capacity on November 1. For purposes of this Agreement, the reservoirs that will be considered in determining overall storage for Denver Water are those reservoirs listed in Exhibit A to the 2007 Shoshone Agreement (Antero, Eleven Mile, Cheesman, Marston, Chatfield, Gross, Ralston,

Dillon, Williams Fork, and Wolford Mountain), but excluding any reservoirs under storage restrictions due to maintenance, repairs or orders from the Colorado State Engineer.

a. If the storage is less than 79%, but more than 63% of capacity, then the Shoshone Outage Protocol will be applied at half the normal effect during that Winter Season. For example, if Denver Water would be required to bypass or replace 60 cfs under the full operation of the Shoshone Outage Protocol, Denver Water would be required to bypass or replace 30 cfs if the Shoshone Outage Protocol is applied at half the normal effect.

b. If the storage is equal to or less than 63%, but more than 49% of capacity, then the Shoshone Outage Protocol will be applied at one-fourth the normal effect during that Winter Season.

c. If the storage is equal to or less than 49% of capacity, then the Shoshone Outage Protocol will not be applied during that Winter Season.

6. As between the River District, Denver Water, and Middle Park, releases from Wolford Mountain Reservoir shall be accounted to the various accounts at Wolford Mountain Reservoir in the same manner that would have occurred if the Shoshone Senior Right had been exercised.

7. Prior to any final decree that is entered to amend the Windy Gap Project water rights to implement the Windy Gap Firming Project, Middle Park's water resources in this Shoshone Outage Protocol will be limited to water released on Middle Park's behalf from Wolford Mountain Reservoir. Subsequent to any final decree that is entered to amend the Windy Gap Project water rights to implement the Windy Gap Firming Project, Middle Park's water resources in this Shoshone Outage Protocol may include water released on its behalf from Wolford Mountain Reservoir, and Windy Gap Project water released from Granby Reservoir. Any such release of Middle Park's Windy Gap Project water resources will be consistent with the water court decrees for such resources and with any final Windy Gap Firming Project Intergovernmental Agreement by and between the Municipal Subdistrict, its Windy Gap Firming Project Water Activity Enterprise, Board of County Commissioners of Grand County, Middle Park, River District, and Northwest Colorado Council of Governments.

B. Actions by the Subdistrict.

1. The Municipal Subdistrict agrees to the operation by Reclamation of Green Mountain Reservoir as contemplated by this Agreement and will not object to the operation of Green Mountain Reservoir in the manner described in this Agreement, unless any person or entity (other than the Municipal Subdistrict or Northern Water):

a. Objects, in any judicial or administrative forum, to the operation of the Windy Gap Project or Windy Gap Firming Project in the manner described in this Agreement;

b. Asserts, in any judicial or administrative forum, that an historic or a future operation of the Windy Gap Project or Windy Gap Firming Project including, without limitation, the performance of this Shoshone Outage Protocol in accordance with this Agreement, is in violation of Senate Document No. 80, the Blue River Decree, or the decrees for the Windy Gap Project or Windy Gap Firming Project; or

c. Asserts, in any judicial or administrative forum, that bypasses of water otherwise divertible by the Windy Gap Project count toward Windy Gap Project diversions.

2. Operation of Windy Gap Project.

a. Nothing in this Agreement shall alter or amend the Intergovernmental Agreement between the Subdistrict, Grand County, Middle Park, the Northwest Colorado Council of Governments (NWCCOG) and the River District fully executed in 2016 ("WGFP IGA"), including, without limitation, Paragraph IV.K. of the WGFP IGA, which remains in full force and effect and provides, with respect to the subject of the Shoshone Outage Protocol, that [abbreviations and short-forms in the quoted text below rely on definitions set forth in the WGFP IGA]:

K. Shoshone Outage Protocol.

1) For purposes of this WGFP IGA, the Shoshone Outage Protocol means that the Windy Gap Project and WGFP will operate as described in this paragraph IV.K.1), IV.K.2), and IV.K.3) during periods when the Shoshone Power Plant is shutdown or otherwise not able to divert the full amount of its 1,250 cfs senior water right due to repair, maintenance, or other reasons ("Shoshone Outage"). When the Windy Gap Project's participation in the Shoshone Outage Protocol is in effect pursuant to this WGFP IGA, the Windy Gap Project and WGFP will bypass the amount of water that the Windy Gap Project and WGFP would have been required to bypass if the Senior Shoshone Call had been in effect in order to result in a flow of not more than 1,250 cfs at the Dotsero gage on the Colorado River (not including any water released for endangered fish species purposes). For purposes of this WGFP IGA, a Shoshone Outage does not include a shutdown of the Shoshone Power Plant for regularly scheduled maintenance for a cumulative period of 17-days during the period of November 1 through March 15.

2) The Windy Gap Project and WGFP will operate in accordance with the Shoshone Outage Protocol from July 16-April 14 of each year. Prior to WGFP Completion, the Windy Gap Project and WGFP may operate in accordance with the Shoshone Outage Protocol during the period of April 15-July 15 on a voluntary cooperative basis. Following WGFP Completion, the Windy Gap Project and WGFP will operate in accordance with the Shoshone Outage Protocol during the period April 15 – July 15 at any time during this period when the combined amount of Windy Gap Project Water stored in Chimney Hollow Reservoir and Windy Gap Project Water stored on behalf of WGFP Participants in Granby Reservoir is greater than 50% of the Active Capacity of Chimney Hollow Reservoir.

3) Participation in the Shoshone Outage Protocol by the Windy Gap Project and WGFP during the period of April 15-July 15 will be limited to a total maximum volume of foregone pumping equal to 10,000 acre feet (30 days with one pump running) in one year, a total of 20,000 acre feet (60 days with one pump running) in any 3 consecutive year period, and a total of 30,000 acre feet (90 days with one pump running) in any 5 consecutive year period.

4) The Subdistrict agrees that it will participate in good faith in negotiations to achieve permanent management of the flow of the Colorado River to address certain flow changes that result during a Shoshone Outage.

3. Nothing in this Agreement shall create, modify, alter or amend the contractual relationships between Reclamation and the Municipal Subdistrict.

4. No Waiver.

a. Except as expressly provided herein, this Agreement shall never give rise to any claim, defense, or theory of acquiescence, bar, merger, issue or claim preclusion, promissory estoppel, equitable estoppel, waiver, laches, unclean hands or any other similar position or defense concerning any factual or legal position regarding the parties respective positions regarding the operation of the Windy Gap Project and Windy Gap Firming Project. This Agreement shall not have the effect of precedent or preclusion on any factual or legal issue in any other matter. The Subdistrict expressly reserves its rights to assert any legal or factual position or challenge the legal or factual position taken by any other party on any other matter

C. Actions by Northern Water.

1. Northern Water agrees to the operation by Reclamation of Green Mountain Reservoir, as contemplated by this Agreement and will not object to the operation of Green Mountain Reservoir in the manner described in this Agreement, unless any person or entity (other than the Municipal Subdistrict or Northern Water):

    a. Objects, in any judicial or administrative forum, to the operation of Green Mountain Reservoir in the manner described in the Shoshone Protocol Agreement; or

    b. Asserts, in any judicial or administrative forum, that an historic or a future operation of Green Mountain Reservoir or the Colorado-Big Thompson Project including, without limitation, the performance of this Shoshone Outage Protocol in accordance with this Agreement, is in violation of Senate Document No. 80 or the Blue River Decree.

2. This Agreement meets the requirements of the first sentence of Paragraph 3 of the Intergovernmental Agreement between Northern Water, Grand County, Middle Park, and the River District fully executed in 2016.

3. Nothing in this Agreement shall create, modify, alter or amend the contractual relationships between Reclamation and Northern Water.

D. Actions by Reclamation.

1. Subject to the provisions of paragraph IV.G.4 of this Agreement, Reclamation will participate in the Shoshone Outage Protocol when either of the following conditions are met:

    a. The Shoshone Outage occurs between the Start of Fill Date and the End of Fill Season and Reclamation projects with 90% probability that a total of 154,645 AF will be accounted toward the volumes of water calculated in accordance with paragraphs II.A.3.b.i through II.A.3.b.v of the Green Mountain Reservoir Administrative Protocol prior to the Green Mountain Reservoir End of Fill Season, and that Reclamation projects with a 90% probability that after the End of Fill Season any volume of Bypassed Storage Water Owed To Green Mountain Reservoir by the Cities will be available to Reclamation pursuant to the Green Mountain Reservoir Administrative Protocol.

    or;

    b. The Shoshone Outage occurs after the End of Fill Season and a total of 154,645 acre feet have been accounted toward the volumes of water identified in paragraphs II.A.3.b.i through II.A.3.b.v of the Green Mountain Reservoir Administrative Protocol and that any Bypassed Storage Water

Owed to Green Mountain Reservoir by the Cities will be available to Reclamation.

c. Capitalized terms in paragraphs IV.D.1.a and b have the same meaning as set forth in the Green Mountain Reservoir Administrative Protocol.

2. Green Mountain Releases Under Shoshone Outage Protocol: Reclamation will bypass storable inflow, exercise the Green Mountain Reservoir 1935 Direct Flow Hydropower Right, and/or make releases from previously stored water in its Power Pool as follows:

a. The daily total reservoir release will be equivalent to the amount that would have been required had the Senior Shoshone Call been in place on that day in the amount of 1,250 cfs during the Non-Winter Season and 900 cfs during the Winter Season, subject to the following conditions:

i. The daily total release will not exceed the release that would have been made had the Senior Shoshone Call been in place on that day and all junior water rights had been curtailed or the appropriate amount of replacement or augmentation water made available.

ii. In order to prevent any unintended impact to the HUP by this Agreement, during a Shoshone Outage, the Grand Valley Entities will not request any direct delivery of HUP water without first placing a call with the Division 5 Engineer's Office, unless Reclamation and the Grand Valley Entities agree that such a call is not necessary to prevent impacts to the HUP.

b. Except as provided in paragraph IV.D.2.c, below, the total volume of storage water released from the Power Pool for Shoshone Outage Protocol purposes from the Start of Fill Date will not exceed the sum of the following:

i. 2,000 AF

plus;

ii. The amount of uncontracted water in the Green Mountain Reservoir Marketing Allocation.

plus;

iii. The amount of water that would have been released for HUP beneficiary purposes had the Senior Shoshone Call been in place during the Shoshone Outage period.

c. Reclamation may, at its own discretion, bypass storable inflow, exercise the Green Mountain Reservoir 1935 Direct Flow Power Right, or release additional water from the Power Pool to assist in meeting the purposes of Shoshone Outage Protocol if it deems that conditions make additional water available.

3. Accounting: The Green Mountain Reservoir releases, bypasses, and power diversions shall be accounted for as follows:

a. Bypass of Inflow and Power Diversions: Reclamation will bypass storable inflow or exercise the Green Mountain Reservoir 1935 Direct Flow Hydropower Right to the extent that a bypass of inflow would have been required by a Senior Shoshone Call. The accounting of discretionary power releases and bypassed storable inflow will be consistent with the Green Mountain Reservoir Administrative Protocol.

b. Release of Stored Water: All releases of stored water shall be charged to the aggregate Power Pool rather than individual allocations in the Power Pool. However, the HUP allocation will be reduced by the amount of water that was released from Green Mountain Reservoir in accordance with paragraph IV.D.2.b.iii, above.

E. Actions by the Grand Valley Entities and Reclamation.

1. This Section IV.E is an Agreement between the Grand Valley Entities and Reclamation. Other parties are not bound by this Section IV.E.

2. Subject to the provisions of Paragraph IV.E.3, below, the Grand Valley Entities and Reclamation agree, solely for purposes of paragraph 3.b.(3) of the Orchard Mesa Check Case Stipulation and Agreement, that the Shoshone Water Rights continue to be exercised in a manner substantially consistent with their historical operation for hydropower production at their currently decreed point of diversion.

3. Paragraph IV.E.2, above, shall not be effective:

a. During any period of time in which any Party is not in compliance with their obligations described in this Agreement; or

b. During any period of time in which storage releases or bypasses of water made pursuant to this Agreement are being diverted or exchanged in a manner that results in flow at the Dotsero Gauge that is materially lower than the flow that otherwise would have been produced by the Shoshone Senior Call; or

c. If the United States terminates its participation in this Agreement pursuant to Paragraph III.D., above.

F. Actions by DWR.

The DWR shall administer water released, bypassed, or diverted for power purposes pursuant to this Agreement as follows:

1. Reservoir releases from Wolford Mountain Reservoir shall be administered as Shepherded Streamflow Reservoir Releases for in-channel recreation and fishery purposes and, as directed by the River District for subsequent consumptive uses, within the boundaries of the River District pursuant to the decree entered in Case No. 87CW283, Water Division 5. The River District will provide information to the Division Engineer for Water Division 5 to support the intended in-channel recreation and fishery purposes. Bypasses of storable inflow at Wolford Mountain Reservoir will be accounted toward the fill of the Wolford Mountain Reservoir storage decree for the then-current storage season on an instantaneous store and release accounting basis. Any bypasses made pursuant to this Agreement shall not be accounted toward the next fill season's storage volume for Wolford Mountain Reservoir. If a hydroelectric power facility is constructed to use inflow to Wolford Mountain Reservoir, then any diversions used to generate power may be accounted toward the exercise of the direct flow power right decreed in Case No. 87CW283 and will not count toward the fill of the then-current fill season's storage account for Wolford Mountain Reservoir provided the direct flow power right is operated and administered under the same priority as the storage right.

2. Reservoir releases and direct diversions at Williams Fork Reservoir to generate power will be accounted as releases or diversions made for power purposes and will not be accounted toward the decreed storage volume for Williams Fork Reservoir. Bypasses of storable inflow at Williams Fork Reservoir that are not used to generate power will be accounted toward the fill of the Williams Fork Reservoir storage decree for the then-current storage season on an instantaneous store and release accounting basis. Any such bypasses made pursuant to this Agreement shall not be accounted toward the next fill season's storage volume for Williams Fork Reservoir.

3. Reservoir releases, diversions for power purposes, and the bypass of storable inflow from Green Mountain Reservoir without power generation will be accounted for in accordance with the Green Mountain Reservoir Administration Protocol. Releases and the bypass of storable inflow shall be administered as Shepherded Streamflow Reservoir Releases to the Shoshone Power Plant or to and through the 15-Mile Reach as directed by Reclamation.

4. Bypasses of water otherwise divertible by the Windy Gap Project will not count toward the diversion amount for the Windy Gap Project. Releases of Windy Gap Project water from storage will be accounted in accordance with the then current

Windy Gap Project water right decrees, and subject to paragraph IV.A.7 of this Agreement.

Shepherded Streamflow Reservoir Releases shall be shepherded and protected by DWR under C.R.S. §§ 37-87-102(4) and 37-87-103 or as otherwise provided by law to accomplish the reservoir owners' purposes for making such releases as is consistent with the reservoir owners' legal use of such stored or storable waters. The intent is to continue the historical practice of administering such releases to produce increased flows in the 15-Mile Reach above the flows that would otherwise occur in the 15-Mile Reach, and to accommodate any new releases to be made for such or similar purposes.

G. Notice and Cooperation.

1. Notification to DWR. The Parties will work cooperatively to timely notify DWR, through the Division Engineer for Water Division 5, of operations pursuant to the Shoshone Outage Protocol.

2. The Parties will not divert or exchange any of the water released, diverted for power purposes, or bypassed by any of the Parties pursuant to this Agreement at any location upstream of the current location of the Shoshone Power Plant, or otherwise operate their systems or water rights in a manner that will diminish the benefit to the stream system at any location upstream of the current location of the Shoshone Power Plant of the releases, diversions for power purposes, and bypasses of water made pursuant to this Agreement.

3. Subject to the express conditions and limitations of this Agreement, the Parties will cooperate in good faith to achieve the goals of this Agreement of managing the flow of the Colorado River to maintain the historical flow regime of the Colorado River influenced by the exercise of the Shoshone Senior Right and to mitigate the impacts of any Shoshone Outage. If any party believes that the goals of this Agreement are not being met, including but limited to circumstances where water released or bypassed pursuant to this Agreement during a Shoshone Outage is diverted or exchanged by persons or entities who are not parties to this Agreement at locations upstream of the Dotsero Gauge, then any Party may, in its discretion and in good faith, issue a written notice to the other Parties of such circumstances. Upon such notice, the Parties will meet promptly and work together in good faith to identify such actions as may be necessary to alleviate the conditions that led to the written notice and to implement such actions to which the Parties may agree or any such actions that can be implemented by a subset of the Parties to which that subset may agree.

4. Notwithstanding any provision in this Agreement to the contrary, none of the Parties are obligated by this Agreement to participate in the Shoshone Outage Protocol

during such periods that a Shoshone call reduction is in effect pursuant to the terms of the 2007 Shoshone Agreement (copy attached for reference).

V. SEVERABILITY AND REFORM

Wherever possible each provision of this Agreement shall be interpreted and implemented in such manner as to be effective and valid under applicable law. If any provision or portion of this Agreement is determined to be invalid or unenforceable, the remaining provisions shall remain in full force and effect unless the remaining provision's effectiveness is explicitly dependent upon the invalid or unenforceable provision. The Parties agree to reform this Agreement to replace any such invalid or unenforceable provision with a valid and enforceable provision that comes as close as possible to the intention of the stricken provision. The provisions of this Agreement shall be reasonably and liberally construed to achieve the intent of the Parties.

VI. COMPENSATION

Consideration for the actions pursuant to this Agreement is in providing greater certainty in the administration of water rights, and in the resolution among some of the Parties of certain unresolved issues. There will be no charge for water released under this agreement.

VII. GREEN MOUNTAIN RESERVOIR

Subject only to the express exceptions provided herein, the Parties agree not to challenge Reclamation's operation of Green Mountain Reservoir under this Agreement as inconsistent with Senate Document 80 or the Green Mountain Reservoir Operating Policy. The Parties will work in good faith to address any conflicts that may arise between the operations contemplated by this Agreement and the Green Mountain Reservoir Administrative Protocol. Any conflict that may arise shall be resolved in a manner that is consistent with Senate Document 80, the Blue River Decree, the Green Mountain Reservoir Operating Policy, and the Green Mountain Reservoir Administrative Protocol.

VIII. COLORADO RIVER COOPERATIVE AGREEMENT

Nothing in this Agreement shall be interpreted to constitute compliance with, or satisfaction of, the obligations of Article VI.C of the Colorado River Cooperative Agreement between Denver Water and seventeen West Slope entities.

IX. NO WAIVER

The Parties agree that nothing contained in this Agreement including, but not limited to, any Party's forbearance in the exercise of any Party's right to divert, store, and beneficially use water pursuant to its decrees, is intended nor shall it be construed to give rise to any claim, defense, or theory of acquiescence, bar, merger, issue or claim preclusion, promissory estoppel, equitable estoppel, waiver, laches, unclean hands or any other similar position or defense concerning the operation of such Parties' water rights.

The Parties agree that except as expressly provided herein, this Agreement shall never give rise to any claim, defense, or theory of acquiescence, bar, merger, issue or claim preclusion, promissory estoppel, equitable estoppel, waiver, laches, unclean hands or nay other similar position or defense concerning any factual or legal position regarding the Parties respective positions regarding the operation of the Colorado-Big Thompson Project. The Parties further agree that they do not intend this Agreement to have the effect of precedent or preclusion on any factual or legal issue in any other matter. The Parties expressly reserve their rights to assert any legal or factual position or challenge the legal or factual position taken by any other Party or third-party on any other matter.

X. REGULATION AND DISTRIBUTION OF WATER

Nothing in this Agreement abridges the obligations of the DWR established by Section 37-92-304(8), Colorado Revised Statutes (2011), or other applicable law.

XI. PRIOR VERSIONS.

This Agreement replaces and supersedes the 2013 Shoshone Outage Protocol Agreement that was executed by some, but not all, of the Parties to this Agreement.

XII. SIGNATURES of PARTIES

UNITED STATES DEPARTMENT OF THE INTERIOR

By: _____

Michael J. Ryan, Regional Director
Great Plains Regional Office
Bureau of Reclamation
P.O. Box 36900
Billings, MT 59107-6900
(406) 247-7600

STATE OF COLORADO, DIVISION OF WATER RESOURCES

By: Dick Wolfe 7-12-16

Dick Wolfe, State Engineer
1313 Sherman Street, Suite 821
Denver, CO 80203
(303) 866-3581

DENVER WATER

By: _____

James S. Lochhead, CEO/Manager
1600 W. 12th Avenue
Denver, CO 80204-3412
(303) 628-6000

REGISTERED AND COUNTERSIGNED:
CITY AND COUNTY OF DENVER

By: _____

Timothy M. O'Brien, CPA
Auditor

APPROVED AS TO FORM

_____
LEGAL DIVISION

COLORADO RIVER WATER CONSERVATION DISTRICT

By: _____

Eric Kuhn, General Manager
P.O. Box 1120
Glenwood Springs, CO 81602
(970) 945-8522

MIDDLE PARK WATER CONSERVANCY DISTRICT

By: Duane Scholl

Duane Scholl, President
P.O. Box 145
Granby, CO 80446
(970) 887-3376

NORTHERN COLORADO WATER CONSERVANCY DISTRICT

By: _____

Eric Wilkinson, General Manager
220 Water Avenue
Berthoud, CO 80513
(800) 369-7246

MUNICIPAL SUBDISTRICT,
NORTHERN COLORADO WATER CONSERVANCY DISTRICT

By: _____

Eric Wilkinson, General Manager
220 Water Avenue
Berthoud, CO 80513
(800) 369-7246

GRAND VALLEY WATER USERS ASSOCIATION

By: Mark Harris

Mark Harris, Manager
1147 24 Road
Grand Junction, CO 81505-9639
(970) 242-5065

ORCHARD MESA IRRIGATION DISTRICT

By: _____

Max Schmidt, Manager
668 38 Road
Palisade, CO 81526
(970) 464-7885

GRAND VALLEY IRRIGATION COMPANY

By: Phil Bertrand

Phil Bertrand, Superintendent
668 26 Road
Grand Junction, CO 81506
(970) 242-2762

Denver Ex. 4

Please reference the following number on all billings or payments.
Contract # 102606A

AGREEMENT CONCERNING
REDUCTION OF SHOSHONE CALL

This Agreement is between the City and County of Denver, acting by and through its Board of Water Commissioners (Board), and Public Service Company of Colorado d/b/a Xcel Energy (Company).

Recital

The Board's ability to store water in its reservoirs for beneficial use by its customers is adversely impacted, especially in dry years, by the Company's Shoshone Call. Following the drought year of 2002, a brief relaxation of the Shoshone Call during the spring of 2003 provided some benefit to storage reservoirs operated by both west slope and east slope entities, including the Board. Although a more comprehensive and long-term agreement on relaxation achieved through multi-party negotiations may be desirable, the Company and the Board agree to a relaxation of the Call under the provisions in this Agreement. The Company agrees to participate in developing a long-term program of relaxation, including a relaxation of the junior Shoshone Call, with the Board, other water users on the Colorado River and appropriate west slope entities.

Agreement

1. Agreement to Relax Call. When a water shortage occurs, as defined in Paragraph 2, the Company agrees to reduce the Shoshone Call to a one-turbine call of 704 cfs. If the Call is relaxed and the flow of the Colorado River at the Shoshone Power Plant, together with flows contributed by intervening tributaries, is not sufficient to meet the then-current demand of the major Grand Valley water rights, up to 1950 cfs (commonly referred to as the "Cameo Call"), then the level of the Shoshone Call will be adjusted to an amount greater than 704 cfs so as to avoid the initiation of a Cameo Call.

2. Water Shortage Defined. For purposes of this Agreement, a water shortage occurs when the following two conditions are met:

a. Using its regular methodology and based on the "normal" scenario, the Board predicts that reservoir storage in its system on July 1 will be at or below 80% full; and

b. The Most Probable forecast of streamflow prepared by the Natural Resources Conservation Service (NCRS) or jointly by NCRS and the Colorado Basin River Forecast Center indicates that the April – July flow of the Colorado River at the Kremmling gage will be less than or equal to 85% of average. If no forecast for the Kremmling gage is available, then the Dotsero gage will be used.

3. Timing of Relaxation of Call. If the two forecasts described in paragraph 2 occur in March, then the call will be relaxed beginning March 14 until May 20, inclusive, in accordance with this Agreement. If the two conditions described in paragraph 2 occur in April or May forecasts, then the Call will be relaxed in accordance with this Agreement until May 20, inclusive. The methodology that the Board uses to predict system storage shall be substantially the same as that described in the attached Exhibit A.

4. Power Interference. The Board agrees to pay power interference to compensate the Company for its incremental cost of replacement power and energy as a result of relaxing the Shoshone Call, regardless of which entity ultimately stores the water not called. The procedure for determining power interference is shown in Exhibit B.

5. Potential for Longer Call Relaxation. The Company agrees to consider a longer period of relaxation when water supplies are more severely impacted than described in paragraph 1, if such longer period is defined cooperatively between the Board, the Company and appropriate west slope entities.

6. Water for the Company's Facilities. The Board agrees to deliver water as described in this paragraph to the Company's Cherokee, Arapahoe, or Zuni Power Plants or a future Company power plant located within the Board's Combined Service Area. The Company will select the plant or plants to which the water will be delivered. Deliveries to the Arapahoe, Zuni or a future plant will be made to the South Platte River. Deliveries to the Cherokee plant will be made, at the Board's choice, to the South Platte River or through the Board's Recycled Water Plant. The Board may choose in its discretion the type of water delivered to these facilities, so long as the water is suitable for their use. The Board will not deliver water under this paragraph to the South Platte River downstream of the Cherokee plant's diversion structures. Any water delivered by the Board to the Company under this paragraph shall be used by the Company only at the plants listed in this paragraph 6 and only for purposes for which the Board's water rights have been decreed.

6.1 Amount of Water. The Board shall deliver under this paragraph 6 an amount of water equivalent to 15% of the "net water" it is able to store or divert as a direct result of the reduction of the Shoshone Call. "Net water" is defined as the total amount of water the Board is able to store or divert as a direct result of the reduction of the Shoshone Call at the following facilities, less any deductions described below:

a. Water stored or diverted at the Board's Dillon Reservoir, less any water spilled from Dillon after filling and any water bypassed from Dillon for flood management purposes; and

b. Water stored or diverted at the Board's Williams Fork Reservoir, less any water spilled from Williams Fork after filling and any water bypassed from Williams Fork for flood management purposes; and

c. Water stored in the Board's account in Wolford Reservoir, less any water spilled from the Board's account after filling; and

d. Water diverted through the Board's Moffat Tunnel, less any water spilled from the Fraser Collection System in excess of the Forest Service minimum bypass flow requirements; and

e. Water stored or diverted at any western slope reservoir or storage account acquired or constructed by the Board after the date of this agreement, less any water spilled after filling and any water bypassed for flood management purposes.

6.2 Schedule for 15% Water Delivery. The Board shall make deliveries under this paragraph 6 between June 1 in the same calendar year as the Shoshone Call is reduced and March 31 of the following calendar year. The delivery schedule will be subject to approval by the Company.

6.3 Cost of Water Delivered. For each acre foot of water delivered to the Company under this paragraph 6, the Company shall reimburse the Board for the Board's power interference payments at the same rate per acre foot as the Board paid to the Company under paragraph 4.

7. Water for West Slope Entities. The Board agrees to make available to entities on the west slope, at no charge to the recipients, an amount of water equivalent to 10% of the "net water" it is able to store or divert as a direct result of the reduction of the Shoshone Call. "Net water" is defined in paragraph 6.1. The Board may choose in its discretion the method of delivery that is consistent with its water right decrees, so long as the delivery method is suitable for each recipient's desired use. The Board shall deliver the water in the same calendar year as the Shoshone Call is reduced. The Board agrees to cooperate with the Colorado River Water Conservation District to determine the particular west slope entities and the proportionate share of the water to be made available to each entity.

8. Additional East Slope Participants. The Board and the Company agree to make a good faith effort to secure commitments from the Municipal Subdistrict of the Northern Colorado Water Conservancy District, the City of Aurora and Colorado Springs Utilities to deliver to the Company, at no charge, 15% of their additional water diversions that result from a relaxation of the Shoshone Call, in accordance with paragraph 6, and to deliver 10% of the water diverted or stored to west slope entities in accordance with paragraph 7.

9. Priority System. Water made available by the relaxation of the Shoshone Call will be allocated in accordance with the priority system.

10. No Warranties. The Company is not warranting or representing that the diversion and use by the Board of additional water as a result of the relaxation of the Shoshone Call is administrable or lawful. To the extent that the State Engineer or a court with jurisdiction determines that the diversion and use by the Board of additional water as a result of the relaxation of the Shoshone Call is not administrable or lawful, the Company can continue to place the Shoshone Call notwithstanding this Agreement.

11. Increased Call for Company Operations. If the Company in its sole discretion determines that additional river flow is required for safe operation of the Shoshone Hydroelectric Station or the Company's electrical system, then the Company may increase the Call, notwithstanding this Agreement.

12. Operational Meeting. The Company agrees to meet with the Board each October to discuss operation of the Shoshone Call and any planned outages of the Shoshone Plant for repair or maintenance during the following twelve months so that the parties may better coordinate their activities.

13. Sale of Shoshone Water Rights. In the event the Company should determine that it is in its best interest to sell the Shoshone water rights, it agrees to do so only on an open bidding basis in which the Board shall have an equal opportunity to purchase the water rights as all others. If the Company sells the Shoshone water rights to an entity other than the Board, the new owner shall have the right to terminate this Agreement two years after closing of the sale.

14. Term. This Agreement shall be effective as of January 1, 2007 and will terminate on February 28, 2032.

15. Prior Agreement. The previous Letter Agreement between the Company and the Board dated April 14, 1986, is hereby terminated in its entirety.

IN WITNESS WHEREOF, the Board and the Company have executed this Agreement.

ATTEST:

PUBLIC SERVICE COMPANY OF COLORADO d/b/a XCEL ENERGY

Asst. Secretary Carol J. Peterson

By: _____
President and CEO
Public Service Company of Colorado

Reviewed
Legal
3/31/06 PMC

CITY AND COUNTY OF DENVER,
acting by and through its
BOARD OF WATER COMMISSIONERS

ATTEST:

Secretary

President

APPROVED:

Director of Planning

Director of Finance

APPROVED AS TO FORM:

Legal Division

REGISTERED AND COUNTERSIGNED
Dennis J. Gallagher, Auditor

By:

Title: Deputy Auditor

Exhibit A

DESCRIPTION OF PROCEDURES USED BY THE BOARD
FOR RESERVOIR PROJECTIONS

Denver Water projects future reservoir levels monthly in the springtime and less frequently throughout the rest of the year. Active storage levels (excluding the dead storage pools) for the10 largest reservoirs in Denver's system (Antero, Eleven Mile, Cheesman, Marston, Chatfield, Gross, Ralston, Dillon, Williams Fork, and Wolford Mountain) are forecasted. Calculations of gross and net aggregate reservoir contents are made. The calculation of net reservoir contents excludes any water in Denver's system owed to others (primarily Green Mountain Reservoir). The net active storage of the 10 reservoirs will be used in the forecast for the Shoshone call reduction.

The reservoir projections are based on natural streamflow forecasts produced primarily by the Natural Resources Conservation Service (NRCS). However, streamflow forecasts produced by other organizations including the Colorado Basin River Forecast Center, the Bureau of Reclamation, the Northern Colorado Water Conservancy District and Denver Water are also used.

The reservoir projections utilize correlations between natural streamflow and divertible streamflow to estimate how much of the natural streamflow can be diverted under Denver's water rights. Other factors incorporated in the reservoir projections include projections of treated water use, raw water deliveries, evaporation (based on rates approved by the State Engineer's Office), minimum bypass and release requirements, carriage losses assessed by the State Engineer's Office, existing capacities of diversion and conveyance facilities, system outages and river calls. The assumed treated water use considers any water use restrictions approved by the Denver Water Board at the time of the forecast.

Usually, three levels of reservoir projections are produced. These projections are based on three scenarios after the forecast date: "dry", "normal" and "wet" conditions. The "dry" scenario is based on the "reasonable minimum" streamflow forecasts, which have a 90% chance of being exceeded. The "normal" scenario is based on the "most probable" streamflow forecasts, which have a 50% chance of being exceeded. The "wet" scenario is based on the "reasonable maximum" streamflow forecasts, which have a 10% chance of being exceeded. The "normal" scenario will be used for the Shoshone call reduction.

Exhibit B

COMPENSATION FOR POWER INTERFERENCE

The Board agrees to pay power interference to compensate the Company for its incremental cost of replacement power and energy as a result of relaxing the Shoshone Call. The procedure for determining power interference is shown below.

Depletions to Shoshone Power Plant

The Board will compensate the Company for each acre-foot of net turbine flow depletion caused to the Shoshone Power Plant through the relaxation of the Shoshone Call. Net depletions are defined as gross depletions caused by the Board and all other water users upstream of the Shoshone power plant, less any water subsequently released from Green Mountain and Wolford Reservoirs utilized to generate power at the Shoshone plant. Some of the water stored in Green Mountain and Wolford as a result of relaxation of the Call will later be released, run through the Shoshone Plant for power generation, and delivered for use below the plant; such amounts of water do not constitute a net depletion for purposes of calculating power interference. Similarly, amounts of water spilled from Dillon Reservoir, Williams Fork Reservoir, the Board's account in Wolford Reservoir, or a new west slope reservoir or storage account described in Paragraph 6.1(e), and run through the Shoshone Plant for power generation, do not constitute a net depletion for purposes of calculating power interference. Depletions will be calculated at the Shoshone plant and will be adjusted for stream carriage losses assessed by the State Engineer in water rights administration.

Reimbursement to Xcel

The Board will reimburse the Company for power interference at the rate of at least $5.00 per acre-foot of the net depletion described above. The $5.00 per acre-foot minimum will be adjusted on a monthly basis (but not below $5.00 per acre-foot) by the change in the Price of Spot Gas Delivered to Pipelines for Colorado Interstate Gas, Rocky Mountain (Index) as published in "Platts Inside FERC Gas Market Report," compared to a baseline representing the average Index for the first three months of 2006.

Accounting and Payment.

After the Call relaxation has ended, the Board will prepare an accounting of the power interference and provide it to the Company for review. Once final accounting as been determined, the Board will make payment to the Company within 60 days. Upon mutual agreement and the development of mutually agreeable terms, the Board may substitute a delivery of energy to the Company for the payment of power interference.

Ecological Resource Consultants, LLC
12345 W Alameda Parkway, Suite 206 | Lakewood, CO | 80228 | (303) 679-4820

Technical Memorandum

Denver Ex. 5

Date: August 4, 2025

To: Front Range Water Council

From: Heather Thompson, ERC

Re: Evaluation of BBA Water Consultants' Preliminary Shoshone Historical Use Assessment

Introduction

The Front Range Water Council ("FRWC") requested that Ecological Resource Consultants LLC ("ERC") review the Shoshone Power Plant ("Shoshone") historical use analysis prepared by BBA Water Consultants, Inc. ("BBA"). BBA's analysis is summarized in the memorandum, Preliminary Shoshone Historical Use Assessment – DRAFT, November 8, 2024, which was included as Attachment 8 to the May 6, 2025 technical memorandum provided by the Colorado River Water Conservation District ("River District") and Public Service Company of Colorado ("PSCo") for the Colorado Water Conservation Board's ("CWCB") May Board meeting. BBA concluded that an average annual volumetric limit of 844,644 acre-feet per year (ac-ft/yr) when applied on a rolling 29-year average basis is an appropriate volumetric limit for the changed use of the Shoshone Water Rights. The Shoshone Water Rights consist of a senior right for 1,250 cubic feet per second (cfs) with an adjudication date of 12/9/1907 and a junior right for 158 cfs with an adjudication date of 2/7/1956 ("Shoshone Water Right(s)").

This technical memorandum provides a summary of the assumptions BBA made in its analysis and reasons ERC believes those assumptions are incorrect and result in a volumetric limit that is inflated. BBA's volumetric limit could lead to enlargement of the Shoshone Water Rights if adopted. BBA's volumetric limit is dependent on several key assumptions related to 1) its selected study period, 2) Shoshone diversion records, 3) the administrative flow prior to 1998, and 4) how it treated full months of outage when Shoshone was shut down for repair, maintenance, or other reasons. This memorandum also presents a revised estimate of historical use under alternative assumptions to demonstrate the relative impacts and sensitivity of the results to the assumptions made by BBA.

Study Period

BBA quantified the historical use of the Shoshone Water Rights for a study period that extends from 1975 through 2003. BBA started its study period in 1975 because that is the first year daily diversion records for Shoshone are reported by the state of Colorado via Colorado's Decision Support System (CDSS). BBA ended its study period in 2003, which coincides with the start of a period during which outages at Shoshone increased. BBA claims outages experienced by Shoshone after 2003 were mostly due to natural phenomena or unforeseen circumstances beyond the control of PSCo. BBA claims its study period is

consistent with Colorado law (e.g., C.R.S § 37-92-305(3)(d)), which does not require the entire study period of available data be considered in a change case provided that the selected study period is sufficiently long to show the true historical use of the water right to be changed. BBA claims the period from 1975 to 2003 reflects a period of consistent operations of the plant and the Shoshone Water Rights and includes wet, dry, and average years.

ERC believes a study period that includes years prior to 1998 and excludes years after 2003 is fundamentally flawed and inflates the historical use for the following reasons.

- Pre-1998 Period

Prior to 1998, the Shoshone Water Rights were administered differently by the Division 5 Engineer's Office ("DEO") and/or the U.S. Bureau of Reclamation ("USBR") than they are currently administered, therefore, development of a volumetric limit based on a study period that includes years prior to 1998 reflects a prior administrative regime that is not consistent with the past 25 plus years or the foreseeable future.

Prior to the mid-1980's, the DEO did not administer calls placed by the Shoshone Water Rights. The USBR calculated the undepleted flow at the USGS stream gage located near Dotsero, Colorado ("Dotsero Gage"), which is located about eight miles upstream from the Shoshone diversion dam. The undepleted flow excludes water released from certain upstream reservoirs including Green Mountain Reservoir. The undepleted flow was used to determine curtailment of upstream diversions junior to the Shoshone Water Rights and releases from reservoirs for replacement. It was also used to determine releases from Green Mountain Reservoir to maintain an undepleted flow of 1,250 cfs at the Dotsero Gage and prevent a call from the senior Shoshone Water Right. Thus, prior to the mid-1980's, the administration of the Shoshone Water Rights was limited to the senior right for 1,250 cfs. Releases from the Green Mountain Reservoir Historic Users Pool ("HUP") often far exceeded the consumptive use of upstream water rights that are junior to the senior Shoshone Water Right. Shoshone could not call for these additional releases under current administration of the Shoshone Water Rights. Thus, BBA's historical use of the Shoshone Water Rights during this period is inflated because it includes diversions of water released from reservoirs that cannot be called for by the Shoshone Water Rights.

Beginning in the mid-1980's, the administration of the Shoshone Water Rights changed. The CDSS database shows that calls were placed by both the junior and senior Shoshone Water Rights beginning in 1987. The administration of the Shoshone Water Rights was inconsistent and varied during a period of transition from about 1985 until the Orchard Mesa Check Case was settled in the late 1990's.

Since 1998, the Shoshone Water Rights have been administered in a consistent manner following entry of the decree in Case No. 91CW247 in 1996, known as the Orchard Mesa Check Case, and the start of the Fish Recovery Program. The stipulation to the Check Case, (the "Stipulation"), which was incorporated into the decree in that case, provides that the co-applicants in that case (including the United States and the Grand Valley Irrigation Company ("GVIC") agree to: (1) reduce the overall demand of the Cameo group of water rights from 2,260 cfs to 1,950 cfs, and (2) annually make a declaration as to whether a HUP Surplus exists for supplementing low flows in the 15-Mile Reach. As it relates to the Shoshone Water

Rights, the Stipulation sets forth terms and conditions under which the co-applicants and GVIC agree to forgo placing an administrative call against upstream HUP beneficiaries.

During the Orchard Mesa Check Case, tables for the years 1990 through 1994 were developed that include the consumptive use by water district that is junior to calls from the senior and junior Shoshone Water Rights, the Grand Valley Pipeline water right for 119.47 cfs, and Grand Valley Canal water right for 730 cfs. These tables have been used by the DEO since the late 1990's to determine the necessary release from the Green Mountain Reservoir HUP depending on the call that is being administered. These tables factor into the DEO's calculation of the "administrative flow" or "natural flow" at the Dotsero Gage. The administrative flow accounts for upstream reservoir releases that are shepherded to users downstream of Shoshone. Thus, the administrative flow equals the streamflow at the Dotsero Gage less water that is shepherded downstream of Shoshone. The DEO uses the administrative flow in its administration of the Colorado River including whether to place calls under the Shoshone Water Rights. Since the calculation of undepleted flow and administration of the Shoshone Water Rights prior to 1998 was different and varied compared to the more recent period from 1998 on, ERC does not believe a study period that extends prior to 1998 is appropriate.

- Post-2003 Period

ERC believes inclusion of years after 2003 in the study period is necessary to show the true historical use of the water right because those years are reflective of the current administration of the Shoshone Water Rights and more recent operations of the plant. BBA excluded years after 2003 from the study period since Shoshone experienced outages more frequently during that period, which is claims were due largely to natural phenomena or circumstances beyond the control of the Shoshone plant operators. Outages caused by maintenance, repair, mitigation, or changes in operations (e.g., remote operation versus operation by on-site plant operators) may not be beyond the control of the Shoshone plant operators. Periods of outage when irrigation systems (ditches, diversion structures, reservoirs, and other related facilities) are inoperable or shut down for maintenance, construction projects, repair, or operational issues are often included in historical use analyses that are conducted for change cases. Furthermore, the period after 2003 includes the Millennium Drought in the Colorado River Basin and the effects of drier conditions on Shoshone diversions. By excluding years after 2003, BBA's estimate of the historical use of the Shoshone Water Rights is inflated; it only includes six years that reflect current administration of the Shoshone Water Rights and does not account for more frequent periods of reduced diversions and outages at Shoshone.

Shoshone Diversion Records

BBA used the Dotsero Gage limited to 1,408 cfs as the record of Shoshone diversions for its historical use analysis. BBA only used daily Shoshone diversion records reported by the State of Colorado via CDSS (https://dwr.state.co.us/Tools/Structures/5300584) to determine days of full outage, when there was either no data or days with zero diversions at Shoshone. On days there was either no data or days with zero diversion, BBA set the Shoshone diversion to zero.

BBA claims the CDSS diversion records were based on power production records, which were converted to a flow rate using an assumed efficiency for the plant. Essentially, BBA claims the Dotsero Gage records are more representative of the amount of water *diverted* by Shoshone whereas the CDSS diversion records reflect the amount of water *delivered* through the Shoshone Power Plant, which produced power. BBA also claims a significant amount of water was returned to the Colorado River through adits prior to the power plant, which was necessary to sluice sediment to prevent damage to the power plant infrastructure. BBA claims water returned to the Colorado River through the adits should be included in the Shoshone diversions used to develop the volumetric limit.

The diversion records reported by the State of Colorado via CDSS are the official diversion records for Shoshone and should be used as the basis for the historical use analysis. BBA's use of the Dotsero Gage as the measure of the diversion at Shoshone overestimates the amount of water historically diverted at Shoshone because it assumes Shoshone diverted all the water that was physically and legally available up to 1,408 cfs at all times water was diverted. Thus, BBA assumes Shoshone diverted the maximum possible amount up to 1,408 cfs every day unless CDSS records show no data or days with zero diversions. **Figure 1** illustrates the difference between CDSS Shoshone diversions reported by the State and streamflow at the Dotsero Gage each capped at 1,408 cfs for the period from 1975 through 2024. The average monthly streamflow at the Dotsero Gage capped at 1,408 cfs is 227 cfs higher than the average monthly diversion at Shoshone excluding months of full outage. Thus BBA's use of the Dotsero streamflow records as indicative of the amount diverted at Shoshone significantly inflates its estimate of the historical use of the Shoshone Water Rights.

BBA provided no evidence or records that the streamflow recorded at the Dotsero Gage was in fact diverted at the Shoshone diversion dam. This is because no such evidence exists; there is no measurement structure at the Shoshone diversion dam. In addition, deliveries through the adits are not measured. BBA did not provide information on the number and size of the adits, maximum and average flow rates that are delivered through the adits, or the frequency the adits are operated. Importantly, BBA did not provide any records of deliveries through the adits. Water that was discharged through the adits was not delivered through the turbines and therefore was not applied to the decreed use of power generation. Discharges through the adits are not unlike deliveries through a ditch sand out gate or wasteway that often occur to charge a ditch in the spring and clear debris and are not used for irrigation. Discharges through the adits are a form of conveyance water or wastewater that should not be included in the historical use analysis.

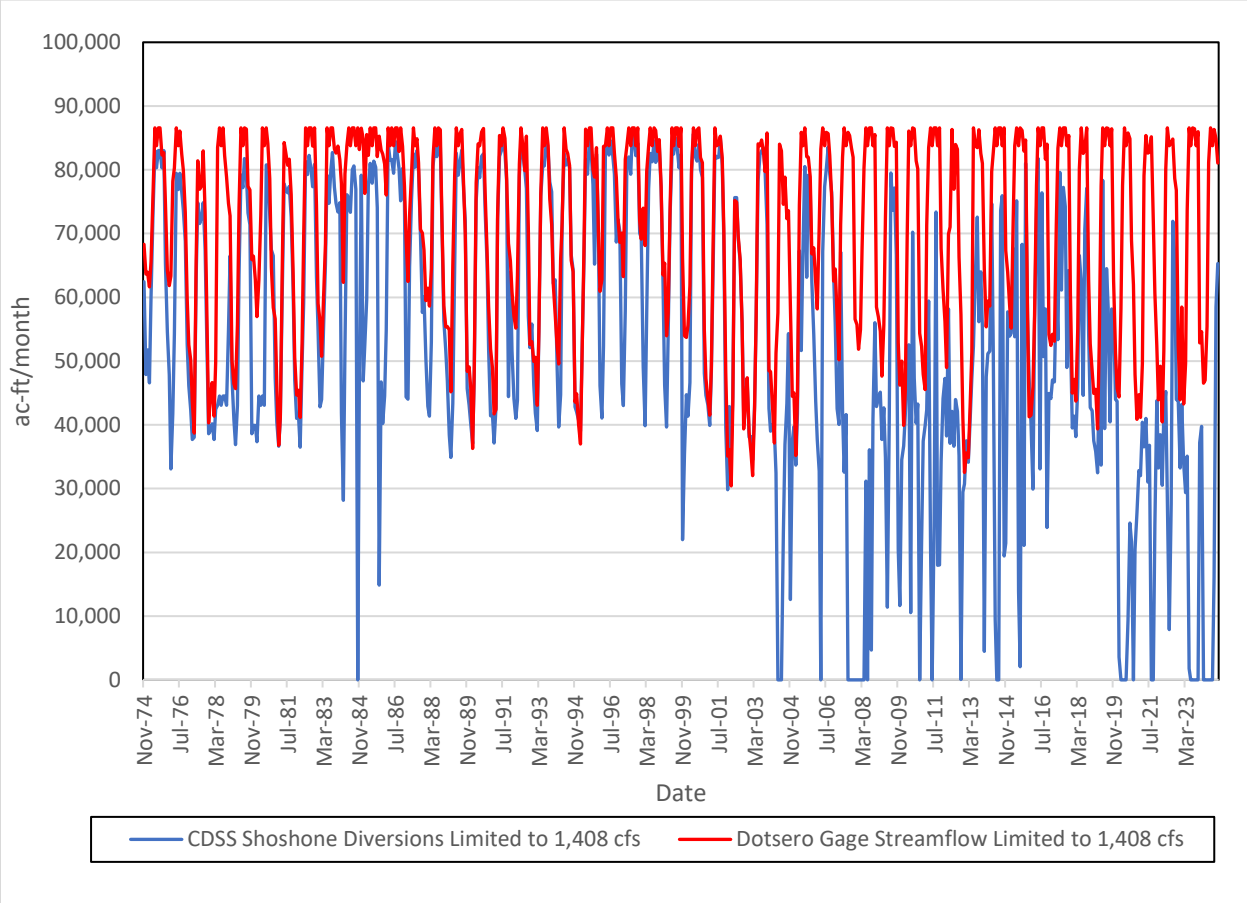

Figure 1: CDSS Shoshone Diversions Versus Streamflow at the Dotsero Gage Capped at 1,408 cfs

Administrative Flow Prior to 1998

From 1998 to 2003, BBA determined the administrative flow at the Dotsero Gage by excluding reservoir water released for downstream users. However, for the period prior to 1998, BBA assumed the administrative flow was equal to the Dotsero Gage and did not exclude reservoir water that was released for users downstream of Shoshone or that would not be available to meet a call at Shoshone. BBA's pre- versus post-1998 approach is not consistent and significantly overestimates the historical use of the Shoshone Water Rights.

Records of the undepleted flow at the Dotsero Gage in USBR Colorado River Accounting ledgers, which was used in the administration of the Shoshone Water Rights prior to 1998, show the undepleted flow was often several hundred cfs less than the Dotsero Gage flow. The undepleted flow was less than the gaged flow because it excludes certain upstream reservoir releases that cannot be "called for" under current administration of the Shoshone Water Rights. For example, additional water that was released from Green Mountain Reservoir to prevent a call from the senior Shoshone water right was not included in the undepleted flow. If the historical use analysis is limited to the period after 1998, BBA's determination of the administrative flow prior to 1998 is not an issue. However, if the historical use analysis includes years prior to 1998, BBA's method is flawed and overstates water available to the

Shoshone Water Rights. Prior to 1998, the historical use analysis should rely on the undepleted flow reported in the USBR ledgers, which excludes certain upstream reservoir releases.

Months of Full Shoshone Outage

BBA did not include full months of outage at Shoshone when there was either no CDSS diversion data or CDSS diversions were reported as zero in its calculations of average monthly diversions for the period from 1975 through 2003. By not including these zeros in the calculation of average monthly diversions, BBA overestimates the amount of water historically diverted at Shoshone. If CDSS records indicate that no water was diverted for an entire month, it may be appropriate to include a zero for that month in the calculation of monthly average diversions so as not to overstate averages. Zeros are often included where diversions were not made in historical use analyses conducted for change cases. This is particularly relevant for the period after 2003 when outages at Shoshone exceeded a month more often.

Annual Volumetric Limit

Using the assumptions described above, BBA estimated the average annual yield of the Shoshone Water Rights to be 844,644 ac-ft for the period from 1975-2003, as shown in **Table 1**. BBA claims that an average annual volumetric limit of 844,644 ac-ft/yr when applied on a rolling 29-year average basis is an appropriate volumetric limit for the changed use of the Shoshone Water Rights. For perspective, BBA's analysis shows that 1,394 cfs or 99% of the total decreed rate, which is 1,408 cfs, was diverted on average in May and June. For comparison, the average historical Shoshone diversion reported by the State was only 1,276 cfs in May and 1,289 cfs in June for 1975-2003.

BBA did not propose any long-term average monthly limits or any maximum monthly or annual limits. Such limits are common in change cases to prevent expansion of the water rights being changed. Long-term average monthly limits are necessary to preserve the monthly distribution of diversions that historically occurred. Without monthly limits, the Shoshone Water Rights could be exercised to a much greater extent at different times of the year. Maximum monthly and annual limits are necessary to prevent an enlargement of diversions under the Shoshone Water Rights.

Application of a Volumetric Limit

BBA did not describe how its proposed long-term average annual volumetric limit would be administered. Administration of a volumetric limit on instream flow use is complicated and difficult since there is no mechanism to curtail the Shoshone Water Rights in the event the volumetric limit is exceeded since water will continue to flow past the Shoshone diversion dam. BBA did not indicate whether the volumetric limit would also apply to Shoshone diversions for power production. In the event the Shoshone Water Rights are being used for instream flow purposes, it is not clear whether all water flowing past the Shoshone diversion dam up to 1,408 cfs counts against the volumetric limit or flows passing Shoshone only count against the volumetric limit if a call is placed for instream flow use.

Alternative Estimate of Historical Use

To illustrate the relative impact of each of BBA's assumptions and the magnitude by which these assumptions inflate historical use, ERC revised BBA's historical use analysis using different assumptions for the study period, diversion records, and months of full outage. This analysis is presented for demonstrative purposes only. Parties to a case to change the Shoshone Water Rights may present different analyses in Water Court, and other flaws in BBA's analysis may exist. For this illustration, ERC revised BBA's assumptions in the following stepwise fashion.

Revision 1) ERC used a study period of 1998 through 2022. ERC extended the historical use analysis through 2022 using the same methodology implemented by BBA, which excludes reservoir releases shepherded downstream of Shoshone. ERC ended the study period in 2022 as it did not have the necessary accounting data for 2023 and 2024 but could extend the analysis through the present once that data is obtained from the DEO. As shown in **Table 1**, revising the study period to 1998 through 2022 reduced the average annual historical use from 844,644 ac-ft/yr to 715,863 ac-ft/yr.

Revision 2) ERC used the official daily Shoshone diversion records reported by the State via CDSS as the record of what was diverted at the Shoshone diversion dam. As shown in **Table 1**, revising the diversion records further reduced the average annual historical use to 591,460 ac-ft/yr.

Revision 3) ERC included full months of outage at Shoshone when there was either no CDSS diversion data or CDSS diversions were reported as zero when calculating average monthly diversions for the period from 1998 through 2022. As shown in **Table 1**, revising the calculation of average monthly diversions reduced the average annual historical use to 538,204 ac-ft/yr, which equates to a 36% reduction from BBA's value.

Based on the revised assumptions described above, ERC calculated the average annual yield of the Shoshone Water Rights for the 25-year study period of 1998-2022 to be 538,204 ac-ft, which is 306,440 ac-ft (36%) less than the yield reported by BBA. Average monthly differences between BBA's analysis and Revision 3 range from 260 cfs in January to 691 cfs in June. **Figure 2** illustrates the average monthly flows rates for BBA's historical use analysis versus Revisions 1, 2, and 3.

Table 1: Revised Estimates of Historical Use

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**		**306,440**	

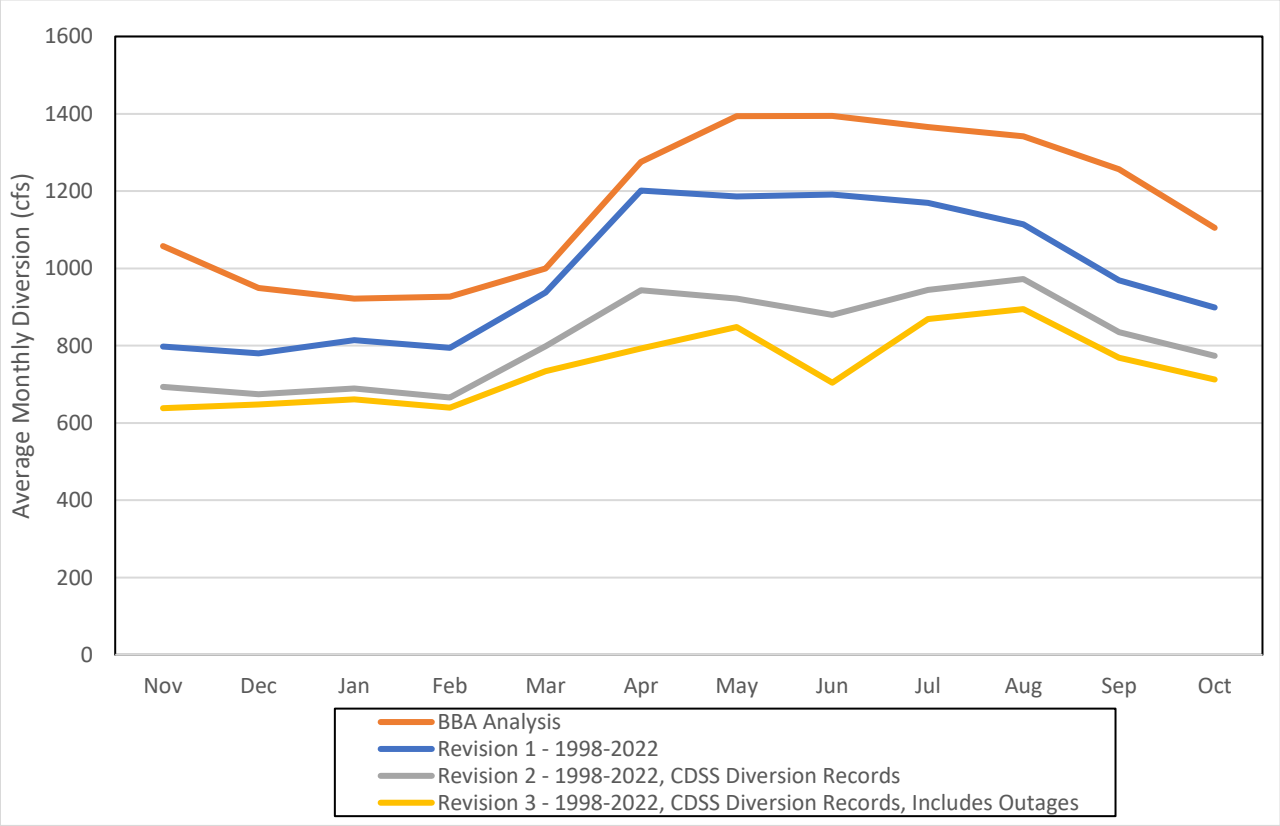

Figure 2: Comparison of Historical Use Analysis Results

Potential Injury Due to an Enlargement of the Shoshone Water Rights

Use of the Shoshone Water Rights could be significantly enlarged if a long-term average annual volumetric limit of 844,644 ac-ft is adopted in a change of the Shoshone Water Rights to include instream flow use. Enlargement of the Shoshone Water Rights would injure other water rights as described in ERC's memorandum titled, Evaluation of Hydros Consulting's Shoshone Power Plant Water Rights Yield Assessment, August 4, 2025b. Potential impacts include:

- Diversions by upstream transmountain projects and HUP beneficiaries will be out-of-priority more often. Diversions without a replacement source, such as Windy Gap, the Homestake Project, and the Continental-Hoosier System, will be curtailed more frequently. The C-BT Project, HUP beneficiaries, and Denver Water's Blue River and Moffat Tunnel systems may continue to divert if the Shoshone call increases but only to the extent that additional releases can be made from replacement reservoirs including Williams Fork Reservoir and the Green Mountain Reservoir HUP and 52K accounts.
- Replacement reservoirs and accounts will be drawn down significantly because additional replacement releases will need to be made. The additional drawdown of upstream reservoirs will decrease the reliability of those reservoirs and their ability to meet demands, including replacement releases for both East and West Slope demands and deliveries through transmountain tunnels, should more frequent and severe droughts occur in the future.
- The magnitude of the substitution bill will increase, which will increase the drawdown at Williams Fork Reservoir, Wolford Mountain Reservoir, and other reservoirs since additional water will need to be released to pay that bill.[1]
- Flows will increase at times in the 15-Mile Reach if junior diversions upstream of Shoshone are curtailed and additional replacement releases are made. However, flows will also decrease in the 15-Mile Reach when replacement reservoirs are in-priority and refilling.

The above impacts result in material injury to water rights and will alter the historical flow regime of the river.

[1] In years the Green Mountain Reservoir storage right does not fill, a substitution bill is calculated which equals the amount diverted out-of-priority by Denver Water and Colorado Springs Utilities against the Green Mountain Reservoir storage right, not to exceed Green Mountain Reservoir's remaining fill volume.

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Technical Memorandum

Date: **August 4, 2025**

To: **Front Range Water Council**

From: **Heather Thompson, ERC**

Re: **Evaluation of Hydros Consulting's Shoshone Power Plant Water Rights Yield Assessment**

Denver Ex. 6

Introduction

The Front Range Water Council ("FRWC") requested that Ecological Resource Consultants LLC ("ERC") review the yield assessment of the Shoshone Power Plant (Shoshone) water rights that was conducted by Hydros Consulting, Inc. ("Hydros"). Hydros' analyses are summarized in the following memoranda, which were included as Attachments 11 and 12 to the May 6, 2025 technical memorandum provided by the Colorado River Water Conservation District ("River District") and Public Service Company of Colorado ("PSCo") for the Colorado Water Conservation Board's ("CWCB") May Board meeting (River District, 2025).

- Shoshone Power Plant Water Rights Yield Assessment, September 11, 2024 ("September 2024 Memorandum").
- Addendum to September 11, 2024, Shoshone Power Plant Water Rights Yield Assessment, November 8, 2024 ("November 2024 Memorandum").

This technical memorandum presents ERC's review of Hydros' analyses and the results of modeling ERC conducted using the new version of the Upper Colorado River Basin Model ("UCRM") that was released on December 9, 2024 by the CWCB.

As discussed below, in the September 2024 Memorandum, Hydros concluded there are significant streamflow benefits in the 15-Mile Reach due to continued exercise of the Shoshone Water Rights, which was based on model results for comparisons against a Zero Shoshone scenario. ERC concludes that Hydros' representation of the Zero Shoshone scenario in the UCRM and thus its comparisons against that scenario and conclusions related to the impact on flows in the 15-Mile Reach due to non-use or lack of administration of the Shoshone Water rights are not reliable. This is due to:

(1) an incorrect assumption that there would be no change in the Cameo Call if the Shoshone Water Rights cease to call,
(2) a failure to model Denver Water's permanent Colorado River Cooperative Agreement ShOP obligations in a Zero Shoshone scenario, and
(3) a failure to include flow decreases when calculating yields in the 15-Mile Reach, which are a result of the increased need to refill replacement and exchange reservoirs.

In the November 2024 Memorandum, Hydros concluded that full use of the Shoshone Water Rights does not negatively impact storage in Reclamation projects nor does it impact transmountain diversions. ERC believes Hydros underestimates impacts on reservoirs and major transmountain diversions due to comparisons against a baseline condition that does not represent historical use of the Shoshone Water Rights. ERC's modeling shows that the operation of the Shoshone Water Rights for instream flow uses with BBA's proposed volumetric limit will result in increased curtailment of junior upstream diversions without replacement supplies, depleted replacement and exchange reservoirs, larger substitution bills for Denver Water and Colorado Springs that are owed to Green Mountain Reservoir (GMR), and decreased streamflow in the 15-Mile Reach primarily during average and wet years when exchange and replacement reservoirs are refilling.

Hydros September 2024 Memorandum

Hydros' September 2024 Memorandum analyzed the yield of the Shoshone Water Rights, which consist of a senior right for 1,250 cfs with an adjudication date of 12/9/1907 (Admin No. 20427.18999) and a junior right for 158 cfs with an adjudication date of 2/7/1956 (Admin No. 33023.28989). Collectively, these rights are referred to as the Shoshone Water Rights. Hydro used the state of Colorado's 2015 release of the UCRM with updates it made to the model as part of the Phase IV Risk Study (Hydros, 2023) to quantify the impact of those water rights on flows through the 15-Mile Reach[1] and at the Colorado-Utah state line.

Hydros simulated the UCRM on a monthly basis for the period from 1988 through 2013 and compared results for model runs with and without the Shoshone Water Rights active using the following five demand levels at Shoshone, which are summarized in **Table 1**:

- Scenario 1 - Zero Shoshone: The monthly demand at Shoshone is set to 0 acre-feet (ac-ft) each month. The Zero Shoshone scenario is intended to represent lack of administration of the Shoshone Water Rights.
- Scenario 2 - Senior Shoshone: The monthly demand at Shoshone is based on the senior water right for 1,250 cfs calling continuously.
- Scenario 3 - Maximum Shoshone: The monthly demand is based on the senior and junior Shoshone Water Rights, totaling 1,408 cfs, calling continuously.
- Scenario 4 - Senior Shoshone with Relaxation: The monthly demand at Shoshone is based on the senior water right for 1,250 cfs calling continuously but the demand was reduced to 704 cfs during the period from March 14th – May 20th (inclusive) in 2003, 2004, and 2013 pursuant to the terms of the 2007 agreement between Denver Water and Xcel (Xcel, 2007).
- Scenario 5 - Maximum Shoshone with Relaxation: The monthly demand was based on full use of the senior and junior Shoshone Water Rights, totaling 1,408 cfs, calling continuously but the demand was reduced to 704 cfs similar to Scenario 4.

[1] The 15-Mile Reach is the reach of the Colorado River which extends from the point at which the tailrace to the Grand Valley Power Plant and the OMID pumping plant returns to the Colorado River, downstream to the confluence of the Colorado River and the Gunnison River.

Table 1: Monthly Demands at Shoshone for Hydros' September 2024 Analyses

Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	76,861	69,423	76,861	74,381	76,861	74,381	76,861	76,861	74,381	76,861	74,381	76,861
3	86,576	78,198	86,576	83,783	86,576	83,783	86,576	86,576	83,783	86,576	83,783	86,576
4[1]	76,861	74,381	61,441	41,892	58,648	74,381	76,861	76,861	74,381	76,861	74,381	76,861
5[2]	86,576	78,950	61,441	41,892	58,648	83,783	86,576	86,576	83,783	86,576	83,783	86,576

1: Monthly demands for 2003, 2004, and 2013. In all other years, the monthly demands equal the values shown for Scenario 2.
2: Monthly demands for 2003, 2004, and 2013. In all other years, the monthly demands equal the values shown for Scenario 3.

For each of the five Shoshone demand scenarios shown in **Table 1**, Hydros simulated what it referred to as "Current" and "Future" basin-wide demands. "Current" basin-wide demands apply to all water users other than Shoshone and coincide with demands used in the 2015 Baseline UCRM. "Future" basin-wide demands apply to all water users other than Shoshone and are the demands Hydros developed to represent future conditions it identified in the Phase III Risk Study.

Hydros estimated the impact of the Shoshone Water Rights on flows through the 15-Mile Reach and at the Colorado-Utah state line based on comparisons of the model results for Scenario 1 (Zero Shoshone) versus Scenarios 2 through 5. Hydros evaluated impacts to annual flow volumes in the 15-Mile Reach in a dry (2012), average (2010), and wet year (1998) and during low flow periods when the minimum flow targets for the 15-Mile Reach are not met. **Table 2** includes the annual results presented in Hydros' September 2024 Memorandum.

Table 2: Wet, Average, and Dry Year Yields at 15-Mile Reach from Hydros September 2024 Analysis

Scenario	Wet Year (1998) 15-Mile Reach Yield (ac-ft)	Average Year (2010) 15-Mile Reach Yield (ac-ft)	Dry Year (2012) 15-Mile Reach Yield (ac-ft)
Senior Current Basin-Wide Demands	3,107	5,376	41,184
Senior Future Basin-Wide Demands	13,028	22,608	55,080
Maximum Current Basin-Wide Demands	13,359	9,823	69,580
Maximum Future Basin-Wide Demands	27,273	27,324	86,143

Hydros concluded that the greatest increase in 15-Mile Reach and state line flows from operating the Shoshone Water Rights would occur during dry years and in months when the minimum flow targets for the 15-Mile Reach are not met. During months with less than 50,000 ac-ft of water, Hydros asserts that flows in the 15-Mile Reach would be 23% higher and 29% higher under Current and Future basin-wide demands, respectively, compared to the Zero Shoshone scenario.

As explained in the following sections, ERC concludes that Hydros' representation of the Zero Shoshone scenario in the UCRM and thus its comparisons against that scenario and conclusions related to the impact on flows in the 15-Mile Reach due to lack of administration of the Shoshone Water Rights are not reliable.

Orchard Mesa Check Case Settlement

Hydros' representation of the call attributable to the senior "Cameo" group of water rights in the Grand Valley ("Cameo Call") and surplus water in Green Mountain Reservoir's Historic Users Pool ("HUP Surplus") in the Zero Shoshone scenario is not consistent with certain provisions of the decree in Case No. 91CW247 (the "Check Case"). The stipulation to the Check Case, (the "Stipulation"), which was incorporated into the decree in that case provides that the co-applicants in that case (including the United States and Grand Valley Irrigation Company [GVIC]) agree to: (1) reduce the overall demand of the Cameo group of water rights from 2,260 cfs to 1,950 cfs, and (2) annually make a declaration as to whether a HUP Surplus exists for supplementing low flows in the 15-Mile Reach. As it relates to the Shoshone Water Rights, the Stipulation sets forth terms and conditions under which the co-applicants and GVIC agree to forgo placing an administrative call against upstream HUP beneficiaries provided the following three conditions are met:

> (1) The Check structure is physically operable;
>
> (2) There is at least 66,000 acre-feet of water available in GMR for the benefit of HUP beneficiaries when GMR ceases to be in-priority for its initial fill (i.e., at the end of the reservoir's fill season); and
>
> (3) The Shoshone Water Rights continue to be exercised in "a manner substantially consistent with their historical operations[.]"

See Stipulation, pp. 5–6, ¶¶ 3.b., 3.b.(1) –3.b.(3).

Thus, per the Stipulation, if any one of the three conditions are not met during the period extending from April 1 through October 31, the GMR HUP Operating Criteria and the Stipulation's non-curtailment provisions with respect to HUP beneficiaries may be declared inoperative by the concurrence of any of the three co-applicants and GVIC. *Id.* at p. 6, ¶ 3.b.(5). The Stipulation provides that the immediate impact of an "inoperative" declaration is that "no water in the HUP shall be deemed to be surplus to the needs of the HUP beneficiaries." *Id.*

Under the Zero Shoshone scenario, the third condition in the Stipulation is not satisfied (i.e., the Shoshone Water Rights are no longer exercised in "a manner substantially consistent with their historical operations"). Thus, it is not accurate to represent the demand of the Cameo water rights in the UCRM at 1,950 cfs nor to assume that HUP Surplus is available to supplement flows in the 15-Mile Reach in the UCRM. If the Shoshone Water Rights are not administered, the demand attributable to the senior Cameo group of water rights (the "Cameo Call") could revert to 2,260 cfs. If the Cameo Call increased from 1,950 cfs to 2,260 cfs that would likely "pull" additional water downstream that was historically called downstream by a call from the Shoshone Water Rights. If HUP Surplus is no longer available, other sources including water stored in Ruedi Reservoir, Wolford Mountain Reservoir, and Granby Reservoir would be

relied on more heavily to supplement flows in the 15-Mile Reach. Hydros did not consider any changes in the Cameo Call and or availability of HUP Surplus in the UCRM in the Zero Shoshone scenario, which changes would likely have a significant impact on flows through the 15-Mile Reach.

2013 Colorado River Cooperative Agreement

Hydros did not consider the terms of the September 26, 2013 Colorado River Cooperative Agreement ("2013 CRCA") and the June 27, 2016 Shoshone Outage Protocol Agreement ("2016 ShOP"). These agreements include similar provisions to maintain the historical flow regime created by the senior Shoshone water right whenever the Shoshone Power Plant is subject to a shutdown for repair, maintenance, or other reasons ("Shoshone Outage"). Article VI.B.1.a-c and VI.B.3.a-c of the 2013 CRCA Agreement, which describes the Shoshone Outage Protocol, requires the River District, Middle Park Water Conservancy District, and Denver Water to operate their systems as if a call from the senior Shoshone water right ("Senior Shoshone Call") were on the river subject to drought exceptions and 17 consecutive days of outages to reflect historic maintenance in the winter. The drought exceptions apply when a water shortage occurs in Denver Water's system and the Shoshone Power Plant is not operating for any reason. Under Article VI.C.2 of the 2013 CRCA Denver Water agreed to operate its system on a permanent basis under ShOP even if the Shoshone Power Plant ceases operations altogether and regardless of whether the plant is acquired. The 2013 CRCA is a perpetual agreement that does not expire.

Hydros did not incorporate the 2013 CRCA ShOP terms in the Zero Shoshone scenario and thus the UCRM incorrectly represents that Denver Water's Blue River System and Moffat Tunnel diversions are not subject to a Senior Shoshone Call. This overestimates Denver Water's diversions that would be in-priority relative to a Senior Shoshone Call and underestimates releases that would be required namely from Williams Fork Reservoir to replace Denver Water's out-of-priority Blue River and Moffat Tunnel System diversions. As a result, ERC believes Hydros' modeling of a Zero Shoshone scenario in the UCRM underestimates flows in the 15-Mile Reach, which inflates the 15-Mile Reach yields when comparisons are made against that scenario.

Hydros' Definition of Yield

Hydros fails to consider any decreases in flow in determining the yield to the 15-Mile Reach. Flow decreases occur predominantly in average and wet years as a result of increased diversions to refill replacement and exchange reservoirs due to an increase Shoshone Call.

Hydros defines the yield to the 15-Mile Reach as being flow changes that are greater than zero. Therefore, all the yields presented in its September 2024 Memorandum only consider flow increases due to an increased call at Shoshone and do not consider any reductions in flow. Hydros used this definition because it claims the Shoshone call does not directly result in reductions in flow. While reductions in flow occur at times that the Shoshone Water Rights are not calling, they are caused by changes in preceding months that are due to an increased call at Shoshone.

Regardless of the cause of the change, the results from the UCRM clearly show flows will decrease at times in the 15-Mile Reach when the Zero Shoshone scenario is compared against Scenarios 2 through 5 with the Shoshone Water Rights operating. Flow decreases occur when additional water is diverted to

refill upstream reservoirs. When the Shoshone Water Rights are placing a call in Scenarios 2 through 5, releases are made from Williams Fork Reservoir and GMR to replace out-of-priority diversions by Denver Water's Blue River and Moffat Tunnel systems, the Colorado-Big Thompson Project ("C-BT"), and HUP Beneficiaries that are upstream of Shoshone. Thus, these replacement reservoirs are drawn down more when the call at Shoshone is increased. Flow decreases occur in subsequent years when these reservoirs are in priority and additional water is diverted to refill these reservoirs. Flow decreases occur in the 15-Mile Reach in average and wet years primarily during runoff when replacement reservoirs are refilled. The annual yield in the 15-Mile Reach is less if flow decreases are considered. This is discussed in more detail in the section ERC Analyses using the Updated UCRM.

Hydros November 2024 Memorandum

Hydros' November 2024 Memorandum was provided as an addendum to its September 2024 Memorandum. Hydros supplemented its earlier analyses using the daily time step version of the new UCRM that was released by CWCB on September 18, 2024. CWCB subsequently released another version of the UCRM on December 9, 2024, which corrected some issues related to the GMR HUP pool and the "fish pool" accounts in Ruedi Reservoir. A summary of the significant changes made to the 2015 version of the UCRM is provided in a memo from Wilson Water Group to CWCB dated September 16, 2024 ("WWG Memo"). Hydros used the new UCRM and simulated a Zero Shoshone demand scenario (similar to the Zero Shoshone scenario for its September 2024 Memorandum) and a Max Shoshone demand scenario with relaxation of the Shoshone call in 2003 and 2013. This is similar to Scenario 5 from Hydros' September 2024 Memorandum; however, demands at Shoshone were not reduced in 2004. Hydros also simulated the version of the UCRM provided by CWCB, which includes the following demand at Shoshone ("CWCB Demand"):

- If the historical daily diversions were greater than 704 cfs, indicating that both turbines were operating, the daily demand was set to 1,408 cfs.
- If historical daily diversions were less than 704 cfs during the March 25 through November 10 period, daily demands were set to 1,250 cfs.
- If historical daily diversions were less than 704 cfs during the November 11 through March 24 period, daily demands were set to 900 cfs.
- Demands in 2003 and 2013 were set to 704 cfs from March 14th through May 20th inclusive consistent with the terms of the 2007 agreement between Denver Water and Xcel since those were "relaxation" years.

Hydros compared the model results for the CWCB Demand and Max Shoshone scenarios to estimate impacts on C-BT and Frying Pan-Arkansas (Fry-Ark) Project storage and major transmountain diversions. In addition, Hydros compared the combined storage in the fish pool accounts in Ruedi, Wolford Mountain, and Granby Reservoirs for the CWCB Demand and Max Shoshone Demand scenarios to evaluate whether an increase in the Shoshone call might negatively impact the fish pool accounts. Hydros chose to compare these scenarios because the WWG Memo states the new UCRM, which includes the CWCB Demand at Shoshone "can be used as the basis against which to compare a simulation that includes a new use or

operation". ERC believes a comparison of these scenarios significantly underestimates impacts as described below.

While the WWG Memo referred to the new UCRM as a Baseline Model, it did not claim the demands placed at Shoshone represent the historical yield of the Shoshone Water Rights. The assumptions listed above for the demand at Shoshone do not represent historical diversions and use of the Shoshone Water Rights and thus are not intended to represent the historical flow regime created by calls placed by the Shoshone Water Rights.

The CWCB Demand also does not fully represent current administration of the Shoshone Water Rights. While the CWCB Demand partially reflects flows identified in ShOP, the demands do not reflect the drought exceptions included in ShOP. The drought exceptions include reducing the Senior Shoshone Call to 0 (e.g. no call) when a "water shortage" occurs.[2] In contrast, the CWCB Demand includes reducing the Senior Shoshone Call to 704 cfs from March 14th through May 20th inclusive in 2003 and 2013, which is consistent with the 2007 Call Reduction Agreement between Denver Water and Xcel not the 2013 CRCA.

In addition, the CWCB Demand does not reflect the provision that the Shoshone Outage not include 17 days during January and February. The UCRM cannot fully represent ShOP because the drought exceptions include conditions that are outside of the model domain. Therefore, reductions in the Senior Shoshone Call pursuant to the drought exceptions cannot be represented dynamically in the UCRM. CWCB staff and WWG acknowledged there are numerous ways to represent demands at Shoshone depending on the objective of the analysis. Since the CWCB demand is not intended to represent the historical use of the Shoshone Water Rights, it is not appropriate to compare against that scenario to estimate impacts associated with a change of the Shoshone water right to include instream flow uses that must be limited to historical use.

Table 3 and **Figures 1** and **2** illustrate the Shoshone demands for the CWCB Demand and Max Shoshone scenarios compared to historical monthly diversions at Shoshone as reported by the state of Colorado via the Colorado Decision Support System (CDSS) for the period from 1988 through 2013 (https://dwr.state.co.us/Tools/Structures/5300584). The CWCB Demand is considerably higher than historical diversions at Shoshone in most months as shown in **Table 3** and **Figure 1**. The average monthly demands at Shoshone for the CWCB Demand scenario are 21% to 44% higher than average monthly historical diversions at Shoshone. As a result, simulated diversions at Shoshone for the CWCB Demand scenario are also considerably higher in most months than historical diversions at Shoshone.

The average monthly demands at Shoshone for the Max Shoshone scenario, which represents a continuous call of 1,408 cfs, are only 2% to 3% higher than the average monthly demands for CWCB Demand scenario from April through October. Although average monthly Shoshone demands for the Max

[2] Irrigation season drought exceptions take effect when Denver Water's storage contents are projected to fall below certain levels by July 1 and the most probable forecast of streamflow for April-July flow of the Colorado River at the Kremmling gage will be less than or equal to 85% of average. For winter seasons, drought exceptions take effect if Denver Water's system storage falls below certain levels by November 1.

Shoshone scenario are higher than the CWCB Demand scenario from November through March, natural hydrologic shortages typically occur in those months. Therefore, even though the Max Shoshone demands are higher in winter months, there isn't enough water physically and legally available to fully satisfy the demand at Shoshone in those months whether the demand is 900 cfs, 1250 cfs, or 1,408 cfs. Hydros even states in its memo that is not unexpected "because physical water supply limits water availability for large periods of time when Shoshone is typically calling for water." As a result, there is often little to no difference in simulated diversions upstream of Shoshone between the CWCB Demand and Max Shoshone scenarios in winter months despite the differences in demands in those months.

Table 3: Average Monthly Shoshone Demands Compared to Historical Shoshone Diversions 1988-2013

Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CWCB	55,340	50,465	60,721	78,632	82,246	81,433	84,876	84,503	81,637	84,454	62,703	55,340
Max	86,576	78,949	84,642	80,561	84,428	83,783	86,576	86,576	83,783	86,576	83,783	86,576
Historical	40,905	36,981	45,557	58,353	64,368	62,609	70,222	68,412	63,975	58,826	46,170	43,983

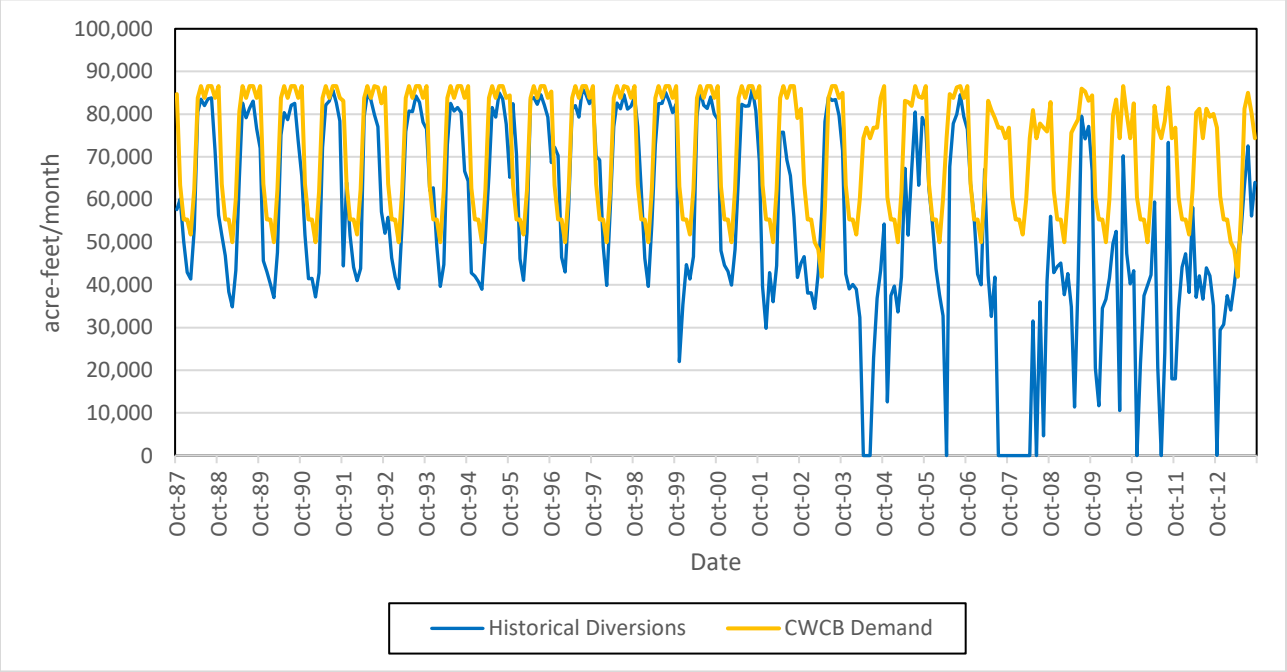

Figure 1: Historical Shoshone Diversions Compared to CWCB Demand

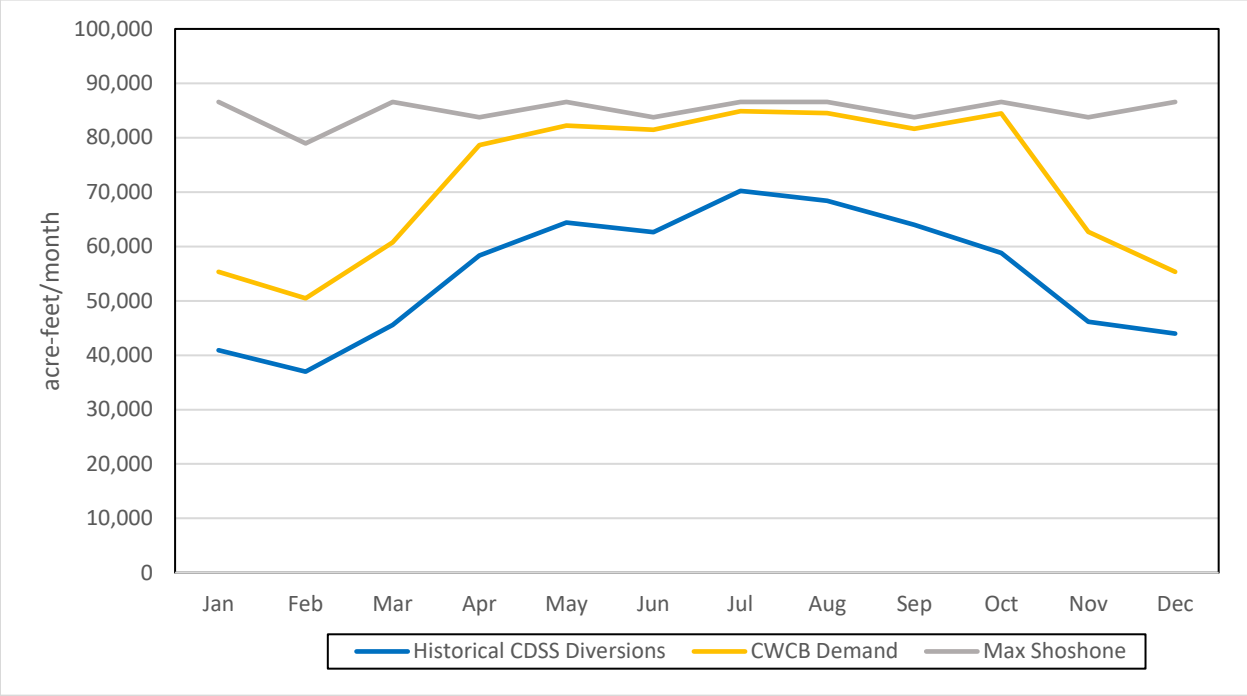

Figure 2: Average Monthly Shoshone Demands Compared to Historical Shoshone Diversions 1988-2013

Table 4 and **Figure 3** show average monthly simulated natural flow diversions at Shoshone for the CWCB Demand and Max Shoshone scenarios. Natural flow diversions do not include diversions of water released from upstream reservoirs that is intended for downstream users. For the reasons described above, there is little difference in simulated natural flow diversions at Shoshone under the CWCB Demand and Max Shoshone scenarios. Since there is minimal difference in simulated Shoshone diversions between these two scenarios, all other model output from the CWCB Demand and Max Shoshone scenarios is nearly identical. Thus, Hydros concludes that the proposed "Shoshone Permanency" approach would have minimal impact on Reclamation's C-BT and Fry-Ark Project operations, Grand Valley Project deliveries, transmountain project tunnel diversions, and operations of the "fish pool" accounts based on a comparison of the CWCB Demand and Max Shoshone demand scenarios. ERC believes a comparison of these scenarios does not accurately portray potential impacts due to an increased call at Shoshone when compared to historical administration and use of the Shoshone Water Rights.

Table 4: Average Monthly Simulated Natural Flow Diversion at Shoshone (1988-2013)[1,2]

Month	CWCB Demand (ac-ft)	Max Shoshone (ac-ft)
Jan	47,247	48,403
Feb	43,552	44,493
Mar	54,531	59,671
Apr	72,134	74,997
May	80,848	84,945
Jun	81,199	83,311
Jul	82,773	84,177
Aug	75,081	75,680
Sep	63,346	63,931
Oct	63,729	64,072
Nov	52,617	56,725
Dec	48,142	50,033
Total	**765,199**	**790,439**

1: Natural flow diversions do not include diversions of reservoir water released for downstream users.
2: Results based on simulations using the version of the UCRM released by CWCB on December 9, 2024.

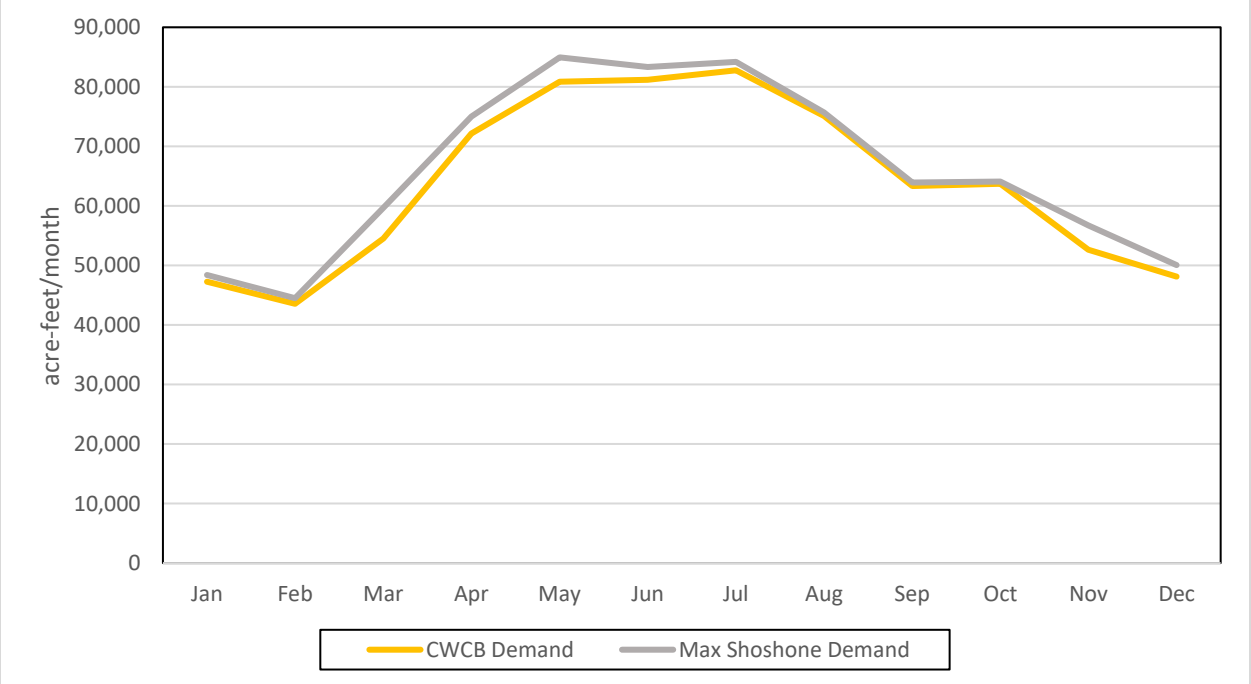

Figure 3: Average Monthly Simulated Natural Flow Diversion at Shoshone (1988-2013)

To estimate impacts on diversions, reservoir storage, and flows under full use of the Shoshone Water Rights relative to the historical use of the Shoshone Water Rights, Hydros should have compared its Max Shoshone scenario against a scenario in which the demand at Shoshone is equal to CDSS reported historical diversions (Historical Shoshone scenario) or a scenario in which the demand reflects historical natural flow diversions at Shoshone, which excludes water that was not called for and diverted under the

Shoshone Water Rights. Comparisons of UCRM results for a Historical Diversion scenario are presented in the section ERC Analyses Using the Updated UCRM. These comparisons demonstrate that impacts to reservoir operations, flows, and transmountain project diversions are much higher if the call under the Shoshone Water Rights increases.

When presenting impacts on major transmountain diversions, Hydros only considered deliveries through transmountain tunnels. Hydros should have also presented results for reservoirs and storage accounts that provide replacement water for out-of-priority tunnel diversions or that supplement deliveries through those tunnels including the 52,000 ac-ft replacement pool (52K pool) at GMR, Homestake Reservoir, Williams Fork Reservoir, and Dillon Reservoir. While there may be little difference in tunnel diversions between the Max Shoshone and CWCB Demand scenarios, contents in the replacement reservoirs and storage accounts are lower under the Max Demand scenario compared to the CWCB Demand scenario. For example, there may be no difference in Denver Water's diversions through the Roberts and Moffat Tunnels between the two scenarios, yet Williams Fork Reservoir may be drawn down more under the Max Demand scenario. This occurs because Denver Water's diversions are out-of-priority more often; therefore, additional replacement releases are made from Williams Fork Reservoir when the demand at Shoshone is higher. Differences in the contents in replacement reservoirs and storage accounts are significant if the Max Demand scenario is compared against a scenario with the demand at Shoshone that is set equal to historical diversions (see Section ERC Analyses Using the Updated UCRM). More frequent and severe drawdowns at these reservoirs will impact the security of the water supply for transmountain projects.

Hydros also determined benefits to the 15-Mile Reach based on a comparison of UCRM results for the Zero Shoshone and Max Shoshone Demand scenarios, similar to results presented in the September 2024 Memorandum. As explained in the previous section, ERC believes Hydros' Zero Shoshone scenario is flawed and thus its estimates of the magnitude flow changes in the 15-Mile Reach, which are based on that comparison, are not reliable.

ERC Analyses Using the Updated UCRM

To estimate potential impacts due to an increased call by the Shoshone Water Rights, ERC used the new version of the UCRM released on December 9, 2024. The analysis of results focused on a model period from 1988-2013, which matches the period analyzed by Hydros. ERC compared two scenarios with the following demands at Shoshone, which are shown in **Table 5**:

1) BBA Volumetric: The daily demand at Shoshone was set to 1,408 cfs from April 24 through October 31 and 900 cfs from November 1 through April 23. This daily demand pattern results in an annual demand that coincides with BBA Water Consultants' ("BBA") estimate of the average annual yield of the Shoshone Water Rights, which it determined to be of 844,644 ac-ft as described in its November 8, 2024 memorandum, Preliminary Shoshone Historical Use Assessment.
2) Historical Shoshone: The demand at Shoshone was set equal to historical diversions at Shoshone reported by CDSS.

Table 5: Average Monthly Shoshone Demands for BBA Volumetric and Historical Shoshone Scenarios

Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BBA Volumetric	55,340	50,465	55,340	60,608	86,576	83,783	86,576	86,576	83,783	86,576	53,555	55,340
Historical Shoshone	40,905	36,981	45,557	58,353	64,368	62,609	70,222	68,412	63,975	58,826	46,170	43,983

ERC used current demands for all water users other than Shoshone, which is consistent with the new version of the UCRM. This comparison provides a conservative estimate of impacts on structures upstream of Shoshone since historical Shoshone diversions do not exclude water released by upstream reservoirs, which cannot be called for and diverted under the Shoshone Water Rights. Thus, a demand at Shoshone based on historical diversions "pulls" additional water downstream compared to a demand at Shoshone based on natural flow diversions.

Shoshone Diversions

The average annual simulated Shoshone diversion under the BBA Volumetric scenario is 756,119 ac-ft. This result is important because the model shows there isn't sufficient water physically and legally available to meet an average annual yield of 844,644 ac-ft, which BBA claims was the historical use of the Shoshone Water Rights from 1975 through 2003. This supports ERC's conclusion that BBA's estimate of the historical use of the Shoshone Water Rights is inflated as described in ERC's memorandum titled, Evaluation of BBA Water Consultants' Preliminary Shoshone Historical Use Assessment, August 4, 2025. If an average annual volumetric limit of 844,644 ac-ft is adopted for the Shoshone Water Rights, a call of 1,408 cfs could be placed at all times and historical hydrology for 1988-2013 indicates there isn't sufficient water to meet that call. Thus, an average annual volumetric limit of 844,644 ac-ft would not place a limit on the frequency and magnitude of calls placed by the Shoshone Water Rights.

Reservoir Contents

Table 6 presents the average end-of-month contents for Granby Reservoir and GMR including the 52K and HUP accounts for both scenarios for the period from 1988-2013. In addition, the table presents the maximum decrease in end-of-month contents when comparing the monthly data for the two scenarios. A table with the monthly results for the period from 1988-2013 is attached in Appendix A as Table A-1. With a higher demand at Shoshone (BBA Volumetric scenario), GMR is drawn down more due to additional releases from the 52K and HUP accounts to replace C-BT diversions and diversions by upstream HUP beneficiaries that are out-of-priority more often. The maximum decrease in GMR contents under the BBA Volumetric scenario is almost 40,000 ac-ft. Table A-1 shows there are 138 months (44% of the model period) that GMR contents decrease by more than 500 ac-ft under the BBA Volumetric scenario compared to the Historical Scenario. Decreases in storage at Granby Reservoir are not as significant as at GMR since the majority of the impact on the C-BT Project is experienced by the 52K pool. However, decreases in storage do occur due to reductions in Windy Gap diversions, which are out-of-priority more often.

Table 6: Storage Comparisons at Green Mountain and Granby Reservoirs

Reservoir	End of Month Content (ac-ft)
Granby Reservoir	
Average End-of-Month Content – Historical Shoshone	333,180
Average End-of-Month Content – BBA Volumetric	333,219
Maximum Decrease in End-of-Month Content	-1,712
Green Mountain Reservoir	
Average End-of-Month Content – Historical Shoshone	95,998
Average End-of-Month Content – BBA Volumetric	93,261
Maximum Decrease in End-of-Month Content	-39,541
Green Mountain Reservoir 52k Pool	
Average End-of-Month Content – Historical Shoshone	42,967
Average End-of-Month Content – BBA Volumetric	41,625
Maximum Decrease in End-of-Month Content	-24,890
Green Mountain Reservoir HUP	
Average End-of-Month Content – Historical Shoshone	24,227
Average End-of-Month Content – BBA Volumetric	23,289
Maximum Decrease in End-of-Month Content	-18,081

Table 7 presents the average end-of-month month contents for other major reservoirs upstream of Shoshone including Williams Fork, Dillon, Homestake, and Wolford Mountain Reservoirs for both scenarios for the period from 1988-2013. In addition, the table presents the maximum decrease in end-of-month contents when comparing the monthly data for the two scenarios. A table with the monthly results for the period from 1988-2013 is attached in Appendix A as Table A-2.

With a higher demand at Shoshone (BBA Volumetric scenario), the greatest decrease in storage contents occurs at Williams Fork and Homestake Reservoirs. The maximum decrease in Williams Fork Reservoir contents under the BBA Volumetric scenario is over 59,000 ac-ft. Table A-2 shows there are 212 months (68% of the model period) that Williams Fork Reservoir contents decrease by more than 500 ac-ft under the BBA Volumetric scenario compared to the Historical Scenario. **Figure 4** illustrates the additional drawn down experienced at Williams Fork Reservoir under the BBA Volumetric scenario. This occurs because Denver Water's Blue River and Moffat Tunnel systems are out-of-priority more often, and therefore, releases from Williams Fork Reservoir to replace those out-of-priority diversions also increase. Similarly, Homestake Project diversions, including diversions to storage in Homestake Reservoir and direct diversions through Homestake Tunnel, are out-of-priority more often. Homestake Reservoir is drawn down more since additional water is released from Homestake Reservoir through Homestake Tunnel when the Homestake Project water rights are out-of-priority. The maximum decrease in contents in Homestake Reservoir contents under the BBA Volumetric scenario is almost 7,000 ac-ft. Table A-2 shows there are 168 months (54% of the model period) that Homestake Reservoir contents decrease by more than 500 ac-ft under the BBA Volumetric scenario compared to the Historical Scenario. While the impacts at Wolford Mountain Reservoir are less, decreases in storage do occur, which impacts the reliability of the fish pools in that reservoir.

Table 7: Storage Comparisons at Other Major Reservoirs

Reservoir	End of Month Content (ac-ft)
Williams Fork Reservoir	
Average End-of-Month Content – Historical Shoshone	81,761
Average End-of-Month Content – BBA Volumetric	75,249
Maximum Decrease in End-of-Month Content	-59,495
Dillon Reservoir	
Average End-of-Month Content – Historical Shoshone	223,479
Average End-of-Month Content – BBA Volumetric	223,634
Maximum Decrease in End-of-Month Content	-4,763
Homestake Reservoir	
Average End-of-Month Content – Historical Shoshone	27,240
Average End-of-Month Content – BBA Volumetric	25,921
Maximum Decrease in End-of-Month Content	-6,869
Wolford Mountain Reservoir	
Average End-of-Month Content – Historical Shoshone	57,518
Average End-of-Month Content – BBA Volumetric	57,273
Maximum Decrease in End-of-Month Content	-4,886

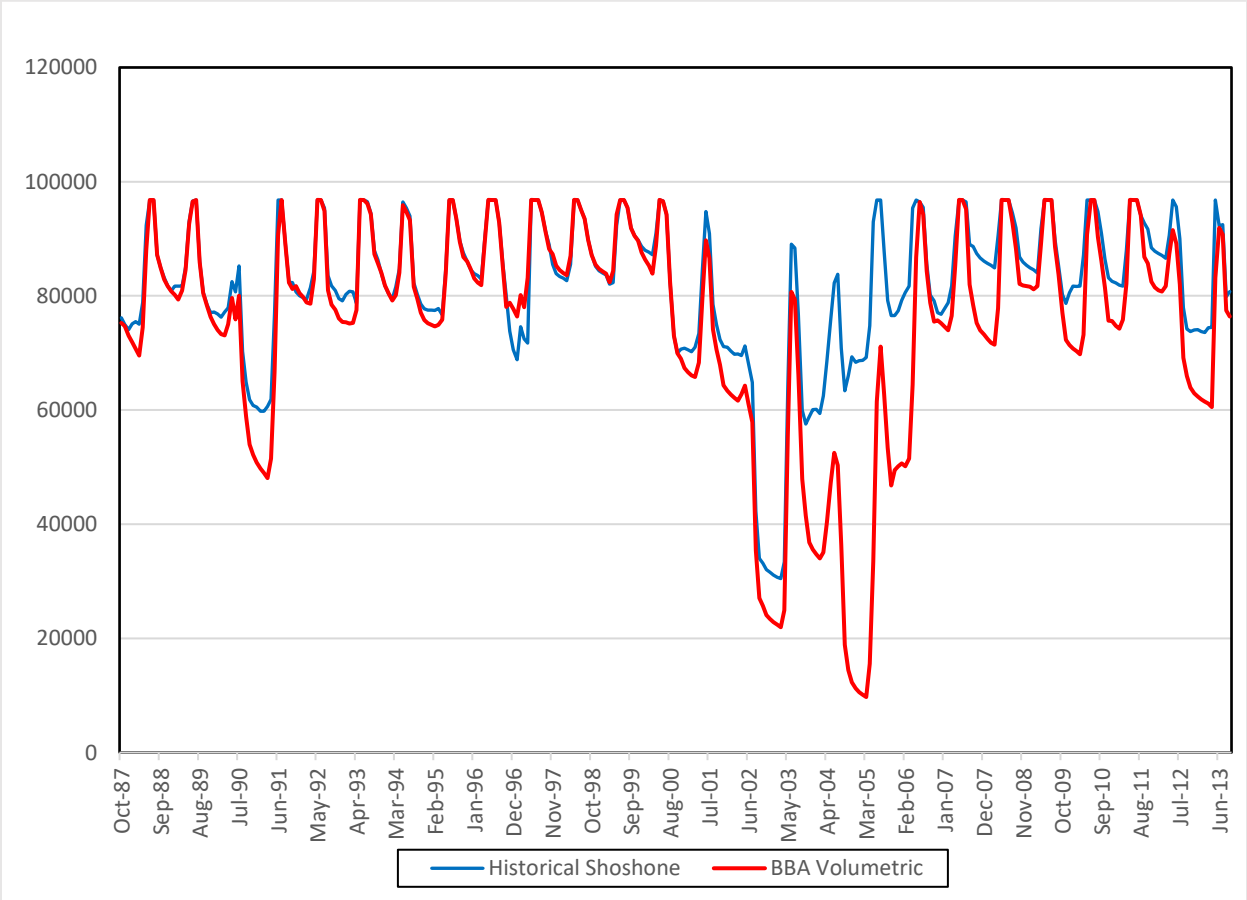

Figure 4: Williams Fork Reservoir End-of-Month Contents

Transmountain Diversions

There is often no change in monthly transmountain diversions to the East Slope between the two scenarios since diversions through the tunnels consist of reservoir releases when direct diversions are out-of-priority or reservoir releases are made to replace out-of-priority diversions. For example, Williams Fork Reservoir makes replacement releases for out-of-priority diversions through Moffat Tunnel and Roberts Tunnel. Therefore, an increased call at Shoshone impacts contents at Williams Fork Reservoir as opposed to diversions through those tunnels. However, projects that do not have replacement supplies such as Windy Gap are curtailed when the call at Shoshone increases. Decreases in tunnel diversions also occur when replacement reservoirs are drained. Decreases in Homestake Project diversions occur when Homestake Reservoir drained in the spring of 2004 and 2005 in the BBA Volumetric scenario, including a maximum annual decrease of 6,047 ac-ft through the Homestake Tunnel. Decreases in Continental Hoosier System diversions would also have a maximum annual decrease of 867 ac-ft.

Substitution Bills

Under the BBA Volumetric scenario, the substitution bill increased by about 2,600 ac-ft on average in years that substitution occurs. This increased the amount of water that was released from Wolford Mountain Reservoir, Williams Fork Reservoir, and other reservoirs to pay back the substitution bill owed to GMR.

15-Mile Reach

Table 8 presents average monthly flows in the 15-Mile Reach under the Historical Shoshone and BBA Volumetric scenarios and the difference in flows between those scenarios. A table with the monthly results for the period from 1988-2013 is attached in Appendix A as Table A-3. The average change in monthly flows ranges from a decrease of 1,854 ac-ft (30 cfs) in April to an increase of 3,678 ac-ft (60 cfs) in October. Flows generally increase when the call at Shoshone increases and diversions that are junior to Shoshone are curtailed and releases from replacement reservoirs increase. Flow decreases typically occur during runoff when more water is diverted to refill reservoirs upstream of Shoshone. Since replacement reservoirs are drawn down more when the call at Shoshone increases, diversions to refill those reservoirs also increase to the extent those storage rights are in priority.

For Hydros' September 2024 Memorandum it only considered flow changes greater than zero at the 15-Mile Reach when determining the yield attributable to the Shoshone call. To demonstrate the effects of that assumption, ERC evaluated flow changes in 2010, which Hydros defined as an average water year. In 2010, monthly increases in flow totaled approximately 22,000 ac-ft and monthly flow decreases totaled 18,000 ac-ft (see Table A-3). The annual change in flow in 2010 is 4,000 ac-ft; however, Hydros would report the yield to the 15-Mile Reach attributed to the Shoshone call as 22,000 ac-ft in 2010 because it only considered flow increases. ERC determined the average annual increase in flow from 1988 to 2013 to be approximately 1,600 ac-ft.

Total monthly releases to the 15-Mile Reach from "fish pools" are similar between the two scenarios; however, there are differences in the volumes released from each reservoir. This occurs because the

amounts available in the "fish pools" are different when the demand at Shoshone increases. For example, additional HUP releases to replace out-of-priority diversions by HUP beneficiaries that occur with a higher demand at Shoshone decreases the amount of surplus HUP available for fish flow purposes. Differences in the substitution bill and associated releases from Wolford Mountain Reservoir also affects the amount available in that reservoir for fish flow purposes.

Table 8: Summary of Changes in Flow in the 15-Mile Reach

	Average Flow			
Month	Historical Shoshone (ac-ft)	BBA Volumetric (ac-ft)	Average Change (ac-ft)	Average Change (cfs)
Jan	95,950	95,969	18	0.3
Feb	88,575	88,348	-227	-3.7
Mar	116,424	116,153	-271	-4.5
Apr	112,540	110,686	-1,854	-30.2
May	408,266	407,156	-1,110	-18.0
Jun	590,043	588,368	-1,674	-28.1
Jul	234,605	234,161	-444	-7.2
Aug	67,411	68,688	1,278	21.5
Sep	57,262	59,893	2,631	42.8
Oct	73,703	77,380	3,678	59.8
Nov	97,627	97,371	-255	-4.6
Dec	99,483	99,286	-197	-3.2
Total	**2,041,888**	**2,043,461**	**1,573**	

Summary

Hydros' representation of the Zero Shoshone scenario in the UCRM and thus its comparisons against that scenario and conclusions related to the impact on flows in the 15-Mile Reach due to lack of administration of the Shoshone Water Rights are not reliable. Hydros' Zero Shoshone scenario does not consider the Orchard Mesa Check Case Settlement, 2013 CRCA, and 2016 ShOP and ERC disagrees with the manner in which Hydros quantified yield to the 15-Mile Reach attributable to the Shoshone call.

Hydros' comparison of model results using the UCRM underestimates impacts on storage and major transmountain diversions since Hydros chose to compare scenarios that generate nearly identical results for Shoshone diversions. ERC used the new version of the UCRM to compare a scenario with the demand at Shoshone increased to a level that coincides with BBA's estimate of the annual average yield of the Shoshone Water Rights with a scenario that reflects historical Shoshone diversions reported by CDSS. Model results show the following impacts occur if the demand at Shoshone increases.

- Diversions by upstream transmountain projects and HUP beneficiaries are out-of-priority more often. Diversions without a replacement source, such as Windy Gap, the Homestake Project, and the Continental-Hoosier System, are curtailed. Diversions by the C-BT Project, HUP beneficiaries, and Denver Water's Blue River and Moffat Tunnel systems continue to the extent that additional

releases are made from replacement reservoirs including Williams Fork Reservoir and the GMR Reservoir HUP and 52K accounts.

- Replacement reservoirs and accounts are drawn down significantly because additional replacement releases are made. The additional drawdown of upstream reservoirs decreases the reliability of those reservoirs and their ability to meet demands, including replacement releases for both East and West Slope demands and deliveries through tunnels, should more frequent and severe droughts occur in the future.
- The magnitude of the substitution bill increased, which increased the drawdown at Williams Fork Reservoir, Wolford Mountain Reservoir, and other reservoirs since additional water was released from those reservoirs to pay that bill.
- Flows increase at times in the 15-Mile Reach when junior diversions upstream of Shoshone are curtailed and additional replacement releases are made. Flows also decrease in the 15-Mile Reach when replacement reservoirs are refilling to the extent those storage rights are in priority.

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District Court, Water Division 5. Findings of Fact, Conclusions of Law, Judgment and Decree Concerning the Application for Water Rights of the Grand Valley Water Users Association, Orchard Mesa Irrigation District, and the United Sates of American, in Mesa County, Colorado. October 1, 1996.

Green Mountain Reservoir Historic Users Pool Operating Criteria set forth in Exhibit D of the Orchard Mesa Check Case Stipulation and Agreement, September 4, 1996.

Hydros, 2023. Colorado River Risk Study Phase IV Draft Report. Prepared for the Colorado River District and the Southwestern Water Conservation District.

Hydros, 2024. Shoshone Power Plant Water Rights Yield Assessment, September 11, 2024.

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Orchard Mesa Check Case Stipulation and Agreement, September 4, 1996.

Shoshone Outage Protocol Agreement, June 27, 2016.

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Wilson Water Group, 2024. Colorado River 2024 Daily Baseline StateMod Model Update, September 16, 2024.

Xcel, 2007. Agreement Concerning Reduction of Shoshone Call. Agreement between the City and County of Denver, acting by and through its Board of Water Commissioners, and Public service Company of Colorado d/b/a Xcel Energy, January 1, 2007.

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Denver Ex. 7

Education

Master of Science, Water Resources Engineering, University of Colorado

Bachelor of Science, Civil & Environmental Engineering, Cornell University

Professional Affiliations

Registered Engineer, State of Colorado, 1998

Areas of Expertise

Ms. Thompson specializes in water resources projects involving surface water modeling, planning, environmental permitting, water rights investigations, water rights accounting, yield analyses, and hydrologic analyses. Her experience includes water supply studies, surface water hydrologic evaluations, and water rights investigations.

Representative Professional Experience

Windy Gap Firming Project, Northern Colorado Water Conservancy District, CO. Project engineer responsible for identification of alternatives for firming the Windy Gap water supply, implementation of alternatives screening process, and modeling of Windy Gap Firming Project (WGFP) EIS alternatives for analysis of firm yield and hydrologic effects including changes in stream flow and reservoir storage. Responsible for the development of a BESTSM model of the Colorado-Big Thompson Project and Windy Gap systems, which was used in conjunction with the Colorado River Decision Support System (CDSS) model, to determine yield and analyze hydrologic effects of WGFP alternatives. Responsible for simulating WGFP Environmental Impact Statement alternatives and assisted ERO in the preparation of the EIS.

Moffat Collection System Environmental Impact Statement, CO. Project engineer involved in preparation of an EIS for Denver Water's Moffat Collection System Project. Responsible for the review of purpose and need, alternatives identification and screening, and review of adequacy of Denver Water's PACSM Model for use in analyzing hydrologic impacts of project alternatives. Reviewed PACSM modeling of Moffat Project EIS alternatives and assisted in generating and summarizing model output for the analysis of hydrologic effects including changes in stream flow and reservoir storage. Responsible for the documentation of existing surface water conditions, including stream flows, reservoir operations, and municipal, industrial, and agricultural water use.

Milton Seaman Water Supply Project Environmental Impact Statement, Colorado. Project engineer involved in preparation of an EIS for the City of Greeley's Milton Seaman Water Supply Project. Involved in the review of alternatives identification and screening, and modeling of EIS alternatives. Next phases will include documentation of existing surface water conditions, including stream flows, reservoir operations, and municipal, industrial, and agricultural water use and generating and summarizing model output for the analysis of hydrologic effects associated with EIS alternatives.

Bureau of Reclamation, Green Mountain Reservoir Substitution Power and Interference Agreements EA, CO. Project Engineer for a third-party EA evaluating the effects of Reclamation entering into a long-term water substitution and power interference agreement with Western Area Power Administration and Colorado Springs Utilities. Assisted in preparation and review of the project Purpose and Need, alternatives development, and agency and public scoping. Responsible for hydrologic modeling of the EA alternatives using the CDSS Model to analyze surface water resources affects for the EA.

Ute Water Conservancy District Raw Water Source Alternatives Study, CO. Project engineer for a study to identify new raw water supplies for Ute Water Conservancy District (UWCD) through 2045. Assisted in developing potential water supply alternatives, and a modeling approach to evaluate alternatives. Use of UWCD SYSTEM model to evaluate the firm yield and hydrologic effects of water supply alternatives.

Peabody Trout Creek Reservoir Project, CO. Project Engineer responsible for the hydrologic evaluation of the proposed Peabody Trout Creek Reservoir Project on Trout Creek in the Yampa River Basin. Peabody Trout Creek Reservoir LLC is applying for a Federal Energy Regulatory Commission (FERC) hydropower license for a multi-purpose water storage project.

Big and Little Wind River Storage, Level II, Phase II Study, WY. Responsible for refining and calibrating a StateMOD model of the Big and Little Wind River basins in Wyoming. Used the model to evaluate the physically and legally available water supply at several proposed reservoir sites and the ability of these reservoirs to reduce shortages to meeting irrigation demands.

Colorado River Decision Support System Model, Colorado River Basin, CO. Performed calibration of the Upper Colorado River basin Colorado Decision Support System (CDSS) model. Adjusted baseflow disaggregation parameters and compared simulated and historical reservoir and flow records.

Decision Support System Model of the South Platte River, CO. Member of a team responsible for development of a CDSS model of the South Platte River covering Water Districts 2, 7, 8, 9, 23 and 80. Responsible for data collection and interpretation, development of model input files, calibration and model documentation.

South Platte River Strategic Plan, CO. Project Engineer responsible for development of an operational model of Aurora's South Platte River supply system, defining existing operations, and identification and evaluation of alternative water supply management strategies.

Phase 2 Assessment of 10825 Water Supply Alternatives, CO. Project Engineer responsible for the hydrologic evaluation of several alternatives to permanently supply 10,825 acre-feet of water per year to assist with the recovery of the endangered fish in the 15-Mile Reach of the Colorado River near Grand Junction. Assisted Grand River Consulting in the evaluation of 10825 alternatives that include Williams Fork Reservoir and Lake Granby releases as a component of the 10825 supply.

Water Rights Engineer for Farmers Reservoir and Irrigation Company and Burlington, Ditch, Reservoir and Land Company, CO. Responsible for providing engineering support for numerous water rights change cases and accounting. Tasks include Water Court application review, expert testimony, preparation of 26(a)(2) disclosures, historical consumptive use, exchange potential, and water availability analyses, and water rights accounting.

On-Call Water Supply Planning and Water Rights Services, Westminster, CO. Responsible for providing engineering support related to water supply planning, water rights accounting and water rights investigations for the City of Westminster.

On-Call Water Supply Planning and Modeling Services, Front Range Water Council, CO. Responsible for providing modeling support for the Front Range Water Council, which includes Denver Water, Aurora Water, Colorado Springs Utilities, Pueblo Board of Water Works, Northern Colorado Water Conservancy District, Southeastern Colorado Water Conservancy District, and Twin Lakes Reservoir and Canal Company. In that capacity, ERC is using the Colorado River Simulation System (CRSS) model, which is the primary planning tool for studying Lake Powell and Lake Mead operations, to evaluate operations of the 2007 Interim Guidelines (IG) and assist the FRWC in anticipation of the renegotiation of the 2007 IG.

On-Call Water Rights Services, Consolidated Home Supply Ditch and Reservoir Company, CO. Responsible for providing engineering support related to water rights accounting and water rights investigations for the Consolidated Home Supply Ditch and Reservoir Company.

On-Call Water Supply Planning and Water Rights Services, Lake Canal Company and Lake Canal Reservoir Company, CO. Responsible for providing engineering support related to water supply planning, water rights accounting and water rights investigations for the Lake Canal Company and Lake Canal Reservoir Company.

On-Call Water Supply Planning and Water Rights Services, Larimer and Weld Irrigation Company, CO. Responsible for providing engineering support related to water supply planning, water rights accounting and water rights investigations for the Larimer and Weld Irrigation Company.

Water Resources Planning Services for Denver Water, Denver, CO. Responsible for updating several operating memoranda and node documents for features in Denver Water's Platte and Colorado Simulation Model (PACSM). Recommendations provided with respect to water rights, current and future demands, physical characteristics of facilities, return flows, operations, virgin flows, historical data, and modeling approach.

St. Vrain Basin Water Source Study, CO. Responsible for evaluating water supply options in the St. Vrain Creek, Boulder Creek, Big Thompson River, and South Platte River Mainstem basins for the Towns of Firestone, Frederick, and Dacono, the Little Thompson Water District, and Central Weld County Water Conservancy District. Evaluated the seniority, location, magnitude of unchanged firm yield, availability of storage, and feasibility of a water rights transfer for over 50 water supply options. Developed costs for the short-listed water supplies that passed the screening process.

List of Cases for which Expert Testimony has been Provided

Year	Case No.	Court	Applicant
2008	02CW403	Colorado Water Division 1	Farmers Reservoir and Irrigation Company
2019	16CW3052	Colorado Water Division 1	Farmers Reservoir and Irrigation Company

List of Expert Reports Prepared

Accounting and Operations Report Case Nos. 02CW404 and 03CW442, June 15, 2010.

Application in Case No. 2015CW3065 Diligence Application of Water Rights Decreed in Case No. 02CW403, January 29, 2018.

Application for Finding of Reasonable Diligence to Make Absolute Conditional Water Rights Case No. 05CW238 (84CW090), December 27, 2013.

Case No. 21CV30210 Adams County District Court LOB, LLC v. FRICO Expert Report Related to FRICO's use of its Water Right Decreed in Case NO. 84CW90, November 30, 2021.

Engineering Analysis Case No. 08CW71, October 7, 2010.

Engineering Rebuttal Report Application in Case No. 2015CW3065 Diligence Application of Water Rights Decreed in Case No. 02CW403, July 2, 2018.

Engineering Rebuttal Report Conditional Water Rights in the Beebe Draw Application in Case No. 2016CW3052, November 26, 2018.

Engineering Report for Conditional Water Rights in the Beebe Draw – Case No. 16CW3052, May 16, 2018.

Engineering Report to Support an Application for Absolute and Conditional Water Storage Rights in Case No. 17CW3216, April 27, 2018.

Engineering Report to Support Westminster's Change of Use of 128.06 Shares in the Standley Lake Division of the Farmers Reservoir and Irrigation Company Case No. 18CW8090, May 24, 2021.

Engineering Report for Case No. 21CV30324, July 11, 2023.

Engineering Report for a Conditional First Enlargement Storage Right and an Absolute and Conditional Refill Right in Milton Lake Case No. 22CW3102, April 1, 2025.

Opinions Regarding Alternate Point of Diversion for the Midway Reservoir Storage Rights from the Welch Ditch to the Agricultural Ditch, Case No. 2005CW114, September 24, 2012.

Opinions Regarding Diversions into the Platte Valley Canal for the Milton Lake Division Case No. 2012CV726, January 25, 2013.

Opinions Regarding the Change of Water Rights for 68.13 Shares of the J.W. Bowles Reservoir Company and an Appropriative Right of Exchange, Case No. 11CW294, August 28, 2013.

Opinions Regarding Case No. 12CW073, December 12, 2014.

Opinions Regarding the City of Brighton's Case No. 2003CW320, February 24, 2014.

Opinions Regarding Case No. 07CW323, May 8, 2015.

Opinions Regarding Case No. 11CW122, January 2, 2015

Opinions Regarding Case No. 13CW029, May 8, 2015.

Opinions Regarding Case No. 08CW310, June 5, 2015.

Opinions Regarding Case No. 14CW3007, July 23, 2015.
Opinions Regarding Case No. 13CW3066, September 11, 2015.

Opinions Regarding Case No. 2012CW179, October 16, 2015.

Opinions Regarding Case No. 05CW058/11CW151, May 16, 2016.

Opinions Regarding Case Nos. 05CW112/11CW237, May 27, 2016.

Opinions Regarding Case No. 13CW3025, June 29, 2016.

Opinions Regarding Case No. 05CW058/11CW151, September 13, 2016.

Opinions Regarding Case No. 08CW141, October 28, 2016.

Opinions Regarding Case No. 09CW091, February 28, 2017.

Opinions Regarding Case No. 13CW3026, May 25, 2017.

Opinions Regarding Case No. 16CW3059, November 27, 2017.

Opinions Regarding Case No. 13CW3153, March 16, 2018.

Opinions Regarding Case Nos. 16CW3195 and 16CW3196, September 30, 2019.

Opinions Regarding Case No. 19CW3024, June 29, 2020.

Opinions Regarding Case Nos. 19CW3074 and 19CW3075, December 28, 2020.

Opinions Regarding Case No. 19CW3062, November 19, 2021.

Opinions Regarding Case No. 19CW3073, May 26, 2022.

Opinions Regarding Case No. 22CW3130, February 12, 2024.

Opinions Regarding Case No. 23CW3012, August 7, 2024.

Opinions Regarding Case No. 20CW3208, November 15, 2024.

Opinions Regarding Case Nos. 13CW3180, 13CW3182, 13CW3183 and 14CW3173, December 24, 2015.

Opposition to Case No. 10CW316, Application of Parker Water and Sanitation District, August 26, 2014.

Opposition to Case No. 10CW141, Application of Western Mutual Ditch Company, August 28, 2014.

Opposition to Case Nos. 10CW312 and 11CW280, Applications of Arapahoe County Water and Wastewater Authority, East Cherry Creek Valley Water and Sanitation District and United Water and Sanitation District, June 10, 2014.

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Rebuttal Engineering Report in Support of Case No. 05CW238 Application for Finding of Reasonable Diligence to Make Absolute Conditional Water Rights, May 23, 2014.

Rebuttal Report Concerning Accounting and Operations for Case Nos. 02CW404 and 03CW442, February 4, 2011.

Rebuttal Report for Public Service Company Case No. 13CW3066, November 20, 2015.

Rebuttal Engineering Report to Support Westminster's Change of Use of 128.06 Shares in the Standley Lake Division of the Farmers Reservoir and Irrigation Company Case No. 18CW3090, November 8, 2021.

Rebuttal Report for Case No. 21CV30324, September 1, 2023.

Rebuttal Report for Case No. 22CW3130, July 22, 2024.

Response Report for Case No. 21CV30324, August 14, 2023.

Second Supplemental Report for Case No. 20CW3208, March 18, 2025.

Supplemental Information in Support of Case No. 05CW238, July 3, 2014.

Supplemental Opinions Regarding Case No. 11CW122, January 30, 2015.

Supplemental Opinions Regarding Exchange Portion of Case No. 05CW058/11CW151, January 5, 2017.

Supplemental Opinions Concerning Case No. 2016CW3052, August 27, 2018.

Supplemental Opinions Concerning Case No. 2016CW3053, March 13, 2019.

Supplemental Opinions Regarding Case Nos. 16CW3195 and 16CW3196, February 12, 2020.
Supplement Opinions Regarding Case Nos 19CW3074 and 19CW3075, March 10, 2021.

Supplemental Opinions in Case No. 20CW3208, February 7, 2025

Supplemental Report Consolidated Case Nos. 05CW112/11CW237, July 5, 2016.

Supplemental Report Consolidated Case Nos. 05CW112/11CW237, July 19, 2016.

Supplemental Report for Case No. 19CW3062, February 14, 2022.

Supplemental Report for Case No. 19CW3073, September 1, 2022.

Technical Memorandum for Case No. 12CW306, June 25, 2013.

Table 1: Monthly Demands at Shoshone for Hydros' September 2024 Analyses (ERC, 2025b)

Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	76,861	69,423	76,861	74,381	76,861	74,381	76,861	76,861	74,381	76,861	74,381	76,861
3	86,576	78,198	86,576	83,783	86,576	83,783	86,576	86,576	83,783	86,576	83,783	86,576
4[1]	76,861	74,381	61,441	41,892	58,648	74,381	76,861	76,861	74,381	76,861	74,381	76,861
5[2]	86,576	78,950	61,441	41,892	58,648	83,783	86,576	86,576	83,783	86,576	83,783	86,576

1: Monthly demands for 2003, 2004, and 2013. In all other years, the monthly demands equal the values shown for Scenario 2.

2: Monthly demands for 2003, 2004, and 2013. In all other years, the monthly demands equal the values shown for Scenario 3.

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Table 2: Wet, Average, and Dry Year Yields at 15-Mile Reach from Hydros September 2024 Analysis (ERC, 2025b)

Scenario	Wet Year (1998) 15-Mile Reach Yield (ac-ft)	Average Year (2010) 15-Mile Reach Yield (ac-ft)	Dry Year (2012) 15-Mile Reach Yield (ac-ft)
Senior Current Basin-Wide Demands	3,107	5,376	41,184
Senior Future Basin-Wide Demands	13,028	22,608	55,080
Maximum Current Basin-Wide Demands	13,359	9,823	69,580
Maximum Future Basin-Wide Demands	27,273	27,324	86,143

Table 3: Average Monthly Shoshone Demands Compared to Historical Shoshone Diversions 1988-2013 (ERC, 2025b)

Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CWCB	55,340	50,465	60,721	78,632	82,246	81,433	84,876	84,503	81,637	84,454	62,703	55,340
Max	86,576	78,949	84,642	80,561	84,428	83,783	86,576	86,576	83,783	86,576	83,783	86,576
Historical	40,905	36,981	45,557	58,353	64,368	62,609	70,222	68,412	63,975	58,826	46,170	43,983

Table 4: Average Monthly Simulated Natural Flow Diversion at Shoshone (1988-2013)[1,2] (ERC,2025b)

Month	CWCB Demand (ac-ft)	Max Shoshone (ac-ft)
Jan	47,247	48,403
Feb	43,552	44,493
Mar	54,531	59,671
Apr	72,134	74,997
May	80,848	84,945
Jun	81,199	83,311
Jul	82,773	84,177
Aug	75,081	75,680
Sep	63,346	63,931
Oct	63,729	64,072
Nov	52,617	56,725
Dec	48,142	50,033
Total	**765,199**	**790,439**

1: Natural flow diversions do not include diversions of reservoir water released for downstream users.

2: Results based on simulations using the version of the UCRM releases by CWCB on December 9, 2024.

Table 5: Average Monthly Shoshone Demands for BBA Volumetric and Historical Shoshone Scenarios (ERC, 2025b)

Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
BBA Volumetric	55,340	50,465	55,340	60,608	86,576	83,783	86,576	86,576	83,783	86,576	53,555	55,340
Historical Shoshone	40,905	36,981	45,557	58,353	64,368	62,609	70,222	68,412	63,975	58,826	46,170	43,983

Table 6: Storage Comparisons at Green Mountain and Granby Reservoirs (ERC, 2025b)

Reservoir	End of Month Content (ac-ft)
Granby Reservoir	
Average End-of-Month Content – Historical Shoshone	333,180
Average End-of-Month Content – BBA Volumetric	333,219
Maximum Decrease in End-of-Month Content	-1,712
Green Mountain Reservoir	
Average End-of-Month Content – Historical Shoshone	95,998
Average End-of-Month Content – BBA Volumetric	93,261
Maximum Decrease in End-of-Month Content	-39,541
Green Mountain Reservoir 52k Pool	
Average End-of-Month Content – Historical Shoshone	42,967
Average End-of-Month Content – BBA Volumetric	41,625
Maximum Decrease in End-of-Month Content	-24,890
Green Mountain Reservoir HUP	
Average End-of-Month Content – Historical Shoshone	24,227
Average End-of-Month Content – BBA Volumetric	23,289
Maximum Decrease in End-of-Month Content	-18,081

Table 7: Storage Comparisons at Other Major Reservoirs (ERC, 2025b)

Reservoir	End of Month Content (ac-ft)
Williams Fork Reservoir	
Average End-of-Month Content – Historical Shoshone	81,761
Average End-of-Month Content – BBA Volumetric	75,249
Maximum Decrease in End-of-Month Content	-59,495
Dillon Reservoir	
Average End-of-Month Content – Historical Shoshone	223,479
Average End-of-Month Content – BBA Volumetric	223,634
Maximum Decrease in End-of-Month Content	-4,763
Homestake Reservoir	
Average End-of-Month Content – Historical Shoshone	27,240
Average End-of-Month Content – BBA Volumetric	25,921
Maximum Decrease in End-of-Month Content	-6,869
Wolford Mountain Reservoir	
Average End-of-Month Content – Historical Shoshone	57,518
Average End-of-Month Content – BBA Volumetric	57,273
Maximum Decrease in End-of-Month Content	-4,886

Table 8: Summary of Changes in Flow in the 15-Mile Reach (ERC, 2025b)

Month	Average Flow			
	Historical Shoshone (ac-ft)	BBA Volumetric (ac-ft)	Average Change (ac-ft)	Average Change (cfs)
Jan	95,950	95,969	18	0.3
Feb	88,575	88,348	-227	-3.7
Mar	116,424	116,153	-271	-4.5
Apr	112,540	110,686	-1,854	-30.2
May	408,266	407,156	-1,110	-18.0
Jun	590,043	588,368	-1,674	-28.1
Jul	234,605	234,161	-444	-7.2
Aug	67,411	68,688	1,278	21.5
Sep	57,262	59,893	2,631	42.8
Oct	73,703	77,380	3,678	59.8
Nov	97,627	97,371	-255	-4.6
Dec	99,483	99,286	-197	-3.2
Total	**2,041,888**	**2,043,461**	**1,573**	

Figure 1: Historical Shoshone Diversions Compared to CWCB Demand
(ERC, 2025b)

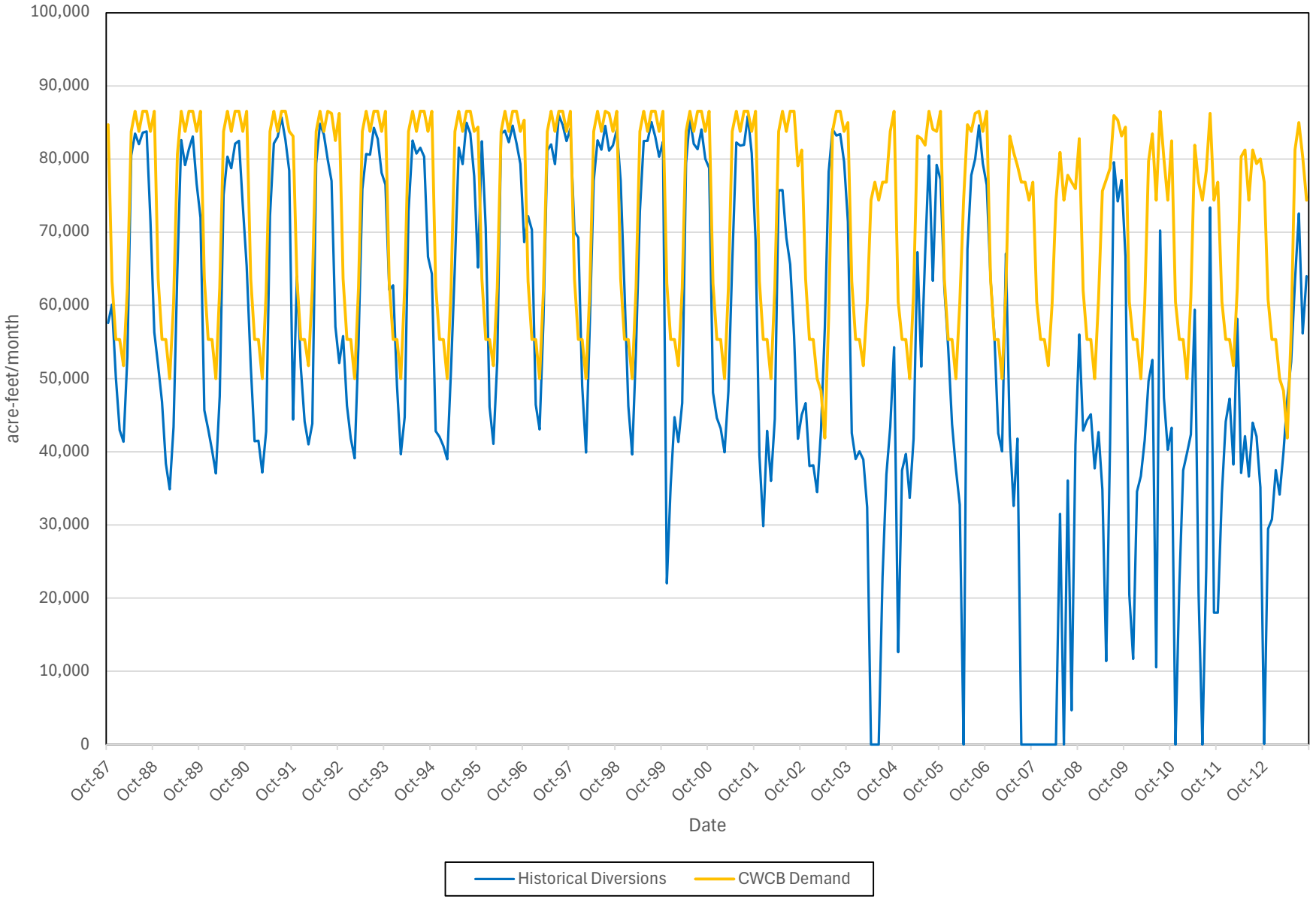

Figure 2: Average Monthly Shoshone Demands Compared to Historical Shoshone Diversions 1988-2013 (ERC, 2025b)

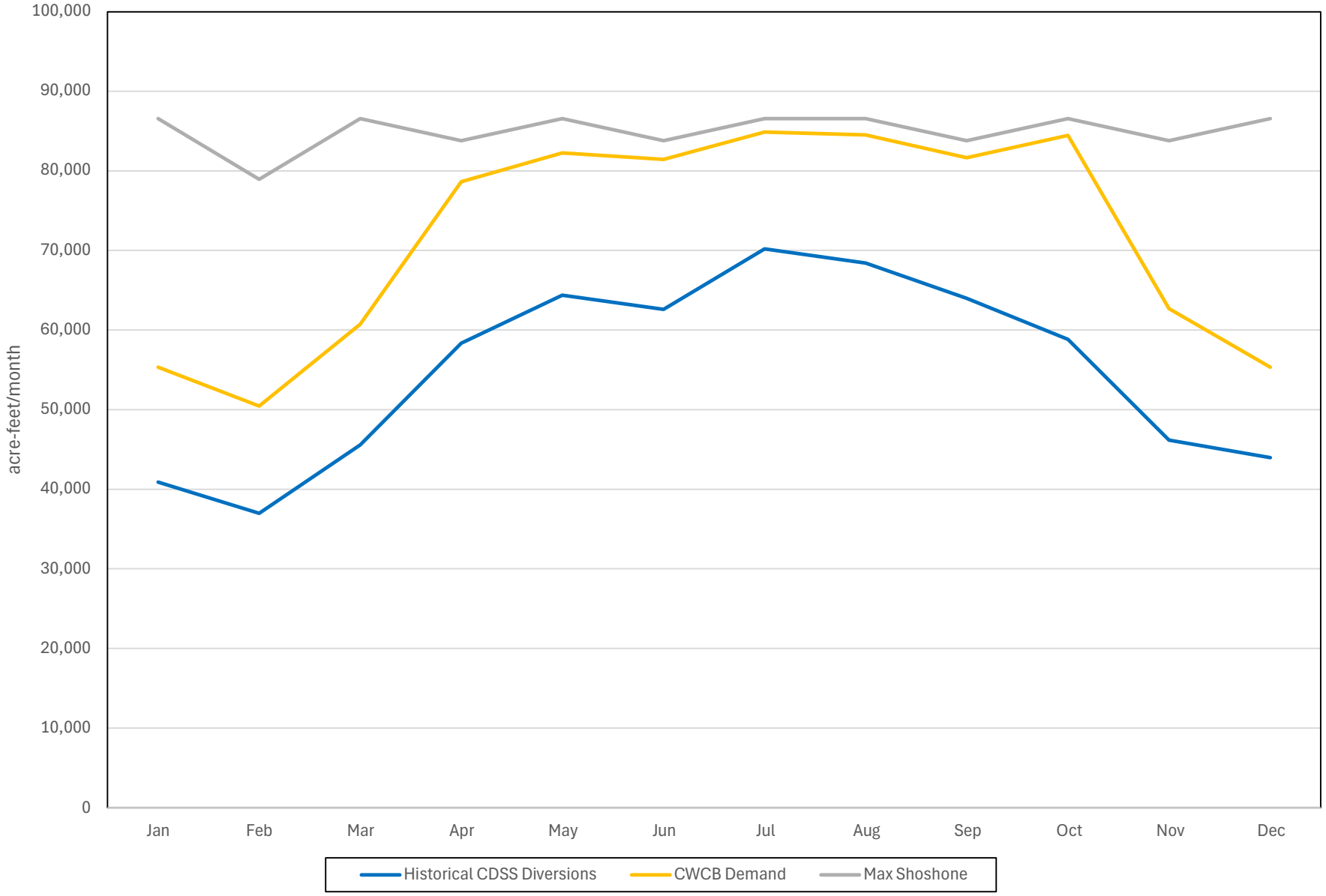

Figure 3: Average Monthly Simulated Natural Flow Diversion at Shoshone (1988-2013) (ERC, 2025b)

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

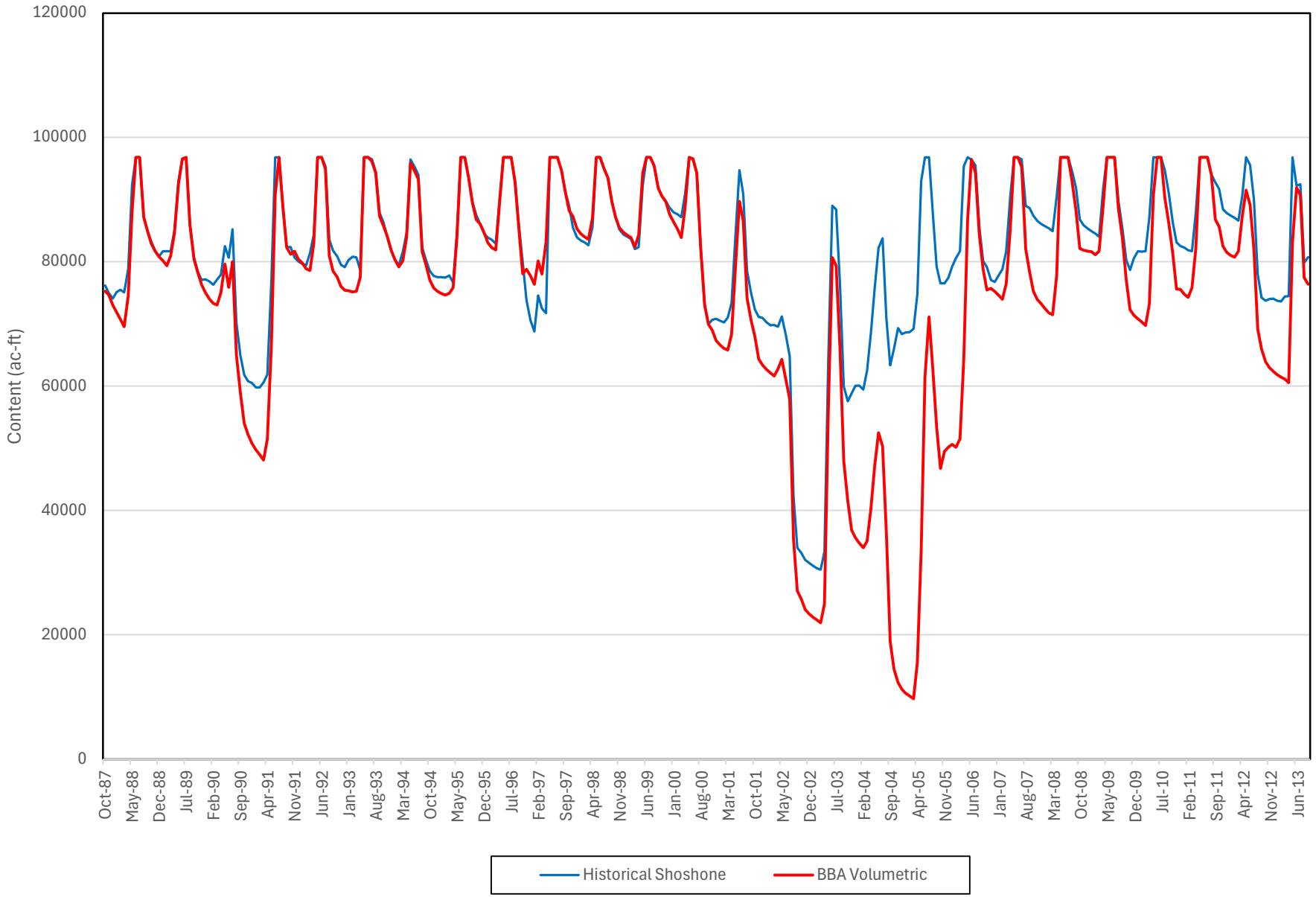

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Oct-87	424,843	424,842	-1	113,242	113,242	0	42,614	42,614	0	34,061	34,061	0
Nov-87	416,457	416,456	-1	103,592	103,592	0	42,280	42,280	0	8,481	8,481	0
Dec-87	395,287	395,285	-1	93,946	93,946	0	42,313	42,313	0	8,487	8,487	0
Jan-88	371,388	371,386	-2	84,299	84,299	0	39,199	39,198	-1	8,493	8,493	0
Feb-88	342,522	342,520	-2	74,649	74,649	0	29,556	29,558	2	8,488	8,488	0
Mar-88	318,768	318,766	-2	64,998	64,998	0	19,951	19,953	2	8,481	8,481	0
Apr-88	326,460	327,249	790	70,309	71,068	760	25,283	26,035	753	8,460	8,460	0
May-88	379,595	380,373	778	102,875	103,618	743	51,994	51,994	0	34,239	34,981	743
Jun-88	456,537	457,313	776	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-88	460,766	461,540	774	153,338	153,266	-73	51,904	51,904	0	64,860	64,788	-73
Aug-88	446,134	446,907	773	139,349	139,276	-73	46,640	46,639	-1	56,268	56,197	-71
Sep-88	426,544	427,318	774	129,428	129,366	-62	44,825	44,823	-1	50,452	50,381	-71
Oct-88	408,274	409,048	774	119,515	119,463	-52	39,092	39,111	19	49,162	49,091	-71
Nov-88	394,111	394,871	760	109,610	109,569	-42	36,693	36,132	-561	8,480	8,480	0
Dec-88	361,665	362,426	761	99,710	99,672	-38	36,008	35,421	-587	8,486	8,486	0
Jan-89	334,125	334,887	761	89,809	89,784	-25	36,029	34,591	-1,437	8,492	8,492	0
Feb-89	305,887	306,648	761	79,903	79,891	-13	36,005	32,593	-3,412	8,492	8,492	0
Mar-89	282,520	283,281	761	69,998	69,998	0	30,419	30,601	182	8,484	8,484	0
Apr-89	286,257	287,112	854	66,756	67,314	557	27,213	27,951	738	8,464	8,464	0
May-89	302,624	303,473	849	94,495	95,046	552	51,993	51,993	0	25,859	26,410	552
Jun-89	323,561	324,318	757	109,330	109,157	-173	51,991	51,991	0	37,554	37,432	-123
Jul-89	304,109	304,819	710	114,356	114,107	-249	51,914	51,914	0	40,489	40,291	-198
Aug-89	288,535	289,243	708	113,858	113,610	-248	51,708	51,708	0	40,285	40,087	-197
Sep-89	259,622	260,336	714	107,580	107,367	-213	51,534	51,533	0	38,701	38,477	-224
Oct-89	241,601	242,315	714	101,310	101,132	-177	45,891	45,987	96	38,619	38,396	-223
Nov-89	225,282	225,996	714	95,046	94,904	-142	45,667	45,765	98	8,479	8,479	0
Dec-89	193,235	193,948	713	88,786	88,672	-114	45,704	45,149	-555	8,485	8,485	0
Jan-90	160,281	160,992	711	82,526	82,449	-77	45,233	44,449	-784	8,491	8,491	0
Feb-90	130,965	131,675	710	76,259	76,220	-38	44,037	43,023	-1,014	8,491	8,491	0
Mar-90	107,467	108,177	710	69,998	69,998	0	42,987	40,332	-2,655	8,484	8,484	0
Apr-90	109,477	110,186	709	66,250	68,284	2,034	41,064	43,270	2,206	8,463	8,463	0
May-90	124,922	125,624	702	76,989	78,989	2,000	51,993	51,993	0	8,353	10,353	2,000
Jun-90	209,451	210,106	655	98,087	98,638	551	51,952	51,933	-19	27,567	28,204	638

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jul-90	229,574	230,054	480	109,218	109,390	172	51,808	51,808	0	35,142	35,439	297
Aug-90	229,948	230,427	479	107,973	108,143	170	51,600	51,600	0	34,194	34,488	295
Sep-90	219,434	219,913	479	100,101	99,954	-147	48,590	48,467	-123	29,408	29,508	100
Oct-90	209,242	209,721	479	84,747	83,578	-1,170	45,079	43,957	-1,122	17,658	17,734	76
Nov-90	201,297	201,776	479	80,796	79,860	-936	43,504	41,843	-1,662	8,479	8,479	0
Dec-90	186,751	187,231	479	76,849	76,147	-702	43,110	41,069	-2,042	8,485	8,485	0
Jan-91	170,823	171,303	479	72,901	72,427	-474	42,004	39,625	-2,378	8,491	8,491	0
Feb-91	141,628	142,107	479	68,950	68,713	-237	41,502	38,746	-2,756	8,491	8,491	0
Mar-91	117,477	117,956	479	64,998	64,982	-16	39,795	36,225	-3,570	8,483	8,483	0
Apr-91	106,657	107,136	478	63,557	64,380	823	38,422	39,307	885	8,462	8,462	0
May-91	149,019	149,485	466	94,812	95,685	873	51,993	51,993	0	26,176	27,049	873
Jun-91	255,084	255,154	69	142,930	144,044	1,113	51,991	51,992	0	60,711	61,514	803
Jul-91	263,144	263,123	-21	154,259	154,394	134	51,978	51,978	0	65,789	65,789	0
Aug-91	266,954	266,933	-21	143,657	143,558	-99	46,100	45,960	-141	61,195	61,104	-92
Sep-91	254,006	253,995	-10	117,582	117,473	-110	40,053	39,913	-140	41,285	41,183	-102
Oct-91	236,361	236,351	-10	109,644	109,550	-94	39,336	38,654	-682	35,018	34,907	-111
Nov-91	221,163	221,152	-11	101,714	101,638	-75	37,113	37,104	-9	8,480	8,480	0
Dec-91	192,262	192,251	-11	93,787	93,731	-57	36,249	35,936	-313	8,485	8,485	0
Jan-92	168,064	168,054	-11	85,853	85,814	-39	35,307	34,605	-702	8,492	8,492	0
Feb-92	138,893	138,882	-11	77,926	77,903	-22	34,651	33,393	-1,258	8,492	8,492	0
Mar-92	114,797	114,786	-11	69,998	69,998	0	30,702	30,636	-66	8,484	8,484	0
Apr-92	114,474	114,525	51	69,146	70,038	892	29,817	30,643	826	8,463	8,463	0
May-92	165,556	165,586	30	99,474	100,363	889	51,993	51,993	0	30,837	31,727	889
Jun-92	204,815	204,846	31	125,925	125,795	-130	51,991	51,991	0	50,194	50,088	-107
Jul-92	216,288	215,816	-472	123,113	122,794	-319	50,727	50,704	-22	48,233	47,960	-273
Aug-92	211,258	210,787	-471	122,568	122,249	-318	50,530	50,508	-23	47,977	47,705	-272
Sep-92	198,480	198,020	-461	113,616	113,344	-273	48,359	48,717	358	46,223	44,494	-1,729
Oct-92	187,586	187,126	-461	93,758	93,476	-282	46,898	47,251	353	27,910	26,181	-1,729
Nov-92	178,536	178,075	-460	87,002	86,768	-234	44,567	44,898	332	8,479	8,479	0
Dec-92	156,816	156,356	-461	80,252	80,076	-176	43,691	43,919	229	8,485	8,485	0
Jan-93	133,107	132,646	-461	73,503	73,383	-120	43,304	42,619	-685	8,492	8,492	0
Feb-93	105,507	105,046	-461	66,751	66,691	-60	39,643	39,681	39	8,489	8,491	2
Mar-93	81,647	81,187	-461	59,998	59,998	0	32,918	33,016	99	8,481	8,483	2

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Apr-93	75,182	75,052	-130	54,492	59,508	5,016	27,487	32,600	5,113	8,460	8,462	2
May-93	150,754	150,672	-82	89,425	94,469	5,044	51,993	51,993	0	20,789	25,833	5,044
Jun-93	288,486	288,406	-80	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-93	347,198	346,793	-405	153,808	153,713	-94	51,941	51,941	0	65,343	65,265	-78
Aug-93	347,724	346,611	-1,113	151,174	150,248	-926	51,573	50,942	-631	63,209	62,931	-278
Sep-93	339,642	338,589	-1,053	127,270	125,967	-1,303	46,745	45,870	-875	44,247	43,835	-412
Oct-93	329,045	327,993	-1,052	115,533	114,232	-1,302	41,393	40,534	-860	37,981	37,556	-426
Nov-93	321,502	320,450	-1,052	106,421	105,380	-1,041	37,472	36,899	-573	8,480	8,480	0
Dec-93	303,881	302,828	-1,053	97,316	96,535	-781	35,909	35,336	-573	8,486	8,486	0
Jan-94	278,554	277,501	-1,053	88,205	87,684	-521	33,902	33,320	-581	8,492	8,492	0
Feb-94	249,835	248,782	-1,053	79,101	78,841	-260	31,800	31,219	-581	8,492	8,492	0
Mar-94	226,721	225,668	-1,053	69,998	69,998	0	30,734	28,833	-1,901	8,484	8,484	0
Apr-94	231,604	231,240	-364	68,286	69,108	822	28,987	29,820	833	8,464	8,464	0
May-94	292,169	291,819	-350	93,021	93,425	405	51,993	51,993	0	24,384	24,789	405
Jun-94	339,567	339,096	-471	119,024	119,346	322	51,954	51,954	0	43,946	44,230	285
Jul-94	312,201	311,732	-469	108,915	109,072	157	49,636	49,670	34	36,261	36,328	66
Aug-94	280,944	280,475	-469	108,427	108,584	157	49,437	49,471	34	36,065	36,131	66
Sep-94	255,176	254,710	-466	101,497	101,631	135	47,689	47,704	15	35,897	35,963	66
Oct-94	239,308	238,842	-466	81,918	81,107	-811	44,343	44,421	78	19,742	18,801	-941
Nov-94	225,462	224,996	-466	77,533	76,884	-649	41,459	40,640	-818	8,479	8,478	0
Dec-94	193,208	192,740	-468	73,151	72,664	-487	40,306	39,272	-1,034	8,485	8,485	0
Jan-95	164,451	163,982	-468	68,766	68,441	-325	39,031	37,743	-1,288	8,491	8,491	0
Feb-95	135,850	135,382	-468	64,382	64,220	-162	37,448	35,582	-1,865	8,491	8,491	0
Mar-95	112,716	112,248	-468	59,998	59,998	0	34,072	33,168	-904	8,483	8,483	0
Apr-95	103,251	102,783	-468	57,023	58,174	1,151	31,168	32,140	972	8,462	8,462	0
May-95	121,978	121,513	-465	71,828	72,975	1,147	51,993	51,993	0	3,192	4,339	1,147
Jun-95	310,508	310,045	-463	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-95	419,121	418,659	-462	154,623	154,623	0	51,993	51,993	0	65,991	65,991	0
Aug-95	428,039	427,578	-461	154,429	154,429	0	51,976	51,976	0	65,825	65,825	0
Sep-95	422,691	422,287	-405	135,612	135,054	-557	49,337	49,254	-82	48,276	48,054	-222
Oct-95	416,023	415,736	-288	111,427	105,506	-5,921	48,352	46,922	-1,430	20,132	19,575	-557
Nov-95	407,639	407,352	-288	101,140	96,403	-4,737	46,356	46,402	46	8,480	8,480	0
Dec-95	391,224	390,937	-288	90,850	87,297	-3,553	45,100	45,222	122	8,486	8,486	0

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jan-96	369,898	369,610	-288	80,569	78,200	-2,369	40,902	38,577	-2,325	8,492	8,492	0
Feb-96	342,757	342,469	-288	70,283	69,099	-1,184	30,669	29,571	-1,098	8,489	8,489	0
Mar-96	318,536	318,248	-288	59,998	59,998	0	20,424	20,511	86	8,481	8,481	0
Apr-96	320,746	325,735	4,990	66,282	68,572	2,290	26,721	29,097	2,375	8,460	8,460	0
May-96	392,597	397,571	4,973	154,628	154,628	0	51,994	51,994	0	65,993	65,993	0
Jun-96	477,630	482,589	4,959	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-96	501,011	505,962	4,950	154,623	154,623	0	51,993	51,993	0	65,991	65,991	0
Aug-96	498,904	503,848	4,944	146,300	145,993	-307	47,908	47,711	-198	61,884	61,784	-100
Sep-96	492,884	497,876	4,993	123,712	123,130	-582	44,423	44,204	-219	42,545	42,361	-184
Oct-96	494,523	499,696	5,173	94,623	91,060	-3,563	41,679	40,725	-955	14,718	13,893	-826
Nov-96	476,437	481,610	5,173	87,697	84,846	-2,851	36,927	40,496	3,569	8,479	8,479	0
Dec-96	463,017	468,192	5,175	80,774	78,636	-2,138	33,116	38,447	5,331	8,485	8,485	0
Jan-97	444,783	449,961	5,178	73,851	72,426	-1,425	32,395	32,918	522	8,492	8,492	0
Feb-97	424,472	429,650	5,178	66,925	66,212	-713	27,367	26,799	-567	8,489	8,488	-1
Mar-97	415,948	421,124	5,175	59,998	59,998	0	20,480	20,626	145	8,481	8,480	-1
Apr-97	414,316	419,546	5,230	56,562	59,831	3,269	17,155	20,567	3,412	8,460	8,459	-1
May-97	469,449	474,650	5,201	121,536	119,161	-2,375	51,994	51,994	0	52,899	50,524	-2,375
Jun-97	539,666	539,666	0	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-97	537,977	537,978	0	154,623	154,623	0	51,993	51,993	0	65,991	65,991	0
Aug-97	539,694	539,694	0	154,477	154,477	0	51,982	51,982	0	65,865	65,865	0
Sep-97	539,703	539,739	36	136,013	135,842	-172	50,173	50,140	-33	47,824	47,775	-49
Oct-97	534,559	536,746	2,187	116,367	112,699	-3,668	49,916	50,035	119	27,544	24,116	-3,428
Nov-97	523,752	525,940	2,187	106,092	103,158	-2,934	46,739	49,791	3,052	8,480	8,480	0
Dec-97	498,136	500,325	2,189	95,821	93,620	-2,200	45,099	48,487	3,388	8,486	8,486	0
Jan-98	473,954	476,143	2,189	85,549	84,082	-1,467	44,431	44,415	-15	8,492	8,492	0
Feb-98	460,224	462,412	2,189	75,274	74,540	-733	35,552	34,968	-584	8,489	8,489	0
Mar-98	461,041	463,226	2,186	64,998	64,998	0	25,316	25,466	150	8,481	8,481	0
Apr-98	462,185	464,504	2,320	64,684	64,867	183	25,016	25,395	379	8,461	8,460	0
May-98	512,926	515,145	2,219	116,015	116,203	188	51,994	51,994	0	47,379	47,566	188
Jun-98	539,666	539,666	0	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-98	536,280	536,280	0	153,034	153,034	0	51,859	51,859	0	64,622	64,622	0
Aug-98	514,867	514,867	0	150,441	149,659	-782	49,776	49,231	-545	64,103	63,866	-237
Sep-98	495,974	496,023	49	122,101	121,271	-830	43,949	43,405	-544	41,706	41,420	-286

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Oct-98	499,888	500,207	319	95,300	93,780	-1,519	39,080	38,630	-450	18,578	17,726	-852
Nov-98	503,930	504,248	318	89,206	88,023	-1,184	34,026	36,671	2,645	8,479	8,479	0
Dec-98	489,004	489,323	319	83,157	82,269	-888	32,993	35,641	2,648	8,485	8,485	0
Jan-99	485,703	486,022	319	77,106	76,503	-603	32,671	33,361	691	8,492	8,492	0
Feb-99	467,178	467,497	319	71,052	70,751	-302	31,432	31,277	-155	8,491	8,491	0
Mar-99	436,761	437,079	319	64,998	64,998	0	25,417	25,564	147	8,483	8,484	0
Apr-99	417,005	417,323	318	61,382	63,394	2,012	21,911	24,068	2,158	8,462	8,463	1
May-99	454,884	455,202	318	81,420	83,436	2,016	51,993	51,993	0	12,784	14,800	2,016
Jun-99	539,666	539,666	0	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-99	536,273	536,273	0	154,623	154,623	0	51,993	51,993	0	65,991	65,991	0
Aug-99	539,165	539,165	0	153,612	153,508	-103	51,915	51,839	-76	65,118	65,091	-28
Sep-99	539,681	539,729	49	130,830	130,623	-207	47,107	47,003	-105	47,258	47,156	-103
Oct-99	539,751	539,751	0	107,453	106,640	-814	45,029	46,123	1,094	25,446	23,451	-1,995
Nov-99	535,962	535,962	0	98,961	98,310	-651	44,740	45,148	408	8,480	8,480	0
Dec-99	517,385	517,384	0	90,473	89,985	-488	44,287	44,324	37	8,486	8,486	0
Jan-00	496,770	496,770	0	81,984	81,655	-329	42,267	41,182	-1,086	8,492	8,492	0
Feb-00	482,620	482,620	0	73,491	73,326	-165	33,815	33,850	35	8,489	8,489	0
Mar-00	469,129	469,128	-1	64,998	64,998	0	25,361	25,561	199	8,481	8,481	1
Apr-00	478,737	478,735	-1	63,708	64,242	534	24,070	24,803	733	8,460	8,460	1
May-00	539,690	539,690	0	136,507	136,667	160	51,994	51,994	0	65,993	65,993	0
Jun-00	539,457	539,457	0	154,504	154,504	0	51,992	51,992	0	65,901	65,901	0
Jul-00	518,556	518,556	0	148,367	148,402	35	50,530	50,530	1	62,070	62,046	-25
Aug-00	489,745	489,745	0	125,702	125,731	29	41,323	41,324	1	49,875	49,845	-30
Sep-00	469,601	469,627	25	98,045	98,048	4	33,484	33,485	1	30,173	30,118	-55
Oct-00	461,608	461,634	25	88,684	88,688	4	30,512	30,513	1	23,905	23,850	-55
Nov-00	446,662	446,688	26	82,946	82,949	3	29,591	28,487	-1,104	8,479	8,479	0
Dec-00	417,612	417,638	26	77,211	77,210	-1	28,261	25,967	-2,294	8,485	8,485	0
Jan-01	386,365	386,392	27	71,472	71,471	-1	27,041	24,192	-2,849	8,491	8,491	0
Feb-01	360,602	360,629	27	65,735	65,735	-1	25,252	21,904	-3,348	8,491	8,491	0
Mar-01	345,700	345,727	27	59,998	59,995	-3	20,861	19,389	-1,471	8,483	8,483	0
Apr-01	352,059	352,085	27	59,199	59,357	158	19,984	20,155	171	8,462	8,462	0
May-01	410,745	410,770	26	89,434	89,588	154	51,993	51,993	0	20,797	20,952	154
Jun-01	436,216	436,054	-162	104,194	104,193	-1	51,991	51,991	0	32,510	32,508	-2

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jul-01	418,836	418,674	-162	106,128	105,664	-464	50,626	50,488	-138	33,998	33,688	-309
Aug-01	402,318	402,156	-161	106,580	106,136	-444	50,736	50,604	-132	34,245	33,937	-308
Sep-01	381,888	381,738	-150	101,342	100,962	-381	50,043	50,065	22	34,083	33,775	-307
Oct-01	364,150	364,000	-150	96,112	95,794	-317	44,923	45,008	85	34,010	33,703	-307
Nov-01	349,328	349,176	-152	90,888	90,609	-279	44,445	44,404	-41	8,479	8,479	0
Dec-01	321,545	321,393	-152	85,667	85,457	-209	42,990	42,287	-703	8,485	8,485	0
Jan-02	293,652	293,500	-152	80,443	80,304	-140	41,013	40,307	-707	8,491	8,491	0
Feb-02	268,274	268,122	-152	75,221	75,151	-70	39,184	38,476	-709	8,491	8,491	0
Mar-02	241,386	241,234	-152	69,988	69,985	-2	37,322	35,999	-1,324	8,484	8,484	0
Apr-02	237,198	237,046	-152	66,667	68,330	1,663	41,315	43,145	1,830	8,463	8,463	0
May-02	233,763	233,610	-153	72,050	72,455	404	50,130	50,138	8	5,278	5,674	396
Jun-02	232,810	232,659	-151	65,163	63,436	-1,727	47,334	46,826	-507	1,218	0	-1,218
Jul-02	220,403	220,253	-151	57,905	57,399	-506	43,054	42,549	-505	0	0	0
Aug-02	199,395	199,244	-150	57,635	57,130	-505	42,853	42,350	-503	0	0	0
Sep-02	190,793	190,649	-143	55,160	54,628	-532	40,436	39,906	-530	0	0	0
Oct-02	192,775	192,623	-153	54,104	52,293	-1,811	38,429	37,609	-820	0	0	0
Nov-02	170,948	170,805	-144	51,409	48,370	-3,039	35,281	33,693	-1,589	0	0	0
Dec-02	145,455	145,311	-144	50,223	46,410	-3,813	33,486	31,721	-1,766	0	0	0
Jan-03	121,097	120,953	-144	48,555	44,474	-4,081	31,651	29,772	-1,880	0	0	0
Feb-03	108,876	108,732	-144	46,156	41,830	-4,326	29,151	27,130	-2,021	0	0	0
Mar-03	101,759	101,615	-144	46,927	38,605	-8,321	26,940	23,687	-3,254	0	0	0
Apr-03	119,866	119,934	68	51,992	43,836	-8,156	40,157	32,004	-8,153	0	0	0
May-03	224,246	224,061	-185	92,071	83,942	-8,129	51,993	51,993	0	23,434	15,306	-8,128
Jun-03	372,273	372,090	-183	111,998	104,919	-7,079	51,991	51,991	0	38,014	31,663	-6,351
Jul-03	394,666	394,484	-183	107,066	99,774	-7,292	50,736	50,732	-3	34,696	28,145	-6,551
Aug-03	376,889	376,706	-183	106,572	99,303	-7,269	50,532	50,525	-7	34,493	27,966	-6,527
Sep-03	362,044	361,907	-138	93,251	87,093	-6,159	49,705	50,348	642	22,073	16,006	-6,067
Oct-03	360,349	360,212	-137	84,930	81,877	-3,053	47,710	50,232	2,522	15,825	10,954	-4,872
Nov-03	341,185	341,048	-138	81,943	79,500	-2,443	47,238	48,267	1,029	8,478	8,478	0
Dec-03	313,504	313,238	-266	78,959	76,516	-2,442	46,803	45,486	-1,318	8,485	8,484	0
Jan-04	285,427	285,161	-266	75,971	73,905	-2,067	45,167	42,956	-2,211	8,491	8,491	0
Feb-04	257,964	257,699	-266	72,981	70,723	-2,258	42,377	39,868	-2,508	8,491	8,491	0
Mar-04	235,755	235,489	-266	69,998	69,667	-331	42,333	38,607	-3,726	8,483	8,483	0

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	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Apr-04	224,345	224,079	-266	69,809	69,163	-646	44,693	44,721	28	8,463	8,463	0
May-04	245,571	245,352	-219	89,348	87,723	-1,625	51,993	51,993	0	20,712	19,087	-1,625
Jun-04	268,823	268,607	-216	106,723	104,828	-1,894	51,897	51,906	9	37,813	35,898	-1,915
Jul-04	285,277	285,062	-215	100,616	96,467	-4,150	49,843	48,766	-1,077	34,315	31,055	-3,260
Aug-04	285,757	285,543	-214	96,826	93,412	-3,414	49,639	48,564	-1,074	30,795	28,270	-2,525
Sep-04	274,526	274,337	-190	92,268	89,343	-2,926	49,466	47,358	-2,107	30,642	27,722	-2,920
Oct-04	284,993	284,803	-190	79,620	62,496	-17,124	49,353	35,526	-13,827	17,874	12,787	-5,087
Nov-04	280,343	280,153	-190	76,694	57,317	-19,377	49,328	30,383	-18,945	8,478	8,477	-1
Dec-04	252,967	252,777	-190	73,773	53,706	-20,067	49,370	26,975	-22,394	8,485	8,484	-1
Jan-05	224,243	224,053	-190	70,849	51,037	-19,812	48,357	24,390	-23,967	8,491	8,491	0
Feb-05	201,695	201,505	-190	67,923	48,988	-18,935	47,325	22,434	-24,890	8,491	8,420	-71
Mar-05	179,451	179,258	-193	64,998	47,007	-17,991	44,773	20,246	-24,527	8,483	8,411	-72
Apr-05	194,644	194,451	-193	63,130	46,454	-16,677	42,755	26,269	-16,486	8,459	8,385	-73
May-05	264,375	264,163	-212	91,888	73,807	-18,082	51,993	51,993	0	23,252	5,171	-18,081
Jun-05	386,613	386,088	-526	114,074	102,790	-11,284	51,991	51,991	0	41,963	31,273	-10,690
Jul-05	410,208	409,684	-524	115,650	104,400	-11,250	51,842	51,838	-4	42,583	32,075	-10,508
Aug-05	411,414	410,891	-524	115,134	103,919	-11,215	51,637	51,628	-9	42,356	31,887	-10,469
Sep-05	397,675	397,182	-493	106,540	96,263	-10,276	50,543	51,450	907	34,927	24,480	-10,447
Oct-05	394,137	393,644	-493	97,115	91,032	-6,083	47,445	51,335	3,891	28,688	19,408	-9,280
Nov-05	398,569	398,076	-493	90,690	85,824	-4,866	44,330	51,310	6,980	8,479	8,479	0
Dec-05	377,971	377,477	-494	84,270	80,620	-3,650	42,346	50,273	7,927	8,485	8,485	0
Jan-06	347,082	346,588	-494	77,848	75,415	-2,433	42,145	49,615	7,469	8,491	8,491	0
Feb-06	320,130	319,635	-495	71,423	70,207	-1,217	41,932	46,672	4,740	8,491	8,489	-2
Mar-06	290,419	289,924	-494	64,998	64,998	0	40,664	41,548	884	8,484	8,481	-2
Apr-06	283,795	283,301	-495	67,920	67,497	-423	43,476	43,932	456	8,463	8,461	-2
May-06	352,693	351,326	-1,367	101,776	101,731	-46	51,994	51,994	0	33,140	33,094	-46
Jun-06	401,276	399,888	-1,388	114,234	114,187	-47	51,907	51,907	0	41,616	41,572	-44
Jul-06	385,281	383,896	-1,384	112,067	111,958	-109	51,827	51,827	0	39,542	39,435	-107
Aug-06	358,524	357,143	-1,382	111,558	111,449	-109	51,621	51,621	0	39,321	39,215	-106
Sep-06	345,396	344,022	-1,375	104,894	104,801	-93	50,153	50,169	15	39,142	39,036	-106
Oct-06	339,485	338,112	-1,373	95,232	95,125	-107	47,000	46,961	-39	32,667	32,602	-65
Nov-06	340,180	338,806	-1,373	89,184	89,099	-86	46,978	46,939	-39	8,479	8,479	0
Dec-06	323,637	322,266	-1,371	83,140	83,076	-64	43,821	45,287	1,467	8,485	8,485	0

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	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jan-07	294,277	292,906	-1,371	77,089	77,046	-43	43,249	43,670	421	8,491	8,491	0
Feb-07	273,694	272,323	-1,371	71,044	71,021	-22	43,005	41,565	-1,440	8,491	8,491	0
Mar-07	248,963	247,593	-1,370	64,998	64,998	0	41,187	38,976	-2,212	8,484	8,484	0
Apr-07	243,582	242,212	-1,370	65,387	65,387	0	41,461	41,539	78	8,463	8,463	0
May-07	315,819	314,451	-1,368	125,508	129,008	3,500	51,994	51,994	0	56,872	60,371	3,500
Jun-07	383,074	381,362	-1,712	154,619	154,571	-48	51,992	51,992	0	65,989	65,941	-48
Jul-07	376,336	374,629	-1,707	152,242	152,125	-117	51,830	51,830	0	64,068	63,943	-125
Aug-07	350,875	349,171	-1,704	140,075	135,920	-4,155	47,116	45,290	-1,826	57,681	55,366	-2,315
Sep-07	326,871	325,224	-1,647	127,290	110,967	-16,323	43,712	38,404	-5,308	42,345	37,414	-4,931
Oct-07	324,160	322,514	-1,646	115,987	76,446	-39,541	43,621	32,446	-11,174	14,036	8,973	-5,063
Nov-07	300,061	298,415	-1,646	105,787	73,516	-32,271	43,600	29,561	-14,039	8,480	8,478	-2
Dec-07	281,276	279,628	-1,647	95,593	70,335	-25,258	43,635	26,564	-17,070	8,486	8,485	-1
Jan-08	265,026	263,378	-1,648	85,397	66,332	-19,065	43,670	22,632	-21,038	8,492	8,491	-1
Feb-08	250,044	248,396	-1,648	75,198	65,665	-9,532	35,487	22,189	-13,298	8,489	8,491	2
Mar-08	226,891	225,243	-1,647	64,998	62,662	-2,336	25,369	19,273	-6,097	8,481	8,483	2
Apr-08	216,152	214,505	-1,646	65,858	63,527	-2,331	26,235	24,408	-1,827	8,461	8,462	2
May-08	278,042	276,374	-1,668	125,191	122,064	-3,127	51,994	51,994	0	56,554	53,427	-3,127
Jun-08	373,139	371,478	-1,662	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-08	376,294	374,637	-1,657	153,998	153,998	0	51,956	51,956	0	65,526	65,526	0
Aug-08	371,428	369,773	-1,654	151,101	149,416	-1,686	51,551	49,936	-1,614	63,320	63,095	-226
Sep-08	342,704	341,108	-1,597	138,375	119,118	-19,256	48,715	42,361	-6,354	44,153	40,487	-3,666
Oct-08	314,528	312,971	-1,557	116,698	92,106	-24,592	46,875	39,147	-7,728	20,578	16,812	-3,766
Nov-08	315,754	314,197	-1,557	106,357	86,684	-19,673	46,410	37,113	-9,297	8,480	8,479	-1
Dec-08	292,837	291,279	-1,559	96,020	81,265	-14,755	45,379	35,063	-10,316	8,486	8,485	-1
Jan-09	266,230	264,671	-1,560	85,682	75,845	-9,837	44,362	33,034	-11,328	8,492	8,491	-1
Feb-09	243,693	242,133	-1,560	75,340	70,421	-4,919	35,749	31,079	-4,670	8,489	8,491	2
Mar-09	219,396	217,837	-1,559	64,998	64,998	0	25,491	25,740	249	8,482	8,484	2
Apr-09	218,415	216,856	-1,558	66,705	65,936	-769	27,164	26,642	-523	8,461	8,463	2
May-09	308,615	307,062	-1,553	142,540	142,487	-53	51,994	51,994	0	65,993	65,993	0
Jun-09	423,409	421,863	-1,547	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-09	442,915	441,372	-1,543	154,623	154,623	0	51,993	51,993	0	65,991	65,991	0
Aug-09	437,167	435,627	-1,540	144,258	143,690	-568	47,387	46,619	-767	61,029	61,054	25
Sep-09	406,514	404,999	-1,515	118,213	116,613	-1,600	42,515	41,530	-984	39,355	39,182	-173

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Oct-09	373,807	372,292	-1,515	95,838	91,448	-4,391	41,420	40,158	-1,262	15,689	15,509	-180
Nov-09	374,525	373,011	-1,514	89,669	86,157	-3,512	41,225	38,058	-3,167	8,479	8,479	0
Dec-09	357,614	356,088	-1,526	83,504	80,869	-2,634	41,259	37,449	-3,810	8,485	8,485	0
Jan-10	331,961	330,435	-1,526	77,338	75,581	-1,756	37,488	36,071	-1,417	8,491	8,491	0
Feb-10	308,438	306,910	-1,528	71,168	70,290	-878	31,405	30,874	-530	8,488	8,488	0
Mar-10	280,628	279,101	-1,528	64,998	64,998	0	25,321	25,668	347	8,480	8,480	0
Apr-10	274,597	273,070	-1,527	64,686	61,982	-2,703	24,992	22,636	-2,356	8,459	8,459	0
May-10	327,873	326,260	-1,613	112,161	110,269	-1,892	51,994	51,994	0	43,524	41,633	-1,892
Jun-10	455,520	453,913	-1,607	154,619	154,619	0	51,992	51,992	0	65,989	65,989	0
Jul-10	455,668	454,065	-1,603	152,618	152,534	-84	51,845	51,845	0	64,254	64,170	-84
Aug-10	447,434	445,834	-1,601	146,007	142,860	-3,147	49,633	47,369	-2,264	60,390	59,222	-1,168
Sep-10	417,477	415,924	-1,553	120,709	115,984	-4,725	47,529	45,261	-2,268	36,847	34,571	-2,276
Oct-10	418,369	416,817	-1,552	95,868	86,252	-9,616	46,005	41,741	-4,263	8,483	8,483	0
Nov-10	410,034	408,482	-1,552	89,693	82,000	-7,693	45,983	38,612	-7,371	8,479	8,479	0
Dec-10	401,278	399,725	-1,553	83,522	77,752	-5,770	43,788	35,835	-7,953	8,485	8,485	0
Jan-11	375,515	373,961	-1,554	77,349	73,502	-3,848	37,583	32,632	-4,952	8,492	8,491	0
Feb-11	347,842	346,288	-1,554	71,174	69,249	-1,925	31,462	29,491	-1,971	8,488	8,491	3
Mar-11	318,589	317,035	-1,554	64,998	64,726	-272	25,382	25,484	101	8,480	8,484	3
Apr-11	301,955	300,401	-1,553	64,820	64,548	-271	25,311	25,412	101	8,460	8,463	3
May-11	321,879	320,330	-1,549	94,013	93,645	-368	51,993	51,993	0	25,377	25,009	-368
Jun-11	493,085	491,542	-1,543	154,620	154,620	0	51,992	51,992	0	65,989	65,989	0
Jul-11	539,683	539,683	0	154,623	154,623	0	51,993	51,993	0	65,991	65,991	0
Aug-11	539,707	539,707	0	153,146	153,146	0	51,879	51,879	0	64,709	64,709	0
Sep-11	520,374	520,423	50	138,909	133,142	-5,767	51,719	49,489	-2,231	47,169	47,196	27
Oct-11	492,540	493,978	1,438	126,583	121,777	-4,806	51,614	48,494	-3,120	43,223	40,912	-2,311
Nov-11	485,283	486,721	1,438	114,264	110,420	-3,845	51,543	48,472	-3,071	8,481	8,480	0
Dec-11	482,915	484,353	1,438	101,950	99,067	-2,883	51,287	47,168	-4,119	8,486	8,486	0
Jan-12	465,342	466,781	1,439	89,636	87,713	-1,922	49,770	44,947	-4,823	8,492	8,492	0
Feb-12	453,256	454,695	1,439	77,317	76,356	-961	37,458	36,849	-609	8,489	8,490	1
Mar-12	430,604	432,042	1,438	64,998	64,998	0	25,216	25,568	352	8,481	8,483	1
Apr-12	432,183	433,410	1,227	65,493	65,493	0	25,703	26,054	351	8,461	8,462	1
May-12	442,453	443,637	1,185	83,431	81,044	-2,386	51,993	51,831	-163	14,795	12,571	-2,224
Jun-12	438,055	439,205	1,150	87,557	79,015	-8,542	49,722	47,832	-1,891	21,858	14,569	-7,289

Table A-1: Differences in End-of-Month Contents at Granby and Green Mountain Reservoirs (ac-ft)

	Granby Reservoir			Green Mountain Reservoir			Green Mountain 52K Account			Green Mountain HUP Account		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jul-12	412,913	414,113	1,200	73,853	62,144	-11,709	44,846	42,551	-2,295	13,864	4,181	-9,683
Aug-12	381,266	382,473	1,207	72,910	61,303	-11,607	45,337	42,618	-2,719	12,431	3,263	-9,168
Sep-12	348,872	350,081	1,209	67,282	58,457	-8,825	43,697	40,446	-3,251	8,499	2,650	-5,849
Oct-12	316,611	317,820	1,209	65,382	55,834	-9,548	41,464	37,909	-3,555	8,481	2,617	-5,864
Nov-12	315,363	316,571	1,209	64,742	54,079	-10,663	40,840	36,172	-4,668	8,477	2,609	-5,868
Dec-12	295,057	296,267	1,209	63,251	51,604	-11,648	39,520	33,909	-5,611	8,367	2,382	-5,985
Jan-13	262,828	264,037	1,210	61,532	49,813	-11,719	37,887	32,211	-5,676	8,266	2,275	-5,991
Feb-13	234,543	235,753	1,210	59,824	47,903	-11,921	36,262	30,393	-5,869	8,187	2,187	-6,001
Mar-13	208,210	209,420	1,209	58,818	45,150	-13,668	35,391	27,768	-7,623	8,069	2,076	-5,993
Apr-13	192,663	193,714	1,051	56,221	41,852	-14,369	36,520	28,129	-8,391	8,048	2,071	-5,977
May-13	264,834	265,704	869	86,799	72,471	-14,328	51,993	51,993	0	18,163	3,835	-14,328
Jun-13	350,622	351,204	582	107,566	95,509	-12,057	51,917	51,914	-2	35,849	24,760	-11,089
Jul-13	351,208	351,789	581	102,539	90,535	-12,004	50,825	50,801	-23	32,023	21,006	-11,017
Aug-13	354,417	354,997	580	101,913	90,109	-11,804	50,618	50,592	-27	31,684	20,866	-10,817
Sep-13	365,511	366,148	637	96,628	86,512	-10,117	50,444	50,412	-31	31,536	20,754	-10,782
Average	**333,180**	**333,219**		**95,998**	**93,261**		**42,967**	**41,625**		**24,227**	**23,289**	
Max Decrease			**-1,712**			**-39,541**			**-24,890**			**-18,081**

Table A-2: Differences in End-of-Month Contents at Other Major Reservoirs (ac-ft)

	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Oct-87	76,181	75,281	-899	239,923	239,923	0	32,368	32,334	-34	61,967	61,483	-484
Nov-87	74,994	74,688	-306	236,679	236,679	0	32,373	32,328	-46	59,066	59,222	155
Dec-87	74,095	73,039	-1,056	234,273	234,273	0	32,423	32,369	-55	57,507	57,376	-131
Jan-88	75,092	71,899	-3,193	233,735	233,734	0	25,132	24,763	-368	56,770	55,430	-1,340
Feb-88	75,505	70,744	-4,761	233,329	233,329	0	17,534	17,102	-432	55,748	53,319	-2,429
Mar-88	75,061	69,546	-5,515	232,309	232,309	0	17,519	17,087	-432	49,273	49,711	438
Apr-88	78,857	74,479	-4,378	238,183	238,168	-15	18,142	17,846	-296	57,633	59,170	1,537
May-88	92,336	87,973	-4,363	256,972	256,972	0	22,888	22,593	-295	65,973	65,973	0
Jun-88	96,803	96,803	0	256,962	256,962	0	36,683	36,388	-295	65,950	65,950	0
Jul-88	96,805	96,805	0	254,813	254,825	12	38,611	38,377	-233	65,763	65,763	0
Aug-88	87,168	87,182	14	246,276	246,274	-2	36,039	35,805	-233	65,362	65,362	0
Sep-88	84,976	84,915	-61	231,091	231,103	12	31,072	30,839	-233	65,024	65,024	0
Oct-88	83,220	82,891	-329	217,616	217,628	12	25,595	25,362	-233	64,810	64,810	0
Nov-88	81,777	81,700	-77	210,106	210,118	12	20,853	20,620	-233	64,761	64,762	1
Dec-88	80,862	80,830	-32	202,533	202,545	12	20,916	20,680	-235	64,836	64,837	1
Jan-89	81,714	80,181	-1,534	196,010	196,022	12	21,102	20,768	-335	64,911	64,912	1
Feb-89	81,712	79,358	-2,353	191,659	191,671	12	21,268	20,772	-496	64,898	64,899	1
Mar-89	81,709	80,940	-770	191,064	191,076	12	21,781	21,205	-576	65,982	65,982	0
Apr-89	85,031	84,586	-444	185,944	185,774	-170	20,266	19,690	-577	65,977	65,977	0
May-89	93,020	92,562	-458	219,394	219,224	-169	23,889	23,236	-654	65,973	65,973	0
Jun-89	96,603	96,490	-113	256,962	256,962	0	30,826	29,905	-922	65,820	65,819	-1
Jul-89	96,805	96,805	0	254,507	254,707	200	30,814	29,894	-920	65,969	65,969	0
Aug-89	86,038	85,925	-114	243,961	244,040	79	27,168	26,249	-919	60,321	60,247	-74
Sep-89	80,655	80,452	-203	229,278	229,356	79	23,569	22,651	-918	50,529	49,726	-803
Oct-89	78,458	78,256	-202	216,672	216,750	79	22,331	21,414	-917	48,375	47,574	-801
Nov-89	77,062	76,338	-724	208,372	208,448	76	22,342	21,410	-932	46,712	45,682	-1,030
Dec-89	77,174	75,046	-2,128	201,730	201,806	76	22,433	21,431	-1,003	45,644	44,471	-1,174
Jan-90	76,828	74,017	-2,811	197,188	197,263	76	22,495	21,454	-1,041	45,701	44,524	-1,178
Feb-90	76,286	73,304	-2,982	191,956	192,031	76	22,514	21,459	-1,055	45,692	44,514	-1,178
Mar-90	77,155	73,059	-4,096	185,666	185,742	76	22,644	21,486	-1,158	45,623	44,447	-1,177
Apr-90	77,895	75,030	-2,865	186,778	185,926	-852	23,157	21,987	-1,170	49,242	48,226	-1,016
May-90	82,504	79,649	-2,856	206,972	206,123	-849	27,162	25,615	-1,547	55,660	54,454	-1,206
Jun-90	80,684	75,877	-4,807	256,962	256,962	0	38,568	36,806	-1,761	62,714	61,534	-1,181

Table A-2: Differences in End-of-Month Contents at Other Major Reservoirs (ac-ft)

	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jul-90	85,217	80,018	-5,199	254,820	254,831	12	35,704	33,886	-1,818	65,024	63,607	-1,417
Aug-90	70,251	65,069	-5,182	244,188	244,199	12	30,106	28,291	-1,816	50,813	49,401	-1,412
Sep-90	64,894	58,867	-6,027	232,123	232,135	11	14,983	13,170	-1,813	44,803	44,547	-257
Oct-90	61,831	53,979	-7,852	226,960	227,718	758	14,818	12,943	-1,875	41,688	41,433	-256
Nov-90	60,779	52,190	-8,589	222,252	222,931	679	14,997	12,961	-2,036	41,649	41,392	-257
Dec-90	60,519	50,809	-9,709	214,705	215,384	679	15,102	12,977	-2,124	41,702	41,445	-257
Jan-91	59,771	49,738	-10,032	207,884	208,564	680	15,140	12,996	-2,144	41,755	41,497	-257
Feb-91	59,768	48,965	-10,803	202,034	202,714	680	15,220	12,999	-2,221	41,745	41,487	-258
Mar-91	60,602	48,083	-12,519	193,909	194,588	679	15,389	12,986	-2,403	42,014	41,424	-590
Apr-91	61,872	51,480	-10,392	187,505	187,750	245	15,458	13,232	-2,226	42,563	43,080	516
May-91	76,984	66,603	-10,381	220,076	220,320	244	23,611	21,389	-2,222	64,626	65,074	448
Jun-91	96,802	90,691	-6,112	256,961	256,961	0	37,529	35,311	-2,218	65,950	65,913	-37
Jul-91	96,805	96,805	0	256,789	256,790	0	38,611	38,611	0	65,862	65,858	-4
Aug-91	89,035	88,956	-78	255,232	255,311	78	38,476	38,476	0	61,826	61,815	-11
Sep-91	82,381	82,303	-78	248,684	248,762	78	38,362	38,362	0	61,502	61,491	-11
Oct-91	82,336	81,191	-1,145	243,854	243,932	78	35,691	35,569	-122	61,296	61,285	-11
Nov-91	80,719	81,711	992	236,177	236,246	69	31,403	31,370	-33	61,248	61,240	-8
Dec-91	80,042	80,452	410	230,446	230,497	50	31,497	31,413	-84	61,317	61,309	-8
Jan-92	79,679	79,820	141	224,457	224,507	50	31,547	31,442	-105	61,386	61,378	-8
Feb-92	79,432	78,868	-565	219,053	219,101	49	31,610	31,448	-162	61,372	61,363	-9
Mar-92	81,400	78,606	-2,794	215,246	215,277	31	26,534	26,372	-162	61,286	61,277	-9
Apr-92	84,362	82,949	-1,413	219,606	218,979	-628	22,044	22,111	67	63,499	64,651	1,151
May-92	96,809	96,809	0	256,728	256,102	-626	32,023	32,090	67	65,973	65,973	0
Jun-92	96,802	96,802	0	256,961	256,961	0	38,611	38,611	0	65,816	65,816	0
Jul-92	95,370	94,883	-487	247,961	248,271	310	38,607	38,585	-21	65,781	65,699	-82
Aug-92	83,562	80,959	-2,603	237,440	237,579	139	36,454	36,270	-184	59,148	58,825	-323
Sep-92	81,780	78,471	-3,309	232,392	232,408	16	30,898	30,604	-294	53,322	53,108	-215
Oct-92	80,899	77,567	-3,332	229,590	229,610	20	30,559	30,264	-294	51,490	51,269	-222
Nov-92	79,501	76,028	-3,474	220,624	220,644	20	30,553	30,259	-294	51,443	51,222	-221
Dec-92	79,130	75,414	-3,716	214,503	214,490	-13	30,596	30,284	-312	51,506	51,285	-222
Jan-93	80,272	75,353	-4,919	208,377	208,365	-13	30,881	30,312	-569	51,570	51,348	-222
Feb-93	80,808	75,164	-5,644	202,803	202,762	-41	31,065	30,318	-747	51,557	51,334	-222
Mar-93	80,689	75,281	-5,408	196,116	196,057	-58	22,128	21,301	-827	51,481	51,290	-190

Table A-2: Differences in End-of-Month Contents at Other Major Reservoirs (ac-ft)

	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Apr-93	78,671	77,477	-1,194	195,544	192,879	-2,665	14,647	14,004	-643	52,876	53,054	178
May-93	96,809	96,809	0	237,371	234,714	-2,657	24,411	23,694	-716	65,973	65,973	0
Jun-93	96,803	96,803	0	256,962	256,962	0	38,611	38,200	-410	65,967	65,967	0
Jul-93	96,489	96,147	-343	253,481	253,576	95	37,055	36,960	-95	65,736	65,735	-1
Aug-93	94,500	94,286	-215	238,969	239,519	549	38,061	37,881	-181	64,340	64,267	-73
Sep-93	87,927	87,336	-591	229,388	230,224	836	38,083	37,799	-284	62,310	62,232	-78
Oct-93	86,299	85,710	-589	226,590	227,425	835	38,042	37,758	-284	62,102	62,024	-78
Nov-93	83,887	84,024	137	223,989	224,664	675	38,091	37,770	-321	62,049	61,977	-72
Dec-93	81,768	81,838	70	220,300	220,975	675	38,119	37,798	-321	62,121	62,049	-72
Jan-94	80,282	80,337	55	216,631	217,143	512	38,150	37,829	-321	62,194	62,121	-72
Feb-94	79,449	79,161	-288	212,582	213,094	512	38,157	37,835	-321	62,179	62,106	-73
Mar-94	81,613	80,158	-1,455	207,541	208,052	512	29,854	29,420	-434	62,102	62,029	-73
Apr-94	84,729	84,055	-674	206,999	207,067	67	19,908	19,534	-374	65,401	65,977	576
May-94	96,466	95,907	-559	244,415	244,460	45	29,251	28,878	-373	65,973	65,973	0
Jun-94	95,353	94,703	-649	256,641	256,887	246	36,496	36,097	-399	65,690	65,690	0
Jul-94	93,984	93,275	-709	251,956	251,957	1	37,277	36,769	-508	65,192	65,190	-2
Aug-94	82,322	81,614	-708	241,050	240,971	-79	37,187	36,680	-507	58,853	58,852	-1
Sep-94	80,297	79,505	-792	229,855	229,777	-78	34,827	34,320	-507	50,354	50,197	-157
Oct-94	78,538	77,053	-1,485	229,915	230,042	127	23,456	22,895	-560	46,383	46,979	596
Nov-94	77,734	75,779	-1,955	226,434	226,532	98	23,509	22,891	-618	46,341	46,935	595
Dec-94	77,521	75,220	-2,302	219,347	219,445	98	23,553	22,912	-640	46,398	46,993	595
Jan-95	77,507	74,898	-2,609	213,779	213,877	98	23,596	22,936	-660	46,455	47,051	596
Feb-95	77,431	74,638	-2,793	208,405	208,503	98	23,634	22,941	-693	46,446	47,041	596
Mar-95	77,775	74,921	-2,855	199,004	199,102	98	23,427	22,712	-716	46,377	46,972	595
Apr-95	76,637	75,822	-815	185,932	184,870	-1,062	8,576	7,978	-599	46,489	47,516	1,027
May-95	84,710	83,884	-826	199,382	198,323	-1,059	11,319	10,721	-598	62,241	63,069	828
Jun-95	96,803	96,803	0	256,962	256,962	0	31,769	31,173	-596	65,967	65,967	0
Jul-95	96,805	96,805	0	256,967	256,967	0	38,611	38,611	0	65,854	65,854	0
Aug-95	93,527	93,526	-1	256,335	256,335	0	38,612	38,612	0	64,591	64,591	0
Sep-95	89,626	89,463	-163	256,976	256,976	0	38,613	38,613	0	62,585	62,574	-11
Oct-95	87,514	86,795	-719	256,985	256,985	0	38,611	38,590	-21	62,390	62,379	-11
Nov-95	86,044	86,030	-15	256,997	256,997	0	38,609	38,615	6	62,343	62,341	-2
Dec-95	84,551	84,684	133	256,966	256,969	3	38,616	38,616	0	62,412	62,411	-2

Table A-2: Differences in End-of-Month Contents at Other Major Reservoirs (ac-ft)

	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jan-96	83,877	83,038	-839	257,000	256,979	-22	38,616	38,616	0	62,481	62,480	-2
Feb-96	83,541	82,293	-1,248	256,999	256,999	0	38,615	38,615	0	62,467	62,465	-2
Mar-96	82,940	81,897	-1,043	256,939	256,939	0	31,641	31,592	-50	62,385	62,413	28
Apr-96	90,059	89,498	-562	256,983	256,983	0	17,418	17,438	20	65,977	65,977	0
May-96	96,809	96,809	0	256,974	256,974	0	27,169	27,189	20	65,973	65,973	0
Jun-96	96,803	96,803	0	256,962	256,962	0	38,611	38,611	0	65,949	65,949	0
Jul-96	96,805	96,805	0	256,967	256,967	0	37,823	37,823	0	65,801	65,801	0
Aug-96	92,840	92,805	-35	248,446	248,482	36	37,031	36,917	-114	64,406	64,299	-107
Sep-96	85,835	85,306	-529	243,320	243,357	38	37,055	36,903	-153	64,072	63,965	-106
Oct-96	80,016	78,065	-1,951	239,402	239,477	74	37,096	36,872	-224	63,926	63,753	-173
Nov-96	73,789	78,795	5,007	237,665	234,853	-2,812	37,096	37,004	-92	63,876	63,728	-149
Dec-96	70,533	77,725	7,192	233,627	230,774	-2,854	37,124	37,072	-52	63,947	63,799	-149
Jan-97	68,786	76,380	7,595	229,212	225,666	-3,547	37,250	37,103	-147	64,018	63,869	-149
Feb-97	74,568	80,112	5,544	226,779	223,233	-3,546	37,270	37,114	-156	64,003	63,854	-149
Mar-97	72,467	78,032	5,565	228,538	224,945	-3,593	27,834	27,626	-208	63,915	63,766	-149
Apr-97	71,750	83,173	11,423	229,398	224,636	-4,763	13,534	13,479	-55	65,977	65,977	0
May-97	96,809	96,809	0	256,972	256,972	0	23,511	23,456	-55	65,973	65,973	0
Jun-97	96,803	96,803	0	256,962	256,962	0	38,611	38,611	0	65,967	65,967	0
Jul-97	96,805	96,805	0	256,967	256,967	0	37,953	37,953	0	65,969	65,969	0
Aug-97	94,678	94,678	0	256,754	256,754	0	38,612	38,612	0	65,698	65,698	0
Sep-97	91,285	91,187	-98	256,736	256,736	0	38,597	38,597	0	65,359	65,359	0
Oct-97	88,969	88,217	-752	255,114	255,124	9	38,614	38,614	0	65,345	65,273	-72
Nov-97	85,505	87,310	1,805	256,854	255,262	-1,592	38,615	38,615	0	65,298	65,241	-57
Dec-97	83,914	85,300	1,387	257,000	257,000	0	38,616	38,616	0	65,369	65,312	-57
Jan-98	83,406	84,499	1,093	257,000	257,000	0	38,616	38,616	0	65,441	65,384	-57
Feb-98	83,103	84,001	898	256,999	256,999	0	38,615	38,615	0	65,426	65,369	-57
Mar-98	82,666	83,612	946	256,994	256,994	0	30,618	30,659	41	65,982	65,982	0
Apr-98	85,535	87,021	1,487	256,983	256,983	0	30,175	30,354	180	65,977	65,977	0
May-98	96,809	96,809	0	256,972	256,972	0	36,787	37,044	258	65,973	65,973	0
Jun-98	96,803	96,803	0	256,962	256,962	0	38,598	38,598	0	65,948	65,948	0
Jul-98	95,053	95,053	0	255,821	255,821	0	38,481	38,481	0	65,937	65,937	0
Aug-98	93,529	93,448	-81	256,648	256,519	-129	38,566	38,454	-113	63,748	63,721	-27
Sep-98	89,830	89,749	-81	256,596	256,467	-129	38,491	38,378	-113	63,416	63,389	-27

Table A-2: Differences in End-of-Month Contents at Other Major Reservoirs (ac-ft)

	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Oct-98	87,207	87,126	-81	256,680	256,551	-129	38,605	38,494	-112	63,205	63,178	-27
Nov-98	85,200	85,476	275	256,234	256,261	28	38,610	38,611	1	63,153	63,128	-25
Dec-98	84,390	84,715	325	255,651	255,676	25	38,616	38,616	0	63,226	63,202	-25
Jan-99	84,022	84,276	255	253,595	253,620	25	38,616	38,616	0	63,299	63,275	-25
Feb-99	83,656	83,894	238	246,483	246,499	16	38,615	38,615	0	63,285	63,258	-26
Mar-99	82,049	82,401	352	235,718	235,616	-103	30,446	30,369	-78	63,325	63,318	-7
Apr-99	82,343	84,322	1,978	224,020	223,048	-971	16,005	16,022	17	65,345	65,642	296
May-99	92,283	94,265	1,982	252,152	251,188	-964	18,898	18,997	99	65,973	65,973	0
Jun-99	96,803	96,803	0	256,962	256,962	0	35,148	35,247	99	65,967	65,967	0
Jul-99	96,805	96,805	0	256,967	256,967	0	38,320	38,418	99	65,969	65,969	0
Aug-99	95,434	95,434	0	256,423	256,423	0	38,612	38,612	0	64,821	64,706	-115
Sep-99	91,913	91,866	-47	256,976	256,976	0	38,301	38,282	-19	64,485	64,371	-115
Oct-99	90,570	90,525	-45	256,985	256,985	0	38,333	38,275	-59	64,272	64,158	-114
Nov-99	89,756	89,662	-94	255,270	255,227	-43	38,441	38,268	-173	64,228	64,110	-118
Dec-99	88,668	87,610	-1,059	251,306	251,261	-45	38,506	38,297	-210	64,302	64,184	-118
Jan-00	87,965	86,382	-1,583	247,174	247,129	-45	38,570	38,328	-242	64,376	64,258	-118
Feb-00	87,656	85,264	-2,392	243,302	243,257	-45	38,615	38,334	-281	64,361	64,242	-120
Mar-00	87,171	83,902	-3,269	238,821	238,751	-70	34,140	33,860	-281	64,272	64,153	-119
Apr-00	90,953	88,751	-2,202	245,132	244,759	-373	25,574	25,453	-122	65,977	65,977	0
May-00	96,809	96,809	0	256,974	256,974	0	38,612	38,612	0	65,973	65,973	0
Jun-00	96,598	96,540	-58	256,962	256,962	0	38,027	38,027	0	65,927	65,927	0
Jul-00	94,223	94,258	34	253,960	253,925	-35	38,540	38,481	-60	65,717	65,717	0
Aug-00	82,411	82,448	37	244,503	244,466	-37	38,067	38,007	-60	63,644	63,528	-115
Sep-00	73,037	73,003	-34	240,129	240,092	-37	37,633	37,573	-60	63,312	63,197	-115
Oct-00	69,979	69,946	-33	238,853	238,817	-37	37,592	37,533	-60	63,102	62,987	-115
Nov-00	70,664	68,998	-1,666	235,702	235,618	-83	37,678	37,547	-131	63,058	62,942	-116
Dec-00	70,818	67,347	-3,471	229,793	229,711	-82	37,733	37,575	-158	63,131	63,015	-116
Jan-01	70,523	66,621	-3,902	221,034	220,952	-82	37,783	37,606	-177	63,204	63,088	-116
Feb-01	70,225	66,052	-4,174	211,085	211,003	-82	37,795	37,612	-182	63,189	63,072	-118
Mar-01	70,994	65,790	-5,204	197,961	197,882	-80	28,908	28,708	-200	63,102	62,984	-118
Apr-01	73,398	68,325	-5,072	190,268	190,123	-145	12,769	12,566	-204	64,925	64,725	-199
May-01	84,635	79,579	-5,056	229,823	229,678	-145	15,129	14,849	-280	65,973	65,973	0
Jun-01	94,740	89,705	-5,035	256,961	256,961	0	25,750	25,470	-280	65,742	65,740	-1

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	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jul-01	90,914	86,559	-4,356	256,966	256,966	0	27,272	26,858	-414	65,712	65,415	-297
Aug-01	78,524	74,148	-4,376	246,177	246,177	0	27,000	26,563	-436	59,808	59,475	-333
Sep-01	74,960	70,595	-4,365	234,858	234,858	0	26,936	26,501	-436	44,699	44,367	-332
Oct-01	72,324	67,937	-4,387	222,828	222,828	0	25,810	25,374	-435	42,384	42,053	-331
Nov-01	71,119	64,352	-6,767	217,352	217,332	-20	22,117	21,634	-483	41,700	41,556	-144
Dec-01	70,987	63,386	-7,600	209,624	209,605	-20	22,145	21,655	-490	41,752	41,608	-144
Jan-02	70,301	62,695	-7,605	202,266	202,246	-20	22,169	21,679	-490	41,804	41,660	-144
Feb-02	69,773	62,137	-7,636	195,480	195,460	-20	22,174	21,684	-490	41,794	41,650	-144
Mar-02	69,836	61,613	-8,223	187,070	187,050	-20	16,874	16,356	-518	41,728	41,584	-144
Apr-02	69,558	62,756	-6,801	176,758	175,875	-883	6,634	6,345	-289	42,087	42,181	94
May-02	71,212	64,288	-6,925	175,685	174,803	-882	10,246	9,209	-1,037	41,849	41,919	70
Jun-02	68,160	61,059	-7,101	172,425	171,467	-958	11,700	10,522	-1,178	43,145	43,112	-33
Jul-02	64,854	57,889	-6,966	152,118	151,039	-1,080	11,625	10,451	-1,175	42,774	42,742	-32
Aug-02	42,294	35,400	-6,894	140,228	139,149	-1,078	8,570	7,398	-1,173	39,891	39,780	-112
Sep-02	33,987	27,063	-6,924	135,997	134,921	-1,076	5,945	4,775	-1,170	39,659	39,548	-111
Oct-02	33,137	25,711	-7,426	131,873	130,799	-1,075	5,928	4,759	-1,168	36,891	36,624	-267
Nov-02	32,051	24,090	-7,961	123,769	122,930	-839	5,947	4,759	-1,188	36,855	36,588	-268
Dec-02	31,585	23,391	-8,194	115,142	114,303	-839	5,966	4,770	-1,196	36,903	36,635	-268
Jan-03	31,112	22,859	-8,254	107,299	106,459	-840	5,980	4,783	-1,197	36,950	36,682	-268
Feb-03	30,698	22,399	-8,299	99,906	99,067	-839	5,980	4,783	-1,197	36,940	36,672	-268
Mar-03	30,473	21,929	-8,544	94,614	93,775	-839	5,978	4,774	-1,204	36,883	36,615	-268
Apr-03	33,367	24,951	-8,416	99,378	98,546	-832	6,563	5,391	-1,172	39,601	39,275	-326
May-03	64,161	55,773	-8,388	147,346	146,516	-830	17,320	16,151	-1,169	58,099	56,468	-1,630
Jun-03	89,034	80,685	-8,350	220,808	219,981	-826	19,810	18,644	-1,167	65,708	65,708	0
Jul-03	88,398	79,357	-9,041	227,929	227,354	-576	22,459	21,256	-1,203	65,205	65,205	0
Aug-03	76,546	66,192	-10,354	214,647	214,223	-423	22,512	21,306	-1,205	43,874	43,724	-150
Sep-03	59,979	47,933	-12,046	213,375	213,022	-353	22,587	21,381	-1,206	42,157	42,123	-34
Oct-03	57,574	41,516	-16,058	197,959	197,607	-352	8,597	7,346	-1,251	42,002	41,968	-34
Nov-03	58,836	36,821	-22,015	192,001	192,170	169	8,744	7,343	-1,401	41,966	41,927	-39
Dec-03	60,055	35,599	-24,456	188,827	188,997	169	8,915	7,357	-1,558	42,018	41,980	-38
Jan-04	60,108	34,761	-25,347	186,194	186,363	169	8,992	7,372	-1,621	42,071	42,033	-39
Feb-04	59,421	34,004	-25,417	181,520	181,730	210	8,999	7,375	-1,624	42,061	42,022	-39
Mar-04	62,502	35,072	-27,430	173,872	173,379	-492	9,085	7,306	-1,779	41,997	41,959	-39

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	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Apr-04	68,556	40,308	-28,249	167,405	167,045	-360	1,743	210	-1,533	45,061	44,526	-535
May-04	75,795	47,210	-28,585	180,838	180,451	-387	10,169	8,297	-1,871	50,256	49,114	-1,141
Jun-04	82,256	52,497	-29,760	186,788	187,042	254	18,320	15,200	-3,120	57,411	55,222	-2,189
Jul-04	83,760	50,306	-33,454	184,362	186,504	2,142	20,563	16,075	-4,487	59,238	56,699	-2,539
Aug-04	70,852	36,306	-34,545	177,933	179,621	1,688	20,526	16,017	-4,509	46,143	41,256	-4,886
Sep-04	63,360	18,897	-44,464	168,768	170,543	1,775	20,577	15,968	-4,609	41,495	40,454	-1,041
Oct-04	66,026	14,470	-51,556	164,485	167,857	3,372	21,001	15,942	-5,059	40,645	40,306	-339
Nov-04	69,335	12,319	-57,015	159,440	163,609	4,169	21,393	16,083	-5,310	40,615	40,271	-344
Dec-04	68,364	11,248	-57,116	155,065	159,236	4,171	21,509	16,102	-5,407	40,668	40,324	-344
Jan-05	68,643	10,567	-58,076	151,298	155,471	4,173	21,633	16,122	-5,511	40,722	40,377	-344
Feb-05	68,678	10,149	-58,528	147,796	151,969	4,173	21,765	16,126	-5,639	40,711	40,366	-345
Mar-05	69,218	9,726	-59,492	141,887	145,929	4,041	13,843	8,077	-5,766	40,648	40,303	-345
Apr-05	74,752	15,578	-59,174	144,563	148,450	3,887	210	209	-2	46,324	45,944	-379
May-05	92,984	33,489	-59,495	174,020	177,777	3,757	8,609	8,393	-216	65,973	65,973	0
Jun-05	96,803	61,482	-35,322	219,808	223,531	3,723	20,648	20,433	-215	65,949	65,914	-36
Jul-05	96,805	71,123	-25,682	219,008	222,700	3,692	25,146	24,931	-215	65,635	65,604	-32
Aug-05	87,755	62,695	-25,061	211,789	215,594	3,805	25,909	25,066	-844	54,442	52,749	-1,693
Sep-05	79,201	53,378	-25,823	202,471	206,258	3,787	25,848	24,603	-1,245	42,653	41,345	-1,308
Oct-05	76,529	46,757	-29,772	196,231	199,378	3,147	25,932	24,570	-1,362	42,516	41,195	-1,321
Nov-05	76,547	49,502	-27,045	192,827	195,972	3,145	26,276	25,099	-1,177	42,479	41,165	-1,314
Dec-05	77,396	50,175	-27,221	190,955	194,103	3,147	26,540	25,281	-1,259	42,532	41,219	-1,314
Jan-06	79,226	50,631	-28,595	189,011	192,160	3,149	27,094	25,318	-1,776	42,586	41,272	-1,313
Feb-06	80,574	50,167	-30,407	187,099	190,248	3,149	18,304	16,213	-2,091	42,576	41,262	-1,313
Mar-06	81,709	51,518	-30,191	184,838	187,984	3,147	9,329	7,126	-2,203	42,512	41,198	-1,314
Apr-06	95,361	64,455	-30,906	185,829	189,351	3,522	5,169	2,883	-2,286	60,090	58,439	-1,651
May-06	96,809	86,749	-10,060	215,530	219,041	3,511	9,553	7,276	-2,278	65,973	65,973	0
Jun-06	96,455	96,454	-1	244,135	247,633	3,498	22,802	20,528	-2,274	65,750	65,750	1
Jul-06	95,507	94,269	-1,238	244,253	247,801	3,548	26,639	24,154	-2,485	65,605	65,606	1
Aug-06	85,634	84,366	-1,269	236,555	240,095	3,540	26,631	24,132	-2,499	59,815	59,816	1
Sep-06	80,120	78,816	-1,305	235,663	239,194	3,531	26,601	24,066	-2,534	51,642	51,602	-40
Oct-06	79,148	75,474	-3,674	231,321	234,838	3,517	27,156	24,082	-3,074	42,949	42,166	-782
Nov-06	77,055	75,707	-1,348	228,405	231,921	3,516	27,176	24,329	-2,847	42,909	42,133	-776
Dec-06	76,765	75,216	-1,550	228,006	231,524	3,518	27,285	24,420	-2,866	42,963	42,187	-776

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	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jan-07	77,791	74,602	-3,189	228,149	231,669	3,520	27,515	24,445	-3,071	43,014	42,241	-774
Feb-07	78,806	73,965	-4,842	227,636	231,156	3,519	27,743	24,450	-3,294	43,004	42,230	-774
Mar-07	81,709	76,467	-5,242	227,451	230,968	3,517	18,256	14,970	-3,285	42,937	42,166	-771
Apr-07	90,473	85,242	-5,230	231,276	234,786	3,511	17,491	14,208	-3,283	51,333	50,170	-1,163
May-07	96,809	96,809	0	256,972	256,972	0	19,480	16,204	-3,277	65,973	65,973	0
Jun-07	96,803	96,801	-2	256,962	256,962	0	28,773	25,503	-3,269	65,787	65,786	-1
Jul-07	96,470	95,230	-1,240	253,322	253,475	152	30,864	27,307	-3,557	65,932	65,921	-11
Aug-07	88,974	81,991	-6,983	254,971	255,644	673	31,189	27,406	-3,783	62,040	61,922	-118
Sep-07	88,645	78,421	-10,224	256,282	255,596	-686	31,436	27,408	-4,028	61,760	61,597	-163
Oct-07	87,417	75,282	-12,135	256,273	255,466	-808	32,306	27,374	-4,932	61,553	61,393	-161
Nov-07	86,621	73,950	-12,672	256,064	255,256	-808	31,904	26,515	-5,389	61,512	61,343	-169
Dec-07	86,076	73,226	-12,850	251,484	250,677	-807	32,222	26,550	-5,673	61,581	61,413	-169
Jan-08	85,711	72,454	-13,257	247,487	246,680	-807	32,565	26,576	-5,989	61,651	61,483	-168
Feb-08	85,366	71,790	-13,576	243,998	243,190	-808	32,878	26,581	-6,297	61,637	61,467	-170
Mar-08	84,917	71,467	-13,449	242,387	241,583	-804	26,878	20,192	-6,686	61,550	61,380	-170
Apr-08	90,516	77,835	-12,681	245,692	244,888	-804	16,386	9,706	-6,680	65,977	65,977	0
May-08	96,809	96,809	0	256,974	256,974	0	20,322	13,655	-6,668	65,973	65,973	0
Jun-08	96,803	96,803	0	256,962	256,962	0	38,235	31,581	-6,654	65,967	65,967	0
Jul-08	96,805	96,805	0	256,460	256,460	1	38,611	38,611	0	65,786	65,786	0
Aug-08	94,496	92,813	-1,683	256,106	256,745	639	38,612	38,577	-35	65,456	65,291	-165
Sep-08	91,912	88,202	-3,711	256,207	256,448	240	38,104	37,827	-277	64,949	64,607	-342
Oct-08	86,806	82,116	-4,690	251,504	251,830	327	38,223	37,787	-437	64,735	64,394	-341
Nov-08	85,887	81,837	-4,050	244,993	245,319	327	38,423	37,859	-564	64,689	64,344	-345
Dec-08	85,330	81,684	-3,646	240,672	240,999	327	38,616	37,969	-647	64,764	64,419	-345
Jan-09	84,917	81,614	-3,303	236,543	236,869	327	38,616	38,039	-577	64,838	64,494	-344
Feb-09	84,549	81,127	-3,421	232,706	233,032	327	38,615	38,067	-548	64,824	64,479	-345
Mar-09	84,027	81,709	-2,318	228,285	228,612	327	21,982	21,434	-548	64,734	64,389	-345
Apr-09	91,753	88,964	-2,789	234,785	235,500	716	6,767	6,168	-599	65,977	65,977	0
May-09	96,809	96,809	0	256,972	256,972	0	18,010	17,413	-597	65,973	65,973	0
Jun-09	96,803	96,803	0	256,962	256,962	0	23,010	22,414	-596	65,949	65,949	0
Jul-09	96,805	96,805	0	256,967	256,967	0	23,562	22,967	-595	65,782	65,782	0
Aug-09	89,831	88,609	-1,221	253,332	253,758	426	22,936	22,313	-623	62,397	62,397	0
Sep-09	85,304	83,728	-1,576	248,440	248,890	450	22,878	22,256	-622	62,070	62,070	0

Table A-2: Differences in End-of-Month Contents at Other Major Reservoirs (ac-ft)

	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Oct-09	80,268	77,053	-3,215	247,167	247,648	481	22,971	22,246	-725	61,863	61,863	0
Nov-09	78,675	72,261	-6,414	249,705	249,450	-255	23,340	22,241	-1,099	61,819	61,813	-6
Dec-09	80,548	71,407	-9,141	249,859	249,604	-255	23,651	22,263	-1,388	61,891	61,885	-6
Jan-10	81,714	70,803	-10,912	250,014	249,758	-256	23,867	22,286	-1,581	61,963	61,958	-5
Feb-10	81,642	70,313	-11,329	249,983	249,727	-256	23,916	22,291	-1,625	61,948	61,942	-7
Mar-10	81,709	69,765	-11,945	249,137	248,881	-256	24,116	22,274	-1,841	61,862	61,855	-7
Apr-10	87,152	73,200	-13,951	251,203	252,020	817	24,746	22,848	-1,897	65,977	65,977	0
May-10	96,809	90,741	-6,068	256,974	256,974	0	32,177	30,127	-2,051	65,973	65,973	0
Jun-10	96,803	96,803	0	256,962	256,962	0	38,611	38,611	0	65,848	65,848	0
Jul-10	96,805	96,805	0	249,675	249,676	1	38,611	38,611	0	65,371	65,344	-27
Aug-10	94,738	90,275	-4,462	243,347	245,252	1,905	35,151	34,745	-405	61,856	61,540	-316
Sep-10	90,943	86,099	-4,844	226,370	228,438	2,068	34,307	33,902	-405	61,533	61,218	-315
Oct-10	86,422	81,422	-5,000	214,491	216,333	1,842	34,426	33,863	-562	61,328	60,671	-657
Nov-10	83,134	75,625	-7,509	215,555	217,396	1,841	34,726	33,891	-834	61,285	60,621	-665
Dec-10	82,558	75,571	-6,987	214,366	216,208	1,842	34,941	33,988	-953	61,356	60,692	-665
Jan-11	82,278	74,764	-7,514	214,501	216,344	1,843	35,192	34,017	-1,175	61,428	60,763	-664
Feb-11	81,851	74,261	-7,590	214,473	216,317	1,843	33,438	32,160	-1,278	61,413	60,747	-666
Mar-11	81,709	75,835	-5,875	214,312	216,154	1,842	21,172	19,857	-1,315	61,328	60,662	-666
Apr-11	87,962	82,100	-5,862	211,308	213,146	1,838	11,328	10,014	-1,314	65,977	65,977	0
May-11	96,809	96,809	0	225,285	227,118	1,833	15,081	13,739	-1,342	65,973	65,973	0
Jun-11	96,803	96,803	0	256,962	256,962	0	37,873	36,535	-1,339	65,967	65,967	0
Jul-11	96,805	96,805	0	256,967	256,967	0	38,611	38,611	0	65,939	65,937	-2
Aug-11	94,091	94,089	-2	251,876	251,876	0	37,717	37,717	0	65,825	65,824	0
Sep-11	92,758	86,804	-5,953	246,945	246,984	38	38,515	38,109	-405	65,117	64,465	-652
Oct-11	91,706	85,657	-6,049	241,027	239,194	-1,833	37,584	36,705	-879	64,902	64,252	-650
Nov-11	88,437	82,513	-5,924	242,039	240,206	-1,833	37,419	36,473	-946	64,856	64,206	-650
Dec-11	87,813	81,497	-6,316	242,192	240,358	-1,834	37,111	35,920	-1,192	64,931	64,281	-650
Jan-12	87,398	80,993	-6,405	242,345	240,510	-1,835	37,046	35,630	-1,416	65,005	64,355	-651
Feb-12	87,073	80,754	-6,319	242,315	240,480	-1,835	36,280	34,857	-1,423	64,991	64,341	-651
Mar-12	86,594	81,709	-4,885	239,273	237,440	-1,833	30,804	29,329	-1,475	64,902	64,251	-650
Apr-12	90,601	87,327	-3,274	233,138	231,309	-1,830	25,611	24,138	-1,473	65,977	65,977	0
May-12	96,809	91,491	-5,318	236,913	235,088	-1,825	30,544	27,019	-3,526	65,900	65,815	-85
Jun-12	95,581	89,135	-6,446	230,702	228,678	-2,025	31,044	25,689	-5,355	65,533	65,512	-21

Table A-2: Differences in End-of-Month Contents at Other Major Reservoirs (ac-ft)

	Williams Fork Reservoir			Dillon Lake			Homestake Reservoir			Wolford Mountain Reservoir		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference	Historical Shoshone	BBA Volumetric	Difference
Jul-12	90,015	81,978	-8,036	217,499	215,622	-1,877	28,857	23,299	-5,558	65,049	65,008	-42
Aug-12	77,952	69,167	-8,785	198,953	197,064	-1,888	27,301	21,696	-5,604	51,023	49,563	-1,459
Sep-12	74,219	65,954	-8,264	185,906	184,003	-1,903	25,730	20,133	-5,597	39,955	38,743	-1,212
Oct-12	73,726	63,932	-9,793	174,837	172,937	-1,900	24,196	18,571	-5,626	36,911	36,559	-352
Nov-12	74,011	62,947	-11,064	164,346	162,446	-1,900	23,671	17,944	-5,727	36,876	36,522	-354
Dec-12	74,076	62,381	-11,695	158,806	156,905	-1,901	23,085	17,317	-5,768	36,924	36,571	-354
Jan-13	73,737	61,871	-11,866	153,393	151,491	-1,902	22,790	17,018	-5,772	36,973	36,619	-353
Feb-13	73,603	61,444	-12,159	149,316	147,414	-1,902	22,025	16,243	-5,782	36,963	36,609	-354
Mar-13	74,435	61,114	-13,320	145,406	143,505	-1,900	16,288	10,442	-5,846	36,904	36,551	-354
Apr-13	74,475	60,537	-13,938	143,725	141,829	-1,896	8,324	2,465	-5,859	38,335	37,729	-606
May-13	96,809	83,140	-13,669	175,216	173,317	-1,899	14,034	8,081	-5,952	65,973	65,973	0
Jun-13	92,228	91,914	-314	223,366	221,531	-1,834	24,088	18,018	-6,070	65,729	65,728	0
Jul-13	92,464	90,710	-1,754	218,584	216,541	-2,042	23,788	17,591	-6,197	65,486	65,474	-12
Aug-13	79,876	77,434	-2,441	207,332	205,286	-2,046	22,225	15,862	-6,363	55,482	54,554	-929
Sep-13	80,754	76,382	-4,373	206,992	204,598	-2,394	21,918	15,049	-6,869	49,999	48,373	-1,625
Average	**81,761**	**75,249**		**223,479**	**223,634**		**27,240**	**25,921**		**57,518**	**57,273**	
Max Decrease			**-59,495**			**-4,763**			**-6,869**			**-4,886**

Table A-3: Differences in Streamflow at the 15-Mile Reach (ac-ft)

	15-Mile Reach		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference
Oct-87	31,802	33,406	1,604
Nov-87	92,271	90,998	-1,273
Dec-87	101,502	102,557	1,055
Jan-88	94,304	98,043	3,738
Feb-88	89,230	92,022	2,793
Mar-88	109,387	107,777	-1,610
Apr-88	86,966	82,870	-4,096
May-88	265,983	267,417	1,434
Jun-88	482,164	478,476	-3,688
Jul-88	99,302	99,274	-28
Aug-88	16,690	16,680	-10
Sep-88	26,039	26,108	69
Oct-88	33,873	34,416	544
Nov-88	89,555	89,299	-255
Dec-88	97,059	97,001	-58
Jan-89	97,346	99,021	1,675
Feb-89	92,513	93,577	1,064
Mar-89	131,592	130,105	-1,488
Apr-89	130,039	129,211	-828
May-89	260,028	260,124	96
Jun-89	273,341	273,913	572
Jul-89	83,428	83,354	-74
Aug-89	37,269	37,453	184
Sep-89	12,901	13,677	776
Oct-89	26,890	26,853	-37
Nov-89	75,937	76,668	731
Dec-89	84,346	85,942	1,596
Jan-90	76,447	77,115	668
Feb-90	76,590	76,723	134
Mar-90	91,903	93,109	1,207
Apr-90	52,317	49,784	-2,533
May-90	113,788	114,475	687
Jun-90	367,766	370,884	3,118
Jul-90	95,753	96,710	956
Aug-90	5,742	5,740	-2
Sep-90	10,359	10,451	92
Oct-90	59,060	61,645	2,585
Nov-90	71,502	72,269	768
Dec-90	68,864	69,882	1,018
Jan-91	81,083	81,127	44
Feb-91	74,753	75,388	635
Mar-91	95,022	97,131	2,110
Apr-91	56,142	52,249	-3,893
May-91	283,957	283,967	10
Jun-91	537,153	533,782	-3,371
Jul-91	158,655	151,229	-7,426

Table A-3: Differences in Streamflow at the 15-Mile Reach (ac-ft)

	15-Mile Reach		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference
Aug-91	58,104	58,346	242
Sep-91	60,716	60,712	-4
Oct-91	38,902	40,370	1,468
Nov-91	97,592	95,335	-2,257
Dec-91	91,086	91,710	624
Jan-92	80,444	80,711	267
Feb-92	80,375	81,121	746
Mar-92	99,298	101,495	2,197
Apr-92	88,548	85,271	-3,277
May-92	316,044	315,849	-195
Jun-92	256,142	256,594	452
Jul-92	105,301	106,448	1,148
Aug-92	34,563	37,183	2,620
Sep-92	43,482	44,591	1,108
Oct-92	51,910	51,958	49
Nov-92	99,177	99,261	84
Dec-92	94,430	94,628	199
Jan-93	91,010	92,268	1,258
Feb-93	86,722	87,591	869
Mar-93	124,468	124,240	-228
Apr-93	120,469	113,165	-7,303
May-93	789,506	788,380	-1,125
Jun-93	932,989	935,140	2,152
Jul-93	429,695	430,042	347
Aug-93	113,333	114,465	1,132
Sep-93	104,062	104,619	557
Oct-93	93,173	93,169	-3
Nov-93	105,491	104,693	-797
Dec-93	109,346	109,083	-263
Jan-94	105,339	105,114	-225
Feb-94	89,511	89,542	30
Mar-94	118,071	119,104	1,033
Apr-94	100,579	97,980	-2,600
May-94	310,001	310,703	702
Jun-94	344,212	344,512	301
Jul-94	62,531	63,043	513
Aug-94	26,984	26,994	10
Sep-94	40,966	41,236	271
Oct-94	76,684	77,565	880
Nov-94	86,617	87,022	405
Dec-94	101,187	101,391	205
Jan-95	101,239	101,322	83
Feb-95	99,283	99,339	55
Mar-95	136,260	136,185	-75
Apr-95	87,951	85,248	-2,702
May-95	274,368	274,543	175

Table A-3: Differences in Streamflow at the 15-Mile Reach (ac-ft)

	15-Mile Reach		
Mon-Year	**Historical Shoshone**	**BBA Volumetric**	**Difference**
Jun-95	1,202,851	1,202,997	145
Jul-95	1,050,761	1,050,161	-600
Aug-95	243,868	243,866	-2
Sep-95	128,695	129,388	693
Oct-95	129,807	135,750	5,943
Nov-95	127,925	125,984	-1,941
Dec-95	124,899	123,561	-1,338
Jan-96	114,076	113,933	-143
Feb-96	124,522	123,742	-780
Mar-96	127,742	126,349	-1,393
Apr-96	164,677	156,571	-8,106
May-96	738,219	739,895	1,677
Jun-96	840,580	840,613	34
Jul-96	257,109	257,106	-2
Aug-96	45,180	45,715	535
Sep-96	78,554	79,316	762
Oct-96	110,210	114,655	4,444
Nov-96	119,896	114,857	-5,039
Dec-96	121,009	118,062	-2,947
Jan-97	117,250	116,922	-327
Feb-97	98,595	99,941	1,346
Mar-97	160,433	159,796	-637
Apr-97	179,532	171,172	-8,360
May-97	806,020	818,236	12,217
Jun-97	1,359,192	1,362,020	2,828
Jul-97	369,588	369,586	-3
Aug-97	206,583	206,583	0
Sep-97	155,090	155,339	249
Oct-97	163,173	165,266	2,093
Nov-97	140,608	138,861	-1,747
Dec-97	137,366	135,560	-1,806
Jan-98	132,387	131,947	-441
Feb-98	119,459	118,867	-592
Mar-98	168,043	167,153	-890
Apr-98	171,682	170,825	-857
May-98	625,514	626,892	1,379
Jun-98	597,810	600,474	2,664
Jul-98	315,478	315,479	1
Aug-98	97,326	98,504	1,178
Sep-98	60,655	60,655	0
Oct-98	102,756	103,177	421
Nov-98	116,976	116,013	-963
Dec-98	108,824	108,528	-296
Jan-99	111,976	111,736	-240
Feb-99	100,288	100,014	-274
Mar-99	133,723	133,509	-214

Table A-3: Differences in Streamflow at the 15-Mile Reach (ac-ft)

	15-Mile Reach		
Mon-Year	**Historical Shoshone**	**BBA Volumetric**	**Difference**
Apr-99	83,624	80,423	-3,201
May-99	304,464	304,645	181
Jun-99	720,892	724,238	3,346
Jul-99	292,162	292,164	2
Aug-99	115,420	115,742	322
Sep-99	92,760	92,921	162
Oct-99	96,303	97,026	723
Nov-99	100,920	100,963	42
Dec-99	103,332	104,148	816
Jan-00	108,925	109,393	467
Feb-00	98,825	99,591	766
Mar-00	109,931	110,752	821
Apr-00	123,028	121,430	-1,598
May-00	466,120	463,789	-2,331
Jun-00	415,349	415,567	218
Jul-00	72,856	72,798	-58
Aug-00	38,780	38,896	116
Sep-00	58,594	58,669	75
Oct-00	44,375	44,378	3
Nov-00	94,049	95,687	1,639
Dec-00	102,932	104,657	1,725
Jan-01	93,322	93,773	451
Feb-01	82,650	82,933	282
Mar-01	98,308	99,364	1,056
Apr-01	71,585	71,452	-133
May-01	346,781	346,696	-85
Jun-01	270,886	271,079	193
Jul-01	77,225	76,978	-247
Aug-01	48,019	48,112	94
Sep-01	35,802	35,793	-9
Oct-01	42,539	42,536	-4
Nov-01	84,146	86,444	2,297
Dec-01	82,327	83,169	842
Jan-02	82,637	82,644	7
Feb-02	69,803	69,810	8
Mar-02	88,503	89,101	598
Apr-02	71,361	68,682	-2,679
May-02	81,587	83,674	2,087
Jun-02	65,834	68,881	3,047
Jul-02	8,271	7,533	-738
Aug-02	5,506	5,498	-8
Sep-02	9,891	10,109	218
Oct-02	26,655	28,546	1,891
Nov-02	62,687	64,307	1,620
Dec-02	64,451	65,530	1,079
Jan-03	63,835	64,232	396

Table A-3: Differences in Streamflow at the 15-Mile Reach (ac-ft)

	15-Mile Reach		
Mon-Year	**Historical Shoshone**	**BBA Volumetric**	**Difference**
Feb-03	57,719	58,095	375
Mar-03	74,132	78,491	4,359
Apr-03	56,358	55,908	-450
May-03	394,102	395,697	1,596
Jun-03	505,319	502,678	-2,640
Jul-03	79,815	80,539	725
Aug-03	49,081	50,464	1,383
Sep-03	65,708	66,212	505
Oct-03	36,027	37,176	1,150
Nov-03	79,052	84,059	5,007
Dec-03	84,818	87,459	2,641
Jan-04	77,984	78,596	612
Feb-04	73,198	73,452	255
Mar-04	111,468	112,637	1,169
Apr-04	88,096	90,141	2,045
May-04	211,098	212,792	1,694
Jun-04	193,535	196,816	3,280
Jul-04	59,560	64,889	5,329
Aug-04	16,270	18,712	2,443
Sep-04	31,663	37,740	6,078
Oct-04	69,448	90,078	20,630
Nov-04	84,315	91,706	7,391
Dec-04	84,004	85,007	1,004
Jan-05	95,659	96,602	943
Feb-05	75,078	75,101	23
Mar-05	91,273	92,064	792
Apr-05	142,269	141,034	-1,235
May-05	483,398	485,566	2,168
Jun-05	667,167	636,875	-30,291
Jul-05	243,800	234,278	-9,522
Aug-05	86,317	88,123	1,806
Sep-05	67,434	67,374	-60
Oct-05	107,507	108,295	787
Nov-05	130,672	126,395	-4,277
Dec-05	100,939	99,930	-1,009
Jan-06	99,804	100,454	651
Feb-06	80,405	81,355	950
Mar-06	118,903	117,615	-1,287
Apr-06	219,319	220,575	1,256
May-06	556,805	534,819	-21,986
Jun-06	397,940	387,907	-10,032
Jul-06	127,444	128,887	1,443
Aug-06	48,522	48,566	44
Sep-06	62,835	62,930	95
Oct-06	127,007	130,791	3,783
Nov-06	111,452	108,869	-2,584

Table A-3: Differences in Streamflow at the 15-Mile Reach (ac-ft)

	15-Mile Reach		
Mon-Year	Historical Shoshone	BBA Volumetric	Difference
Dec-06	101,987	102,180	192
Jan-07	84,764	86,458	1,694
Feb-07	97,150	98,864	1,714
Mar-07	160,838	161,085	247
Apr-07	138,404	138,801	397
May-07	354,226	347,526	-6,701
Jun-07	367,504	371,430	3,926
Jul-07	91,397	92,591	1,194
Aug-07	44,100	50,924	6,825
Sep-07	51,627	69,110	17,484
Oct-07	80,971	107,960	26,990
Nov-07	89,578	83,652	-5,926
Dec-07	116,398	110,151	-6,248
Jan-08	102,299	97,120	-5,179
Feb-08	104,715	96,043	-8,672
Mar-08	104,180	97,733	-6,448
Apr-08	97,719	96,809	-909
May-08	598,704	586,153	-12,551
Jun-08	1,078,162	1,075,000	-3,161
Jul-08	454,669	448,022	-6,647
Aug-08	95,064	98,308	3,244
Sep-08	58,285	79,464	21,179
Oct-08	80,292	87,242	6,950
Nov-08	108,376	102,943	-5,433
Dec-08	115,815	110,524	-5,290
Jan-09	111,961	106,610	-5,351
Feb-09	99,787	94,920	-4,867
Mar-09	127,697	121,676	-6,021
Apr-09	145,810	146,367	557
May-09	775,584	772,644	-2,940
Jun-09	762,524	762,082	-442
Jul-09	307,454	307,445	-9
Aug-09	53,326	54,785	1,459
Sep-09	50,983	52,338	1,355
Oct-09	92,391	97,009	4,618
Nov-09	93,344	96,811	3,468
Dec-09	90,033	92,089	2,057
Jan-10	94,858	95,938	1,080
Feb-10	85,821	85,409	-411
Mar-10	104,942	105,022	80
Apr-10	136,249	139,946	3,697
May-10	327,932	320,293	-7,639
Jun-10	762,579	752,602	-9,978
Jul-10	137,032	137,130	98
Aug-10	62,964	68,415	5,452
Sep-10	31,018	32,495	1,477

Table A-3: Differences in Streamflow at the 15-Mile Reach (ac-ft)

	15-Mile Reach		
Mon-Year	**Historical Shoshone**	**BBA Volumetric**	**Difference**
Oct-10	76,250	82,739	6,489
Nov-10	98,002	99,072	1,070
Dec-10	121,962	119,831	-2,131
Jan-11	103,606	102,629	-977
Feb-11	86,564	84,959	-1,605
Mar-11	120,855	117,776	-3,079
Apr-11	150,816	150,149	-667
May-11	524,755	518,767	-5,988
Jun-11	1,520,685	1,522,158	1,473
Jul-11	1,036,235	1,033,361	-2,874
Aug-11	169,453	169,447	-7
Sep-11	83,963	96,996	13,034
Oct-11	100,813	101,088	275
Nov-11	122,314	121,291	-1,023
Dec-11	112,034	111,700	-334
Jan-12	110,687	109,969	-718
Feb-12	97,835	96,767	-1,068
Mar-12	146,526	144,245	-2,281
Apr-12	121,759	119,658	-2,101
May-12	121,154	127,816	6,662
Jun-12	68,256	75,370	7,114
Jul-12	29,771	33,909	4,138
Aug-12	11,884	14,473	2,589
Sep-12	9,732	10,124	393
Oct-12	17,457	18,802	1,344
Nov-12	55,838	58,198	2,360
Dec-12	65,602	67,154	1,553
Jan-13	61,469	61,510	41
Feb-13	61,562	61,895	333
Mar-13	73,525	76,472	2,948
Apr-13	40,754	42,118	1,364
May-13	284,769	284,695	-74
Jun-13	350,283	335,489	-14,794
Jul-13	54,445	55,239	795
Aug-13	22,329	23,907	1,577
Sep-13	57,004	58,845	1,841
Max Decrease			**-30,291**
Max Increase			**26,990**

Summary of Denver Water Water Supply Rights Currently Used to Meet Municipal Demand Affected by the Shoshone Call

Water Rights Affected by the Senior Shoshone Call

Name of Structure or Water Right Name	Appropriation Date	Adjudication Date	Case Number(s)	Storage Volume
Fraser River Diversion Project	7/4/1921	10/5/1937	C.A.657	
Williams Fork Diversion Project	7/4/1921	10/5/1937	C.A.657	
Williams Fork Reservoir	11/10/1935	10/5/1937	C.A.657	93,637 af
Roberts Tunnel	6/24/1946	3/10/1952	District Court Cases 2782, 5016, 5017	
Dillon Reservoir	6/24/1946	3/10/1952	District Court Cases 2782, 5016, 5017	252,678 af
Williams Fork Reservoir	10/9/1956	5/30/1972	C.A. 1430	93,637 af
Moffat Tunnel Collection System	8/30/1963	5/30/1972	C.A.1430	
Dillon Reservoir Refill	1/1/1985	8/23/1999	87CW376	175,000 af
Wolford Mountain Reservoir (DW has 40% ownership interest)	12/14/1987	11/20/1989	87CW283	59,993 af
Wolford Mountain Reservoir Enlargement (DW has 40% ownership interest)	1/16/1995	7/28/1997	95CW281	6,000 af

Water Rights Affected by the Senior and Junior Shoshone Calls

Name of Structure or Water Right Name	Appropriation Date	Adjudication Date	Case Number(s)	Storage Volume
Roberts Tunnel	6/24/1946	3/10/1952	District Court Cases 2782, 5016, 5017	
Dillon Reservoir	6/24/1946	3/10/1952	District Court Cases 2782, 5016, 5017	252,678 af
Williams Fork Reservoir	10/9/1956	5/30/1972	C.A. 1430	93,637 af
Moffat Tunnel Collection System	8/30/1963	5/30/1972	C.A.1430	
Dillon Reservoir Refill	1/1/1985	8/23/1999	87CW376	175,000 af
Wolford Mountain Reservoir (DW has 40% ownership interest)	12/14/1987	11/20/1989	87CW283	59,993 af
Wolford Mountain Reservoir Enlargement (DW has 40% ownership interest)	1/16/1995	7/28/1997	95CW281	6,000 af

Denver Ex. 9

Denver Ex 10

Professional Resume

Jeffrey J. Bandy, PE

Denver Water
1600 West 12th Avenue, Denver CO 80204
(303) 628-6000

Education:

University of Colorado: Boulder, Colorado
MS Civil Engineering, Water Resources Emphasis, December 1998
BS Civil Engineering, Environmental and Water Resources Emphasis, May 1996

Registration:

Professional Engineer, State of Colorado, No. 37172

Work Experience:

Denver Water: Denver, Colorado

Planning Manager of Water Rights, Supply, and Analysis (2019 – present)

Manager of the Water Rights, Raw Water Supply, and Water Resource Analysis Sections in Denver Water's Water Resource Strategy Division. Managed team and workload of 17 staff responsible for water rights litigation support, raw water supply management and accounting and long-range water supply modeling. Lead and/or represent Denver Water in activities related to settlement agreements (including Colorado River Cooperative Agreement), water supply contracts, water rights investigations, and Chatfield Reservoir Mitigation Company.

Planning Manager of Water Resource Analysis (2016 – 2019)

Manager of Water Resource Analysis Section in Denver Water's Water Resource Strategy Division. Duties include a variety of data review and analysis, documentation and reporting, project management related to long-term planning models, studies and GIS projects. Lead and/or represent Denver Water in activities related to settlement agreements (including Colorado River Cooperative Agreement), water supply contracts, water rights investigations, and Chatfield Reservoir Mitigation Company.

Senior Engineer (2011 – 2016)

Water resource engineer in the Water Rights Section of Denver Water's Planning Division (Water Resource Strategy). Duties include a variety of data review and analysis, report development, application for development or change of water rights, and review of other entities' applications related to development or change of water rights. Duties also include coordination and discussions related to river administration and operational agreements, litigation support and expert testimony. Investigations included water availability studies, injury analyses, historical use quantifications, augmentation plans, water leases, depletion and return flow calculations, point flow models, consumptive use models, and river administration.

AECOM Technical Services, Inc.: Denver, Colorado

Water Resources Engineer (2001 – 2011)

Experience includes diverse consulting engineering experience including water supply planning, feasibility-level design, and water rights engineering. Primary involvement in water supply projects and basin accounting models for municipal clients.

University of Colorado: Boulder, Colorado
Guest Lecturer (February 2001)
Guest lecturer on topics in hydrologic modeling, focusing on the HEC-HMS software.

Catholic University of Leuven, Hydraulics Laboratory: Leuven, Belgium
Professional Research Assistant (1999 – 2000)
Research involving a standard methodology for hydrologic modeling of Flemish river basins. Primary task included refinement and development of a conceptual rainfall-runoff model.

Baker Consultants, Inc.: Wheat Ridge, Colorado
Staff Engineer (6/1998 – 12/1998)
Consulting Engineering involving modeling of groundwater systems and reservoir water quality. Modeling included the use of industry standard packages as well as developing problem specific solutions.

University of Colorado: Boulder, Colorado
Graduate Research Assistant (1/1997 – 6/1998)
Associated Western Universities Graduate Fellow with Battelle Pacific Northwest National Laboratories
Developed a continental scale water balance model for use in an integrated assessment of climate change impacts on world resources and economies.

United Nations Industrial Development Organization: Vienna, Austria
Chemical Industries Ad-Hoc *Intern* (summer 1996)
Research conducted on secondary use and disposal alternatives for waste produced by the coffee industry, and large-scale methane production from agro-industrial wastes in developing nations.

Professional Involvement:
American Water Resources Association, Colorado Section
Member, Director at Large (2014, 2015, 2016), Scholarship Committee

Colorado Foundation for Water Education Water Leaders Program, 2007

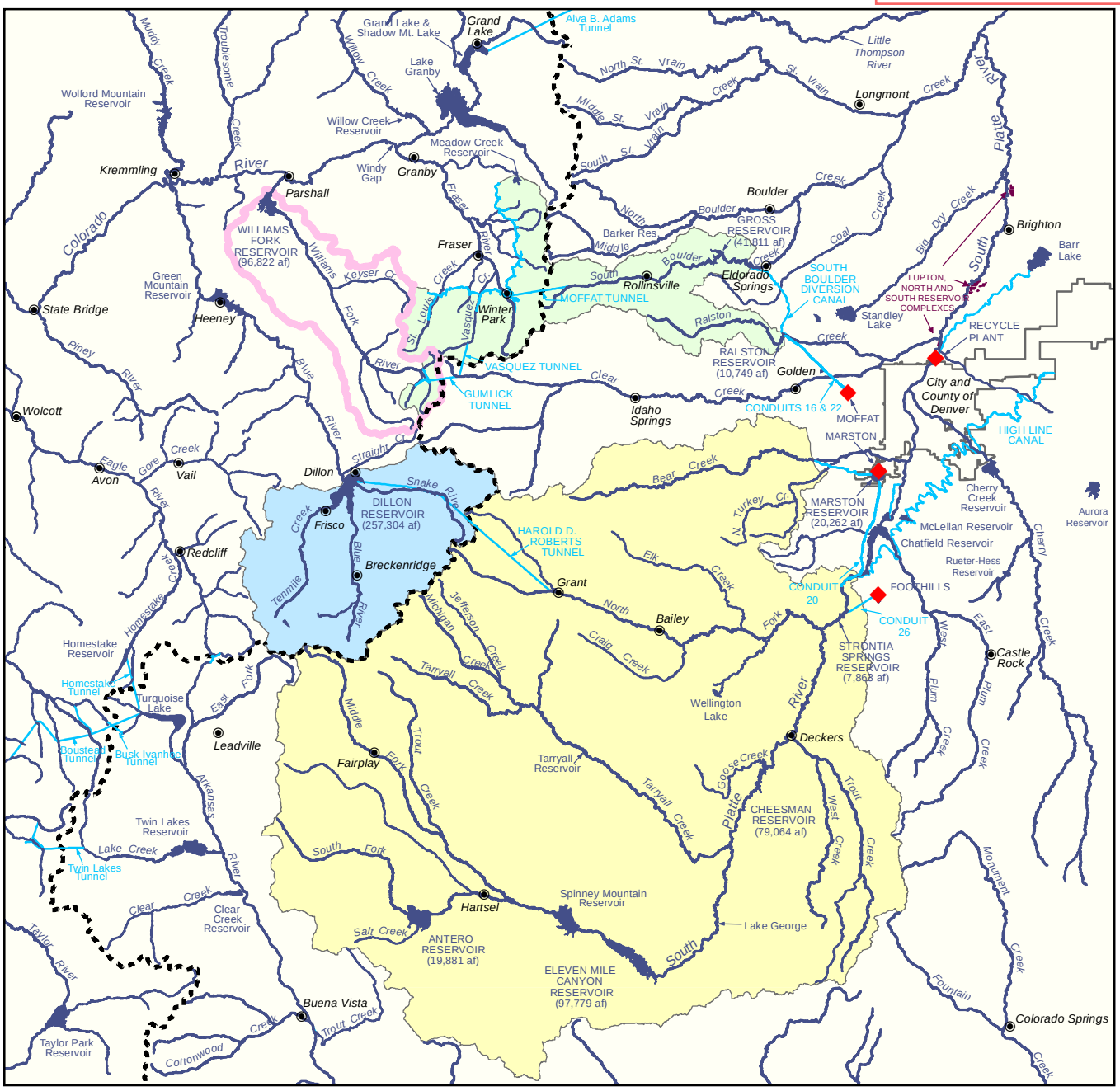
Publications:
Bandy, J. and P. Willems, *Towards a More Physically Based Calibration of Lumped Conceptual Rainfall Runoff Models*, Hydroinformatics 2000: Proceedings of the Fourth International Conference on Hydroinformatics, Iowa City, Iowa, 23-27 July 2000

Bandy, J., *GLOBAL-RUNOFF: A Gridded Monthly Water Balance Model for Large-Scale Water Assessment*, Master's Thesis, University of Colorado, 1998

City and County of Denver
Board of Water Commissioners

Water Collection System

Denver Ex. 11



LEGEND

- South Platte Collection System
- Roberts Tunnel Collection System
- Moffat Collection System
- Williams Fork Reservoir Watershed
- Major Lake or Reservoir
- Denver Water Treatment Plant
- Town
- Continental Divide
- Major Canal or Aqueduct
- Major Stream or River

N

1:1,000,000

0 10 20 40

Miles

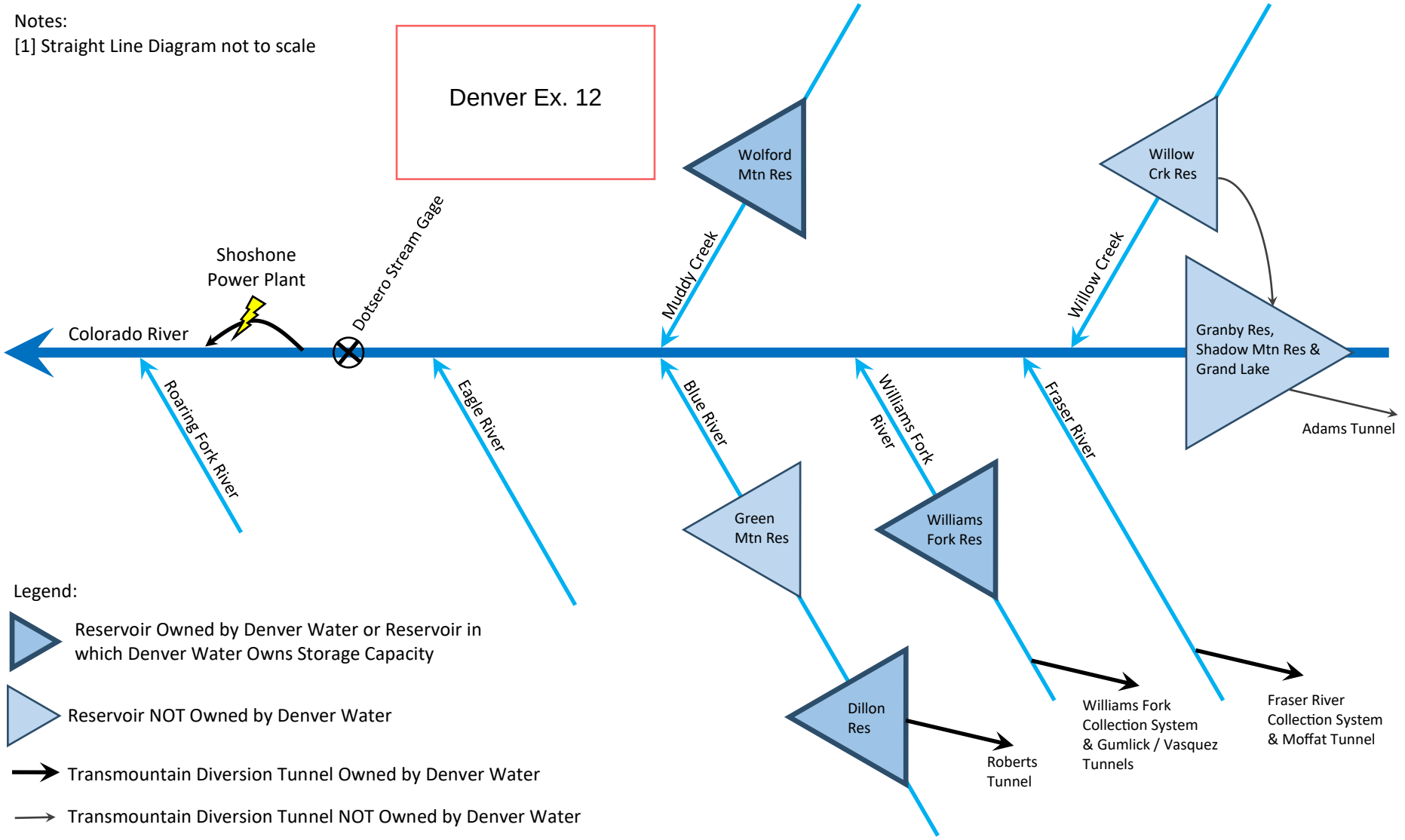
Scale number is accurate when printed at 8.5 x 11 inches in size.

DENVER WATER

Map Date: 11/6/2015
Author: Planning WRGIS

Notes:
[1] Straight Line Diagram not to scale

Denver Ex. 12



Legend:

- Reservoir Owned by Denver Water or Reservoir in which Denver Water Owns Storage Capacity
- Reservoir NOT Owned by Denver Water
- Transmountain Diversion Tunnel Owned by Denver Water
- Transmountain Diversion Tunnel NOT Owned by Denver Water

Straight Line Diagram

Denver Water's Major Water Supply Infrastructure and Other Major Infrastructure in the Upper Colorado River Basin Relative to the Shoshone Power Plant

Denver Ex. 13

Volume of Water Denver Water Contributed to ShOP
From September 26, 2013 thru October 31, 2024
(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.

Denver Ex. 14

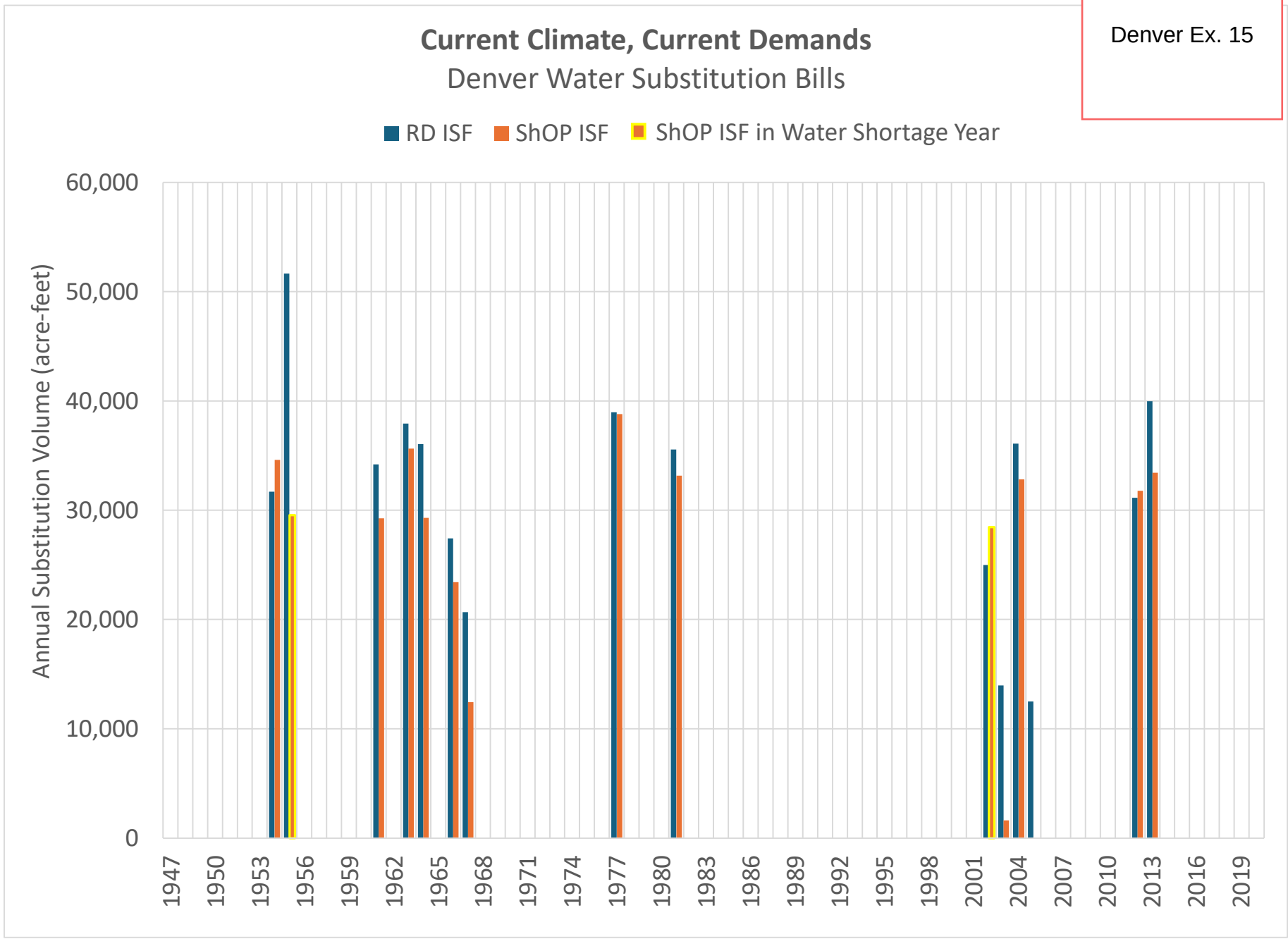
Comparison of Denver Water Substitution Bill Volumes (acre-feet)

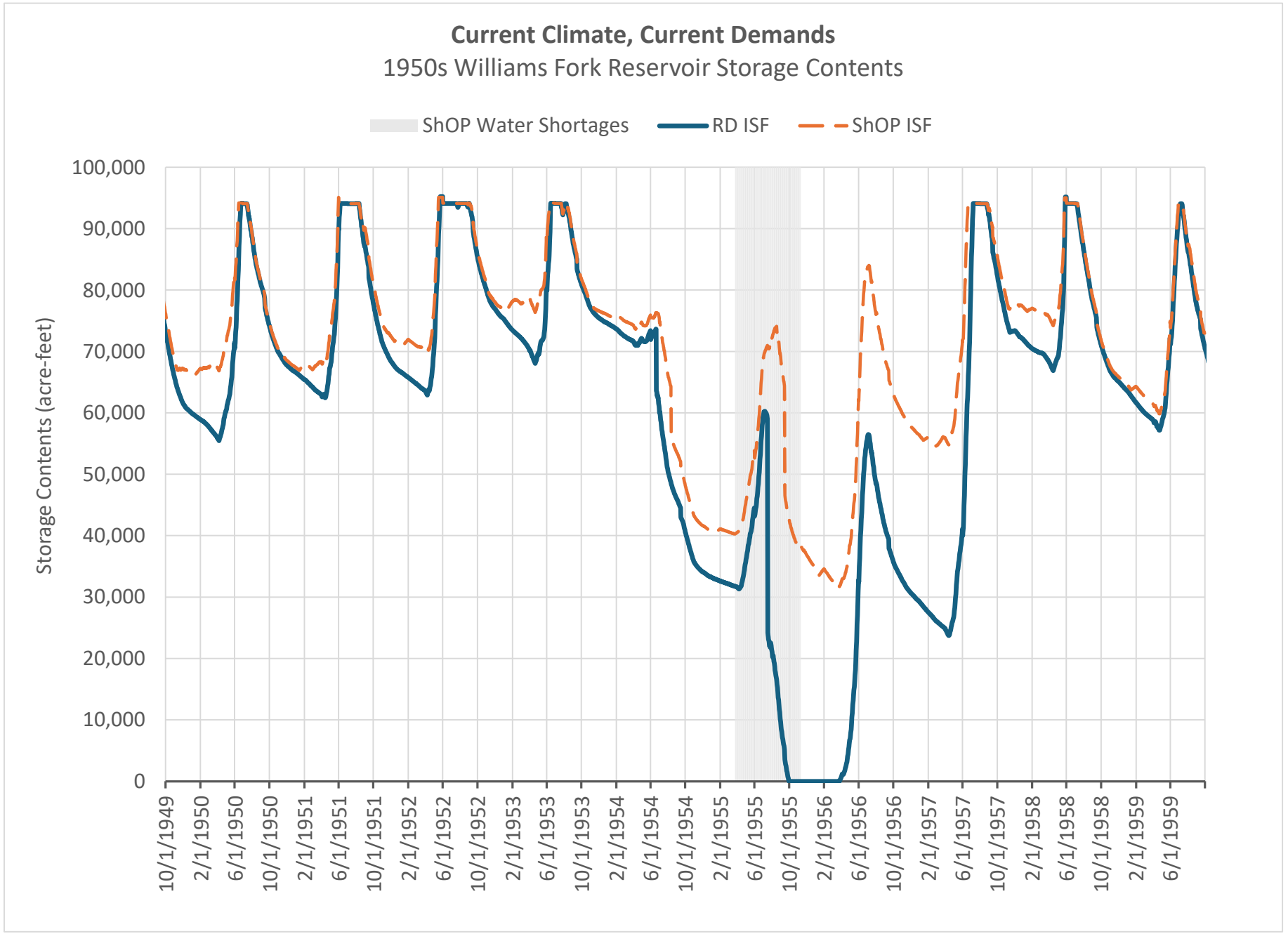
Gray rows indicate a ShOP ISF water shortage year

Current Climate, Current Demands			
Year	River District ISF	ShOP ISF	Difference (RD ISF - ShOP ISF)
1947	0	0	0
1948	0	0	0
1949	0	0	0
1950	0	0	0
1951	0	0	0
1952	0	0	0
1953	0	0	0
1954	31,693	34,622	-2,929
1955	51,646	29,557	22,089
1956	0	0	0
1957	0	0	0
1958	0	0	0
1959	0	0	0
1960	0	0	0
1961	34,198	29,263	4,935
1962	0	0	0
1963	37,932	35,640	2,292
1964	36,041	29,299	6,742
1965	0	0	0
1966	27,423	23,423	4,000
1967	20,667	12,447	8,220
1968	0	0	0
1969	0	0	0
1970	0	0	0
1971	0	0	0
1972	0	0	0
1973	0	0	0
1974	0	0	0
1975	0	0	0
1976	0	0	0
1977	38,961	38,797	164
1978	0	0	0
1979	0	0	0
1980	0	0	0
1981	35,548	33,161	2,387
1982	0	0	0
1983	0	0	0
1984	0	0	0
1985	0	0	0
1986	0	0	0
1987	0	0	0
1988	0	0	0
1989	0	0	0
1990	0	0	0
1991	0	0	0
1992	0	0	0
1993	0	0	0
1994	0	0	0
1995	0	0	0
1996	0	0	0
1997	0	0	0
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	0	0	0
2002	24,986	28,469	-3,483
2003	13,952	1,622	12,330
2004	36,094	32,822	3,272
2005	12,494	0	12,494
2006	0	0	0
2007	0	0	0
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	31,146	31,779	-633
2013	39,972	33,430	6,542
2014	0	0	0
2015	0	0	0
2016	0	0	0
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	0	0	0

5 F Warming, Future Demands			
Year	River District ISF	ShOP ISF	Difference (RD ISF - ShOP ISF)
1947	0	0	0
1948	0	0	0
1949	0	0	0
1950	0	0	0
1951	0	0	0
1952	0	0	0
1953	9,148	4,406	4,742
1954	20,951	27,023	-6,072
1955	65,267	15,154	50,113
1956	0	0	0
1957	0	0	0
1958	0	0	0
1959	18,645	10,165	8,480
1960	36,474	17,928	18,546
1961	39,090	37,438	1,652
1962	0	0	0
1963	37,691	35,837	1,854
1964	49,376	34,663	14,713
1965	0	0	0
1966	31,613	32,285	-672
1967	48,398	26,192	22,206
1968	37,844	16,939	20,905
1969	6,127	2,802	3,325
1970	0	0	0
1971	0	0	0
1972	0	0	0
1973	0	0	0
1974	0	0	0
1975	0	0	0
1976	10,935	9,945	990
1977	31,665	32,203	-538
1978	21,318	0	21,318
1979	0	0	0
1980	0	0	0
1981	22,793	25,589	-2,796
1982	20,261	0	20,261
1983	0	0	0
1984	0	0	0
1985	0	0	0
1986	0	0	0
1987	12,656	10,944	1,712
1988	0	0	0
1989	9,395	6,059	3,336
1990	36,506	28,656	7,850
1991	25,237	15,511	9,726
1992	41,990	30,922	11,068
1993	0	0	0
1994	38,099	34,898	3,201
1995	0	0	0
1996	0	0	0
1997	0	0	0
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	45,012	37,080	7,932
2002	24,354	26,449	-2,095
2003	9,232	0	9,232
2004	36,268	38,440	-2,172
2005	48,019	0	48,019
2006	0	0	0
2007	7,186	0	7,186
2008	0	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	26,814	26,911	-97
2013	48,062	43,690	4,372
2014	0	0	0
2015	0	0	0
2016	0	0	0
2017	0	0	0
2018	8,003	7,097	906
2019	0	0	0
2020	0	0	0

Denver Ex. 15


Current Climate, Current Demands
Denver Water Substitution Bills
RD ISF
ShOP ISF
ShOP ISF in Water Shortage Year
Annual Substitution Volume (acre-feet)
60,000
50,000
40,000
30,000
20,000
10,000
0
1947
1950
1953
1956
1959
1962
1965
1968
1971
1974
1977
1980
1983
1986
1989
1992
1995
1998
2001
2004
2007
2010
2013
2016
2019


Current Climate, Current Demands
1950s Williams Fork Reservoir Storage Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
10/1/1949
2/1/1950
6/1/1950
10/1/1950
2/1/1951
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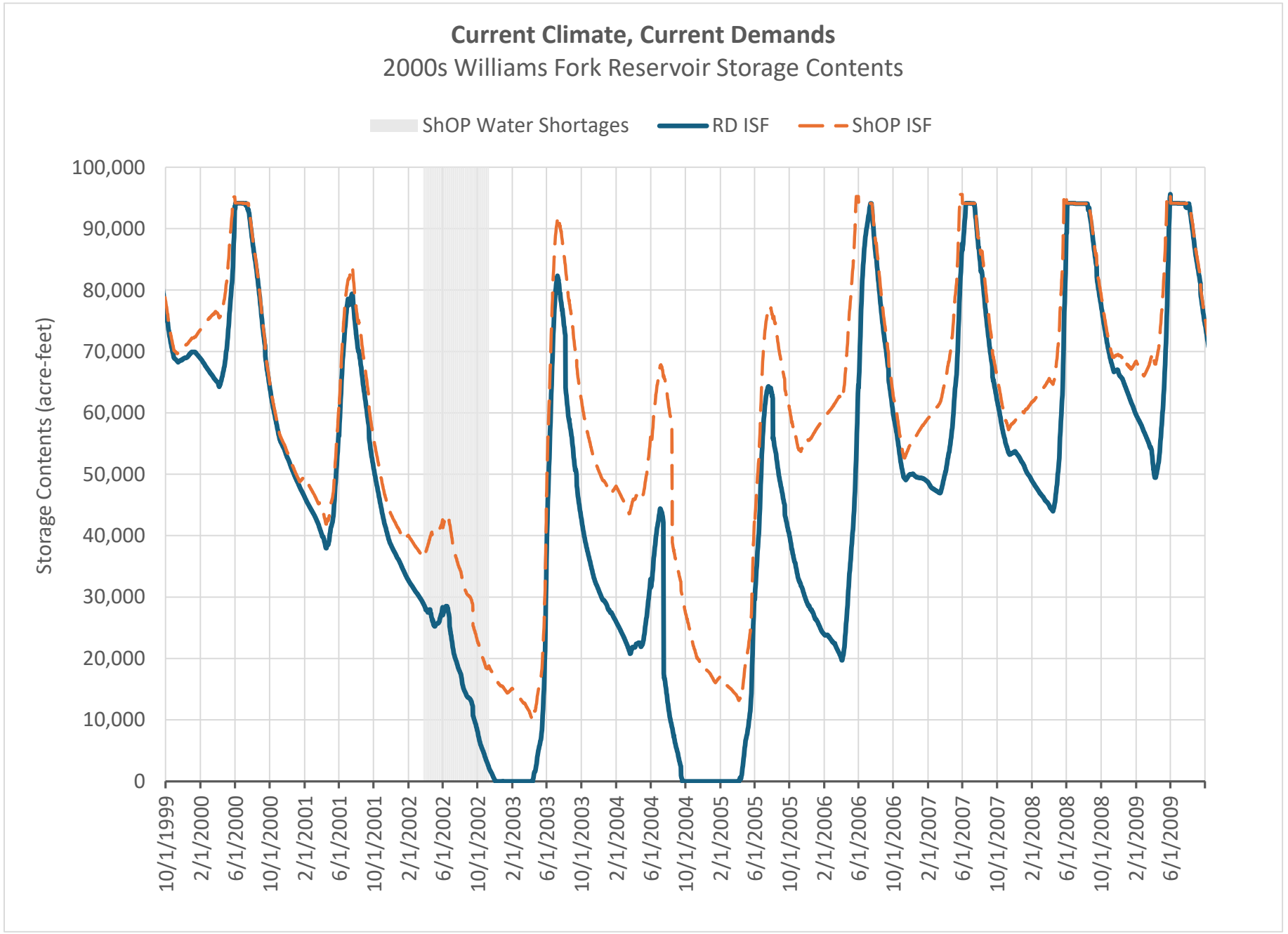
6/1/1959


Current Climate, Current Demands
2000s Williams Fork Reservoir Storage Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
10/1/1999
2/1/2000
6/1/2000
10/1/2000
2/1/2001
6/1/2001
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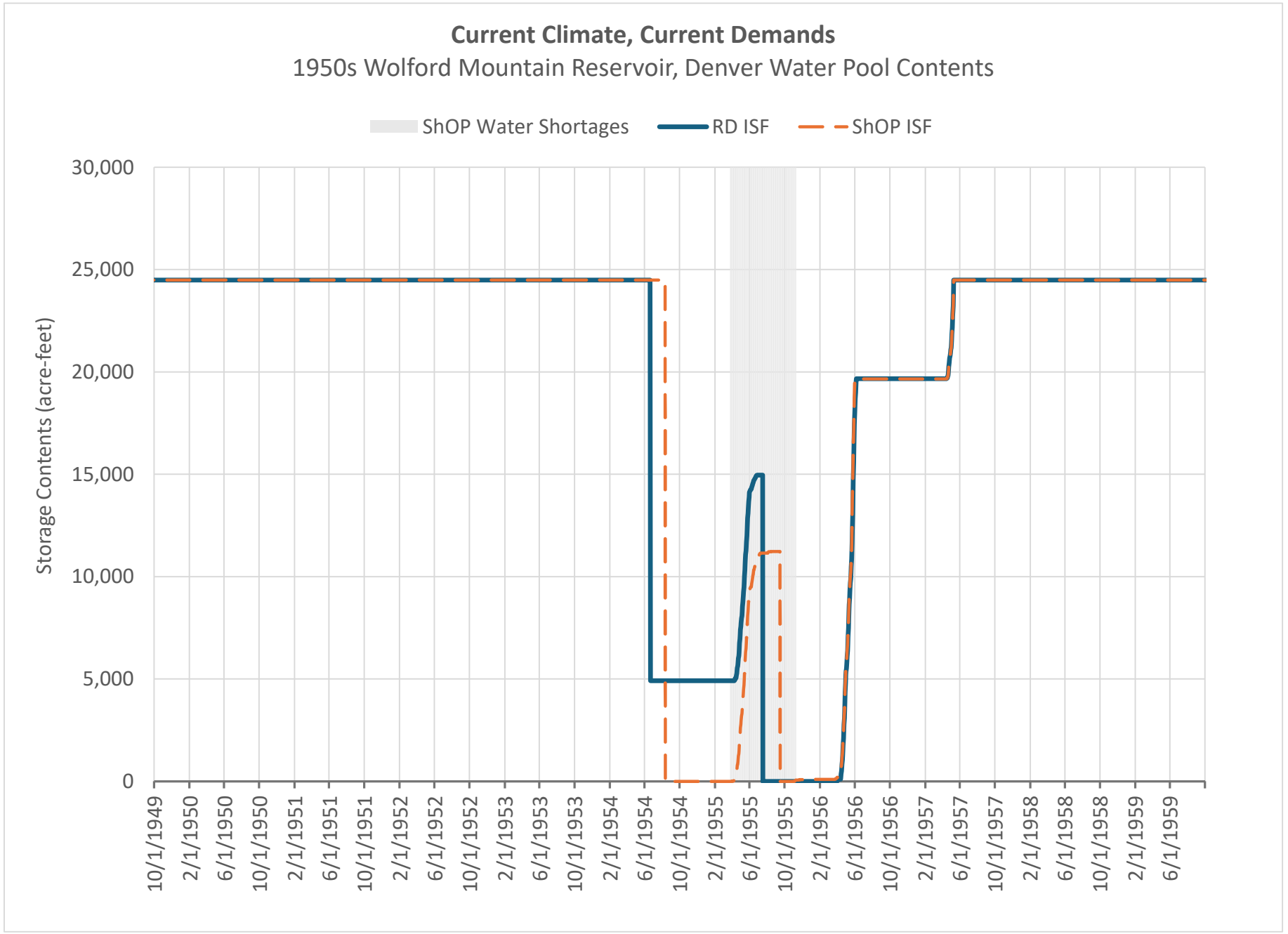
Current Climate, Current Demands
1950s Wolford Mountain Reservoir, Denver Water Pool Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
30,000
25,000
20,000
15,000
10,000
5,000
0
10/1/1949
2/1/1950
6/1/1950
10/1/1950
2/1/1951
6/1/1951
10/1/1951
2/1/1952
6/1/1952
10/1/1952
2/1/1953
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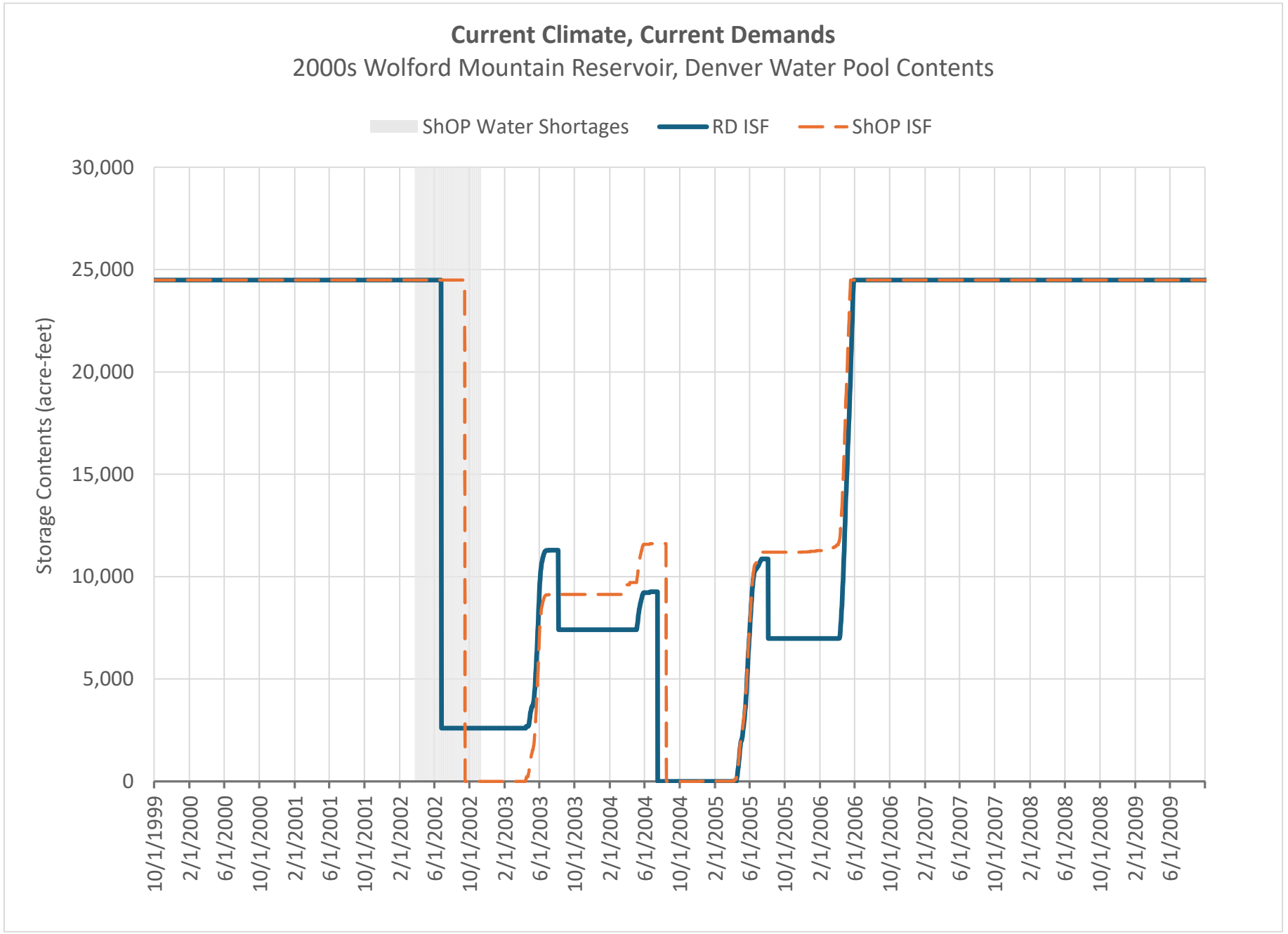
2/1/1959
6/1/1959


Current Climate, Current Demands
2000s Wolford Mountain Reservoir, Denver Water Pool Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
30,000
25,000
20,000
15,000
10,000
5,000
0
10/1/1999
2/1/2000
6/1/2000
10/1/2000
2/1/2001
6/1/2001
10/1/2001
2/1/2002
6/1/2002
10/1/2002
2/1/2003
6/1/2003
10/1/2003
2/1/2004
6/1/2004
10/1/2004
2/1/2005
6/1/2005
10/1/2005
2/1/2006
6/1/2006
10/1/2006
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6/1/2007
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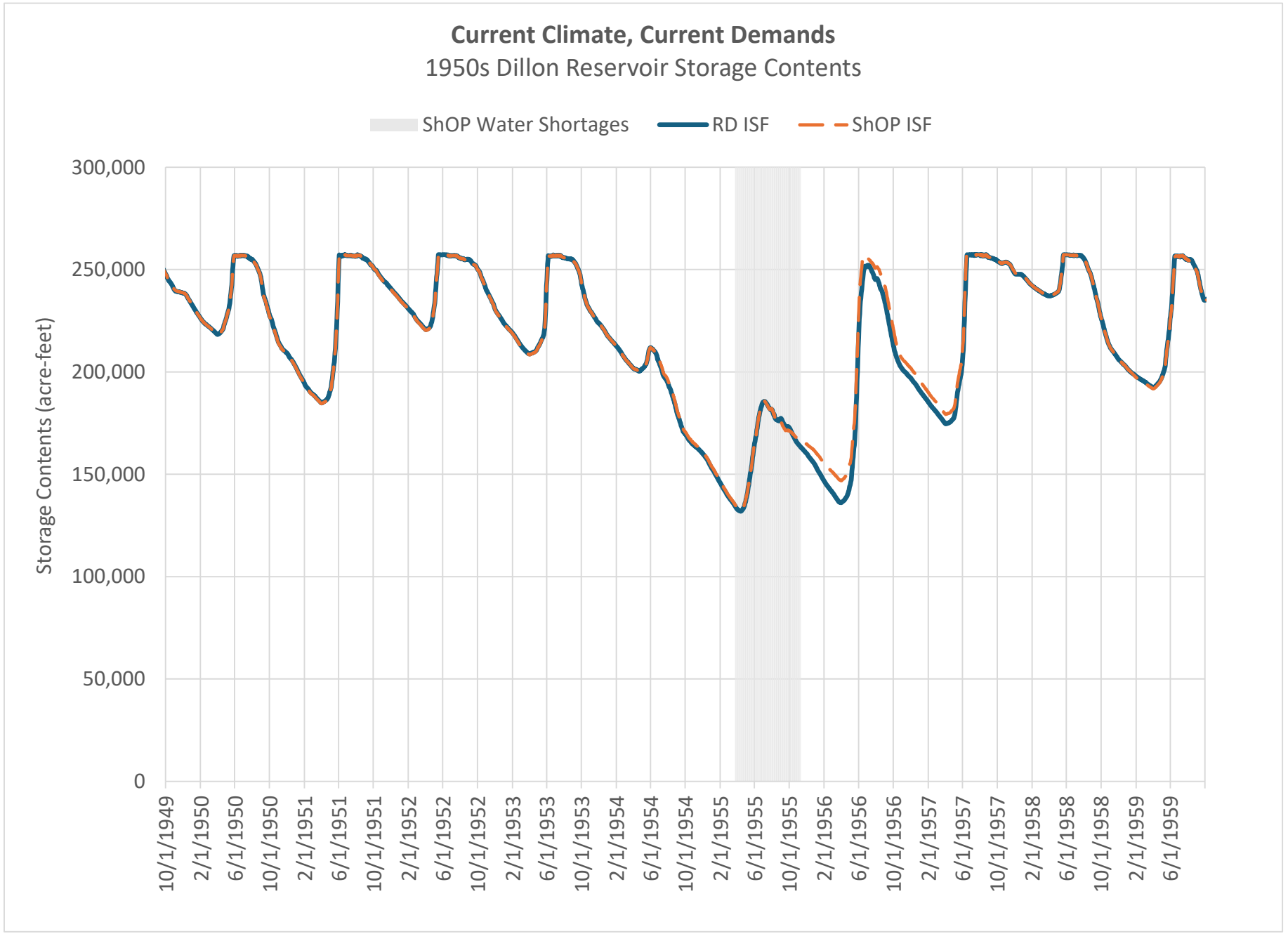
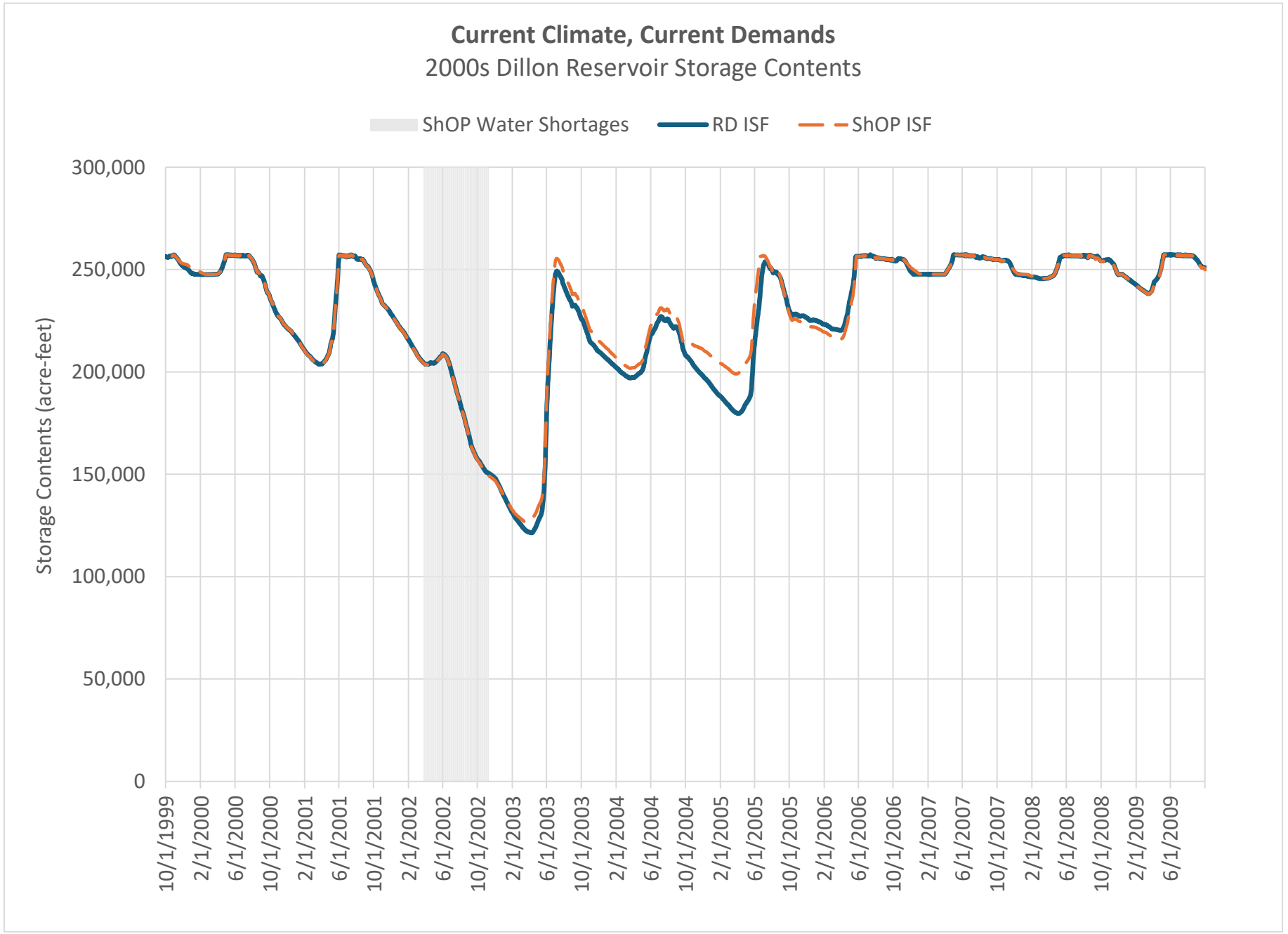
2/1/2008
6/1/2008
10/1/2008
2/1/2009
6/1/2009


Current Climate, Current Demands
1950s Dillon Reservoir Storage Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
10/1/1949
2/1/1950
6/1/1950
10/1/1950
2/1/1951
6/1/1951
10/1/1951
2/1/1952
6/1/1952
10/1/1952
2/1/1953
6/1/1953
10/1/1953
2/1/1954
6/1/1954
10/1/1954
2/1/1955
6/1/1955
10/1/1955
2/1/1956
6/1/1956
10/1/1956
2/1/1957
6/1/1957
10/1/1957
2/1/1958
6/1/1958
10/1/1958
2/1/1959
6/1/1959


Current Climate, Current Demands
2000s Dillon Reservoir Storage Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
300,000
250,000
200,000
150,000
100,000
50,000
0
10/1/1999
2/1/2000
6/1/2000
10/1/2000
2/1/2001
6/1/2001
10/1/2001
2/1/2002
6/1/2002
10/1/2002
2/1/2003
6/1/2003
10/1/2003
2/1/2004
6/1/2004
10/1/2004
2/1/2005
6/1/2005
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6/1/2006
10/1/2006
2/1/2007
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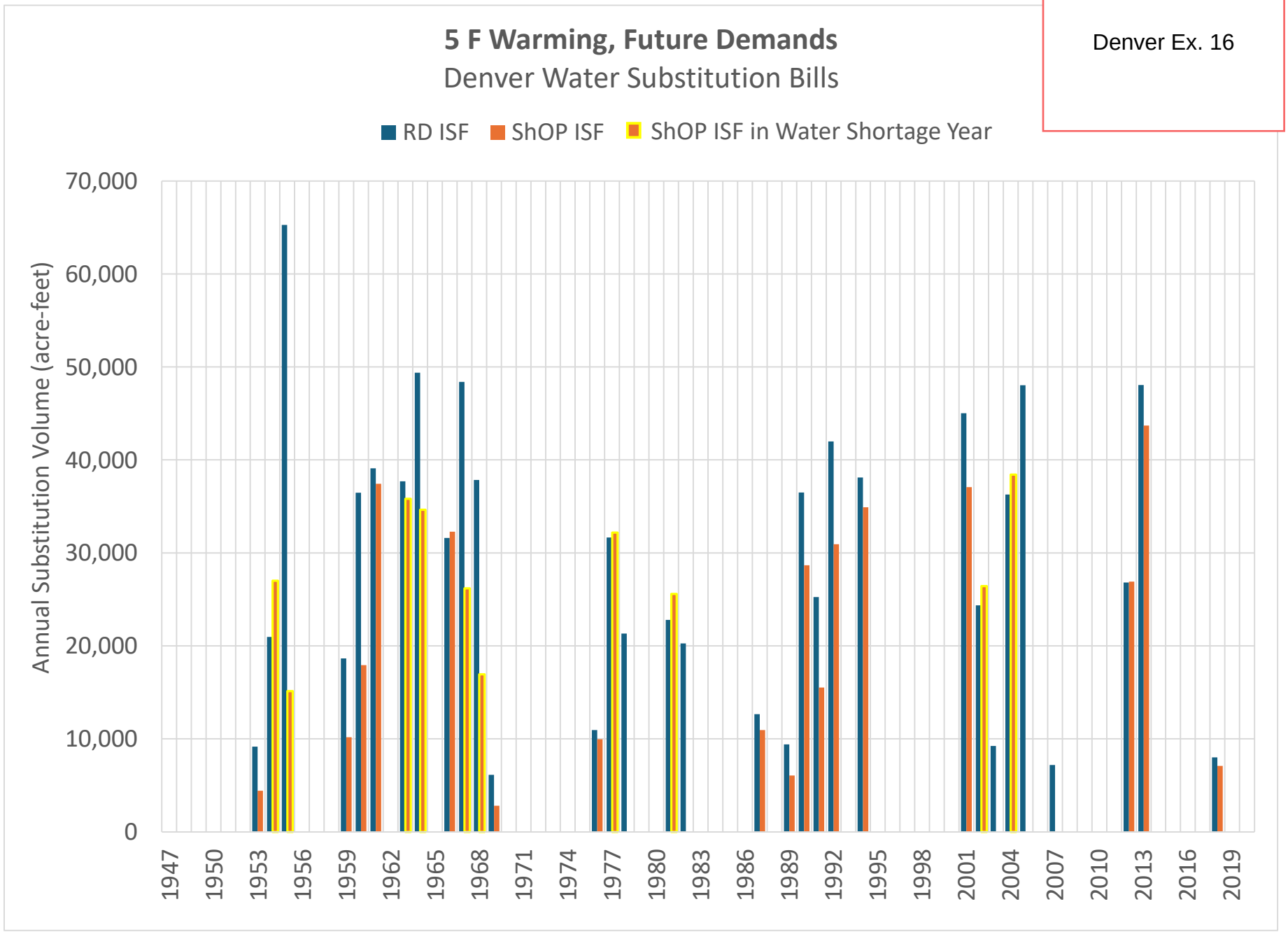
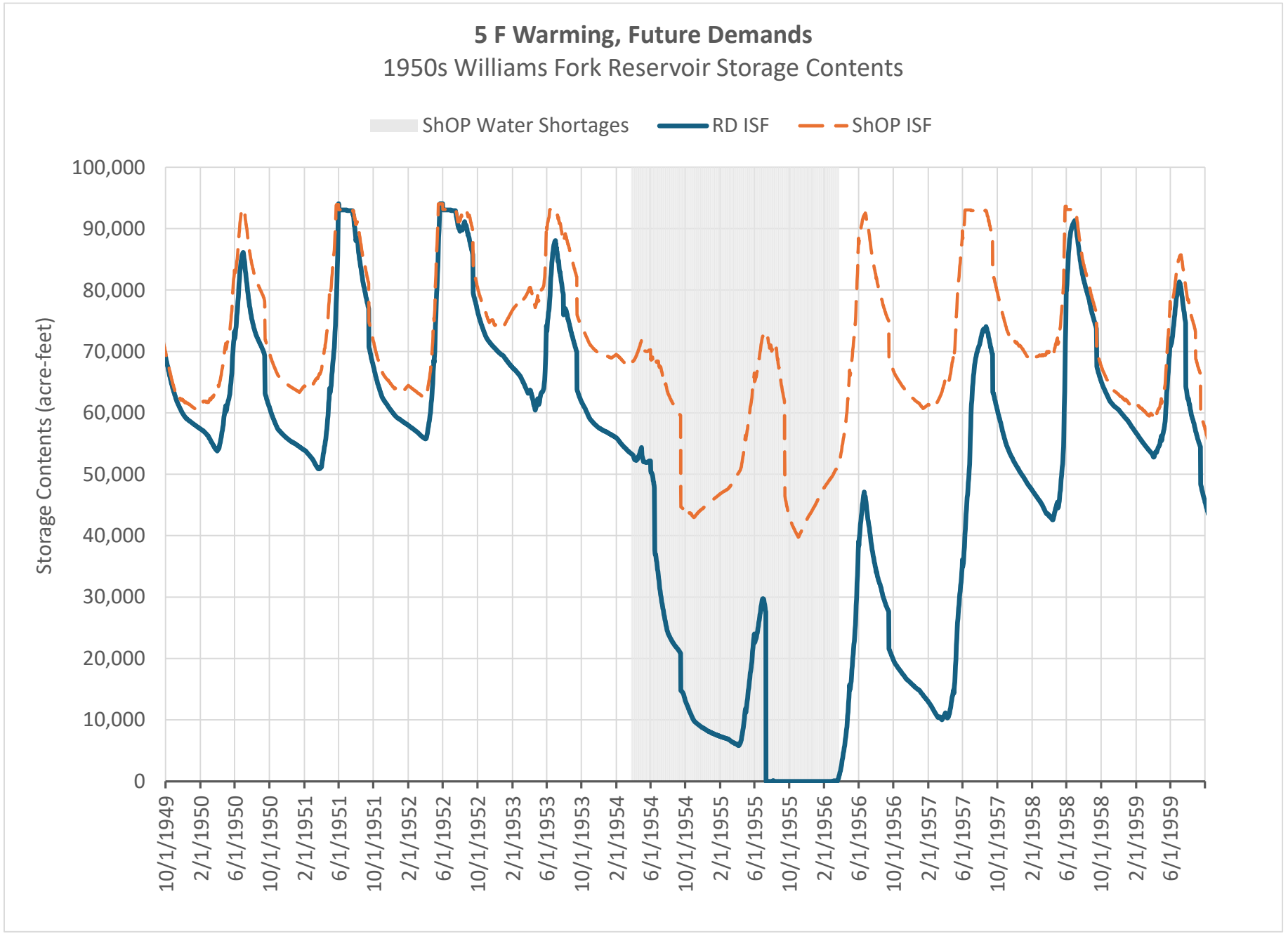
10/1/2007
2/1/2008
6/1/2008
10/1/2008
2/1/2009
6/1/2009

Denver Ex. 16


5 F Warming, Future Demands
Denver Water Substitution Bills
RD ISF
ShOP ISF
ShOP ISF in Water Shortage Year
Annual Substitution Volume (acre-feet)
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1947
1950
1953
1956
1959
1962
1965
1968
1971
1974
1977
1980
1983
1986
1989
1992
1995
1998
2001
2004
2007
2010
2013
2016
2019


5 F Warming, Future Demands
1950s Williams Fork Reservoir Storage Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
10/1/1949
2/1/1950
6/1/1950
10/1/1950
2/1/1951
6/1/1951
10/1/1951
2/1/1952
6/1/1952
10/1/1952
2/1/1953
6/1/1953
10/1/1953
2/1/1954
6/1/1954
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6/1/1955
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2/1/1956
6/1/1956
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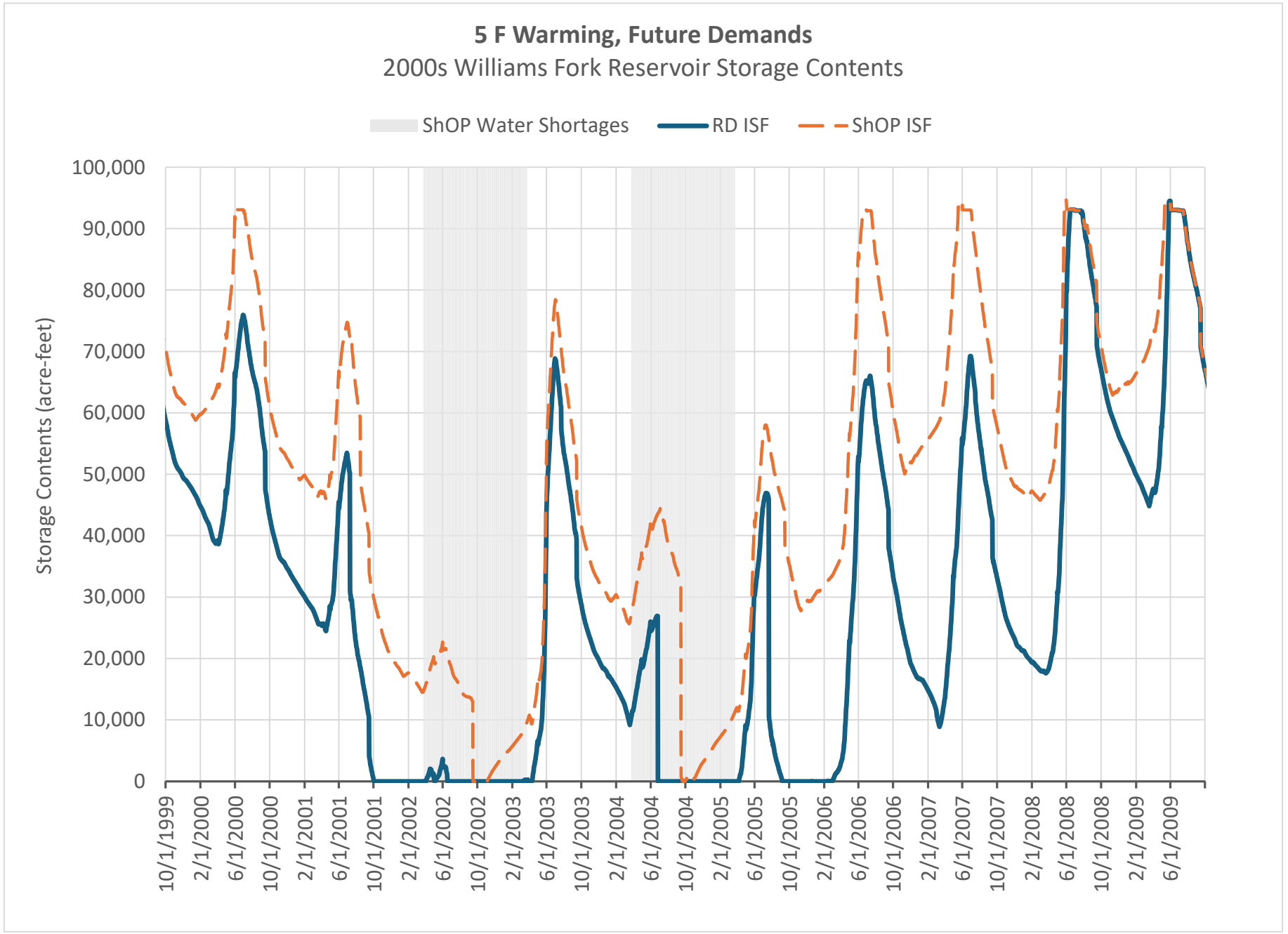
2/1/1959
6/1/1959


5 F Warming, Future Demands
2000s Williams Fork Reservoir Storage Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
10/1/1999
2/1/2000
6/1/2000
10/1/2000
2/1/2001
6/1/2001
10/1/2001
2/1/2002
6/1/2002
10/1/2002
2/1/2003
6/1/2003
10/1/2003
2/1/2004
6/1/2004
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2/1/2005
6/1/2005
10/1/2005
2/1/2006
6/1/2006
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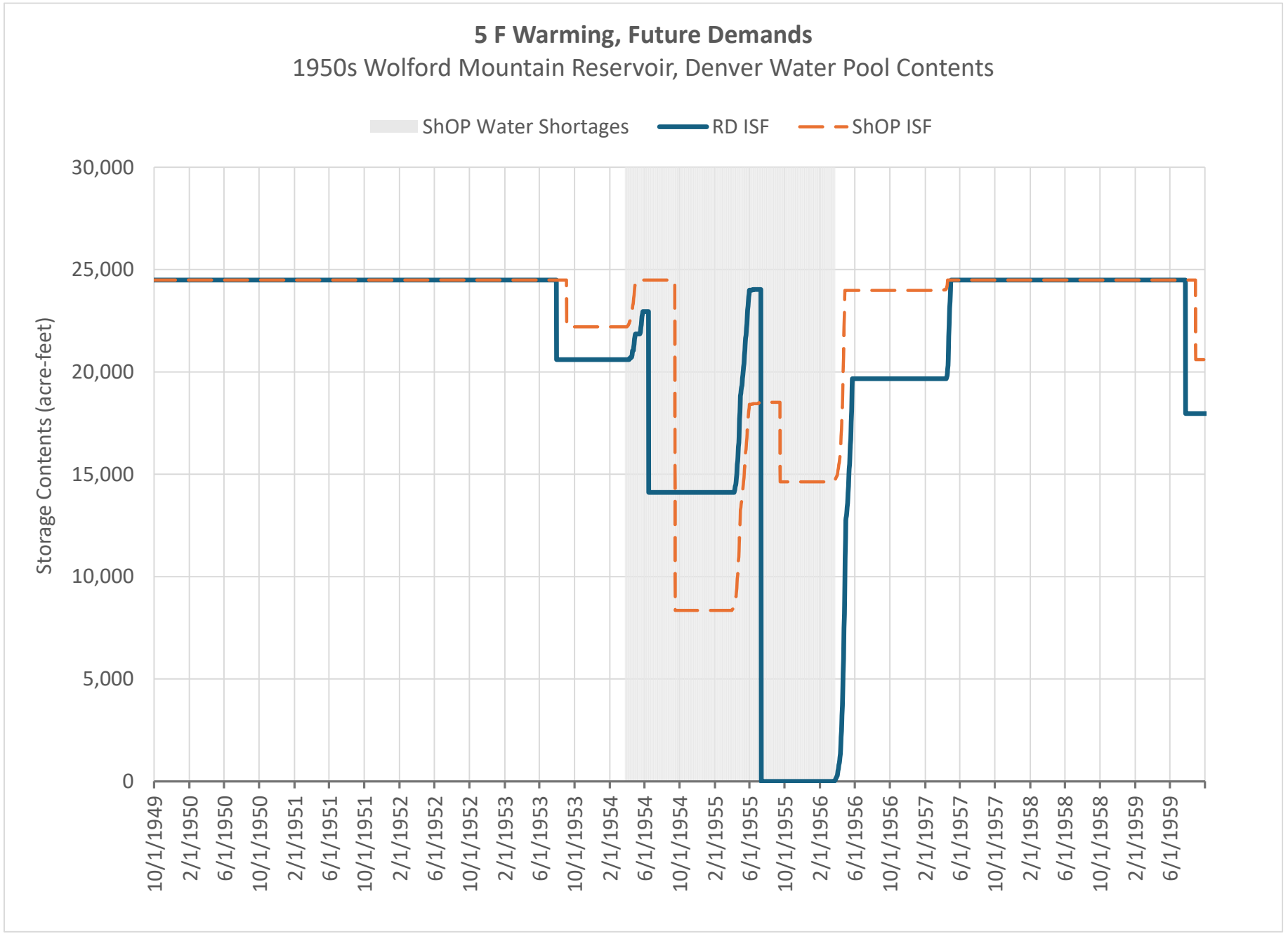
2/1/2009
6/1/2009


5 F Warming, Future Demands
1950s Wolford Mountain Reservoir, Denver Water Pool Contents
ShOP Water Shortages
RD ISF
ShOP ISF
Storage Contents (acre-feet)
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25,000
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15,000
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5,000
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10/1/1949
2/1/1950
6/1/1950
10/1/1950
2/1/1951
6/1/1951
10/1/1951
2/1/1952
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10/1/1958
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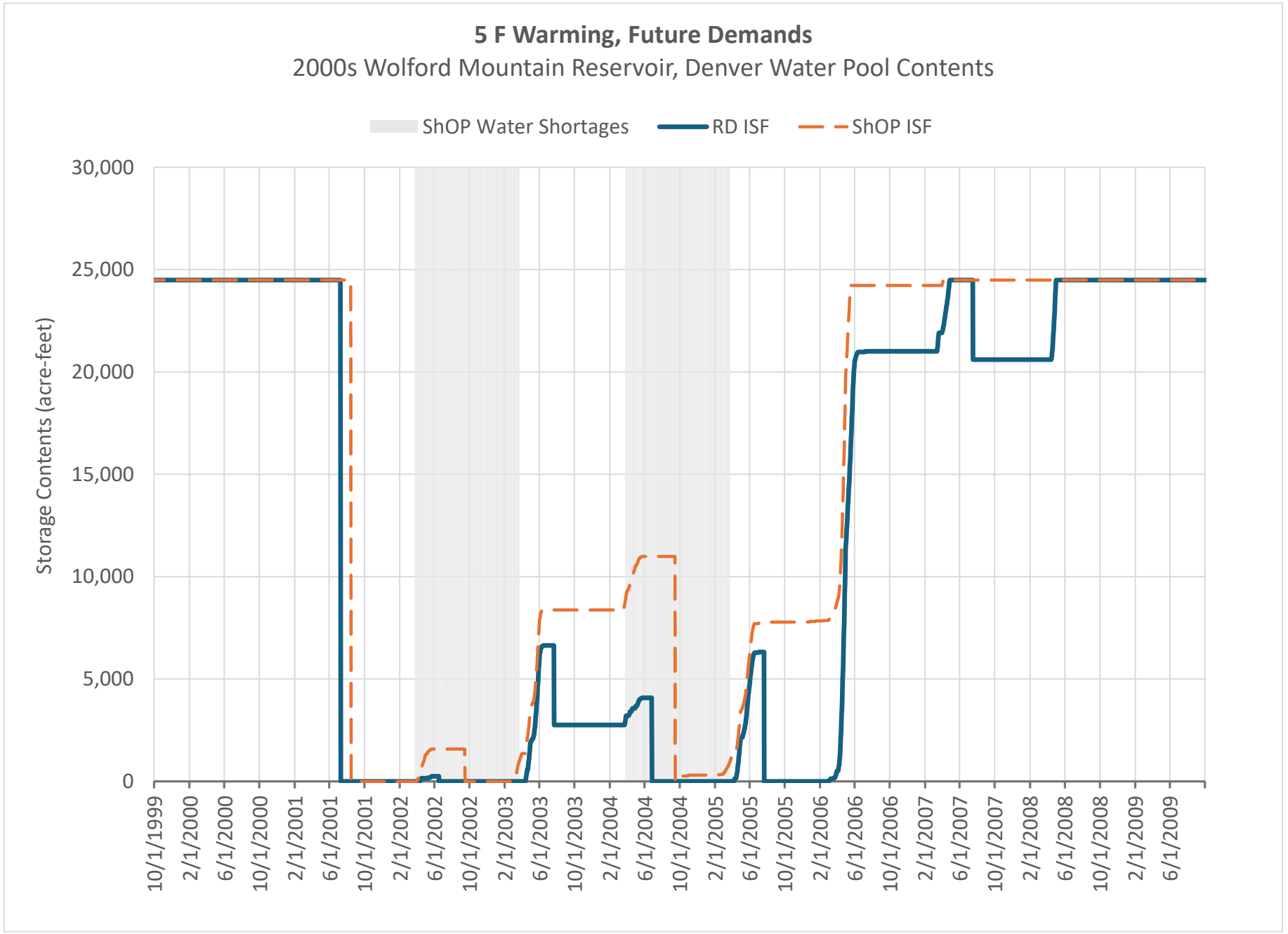
6/1/1959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RD ISF
ShOP ISF
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6/1/2000
10/1/2000
2/1/2001
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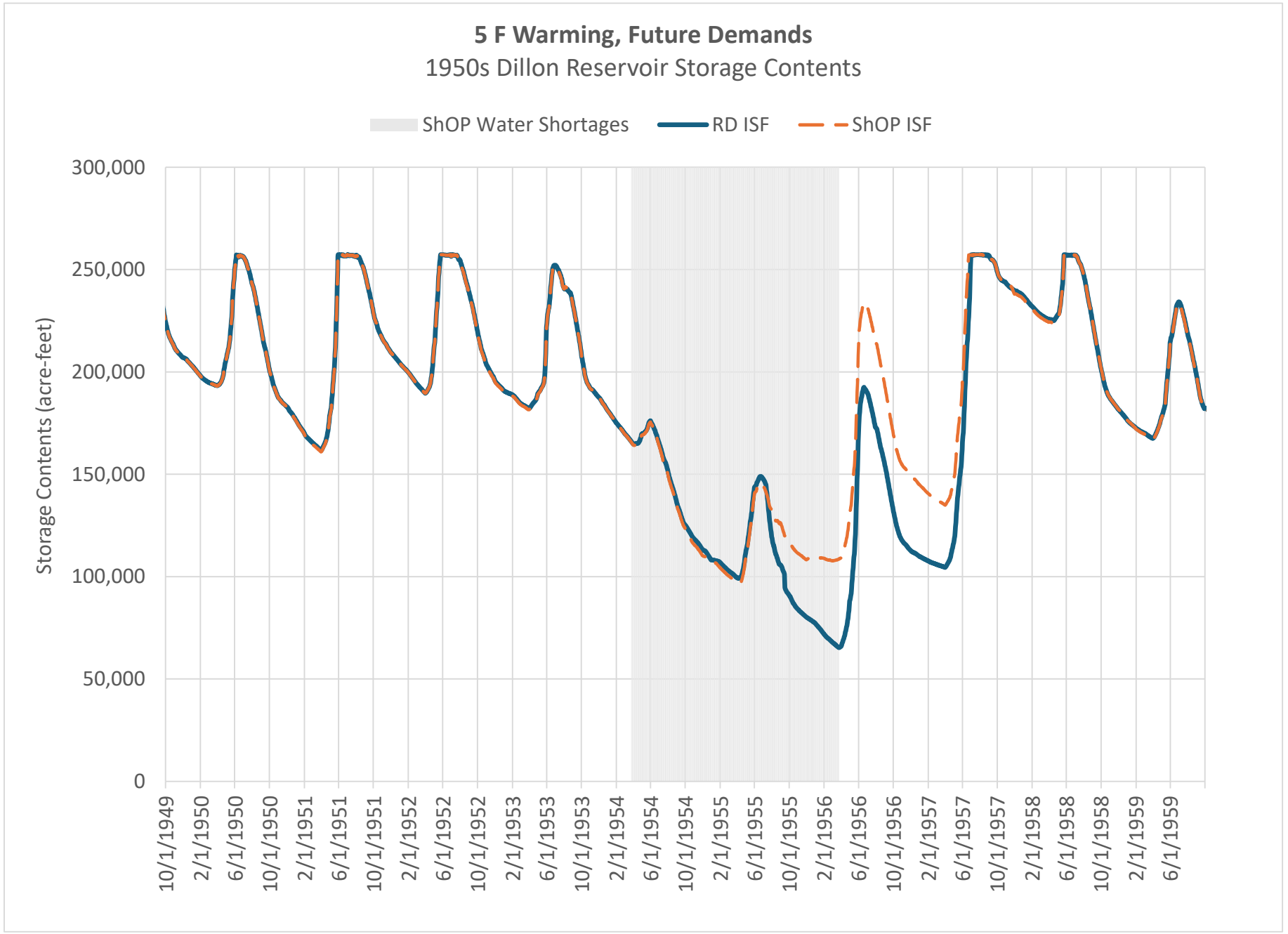
6/1/2009


5 F Warming, Future Demands
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RD ISF
ShOP ISF
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10/1/1949
2/1/1950
6/1/1950
10/1/1950
2/1/1951
6/1/1951
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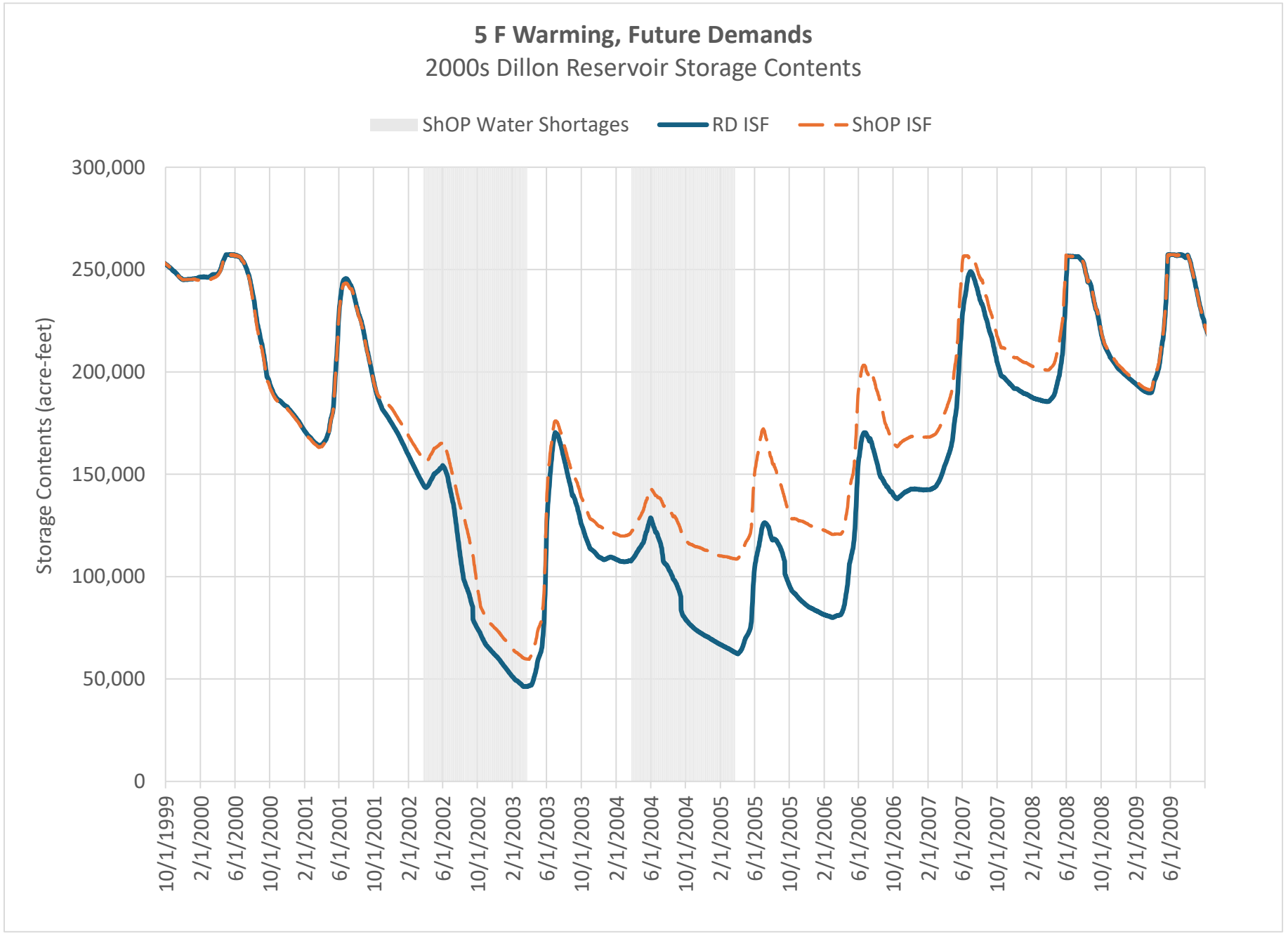
2/1/1959
6/1/1959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6/1/2000
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2/1/2009
6/1/2009