Appendix K

Sensitivity Analysis – Effects of Modeling Assumptions with Regard to Future Water Deliveries to Mexico

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Acronyms and Abbreviations

Acronym or Abbreviation	Full Phrase
CRSS	Colorado River Simulation System
EIS	environmental impact statement
IBWC	International Boundary and Water Commission
maf	million acre-feet
Reclamation	Bureau of Reclamation
U.S.	United States

Appendix K. Sensitivity Analysis – Effects of Modeling Assumptions with Regard to Future Water Deliveries to Mexico

K.1 Introduction

The proposed federal action includes the adoption of specific interim guidelines for Lower Basin shortages. The interim guidelines would be used by the Secretary to determine those circumstances under which the Secretary would reduce the annual amount of water available for consumptive use from Lake Mead to the Colorado River Lower Division States (Arizona, California, and Nevada) (**Section 1.8.2.2**) below 7.5 million acre-feet (maf) (a "Shortage") pursuant to Article II(B)(3) of the Consolidated Decree. The determination of deliveries to Mexico is not a part of the proposed federal action. Any such determination would be made in accordance with the United States (U.S.)-Mexico Treaty on Utilization of Water of the Colorado and Tijuana Rivers and of the Rio Grande (1944 Water Treaty). Nevertheless, modeling assumptions with respect to the distribution of shortages for the Lower Division States include water delivery reductions to Mexico in order to analyze potential impacts on hydrologic and other environmental resources (**Section K.2** and **Appendix A**, CRSS Model Documentation).[1] These modeling assumptions were applied to the No Action Alternative as well as the action alternatives, i.e., the modeling assumptions with regard to the distribution of shortages to the Lower Division States include water delivery reductions to Mexico and are distributed proportionally in all alternatives.[2]

This appendix provides a comparative analysis of the sensitivity of the hydrologic resources to different modeling assumptions with regard to how Mexico would be affected by future water delivery reductions. Two methodologies for computing future water delivery reductions to Mexico, for modeling purposes, are described. The modeling assumptions used to implement the methodologies are also presented.

[1] Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico. The U.S. will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the International Boundary and Water Commission (IBWC) in consultation with the Department of State.

[2] The Continued Current Strategies Comparative Baseline includes reductions and contributions for Mexico per Minute 323, which differ from the assumptions used in the No Action Alternative and action alternatives.

K.2 Description of Methodologies

Although many possible methodologies exist that would result in different volumes of potential future water delivery reductions to Mexico, two methodologies were considered in this analysis to assess the sensitivity of the hydrologic resources to a wide range of possible water delivery reductions.[3] Both methodologies are similar and both assume that the water deliveries to Mexico would be reduced in the same proportion as reductions in consumptive uses in the U.S. (shortages). The difference between the methodologies is whether shortages in both the Upper Basin and Lower Basin in the U.S. are considered when applying water delivery reductions to Mexico. Methodology A applies water delivery reductions to Mexico only when shortages to U.S. users in the Lower Basin occur, and water deliveries to Mexico are reduced in the same proportion as the reduction to U.S. users in the Lower Basin. This is the methodology that was used for the resource analyses in Volumes I and III of this Final EIS. Methodology B applies water delivery reductions to Mexico when shortages to U.S. users in either the Upper Basin or Lower Basin or both occur, and water deliveries to Mexico are reduced in the same proportion as the reduction to U.S. users in both the Upper and Lower Basins. These methodologies are described below along with comparisons of the results of the methodologies.

K.2.1 Methodology A

Under Methodology A, water delivery reductions to Mexico are triggered only when deliveries to U.S. users in the Lower Basin are reduced. When triggered, the water deliveries to Mexico are reduced in the same proportion as the reduction to the U.S. users in the Lower Basin. The methodology is as follows:

1) Look-up the total Lower Basin shortage. Under the Representative Preferred Alternative, shortages of specific magnitudes are triggered by specific Lake Mead elevations.
    - Example: for the Representative Preferred Alternative, if Lake Mead elevation is between elevations 1,125 and 1,025 feet, the total Lower Basin shortage is 1.5 maf

2) Compute the water delivery reduction to Mexico by multiplying the total Lower Basin shortage by 16.67 percent. This percentage is computed by taking the ratio of Mexico's allotment to the sum of the Lower Basin U.S. apportionments and Mexico's allotment (1.5 maf/(7.5 maf + 1.5 maf) = 0.1667 or 16.67 percent) and ensures that the water delivery reductions to Mexico are always proportional to the shortages to the U.S. users in the Lower Basin.
    - Example: assuming the total Lower Basin shortage is 1.5 maf, the water delivery reduction to Mexico would be computed as:

        *1.5 maf * 16.67 percent = 0.25 maf*

[3] Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico. The U.S. will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

A summary of shortages to U.S. users in the Lower Basin and water delivery reductions to Mexico for four example volumes of total Lower Basin shortage under the Representative Preferred Alternative is provided in **Table K-1** and **Table K-2**, respectively.

Table K-1
Example Shortages to United States Users in the Lower Basin for Methodology A

Lake Mead Effective Elevation (feet)	Total Lower Basin Shortage (maf)	Shortage to United States Lower Basin Users (maf)	Percent Reduction to United States Lower Basin Users	Total U.S. Delivery (maf)
1,135	0.75	0.625	8.3	6.875
1,125 to 1,025	1.50	1.250	16.7	6.250
1,000	2.55	2.125	28.3	5.375
Less than 975	3.60	3.000	40.0	4.500

Table K-2
Example Water Delivery Reductions to Mexico for Methodology A

Lake Mead Effective Elevation (feet)	Total Lower Basin Shortage (maf)	Reduction to Mexico (maf)	Percent Reduction to Mexico	Total Delivery to Mexico (maf)
1,135	0.75	0.125	8.3	1.375
1,125 to 1,025	1.50	0.250	16.7	1.250
1,000	2.55	0.425	28.3	1.075
Less than 975	3.60	0.600	40.0	0.900

Note: Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico.

K.2.2 Methodology B

Under Methodology B, water delivery reductions to Mexico are triggered by shortages to U.S. users in the Upper Basin, in the Lower Basin, or both. When triggered, the water deliveries to Mexico are reduced in the same proportion as the reduction to U.S. users in both the Upper and Lower Basins. The methodology is as follows:

1) Look-up the shortage to be applied to U.S. users in the Lower Basin.
    - Example: for the Representative Preferred Alternative, if Lake Mead elevation is between 1,125 and 1,025 feet, the shortage to U.S. users in the Lower Basin is 1.250 maf (**Table K-1**)

2) Compute the modeled shortage to U.S. users in the Upper Basin. Modeled shortages to U.S. users in the Upper Basin are assumed to occur when the delivery to those users is less than their depletion demand and is calculated as Upper Basin depletion demand minus Upper Basin modeled use (see **Section K.3.1** for more details).
    - Example: in the year 2030, the Upper Basin depletion demand is 5.534 maf and under one hydrologic sequence, The Colorado River Simulation System (CRSS) computed a delivery of 4.427 maf, resulting in a shortage to U.S. users in the Upper Basin of 1.107 maf, in addition to the shortage to U.S. users in the Lower Basin of 1.250 maf[4]

3) Compute the proportional reduction to U.S. users in both the Upper and Lower Basins as the sum of shortages to U.S. users in the Upper and Lower Basin divided by the sum of the Upper Basin scheduled use and the total U.S. Lower Basin apportionments (7.5 maf).
    - Example: the proportional reduction to the U.S. users would be computed as:

$$(1.250\ maf + 1.107\ maf) / (7.5\ maf + 5.534\ maf) = 18.1\ percent$$

4) Compute water delivery reduction to Mexico by applying the same proportional reduction to U.S. users in both the Upper and Lower Basins to Mexico. This is computed by multiplying Mexico's annual Colorado River allotment (1.5 maf) by the proportional reduction to U.S. users in both the Upper and Lower Basins.
    - Example: given the proportional reduction to U.S. users in both the Upper and Lower Basins is 18.1 percent, the water delivery reduction to Mexico would be computed as:

$$1.5\ maf * 18.1\ percent = 0.271\ maf$$

Since Upper Basin depletion demand varies each year (**Appendix L**, Upper Division States Depletion Schedules) and the computed shortages in the Upper Basin vary for each hydrologic sequence, a wide range of possible proportional reductions are simulated by Methodology B (from 4 percent to approximately 53 percent resulting in water delivery reductions to Mexico of approximately 0.065 to 0.791 maf as shown in **Figure K-3**).

Table K-3 shows some examples based on assumed Upper Basin modeled shortage, which fall within the range of actual modeled Upper Basin shortage (see **Section K.3.1**). The examples in **Table K-2** use an Upper Basin depletion demand of 5.835 maf (the average depletion demand over the 2027-2060 modeling period), resulting in the proportional reduction to the U.S. equal to the sum of Upper and Lower Basin U.S. shortages divided by 13.335 maf (7.5 maf plus 5.835 maf).

[4] The computed annual Upper Basin shortage in CRSS is not available until the end of the calendar year. In this example, the 2030 shortage would be used to set the 2031 water delivery reductions to Mexico.

Table K-3
Examples of Shortages to United States Users in the Upper and Lower Basins and Water Delivery Reductions to Mexico for Methodology B

Lake Mead Effective Elevation (feet)	Shortage to Lower Basin (maf)	Example Modeled Upper Basin Shortage (maf)	Total Shortage to United States (maf)	% Reduction to United States*	Reduction to Mexico Delivery (maf)**	% Reduction to Mexico
above 1,145	0.0	0.2	0.2	1.5	0.022	1.5
		1.4	1.4	10.5	0.157	10.5
		2.5	2.5	18.7	0.281	18.7
1,125 to 1,025	1.25	0.2	1.45	10.9	0.163	10.9
		1.4	2.65	19.9	0.298	19.9
		2.5	3.75	28.1	0.422	28.1
below 975	3.00	0.2	3.20	24.0	0.360	24.0
		1.4	4.40	33.0	0.495	33.0
		2.5	5.50	41.2	0.619	41.2

* Percent reduction to U.S. based on average depletion demand in the Upper Basin (5.835) and the Lower Basin apportionment (7.5 maf): 5.835 maf + 7.5 maf = 13.335 maf)
** Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico.

K.3 Modeling Results

An analysis was performed to test the sensitivity of the hydrologic resources to these two sets of modeling assumptions (Methodology A and B). The CRSS model was used to simulate water deliveries to Mexico under these two methodologies with all other modeling assumptions held constant. The modeling assumptions under the Representative Preferred Alternative were used for this assessment with one major exception. It was assumed that there was no storage and delivery mechanism in place in order to isolate the effects of each methodology. See **Appendix A**, CRSS Model Documentation, for detailed modeling assumptions. Results are presented using conditional boxplots, which separate results based on five flow categories (see **Section 3.2.6** for additional details on conditional boxplots).

K.3.1 Upper Basin Modeled Shortages

CRSS assumes that shortages in the Upper Basin occur only when there is not sufficient water available within a given reach to meet a user's demand. For purposes of this Final EIS analysis, the total Upper Basin modeled shortage for any year is computed as the total Upper Basin depletion subtracted from the Upper Basin depletion demand for that year. **Figure K-1** provides a conditional boxplot of Upper Basin modeled shortage generated by CRSS over the period 2027 through 2060. The computed shortages to the Upper Basin users are dependent solely upon the hydrologic sequences and are therefore identical under Methodology A and Methodology B.

Figure K-1
Annual Upper Basin modeled shortage

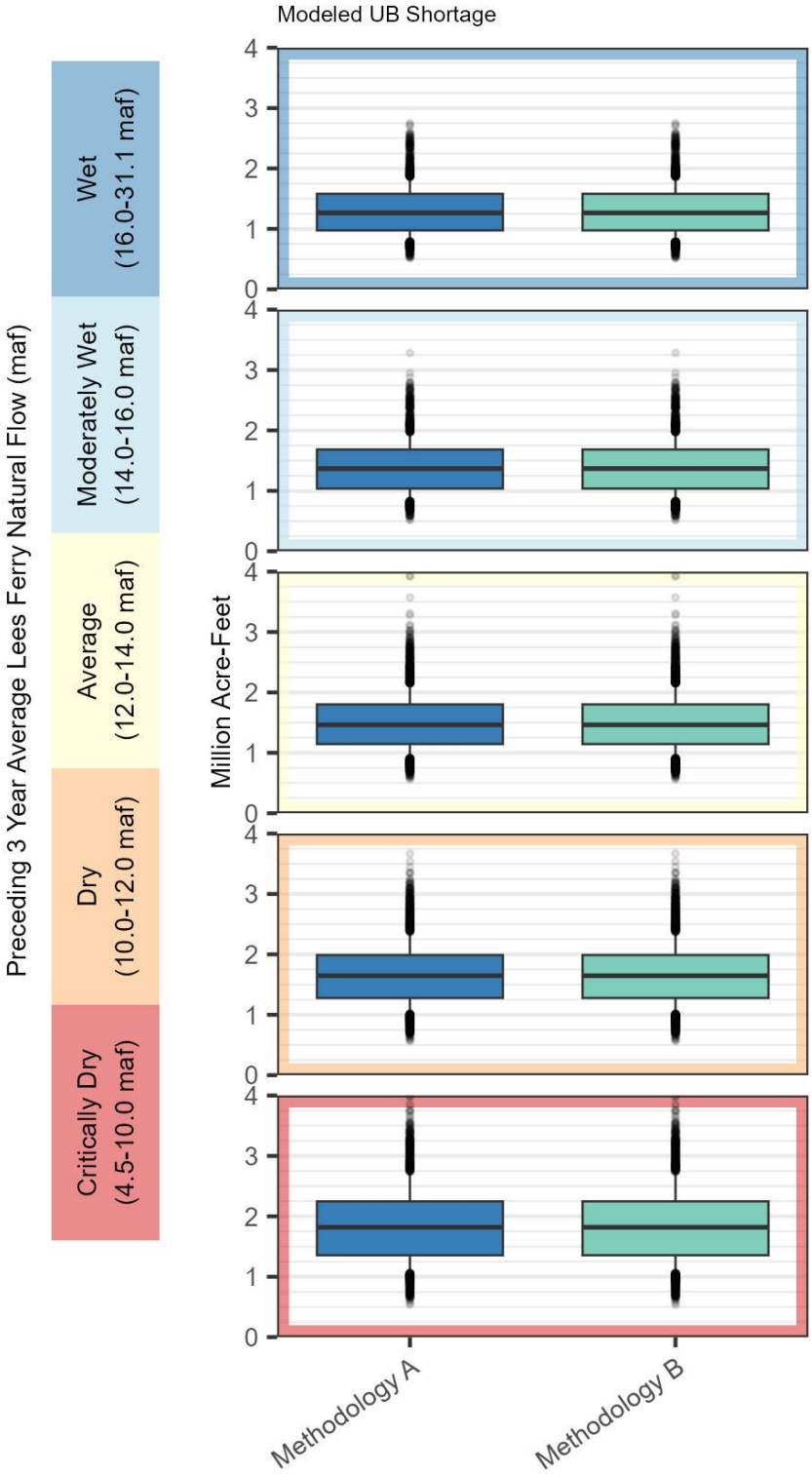


Figure K-1 shows that the Upper Basin modeled shortages range from 0.5 to 4.1 maf, with a modeled shortage occurring in all years. The Upper Basin modeled shortages generally increase in drier flow categories. In the Average Flow Category, the median Upper Basin modeled shortage is 1.5 maf, increasing to 1.6 and 1.8 maf in the Dry and Critically Dry Flow Categories, respectively. As a point of reference, a 1.5 maf Upper Basin modeled shortage represents approximately 26 percent of the average Upper Basin depletion demand during the modeled period.

K.3.2 Lake Powell and Lake Mead Water Surface Elevations

Figure K-2 compares the elevations at Lake Powell and Lake Mead under Methodology A and B. Lake Powell elevations are nearly the same under Methodology A and Methodology B because Lake Powell inflow does not change with different assumptions for water delivery reductions to Mexico. Lake Powell release is generally based only on Lake Powell elevation, except at high elevations where equalization releases consider both Lake Powell and Lake Mead elevation (see **Appendix A**, CRSS Modeling Assumptions for additional details). While there are small differences in Lake Powell elevation between Methodology A and Methodology B in a small number of years at these higher elevations, there are no differences in the statistics shown in the conditional boxplots in **Figure K-2**.

There are small differences in Lake Mead elevations between Methodology A and Methodology B, with the elevations in Methodology B typically higher than those in Methodology A. In the Average Flow Category, the median Lake Mead elevation from Methodology B is approximately 5 feet higher than Methodology A (1,092 and 1,087 feet respectively). In both the Dry and Critically Dry Flow Categories, the median elevation is approximately 2 feet higher in Methodology B than in Methodology A. This is because Methodology B typically results in higher delivery reductions to Mexico than Methodology A (**Section K.3.3**), which results in higher Lake Mead elevations.

K.3.3 Comparison of Water Deliveries to Mexico

As described in **Section 4.2**, water deliveries to Mexico are assumed to be 1.5 maf, except when the model assumes that additional deliveries of up to 0.2 maf have been scheduled or a water delivery reduction has been incurred. Additional deliveries to Mexico of up to 0.2 maf are assumed to occur when Lake Mead is in flood control operations, under 70R Surplus Conditions, or in the assumed "Domestic" Surplus Conditions. A Domestic Surplus (up to 0.5 maf) is assumed to occur when the August 1 Lake Mead effective elevation is at or above 1,165 feet and Flood Control or 70R Surplus is not triggered. When triggered it is assumed that a proportional share (up to 83.35 thousand acre-feet) of the additional water deliveries is provided to Mexico (above 1.5 maf and not more than 1.7 maf total). Reductions in the water deliveries to Mexico are simulated consistent with the modeling assumptions described previously under each methodology. Consequently, simulated water deliveries to Mexico are expected to fluctuate throughout the analysis period (2027 through 2060) reflecting variations in hydrologic conditions under these assumptions.

Figure K-2
End-of-Water Year Lake Powell and End-of Calendar Year Lake Mead elevations

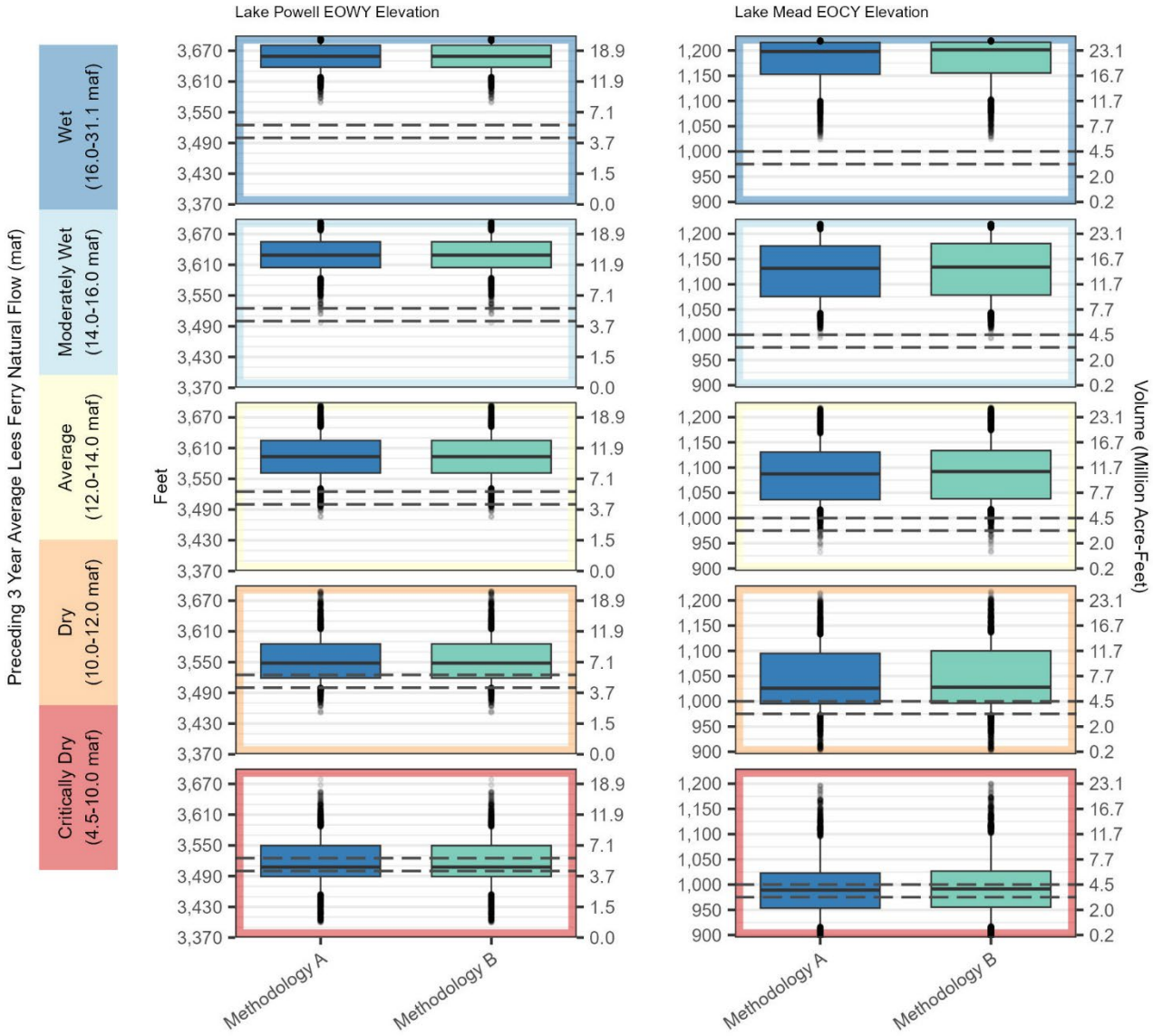
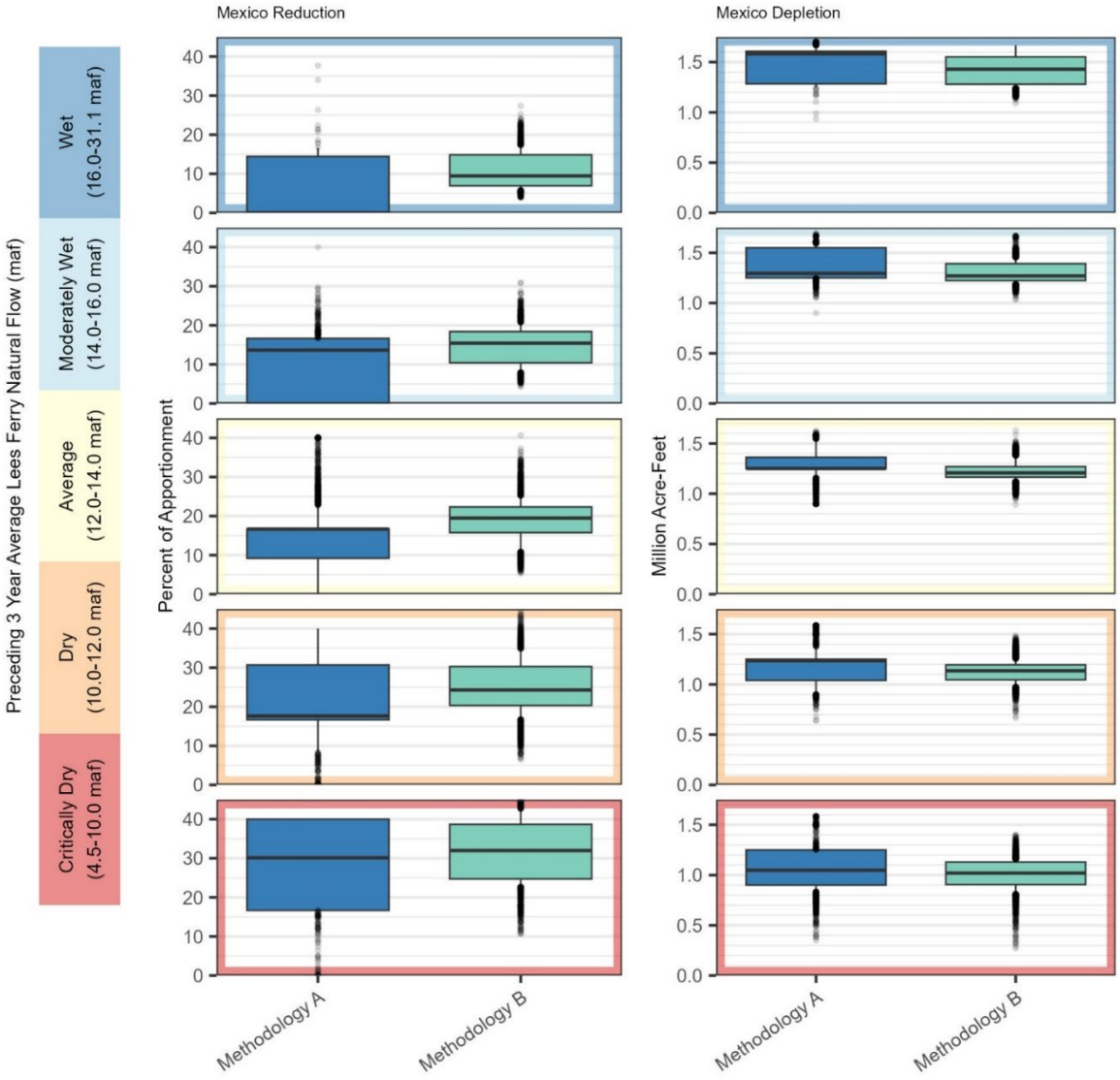


Figure K-3 compares the modeled water delivery reductions to Mexico (volumetrically and as a percent of Mexico's 1.5 maf allotment) and the total annual delivery to Mexico (Mexico depletion) for the two methodologies. Overall, in all flow categories, Methodology B results in higher delivery reductions and lower annual deliveries than Methodology A. **Figure K-3** shows that Methodology A has some years where there are no delivery reductions (e.g., at the 25th percentile in the Moderately Wet Category, and at the 10th percentile in the Average Flow Category), while Methodology B always has some delivery reductions. Additionally, Methodology A results in a maximum delivery reduction of 0.6 maf (or 40.0 percent of allotment), which corresponds to 16.67 percent of the maximum total Lower Basin shortage of 3.6 maf in the Representative Preferred Alternative. The maximum delivery reduction from

Methodology B ranges from 0.411 maf (27.4 percent of allotment) in the Wet Flow Category to 0.791 maf (52.7 percent of allotment) in the Critically Dry Flow Category. **Table K-4** and **Table K-5** report the water delivery reductions to Mexico for all flow categories as a percent of allocation and volumetrically, respectively. The higher overall reductions, higher maximum reductions, and larger range of reductions in Methodology B are because Upper Basin modeled shortages occur frequently and are included in the calculation of the proportional reduction under Methodology B.

Figure K-3
Annual delivery reductions and deliveries to Mexico



Note: The modeled annual delivery reductions and deliveries to Mexico include modeling assumptions for reductions in water deliveries to Mexico and storage available to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico. The U.S. will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

Table K-4
Water Delivery Reductions to Mexico (Percent of Allotment)

Scenario	Flow Category	Max (%)	90% (%)	75% (%)	50% (%)	25% (%)	10% (%)	Min (%)
Representative Preferred (Method A)	16-31.1	37.7	16.7	14.4	0.0	0.0	0.0	0.0
Representative Preferred (Method A)	14-16	40.0	16.7	16.7	13.7	0.0	0.0	0.0
Representative Preferred (Method A)	12-14	40.0	22.9	16.7	16.7	9.2	0.0	0.0
Representative Preferred (Method A)	10-12	40.0	40.0	30.7	17.6	16.7	8.3	0.0
Representative Preferred (Method A)	4.5-10	40.0	40.0	40.0	30.1	16.7	16.7	0.0
Representative Preferred (Method B)	16-31.1	27.4	17.4	14.9	9.4	6.9	5.7	3.9
Representative Preferred (Method B)	14-16	30.9	20.8	18.4	15.5	10.4	8.0	4.3
Representative Preferred (Method B)	12-14	40.7	25.3	22.3	19.5	15.8	10.8	5.3
Representative Preferred (Method B)	10-12	49.7	34.9	30.3	24.3	20.3	16.8	6.5
Representative Preferred (Method B)	4.5-10	52.7	42.6	38.7	32.0	24.7	22.7	10.6

Note: The modeled delivery reductions to Mexico include modeling assumptions for reductions in water deliveries to Mexico and storage available to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico. The U.S. will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

Table K-5
Water Delivery Reductions to Mexico (Volumetric)

Scenario	Flow Category	Max (maf)	90% (maf)	75% (maf)	50% (maf)	25% (maf)	10% (maf)	Min (maf)
Representative Preferred (Method A)	16-31.1	0.565	0.250	0.217	0.0	0.0	0.0	0.0
Representative Preferred (Method A)	14-16	0.600	0.250	0.250	0.205	0.0	0.0	0.0
Representative Preferred (Method A)	12-14	0.600	0.343	0.250	0.250	0.138	0.0	0.0
Representative Preferred (Method A)	10-12	0.600	0.600	0.460	0.265	0.250	0.125	0.0
Representative Preferred (Method A)	4.5-10	0.600	0.600	0.600	0.452	0.250	0.250	0.0
Representative Preferred (Method B)	16-31.1	0.411	0.260	0.223	0.142	0.104	0.086	0.058
Representative Preferred (Method B)	14-16	0.463	0.311	0.276	0.232	0.156	0.119	0.065
Representative Preferred (Method B)	12-14	0.610	0.379	0.335	0.292	0.236	0.163	0.079
Representative Preferred (Method B)	10-12	0.745	0.523	0.454	0.364	0.305	0.251	0.097
Representative Preferred (Method B)	4.5-10	0.791	0.639	0.580	0.480	0.371	0.341	0.159

Note: The modeled delivery reductions to Mexico include modeling assumptions for reductions in water deliveries to Mexico and storage available to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico. The U.S. will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.

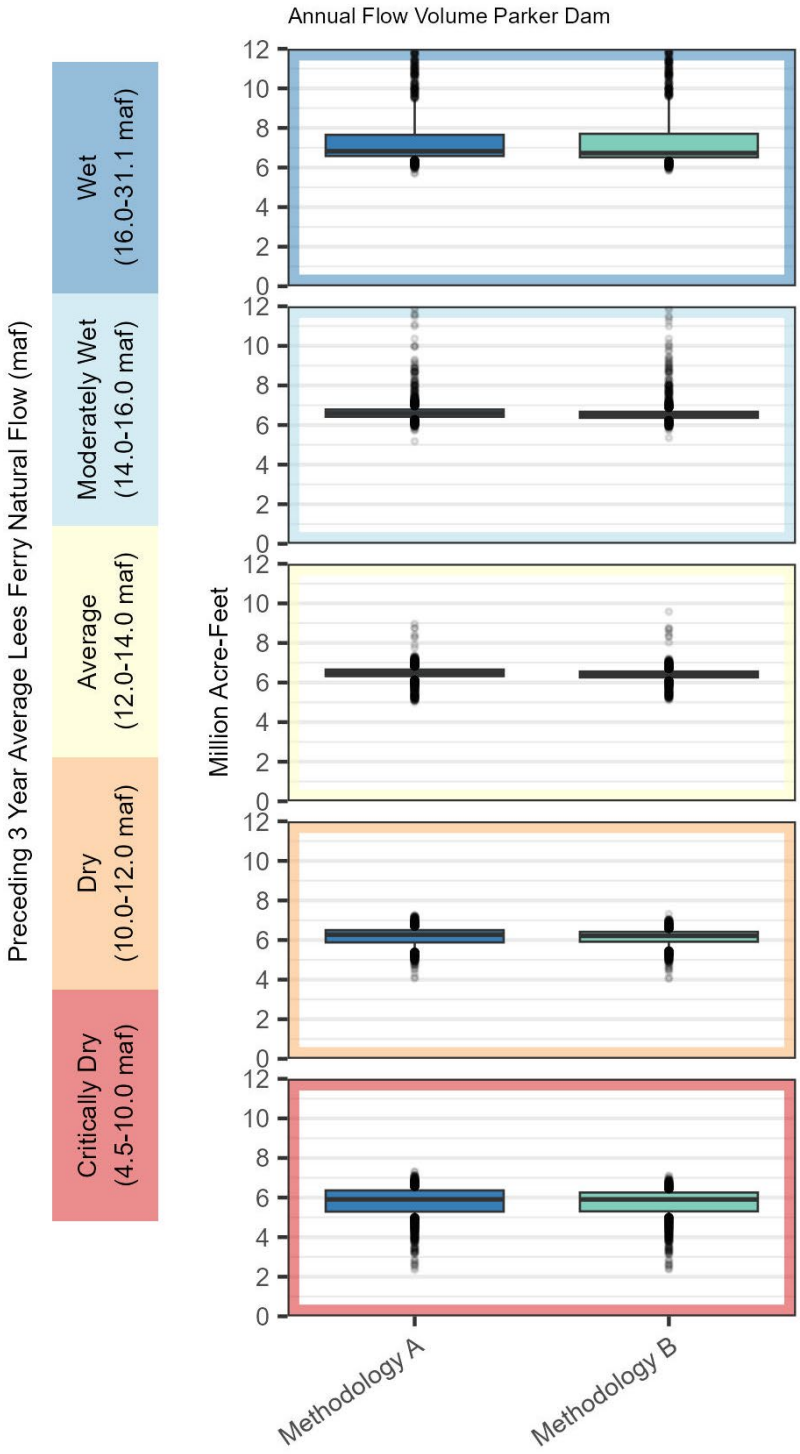
The annual delivery to Mexico (**Figure K-3**) shows similar information as the delivery reductions but incorporates years with additional deliveries to Mexico because of Flood Control, 70R, or Domestic Surplus, as previously discussed. Additionally, the annual deliveries incorporate years where the deliveries to Mexico are reduced beyond the specified reductions in Methodology A or B due to dead pool-related reductions (see **Section 3.4.2**, Issue 3 for an explanation of dead pool-related reductions). For example, the minimum annual delivery in the Critically Dry Flow Category in Methodology A is 0.350 maf. With a maximum delivery reduction of 0.60 maf, the minimum delivery due to the specified delivery reductions would be 0.9 maf; the difference between 0.350 maf and 0.9 maf is due to the dead pool-related reductions, which occur when Lake Mead approaches dead pool. Conversely, the maximum annual delivery to Mexico is 1.7 maf and 1.67 maf[5] in the Wet and Moderately Wet Flow Categories for Methodology A and Methodology B, respectively, and reflects the additional deliveries to Mexico above their 1.5 maf allocation. Overall, the annual deliveries to Mexico are lower in Methodology B than in Methodology A, for the same reasons that the reductions are higher, as previously discussed.

K.3.4 Parker Dam Releases

The flows in the river from Parker Dam to Imperial Dam result primarily from the controlled releases from Parker Dam. **Figure K-4** compares the releases from Parker Dam. There are only small differences in the annual releases from Parker Dam between Methodology A and B. In the Average Flow Category, the median Parker Dam release is 6.48 maf in Methodology A and 6.41 maf in Methodology B; in the Dry Flow Category Methodology A is 6.27 maf and Methodology B is 6.21 maf; in the Critically Dry Flow Category Methodology A is 5.91 maf and Methodology B is 5.91 maf. Methodology B produces lower releases in all flow categories across nearly all boxplot statistics, consistent with earlier findings showing greater delivery reductions to Mexico—and therefore lower releases from Parker Dam.

[5] The maximum annual delivery to Mexico is 1.7 maf based on the 1944 Water Treaty. CRSS constrains the available additional delivery volume to Mexico to 200 thousand acre-feet (1.7 maf minus 1.5 maf). It then computes the total delivery to Mexico as 1.5 maf plus additional deliveries minus reductions. Because Methodology B always has a non-zero reduction, the total delivery always results in a number smaller than 1.7 maf. If the CRSS logic was implemented differently, by not constraining the available additional delivery water and instead constraining the total delivery, the total delivery to Mexico under Methodology B could be as high as 1.7 maf. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico.

Figure K-4
Flow Conditioned Box Plot of Parker Releases



Attachment A

Verification of Equal Proportional Reductions to United States and Mexico for Methodology A and Methodology B

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Attachment A. Verification of Equal Proportional Reductions to United States and Mexico for Methodology A and Methodology B

Both Methodology A and Methodology B assume that the water deliveries to Mexico would be reduced in the same proportion as reductions in consumptive uses in the U.S. (shortages). This attachment provides additional information with regard to equal proportional reductions.

Model Verification

In order to verify that the model was accurately computing equal proportional water delivery reductions to Mexico, output from the model was used to compute reductions for both the U.S. and Mexico as a percentage of the appropriate demand.[6] **Table Att. A-1** provides a comparison of these computed values using Methodology A and Methodology B for the U.S. and Mexico. **Table Att. A-1** verifies that under both methodologies, deliveries to Mexico are reduced in the same proportion as deliveries to the U.S.

[6] For Mexico, it is always the reduction divided by 1.5 maf. For the U.S., it is the Lower Basin shortage divided by 7.5 maf for Methodology A, and Lower Basin shortage plus Upper Basin modeled shortage divided by 7.5 maf plus the Upper Basin depletion demand for the year for Methodology B.

Table Att. A-1
Reduction in Deliveries to Mexico and U.S. Shortage as a percentage of demand

Scenario	Entity	Flow Category	Max	90%	75%	50%	25%	10%	Min
Representative Preferred (Method A)	Mexico	16-31.1	37.7	16.7	14.4	0.0	0.0	0.0	0.0
Representative Preferred (Method A)		14-16	40.0	16.7	16.7	13.7	0.0	0.0	0.0
Representative Preferred (Method A)		12-14	40.0	22.9	16.7	16.7	9.2	0.0	0.0
Representative Preferred (Method A)		10-12	40.0	40.0	30.7	17.6	16.7	8.3	0.0
Representative Preferred (Method A)		4.5-10	40.0	40.0	40.0	30.1	16.7	16.7	0.0
Representative Preferred (Method A)	United States Lower Basin users	16-31.1	37.7	16.7	14.4	0.0	0.0	0.0	0.0
Representative Preferred (Method A)		14-16	40.0	16.7	16.7	13.7	0.0	0.0	0.0
Representative Preferred (Method A)		12-14	40.0	22.8	16.7	16.7	9.2	0.0	0.0
Representative Preferred (Method A)		10-12	40.0	40.0	30.7	17.6	16.7	8.3	0.0
Representative Preferred (Method A)		4.5-10	40.0	40.0	40.0	30.1	16.7	16.7	0.0
Representative Preferred (Method B)	Mexico	16-31.1	27.4	17.4	14.9	9.4	6.9	5.7	3.9
Representative Preferred (Method B)		14-16	30.9	20.8	18.4	15.5	10.4	8.0	4.3
Representative Preferred (Method B)		12-14	40.7	25.3	22.3	19.5	15.8	10.8	5.3
Representative Preferred (Method B)		10-12	49.7	34.9	30.3	24.3	20.3	16.8	6.5
Representative Preferred (Method B)		4.5-10	52.7	42.6	38.7	32.0	24.7	22.7	10.6
Representative Preferred (Method B)	United States	16-31.1	27.4	17.4	14.9	9.4	6.9	5.7	3.9
Representative Preferred (Method B)		14-16	30.9	20.8	18.4	15.5	10.4	8.0	4.3
Representative Preferred (Method B)		12-14	40.7	25.3	22.3	19.5	15.8	10.8	5.3
Representative Preferred (Method B)		10-12	49.7	34.9	30.3	24.3	20.3	16.8	6.5
Representative Preferred (Method B)		4.5-10	52.7	42.6	38.7	32.0	24.7	22.7	10.6

Note: The modeled delivery reductions to Mexico include modeling assumptions for reductions in water deliveries to Mexico and storage available to Mexico. Reclamation's modeling assumptions are not intended to constitute an interpretation or application of the 1944 Water Treaty or to represent current U.S. policy or a determination of future U.S. policy regarding deliveries to Mexico. The U.S. will conduct all necessary and appropriate discussions regarding the proposed federal action and implementation of the 1944 Water Treaty with Mexico through the IBWC in consultation with the Department of State.