

Appendix G

Shortage Allocation Model Documentation

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3 This appendix describes the model (Shortage Allocation Model) and assumptions that were used
4 to allocate shortages to water users in the states of Arizona, Nevada, and California (Lower
5 Division States) as part of the analysis of water deliveries in this Draft EIS.

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1 G.1 Introduction

2 In order to assess the potential effects of the alternatives, specific modeling assumptions were
3 made and are documented in this appendix. In particular, it was assumed that Mexico would
4 share proportionately in Lower Basin shortages. The proposed federal action is for the purpose of
5 adopting additional operational strategies to improve the Department's annual management and
6 operation of key Colorado River reservoirs for an interim period through 2026. However, in
7 order to assess the potential effects of the proposed federal action in this Draft EIS, certain
8 modeling assumptions are used that display projected water deliveries to Mexico. Reclamation's
9 modeling assumptions are not intended to constitute an interpretation or application of the 1944
10 Treaty or to represent current or future United States policy regarding deliveries to Mexico.

11 The United States will conduct all necessary and appropriate discussions regarding the proposed
12 federal action and implementation of the 1944 Treaty with Mexico through the IBWC in
13 consultation with the Department of State.

14 G.2 Background and Purpose

15 The Shortage Allocation Model was created to calculate the quantity of Colorado River water
16 that would be available to water entitlement holders under shortage conditions on the mainstream
17 of the lower Colorado River. A shortage condition would exist during a year when the Secretary,
18 as part of the AOP, determines that there is less than 7.5 maf of water available to the Lower
19 Division States.

20 The Shortage Allocation Model simulates shortage allocations and adjusts deliveries of Colorado
21 River water in accordance with the apportionment to the Lower Division States prescribed in the
22 Boulder Canyon Project Act of 1928 as confirmed by the Consolidated Decree. Certain modeling
23 assumptions were made with regard to how shortages may be allocated. Reclamation
24 acknowledges that there may be other interpretations of how shortages should be distributed.
25 Reclamation's modeling assumptions are not intended to represent current or future policy with
26 respect to shortage sharing or to limit Secretarial discretion to distribute shortages.

27 The Shortage Allocation Model simulates shortage allocations to individual Colorado River
28 entitlement holders within each state. Entitlement holders are all persons or entities authorized to
29 beneficially use Colorado River water pursuant to: 1) a right decreed by the United States
30 Supreme Court, 2) a contract for the delivery of Colorado River water through the Secretary of
31 the Interior (Secretary), or 3) a Secretarial reservation. For a list of each State's Colorado River
32 water entitlement holders, please see Attachment 1, Tables G-15, G-17, and G-18.

33 Under the Colorado River Basin Project Act (*Sec-301(b)*), the Central Arizona Project (CAP)
34 incurs most of any initial shortage to the Lower Division States. Consequently, there is a great
35 deal of interest in how shortages are allocated among the individual CAP users. The distribution
36 of CAP water during a time of shortage is complicated, and the Shortage Allocation Model has

1 been developed to accommodate the unique shortage provisions of the Arizona Water
2 Settlements Act (Public Law 108-451 dated December 10, 2004) and the CAP shortage
3 framework as defined in various CAP water delivery contracts.

4 **G.3 Description of the Shortage Allocation Model**

5 The Shortage Allocation Model was developed as worksheets in Microsoft Office 2003 Excel
6 software using the Excel Visual Basic Editor. Hyperlinks were created to show shortage impacts
7 geographically using the GIS interface Arc Reader. The Shortage Allocation Model contains 21
8 worksheets, which are summarized briefly in the below Table G-1.

Table G-1
Relationship Between Worksheets in the Shortage Allocation Model

	Worksheet	Function	Retrieves Data from:	Sends Data to:
1	Region Worksheet	Calculates Stage I and Stage II Shortages to Nevada, California, Arizona, and Mexico	Arizona worksheets & Projected Use Schedules	AZ, NV, & CA worksheets
2	Nevada Worksheet	Calculates shortages to Nevada Entitlement Holders	Region Worksheet	
3	California Worksheet	Calculates shortages to California Entitlement Holders	Region Worksheet & QSA Worksheet	
4	Arizona Worksheet	Calculates shortages to Arizona Entitlement Holders	Region Worksheet & Arizona Projected Consumptive Use (CU) Schedules	CAP Worksheet
5	CAP Worksheet	Calculates shortages to CAP Entitlement Holders	Arizona Worksheet & CAP Projected CU Schedules	CAP Summary Worksheet
6	CAP Summary Worksheet	Displays all CAP Entitlements, Scheduled CU, Adjusted Delivery, and Reductions	CAP Worksheet & CAP Projected CU Schedules	
7	PPR Worksheet	Displays PPR's in date order regardless of state lines		
8	QSA Worksheet	Displays Exhibit B of the QSA		CA Worksheet
9	Arizona CU Schedules for Priorities 1-3	Projected Consumptive Use Schedules Provided to model Stage I and II Shortages and shortages to Arizona Entitlement Holders		Arizona and Region Worksheet
10	Arizona CU Schedules for Fourth Priority	Projected Consumptive Use Schedules Provided to model Stage I and II Shortages and shortages to Arizona Entitlement Holders		Arizona and Region Worksheet
11	Summary of Arizona State and CAP Schedules	Shows that all Arizona Projected CU does not exceed 2.8 maf		CAP NIA and Excess Agricultural Schedules

Table G-1
Relationship Between Worksheets in the Shortage Allocation Model

	Worksheet	Function	Retrieves Data from:	Sends Data to:
12 13 14 15	CAP M&I, Tribal, NIA, and Excess Agricultural Schedules	Used to show CAP water availability and capture simulated shortage impacts in future years		CAP Worksheet
16 17 18	Decree Worksheets	Show how Diversion and CU ratios are calculated to estimate full CU Entitlements in Nevada and California		
19 20 21	Map Worksheets	Used to format shortage impacts to be interpreted by Arc Reader and produce Maps	Arizona, Nevada, and California Worksheets	GIS Arc Reader

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2 The purpose and/or function of each of the worksheets is/are described as follows.

3 The Region worksheet (shown below) is the key worksheet for operating the Shortage Allocation
 4 Model. In the Region worksheet the Shortage Allocation Model is triggered by inputting the total
 5 Lower Basin shortage, in af, in the yellow box. Once the total shortage is entered, the Shortage
 6 Allocation Model calculates the amount of Stage I and Stage II Shortages (to be discussed in the
 7 next section), and the amount of the shortage to each of the Lower Division States as a whole,
 8 and Mexico. Each State’s available water supply, shown on the Region worksheet, is linked to
 9 the State worksheets in Attachment 1 (Tables G-15, G-17, and G-18) and the CAP worksheets in
 10 Attachment 1 (Table G-16). The user may also select the shortage year on the Region worksheet,
 11 and, if desired, any of the three State maps, or the regional map, to view geographical impacts.
 12 The links from the Region worksheet to the State worksheets operate the Shortage Allocation
 13 Model.

Table G-2
Region Worksheet

	Assumed Distribution of Shortage	Consumptive Use Entitlement	Deliverable Consumptive Use	Consumptive Use Reduction
Stage I Shortage		1,729,907	1,329,907	400,000
Mexico	16.67%	288,318	221,651	66,667
United States				
Arizona	80.00%	1,383,925	2,063,925	320,000
Nevada	3.33%	57,664	44,330	13,333
California	0.00%	0	0	0

Table G-2
Region Worksheet

	Assumed Distribution of Shortage	Consumptive Use Entitlement	Deliverable Consumptive Use	Consumptive Use Reduction
Stage II Shortage (When AZ 4th=0)		7,270,093	7,270,093	0
Mexico	16.67%	1,211,682	1,211,682	0
United States				
Arizona	19.48%	1,416,075	1,416,075	0
Nevada	3.33%	242,336	242,336	0
California	60.52%	4,400,000	4,400,00	0
Stage I & II Total		9,000,000	8,600,000	400,000
Run Mode			Total Reduction	400,000
Arizona			2,480,000	320,000
Nevada			286,667	13,333
California			4,400,000	0
Mexico			1,433,333	66,667

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2 The Shortage Allocation Model contains three State worksheets (see Tables G-15, G-17, and G-
3 18 in Attachment 1). Given any shortage volume, the State worksheets calculate the reduced
4 delivery quantity and shortage amount to the individual entitlement holders within each State. On
5 the Arizona state worksheet, the adjusted delivery is calculated as a reduction to the scheduled
6 use for each entitlement holder provided by the Arizona Department of Water Resources
7 (ADWR). On the California and Nevada state worksheets the reduced delivery is calculated
8 based upon an estimated full entitlement use schedule from 2004 water accounting data.

9 The Arizona State worksheet calculates the aggregate quantity of fourth priority water available
10 to CAP. This quantity is imported to the CAP worksheet, which distributes available water to
11 CAP entitlement holders. The results of the CAP worksheet are displayed in the CAP Summary
12 Worksheet in Attachment 1, Table G-16.

13 Seven consumptive use schedules were provided by ADWR for use in the Shortage Allocation
14 Model, for the period 2008 through 2060. The consumptive use schedules are listed below:

- 15 1) Arizona first through third priorities
- 16 2) Arizona fourth priority
- 17 3) Summary of Arizona State schedules
- 18 4) CAP municipal and industrial (M&I) priority user schedules (only provided to year 2035)
- 19 5) CAP Tribal schedules

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1 6) CAP non-Indian agricultural priority (NIA) user schedules

2 7) CAP excess water schedules (only provided to year 2030)

3 The ADWR consumptive use schedules are shown in Attachment 8, Tables G-55 - G-58, and
4 Appendix D.

5 When a shortage year is selected on the Region worksheet, the Shortage Allocation Model is
6 programmed to calculate the Stage I and II Shortages based on the Arizona schedules and to
7 inserts the consumptive use schedule for each entitlement holder on the Arizona worksheet under
8 the “scheduled use” column (see table G-15). Each state page is organized in the same manner.
9 The scheduled use is adjusted by the distributed shortage amount that was entered on the Region
10 worksheet. The last column in the State worksheets show the simulated shortage allocated to
11 each entitlement holder (see Tables G-15, G-17, and G-18).

12 The Shortage Allocation Model also includes two supporting worksheets including Exhibit B of
13 the Quantification Settlement Agreement (QSA) and a full list of Present Perfected Rights
14 (PPR’s). The QSA worksheet is linked to the California State worksheet. The QSA worksheet
15 (Table G-59 in Attachment 8) displays the quantification of certain Colorado River water
16 entitlements and transfers of Colorado River water in the State of California in thousands of
17 acre-feet. The PPR worksheet displays a complete list of the PPR’s in the Lower Division States
18 in date order from lowest to highest priority without regard to State lines in acre-feet (Table G-60
19 in Attachment 8). PPR diversion entitlements amount to approximately 4.1 maf and an estimated
20 consumptive use entitlement of 3.4 maf in the Lower Basin. In the event of a severe shortage,
21 where there is insufficient Colorado River water to satisfy the needs of the PPR entitlement
22 holders, the PPR worksheet shows the order in which the limited water supply would be
23 delivered to the PPR holders.

24 Finally, the Shortage Allocation Model allows the user to view impacts geographically in
25 Arizona, Nevada, California, or the lower Colorado Region as a whole by selecting hyperlinks to
26 maps on the Region worksheet (in dark blue).

27 Overall, the Shortage Allocation Model may be used to simulate any future shortage allocation
28 for any year based on projected use, water orders, historical use, or average historical use. In a
29 normal year, the Shortage Allocation Model may be used to simulate the amount of excess water
30 that may be available for banking in any state. A benefit of the Shortage Allocation Model is that
31 it relatively easy to modify for different scenarios, it is only 1.5 megabytes, and it computes all
32 results in less than a few minutes.

33 **G.4 Assumptions in the Shortage Allocation Model**

34 **G.4.1 Introduction**

35 In accordance with Section II (B)(3) of the Consolidated Decree and Section 301(b) of the
36 Colorado River Basin Project Act, the Secretary has the authority to declare and allocate
37 shortages to the Lower Division States. Although some guidance is given with regard to how

1 shortages would be allocated (i.e., PPR's must be met first without regard to State lines and
2 California does not incur shortages until water use under Arizona post-1968 water delivery
3 contracts are eliminated), no further guidance exists for the Secretary's shortage allocation
4 decisions.

5 To determine the hydrologic impacts of the shortage alternatives, assumptions were made
6 with regard to how shortages might be shared. These assumptions are made to facilitate
7 analysis of the full range of potential impacts of each alternative and are not intended to
8 represent current or future policy with respect to shortage sharing.

9 G.4.2 Stage I and II Assumptions

10 In the Shortage Allocation Model, shortages in the Lower Basin are categorized as Stage I
11 and II Shortages. Shortages are first imposed under Stage I and would be applied to the most
12 junior users within Arizona (those with post-1968 water rights, i.e., 4th and 5th priority rights
13 within Arizona) and Nevada (primarily the SNWA). Stage I shortages continue until the
14 deliveries to the post-1968 water rights holders in Arizona (including the CAP) are reduced
15 to zero. The maximum amount of Stage I shortages during the period of analysis is dependent
16 on the scheduled depletions for the post-1968 water rights holders and decreases over time
17 from approximately 1.8 maf in 2008 to 1.7 maf in 2060.

18 After deliveries to the 4th and 5th priority rights within Arizona are reduced to zero,
19 additional reductions are applied to Arizona, California, and Nevada. These shortages,
20 referred to as Stage II shortages, continue to the shortage amount determined by the
21 alternative.

22 The shortage sharing percentages are computed as follows:

- 23 ♦ Shortage sharing for Stage I: Arizona, Nevada, and Mexico take a water supply
24 reduction.
 - 25 – Mexico: 16.67 % reduction of the total shortage
 - 26 ▪ Computed as a ratio of Mexico's Treaty allotment to the sum of the
27 apportionments of the Lower Division States and Mexico's Treaty allotment
 - 28 ▪ $1.5 \text{ maf} / 9.0 \text{ maf} = 0.1667$
 - 29 – Nevada: 3.33% reduction of the total shortage
 - 30 ▪ Computed as a ratio of Nevada's apportionment to the sum of the
31 apportionments of the Lower Division States and Mexico's Treaty allotment
 - 32 ▪ $0.3 \text{ maf} / 9.0 \text{ maf} = 0.0333$
 - 33 – Arizona: 80% of the total shortage

- 1 ▪ Computed assuming that Arizona takes the remaining amount of shortage
- 2 ▪ $1.0 - 0.1667 - 0.0333 = 0.80$
- 3 ♦ Shortage Sharing for Stage II Reductions (severe shortage where Arizona fourth
- 4 priority use is eliminated and California shares in remaining shortage)
- 5 – Mexico: 16.67 % of the Stage II Shortage in addition to Stage I reductions
- 6 ▪ Computed as a ratio of Mexico’s Treaty allotment less the amount of shortage
- 7 applied to Mexico under Stage I, to the sum of the apportionments of the
- 8 Lower Division States and Mexico’s Treaty allotment less the total amount
- 9 shorted to users under Stage I
- 10 ▪ $(1.5 \text{ maf} - \text{Mexico Stage I shortage}) / (9.0 \text{ maf} - \text{total Stage I shortage}) =$
- 11 0.1667
- 12 – Nevada: 3.33 % of the Stage II Shortage in addition to Stage I Shortages
- 13 ▪ Computed as a ratio of Nevada’s apportionment less the amount of shortage
- 14 applied to Nevada under Stage I, to the sum of the apportionments of the
- 15 Lower Division States and Mexico’s Treaty allotment less the total amount
- 16 shorted to users under Stage I Shortage
- 17 ▪ $(0.3 \text{ maf} - \text{NV Stage I Shortage}) / (9.0 \text{ maf} - \text{total Stage I Shortage}) = 0.0333$
- 18 – Arizona: Arizona’s Stage II shortage is approximately 20% and varies due to
- 19 Arizona’s one through three priority scheduled use
- 20 ▪ Computed as a ratio of Arizona’s apportionment less the amount of shortage
- 21 applied to Arizona under Stage I, to the sum of the apportionments of the
- 22 Lower Division States and Mexico’s Treaty allotment less the total amount
- 23 shorted to users under Stage I Shortage
- 24 ▪ $(2.8 \text{ maf} - \text{AZ Stage I Shortage}) / (9.0 \text{ maf} - \text{total Stage I Shortage})$
- 25 – California: California’s Stage II Shortage is approximately 60% and varies due to
- 26 Arizona’s priority one through three scheduled use
- 27 ▪ Computed assuming that California takes the remaining amount of the
- 28 additional shortage
- 29 ▪ $1.0 - 0.1667 - 0.0333 - \text{Arizona’s Stage II Shortage expressed as a fraction}$

G.4.2 Operations of Stage I and II Shortages

The Region worksheet, also seen in Attachment 1, Table G-14, displays the calculations discussed above.

- 1 ♦ Listed along the left side of Attachment 1, Table G-14 are Stage I and II Shortages,
2 the respective entities: Mexico, Arizona, Nevada, and California, consumptive use
3 apportionments to each state and the Treaty allotment to Mexico, and their respective
4 shortages.
- 5 ♦ The shaded blue region in the center of Attachment 1, Table G-14 shows, under a
6 selected shortage volume, the adjusted amount of water available for consumptive use
7 by the Lower Division States and available delivery to Mexico, and the shortage
8 distribution in the last blue column.
- 9 ♦ In 2008 the potential Stage I Shortage to Lower Division States and Mexico is
10 1,729,907 af, and the additional potential Stage II Shortage is 7,270,093 af. The
11 potential shortage volumes are based on Arizona priorities one through three
12 projected use of 1,416,075 af in 2008, as seen in the consumptive use column under a
13 Stage II Shortage. The remainder of Arizona’s apportionment, 1,383,925 af, is subject
14 to a Stage I shortage.
- 15 ♦ As Arizona priority one through three use increases over time to full entitlement use,
16 the potential Stage I shortage decreases.
- 17 ♦ In 2040, when Arizona reaches full entitlement use, priorities one through three are
18 projected to use 1,428,510 af. The remainder of the State’s apportionment, 1,371,490
19 af, is subject to a Stage I shortage. The potential Stage I shortage to the Lower
20 Division States and Mexico is 1,714,362 af, and the additional potential Stage II
21 shortage is 7,285,638 af.
- 22 ♦ In 2017, as seen in Attachment 1, Table G-14, a simulated shortage of 400,000 af was
23 not large enough to trigger a Stage II Shortage; therefore there are no Stage II
24 shortages in the “Consumptive Use Reduction” column. In this situation, consumptive
25 use in Arizona is reduced by 320,000 af, consumptive use in Nevada is reduced by of
26 13,333 af, and the delivery to Mexico is reduced by of 66,667 af.

27 **G.4.3 General State Assumptions**

- 28 ♦ Each State is assumed to be using its entire apportionment each year.
- 29 ♦ Entitlement holders with multiple priorities divert water by their highest (oldest)
30 priority first.
- 31 ♦ The Shortage Allocation Model uses the quantity of water projected to be ordered in a
32 shortage year as a basis for distributing the available water supply to individual users.
- 33 ♦ With exception of PPR’s, all entitlement holders within a priority class share in
34 shortage on a pro rata basis. Therefore, within any priority class other than PPRs, the
35 Shortage Allocation Model does not consider entitlement dates.

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- 1 ♦ PPR water use is not always under contract with the Secretary or reported to
- 2 Reclamation, therefore PPR holders are assumed to be diverting their full entitlement.
- 3 ♦ The Shortage Allocation Model does not address current and future paybacks of
- 4 overruns or underruns under the Inadvertent Overrun and Payback Policy.

G.4.4 Arizona Assumptions

- 5 ♦ All Arizona projected water use schedules in the Shortage Allocation Model were
- 6 supplied by ADWR (see Attachment 8 Tables 55-58, and Appendix D). Upon ADWR
- 7 concurrence, some of the original schedules were adjusted. The agreed upon changes
- 8 are as follows:
- 9
- 10 ♦ The original CAP projected water use schedules exceeded the available water for
- 11 CAP on Arizona schedules, so the CAP projected water use schedules were reduced
- 12 to keep Arizona within its 2.8 maf apportionment. The following entitlement holders
- 13 were affected: the Arizona Water Bank Authority (AWBA), excess agricultural water
- 14 users, and the NIA Priority (consisting of Indian, M&I, and Agricultural entitlement
- 15 holders).
- 16 ♦ The Cibola Valley Irrigation and Drainage District water contract has recently been
- 17 split into three separate contracts: Hopi Tribe, Mohave County Water Authority, and
- 18 Cibola Valley Irrigation and Drainage District. Reclamation developed a separate
- 19 schedule for each of the three entities rather than showing one schedule for the
- 20 district.
- 21 ♦ A projected water use schedule for Fort Yuma Indian Reservation in Arizona was
- 22 added to allow for first priority use in accordance with the Consolidated Decree.
- 23 ♦ Some projected water use schedules for entitlement holders were divided among their
- 24 more specific contract entitlements or water rights.
- 25 ♦ Lake Havasu City’s entitlement and its 6,000 af of subcontracted water from Mohave
- 26 County Water Authority are separated so that they may be applied under the
- 27 appropriate Colorado River entitlement or subcontract.

G.4.5 CAP Framework and Assumptions:

The Shortage Allocation Model considers five priorities within CAP. Within the Shortage Allocation Model, the most senior CAP priorities are the Ak-Chin Indian Community and several central Arizona cities who receive water secured by the Salt River Pima-Maricopa Indian Community Water Rights Settlement Act of 1988. The second CAP priority is Municipal and Industrial (M&I) and Indian priority water. Next in priority within the CAP is non-Indian Agriculture (NIA) priority water, which is available to specific M&I, Agricultural, and Indian entitlement holders. CAP excess water that is available to non-Indian agricultural entitlement holders is the next priority. The lowest priority within CAP (and Arizona) is AWBA which receives the balance of unused water in Arizona. A diagram of CAP entitlement classes, quantified in units of acre-feet, follows:

Table G-3
CAP Priorities Before and After 2044

Cap Priorities Before 2044 (After Losses)				Total Entitlement by Priority	
CAP 5	Arizona Water Bank: Balance of State's Unused Apportionment			Balance	
CAP 4	Excess Agriculture: Available CAP Water			Available	
CAP 3	M&I: 148,598af	Indian: 216,100af		364,698	
CAP 2	M&I: 638,823af	Indian: 343,097af	Indian: 32,770af	981,902	
			GRIC: 31,970af		
			Tohono O'Odham Nation: 800af		
			11.305 GRIC		
			7,340 San Carlos, Salt River		
			291,574 Indian		
CAP 1	Salt River Exchange Cities: 20,900af	Ak-Chin: 47,500af		68,400	
TOTAL				1,415,000	
Cap Priorities After 2044 (After Losses)				Total Entitlement by Priority	
CAP 5	Arizona Water Bank: Balance of State's Unused Apportionment			Balance	
CAP 4	Excess Agriculture: Available CAP Water			Available	
CAP 3	M&I: 101,295af	Indian: 216,100af		317,395	
CAP 2	M&I: 686,126af	Indian: 343,097af	Indian: 32,770af	1,029,205	
			GRIC: 31,970af		
			Tohono O'Odham Nation: 800af		
			11.305 GRIC		
			7,340 San Carlos, Salt River		
			291,574 Indian		
CAP 1	Salt River Exchange Cities: 20,900af	Ak-Chin: 47,500af		68,400	
TOTAL				1,415,000	

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It is noted that the water contracting framework for CAP is based on an assumption that at least 1,415,000 af will be available for diversion from the CAP aqueduct in a normal year. This quantity assumes that there is a five percent conveyance loss in the CAP aqueduct; therefore 1,490,000 af is required to be available at the CAP pumping plant on the Colorado River. In the event that the priority one, two, and three consumptive use within Arizona (excluding the 68,400 af of priority three water that is included within the CAP supply) exceeds 1,310,000 af of consumptive use in any year, the CAP entitlement holders would receive less than 1,415,000 af and the impact would be absorbed by the excess and NIA

- 1 priority users. For a list of specific entitlement holders within each CAP priority, please see
2 the following spreadsheet on the next page.

Table G-4
Snapshot of Attached Table G-16 Showing CAP Entitlements

Year 2017	Entitlement					
Table 5 Lower Basin Shortage: 500,000	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL
Bank					Balance	0
Relinquished Agricultural Contracts				Available		0
Ak-Chin Indian Community	47,500	27,500				75,000
Fort McDowell		18,233				18,233
Gila River		191,200	120,600			311,800
TON-Chui Chu		8,000				8,000
TON-San Xavier		27,000	23,000			50,000
TON-Schuk Toak		10,800	5,200			16,000
Pasqua Yaqui		500				500
Salt River		13,300				13,300
San Carlos Apache		43,500				43,500
Tonto Apache		128				128
Yavapai Apache (Camp Verde)		1,200				1,200
Unallocated HVD		1,218				1,218
Reserved Federal			67,300			67,300
Indian Subtotal	47,500	343,079	216,100	0	0	606,679
Apache Junction (AZ Water Co)		6,000				6,000
Avra Coop		808				808
AZ-American (Agua Fria)		11,093				11,093
AZ-American (Paradise Valley)		3,231				3,231
AZ-American (Sun City)		4,189				4,189
AZ-American (Sun City West)		2,372				2,372
AZ State Land Dept.		32,076	9,026			41,102
ASARCO (Ray Mine)		21,000				21,000
Avondale		5,416				5,416
Bernell Water Co (Cave Creek)		200				200
Buckeye		25				25
Carefree Water Co		1,300				1,300
Casa Grande (AZ Water Co)		8,884				8,884
Cave Creek Water Co		2,406				2,406
CAGR D		7,746				7,746
Chandler*	4,064	8,654	3,924			16,642
Chandler Heights Citrus ID		315				315

**Table G-4
Snapshot of Attached Table G-16 Showing CAP Entitlements**

Year 2017	Entitlement					
Table 5 Lower Basin Shortage: 500,000	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL
Chaparral City Water Co		8,909				8,909
Circle City Water Co		3,932				3,932
Comm. Water Co (Green Valley)		2,858				2,858
Coolidge (AZ Water Co)		2,000				2,000
El Mirage		508				508
Eloy		2,171				2,171
Florence		2,048				2,048
Flowing Wells ID		4,354				4,354
Gilbert	6,424	7,235	1,537			15,196
Glendale	2,850	17,236	682			20,768
Goodyear		10,742				10,742
Green Valley DWID		1,900				1,900
H2O Water Co		147				147
Marana		47				47
Maricopa County Parks & Rec		665				665
Mesa*	2,622	43,503	5,552			51,677
MDWID		13,460				13,460
Oro Valley		10,305				10,305
Peroria		25,236				25,236
Phelps Dodge Miami		2,906				2,906
Phoenix*	4,750	122,120	37,280			164,150
Phoenix Memorial Park		84				84
Pine Water Co		161				161
Queen Creek Water Co		348				348
Rio Verde Utilities		812				812
San Tan ID		236				236
Scottsdale*	95	52,810	3,308			56,211
Spanish Trail Water Co		3,037				3,037
Superior		285				285
Surprise		10,249				10,249
Tempe	95	4,315	23			4,433
Tonto Hills Utility Co		71				71
Tuscon		144,172				144,172
Vail Water Co		1,857				1,857
Valley Utilities Water Co		250				250
Water Utilities Comm. Fac. Dist. (AJ)		2,919				2,919

Table G-4
Snapshot of Attached Table G-16 Showing CAP Entitlements

Year 2017	Entitlement					TOTAL
Table 5 Lower Basin Shortage: 500,000	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	
Water Util. Greater Buckeye		43				43
Water Util. Greater Tonopah		64				64
White Tank Sys. (AZ Water Co.)		968				968
San Carlos (Phelps Dodge/Globe)		18,145				18,145
State Reserved			87,268			87,268
M&I Subtotal	20,900	638,823	148,598	0	0	808,321
TOTAL	68,400	981,902	364,698	Available	Balance	1,415,000

*47,303af NIA Priority water converts to M&I Priority on January 1, 2044 and 2,952af is distributed to Chandler, 4,924af to Mesa, 36,144af to Phoenix, and 3,283af to Scottsdale.

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2 **G.4.6 CAP Shortage Assumptions:**

3 The Shortage Allocation Model uses the following assumptions to allocate available CAP
4 water. These assumptions are based on Reclamation staff interpretation of the CAP shortage
5 compromise that was incorporated as part of the Arizona Water Settlements Act (AWSA).

6 **Step I. Under the AWSA, a CAP shortage exists if,**

7 ♦ Prior to January 1, 2044, there is not enough Arizona fourth priority water to meet the
8 CAP second priority scheduled water use up to 981,902 af for CAP M&I priority
9 water (638,823 af) and Indian priority water (343,079 af) or

10 ♦ After January 1, 2044, there is not enough Arizona fourth priority water to meet the
11 CAP second priority scheduled water use up to 1,029,205 af for CAP M&I priority
12 water (686,126 af) and Indian priority water (343,079 af).

13 **Step II. If there is a shortage based on Step I above, the available CAP water is allocated between** 14 **the CAP M&I and Indian entitlement holders (CAP second priority) as follows:**

15 ♦ If the Available CAP water is less than 853,079 af, then 36.37518 of the available
16 CAP water supply percent is allocated to the Indian priority and the remainder is
17 allocated to the M&I priority water.

18 ♦ If the Available CAP water supply is greater than 853,079 af, then the water is
19 allocated as follows:

20 – Prior to January 1, 2044, the water allocated to the Indian priority is equal to
21 93,303 af plus 25.438 percent of the available CAP water. The remainder is
22 allocated to the M&I priority.

- 1 – After January 1, 2044, the water allocated to the Indian priority is equal to
2 151,691 af plus 18.59354 percent of the available CAP water. The remainder is
3 allocated to the M&I priority.

4 **Step III. Distribute the available CAP water to the individual entitlement holders within the M&I**
5 **Priority and Indian Priority.**

6 ♦ Within the M&I priority, the quantity of the available CAP water (determined above)
7 is allocated to each entitlement holder based on each entitlement holder’s
8 proportionate share of the total quantity of scheduled M&I priority water. For
9 example, if entitlement holder X showed a scheduled use of 50,000 af from the M&I
10 priority, then, under a shortage, entitlement holder X would receive an amount of
11 water equal to the total amount of water available to the M&I priority in the shortage
12 year multiplied by the ratio obtained by dividing 50,000 af by 638,823 af.

13 ♦ Within the Indian priority, if the amount of Indian priority water is less than 343,079
14 af,

15 – The first 32,770 af of shortage to the Indian priority is borne jointly by the Gila
16 River Indian Community (GRIC) and the Tohono O’Odham Nation (31,970 af by
17 GRIC and 800 af by Tohono).

18 – The next 18,735 af of shortage to the Indian priority is borne as follows:

19 ▪ First, 11,305 af of shortage is borne by the GRIC. The rationale for the GRIC’s
20 to bear this increment of the shortage next is based on the language in the
21 AWSA contracts with the GRIC’s and Tohono O’ dham Nation that assures
22 that the other Tribes sharing this block of water are to be made no worse off
23 by the AWSA.

24 ▪ Second, the next 7,430 af of shortage is borne jointly by:

25	San Carlos Tribe (excess Ak-Chin water)	5,830af	78.47%
26	Salt River Tribe	1,330af	17.90%
27	San Carlos Tribe	<u>270af</u>	<u>3.63%</u>
28		7,430af	100.00%

29 – Lastly, the 291,574 af of water available to the Indian priority is shorted. The
30 remaining available amount of water is pro-rated to each Tribe or Nation based on
31 each Tribe or Nation’s percentage of scheduled Indian priority use.

32 **G.4.7 General CAP Assumptions**

33 ♦ Some of the Tribes or Nations lease their CAP water to cities. The Shortage
34 Allocation Model does not address the shortage to the lessee, and assumes that it is up

1 to the Tribe or Nation to administer the terms and conditions of its lease to determine
2 the amount of water available to the lessee in the shortage year.

3 ♦ In the projected water use schedules:

4 ♦ ADWR projected CAP M&I water use to year 2035, at which point almost all
5 entitlement holders were using their full entitlement. With ADWR's concurrence,
6 Reclamation adjusted the 2035 projected water use schedule to show full entitlement
7 use by entitlement holders and extended 2035's projected water use schedules to later
8 years for which a projected water use schedule had not been not available.

9 ♦ The projected water use schedule of the NIA Priority for the Maricopa-Stanfield
10 Irrigation and Drainage District and Central Arizona Irrigation and Drainage District
11 was adjusted from a combined total of 12,000 af to 9,026 for the Arizona State Land
12 Department to reflect the desire of that entity to subcontract for 9,026 af of NIA
13 priority water for irrigation use. All other NIA priority water has been relinquished by
14 the original subcontractors as part of the AWSA.

15 ♦ Under the AWSA for the Salt River Pima Maricopa Indian Community Water Rights
16 Settlement Act of 1988, there is a formula in the Agreement that provides for the
17 distribution of the 20,900 af of acquired Priority 3 water among all M&I users during
18 a time of shortage. In non-shortage years, this water is made available only to four
19 Phoenix area cities. Reclamation has been informed that the present formula is
20 inoperable and that a technical correction to the formula will have to be developed
21 and agreed to by the appropriate parties. The Shortage Allocation Model does not
22 attempt to model this element of the Salt River Pima Maricopa Indian Community
23 Water Rights Settlement Agreement.

24 **G.4.8 Nevada Assumptions**

25 ♦ Very few assumptions are made in the Shortage Allocation Model for Nevada,
26 however the following concepts are included:

27 ♦ The Shortage Allocation Model reflects that Nevada has eight water delivery
28 priorities (see Table G-17 in Attachment 1), as established in the Robert B. Griffith
29 Water Project Contract No. 7-07-30-W0004 for delivery of Colorado River water
30 signed by the United States and State of Nevada.

31 ♦ In the above contract, it is stated that SNWA is entitled to divert the balance of any
32 remaining un-allocated, unused, and surplus water in Nevada.

33 **G.4.9 California Assumptions**

34 ♦ For modeling purposes, the PPR's within California are displayed as having a first
35 priority relative to the priorities contained in the Seven Party Agreement. The
36 priorities within the Seven Party Agreement do not consider PPR's in California's
37 allocation of 4.4 maf. Reclamation recognizes that the QSA helps California parties to
38 meet the water needs of PPR's by agreeing that certain parties to the Seven Party

- 1 Agreement would make water available to satisfy the requirements of the PPR
 2 holders while keeping the priorities within the Seven Party Agreement intact. In
 3 addition the QSA helped quantify entitlements in the Seven Party Agreement, which
 4 is necessary to model shortages.
- 5 ♦ Those M&I parties which receive water under the Seven Party Agreement 3(a) by
 6 water transfers from Imperial Irrigation District (IID) under the QSA, are considered
 7 to have a Seven Party Agreement 3(a) priority water entitlement.
 - 8 ♦ Although the Metropolitan Water District of Southern California (MWD) shows a
 9 Seven Party Agreement entitlement of 550,000 af in the Shortage Allocation Model,
 10 MWD’s “Full Entitlement Use” is assumed to be the calculated entitlement resulting
 11 from the balance of California’s State apportionment and full entitlement use of
 12 higher priorities. However due to the Palo Verde Irrigation District’s forbearance
 13 agreement with MWD, during times of shortage a minimum of 25,000 af of water
 14 will become available for MWD, which is reflected in the Shortage Allocation Model.
 - 15 ♦ To see the estimated entitlements associated with each California entitlement holder,
 16 please see G-18 in Attachment 1. It is important to note that shortages to California
 17 only impact MWD.

18 G.5 Operation of the Shortage Allocation Model

19 G.5.1 Operation of Regional and State Shortages

20 The Shortage Allocation Model is designed to allocate Colorado River water under normal
 21 and shortage conditions on the mainstream of the Lower Colorado River. The model is
 22 operated by entering any shortage volume in the “yellow box” as shown below. Following
 23 the yellow box is a brown list-box in which any year between 2008 and 2060 may be selected
 24 (see below).

Table G-5
Snapshot from Regional Worksheet Showing Operational Inputs

Run Mode	Total Reduction	500,000	PROCESS	
Arizona	2,400,000	400,000		Region Shortage Maps
Nevada	283,333	16,667		NV Shortage Maps
California	4,400,000	0		AZ Shortage Maps
Mexico	1,416,667	83,333		CA Shortage Maps

25

26 Once the year is selected, the Shortage Allocation Model will collect the projected water use
 27 schedules for each Arizona user and determine the point at which a Stage I and II Shortages
 28 will occur as discussed in the Assumptions section above.

Appendix G

1 If a shortage is so severe that Arizona fourth priority users are reduced to a zero acre-foot
 2 water delivery, California shares in shortage via the Stage II Shortage. In the example below
 3 reflecting a 500,000 acre-foot shortage in 2017, the simulated shortage is not sufficient to
 4 cause a Stage II Shortage. Therefore Arizona, Nevada, and Mexico take simulated
 5 reductions, as seen in the far right hand column below, according to Stage I shortage sharing
 6 ratios.

7 In the following example, a simulated and highly unlikely shortage of 1.8 maf in 2017
 8 produces a Stage II Shortage, distributed as seen in the far right hand column below:

Table G-6 Snapshot from Regional Worksheet Showing a 500,000 acre-foot Shortage				
	Shortage Distribution	Consumptive Use Entitlement	Deliverable Consumptive Use	Consumptive Use Reduction
Stage I Shortage		1,729,907	1,229,907	500,000
Mexico	16.67%	288,318	204,984	83,333
United States				
Arizona	80.00%	1,383,925	983,925	400,000
Nevada	3.33%	57,664	40,997	16,667
California	0.00%	0	0	0
Stage II Shortage (When AZ 4th=0)		7,270,093	7,270,093	0
Mexico	16.67%	1,211,682	1,211,682	0
United States				
Arizona	19.48%	1,416,075	1,416,075	0
Nevada	3.33%	242,336	242,336	0
California	60.52%	4,400,000	4,400,00	0
Stage I & II Total		9,000,000	8,500,000	500,000

9

Table G-7 Snapshot from Regional Worksheet Showing a 1.8 million acre-foot Shortage				
	Shortage Distribution	Consumptive Use Entitlement	Deliverable Consumptive Use	Consumptive Use Reduction
Stage I Shortage		1,729,907	0	1,729,907
Mexico	16.67%	288,318	0	288,318
United States				
Arizona	80.00%	1,383,925	0	1,383,925
Nevada	3.33%	57,664	0	57,664
California	0.00%	0	0	0

Table G-7 Snapshot from Regional Worksheet Showing a 1.8 million acre-foot Shortage				
	Shortage Distribution	Consumptive Use Entitlement	Deliverable Consumptive Use	Consumptive Use Reduction
Stage II Shortage (When AZ 4th=0)		7,270,093	7,270,000	70,093
Mexico	16.67%	1,211,682	1,200,000	11,682
United States				
Arizona	19.48%	1,416,075	1,402,422	13,653
Nevada	3.33%	242,336	240,000	2,336
California	60.52%	4,400,000	4,357,578	42,422
Stage I & II Total		9,000,000	7,200,000	1,800,000

1

2 The “consumptive use entitlement” column above shows the potential Stage I and II
 3 Shortages for each state and Mexico. The adjusted delivery, given a shortage volume, is
 4 shown in the first blue column and the shortage volume is shown in the second blue column.
 5 The adjusted delivery and shortage from Stage I and II are transported to each State
 6 worksheet. Each state worksheet provides priority and entitlement information, as well as the
 7 selected year’s schedules. As seen in attached Tables G-15, G-17, and G-18 of the State
 8 worksheets, the last two columns show the adjusted delivery and shortage volume for each
 9 entitlement holder in each state. Arizona entitlement holders are reduced from their
 10 scheduled use for the selected year. California and Nevada entitlement holders are reduced
 11 from full entitlement use, as projected use schedules were not programmed for these States.
 12 Shortages are equally shared pro-rata by all the users except PPR’s of an impacted priority.

13 Each State page is strung with formulas to calculate the adjusted delivery to each priority For
 14 each state the corresponding shortages are simply calculated by subtracting the adjusted
 15 delivery from the full entitlement or projected consumptive use schedules. In CAP the
 16 formulas are highly complicated and some even require programming due to time dependent
 17 changes expressed in the AWSA.

18 **G.5.2 Operation of CAP**

19 In 2017, a simulated shortage of 500,000 af to the Lower Division States and Mexico,
 20 reduces Arizona 400,000 af, thus reducing deliveries to the AWBA and Arizona fifth
 21 priorities. Next, Arizona fourth priority (non-CAP and CAP) are both reduced 29%. The
 22 available fourth priority CAP water from the Arizona worksheet, minus 5% losses, is inserted
 23 into the CAP worksheet. Table G.8 shows the remaining delivery to CAP is 877,437 af
 24 (71%). The CAP worksheet distributes shortages to CAP entitlement holders, by satisfying
 25 the highest CAP entitlement holders first.

26 The share of the available CAP water from Arizona fourth priority is first allocated to the
 27 M&I (560,931af) and Indian (316,505) priorities (*to see a detailed description of Tribes
 28 impacted by the assumed Indian shortage sharing scheme, please see “CAP Shortage
 29 Assumptions”*). Based on the process described in the “CAP Shortage Assumptions”, the

Appendix G

1 following formulas were created to allocate the proper volume of water to the Indian priority
2 under shortage conditions, where B6 is the available water for CAP:

3 $=IF(B6>981902,343079,IF(B6>853079,(0.25438*B6+93303),(0.3637518*B6)))$

4 This formula is read: If the available water supply to CAP is greater than 981,902 af, allocate
5 to the Indian priority the full entitlement of 343,079 af. If the available water supply is
6 greater than 853,079 af, allocate to the Indian priority 25.438% of the available water supply
7 plus an additional 93,303 af. If the available water supply is less than 853,079 af, allocate to
8 the Indian priority 36.37518% of the available water supply to the CAP.

9 After 2044, the formula to calculate the CAP Indian priority adjusted entitlement is below,
10 followed by a description:

11 $=IF(B6>981902,343079,IF(B6>853079,(0.1859354*B6+151691),(0.3637518*B6)))$

12 If the available water supply to CAP fourth priority is greater than 981,902 af, allocate to the
13 Indian priority the full entitlement of 343,079 af. If the available water supply is greater than
14 853,079 af, allocate to the Indian priority 18.59354% of the available water supply plus an
15 additional 151,691af. If the available water supply is less than 853,079 af, allocate to the
16 Indian priority 36.37518% of the water available to the CAP.

17 The adjusted delivery to the M&I priority is the difference between available water to CAP
18 and the delivery to the Indian priority, up to the M&I entitlement, or desired scheduled use if
19 less. The NIA priority and then the excess water users receive the remaining available water,
20 which would be “0” in this example, however NIA and excess water users are entitled to
21 unused water from the M&I and Indian priority. Before the unused water is available to NIA
22 and excess water users, M&I and Indian entitlement holders are permitted to use the other’s
23 unused water during a shortage. This concept is called “cross-over”.

24 Table G-8 shows that the M&I priority creates cross over water, since M&I scheduled use
25 (512,767 af) is less than the M&I entitlements (560,931 af) under the shortage condition.
26 Therefore, 48,165 af of cross-over is available for Indian entitlement holders in the below
27 example. The Indian priority needs to use 16,481 af of the cross over to meet projected water
28 schedules for 2017. The remaining 31,684 af is available to the NIA priority (consisting of
29 Indian and Non-Indian entitlement holders). In this shortage scenario, CAP water is not
30 available to excess water users.

Table G-8
2017 CAP Worksheet Shortage Allocation

Fourth Priority Water Available to CAP	877,437	2017			
Excess Water for Agricultural Users	0	0			
				Non-Indian Portion	Indian Portion
NIA Priority	0	31,684	→	25,303	6,380
	Allowed Use	Adj. Delivery	Scheduled Use	Unused (cross over)	
M&I Priority	560,931	512,767	512,767	48,165	
Indian Priority	316,505	332,986	332,986	0	

- 1
- 2 The above 31,684 af of water allocated to the NIA priority users is distributed in Table G-9.
- 3 Shortages to all NIA entitlement holders are shown in the last column.

Table G-9
2017 Allocation of NIA Priority Water from CAP Worksheet

	Entitlement	Scheduled Use	Adjusted Delivery	Shortage Allocation
Non-Indian Portion				
Chandler	3,924	3,924	1,075	2,849
Gilbert	1,537	1,537	421	1,116
Glendale	682	682	187	495
Mesa	5,551	5,552	1,520	4,032
Phoenix	37,280	37,280	10,209	27,071
Scottsdale	3,306	3,306	905	2,401
Tempe	23	23	6	17
ASLD (Agriculture)	9,026	9,026	2,472	6,554
State Reserved	87,269	31,072	8,509	22,563
Total	148,598	92,402	25,303	67,099
Indian Portion				
Gila River	120,600	0	0	0
TON-San Xavier	23,000	8,972	2,457	6,515
TON-Schuk Toak	5,200	2,028	555	1,473
Reserved Federal	67,300	12,300	3,368	8,932
Total	216,100	23,300	6,380	16,920

- 1 The shortage to the M&I priority under a 500,000 acre-foot basin-wide shortage simulated
2 for the year 2017 is distributed in the last column as follows:

Table G-10
2017 CAP M&I Shortage Allocation from CAP Worksheet

M&I Priority Distribution	Entitlement	Scheduled Use	Adjusted Delivery	Shortage Allocation
Apache Junction (AZ Water Co)	6,000	6,000	6,000	0
Avra Coop	808	0	0	0
AZ-American (Agua Fria)	11,093	11,093	11,093	0
AZ-American (Paradise Valley)	3,321	3,321	3,321	0
AZ-American (Sun City)	4,189	4,189	4,189	0
AZ-American (Sun City West)	2,372	2,372	2,372	0
AZ State Land Dept.	32,076	700	700	0
ASARCO (Ray Mine)	21,000	0	0	0
Avondale	5,416	4,746	4,746	0
Bernell Water Co (Cave Creek)	200	0	0	0
Buckeye	25	0	0	0
Carefree Water Co	1,300	400	400	0
Casa Grande (AZ Water Co)	8,884	2,000	2,000	0
Cave Creek Water Co	2,406	2,048	2,048	0
CAGR D	7,746	7,746	7,746	0
Chandler*	8,654	8,654	8,654	0
Chandler Heights Citrus ID	315	0	0	0
Chaparral City Water Co	8,909	5,705	5,705	0
Circle City Water Co	3,932	0	0	0
Comm. Water Co (Green Valley)	2,858	0	0	0
Coolidge (AZ Water Co)	2,000	0	0	0
El Mirage	508	0	0	0
Eloy	2,171	2,171	2,171	0
Florence	2,048	2,048	2,048	0
Flowing Wells ID	4,354	0	0	0
Gilbert	7,235	7,235	7,235	0
Glendale	17,236	14,183	14,183	0
Goodyear	10,742	10,742	10,742	0
Green Valley DWID	1,900	0	0	0
H2O Water Co	147	0	0	0
Marana	47	0	0	0
Maricopa County Parks & Rec	665	645	645	0
Mesa*	43,503	30,029	30,029	0
MDWID	13,460	10,613	10,613	0
Oro Valley	10,305	10,305	10,305	0

Table G-10
2017 CAP M&I Shortage Allocation from CAP Worksheet

M&I Priority Distribution	Entitlement	Scheduled Use	Adjusted Delivery	Shortage Allocation
Peroria	25,236	19,067	19,067	0
Phelps Dodge Miami	2,906	0	0	0
Phoenix*	122,120	134,120	134,120	0
Phoenix Memorial Park	84	0	0	0
Pine Water Co	161	0	0	0
Queen Creek Water Co	348	348	348	0
Rio Verde Utilities	812	812	812	0
San Tan ID	236	0	0	0
Scottsdale*	52,810	52,810	52,810	0
Spanish Trail Water Co	3,037	0	0	0
Superior	285	0	0	0
Surprise	10,249	10,249	10,249	0
Tempe	4,315	4,315	4,315	0
Tonto Hills Utility Co	71	0	0	0
Tuscon	144,172	142,672	142,672	0
Vail Water Co	1,857	0	0	0
Valley Utilities Water Co	250	0	0	0
Water Utilities Comm. Fac. Dist. (AJ)	2,919	50	50	0
Water Util. Greater Buckeye	43	0	0	0
Water Util. Greater Tonopah	64	0	0	0
White Tank Sys. (AZ Water Co.)	968	968	968	0
Subtotal	620,678	512,767	512,767	0
San Carlos Apache Tribe Phelps Dodge/Globe	18,145	0	0	0
Total	638,823	512,767	512,767	0

*47,303af NIA Priority water converts to M&I Priority on January 1, 2044 and 2,952af is distributed to Chandler, 4,924af to Mesa, 36,144af to Phoenix, and 3,283af to Scottsdale.

- 1
- 2 The shortage to the Indian priority under a 500,000 acre-foot basin-wide shortage simulated
- 3 for the year 2017 is distributed as follows:

1

Table G-11
2017 CAP Indian Shortage Allocation from CAP Worksheet

AWSA Indian Priority Distribution	Entitlement				
	Indian 1	Indian 2	Indian 3	Indian 4	Total
AK-Chin Allocation	27,500	0	0	0	27,500
Fort McDowell	18,233	0	0	0	18,233
Gila River	147,925	0	11,305	31,970	191,200
TON-Chui Chu	7,200	0	0	800	8,000
TON-San Xavier	27,000	0	0	0	27,000
TON-Schuk Toak	10,800	0	0	0	10,800
Pasqua Yaqui	500	0	0	0	500
Salt River	11,970	1,330	0	0	13,300
San Carlos Apache	37,400	6,100	0	0	43,500
Tonto Apache	128	0	0	0	128
Yavapai Apache (Camp Verde)	1,200	0	0	0	1,200
Yavapai Prescott	500	0	0	0	500
Unallocated HVID	1,218	0	0	0	1,218
Total	291,574	7,430	11,305	32,770	332,986

AWSA Indian Priority Distribution	Scheduled Use				
	Indian 1	Indian 2	Indian 3	Indian 4	Total
AK-Chin Allocation	27,500	0	0	0	27,500
Fort McDowell	8,140	0	0	0	8,140
Gila River	147,925	0	11,305	31,970	191,200
TON-Chui Chu	7,200	0	0	800	8,000
TON-San Xavier	27,000	0	0	0	27,000
TON-Schuk Toak	10,800	0	0	0	10,800
Pasqua Yaqui	500	0	0	0	500
Salt River	11,970	1,330	0	0	13,300
San Carlos Apache	37,400	6,100	0	0	43,500
Tonto Apache	128	0	0	0	128
Yavapai Apache (Camp Verde)	1,200	0	0	0	1,200
Yavapai Prescott	500	0	0	0	500
Unallocated HVID	1,218	0	0	0	1,218
Total	281,481	7,430	11,305	32,770	332,986

AWSA Indian Priority Distribution	Adjusted Delivery				
	Indian 1	Indian 2	Indian 3	Indian 4	Total
AK-Chin Allocation	27,500	0	0	0	27,500

Table G-11
2017 CAP Indian Shortage Allocation from CAP Worksheet

Fort McDowell	8,140	0	0	0	8,140
Gila River	147,925	0	11,305	31,970	191,200
TON-Chui Chu	7,200	0	0	800	8,000
TON-San Xavier	27,000	0	0	0	27,000
TON-Schuk Toak	10,800	0	0	0	10,800
Pasqua Yaqui	500	0	0	0	500
Salt River	11,970	1,330	0	0	13,300
San Carlos Apache	37,400	6,100	0	0	43,500
Tonto Apache	128	0	0	0	128
Yavapai Apache (Camp Verde)	1,200	0	0	0	1,200
Yavapai Prescott	500	0	0	0	500
Unallocated HVID	1,218	0	0	0	0
Total	281,481	7,430	11,305	32,770	332,986

AWSA Indian Priority Distribution	Shortage Allocation***				
	Indian 1	Indian 2	Indian 3	Indian 4	Total
AK-Chin Allocation	0	0	0	0	0
Fort McDowell	0	0	0	0	0
Gila River	0	0	0	0	0
TON-Chui Chu	0	0	0	0	0
TON-San Xavier	0	0	0	0	0
TON-Schuk Toak	0	0	0	0	0
Pasqua Yaqui	0	0	0	0	0
Salt River	0	0	0	0	0
San Carlos Apache	0	0	0	0	0
Tonto Apache	0	0	0	0	0
Yavapai Apache (Camp Verde)	0	0	0	0	0
Yavapai Prescott	0	0	0	0	0
Unallocated HVID	0	0	0	0	0
Total	0	0	0	0	0

1

2 **G.5.3 Shortage Allocation Model Results**

3 A summary of the above CAP shortages is displayed in the attached Table G-16.
 4 Additionally, the first table of each Attachment 2-8 summarizes all Lower Colorado River
 5 simulated shortages to the Lower Division States and Mexico, which was used in the Water
 6 Delivery section 4.4 of this Draft Environmental Impact Study (Draft EIS). Following the
 7 first table in Attachments 2-8 are Arizona and CAP shortages to entitlement holders by
 8 classification of water use: Indian priority entitlement holders (in Consumptive Use and
 9 Diversion amounts), M&I priority entitlement holders (Diversion only), and agricultural

Appendix G

1 entitlement holders (Consumptive Use and Diversion). For example, the below output table
 2 shows reductions in consumptive use to Arizona agriculture from a 500,000 af lower basin
 3 shortage. The bottom of the output worksheets collects impacts by county in Arizona, which
 4 was used to analyze socio-economic impacts in this Draft EIS (see Attachments 2-8).

Table G-12.
Arizona (CU) Agricultural Summary Output Worksheet

2017		400,000	500,000	600,000	800,000	1,000,000	2,000,000	2,500,000
Region								
CAP	Agricultural Relinquished Water Contracts Under AWSA	272,691	272,691	272,691	272,691	272,691	272,691	272,691
CAP	Arizona State Land Department	989	6,554	9,026	9,026	9,026	9,026	9,026
4	Arizona State Land Department	1,225	1,531	1,837	2,450	3,062	5,297	5,297
4	Beattie Farms Southwest (new contract)(2004 over use of 263af)	187	209	250	334	417	722	722
4	ChaCha (Curtis Family Trust)(Auza Farm and Farm West)(over 13af)	369	461	554	738	923	1,596	1,596
4	Cibola Resources	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)	1,723	2,154	2,585	3,446	4,308	7,452	7,452
4	Curtis, Armon (Curry Family LTD)	53	66	79	105	132	228	228
4	Gila Monster Farms (formerly Sturges Farms Inc.)	206	257	309	411	514	890	890
4	Jessen Family Limited (new contract)(2004 over use of 4,984af)	250	312	375	499	624	1,080	1,080
4	Mohave County Water Authority(new entitlement)	886	1,108	1,330	1,773	2,216	3,834	3,834
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	3,384	4,803	5,763	7,684	9,605	16,616	16,616
4	North Baja LLC (formerly Jamar Produce)(72af M&I)	68	85	102	135	169	293	293
4	Ogram Boys Enterprises (new contract)	162	203	243	325	406	702	702
4	Ogram, George	84	105	127	169	211	365	365
4	Pasquinelli, Gary and Barbara(formerly Ansel Hall)	90	112	135	179	224	388	388
4	Peach, John (2004 over use of 45af)	102	128	153	204	256	442	442
4	Phillips, Milton and Jean	4	5	6	8	10	18	18
4	Rayner Ranches	788	986	1,183	1,577	1,971	3,410	3,410
2	Yuma Irrigation District (5,000af M&I)	0	0	0	0	0	2,405	6,857
2	Yuma County Water Users' Association (14,701af M&I)	0	0	0	0	0	0	0
2	Yuma Area Office (489.95af M&I Conversion)	0	0	0	0	0	0	0
2	Yuma Mesa Fruit Growers	0	0	0	0	0	1	3
2	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	0	0	0	0	0	12,893	36,761
2	University of Arizona	0	0	0	0	0	73	207
2	Yuma Mesa Grapefruit Company (Camille Allec Jr.)	0	0	0	0	0	5	15
2	North Gila Valley Irrigation District (2,500af M&I)	0	0	0	0	0	0	0

Table G-12.
Arizona (CU) Agricultural Summary Output Worksheet

2017								
Region	400,000	500,000	600,000	800,000	1,000,000	2,000,000	2,500,000	
2	Yuma Auxiliary Project (Unit B)	0	0	0	0	0	1,120	3,193
2	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)	0	0	0	0	0	23,567	67,193
2	Gila Monster Farms (formerly Sturges)	0	0	0	0	0	311	886
2	Sturges, Harold (not taking water)	0	0	0	0	0	0	0
2	Sturges, Irma (not taking water)	0	0	0	0	0	0	0
1	Molina	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)	0	0	0	0	0	0	0
1	Zozaya (in MVIDD)	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****	0	0	0	0	0	0	0
1	Yuma Auxiliary Project (Unit B)	0	0	0	0	0	0	0
1	Hulet (in MVIDD)	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler)	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD)	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD)	0	0	0	0	0	0	0
1	Yuma County Water Users' Association	0	0	0	0	0	0	0
1	Phillips, Milton and Jean	0	0	0	0	0	0	0
	Arizona Total	10,020	12,524	15,029	20,039	25,049	83,706	158,447
Ag by County								
	Coconino County	0	0	0	0	0	0	0
	La Paz County	2,677	3,347	4,016	5,355	6,693	11,579	11,579
	Maricopa County	62,719	62,719	62,719	62,719	62,719	62,719	62,719
	Mohave County	3,842	4,803	5,763	7,684	9,605	16,616	16,616
	Pinal County	210,916	216,256	218,998	218,998	218,998	218,998	218,998
	Yuma County	3,500	4,375	5,250	7,000	8,750	55,511	130,252
	Total Ag by County	283,699	291,769	296,746	301,756	306,765	365,423	440,164

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2 Some of Arizona entitlements are split between agricultural and M&I entitlement holders.
 3 Thus, for such entitlement holders, the reduction in agricultural consumptive use is a
 4 proportion of the ratio of agricultural use to M&I use permitted in the entitlement holder's
 5 contract. For unquantified contract entitlements, the specified M&I amount in the contract
 6 was subtracted from the scheduled use for the selected year.

1 **G.6 Relationship between CRSS & the Shortage Allocation** 2 **Model**

3 The Colorado River Simulation System (CRSS) model, as described in Appendix A, is used to
4 determine a variety of river and reservoir parameters in the Colorado River Basin, including
5 shortage amounts, reservoir elevations, and river flows. The Shortage Allocation Model provides
6 a more detailed allocation of shortages in the Lower Basin by tracking the available water
7 delivery and consumptive use down to the entitlement holder. The Shortage Allocation Model is
8 capable of determining Stage I and II Shortage reductions, State reductions, and reductions to
9 entitlement holders – including CAP entitlement holders.

10 In terms of the total amounts of Stage I and II Shortages, CRSS and the Shortage Allocation
11 Model generate the same results. In terms of the breakdown of a Stage I Shortage amongst
12 Arizona fourth priority entitlement holders, the models differ slightly. CRSS does not explicitly
13 recognize and separate the AWBA and Arizona fifth priority water from CAP deliveries, while
14 the Shortage Allocation Model recognizes these uses and reduces water available to the AWBA
15 and fifth priority entitlement holders first, and then the quantity of fourth priority water available
16 to Arizona CAP and non-CAP fourth priority entitlement holders are reduced proportionately.
17 The result from the Shortage Allocation Model is a lesser impact to Arizona fourth priority and
18 CAP entitlement holders when compared to CRSS. The total shortage to Arizona, however,
19 remains the same.

20 At ADWR's request the recommended water delivery contracts were incorporated into CRSS
21 and the Shortage Allocation Model since recommended contracts are likely to become permanent
22 contracts (if the Secretary follows the recommendation of ADWR), and in most cases the water
23 is already being used by the entity receiving the ADWR recommendation. The practice in
24 Arizona is for ADWR to make a recommendation that an entity receive a water delivery contract,
25 and the Secretary considers the recommendation and may contract with the entity. Some of the
26 entities recommended for a contract by ADWR have not yet received a Colorado River water
27 delivery contract. The recommended water delivery contract for Brooke Water Company (120
28 acre-feet) was inadvertently excluded by error in both models. In addition a recommended water
29 delivery contract for the Mohave County Water Authority (MCWA) of 3,500 af was
30 inadvertently excluded from CRSS. All recommended contracts will be incorporated into the
31 analysis for the Final Environmental Impact Statement.

32 In Table G-373, shortage results generated in CRSS and the Shortage Allocation Model are
33 provided. The difference in the results before 2020 is caused by CRSS not reducing the water
34 deliveries to the AWBA before fourth priority. In year 2020 differences occur even after water is
35 not being banked due to the excluded MCWA recommended contract.

Table G-13
Comparison of CRSS and Shortage Allocation Model Results

Year	User	Shortage Allocation Model	CRSS	Difference (Shortage Allocation Model - CRSS)
2010 (600,000 Acre-Foot Shortage)				
	AZ BANK	172,032	-----	172,032
	CAP	287,885	453,275	-165,390
	RIVER	20,083	26,724	-6,641
	TOTAL	480,000	479,999	1
2012 (400,000 Acre-Foot Shortage)				
	AZ BANK	56,110	-----	56,110
	CAP	247,755	301,633	-53,878
	RIVER	16,135	18,367	-2,232
	TOTAL	320,000	320,000	0
2020 (600,000 Acre-Foot Shortage)				
	AZ BANK	0	-----	0
	CAP	450,439	451,300	-861
	RIVER	29,561	28,700	861
	TOTAL	480,000	480,000	0
2030 (1,757,939 Acre-Foot Shortage - 2nd/3rd Shortage of 7,061 Af)				
	AZ BANK	0	-----	0
	CAP	1,287,473	1,289,817	-2,344
	RIVER	89,978	87,633	2,345
	TOTAL	1,377,451	1,377,450	1

1

2 One last difference between CRSS and the Shortage Allocation Model exists. In distributing the
 3 available water supply to individual users, CRSS models the quantity of water used by the
 4 individual entitlement holder in the previous year. The Shortage Allocation Model uses the
 5 quantity of water projected to be ordered in the shortage year as the basis for distributing the
 6 available water supply to individual users. In the example above, the Shortage Allocation Model
 7 results were computed based on the previous year's use to produce the same results as CRSS.

8 A list of all output and attachments is provided in the table of contents.

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1 **Attachment 1: Operational Worksheets in the Shortage Allocation Model**
 2 **(Example: 2017, 400,000 acre-foot Shortage)**
 3

Table G-14
Shortage Allocation Model (Region Worksheet)

	<u>U.S. & Mexico</u> <u>Shortage Sharing</u>	<u>Consumptive Use</u> <u>Entitlement</u>	<u>Deliverable</u> <u>Consumptive Use</u>	<u>Consumptive Use</u> <u>Reduction</u>
Stage I Shortage:		1,729,907	1,329,907	400,000
Mexico	16.67%	288,318	221,651	66,667
<u>United States:</u>				
Arizona	80.00%	1,383,925	1,063,925	320,000
Nevada	3.33%	57,664	44,330	13,333
California	0.00%	0	0	0
Stage II Shortage (when AZ 4th = 0):		7,270,093	7,270,093	0
Mexico	16.67%	1,211,682	1,211,682	0
<u>United States:</u>				
Arizona	19.48%	1,416,075	1,416,075	0
Nevada	3.33%	242,336	242,336	0
California	60.52%	4,400,000	4,400,000	0
Stage I & II Total:		9,000,000	8,600,000	400,000

<u>RUN MODE</u>		<u>TOTAL REDUCTION:</u>	
	-		400,000
Arizona		2,480,000	320,000
Nevada		286,667	13,333
California		4,400,000	0
Mexico		1,433,333	66,667

PROCESS

- [Region Shortage Maps](#)
- [NV Shortage Maps](#)
- [AZ Shortage Maps](#)
- [CA Shortage Maps](#)

4

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Table G-15
State of Arizona

2017	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		SCHEDULED USE****		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
					Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
	State Consumptive Use							2,800,000		2,480,000		320,000
5th & Bank**	Central Arizona Water Conservation District (CAP)***	14-06-W-245	1972	bank	AZ Balance		0	0	0	0	0	0
	TOTAL				AZ Balance		0	0	0	0	0	0
	PERCENT									0%		0%
		Arizona State Land Department	7-07-30-W0358	2004	M&I	1,534		817	531	628	408	-189
4th	Arizona State Land Department	4-07-30-W0317	1999	Ag	6,607		8,150	5,297	6,265	4,072	-1,884	-1,225
	Arizona State Parks Board - Contact Point	(Recommendation)		M&I	20		13	13	10	10	-3	-3
	Arizona State Parks Board - Windsor Beach	7-07-30-W0364	1998	M&I	90		31	20	24	15	-7	-5
	Arizona-American Water Company	00-XX-30-W0391	2001	M&I	1,420		463	300	356	231	-107	-69
	Beattie Farms Southwest (new contract)	06-XX-30-W0446	2006	Ag	1,110		1,110	722	853	555	-257	-167
	Brooke Water Company (formerly Graham) (recommended 120af not included)	4-07-30-W0042	1983	M&I	320		104	69	80	53	-24	-16
	Bullhead City	2-07-30-W0273	1982	M&I	15,210		13,025	8,725	10,014	6,708	-3,012	-2,018
	Bureau of Land Management	8-07-30-W0373	1973/81/87	M&I		4,010	1,309	851	1,007	654	-303	-197
	Central Arizona Water Conservation District (CAP)***	14-06-W-245	1972	M&I/Ag/Ind.	1,490,000		1,299,101	1,299,101	998,714	998,714	-300,386	300,386
	ChaCha (Curtis Family Trust) (Auza Farm and West Farm)	(Recommendation)		Ag	2,100		2,456	1,596	1,888	1,227	-568	-369
	B&I Investment, LLC	06-XX-30-W0453	2006	M&I	60		0	0	0	0	0	0
	Cibola Valley Irrigation & Drainage District (M&I: 300af)	2-07-30-W0028	1983	M&I/Ag	12,066		10,842	7,752	8,335	5,960	-2,507	-1,793
	City of Somerton (new contract)	03-XX-30-W0419	2006	M&I	750		762	495	585	381	-176	-114
	City of Yuma (Smucker Park)	14-06-303-2702	1969	M&I	33		0	0	0	0	0	0

Table G-15
State of Arizona

2017	Entitlement Holder	400,000	Contract No.	Date	Use	ENTITLEMENT		SCHEDULED USE****		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
						Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
	Cocopah Indian Reservation	1974 Decree	1974	Ind.	2,026		1,362	1,337	1,047	1,028	-315	-309	
	Crystal Beach Water Conservation District	6-07-30-W0352	1997	M&I	132		106	69	82	53	-25	-16	
	Curtis, Armon (Curry Family LTD)	3-07-30-W0037	1983	Ag	300		351	228	270	175	-81	-53	
	Desert Lawn Memorial Park Association, Inc.	14-06-300-2587	1975	M&I	360		22	15	17	11	-5	-3	
	Ehrenburg Improvement District	8-07-30-W0006	1977	M&I	500		529	379	407	291	-122	-88	
	Fisher's Landing Water and Sewer Works, LLC	(Recommendation)		M&I	53		53	34	41	26	-12	-8	
	Gila Monster Farms (formerly Sturges Farms Inc.)	6-07-30-W0337	1997	Ag	1,435		1,648	890	1,267	684	-381	-206	
	Gold Dome Mining Corporation	0-07-030-W0250	1990	M&I	7		0	0	0	0	0	0	
	Gold Standard Mines Corporation	3-07-30-W0038	1983	M&I	75		0	0	0	0	0	0	
	Golden Shores Water Conservation District	9-07-30-W0203	1989	M&I	2,000		759	508	583	390	-175	-117	
	Hillcrest Water Company	5-07-30-W0078	1985	M&I	84		56	36	43	28	-13	-8	
	Hopi Tribe (new entitlement)	04-XX-30-W0432	2004	Ind.	5,997		5,898	3,834	4,534	2,947	-1,364	-886	
	Jessen Family Limited (new contract)	(Recommendation)		Ag	1,080		1,662	1,080	1,277	830	-384	-250	
	Lake Havasu City	3-07-30-W0039	1995	M&I	19,180		19,594	12,148	15,064	9,339	-4,531	-2,809	
	Marble Canyon Company, Inc.	5-07-30-W0322	1996	M&I	70		24	16	19	12	-6	-4	
	Martinez Lake Cabin Sites	(Recommendation)		M&I	23		23	15	18	11	-5	-3	
	McAlister, Maurice L.	7-07-30-W0355	1998	M&I	40		6	4	5	3	-1	-1	
	Mohave County Water Authority (new entitlement)	04-XX-30-W0431	2004	Ag	5,997		11,618	3,834	8,932	2,947	-2,686	-886	
	Mohave County Water Authority (recommended 3,500af included)	5-07-30-W0320	1968	M&I	18,500		8,060	5,240	6,196	4,028	-1,864	-1,212	
	Subcontract to Bullhead City (6,000 AF)			M&I									
	Subcontract to Lake Havasu City (6,000 AF)			M&I									

Table G-15
State of Arizona

2017	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		SCHEDULED USE****		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
					Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
	Subcontract to Mohave Water Cons. Dist. (3,000 AF)			M&I								
	Mohave Valley Irrigation and Drainage District (5,000af M&I)	14-06-W-204	1968	M&I/Ag	35,060		40,028	21,616	30,773	16,618	-9,256	-4,998
	Mohave Water Conservation District	9-07-30-W0012	1968	M&I	1,800		928	622	713	478	-215	-144
	North Baja LLC (formerly Jamar Produce) (72af M&I)	5-07-30-W0066	1984	M&I/Ag	480		520	365	399	281	-120	-84
	Ogram Boys Enterprises (new contract)	1-XX-30-W0402	2005	Ag	924		1,080	702	830	540	-250	-162
	Ogram, George	01-XX-30-W0398	2003	Ag	480		562	365	432	281	-130	-84
	Pasquinelli, Gary and Barbara (formerly Ansel Hall)	5-07-30-W0065	1986	Ag	486		597	388	459	298	-138	-90
	Peach, John	(Recommendation)		Ag	456		680	442	523	340	-157	-102
	Phillips, Milton and Jean	(Recommendation)		Ag	18		28	18	21	14	-6	-4
	Rayner Ranches	5-07-30-W0064	1984	Ag	4,500		5,248	3,410	4,034	2,622	-1,213	-788
	Reserved Secretary Water for Indian Settlements				3,500		0		0	0	0	0
	Roy, Edward P. & Anna R.	6-07-30-W0124	1986	M&I	1		2	1	1	1	0	0
	Shepard Water Company	(Recommendation)		M&I	50		50	33	38	25	-12	-8
	City of Parker	2-07-30-W0025	1998	M&I	1,030		1,097	415	843	319	-254	-96
	Town of Quartzsite	7-07-30-W0353	1999	M&I	1,070		409	409	314	314	-95	-95
	Verizon (formerly Continental Telephone)	14-06-300-2506	1974	M&I	1		2	1	1	1	0	0
	Unallocated Priority 4 Water						0	0	0	0	0	0
	TOTAL				1,639,035	4,010	1,441,182	1,383,925	1,107,943	1,063,925	-333,239	320,000
	PERCENT									77%		-23%

Table G-15
State of Arizona

2017	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		SCHEDULED USE****		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
					Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
2nd & 3rd (co-equal)	Cibola National Wildlife Refuge	Secretarial Res.	8/21/1964	M&I	34,500	16,793	13,692	8,505	13,692	8,505	0	0
	Yuma Irrigation District (5,000af M&I)	14-06-300-1270	1962	M&I/Ag		67,278	72,177	32,860	72,177	32,860	0	0
	National Park Service	1964 Decree	1961	M&I	unquantified****		738	738	738	738	0	0
	Yuma Union High School	14-06-303-179	1960	M&I	200		157	117	157	117	0	0
	Union Pacific Railroad (formerly Southern Pacific Co.)	14-06-303-1524	12/21/1959	M&I	48		59	29	59	29	0	0
	Kaman, Inc.	14-06-303-1555	12/2/1959	M&I	2		0	0	0	0	0	0
	City of Yuma	14-06-W-106	11/12/1959	M&I		48,522	43,445	28,852	43,445	28,852	0	0
	Department of Navy MCAS	14-06-300-937	1/1/1959	M&I	3,000		2,129	2,129	2,129	2,129	0	0
	Yuma County Water Users' Association (14,701af M&I)	14-06-300-621 & Certificates	1957	M&I/Ag	unquantified****		0		0	0	0	0
	Yuma Area Office (489.95af M&I Conversion)				490					0		
	City of Yuma (cemetary)	14-06-303-1078	11/12/1956	M&I	60		0	0	0	0	0	0
	Yuma Mesa Fruit Growers	14-06-303-1196	10/1/1956	Ag	15		12	12	12	12	0	0
	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	14-06-W102	5/26/1956	M&I/Ag		141,519	307,476	159,354	307,476	159,354	0	0
	Desert Lawn Memorial Park	14-06-300-1079	5/1/1956	M&I	200		207	140	207	140	0	0
	Ak-Chin Indian Community***	AK-CHIN121180A	1/1/1956	Ind.	50,000		50,000	50,000	50,000	50,000	0	0
	University of Arizona	14-06-300-144	1954	Ag	1,088		840	840	840	840	0	0
	Yuma Mesa Grapefruit Company (Camille Allec Jr.)	14-06-303-528	12/23/1953	Ag	120		84	60	84	60	0	0
	North Gila Valley Irrigation District (2,500af M&I)	14-06-W-54	3/12/1953	M&I/Ag		41,203	0		0	0	0	0
Yuma Auxiliary Project (Unit B)	14-06-300-44	12/22/1962	Ag	unquantified****		21,499	12,973	21,499	12,973	0	0	
Welton-Mohawk Irrigation and	1-07-30-W0021	3/4/1952	M&I/Ag		278,0	441,740	277,997	441,740	277,997	0	0	

Table G-15
State of Arizona

2017	400,000				ENTITLEMENT		SCHEDULED USE****		ADJUSTED DELIVERY		SHORTAGE ALLOCATION			
	Priority	Entitlement Holder	Contract No.	Date	Use	Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU	
	Drainage District (5,000af M&I)													
	Chandler (Salt River Pima-Maricopa Exchange)***	Salt River Settlement	3/4/1952	M&I	4,278		4,278	4,278	4,278	4,278	4,278	0	0	
	Gilbert (Salt River Pima-Maricopa Exchange)***	Salt River Settlement	3/4/1952	M&I	6,762		6,762	6,762	6,762	6,762	6,762	0	0	
	Glendale (Salt River Pima-Maricopa Exchange)***	Salt River Settlement	3/4/1952	M&I	3,000		3,000	3,000	3,000	3,000	3,000	0	0	
	Mesa (Salt River Pima-Maricopa Exchange)***	Salt River Settlement	3/4/1952	M&I	2,760		2,760	2,760	2,760	2,760	2,760	0	0	
	Phoenix (Salt River Pima-Maricopa Exchange)***	Salt River Settlement	3/4/1952	M&I	5,000		5,000	5,000	5,000	5,000	5,000	0	0	
	Scottsdale (Salt River Pima-Maricopa Exchange)***	Salt River Settlement	3/4/1952	M&I	100		100	100	100	100	100	0	0	
	Tempe (Salt River Pima-Maricopa Exchange)***	Salt River Settlement	3/4/1952	M&I	100		100	100	100	100	100	0	0	
	Gila Monster Farms (formerly Sturges)	6-07-30-W0337	1/1/1952	Ag	6,285		6,670	3,600	6,670	3,600	6,670	3,600	0	0
	Sturges, Harold	I76R-733	1/1/1952	Ag	335		0		0	0	0	0	0	
	Sturges, Irma	I76R-735	1/1/1952	Ag	385		0		0	0	0	0	0	
	Department of Army - Yuma Proving Ground	I76r-696	1951	M&I	1,129		760	760	760	760	760	0	0	
	Bureau of Reclamation - Davis Dam	Secretarial Res.	4/26/1941	M&I	100		1	1	1	1	1	0	0	
	Imperial National Wildlife Refuge	1964 Decree	2/14/1941	M&I	28,000	23,000	5,831	3,618	5,831	3,618	5,831	3,618	0	0
	Havasu Lake National Wildlife Refuge	1964 Decree	1/22/1941	M&I	41,839	37,399	42,279	4,841	42,279	4,841	42,279	4,841	0	0
	TOTAL				189,796	653,714	1,031,796	609,426	1,031,796	609,426	1,031,796	609,426	0	0
	PERCENT									100%			0%	

Appendix G

Shortage Allocation
Model Documentation

Table G-15
State of Arizona

2017	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		SCHEDULED USE****		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
					400,000		Diversion	CU	Diversion	CU	Diversion	CU
Priority	Entitlement Holder	Contract No.	Date	Use	Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
1st (PPRs)*	Molina	PPR No. 15	1928	Ag	318		0	0	0	0	0	0
	Gila Monster Farms (formerly Sturges)	PPR No. 16	1925	Ag	780		1,445	780	1,445	780	0	0
	Cocopah Indian Reservation	PPR No. 1	9/27/1917	Ind.	7,681		6,950	6,792	6,950	6,792	0	0
	Cocopah Indian Reservation	PPR No. 8	1915	Ind.	1,140		1,031	1,008	1,031	1,008	0	0
	Powers (Power, R.E. & P.)	PPR No. 7	1915	Ag	960		960	624	960	624	0	0
	Zozaya (in MVIDD)	PPR No. 17	1912	Ag	720		720	389	720	389	0	0
	Fort Mohave Indian Reservation	PPR No. 3	2/2/1911	Ind.	75,566		98,653	53,280	98,653	53,280	0	0
	Brooke Water Company (formerly Graham)	PPR No. 9	1910	M&I	360		361	241	361	241	0	0
	North Gila Valley Irrigation District	PPR No. 6	7/8/1905	Ag	24,500		85,059	19,761	85,059	19,761	0	0
	Yuma Auxiliary Project (Unit B)	PPR No. 5 & Certificates	7/8/1905	Ag	6,800		11,269	6,800	11,269	6,800	0	0
	City of Parker	PPR No. 20	1905	M&I	630	400	1,057	400	1,057	400	0	0
	Hulet (in MVIDD)	PPR No. 10	1902	Ag	1,080		1,080	583	1,080	583	0	0
	Hoover (in MVIDD/formerly Hopal)	4-07-30-W0052/PPR 11	1902	Ag	1,050		1,050	567	1,050	567	0	0
	Miller (in MVIDD)	PPR No. 12	1902	M&I	240		240	130	240	130	0	0
	McKellips and Granite Reef Farms (in MVIDD)	PPR No. 13	1902	Ag	810		810	437	810	437	0	0
	Sherill & Lafollette (in MVIDD)	PPR No. 14	1902	Ag	1,080		1,080	583	1,080	583	0	0
	Swan (in MVIDD)	PPR No 18	1902	M&I	960		960	518	960	518	0	0
	Yuma County Water Users' Association	PPR No. 4 & Certificates	1901	Ag	254,200		357,227	228,368	357,227	228,368	0	0
	Phillips, Milton and Jean	PPR No. 19	1900	Ag	42		0	0	0	0	0	0
	City of Yuma	PPR No. 21	1893	M&I		1,478	2,350	1,489	2,350	1,489	0	0
	Fort Mohave Indian Reservation	PPR No. 3	9/18/1890	Ind.	27,969		36,514	19,720	36,514	19,720	0	0
Fort Yuma Indian Reservation (new entitlement)	PPR No. 3a	1/9/1884	Ind.	6,350		1,812	1,178	1,812	1,178	0	0	
	Colorado River Indian Reservation	PPR No. 2	11/16/18	Ind.	51,986		64,947	36,337	64,947	36,337	0	0

Table G-15
State of Arizona

2017		400,000			ENTITLEMENT		SCHEDULED USE****		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
					Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
Priority	Entitlement Holder	Contract No.	Date	Use	Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
			74									
	Colorado River Indian Reservation	PPR No. 2	11/22/18 73	Ind.	252,016		314,848	176,152	314,848	176,152	0	0
	Colorado River Indian Reservation	PPR No. 2	3/3/1865	Ind.	358,400		447,755	250,511	447,755	250,511	0	0
	TOTAL				1,075,638	1,878	1,438,179	806,649	1,438,179	806,649	0	0
	PERCENT									100%		0%
	ARIZONA TOTALS						3,934,879	2,800,000	3,577,917	2,480,000	-333,239	320,000
	ARIZONA TOTAL PERCENT									89%		-11%

Note: CU means Consumptive Use; all units are in AFY.

Subcontracts are displayed below the Entitlement Holder and indented five spaces.

*PPR's are reduced last regardless of state lines in order of priority date (see PPR Spreadsheet).

**Nevada banking is not included in the banked use.

***These CAP users are subject to CAP conveyance losses which are assumed to be 5%. The Secretary of the Interior has the discretion to reduce Ak Chin from 75kaf to 72kaf in times of shortage, which is not modeled.

****2004 Decree Accounting values and Diversion/CU conversion ratios were used to estimate not specified and unquantified entitlements.

Table G-16
Central Arizona Project (CAP)

Year: 2017	Entitlement					Scheduled Use					Adjusted Delivery					Shortage Allocation								
	CAP 1 (CF)	CAP 2 (M&I / Indian)	CAP 3 (N/A)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CF)	CAP 2 (M&I / Indian)	CAP 3 (N/A)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CF)	CAP 2 (M&I / Indian)	CAP 3 (N/A)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CF)	CAP 2 (M&I / Indian)	CAP 3 (N/A)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL
Selected Shortage Volume: 400,000																								
Bank					0					0					0								0	0
Relinquished Agricultural Contracts					0				272,691						272,691								272,691	272,691
Ak-Chin Indian Community	47,500	27,500			75,000	47,500	27,500								75,000	47,500	27,500						0	0
Fort McDowell		18,233			18,233		8,140								8,140		8,140					0		0
Gila River		191,200	120,600		311,800		191,200	0							191,200		191,200	0			0			0
TON-Chui Chu		8,000			8,000		8,000								8,000		8,000				0			0
TON-San Xavier		27,000	23,000		50,000		27,000	8,972							35,972		27,000	7,989			0	983		983
TON-Schuk Toak		10,800	5,200		16,000		10,800	2,028							12,828		10,800	1,806			0	222		222
Pasqua Yaqui		500			500		500								500		500				0			0
Salt River		13,300			13,300		13,300								13,300		13,300				0			0
San Carlos Apache		43,500			43,500		43,500								43,500		43,500				0			0
Tonto Apache		128			128		128								128		128				0			0
Yavapai Apache (Camp Verde)		1,200			1,200		1,200								1,200		1,200				0			0
Yavapai Prescott		500			500		500								500		500				0			0
Unallocated HVID		1,218			1,218		1,218								1,218		1,218				0			0
Reserved Federal			67,300		67,300			12,300							12,300			10,952				1,348		1,348
Indian Subtotal:	47,500	343,079	216,100	0	606,679	47,500	332,986	23,300	0	403,786	47,500	332,986	20,747	0	401,233	0	0	401,233	0	0	2,553	0	0	2,553
Apache Junction (AZ Water Co)		6,000			6,000		6,000								6,000		6,000				0			0
Avra Coop		808			808		0								0		0				0			0
AZ-American (Agua Fria)		11,093			11,093		11,093								11,093		11,093				0			0
AZ-American (Paradise Valley)		3,231			3,231		3,231								3,231		3,231				0			0
AZ-American (Sun City)		4,189			4,189		4,189								4,189		4,189				0			0
AZ-American (Sun City West)		2,372			2,372		2,372								2,372		2,372				0			0
AZ State Land Dept.		32,076	9,026		41,102		700	9,026							9,726		700	8,037			0	989		989
ASARCO (Ray Mine)		21,000			21,000		0								0		0				0			0
Avondale		5,416			5,416		4,746								4,746		4,746				0			0
Bernell Water Co (Cave Creek)		200			200		0								0		0				0			0
Buckeye		25			25		0								0		0				0			0
Carefree Water Co		1,300			1,300		400								400		400				0			0
Casa Grande (AZ Water Co)		8,884			8,884		2,000								2,000		2,000				0			0
Cave Creek Water Co		2,406			2,406		2,048								2,048		2,048				0			0
CAGR D		7,746			7,746		7,746								7,746		7,746				0			0
Chandler*	4,064	8,654	3,924		16,642	4,064	8,654	3,924							16,642	4,064	8,654	3,494			0	0	430	430
Chandler Heights Citrus ID		315			315		0								0		0				0			0

Table G-16
Central Arizona Project (CAP)

Year: 2017	Entitlement					Scheduled Use					Adjusted Delivery					Shortage Allocation									
	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	
Selected Shortage Volume: 400,000																									
Chaparral City Water Co		8,909				8,909		5,705				5,705		5,705				5,705		0				0	
Circle City Water Co		3,932				3,932		0			0		0				0		0					0	
Comm. Water Co (Green Valley)		2,858				2,858		0			0		0				0		0					0	
Coolidge (AZ Water Co)		2,000				2,000		0			0		0				0		0					0	
El Mirage		508				508		0			0		0				0		0					0	
Eloy		2,171				2,171		2,171			2,171		2,171				2,171		0					0	
Florence		2,048				2,048		2,048			2,048		2,048				2,048		0					0	
Flowing Wells ID		4,354				4,354		0			0		0				0		0					0	
Gilbert	6,424	7,235	1,537			15,196	6,424	7,235	1,537			15,196	6,424	7,235	1,369			15,028	0	0	168			168	
Glendale	2,850	17,236	682			20,768	2,850	14,183	682			17,715	2,850	14,183	607			17,640	0	0	75			75	
Goodyear		10,742				10,742		10,742			10,742		10,742				10,742		0					0	
Green Valley DWID		1,900				1,900		500			500		500				500		0					0	
H2O Water Co		147				147		0			0		0				0		0					0	
Marana		47				47		0			0		0				0		0					0	
Maricopa County Parks & Rec		665				665		645			645		645				645		0					0	
Mesa*	2,622	43,503	5,551			51,676	2,622	30,029	5,552			38,203	2,622	30,029	4,944			37,595	0	0	608			608	
MDWID		13,460				13,460		10,613			10,613		10,613				10,613		0					0	
Oro Valley		10,305				10,305		10,305			10,305		10,305				10,305		0					0	
Peoria		25,236				25,236		19,067			19,067		19,067				19,067		0					0	
Phelps Dodge Miami		2,906				2,906		0			0		0				0		0					0	
Phoenix*	4,750	122,120	37,280			164,150	4,750	134,120	37,280			176,150	4,750	134,120	33,196			172,066	0	0	4,084			4,084	
Phoenix Memorial Park		84				84		0			0		0				0		0					0	
Pine Water Co		161				161		0			0		0				0		0					0	
Queen Creek Water Co		348				348		348			348		348				348		0					0	
Rio Verde Utilities		812				812		812			812		812				812		0					0	
San Tan ID		236				236		0			0		0				0		0					0	
Scottsdale*	95	52,810	3,306			56,211	95	52,810	3,306			56,211	95	52,810	2,944			55,849	0	0	362			362	
Spanish Trail Water Co		3,037				3,037		0			0		0				0		0					0	
Superior		285				285		0			0		0				0		0					0	
Surprise		10,249				10,249		10,249			10,249		10,249				10,249		0					0	
Tempe	95	4,315	23			4,433	95	4,315	23			4,433	95	4,315	20			4,430	0	0	3			3	
Tonto Hills Utility Co		71				71		0			0		0				0		0					0	
Tucson		144,172				144,172		142,672			142,672		142,672				142,672		0					0	
Vail Water Co		1,857				1,857		0			0		0				0		0					0	
Valley Utilities Water Co		250				250		0			0		0				0		0					0	
Water Util. Comm. Fac. Dist. (AJ)		2,919				2,919		50			50		50				50		0					0	
Water Util. Greater Buckeye		43				43		0			0		0				0		0					0	
Water Util. Greater Tonopah		64				64		0			0		0				0		0					0	
White Tank Sys. (AZ Water Co.)		968				968		968			968		968				968		0					0	

Table G-16
Central Arizona Project (CAP)

Year: 2017	Entitlement					Scheduled Use					Adjusted Delivery					Shortage Allocation								
	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL	CAP 1 (CR)	CAP 2 (M&I / Indian)	CAP 3 (NIA)	CAP 4 (Excess Water)	CAP 5 (Bank)	TOTAL
Selected Shortage Volume: 400,000		18,145				18,145		0				0		0				0		0				0
San Carlos (Phelps Dodge/Globe)																								
State Reserved			87,269			87,269			31,072			31,072			27,668			27,668			3,404			3,404
M&I Subtotal	20,900	638,823	148,598	0	0	808,321	20,900	512,767	92,402	0	0	626,069	20,900	512,767	82,278	0	0	615,945	0	0	10,124	0	0	10,124
TOTAL	68,400	981,902	364,698			1,415,000	68,400	845,753	115,702	272,691	0	1,302,546	68,400	845,753	103,026	0	0	1,017,179	0	0	12,676	272,691	0	285,367
PERCENT						100		86	32	100	0	92	100	100	89	0	0	78	0	0	11	100	0	22

*47,303af NIA Priority water converts to M&I Priority on January 1, 2044 and 2,952af is distributed to Chandler, 4,924af to Mesa, 36,144af to Phoenix, and 3,283af to Scottsdale.

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Table G-17
State of Nevada

2017	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE*		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
			State Consumptive Use							300,000		286,667		-
		12	Southern Nevada Water Authority (includes banking)	2-07-30-W0266	1992	M&I	balance + surplus		116,918	70,914	94,935	57,581	-21,983	13,333
			TOTAL						116,918	70,914	94,935	57,581	-21,983	13,333
			PERCENT									81%		-19%

Table G-17
State of Nevada

2017	400,000													
	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE*		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU
8 th	2	Big Bend Water District	2-07-30-W0269	1992	M&I	10,000			10,000	4,251	10,000	4,251	0	0
	12	Southern Nevada Water Authority (Griffith Project)	7-07-30-W0004	1992	M&I	304,000			304,000	172,070	304,000	172,070	0	0
		Sub. to City of Boulder City (8,918af)			M&I							0		
		Sub. to City Henderson (27,021af)			M&I							0		
		Sub. to City of North Las Vegas (26635af)			M&I							0		
		Sub. to Las Vegas Valley Water District (232,426af)			M&I							0		
		TOTAL					314,000	0	314,000	176,322	314,000	176,322	0	0
		PERCENT										100%		0%
7 th	3	Boy Scouts of America (annexed by SNWA)	9-07-30-W0011	1978	M&I	10			10	6	10	6	0	0
	4	Bureau of Reclamation (includes Sportsman Park)	Secretarial Res.	1998	M&I	300			300	188	300	188	0	0
	10	Nevada Dept. of Fish & Game, & NV Dept. of Wildlife	14-06-300-2405	1972	M&I		25		1,082	25	1,082	25	0	0
		U.S. Air Force (4,000af) (Delivery from SNWA)				4,000			4,000	2,264	4,000	2,264	0	0
		TOTAL				310	25		1,392	218	1,392	218	0	0
		PERCENT										100%		0%
6 th		Las Vegas Valley Water District	14-06-300-2130	1969	M&I	15,407			15,407	15,407	15,407	15,407	0	0
		TOTAL				15,407	0		15,407	15,407	15,407	15,407	0	0
		PERCENT									100%			
5 th	9	Lakeview Company (Hacienda Casino)	14-06-300-1523	1965	M&I	0			0	0	0	0	0	0
	11	Pacific Coast Building Products, Inc.	5-07-30-W0089	1965	M&I	928			928	928	928	928	0	0
		TOTAL				928	0		928	928	928	928	0	0
	PERCENT										100%		0%	

Table G-17
State of Nevada

2017	400,000													
	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE*		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversions	CU	Diversions	CU	Diversions	CU	Diversions	CU
4 th	1	Basic Management, Inc.	14-06-300-2083	1969	M&I	8,608			8,608	8,608	8,608	8,608	0	0
	6	City of Henderson	0-07-30-W0246	1967	M&I	15,878			15,878	14,700	15,878	14,700	0	0
	TOTAL						24,486	0	24,486	23,308	24,486	23,308	0	0
	PERCENT												100%	0%
3 rd	5	Boulder City	14-06-300-978	1931	M&I	5,876			5,876	3,326	5,876	3,326	0	0
	TOTAL						5,876	0	5,876	3,326	5,876	3,326	0	0
	PERCENT												100%	0%
2 nd	8	Lake Mead National Recreation Area**	1964 Decree	1930	M&I	unlimited			679	679	679	679	0	0
	TOTAL						0	0	679	679	679	679	0	0
	PERCENT												100%	0%
1 st ***	8	Lake Mead National Recreation Area	PPR 82/1979 Decree	1926	M&I	500	300		500	500	500	500	0	0
	7	Fort Mohave Indian Reservation	PPR 81	1890	Ind.	12,534			12,534	8,398	12,534	8,398	0	0
	TOTAL						13,034	0	13,034	8,898	12,534	8,898	0	0
	PERCENT												100%	0%
NEVADA TOTALS						374,041	25		492,720	300,000	470,237	286,667	-21,983	13,333
NEVADA PERCENT												96%		-4%

Note: CU means Consumptive Use. All units are in afy.

*2004 Decree Accounting values and Diversion/CU conversion ratios were used to estimate not specified and unquantified entitlements.

**This unlimited entitlement is estimated based on 2004 use.

***PPR's are reduced last in the region, in order of priority date, regardless of state lines. (see PPR Spreadsheet).

Subcontracts are displayed below the Entitlement Holder and indented five spaces

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Table G-18
State of California

2017	400,000													
	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE*		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversions	CU	Diversions	CU	Diversions	CU	Diversions	CU
			State Consumptive Use							4,400,000		4,400,000		0
15	15	Metropolitan Water District (4)	I1r-645	1931	M&I		550,000	550,000	547,535	486,872	547,535	486,872	0	0
			TOTAL				0	550,000	547,535	486,872	547,535	486,872	0	0
			PERCENT									100%		0%
18	18	Palo Verde Irrigation District (3b) - Mesa Lands	PVID2073 3C_P5	1933	Ag	<16,000 acres	0	0	0	0	0	0	0	0
	6	Coachella Valley Water District (3a)	I1r-781	1934	Ag		347,000	347,000	336,973	327,000	336,973	327,000	0	0
	13	Imperial Irrigation Districts (3a)	I1r-747	1932	Ag		561,159	561,159	577,292	561,159	577,292	561,159	0	0
	15	Metropolitan Water District	1988 Cons. Agreement	1988	M&I		90,000	90,000	0	0	0	0	0	0
	21	San Diego County Water Authority****	SDCWA Transfer		M&I		30,000	30,000	0	0	0	0	0	0
		Lower Colorado Water Supply Project	2-07-30-W0280	1992	M&I		10,000	10,000	0	0	0	0	0	0
			TOTAL				1,028,159	1,028,159	914,264	888,159	914,264	888,159	0	0
		PERCENT									100%		0%	
26	26	Yuma Project, Reservation Division (includes Bard, Indian, Island)	Water Certificates	1905	Ind./Ag	<25,000 acres			13,644	7,545	13,644	7,545	0	0
			TOTAL				0	0	13,644	7,545	13,644	7,545	0	0
		PERCENT									100%		0%	

Table G-18
State of California

2017	400,000													
	ENTITLEMENT		FULL ENTITLEMENT USE*		ADJUSTED DELIVERY		SHORTAGE ALLOCATION							
Priority	No.	Entitlement Holder	Contract No.	Date	Use	Diversion	CU	Diversion	CU	Diversion	CU	Diversion	CU	
2 nd	18	Palo Verde Irrigation District (1)	PVID2073 3C_P2	1933	Ag	unlimited		690,559	294,099	690,559	294,099	0	0	
	TOTAL						0	0	690,559	294,099	690,559	294,099	0	0
	PERCENT											100%		0%
1 st (PPR's)***	27	One Acre PPR's	PPR's 45-80	1895-1928	M&I	36	22	36	22	36	22	0	0	
	23	Sonny Gowan (Grannis)	PPR 32 & 7-07-30-W0158	1928	Ag	180		180	108	180	108	0	0	
	3	Chagnon	PPR No. 41	1925	Ag	120		120	72	120	72	0	0	
	24	Stephenson	PPR No. 30	1923	Ag	240		240	144	240	144	0	0	
	8	Colorado River Sportsmen's League	PPR No. 36	1921	Ag	96		96	58	96	58	0	0	
	1	Andrade	PPR No. 38	1921	M&I/Ag	66		66	47	66	47	0	0	
		(AKA Andrade, Andrews, Bly, Brown, Carney, Daniel, Fairbanks, Glynn,												
		Lindeman, Leon, Schroeder, Sherman, Perrett, Wetmore, Wetmore, Williams)												
	16	Milpitas	PPR No. 34	1918	Ag	108		108	65	108	65	0	0	
	14	Lawrence	PPR No. 42	1915	Ag	120		120	72	120	72	0	0	
	16	Milpitas	PPR No. 37	1914	Ag	69		69	41	69	41	0	0	
17	Morgan	PPR No. 33	1913	Ag	150		150	90	150	90	0	0		
4	Chemehuevi Indian Reservation	PPR No. 22	1907	Ind.	11,340		11,340	6,094	11,340	6,094	0	0		

Table G-18
State of California

2017	400,000													
	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE*		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversions	CU	Diversions	CU	Diversions	CU	Diversions	CU
	9	Cooper	PPR No. 40	1905	Ag		60		60	36	60	36	0	0
	26	Yuma Project, Reservation Division (includes non-Indian/Island)	PPR 28 & Water Cert.	1905	Ind./Ag		38,270		38,270	17,918	38,270	17,918	0	0
	20	Reynolds	PPR No. 39	1904	Ag		36		36	22	36	22	0	0
	13	Imperial Irrigation District (includes lands in CVWD)	PPR No. 27	1901	Ag		2,600,000		2,600,000	2,527,341	2,600,000	2,527,341	0	0
	5	Atchison, Topeka, and Santa Fe Railway Co. (being assigned to Needles)	PPR No. 44	1896	M&I		1,260	273	1,260	273	1,260	273	0	0
	19	Picacho Development Corp and CA Dept of Parks and Rec	PPR 31 & 8-07-30-W0187	1893	Ag		120		120	66	120	66	0	0
	11	Fort Mohave Indian Reservation	PPR No. 25	1890	Ind.		16,720		16,720	8,994	16,720	8,994	0	0
	22	Simons	PPR No. 35	1889	Ag		60		60	36	60	36	0	0
	5	City of Needles	PPR No. 43/5-XX-30-W0445	1885	M&I		1,500	950	1,500	950	1,500	950	0	0
	12	Fort Yuma Indian Reservation	PPR No. 23	1/9/1884	Ind.		71,616		71,616	34,506	71,616	34,506	0	0
	18	Palo Verde Irrigation District	PPR No. 26	1877	Ag		219,780		219,780	93,601	219,780	93,601	0	0
	7	Colorado River Indian Reservation	PPR No. 24	1876	Ind.		5,860		5,860	3,324	5,860	3,324	0	0
	7	Colorado River Indian Reservation	PPR No. 24	1874	Ind.		40,241		40,241	22,823	40,241	22,823	0	0
	7	Colorado River Indian Reservation	PPR No. 24	1873	Ind.		10,745		10,745	6,094	10,745	6,094	0	0
	25	Yuma Associates LTD and Winterhaven Water District (262.8 M&I)	PPR 29 & 4-07-30-W0053	1856	M&I/Ag		780		780	528	780	528	0	0

Table G-18
State of California

2017	Priority	No.	Entitlement Holder	Contract No.	Date	Use	ENTITLEMENT		FULL ENTITLEMENT USE*		ADJUSTED DELIVERY		SHORTAGE ALLOCATION	
							Diversions	CU	Diversions	CU	Diversions	CU	Diversions	CU
			400,000											
			TOTAL				3,019,573	1,245	3,019,573	2,723,325	3,019,573	2,723,325	0	0
			PERCENT									100%		0%
			CALIFORNIA TOTALS				3,310,596	2,541,403	6,378,066	5,646,423	5,185,576	4,400,000	-1,192,491	-1,246,422
			CALIFORNIA PERCENT									78%		-22%

Note: CU means Consumptive Use; all units are in AFY.

Exchange Agreements are displayed below the Entitlement Holder and indented five spaces.

*2004 Decree Accounting values and Diversions/CU conversion ratios were used to estimate not specified and unquantified entitlements.

***PPR's are reduced last in the region, in order of priority date, regardless of state lines. (see PPR Spreadsheet).

****Met's return credit ratio was used for this new user.

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1 **Attachment 2: 2008 Summary Output of Shortages**

Table G-19.
Lower Colorado River Shortage Summary

2008	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	1,827,557
Stage I Shortage:	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	1,827,557
Stage II Shortage:	0	0	0	0	0	0	0	672,443
Total U.S. & Mexican Shortage	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000
Mexico	33,333	66,667	83,333	100,000	133,333	200,000	300,000	416,667
Nevada	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Surplus Water – SNWA	0	0	0	0	0	0	0	0
8th Priority (SNWA - Balance & Unused)	6,667	13,333	16,667	20,000	26,667	40,000	60,000	70,914
8th Priority (SNWA & Big Bend)	0	0	0	0	0	0	0	12,419
7th Priority (Boy Scouts, BOR, NV Dept of...)	0	0	0	0	0	0	0	0
6th Priority (Las Vegas Valley Water District)	0	0	0	0	0	0	0	0
5th Priority (PABCO & Lakeview Co.)	0	0	0	0	0	0	0	0
4th Priority (Henderson & Basic Management)	0	0	0	0	0	0	0	0
3rd Priority (Boulder City)	0	0	0	0	0	0	0	0
2nd Priority (Lake Mead National Rec Area)	0	0	0	0	0	0	0	0
1st Priority (PPR's: LMNRA & Fort Mohave)	0	0	0	0	0	0	0	0
SUBTOTAL	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Arizona	160,000	320,000	400,000	480,000	640,000	960,000	1,440,000	1,587,484
Surplus Contracts (Hopi Tribe, Mohave Co., Ag)	0	0	0	0	0	0	0	0
5th Priority & CAP Bank (unused)	160,000	320,000	342,985	342,985	342,985	342,985	342,985	342,985
4th Priority (River users and CAP)	0	0	57,015	137,015	297,015	617,015	1,097,015	1,119,061
CAP Excess Water for Agriculture*	0	0	50,299	120,876	262,029	400,000	400,000	400,000
CAP NIA Priority (M&I, Indian, and Agriculture)	0	0	0	0	0	66,304	66,304	66,304
CAP Indian Priority	0	0	0	0	0	2,000	2,000	11,857
CAP M&I Priority	0	0	0	0	0	142,334	440,784	457,496
2/3 Priority (includes some CAP entities)	0	0	0	0	0	0	0	125,438
1st Priority (PPR's)	0	0	0	0	0	0	0	0
SUBTOTAL	160,000	320,000	400,000	480,000	640,000	960,000	1,440,000	1,587,484
California	0	0	0	0	0	0	0	412,516
Surplus (BLM, Needles, Coachella, Navy, MET)	0	0	0	0	0	0	0	0
7th Priority (unused & surplus - CVWD, IID, PVID)	0	0	0	0	0	0	0	0
6th Priority (unused & surplus - MET)	0	0	0	0	0	0	0	0
5th Priority (MET)	0	0	0	0	0	0	0	412,516
4th Priority (PVID, CVWD, IDD - MET & San Diego)	0	0	0	0	0	0	0	0
3rd Priority (Reservation Division)	0	0	0	0	0	0	0	0
2nd Priority (PVID)	0	0	0	0	0	0	0	0
1st Priority (PPR's - include PVID & IID)	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	412,516
TOTAL	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000

*Shortage allocation may be zero if excess water for agriculture is not available.

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Table G-20
Arizona M&I Consumptive Use Shortages

2008			Lower Colorado River Shortage Volumes in Annual Acre-Feet							
	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP M&I										
	Apache Junction (AZ Water Co)	Pinal County	0	0	0	0	0	1,204	5,809	6,000
	Avra Coop	Pima County	0	0	0	0	0	0	0	0
	AZ-American (Agua Fria)	Maricopa County	0	0	0	0	0	2,187	10,553	10,900
	AZ-American (Paradise Valley)	Maricopa County	0	0	0	0	0	648	3,128	3,231
	AZ-American (Sun City)	Maricopa County	0	0	0	0	0	841	4,056	4,189
	AZ-American (Sun City West)	Maricopa County	0	0	0	0	0	476	2,297	2,372
	AZ State Land Dept.	Maricopa County	0	0	0	0	0	140	678	700
	ASARCO (Ray Mine)	Pima County	0	0	0	0	0	0	0	0
	Avondale	Maricopa County	0	0	0	0	0	952	4,595	4,746
	Berneil Water Co (Cave Creek)	Maricopa County	0	0	0	0	0	0	0	0
	Buckeye	Maricopa County	0	0	0	0	0	0	0	0
	Carefree Water Co	Maricopa County	0	0	0	0	0	80	387	400
	Casa Grande (AZ Water Co)	Pinal County	0	0	0	0	0	401	1,936	2,000
	Cave Creek Water Co	Maricopa County	0	0	0	0	0	321	1,547	1,598
	CAGRD	Maricopa County	0	0	0	0	0	1,554	7,500	7,746
	Chandler*	Maricopa County	0	0	0	0	0	4,988	9,060	10,072
	Chandler Heights Citrus ID	Maricopa County	0	0	0	0	0	0	0	0
	Chaparral City Water Co	Maricopa County	0	0	0	0	0	955	4,610	4,761
	Circle City Water Co	Maricopa County	0	0	0	0	0	0	0	0
	Comm. Water Co (Green Valley)	Pima County	0	0	0	0	0	0	0	0
	Coolidge (AZ Water Co)	Pinal County	0	0	0	0	0	0	0	0
	El Mirage	Maricopa County	0	0	0	0	0	0	0	0
	Eloy	Pinal County	0	0	0	0	0	436	2,102	2,171
	Florence	Pinal County	0	0	0	0	0	411	1,983	2,048
	Flowing Wells ID	Pima County	0	0	0	0	0	0	0	0
	Gilbert	Maricopa County	0	0	0	0	0	2,989	8,542	10,105
	Glendale	Maricopa County	0	0	0	0	0	3,528	14,414	15,456
	Goodyear	Maricopa County	0	0	0	0	0	2,156	10,400	10,742
	Green Valley DWID	Pima County	0	0	0	0	0	100	484	500
	H2O Water Co	Maricopa County	0	0	0	0	0	0	0	0
	Marana	Pima County	0	0	0	0	0	0	0	0
	Maricopa County Parks & Rec	Maricopa County	0	0	0	0	0	126	610	630
	Mesa*	Maricopa County	0	0	0	0	0	9,740	25,760	26,968
	MDWID	Pima County	0	0	0	0	0	2,027	9,779	10,101
	Oro Valley	Pima County	0	0	0	0	0	0	0	0
	Peoria	Maricopa County	0	0	0	0	0	1,485	7,166	7,401
	Phelps Dodge Miami	Gila County	0	0	0	0	0	0	0	0
	Phoenix*	Maricopa County	0	0	0	0	0	60,901	151,249	155,981
	Phoenix Memorial Park	Maricopa County	0	0	0	0	0	0	0	0
	Pine Water Co	Gila County	0	0	0	0	0	0	0	0

Table G-20
Arizona M&I Consumptive Use Shortages

2008		County	M&I/Ag Ratio	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
				200000	400000	500000	600000	800000	1200000	1800000	2500000
	Queen Creek Water Co	Maricopa County		0	0	0	0	0	70	337	348
	Rio Verde Utilities	Maricopa County		0	0	0	0	0	163	786	812
	San Tan ID	Maricopa County		0	0	0	0	0	0	0	0
	Scottsdale*	Maricopa County		0	0	0	0	0	12,629	48,288	49,786
	Spanish Trail Water Co	Pima County		0	0	0	0	0	0	0	0
	Superior	Pinal County		0	0	0	0	0	0	0	0
	Surprise	Maricopa County		0	0	0	0	0	924	4,459	4,606
	Tempe	Maricopa County		0	0	0	0	0	889	4,201	4,358
	Tonto Hills Utility Co	Maricopa County		0	0	0	0	0	0	0	0
	Tucson	Pima County		0	0	0	0	0	16,806	81,085	83,750
	Vail Water Co	Pima County		0	0	0	0	0	0	0	0
	Valley Utilities Water Co	Maricopa County		0	0	0	0	0	0	0	0
	Water Util. Comm. Fac. Dist. (AJ)	Pinal County		0	0	0	0	0	10	48	50
	Water Util. Greater Buckeye	Maricopa County		0	0	0	0	0	0	0	0
	Water Util. Greater Tonopah	Maricopa County		0	0	0	0	0	0	0	0
	White Tank Sys. (AZ Water Co.)	Maricopa County		0	0	0	0	0	194	937	968
	San Carlos (Phelps Dodge/Globe)	Gila County		0	0	0	0	0	0	0	0
	State Reserved	All Counties in CAP		0	0	0	0	0	2,974	2,974	2,974
M&I Subtotal				0	0	0	0	0	133,308	431,758	448,470
Arizona M&I											
4	Arizona State Land Department	Yuma County		0	0	15	36	77	160	284	290
4	Arizona State Parks Board - Contact Point	Mohave County		0	0	1	2	3	7	13	13
4	Arizona State Parks Board - Windsor Beach	Mohave County		0	0	1	2	5	11	20	20
4	Arizona-American Water Company	Mohave County		0	0	15	35	77	160	284	289
4	Brooke Water Company (formerly Graham)	La Paz County		0	0	3	6	13	28	49	50
4	Bullhead City	Mohave County		0	0	357	859	1,861	3,866	6,874	7,012
4	Bureau of Land Management	La Paz County		0	0	43	104	226	469	834	851
4	Cibola Valley Irrigation & Drainage District***** (M&I: 300af)	La Paz County	0.039	0	0	15	37	80	165	294	300
4	City of Somerton (new contract)	Yuma County		0	0	25	61	131	273	485	495
4	City of Yuma (Smucker Park)	Yuma County		0	0	0	0	0	0	0	0
4	Crystal Beach Water Conservation District	Mohave County		0	0	3	7	16	33	59	60
4	Desert Lawn Memorial Park Association, Inc.	Yuma County		0	0	1	2	4	8	14	15
4	Ehrenburg Improvement District	La Paz County		0	0	17	40	86	180	319	326
4	Fisher's Landing Water and Sewer Works, LLC	Yuma County		0	0	2	4	9	19	34	34
4	Gold Dome Mining Corporation	Yuma County		0	0	0	0	0	0	0	0
4	Gold Standard Mines Corporation	Mohave County		0	0	0	0	0	0	0	0
4	Golden Shores Water Conservation District	Mohave County		0	0	22	53	114	236	420	429
4	Hillcrest Water Company	La Paz County		0	0	1	3	7	14	24	25
4	Lake Havasu City	Mohave County		0	0	507	1,218	2,641	5,487	9,755	9,951
4	Marble Canyon Company, Inc.	Cocconino County		0	0	1	2	4	9	15	16
4	Martinez Lake Cabin Sites (recommended)	Yuma County		0	0	1	2	4	8	15	15

Table G-20
Arizona M&I Consumptive Use Shortages

2008		County	M&I/Ag Ratio	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
				200000	400000	500000	600000	800000	1200000	1800000	2500000
4	McAllister, Maurice L.	Mohave County		0	0	0	0	1	2	4	4
4	Mohave County Water Authority (recommended 3,500af)	Mohave County		0	0	133	319	692	1,437	2,554	2,606
4	Subcontract to Bullhead City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Lake Havasu City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Mohave Water Cons. Dist. (3,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.240	0	0	255	612	1,327	2,757	4,901	5,000
4	Mohave Water Conservation District	Mohave County		0	0	25	61	133	276	490	500
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.190	0	0	4	9	19	40	71	72
4	Roy, Edward P. & Anna R.	Yuma County		0	0	0	0	0	1	1	1
4	Shepard Water Company	Yuma County		0	0	2	4	9	18	32	33
4	City of Parker	La Paz County		0	0	14	35	75	157	279	284
4	Town of Quartzsite	La Paz County		0	0	15	35	76	159	282	288
4	Verizon (formerly Continental Telephone)	La Paz County		0	0	0	0	0	1	1	1
2/3	Cibola National Wildlife Refuge	La Paz County		0	0	0	0	0	0	0	1,588
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.149	0	0	0	0	0	0	0	1,038
2/3	National Park Service	Mohave County		0	0	0	0	0	0	0	153
2/3	Yuma Union High School	Yuma County		0	0	0	0	0	0	0	24
2/3	Union Pacific Railroad (formerly Southern Pacific Co.)	Yuma County		0	0	0	0	0	0	0	6
2/3	Kaman, Inc.	Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma	Yuma County		0	0	0	0	0	0	0	5,039
2/3	Department of Navy MCAS	Yuma County		0	0	0	0	0	0	0	442
2/3	Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma (cemetary)	Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.063	0	0	0	0	0	0	0	2,075
2/3	Desert Lawn Memorial Park	Yuma County		0	0	0	0	0	0	0	29
2/3	North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.018	0	0	0	0	0	0	0	1,038
2/3	Chandler (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	0	888
2/3	Gilbert (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	0	1,403
2/3	Glendale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	0	623
2/3	Mesa (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	0	573
2/3	Phoenix (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	0	1,038
2/3	Scottsdale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	0	21
2/3	Tempe (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	0	21
2/3	Department of Army - Yuma Proving Ground	Yuma County		0	0	0	0	0	0	0	158
2/3	Bureau of Reclamation - Davis Dam	Mohave County		0	0	0	0	0	0	0	0
2/3	Imperial National Wildlife Refuge	La Paz County		0	0	0	0	0	0	0	751
2/3	Havasu Lake National Wildlife Refuge (2004 over use of 7,777af)	Mohave County		0	0	0	0	0	0	0	1,005
1	Brooke Water Company (formerly Graham)	La Paz County		0	0	0	0	0	0	0	0
1	City of Parker	La Paz County		0	0	0	0	0	0	0	0
1	Miller (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0
1	Swan (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0

Table G-20
Arizona M&I Consumptive Use Shortages

2008			Lower Colorado River Shortage Volumes in Annual Acre-Feet							
	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
1	City of Yuma	Yuma County	0	0	0	0	0	0	0	0
Total Arizona M&I:			0	0	1,476	3,548	7,691	15,978	28,408	46,890
M&I Summary by County		# of Tribes in the County								
	Coconino County	1	0	0	1	2	4	9	15	16
	Gila County	3	0	0	0	0	0	0	0	0
	La Paz County	13	0	0	112	269	583	1,211	2,153	4,536
	Maricopa County	36	0	0	0	0	0	108,939	325,558	338,876
	Mohave County	20	0	0	1,319	3,169	6,870	14,272	25,374	27,042
	Pima County	11	0	0	0	0	0	18,933	91,348	94,351
	Pinal County	7	0	0	0	0	0	2,462	11,879	12,269
	Yuma County	24	0	0	45	108	234	487	865	10,731
	All Counties in CAP	1	0	0	0	0	0	2,974	2,974	2,974
	(blank)	0	0	0	0	0	0	0	0	0
Total Arizona M&I:			0	0	1,476	3,548	7,691	149,286	460,166	490,794

Notes:

- 1 means Priority One in Arizona
- 2/3 means Priority Two/Three in Arizona
- 4 means Priority Four in Arizona

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Table G-21
Arizona Agricultural Diversion Shortages

2008			Lower Colorado River Shortage Volumes in Annual Acre-Feet								
Arizona Agricultural Diversion Shortages		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA	Maricopa/Pinal/Pima		0	0	50,299	120,876	262,029	400,000	400,000	400,000
CAP	Arizona State Land Department	Pinal County		0	0	0	0	0	9,026	9,026	9,026
4	Arizona State Land Department	Yuma County		0	0	410	985	2,136	4,437	7,889	8,048
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)	Yuma County		0	0	57	136	295	612	1,088	1,110
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)	Yuma County		0	0	124	297	645	1,340	2,382	2,430
4	Cibola Resources	La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)	La Paz County	0.961	0	0	531	1,276	2,766	5,747	10,217	10,423
4	Curtis, Armon (Curry Family LTD)	Yuma County		0	0	18	42	92	191	340	347
4	Gila Monster Farms (formerly Sturges Farms Inc.)	Yuma County		0	0	84	202	437	909	1,616	1,648
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)	Yuma County		0	0	85	203	441	916	1,629	1,662
4	Mohave County Water Authority (new entitlement)	La Paz County		0	0	592	1,422	3,084	6,406	11,389	11,618

Table G-21
Arizona Agricultural Diversion Shortages

2008		Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Diversion Shortages		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.760	0	0	1,805	4,338	9,403	19,534	34,731	35,429
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.810	0	0	21	50	109	227	404	412
4	Ogram Boys Enterprises (new contract)	Yuma County		0	0	54	131	284	589	1,048	1,069
4	Ogram, George	Yuma County		0	0	28	68	147	306	545	556
4	Pasquinielli, Gary and Barbara (formerly Ansel Hall)	Yuma County		0	0	30	72	157	326	579	591
4	Peach, John (2004 over use of 45af)	Yuma County		0	0	34	82	179	371	660	673
4	Phillips, Milton and Jean	Yuma County		0	0	1	3	7	15	27	28
4	Rayner Ranches	Yuma County		0	0	265	637	1,381	2,868	5,099	5,202
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.851	0	0	0	0	0	0	0	12,602
2/3	Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers	Yuma County		0	0	0	0	0	0	0	2
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.937	0	0	0	0	0	0	0	59,987
2/3	University of Arizona	Yuma County		0	0	0	0	0	0	0	174
2/3	Yuma Mesa Grapefruit Company (Camille Allec, Jr.)	Yuma County		0	0	0	0	0	0	0	17
2/3	North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	0	4,536
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.982	0	0	0	0	0	0	0	90,020
2/3	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	0	1,384
2/3	Sturges, Harold (not taking water)	Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)	Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)	Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District***	Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association	Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0

Table G-21
Arizona Agricultural Diversion Shortages

2008			Lower Colorado River Shortage Volumes in Annual Acre-Feet								
Arizona Agricultural Diversion Shortages		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
Total Arizona Agricultural Diversion Shortages				0	0	4,139	9,947	21,563	44,795	79,642	249,966
Agricultural Diversion Shortage by County		# of Tribes in the County									
Coconino County		0		0	0	0	0	0	0	0	0
La Paz County		4		0	0	1,144	2,749	5,959	12,379	22,010	22,452
Maricopa County		0		0	0	11,569	27,801	60,267	92,000	92,000	92,000
Mohave County		6		0	0	1,805	4,338	9,403	19,534	34,731	35,429
Pinal County		1		0	0	38,730	93,074	201,762	317,026	317,026	317,026
Yuma County		32		0	0	1,190	2,860	6,201	12,881	22,901	192,085
Total Agricultural Diversion Shortage by County		43		0	0	54,438	130,823	283,592	453,821	488,668	658,992

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

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Table G-22
Arizona Agricultural Consumptive Use Shortages

2008			Lower Colorado River Shortage Volumes in Annual Acre-Feet								
Arizona Agricultural Consumptive Use Shortages		County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA	Maricopa/Pinal/Pima		0	0	50,299	120,876	262,029	400,000	400,000	400,000
CAP	Arizona State Land Department	Pinal County		0	0	0	0	0	9,026	9,026	9,026
4	Arizona State Land Department	Yuma County		0	0	266	640	1,388	2,884	5,128	5,231
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)	Yuma County		0	0	37	88	191	398	707	722
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)	Yuma County		0	0	80	193	419	871	1,548	1,579
4	Cibola Resources	La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)	La Paz County	0.961	0	0	380	912	1,978	4,109	7,305	7,452
4	Curtis, Armon (Curry Family LTD)	Yuma County		0	0	11	28	60	124	221	226
4	Gila Monster Farms (formerly Sturges Farms Inc.)	Yuma County		0	0	45	109	236	491	872	890
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)	Yuma County		0	0	55	132	287	595	1,059	1,080
4	Mohave County Water Authority (new entitlement)	La Paz County		0	0	195	469	1,018	2,114	3,758	3,834
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.760	0	0	975	2,343	5,078	10,549	18,755	19,132
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.810	0	0	15	35	77	159	284	289
4	Ogram Boys Enterprises (new contract)	Yuma County		0	0	35	85	184	383	681	695
4	Ogram, George	Yuma County		0	0	18	44	96	199	354	361
4	Pasquinnelli, Gary and Barbara (formerly Ansel Hall)	Yuma County		0	0	20	47	102	212	376	384
4	Peach, John (2004 over use of 45af)	Yuma County		0	0	22	54	116	241	429	437
4	Phillips, Milton and Jean	Yuma County		0	0	1	2	5	10	18	18

Table G-22
Arizona Agricultural Consumptive Use Shortages

2008 Arizona Agricultural Consumptive Use Shortages		County	Ratio	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
				200000	400000	500000	600000	800000	1200000	1800000	2500000
4	Rayner Ranches	Yuma County		0	0	172	414	897	1,864	3,313	3,380
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.851	0	0	0	0	0	0	0	5,737
2/3	Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489,95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers	Yuma County		0	0	0	0	0	0	0	2
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.937	0	0	0	0	0	0	0	31,089
2/3	University of Arizona	Yuma County		0	0	0	0	0	0	0	174
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)	Yuma County		0	0	0	0	0	0	0	12
2/3	North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	0	2,737
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.982	0	0	0	0	0	0	0	56,652
2/3	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	0	747
2/3	Sturges, Harold (not taking water)	Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)	Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)	Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****	Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association	Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Consumptive Use Shortages				0	0	2,329	5,597	12,132	25,203	44,809	142,861
Agricultural Consumptive Use Shortage by County		# of Tribes in the County									
Coconino County		0		0	0	0	0	0	0	0	0
La Paz County		4		0	0	590	1,417	3,072	6,382	11,347	11,575
Maricopa County		0		0	0	11,569	27,801	60,267	92,000	92,000	92,000
Mohave County		6		0	0	975	2,343	5,078	10,549	18,755	19,132
Pinal County		1		0	0	38,730	93,074	201,762	317,026	317,026	317,026
Yuma County		32		0	0	764	1,837	3,982	8,271	14,706	112,153
Total Agricultural Consumptive Use Shortage by County		43		0	0	52,628	126,472	274,160	434,229	453,835	551,887

Notes:

- 1 means Priority One in Arizona
- 2/3 means Priority Two/Three in Arizona
- 4 means Priority Four in Arizona

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Table G-23
Arizona Tribal Diversion Shortages

2008	County	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
		200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP Tribal Diversion Shortages									
Ak-Chin Indian Community	Pinal County	0	0	0	0	0	0	0	9,857
Fort McDowell	Maricopa County	0	0	0	0	0	0	0	0
Gila River	Maricopa and Pinal County	0	0	0	0	0	0	0	0
TON-Chui Chu	Pinal County	0	0	0	0	0	0	0	0
TON-San Xavier	Pima County	0	0	0	0	0	1,631	1,631	1,631
TON-Schuk Toak	Pima County	0	0	0	0	0	369	369	369
Pasqua Yaqui	Pima County	0	0	0	0	0	0	0	0
Salt River	Maricopa County	0	0	0	0	0	0	0	0
San Carlos Apache	Gila County	0	0	0	0	0	0	0	0
Tonto Apache	Gila County	0	0	0	0	0	0	0	0
Yavapai Apache (Camp Verde)	Gila County	0	0	0	0	0	0	0	0
Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	0	0	0	0
Unallocated HVID	Maricopa County	0	0	0	0	0	0	0	0
Reserved Federal	---	0	0	0	0	0	0	0	0
Total CAP Tribal Diversion Shortages		0	0	0	0	0	2,000	2,000	11,857
Non-CAP Arizona Tribal Diversion Shortages									
Cocopah Indian Reservation	Yuma County	0	0	69	167	362	751	1,335	1,362
Hopi Tribe (new entitlement)	La Paz County	0	0	301	722	1,565	3,252	5,782	5,898
Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Diversion Shortages		0	0	370	889	1,927	4,003	7,117	7,261
Tribal Diversion Shortages by County									
	Number of Tribes in the County								
Gila County	3	0	0	0	0	0	0	0	0
La Paz County	2	0	0	301	722	1,565	3,252	5,782	5,898
Maricopa County	3	0	0	0	0	0	0	0	0
Mohave County	1	0	0	0	0	0	0	0	0
Pima County	3	0	0	0	0	0	2,000	2,000	2,000
Pinal County	2	0	0	0	0	0	0	0	9,857
Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	0	0	0	0	0
Yuma County	2	0	0	69	167	362	751	1,335	1,362
---	1	0	0	0	0	0	0	0	0
Total Tribal Diversion Shortages by County	18	0	0	370	889	1,927	6,003	9,117	19,118

Notes:
 1 means Priority One in Arizona
 2/3 means Priority Two/Three in Arizona
 4 means Priority Four in Arizona
 *Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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Table G-24
Arizona Tribal Consumptive Use Shortages

2008		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Ak-Chin Indian Community	Pinal County	0	0	0	0	0	0	0	9,857
	Fort McDowell	Maricopa County	0	0	0	0	0	0	0	0
	Gila River	Maricopa and Pinal County	0	0	0	0	0	0	0	0
	TON-Chui Chu	Pinal County	0	0	0	0	0	0	0	0
	TON-San Xavier	Pima County	0	0	0	0	0	1,631	1,631	1,631
	TON-Schuk Toak	Pima County	0	0	0	0	0	369	369	369
	Pasqua Yaqui	Pima County	0	0	0	0	0	0	0	0
	Salt River	Maricopa County	0	0	0	0	0	0	0	0
	San Carlos Apache	Gila County	0	0	0	0	0	0	0	0
	Tonto Apache	Gila County	0	0	0	0	0	0	0	0
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	0	0	0	0	0
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	0	0	0	0
	Unallocated HVID	Maricopa County	0	0	0	0	0	0	0	0
	Reserved Federal	---	0	0	0	0	0	0	0	0
Total CAP Tribal Consumptive Use Shortages			0	0	0	0	0	2,000	2,000	11,857
Non-CAP Arizona Tribal Consumptive Use Shortages										
	Cocopah Indian Reservation	Yuma County	0	0	68	164	355	737	1,311	1,337
	Hopi Tribe (new entitlement)	La Paz County	0	0	195	469	1,018	2,114	3,758	3,834
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Consumptive Use Shortages			0	0	263	633	1,372	2,851	5,069	5,171
Tribal Consumptive Use Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	0	0	0	0	0
	La Paz County	2	0	0	195	469	1,018	2,114	3,758	3,834
	Maricopa County	3	0	0	0	0	0	0	0	0
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	0	0	0	0	0	2,000	2,000	2,000
	Pinal County	2	0	0	0	0	0	0	0	9,857
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	0	0	0	0	0
	Yuma County	2	0	0	68	164	355	737	1,311	1,337
	---	1	0	0	0	0	0	0	0	0
Total Tribal Consumptive Use Shortages by County		18	0	0	263	633	1,372	4,851	7,069	17,028

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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1 **Attachment 3: 2017 Summary Output of Shortages**

Table G-25
Lower Colorado River Shortage Summary

2017	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
	200,000	400,000	500,000	600,000	800,000	1,200,000	1,729,907	1,729,907
Stage I Shortage:	200,000	400,000	500,000	600,000	800,000	1,200,000	1,729,907	1,729,907
Stage II Shortage:	0	0	0	0	0	0	70,093	770,093
Total U.S. & Mexican Shortage	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000
Mexico	33,333	66,667	83,333	100,000	133,333	200,000	300,000	416,667
Nevada	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Surplus Water – SNWA	0	0	0	0	0	0	0	0
8th Priority (SNWA - Balance & Unused)	6,667	13,333	16,667	20,000	26,667	40,000	60,000	70,914
8th Priority (SNWA & Big Bend)	0	0	0	0	0	0	0	12,419
7th Priority (Boy Scouts, BOR, NV Dept of...)	0	0	0	0	0	0	0	0
6th Priority (Las Vegas Valley Water District)	0	0	0	0	0	0	0	0
5th Priority (PABCO & Lakeview Co.)	0	0	0	0	0	0	0	0
4th Priority (Henderson & Basic Management)	0	0	0	0	0	0	0	0
3rd Priority (Boulder City)	0	0	0	0	0	0	0	0
2nd Priority (Lake Mead National Rec Area)	0	0	0	0	0	0	0	0
1st Priority (PPR's: LMNRA & Fort Mohave)	0	0	0	0	0	0	0	0
SUBTOTAL	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Arizona	160,000	320,000	400,000	480,000	640,000	960,000	1,397,578	1,533,925
Surplus Contracts (Hopi Tribe, Mohave Co., Ag)	0	0	0	0	0	0	0	0
5th Priority & CAP Bank (unused)	0	0	0	0	0	0	0	0
4th Priority (River users and CAP)	160,000	320,000	400,000	480,000	640,000	960,000	1,383,925	1,383,925
CAP Excess Water for Agriculture*	142,684	272,691	272,691	272,691	272,691	272,691	272,691	272,691
CAP NIA Priority (M&I, Indian, and Agriculture)	0	12,676	84,018	115,702	115,702	115,702	115,702	115,702
CAP Indian Priority	0	2,553	16,920	62,958	114,969	218,772	357,350	367,977
CAP M&I Priority	0	10,124	67,099	92,402	183,074	364,639	605,637	610,313
2/3 Priority (includes some CAP entitlements)	0	0	0	0	0	0	13,653	149,999
1st Priority (PPR's)	0	0	0	0	0	0	0	0
SUBTOTAL	160,000	320,000	400,000	480,000	640,000	960,000	1,397,578	1,533,925
California	0	0	0	0	0	0	42,422	466,075
Surplus (BLM, Needles, Coachella, Navy, MET)	0	0	0	0	0	0	0	0
7th Priority (unused & surplus - CVWD, IID, PVID)	0	0	0	0	0	0	0	0
6th Priority (unused & surplus - MET)	0	0	0	0	0	0	0	0
5th Priority (MET)	0	0	0	0	0	0	42,422	466,075
4th Priority (PVID, CVWD, IDD - MET & San Diego)	0	0	0	0	0	0	0	0
3rd Priority (Reservation Division)	0	0	0	0	0	0	0	0
2nd Priority (PVID)	0	0	0	0	0	0	0	0
1st Priority (PPR's - include PVID & IID)	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	42,421	466,075
TOTAL	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000

*Shortage allocation may be zero if excess water for agriculture is not available.

Table G-26
Arizona M&I Consumptive Use Shortages

2017				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
Apache Junction (AZ Water Co)	Pinal County		0	0	0	0	1,061	3,186	6,000	6,000	
Avra Coop	Pima County		0	0	0	0	0	0	0	0	
AZ-American (Agua Fria)	Maricopa County		0	0	0	0	1,962	5,889	11,093	11,093	
AZ-American (Paradise Valley)	Maricopa County		0	0	0	0	571	1,715	3,231	3,231	
AZ-American (Sun City)	Maricopa County		0	0	0	0	741	2,224	4,189	4,189	
AZ-American (Sun City West)	Maricopa County		0	0	0	0	419	1,259	2,372	2,372	
AZ State Land Dept.	Maricopa County		0	0	0	0	124	372	700	700	
ASARCO (Ray Mine)	Pima County		0	0	0	0	0	0	0	0	
Avondale	Maricopa County		0	0	0	0	839	2,520	4,746	4,746	
Berneil Water Co (Cave Creek)	Maricopa County		0	0	0	0	0	0	0	0	
Buckeye	Maricopa County		0	0	0	0	0	0	0	0	
Carefree Water Co	Maricopa County		0	0	0	0	71	212	400	400	
Casa Grande (AZ Water Co)	Pinal County		0	0	0	0	354	1,062	2,000	2,000	
Cave Creek Water Co	Maricopa County		0	0	0	0	362	1,087	2,048	2,048	
CAGR D	Maricopa County		0	0	0	0	1,370	4,112	7,746	7,746	
Chandler*	Maricopa County		0	430	2,849	3,924	5,454	8,519	12,669	13,578	
Chandler Heights Citrus ID	Maricopa County		0	0	0	0	0	0	0	0	
Chaparral City Water Co	Maricopa County		0	0	0	0	1,009	3,029	5,705	5,705	
Circle City Water Co	Maricopa County		0	0	0	0	0	0	0	0	
Comm. Water Co (Green Valley)	Pima County		0	0	0	0	0	0	0	0	
Coolidge (AZ Water Co)	Pinal County		0	0	0	0	0	0	0	0	
El Mirage	Maricopa County		0	0	0	0	0	0	0	0	
Eloy	Pinal County		0	0	0	0	384	1,153	2,171	2,171	
Florence	Pinal County		0	0	0	0	362	1,087	2,048	2,048	
Flowing Wells ID	Pima County		0	0	0	0	0	0	0	0	
Gilbert	Maricopa County		0	168	1,116	1,537	2,816	5,378	8,916	10,353	
Glendale	Maricopa County		0	75	495	682	3,190	8,212	14,929	15,566	
Goodyear	Maricopa County		0	0	0	0	1,900	5,703	10,742	10,742	
Green Valley DWID	Pima County		0	0	0	0	88	265	500	500	
H2O Water Co	Maricopa County		0	0	0	0	0	0	0	0	
Marana	Pima County		0	0	0	0	0	0	0	0	
Maricopa County Parks & Rec	Maricopa County		0	0	0	0	114	342	645	645	
Mesa*	Maricopa County		0	608	4,032	5,552	10,862	21,495	35,640	36,227	
MDWID	Pima County		0	0	0	0	1,877	5,635	10,613	10,613	
Oro Valley	Pima County		0	0	0	0	1,822	5,471	10,305	10,305	
Peoria	Maricopa County		0	0	0	0	3,372	10,123	19,067	19,067	
Phelps Dodge Miami	Gila County		0	0	0	0	0	0	0	0	
Phoenix*	Maricopa County		0	4,084	27,071	37,280	60,996	108,487	171,506	172,569	
Phoenix Memorial Park	Maricopa County		0	0	0	0	0	0	0	0	
Pine Water Co	Gila County		0	0	0	0	0	0	0	0	
Queen Creek Water Co	Maricopa County		0	0	0	0	62	185	348	348	
Rio Verde Utilities	Maricopa County		0	0	0	0	144	431	812	812	
San Tan ID	Maricopa County		0	0	0	0	0	0	0	0	
Scottsdale*	Maricopa County		0	362	2,401	3,306	12,644	31,344	56,118	56,139	
Spanish Trail Water Co	Pima County		0	0	0	0	0	0	0	0	
Superior	Pinal County		0	0	0	0	0	0	0	0	
Surprise	Maricopa County		0	0	0	0	1,812	5,441	10,249	10,249	
Tempe	Maricopa County		0	3	17	23	786	2,314	4,340	4,361	
Tonto Hills Utility Co	Maricopa County		0	0	0	0	0	0	0	0	
Tucson	Pima County		0	0	0	0	25,229	75,747	142,672	142,672	

Table G-26
Arizona M&I Consumptive Use Shortages

2017				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Vail Water Co	Pima County		0	0	0	0	0	0	0	0
	Valley Utilities Water Co	Maricopa County		0	0	0	0	0	0	0	0
	Water Util. Comm. Fac. Dist. (AJ)	Pinal County		0	0	0	0	9	27	50	50
	Water Util. Greater Buckeye	Maricopa County		0	0	0	0	0	0	0	0
	Water Util. Greater Tonopah	Maricopa County		0	0	0	0	0	0	0	0
	White Tank Sys. (AZ Water Co.)	Maricopa County		0	0	0	0	171	514	968	968
	San Carlos (Phelps Dodge/Globe)	Gila County		0	0	0	0	0	0	0	0
	State Reserved	All Counties in CAP		0	3,404	22,563	31,072	31,072	31,072	31,072	31,072
M&I Subtotal				0	9,135	60,544	83,376	174,048	355,613	596,611	601,287
Arizona M&I											
4	Arizona State Land Department	Yuma County		61	123	153	184	246	368	531	531
4	Arizona State Parks Board - Contact Point	Mohave County		2	3	4	5	6	9	13	13
4	Arizona State Parks Board - Windsor Beach	Mohave County		2	5	6	7	9	14	20	20
4	Arizona-American Water Company	Mohave County		35	69	87	104	139	208	300	300
4	Brooke Water Company (formerly Graham)	La Paz County		8	16	20	24	32	48	69	69
4	Bullhead City	Mohave County		1,009	2,018	2,522	3,026	4,035	6,053	8,725	8,725
4	Bureau of Land Management	La Paz County		98	197	246	295	393	590	851	851
4	Cibola Valley Irrigation & Drainage District***** (M&I: 300af)	La Paz County	0.039	35	69	87	104	139	208	300	300
4	City of Somerton (new contract)	Yuma County		57	114	143	172	229	343	495	495
4	City of Yuma (Smucker Park)	Yuma County		0	0	0	0	0	0	0	0
4	Crystal Beach Water Conservation District	Mohave County		8	16	20	24	32	48	69	69
4	Desert Lawn Memorial Park Association, Inc.	Yuma County		2	3	4	5	7	10	15	15
4	Ehrenburg Improvement District	La Paz County		44	88	110	131	175	263	379	379
4	Fisher's Landing Water and Sewer Works, LLC	Yuma County		4	8	10	12	16	24	34	34
4	Gold Dome Mining Corporation	Yuma County		0	0	0	0	0	0	0	0
4	Gold Standard Mines Corporation	Mohave County		0	0	0	0	0	0	0	0
4	Golden Shores Water Conservation District	Mohave County		59	117	147	176	235	352	508	508
4	Hillcrest Water Company	La Paz County		4	8	11	13	17	25	36	36
4	Lake Havasu City	Mohave County		1,404	2,809	3,511	4,213	5,618	8,427	12,148	12,148
4	Marble Canyon Company, Inc.	Coconino County		2	4	5	5	7	11	16	16
4	Martinez Lake Cabin Sites (recommended)	Yuma County		2	3	4	5	7	10	15	15
4	McAllister, Maurice L.	Mohave County		0	1	1	1	2	3	4	4
4	Mohave County Water Authority (recommended 3,500af)	Mohave County		606	1,212	1,514	1,817	2,423	3,635	5,240	5,240
4	Subcontract to Bullhead City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Lake Havasu City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Mohave Water Cons. Dist. (3,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.240	578	1,156	1,445	1,734	2,312	3,468	5,000	5,000
4	Mohave Water Conservation District	Mohave County		72	144	180	216	288	431	622	622
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.190	8	17	21	25	33	50	72	72
4	Roy, Edward P. & Anna R.	Yuma County		0	0	0	0	0	1	1	1
4	Shepard Water Company	Yuma County		4	8	9	11	15	23	33	33
4	City of Parker	La Paz County		48	96	120	144	192	288	415	415
4	Town of Quartzsite	La Paz County		47	95	118	142	189	284	409	409
4	Verizon (formerly Continental Telephone)	La Paz County		0	0	0	0	0	1	1	1
2/3	Cibola National Wildlife Refuge	Yuma County		0	0	0	0	0	0	191	2,093
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.149	0	0	0	0	0	0	112	1,231
2/3	National Park Service	Mohave County		0	0	0	0	0	0	17	182
2/3	Yuma Union High School	Yuma County		0	0	0	0	0	0	3	29
2/3	Union Pacific Railroad (formerly Southern Pacific Co.)	Yuma County		0	0	0	0	0	0	1	7
2/3	Kaman, Inc.	Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma	Yuma County		0	0	0	0	0	0	646	7,101
2/3	Department of Navy MCAS	Yuma County		0	0	0	0	0	0	48	524

Table G-26
Arizona M&I Consumptive Use Shortages

2017				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
	CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
2/3	Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489,95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma (cemetary)	Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.063	0	0	0	0	0	0	224	2,461
2/3	Desert Lawn Memorial Park	Yuma County		0	0	0	0	0	0	3	34
2/3	North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.018	0	0	0	0	0	0	112	1,231
2/3	Chandler (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	96	1,053
2/3	Gilbert (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	151	1,664
2/3	Glendale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	67	738
2/3	Mesa (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	62	679
2/3	Phoenix (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	112	1,231
2/3	Scottsdale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	2	25
2/3	Tempe (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	2	25
2/3	Department of Army - Yuma Proving Ground	Yuma County		0	0	0	0	0	0	17	187
2/3	Bureau of Reclamation - Davis Dam	Mohave County		0	0	0	0	0	0	0	0
2/3	Imperial National Wildlife Refuge	La Paz County		0	0	0	0	0	0	81	891
2/3	Havasas Lake National Wildlife Refuge (2004 over use of 7,777af)	Mohave County		0	0	0	0	0	0	108	1,192
1	Brooke Water Company (formerly Graham)	La Paz County		0	0	0	0	0	0	0	0
1	City of Parker	La Paz County		0	0	0	0	0	0	0	0
1	Miller (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0
1	Swan (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0
1	City of Yuma	Yuma County		0	0	0	0	0	0	0	0
Total Arizona M&I:				4,199	8,398	10,498	12,598	16,797	25,195	38,376	58,899
M&I Summary by County		# of Tribes in the County									
	Coconino County	1		2	4	5	5	7	11	16	16
	Gila County	3		0	0	0	0	0	0	0	0
	La Paz County	13		293	586	732	878	1,171	1,757	2,804	5,516
	Maricopa County	36		0	5,730	37,981	52,304	111,791	230,909	389,180	393,856
	Mohave County	20		3,775	7,549	9,437	11,324	15,099	22,648	32,775	34,023
	Pima County	11		0	0	0	0	29,016	87,118	164,090	164,090
	Pinal County	7		0	0	0	0	2,170	6,514	12,269	12,269
	Yuma County	24		130	260	325	390	520	779	2,289	13,929
	All Counties in CAP	1		0	3,404	22,563	31,072	31,072	31,072	31,072	31,072
	(blank)	0		0	0	0	0	0	0	0	0
Total Arizona M&I:				4,199	17,533	71,042	95,974	190,845	380,808	634,495	654,771

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

Table G-27
Arizona Agricultural Diversion Shortages

2017			Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Diversion Shortages			County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA		Maricopa/Pinal/Pima		142,684	272,691	272,691	272,691	272,691	272,691	272,691	272,691
CAP	Arizona State Land Department		Pinal County		0	989	6,554	9,026	9,026	9,026	9,026	9,026
4	Arizona State Land Department		Yuma County		942	1,884	2,356	2,827	3,769	5,653	8,150	8,150
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)		Yuma County		128	257	321	385	513	770	1,110	1,110
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)		Yuma County		284	568	710	852	1,136	1,703	2,456	2,456
4	Cibola Resources		La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)		La Paz County	0.961	1,205	2,410	3,012	3,615	4,820	7,230	10,423	10,423
4	Curtis, Armon (Curry Family LTD)		Yuma County		41	81	101	122	162	243	351	351
4	Gila Monster Farms (formerly Sturges Farms Inc.)		Yuma County		191	381	476	572	762	1,143	1,648	1,648
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)		Yuma County		192	384	480	576	768	1,153	1,662	1,662
4	Mohave County Water Authority (new entitlement)		La Paz County		1,343	2,686	3,358	4,030	5,373	8,059	11,618	11,618
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)		Mohave County	0.760	3,557	7,115	8,893	10,672	14,229	21,344	30,769	30,769
4	North Baja LLC (formerly Jamar Produce) (72af M&I)		La Paz County	0.810	48	96	121	145	193	289	417	417
4	Ogram Boys Enterprises (new contract)		Yuma County		125	250	312	375	499	749	1,080	1,080
4	Ogram, George		Yuma County		65	130	162	195	260	390	562	562
4	Pasquinnelli, Gary and Barbara (formerly Ansel Hall)		Yuma County		69	138	173	207	276	414	597	597
4	Peach, John (2004 over use of 45af)		Yuma County		79	157	197	236	314	472	680	680
4	Phillips, Milton and Jean		Yuma County		3	6	8	10	13	19	28	28
4	Rayner Ranches		Yuma County		607	1,213	1,517	1,820	2,427	3,640	5,248	5,248
2/3	Yuma Irrigation District (5,000af M&I)		Yuma County	0.851	0	0	0	0	0	0	1,371	15,062
2/3	Yuma County Water Users' Association (14,701af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)		Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers		Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)		Yuma County	0.937	0	0	0	0	0	0	6,456	70,931
2/3	University of Arizona		Yuma County		0	0	0	0	0	0	19	207
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)		Yuma County		0	0	0	0	0	0	2	21
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	482	5,292
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.982	0	0	0	0	0	0	9,718	106,771
2/3	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	149	1,642
2/3	Sturges, Harold (not taking water)		Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)		Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)		Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****		Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association		Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Diversion Shortages					8,879	17,758	22,197	26,636	35,515	53,273	94,994	276,724
Agricultural Diversion Shortage by County			# of Tribes in the County									
Coconino County			0		0	0	0	0	0	0	0	0
La Paz County			4		2,596	5,193	6,491	7,789	10,386	15,578	22,458	22,458
Maricopa County			0		32,817	62,719	62,719	62,719	62,719	62,719	62,719	62,719
Mohave County			6		3,557	7,115	8,893	10,672	14,229	21,344	30,769	30,769

Table G-27
Arizona Agricultural Diversion Shortages

2017			Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Diversion Shortages			County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Pinal County		1		109,866	210,961	216,526	218,998	218,998	218,998	218,998	218,998
	Yuma County		32		2,725	5,450	6,813	8,175	10,900	16,350	41,768	223,498
	Total Agricultural Diversion Shortage by County		43		151,562	291,437	301,442	308,353	317,232	334,989	376,711	558,441

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

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Table G-28
Arizona Agricultural Consumptive Use Shortages

2017				Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Consumptive Use Shortages				County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA		Maricopa/Pinal/Pima		0	272,691	272,691	272,691	272,691	272,691	272,691	272,691	272,691
CAP	Arizona State Land Department		Pinal County		0	989	6,554	9,026	9,026	9,026	9,026	9,026	9,026
4	Arizona State Land Department		Yuma County		612	1,225	1,531	1,837	2,450	3,674	5,297	5,297	5,297
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)		Yuma County		83	167	209	250	334	500	722	722	722
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)		Yuma County		185	369	461	554	738	1,107	1,596	1,596	1,596
4	Cibola Resources		La Paz County		0	0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)		La Paz County	0.961	862	1,723	2,154	2,585	3,446	5,169	7,452	7,452	7,452
4	Curtis, Armon (Curry Family LTD)		Yuma County		26	53	66	79	105	158	228	228	228
4	Gila Monster Farms (formerly Sturges Farms Inc.)		Yuma County		103	206	257	309	411	617	890	890	890
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)		Yuma County		125	250	312	375	499	749	1,080	1,080	1,080
4	Mohave County Water Authority (new entitlement)		La Paz County		443	886	1,108	1,330	1,773	2,659	3,834	3,834	3,834
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)		Mohave County	0.760	1,921	3,842	4,803	5,763	7,684	11,526	16,616	16,616	16,616
4	North Baja LLC (formerly Jamar Produce) (72af M&I)		La Paz County	0.810	34	68	85	102	135	203	293	293	293
4	Ogram Boys Enterprises (new contract)		Yuma County		81	162	203	243	325	487	702	702	702
4	Ogram, George		Yuma County		42	84	105	127	169	253	365	365	365
4	Pasquinelli, Gary and Barbara (formerly Ansel Hall)		Yuma County		45	90	112	135	179	269	388	388	388
4	Peach, John (2004 over use of 45af)		Yuma County		51	102	128	153	204	307	442	442	442
4	Phillips, Milton and Jean		Yuma County		2	4	5	6	8	12	18	18	18
4	Rayner Ranches		Yuma County		394	788	986	1,183	1,577	2,365	3,410	3,410	3,410
2/3	Yuma Irrigation District (5,000af M&I)		Yuma County	0.851	0	0	0	0	0	0	624	6,857	6,857
2/3	Yuma County Water Users' Association (14,701af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489,95af M&I Conversion)		Yuma County		0	0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers		Yuma County		0	0	0	0	0	0	0	3	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)		Yuma County	0.937	0	0	0	0	0	0	3,346	36,761	36,761
2/3	University of Arizona		Yuma County		0	0	0	0	0	0	19	207	207
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)		Yuma County		0	0	0	0	0	0	1	15	15
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	291	3,193	3,193
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.982	0	0	0	0	0	0	6,116	67,193	67,193
2/3	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	81	886	886
2/3	Sturges, Harold (not taking water)		Yuma County		0	0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)		Yuma County		0	0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0	0

Table G-28
Arizona Agricultural Consumptive Use Shortages

2017				Lower Colorado River Shortage Volumes in Annual Acre-Feet								
Arizona Agricultural Consumptive Use Shortages		County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
1	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	0	0	
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)	Yuma County		0	0	0	0	0	0	0	0	
1	Zozaya (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0	
1	North Gila Valley Irrigation District****	Yuma County		0	0	0	0	0	0	0	0	
1	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	0	0	
1	Hulet (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0	
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0	
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0	
1	Sherill & LaFollette (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0	
1	Yuma County Water Users' Association	Yuma County		0	0	0	0	0	0	0	0	
1	Phillips, Milton and Jean (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0	
Total Arizona Agricultural Consumptive Use Shortages				5,010	10,020	12,524	15,029	20,039	30,059	53,810	158,447	
Agricultural Consumptive Use Shortage by County		# of Tribes in the County										
Coconino County		0		0	0	0	0	0	0	0	0	
La Paz County		4		1,339	2,677	3,347	4,016	5,355	8,032	11,579	11,579	
Maricopa County		0		32,817	62,719	62,719	62,719	62,719	62,719	62,719	62,719	
Mohave County		6		1,921	3,842	4,803	5,763	7,684	11,526	16,616	16,616	
Pinal County		1		109,866	210,961	216,526	218,998	218,998	218,998	218,998	218,998	
Yuma County		32		1,750	3,500	4,375	5,250	7,000	10,500	25,615	130,252	
Total Agricultural Consumptive Use Shortage by County				43	147,693	283,699	291,769	296,746	301,756	311,775	335,526	440,164

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

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Table G-29
Arizona Tribal Diversion Shortages

2017		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Diversion Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
Ak-Chin Indian Community		Pinal County	0	0	0	0	3,924	14,065	28,564	39,191
Fort McDowell		Maricopa County	0	0	0	0	1,162	4,163	8,140	8,140
Gila River		Maricopa and Pinal County	0	0	0	38,858	64,382	118,933	191,200	191,200
TON-Chui Chu		Pinal County	0	0	0	800	1,827	4,483	8,000	8,000
TON-San Xavier		Pima County	0	983	6,515	8,972	12,824	22,781	35,972	35,972
TON-Schuk Toak		Pima County	0	222	1,473	2,028	3,569	7,552	12,828	12,828
Pasqua Yaqui		Pima County	0	0	0	0	71	256	500	500
Salt River		Maricopa County	0	0	0	0	3,038	7,452	13,300	13,300
San Carlos Apache		Gila County	0	0	0	0	11,437	25,229	43,500	43,500
Tonto Apache		Gila County	0	0	0	0	18	65	128	128
Yavapai Apache (Camp Verde)		Gila County	0	0	0	0	171	614	1,200	1,200
Yavapai Prescott		Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	71	256	500	500
Unallocated HVID		Maricopa County	0	0	0	0	174	623	1,218	1,218
Reserved Federal		---	0	1,348	8,932	12,300	12,300	12,300	12,300	12,300
Total CAP Tribal Diversion Shortages			0	2,553	16,920	62,958	114,969	218,772	357,350	367,977
Non-CAP Arizona Tribal Diversion Shortages										

Table G-29
Arizona Tribal Diversion Shortages

2017		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Diversion Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
		Yuma County	157	315	394	472	630	945	1,362	1,362
		La Paz County	682	1,364	1,705	2,046	2,728	4,092	5,898	5,898
		Mohave County	0	0	0	0	0	0	0	0
		Yuma County	0	0	0	0	0	0	0	0
		La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Diversion Shortages			839	1,679	2,099	2,518	3,358	5,036	7,261	7,261
Tribal Diversion Shortages by County		Number of Tribes in the County								
		3	0	0	0	0	11,626	25,908	44,828	44,828
		2	682	1,364	1,705	2,046	2,728	4,092	5,898	5,898
		3	0	0	0	11,657	23,688	47,918	80,018	80,018
		1	0	0	0	0	0	0	0	0
		3	0	1,205	7,988	11,000	16,465	30,589	49,300	49,300
		2	0	0	0	28,001	50,819	101,801	170,404	181,031
		1	0	0	0	0	71	256	500	500
		2	157	315	394	472	630	945	1,362	1,362
		1	0	1,348	8,932	12,300	12,300	12,300	12,300	12,300
Total Tribal Diversion Shortages by County			839	4,232	19,018	65,476	118,327	223,808	364,611	375,238

Notes:
 1 means Priority One in Arizona
 2/3 means Priority Two/Three in Arizona
 4 means Priority Four in Arizona
 *Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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Table G-30
Arizona Tribal Consumptive Use Shortages

2017		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
		Pinal County	0	0	0	0	3,924	14,065	28,564	39,191
		Maricopa County	0	0	0	0	1,162	4,163	8,140	8,140
		Maricopa and Pinal County	0	0	0	38,858	64,382	118,933	191,200	191,200
		Pinal County	0	0	0	800	1,827	4,483	8,000	8,000
		Pima County	0	983	6,515	8,972	12,824	22,781	35,972	35,972
		Pima County	0	222	1,473	2,028	3,569	7,552	12,828	12,828
		Pima County	0	0	0	0	71	256	500	500
		Maricopa County	0	0	0	0	3,038	7,452	13,300	13,300
		Gila County	0	0	0	0	11,437	25,229	43,500	43,500
		Gila County	0	0	0	0	18	65	128	128
		Gila County	0	0	0	0	171	614	1,200	1,200
		Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	71	256	500	500
		Maricopa County	0	0	0	0	174	623	1,218	1,218

Table G-30
Arizona Tribal Consumptive Use Shortages

2017		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Reserved Federal	---	0	1,348	8,932	12,300	12,300	12,300	12,300	12,300
Total CAP Tribal Consumptive Use Shortages			0	2,553	16,920	62,958	114,969	218,772	357,350	367,977
Non-CAP Arizona Tribal Consumptive Use Shortages										
	Cocopah Indian Reservation	Yuma County	155	309	386	464	618	928	1,337	1,337
	Hopi Tribe (new entitlement)	La Paz County	443	886	1,108	1,330	1,773	2,659	3,834	3,834
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Consumptive Use Shortages			598	1,196	1,495	1,794	2,391	3,587	5,171	5,171
Tribal Consumptive Use Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	0	11,626	25,908	44,828	44,828
	La Paz County	2	443	886	1,108	1,330	1,773	2,659	3,834	3,834
	Maricopa County	3	0	0	0	11,657	23,688	47,918	80,018	80,018
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	0	1,205	7,988	11,000	16,465	30,589	49,300	49,300
	Pinal County	2	0	0	0	28,001	50,819	101,801	170,404	181,031
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	0	71	256	500	500
	Yuma County	2	155	309	386	464	618	928	1,337	1,337
	---	1	0	1,348	8,932	12,300	12,300	12,300	12,300	12,300
Total Tribal Consumptive Use Shortages by County		18	598	3,748	18,414	64,752	117,360	222,359	362,521	373,149

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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1 **Attachment 4: 2026 Summary Output of Shortages**

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Table G-31
Lower Colorado River Shortage Summary

2026	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Stage I Shortage:	200,000	400,000	500,000	600,000	800,000	1,200,000	1,724,274	1,724,274
Stage II Shortage:	0	0	0	0	0	0	75,726	775,726
Total U.S. & Mexican Shortage	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000
Mexico	33,333	66,667	83,333	100,000	133,333	200,000	300,000	416,667
Nevada	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Surplus Water – SNWA	0	0	0	0	0	0	0	0
8th Priority (SNWA - Balance & Unused)	6,667	13,333	16,667	20,000	26,667	40,000	60,000	70,914
8th Priority (SNWA & Big Bend)	0	0	0	0	0	0	0	12,419
7th Priority (Boy Scouts, BOR, NV Dept of...)	0	0	0	0	0	0	0	0
6th Priority (Las Vegas Valley Water District)	0	0	0	0	0	0	0	0
5th Priority (PABCO & Lakeview Co.)	0	0	0	0	0	0	0	0
4th Priority (Henderson & Basic Management)	0	0	0	0	0	0	0	0
3rd Priority (Boulder City)	0	0	0	0	0	0	0	0
2nd Priority (Lake Mead National Rec Area)	0	0	0	0	0	0	0	0
1st Priority (PPR's: LMNRA & Fort Mohave)	0	0	0	0	0	0	0	0
SUBTOTAL	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Arizona	160,000	320,000	400,000	480,000	640,000	960,000	1,394,205	1,530,879
Surplus Contracts (Hopi Tribe, Mohave Co., Ag)	0	0	0	0	0	0	0	0
5th Priority & CAP Bank (unused)	0	0	0	0	0	0	0	0
4th Priority (River users and CAP)	160,000	320,000	400,000	480,000	640,000	960,000	1,379,420	1,379,420
CAP Excess Water for Agriculture*	65,979	65,979	65,979	65,979	65,979	65,979	65,979	65,979
CAP NIA Priority (M&I, Indian, and Agriculture)	76,319	218,617	246,041	246,041	246,041	246,041	246,041	246,041
CAP Indian Priority	38,941	111,547	151,901	175,815	227,576	331,099	467,921	478,430
CAP M&I Priority	37,378	107,070	137,866	185,101	275,637	456,711	694,543	699,167
2/3 Priority (includes some CAP entitlements)	0	0	0	0	0	0	14,785	151,460
1st Priority (PPR's)	0	0	0	0	0	0	0	0
SUBTOTAL	160,000	320,000	400,000	480,000	640,000	960,000	1,394,205	1,530,879
California	0	0	0	0	0	0	45,795	469,120
Surplus (BLM, Needles, Coachella, Navy, MET)	0	0	0	0	0	0	0	0
7th Priority (unused & surplus - CVWD, IID, PVID)	0	0	0	0	0	0	0	0
6th Priority (unused & surplus - MET)	0	0	0	0	0	0	0	0
5th Priority (MET)	0	0	0	0	0	0	45,795	469,120
4th Priority (PVID, CVWD, IDD - MET & San Diego)	0	0	0	0	0	0	0	0
3rd Priority (Reservation Division)	0	0	0	0	0	0	0	0
2nd Priority (PVID)	0	0	0	0	0	0	0	0
1st Priority (PPR's - include PVID & IID)	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	45,795	469,120
TOTAL	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000

*Shortage allocation may be zero if excess water for agriculture is not available.

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Table G-32
Arizona M&I Consumptive Use Shortages

2026				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
Apache Junction (AZ Water Co)	Pinal County		0	0	182	676	1,623	3,517	6,000	6,000	
Avra Coop	Pima County		0	0	11	40	96	207	354	354	
AZ-American (Agua Fria)	Maricopa County		0	0	336	1,249	3,001	6,503	11,093	11,093	
AZ-American (Paradise Valley)	Maricopa County		0	0	98	364	874	1,894	3,231	3,231	
AZ-American (Sun City)	Maricopa County		0	0	127	472	1,133	2,456	4,189	4,189	
AZ-American (Sun City West)	Maricopa County		0	0	72	267	642	1,390	2,372	2,372	
AZ State Land Dept.	Maricopa County		0	0	278	1,034	2,482	5,380	9,177	9,177	
ASARCO (Ray Mine)	Pima County		0	0	278	1,035	2,485	5,386	9,188	9,188	
Avondale	Maricopa County		0	0	153	568	1,363	2,954	5,039	5,039	
Berneil Water Co (Cave Creek)	Maricopa County		0	0	3	10	24	51	88	88	
Buckeye	Maricopa County		0	0	0	1	3	6	11	11	
Carefree Water Co	Maricopa County		0	0	24	89	215	465	794	794	
Casa Grande (AZ Water Co)	Pinal County		0	0	152	564	1,356	2,938	5,012	5,012	
Cave Creek Water Co	Maricopa County		0	0	73	271	651	1,410	2,406	2,406	
CAGR D	Maricopa County		0	0	235	872	2,095	4,541	7,746	7,746	
Chandler*	Maricopa County		1,217	3,487	4,186	4,899	6,265	8,997	12,675	13,574	
Chandler Heights Citrus ID	Maricopa County		0	0	4	16	37	81	138	138	
Chaparral City Water Co	Maricopa County		0	0	219	815	1,957	4,241	7,235	7,235	
Circle City Water Co	Maricopa County		0	0	52	194	465	1,008	1,720	1,720	
Comm. Water Co (Green Valley)	Pima County		0	0	38	141	338	733	1,250	1,250	
Coolidge (AZ Water Co)	Pinal County		0	0	26	99	237	513	875	875	
El Mirage	Maricopa County		0	0	7	25	60	130	222	222	
Eloy	Pinal County		0	0	66	245	587	1,273	2,171	2,171	
Florence	Pinal County		0	0	62	231	554	1,201	2,048	2,048	
Flowing Wells ID	Pima County		0	0	58	215	515	1,117	1,905	1,905	
Gilbert	Maricopa County		477	1,366	1,756	2,352	3,494	5,778	8,926	10,347	
Glendale	Maricopa County		212	606	1,152	2,430	4,880	9,779	16,269	16,899	
Goodyear	Maricopa County		0	0	325	1,210	2,906	6,297	10,742	10,742	
Green Valley DWID	Pima County		0	0	34	125	301	652	1,113	1,113	
H2O Water Co	Maricopa County		0	0	2	7	17	38	64	64	
Marana	Pima County		0	0	1	2	6	12	21	21	
Maricopa County Parks & Rec	Maricopa County		0	0	20	74	179	387	660	660	
Mesa*	Maricopa County		1,722	4,933	6,693	9,796	15,744	27,639	43,293	43,873	
MDWID	Pima County		0	0	361	1,343	3,225	6,990	11,924	11,924	
Oro Valley	Pima County		0	0	312	1,161	2,787	6,041	10,305	10,305	
Peoria	Maricopa County		0	0	764	2,842	6,826	14,793	25,236	25,236	
Phelps Dodge Miami	Gila County		0	0	38	143	344	745	1,271	1,271	
Phoenix*	Maricopa County		11,564	33,125	41,341	52,386	73,558	115,901	171,514	172,565	
Phoenix Memorial Park	Maricopa County		0	0	1	4	10	22	37	37	
Pine Water Co	Gila County		0	0	2	8	19	41	70	70	
Queen Creek Water Co	Maricopa County		0	0	11	39	94	204	348	348	
Rio Verde Utilities	Maricopa County		0	0	25	91	220	476	812	812	
San Tan ID	Maricopa County		0	0	3	12	28	61	103	103	
Scottsdale*	Maricopa County		1,025	2,938	4,905	9,254	17,591	34,263	56,118	56,139	
Spanish Trail Water Co	Pima County		0	0	40	150	359	779	1,329	1,329	
Superior	Pinal County		0	0	4	14	34	73	125	125	
Surprise	Maricopa County		0	0	310	1,154	2,772	6,008	10,249	10,249	
Tempe	Maricopa County		7	20	154	509	1,190	2,552	4,340	4,361	
Tonto Hills Utility Co	Maricopa County		0	0	1	3	8	18	31	31	

Table G-32
Arizona M&I Consumptive Use Shortages

2026				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Tucson	Pima County		0	0	4,339	16,143	38,769	84,019	143,328	143,328
	Vail Water Co	Pima County		0	0	25	92	220	476	812	812
	Valley Utilities Water Co	Maricopa County		0	0	3	12	30	64	109	109
	Water Util. Comm. Fac. Dist. (AJ)	Pinal County		0	0	40	147	353	765	1,305	1,305
	Water Util. Greater Buckeye	Maricopa County		0	0	1	2	5	11	19	19
	Water Util. Greater Tonopah	Maricopa County		0	0	1	3	8	16	28	28
	White Tank Sys. (AZ Water Co.)	Maricopa County		0	0	29	109	262	567	968	968
	San Carlos (Phelps Dodge/Globe)	Gila County		0	0	240	894	2,147	4,654	7,938	7,938
	State Reserved	All Counties in CAP		18,354	52,576	59,171	59,171	59,171	59,171	59,171	59,171
	M&I Subtotal			34,578	99,050	128,840	176,075	266,611	447,685	685,517	690,141
	Arizona M&I										
4	Arizona State Land Department	Yuma County		79	159	198	238	317	476	684	684
4	Arizona State Parks Board - Contact Point	Mohave County		2	3	4	5	6	9	13	13
4	Arizona State Parks Board - Windsor Beach	Mohave County		2	5	6	7	9	14	20	20
4	Arizona-American Water Company	Mohave County		36	71	89	107	143	214	308	308
4	Brooke Water Company (formerly Graham)	La Paz County		9	18	23	27	36	54	78	78
4	Bullhead City	Mohave County		1,165	2,329	2,911	3,494	4,658	6,987	10,040	10,040
4	Bureau of Land Management	La Paz County		99	197	247	296	395	592	851	851
4	Cibola Valley Irrigation & Drainage District***** (M&I: 300af)	La Paz County	0.039	35	70	87	104	139	209	300	300
4	City of Somerton (new contract)	Yuma County		57	115	144	172	230	344	495	495
4	City of Yuma (Smucker Park)	Yuma County		0	0	0	0	0	0	0	0
4	Crystal Beach Water Conservation District	Mohave County		9	18	22	26	35	53	76	76
4	Desert Lawn Memorial Park Association, Inc.	Yuma County		2	3	4	5	7	10	15	15
4	Ehrenburg Improvement District	La Paz County		50	99	124	149	198	298	428	428
4	Fisher's Landing Water and Sewer Works, LLC	Yuma County		4	8	10	12	16	24	34	34
4	Gold Dome Mining Corporation	Yuma County		0	0	0	0	0	0	0	0
4	Gold Standard Mines Corporation	Mohave County		0	0	0	0	0	0	0	0
4	Golden Shores Water Conservation District	Mohave County		64	128	160	192	256	384	551	551
4	Hillcrest Water Company	La Paz County		5	10	13	15	21	31	44	44
4	Lake Havasu City	Mohave County		1,565	3,131	3,914	4,696	6,262	9,393	13,496	13,496
4	Marble Canyon Company, Inc.	Coconino County		2	4	5	5	7	11	16	16
4	Martinez Lake Cabin Sites (recommended)	Yuma County		2	3	4	5	7	10	15	15
4	McAlister, Maurice L.	Mohave County		0	1	1	1	2	3	4	4
4	Mohave County Water Authority (recommended 3,500af)	Mohave County		645	1,290	1,613	1,935	2,580	3,870	5,561	5,561
4	Subcontract to Bullhead City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Lake Havasu City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Mohave Water Cons. Dist. (3,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.240	580	1,160	1,450	1,740	2,320	3,480	5,000	5,000
4	Mohave Water Conservation District	Mohave County		83	166	208	249	332	498	716	716
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.190	8	17	21	25	33	50	72	72
4	Roy, Edward P. & Anna R.	Yuma County		0	0	0	0	0	1	1	1
4	Shepard Water Company	Yuma County		4	8	9	11	15	23	33	33
4	City of Parker	La Paz County		59	118	147	176	235	353	507	507
4	Town of Quartzsite	La Paz County		57	114	143	171	228	343	492	492
4	Verizon (formerly Continental Telephone)	La Paz County		0	0	0	0	0	1	1	1
2/3	Cibola National Wildlife Refuge	La Paz County		0	0	0	0	0	0	326	3,336
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.149	0	0	0	0	0	0	120	1,226
2/3	National Park Service	Mohave County		0	0	0	0	0	0	18	181
2/3	Yuma Union High School	Yuma County		0	0	0	0	0	0	3	29
2/3	Union Pacific Railroad (formerly Southern Pacific Co.)	Yuma County		0	0	0	0	0	0	1	7
2/3	Kaman, Inc.	Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma	Yuma County		0	0	0	0	0	0	809	8,291

Table G-32
Arizona M&I Consumptive Use Shortages

2026				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
2/3 Department of Navy MCAS	Yuma County		0	0	0	0	0	0	51	522	
2/3 Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0	
2/3 Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0	
2/3 City of Yuma (cemetary)	Yuma County		0	0	0	0	0	0	0	0	
2/3 Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.063	0	0	0	0	0	0	239	2,452	
2/3 Desert Lawn Memorial Park	Yuma County		0	0	0	0	0	0	3	34	
2/3 North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0	
2/3 Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.018	0	0	0	0	0	0	120	1,226	
2/3 Chandler (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	102	1,049	
2/3 Gilbert (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	162	1,658	
2/3 Glendale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	72	736	
2/3 Mesa (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	66	677	
2/3 Phoenix (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	120	1,226	
2/3 Scottsdale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	2	25	
2/3 Tempe (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	2	25	
2/3 Department of Army - Yuma Proving Ground	Yuma County		0	0	0	0	0	0	18	186	
2/3 Bureau of Reclamation - Davis Dam	Mohave County		0	0	0	0	0	0	0	0	
2/3 Imperial National Wildlife Refuge	La Paz County		0	0	0	0	0	0	87	887	
2/3 Havasu Lake National Wildlife Refuge (2004 over use of 7,777af)	Mohave County		0	0	0	0	0	0	116	1,187	
1 Brooke Water Company (formerly Graham)	La Paz County		0	0	0	0	0	0	0	0	
1 City of Parker	La Paz County		0	0	0	0	0	0	0	0	
1 Miller (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0	
1 Swan (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0	
1 City of Yuma	Yuma County		0	0	0	0	0	0	0	0	
Total Arizona M&I:			4,622	9,245	11,556	13,867	18,490	27,734	42,288	64,810	
M&I Summary by County	# of Tribes in the County										
Coconino County	1		2	4	5	5	7	11	16	16	
Gila County	3		0	0	281	1,045	2,510	5,440	9,280	9,280	
La Paz County	13		322	643	804	965	1,287	1,930	3,186	6,997	
Maricopa County	36		16,224	46,474	63,361	93,437	151,086	266,383	418,002	422,626	
Mohave County	20		4,151	8,302	10,377	12,452	16,603	24,905	35,919	37,153	
Pima County	11		0	0	5,496	20,446	49,101	106,412	181,528	181,528	
Pinal County	7		0	0	531	1,975	4,743	10,279	17,536	17,536	
Yuma County	24		148	296	370	444	592	888	2,641	15,250	
All Counties in CAP	1		18,354	52,576	59,171	59,171	59,171	59,171	59,171	59,171	
(blank)	0		0	0	0	0	0	0	0	0	
Total Arizona M&I:	116		39,201	108,295	140,396	189,942	285,101	475,420	727,278	749,556	

Notes:

- 1 means Priority One in Arizona
- 2/3 means Priority Two/Three in Arizona
- 4 means Priority Four in Arizona

Table G-33
Arizona Agricultural Diversion Shortages

2026				Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Diversion Shortages				County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA			Maricopa/Pinal/Pima		65,979	65,979	65,979	65,979	65,979	65,979	65,979	65,979
CAP	Arizona State Land Department			Pinal County		2,800	8,020	9,026	9,026	9,026	9,026	9,026	9,026
4	Arizona State Land Department			Yuma County		978	1,956	2,444	2,933	3,911	5,867	8,430	8,430
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)			Yuma County		129	257	322	386	515	772	1,110	1,110
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)			Yuma County		296	592	740	888	1,184	1,776	2,553	2,553
4	Cibola Resources			La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)			La Paz County	0.961	1,209	2,418	3,022	3,627	4,836	7,254	10,423	10,423
4	Curtis, Armon (Curry Family LTD)			Yuma County		42	85	106	127	169	254	365	365
4	Gila Monster Farms (formerly Sturges Farms Inc.)			Yuma County		191	382	478	574	765	1,147	1,648	1,648
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)			Yuma County		193	385	482	578	771	1,156	1,662	1,662
4	Mohave County Water Authority (new entitlement)			La Paz County		1,348	2,695	3,369	4,043	5,390	8,085	11,618	11,618
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)			Mohave County	0.760	3,402	6,805	8,506	10,207	13,609	20,414	29,332	29,332
4	North Baja LLC (formerly Jamar Produce) (72af M&I)			La Paz County	0.810	51	102	127	152	203	305	438	438
4	Ogram Boys Enterprises (new contract)			Yuma County		130	260	325	391	521	781	1,122	1,122
4	Ogram, George			Yuma County		68	135	169	203	271	406	584	584
4	Pasquinielli, Gary and Barbara (formerly Ansel Hall)			Yuma County		72	144	180	216	288	432	620	620
4	Peach, John (2004 over use of 45af)			Yuma County		81	163	203	244	325	488	702	702
4	Phillips, Milton and Jean			Yuma County		3	6	8	10	13	19	28	28
4	Rayner Ranches			Yuma County		632	1,263	1,579	1,895	2,526	3,789	5,444	5,444
2/3	Yuma Irrigation District (5,000af M&I)			Yuma County	0.851	0	0	0	0	0	0	1,498	15,346
2/3	Yuma County Water Users' Association (14,701af M&I)			Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)			Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers			Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)			Yuma County	0.937	0	0	0	0	0	0	6,812	69,782
2/3	University of Arizona			Yuma County		0	0	0	0	0	0	20	206
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)			Yuma County		0	0	0	0	0	0	2	21
2/3	North Gila Valley Irrigation District (2,500af M&I)			Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)			Yuma County		0	0	0	0	0	0	494	5,059
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)			Yuma County	0.982	0	0	0	0	0	0	10,382	106,355
2/3	Gila Monster Farms (formerly Sturges)			Yuma County		0	0	0	0	0	0	160	1,635
2/3	Sturges, Harold (not taking water)			Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)			Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)			Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)			Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R. E. & P.) (2004 use 384af over entitlement)			Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)			Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****			Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)			Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)			Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)			Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)			Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)			Mohave County		0	0	0	0	0	0	0	0

Table G-33
Arizona Agricultural Diversion Shortages

2026				Lower Colorado River Shortage Volumes in Annual Acre-Feet											
Arizona Agricultural Diversion Shortages				County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000		
1	Yuma County Water Users' Association			Yuma County		0	0	0	0	0	0	0	0		
1	Phillips, Milton and Jean (Water Use Not Reported)			Yuma County		0	0	0	0	0	0	0	0		
Total Arizona Agricultural Diversion Shortages						8,824	17,648	22,061	26,473	35,297	52,945	95,445	274,484		
Agricultural Diversion Shortage by County				# of Tribes in the County											
Coconino County				0		0	0	0	0	0	0	0	0		
La Paz County				4		2,607	5,215	6,518	7,822	10,429	15,644	22,478	22,478		
Maricopa County				0		15,175	15,175	15,175	15,175	15,175	15,175	15,175	15,175		
Mohave County				6		3,402	6,805	8,506	10,207	13,609	20,414	29,332	29,332		
Pinal County				1		53,604	58,824	59,830	59,830	59,830	59,830	59,830	59,830		
Yuma County				32		2,815	5,629	7,037	8,444	11,259	16,888	43,635	222,674		
Total Agricultural Diversion Shortage by County						43		77,603	91,647	97,066	101,478	110,302	127,950	170,450	349,489

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

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Table G-34
Arizona Agricultural Consumptive Use Shortages

2026				Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Consumptive Use Shortages				County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA			Maricopa/Pinal/Pima		0	65,979	65,979	65,979	65,979	65,979	65,979	65,979
CAP	Arizona State Land Department			Pinal County		2,800	8,020	9,026	9,026	9,026	9,026	9,026	9,026
4	Arizona State Land Department			Yuma County		635	1,271	1,589	1,906	2,542	3,813	5,479	5,479
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)			Yuma County		84	167	209	251	335	502	722	722
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)			Yuma County		192	385	481	577	770	1,155	1,659	1,659
4	Cibola Resources			La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)			La Paz County	0.961	864	1,729	2,161	2,593	3,458	5,186	7,452	7,452
4	Curtis, Armon (Curry Family LTD)			Yuma County		27	55	69	82	110	165	237	237
4	Gila Monster Farms (formerly Sturges Farms Inc.)			Yuma County		103	206	258	310	413	619	890	890
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)			Yuma County		125	251	313	376	501	752	1,080	1,080
4	Mohave County Water Authority (new entitlement)			La Paz County		445	889	1,112	1,334	1,779	2,668	3,834	3,834
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)			Mohave County	0.760	1,837	3,675	4,593	5,512	7,349	11,024	15,840	15,840
4	North Baja LLC (formerly Jamar Produce) (72af M&I)			La Paz County	0.810	36	71	89	107	143	214	307	307
4	Ogram Boys Enterprises (new contract)			Yuma County		85	169	212	254	339	508	730	730
4	Ogram, George			Yuma County		44	88	110	132	176	264	379	379
4	Pasquinelli, Gary and Barbara (formerly Ansel Hall)			Yuma County		47	93	117	140	187	280	403	403
4	Peach, John (2004 over use of 45af)			Yuma County		53	106	132	159	212	317	456	456
4	Phillips, Milton and Jean			Yuma County		2	4	5	6	8	13	18	18
4	Rayner Ranches			Yuma County		410	821	1,026	1,231	1,641	2,462	3,538	3,538
2/3	Yuma Irrigation District (5,000af M&I)			Yuma County	0.851	0	0	0	0	0	0	682	6,986
2/3	Yuma County Water Users' Association (14,701af M&I)			Yuma County	0.000	0	0	0	0	0	0	0	0

Table G-34
Arizona Agricultural Consumptive Use Shortages

2026				Lower Colorado River Shortage Volumes in Annual Acre-Feet								
Arizona Agricultural Consumptive Use Shortages			County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
2/3	Yuma Area Office (489.95af M&I Conversion)		Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers		Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)		Yuma County	0.937	0	0	0	0	0	0	3,530	36,165
2/3	University of Arizona		Yuma County		0	0	0	0	0	0	20	206
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)		Yuma County		0	0	0	0	0	0	1	15
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	298	3,053
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.982	0	0	0	0	0	0	6,534	66,932
2/3	Gila Monsler Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	86	883
2/3	Sturges, Harold (not taking water)		Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)		Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
1	Gila Monsler Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)		Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****		Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association		Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Consumptive Use Shortages					4,990	9,981	12,476	14,971	19,961	29,942	54,176	157,266
Agricultural Consumptive Use Shortage by County			# of Tribes in the County									
	Coconino County		0		0	0	0	0	0	0	0	0
	La Paz County		4		1,345	2,689	3,362	4,034	5,379	8,068	11,593	11,593
	Maricopa County		0		15,175	15,175	15,175	15,175	15,175	15,175	15,175	15,175
	Mohave County		6		1,837	3,675	4,593	5,512	7,349	11,024	15,840	15,840
	Pinal County		1		53,604	58,824	59,830	59,830	59,830	59,830	59,830	59,830
	Yuma County		32		1,808	3,617	4,521	5,425	7,233	10,850	26,742	129,833
Total Agricultural Consumptive Use Shortage by County					73,769	83,980	87,481	89,976	94,966	104,947	129,181	232,271

Notes:

- 1 means Priority One in Arizona
- 2/3 means Priority Two/Three in Arizona
- 4 means Priority Four in Arizona

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Table G-35
Arizona Tribal Diversion Shortages

2026		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Diversion Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Ak-Chin Indian Community	Pinal County	0	0	0	0	4,796	14,622	28,637	39,146
	Fort McDowell	Maricopa County	0	0	0	0	2,860	8,719	16,398	16,398
	Gila River	Maricopa and Pinal County	14,964	42,863	73,957	91,515	117,313	170,166	239,440	239,440
	TON-Chui Chu	Pinal County	0	0	644	800	2,056	4,628	8,000	8,000
	TON-San Xavier	Pima County	5,060	14,494	16,312	16,312	21,021	30,668	43,312	43,312
	TON-Schuk Toak	Pima County	1,144	3,277	3,688	3,688	5,571	9,430	14,488	14,488
	Pasqua Yaqui	Pima County	0	0	0	0	87	266	500	500
	Salt River	Maricopa County	0	0	0	1,110	3,418	7,694	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	5,090	12,623	25,985	43,500	43,500
	Tonto Apache	Gila County	0	0	0	0	22	68	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	0	209	638	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	87	266	500	500
	Unallocated HVID	Maricopa County	0	0	0	0	212	648	1,218	1,218
	Reserved Federal	---	17,774	50,913	57,300	57,300	57,300	57,300	57,300	57,300
Total CAP Tribal Diversion Shortages			38,941	111,547	151,901	175,815	227,576	331,099	467,921	478,430
Non-CAP Arizona Tribal Diversion Shortages										
	Cocopah Indian Reservation	Yuma County	158	316	395	474	632	948	1,362	1,362
	Hopi Tribe (new entitlement)	La Paz County	684	1,368	1,710	2,052	2,737	4,105	5,898	5,898
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Diversion Shortages			842	1,684	2,105	2,526	3,369	5,053	7,261	7,261
Tribal Diversion Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	5,090	12,854	26,692	44,828	44,828
	La Paz County	2	684	1,368	1,710	2,052	2,737	4,105	5,898	5,898
	Maricopa County	3	4,489	12,859	22,187	28,564	41,684	68,111	102,748	102,748
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	6,204	17,771	20,000	20,000	26,680	40,364	58,300	58,300
	Pinal County	2	10,474	30,004	52,414	64,861	88,971	138,366	204,245	214,754
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	0	87	266	500	500
	Yuma County	2	158	316	395	474	632	948	1,362	1,362
	---	1	17,774	50,913	57,300	57,300	57,300	57,300	57,300	57,300
Total Tribal Diversion Shortages by County			39,783	113,232	154,006	178,341	230,945	336,151	475,181	485,690

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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Table G-36
Arizona Tribal Consumptive Use Shortages

2026		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Ak-Chin Indian Community	Pinal County	0	0	0	0	4,796	14,622	28,637	39,146
	Fort McDowell	Maricopa County	0	0	0	0	2,860	8,719	16,398	16,398
	Gila River	Maricopa and Pinal County	14,964	42,863	73,957	91,515	117,313	170,166	239,440	239,440
	TON-Chui Chu	Pinal County	0	0	644	800	2,056	4,628	8,000	8,000
	TON-San Xavier	Pima County	5,060	14,494	16,312	16,312	21,021	30,668	43,312	43,312
	TON-Schuk Toak	Pima County	1,144	3,277	3,688	3,688	5,571	9,430	14,488	14,488
	Pasqua Yaqui	Pima County	0	0	0	0	87	266	500	500
	Salt River	Maricopa County	0	0	0	1,110	3,418	7,694	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	5,090	12,623	25,985	43,500	43,500
	Tonto Apache	Gila County	0	0	0	0	22	68	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	0	209	638	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	87	266	500	500
	Unallocated HVID	Maricopa County	0	0	0	0	212	648	1,218	1,218
	Reserved Federal	---	17,774	50,913	57,300	57,300	57,300	57,300	57,300	57,300
Total CAP Tribal Consumptive Use Shortages			38,941	111,547	151,901	175,815	227,576	331,099	467,921	478,430
Non-CAP Arizona Tribal Consumptive Use Shortages										
	Cocopah Indian Reservation	Yuma County	155	310	388	465	620	931	1,337	1,337
	Hopi Tribe (new entitlement)	La Paz County	445	889	1,112	1,334	1,779	2,668	3,834	3,834
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Consumptive Use Shortages			600	1,200	1,499	1,799	2,399	3,599	5,171	5,171
Tribal Consumptive Use Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	5,090	12,854	26,692	44,828	44,828
	La Paz County	2	445	889	1,112	1,334	1,779	2,668	3,834	3,834
	Maricopa County	3	4,489	12,859	22,187	28,564	41,684	68,111	102,748	102,748
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	6,204	17,771	20,000	20,000	26,680	40,364	58,300	58,300
	Pinal County	2	10,474	30,004	52,414	64,861	88,971	138,366	204,245	214,754
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	0	87	266	500	500
	Yuma County	2	155	310	388	465	620	931	1,337	1,337
	---	1	17,774	50,913	57,300	57,300	57,300	57,300	57,300	57,300
Total Tribal Consumptive Use Shortages by County			39,541	112,747	153,400	177,614	229,975	334,697	473,092	483,601

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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1 **Attachment 5: 2027 Summary Output of Shortages**

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Table G-37
Lower Colorado River Shortage Summary

2027	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Stage I Shortage:	200,000	400,000	500,000	600,000	800,000	1,200,000	1,723,659	1,723,659
Stage II Shortage:	0	0	0	0	0	0	76,341	776,341
Total U.S. & Mexican Shortage	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000
Mexico	33,333	66,667	83,333	100,000	133,333	200,000	300,000	416,667
Nevada	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Surplus Water - SNWA	0	0	0	0	0	0	0	0
8th Priority (SNWA - Balance & Unused)	6,667	13,333	16,667	20,000	26,667	40,000	60,000	70,914
8th Priority (SNWA & Big Bend)	0	0	0	0	0	0	0	12,419
7th Priority (Boy Scouts, BOR, NV Dept of...)	0	0	0	0	0	0	0	0
6th Priority (Las Vegas Valley Water District)	0	0	0	0	0	0	0	0
5th Priority (PABCO & Lakeview Co.)	0	0	0	0	0	0	0	0
4th Priority (Henderson & Basic Management)	0	0	0	0	0	0	0	0
3rd Priority (Boulder City)	0	0	0	0	0	0	0	0
2nd Priority (Lake Mead National Rec Area)	0	0	0	0	0	0	0	0
1st Priority (PPR's: LMNRA & Fort Mohave)	0	0	0	0	0	0	0	0
SUBTOTAL	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Arizona	160,000	320,000	400,000	480,000	640,000	960,000	1,393,837	1,530,547
Surplus Contracts (Hopi Tribe, Mohave Co., Ag)	0	0	0	0	0	0	0	0
5th Priority & CAP Bank (unused)	0	0	0	0	0	0	0	0
4th Priority (River users and CAP)	160,000	320,000	400,000	480,000	640,000	960,000	1,378,927	1,378,927
CAP Excess Water for Agriculture*	31,869	31,869	31,869	31,869	31,869	31,869	31,869	31,869
CAP NIA Priority (M&I, Indian, and Agriculture)	110,373	252,614	271,041	271,041	271,041	271,041	271,041	271,041
CAP Indian Priority	61,303	140,306	178,018	202,008	253,748	357,229	493,846	504,338
CAP M&I Priority	49,070	112,309	145,717	192,848	283,349	464,351	701,812	706,429
2/3 Priority (includes some CAP entitles)	0	0	0	0	0	0	14,909	151,620
1st Priority (PPR's)	0	0	0	0	0	0	0	0
SUBTOTAL	160,000	320,000	400,000	480,000	640,000	960,000	1,393,837	1,530,547
California	0	0	0	0	0	0	46,163	469,453
Surplus (BLM, Needles, Coachella, Navy, MET)	0	0	0	0	0	0	0	0
7th Priority (unused & surplus - CVWD, IID, PVID)	0	0	0	0	0	0	0	0
6th Priority (unused & surplus - MET)	0	0	0	0	0	0	0	0
5th Priority (MET)	0	0	0	0	0	0	46,163	469,453
4th Priority (PVID, CVWD, IDD - MET & San Diego)	0	0	0	0	0	0	0	0
3rd Priority (Reservation Division)	0	0	0	0	0	0	0	0
2nd Priority (PVID)	0	0	0	0	0	0	0	0
1st Priority (PPR's - include PVID & IID)	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	46,163	469,452
TOTAL	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000

*Shortage allocation may be zero if excess water for agriculture is not available.

3

Table G-38
Arizona M&I Consumptive Use Shortages

2027				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
Apache Junction (AZ Water Co)	Pinal County		0	0	260	747	1,682	3,552	6,000	6,000	
Avra Coop	Pima County		0	0	18	50	113	239	404	404	
AZ-American (Agua Fria)	Maricopa County		0	0	482	1,382	3,110	6,567	11,093	11,093	
AZ-American (Paradise Valley)	Maricopa County		0	0	140	402	906	1,913	3,231	3,231	
AZ-American (Sun City)	Maricopa County		0	0	182	522	1,175	2,480	4,189	4,189	
AZ-American (Sun City West)	Maricopa County		0	0	103	295	665	1,404	2,372	2,372	
AZ State Land Dept.	Maricopa County		0	0	451	1,294	2,913	6,150	10,388	10,388	
ASARCO (Ray Mine)	Pima County		0	0	456	1,308	2,944	6,216	10,500	10,500	
Avondale	Maricopa County		0	0	221	633	1,425	3,008	5,081	5,081	
Berneil Water Co (Cave Creek)	Maricopa County		0	0	4	12	28	59	100	100	
Buckeye	Maricopa County		0	0	1	2	4	7	13	13	
Carefree Water Co	Maricopa County		0	0	37	106	238	503	850	850	
Casa Grande (AZ Water Co)	Pinal County		0	0	236	678	1,526	3,222	5,442	5,442	
Cave Creek Water Co	Maricopa County		0	0	104	300	675	1,424	2,406	2,406	
CAGR D	Maricopa County		0	0	336	965	2,172	4,586	7,746	7,746	
Chandler*	Maricopa County		1,598	3,657	4,300	5,002	6,350	9,047	12,676	13,574	
Chandler Heights Citrus ID	Maricopa County		0	0	7	20	44	93	158	158	
Chaparral City Water Co	Maricopa County		0	0	322	924	2,081	4,393	7,421	7,421	
Circle City Water Co	Maricopa County		0	0	85	245	551	1,164	1,966	1,966	
Comm. Water Co (Green Valley)	Pima County		0	0	62	178	401	846	1,429	1,429	
Coolidge (AZ Water Co)	Pinal County		0	0	43	125	280	592	1,000	1,000	
El Mirage	Maricopa County		0	0	11	32	71	150	254	254	
Eloy	Pinal County		0	0	94	270	609	1,285	2,171	2,171	
Florence	Pinal County		0	0	89	255	574	1,212	2,048	2,048	
Flowing Wells ID	Pima County		0	0	95	271	610	1,289	2,177	2,177	
Gilbert	Maricopa County		626	1,433	1,851	2,438	3,566	5,820	8,927	10,346	
Glendale	Maricopa County		278	636	1,364	2,639	5,087	9,982	16,460	17,090	
Goodyear	Maricopa County		0	0	466	1,338	3,012	6,359	10,742	10,742	
Green Valley DWID	Pima County		0	0	52	149	336	710	1,200	1,200	
H2O Water Co	Maricopa County		0	0	3	9	21	44	74	74	
Marana	Pima County		0	0	1	3	7	14	24	24	
Maricopa County Parks & Rec	Maricopa County		0	0	29	82	185	391	660	660	
Mesa*	Maricopa County		2,261	5,175	7,216	10,328	16,301	28,249	43,954	44,533	
MDWID	Pima County		0	0	525	1,507	3,391	7,160	12,095	12,095	
Oro Valley	Pima County		0	0	447	1,284	2,889	6,101	10,305	10,305	
Peoria	Maricopa County		0	0	1,096	3,143	7,076	14,940	25,236	25,236	
Phelps Dodge Miami	Gila County		0	0	63	181	407	860	1,453	1,453	
Phoenix*	Maricopa County		15,181	34,746	43,103	53,986	74,885	116,682	171,514	172,564	
Phoenix Memorial Park	Maricopa County		0	0	2	5	12	25	42	42	
Pine Water Co	Gila County		0	0	3	10	23	48	81	81	
Queen Creek Water Co	Maricopa County		0	0	15	43	98	206	348	348	
Rio Verde Utilities	Maricopa County		0	0	35	101	228	481	812	812	
San Tan ID	Maricopa County		0	0	5	15	33	70	118	118	
Scottsdale*	Maricopa County		1,346	3,081	5,599	9,884	18,113	34,571	56,118	56,139	
Spanish Trail Water Co	Pima County		0	0	66	189	426	899	1,519	1,519	
Superior	Pinal County		0	0	6	18	40	84	143	143	
Surprise	Maricopa County		0	0	445	1,277	2,874	6,068	10,249	10,249	
Tempe	Maricopa County		9	21	210	560	1,233	2,578	4,340	4,361	
Tonto Hills Utility Co	Maricopa County		0	0	2	4	10	21	36	36	

Table G-38
Arizona M&I Consumptive Use Shortages

2027				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Tucson	Pima County		0	0	6,227	17,865	40,213	84,909	143,422	143,422
	Vail Water Co	Pima County		0	0	40	116	260	550	929	929
	Valley Utilities Water Co	Maricopa County		0	0	5	16	35	74	125	125
	Water Util. Comm. Fac. Dist. (AJ)	Pinal County		0	0	64	185	416	879	1,485	1,485
	Water Util. Greater Buckeye	Maricopa County		0	0	1	3	6	13	22	22
	Water Util. Greater Tonopah	Maricopa County		0	0	1	4	9	19	32	32
	White Tank Sys. (AZ Water Co.)	Maricopa County		0	0	42	121	271	573	968	968
	San Carlos (Phelps Dodge/Globe)	Gila County		0	0	394	1,130	2,544	5,371	9,073	9,073
	State Reserved	All Counties in CAP		24,096	55,148	59,171	59,171	59,171	59,171	59,171	59,171
	M&I Subtotal			45,395	103,896	136,691	183,822	274,323	455,325	692,786	697,403
	Arizona M&I										
4	Arizona State Land Department	Yuma County		80	161	201	241	322	482	693	693
4	Arizona State Parks Board - Contact Point	Mohave County		2	3	4	5	6	9	13	13
4	Arizona State Parks Board - Windsor Beach	Mohave County		2	5	6	7	9	14	20	20
4	Arizona-American Water Company	Mohave County		36	72	90	108	143	215	309	309
4	Brooke Water Company (formerly Graham)	La Paz County		9	18	23	27	36	55	79	79
4	Bullhead City	Mohave County		1,179	2,359	2,948	3,538	4,717	7,076	10,163	10,163
4	Bureau of Land Management	La Paz County		99	197	247	296	395	592	851	851
4	Cibola Valley Irrigation & Drainage District***** (M&I: 300af)	La Paz County	0.039	35	70	87	104	139	209	300	300
4	City of Somerton (new contract)	Yuma County		57	115	144	172	230	345	495	495
4	City of Yuma (Smucker Park)	Yuma County		0	0	0	0	0	0	0	0
4	Crystal Beach Water Conservation District	Mohave County		9	18	22	27	35	53	76	76
4	Desert Lawn Memorial Park Association, Inc.	Yuma County		2	3	4	5	7	10	15	15
4	Ehrenburg Improvement District	La Paz County		50	100	126	151	201	301	433	433
4	Fisher's Landing Water and Sewer Works, LLC	Yuma County		4	8	10	12	16	24	34	34
4	Gold Dome Mining Corporation	Yuma County		0	0	0	0	0	0	0	0
4	Gold Standard Mines Corporation	Mohave County		0	0	0	0	0	0	0	0
4	Golden Shores Water Conservation District	Mohave County		64	129	161	193	257	386	554	554
4	Hillcrest Water Company	La Paz County		5	10	13	16	21	31	45	45
4	Lake Havasu City	Mohave County		1,583	3,165	3,957	4,748	6,330	9,496	13,639	13,639
4	Marble Canyon Company, Inc.	Coconino County		2	4	5	5	7	11	16	16
4	Martinez Lake Cabin Sites (recommended)	Yuma County		2	3	4	5	7	10	15	15
4	McAllister, Maurice L.	Mohave County		0	1	1	1	2	3	4	4
4	Mohave County Water Authority (recommended 3,500af)	Mohave County		649	1,298	1,623	1,948	2,597	3,895	5,595	5,595
4	Subcontract to Bullhead City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Lake Havasu City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Mohave Water Cons. Dist. (3,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.239	580	1,160	1,450	1,740	2,321	3,481	5,000	5,000
4	Mohave Water Conservation District	Mohave County		84	168	210	252	336	504	724	724
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.189	8	17	21	25	33	50	72	72
4	Roy, Edward P. & Anna R.	Yuma County		0	0	0	0	0	1	1	1
4	Shepard Water Company	Yuma County		4	8	9	11	15	23	33	33
4	City of Parker	La Paz County		60	119	149	179	239	358	514	514
4	Town of Quartzsite	La Paz County		58	116	145	174	232	348	499	499
4	Verizon (formerly Continental Telephone)	La Paz County		0	0	0	0	0	1	1	1
2/3	Cibola National Wildlife Refuge	La Paz County		0	0	0	0	0	0	348	3,542
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.149	0	0	0	0	0	0	120	1,225
2/3	National Park Service	Mohave County		0	0	0	0	0	0	18	181
2/3	Yuma Union High School	Yuma County		0	0	0	0	0	0	3	29
2/3	Union Pacific Railroad (formerly Southern Pacific Co.)	Yuma County		0	0	0	0	0	0	1	7
2/3	Kaman, Inc.	Yuma County		0	0	0	0	0	0	0	0

Table G-38
Arizona M&I Consumptive Use Shortages

2027				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
2/3 City of Yuma	Yuma County		0	0	0	0	0	0	828	8,424	
2/3 Department of Navy MCAS	Yuma County		0	0	0	0	0	0	51	522	
2/3 Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0	
2/3 Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0	
2/3 City of Yuma (cemetary)	Yuma County		0	0	0	0	0	0	0	0	
2/3 Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.064	0	0	0	0	0	0	241	2,450	
2/3 Desert Lawn Memorial Park	Yuma County		0	0	0	0	0	0	3	34	
2/3 North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0	
2/3 Welton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.018	0	0	0	0	0	0	120	1,225	
2/3 Chandler (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	103	1,048	
2/3 Gilbert (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	163	1,657	
2/3 Glendale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	72	735	
2/3 Mesa (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	66	676	
2/3 Phoenix (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	120	1,225	
2/3 Scottsdale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	2	24	
2/3 Tempe (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	2	24	
2/3 Department of Army - Yuma Proving Ground	Yuma County		0	0	0	0	0	0	18	186	
2/3 Bureau of Reclamation - Davis Dam	Mohave County		0	0	0	0	0	0	0	0	
2/3 Imperial National Wildlife Refuge	La Paz County		0	0	0	0	0	0	87	886	
2/3 Havasu Lake National Wildlife Refuge (2004 over use of 7,777af)	Mohave County		0	0	0	0	0	0	117	1,186	
1 Brooke Water Company (formerly Graham)	La Paz County		0	0	0	0	0	0	0	0	
1 City of Parker	La Paz County		0	0	0	0	0	0	0	0	
1 Miller (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0	
1 Swan (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0	
1 City of Yuma	Yuma County		0	0	0	0	0	0	0	0	
Total Arizona M&I:			4,664	9,328	11,659	13,991	18,655	27,983	42,680	65,481	
M&I Summary by County	# of Tribes in the County										
Coconino County	1		2	4	5	5	7	11	16	16	
Gila County	3		0	0	460	1,321	2,974	6,279	10,606	10,606	
La Paz County	13		324	648	810	973	1,297	1,945	3,229	7,222	
Maricopa County	36		21,299	48,748	68,277	98,132	155,460	270,115	420,719	425,336	
Mohave County	20		4,189	8,377	10,472	12,566	16,754	25,132	36,233	37,466	
Pima County	11		0	0	7,989	22,920	51,591	108,933	184,002	184,002	
Pinal County	7		0	0	794	2,278	5,128	10,827	18,288	18,288	
Yuma County	24		149	298	373	448	597	895	2,672	15,387	
All Counties in CAP	1		24,096	55,148	59,171	59,171	59,171	59,171	59,171	59,171	
(blank)	0		0	0	0	0	0	0	0	0	
Total Arizona M&I:	116		50,058	113,224	148,351	197,813	292,978	483,307	734,937	757,494	

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

Table G-39
Arizona Agricultural Diversion Shortages

2027			Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Diversion Shortages			County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA		Maricopa/Pinal/Pima		31,869	31,869	31,869	31,869	31,869	31,869	31,869	31,869
CAP	Arizona State Land Department		Pinal County		3,676	8,412	9,026	9,026	9,026	9,026	9,026	9,026
4	Arizona State Land Department		Yuma County		984	1,967	2,459	2,951	3,934	5,901	8,476	8,476
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)		Yuma County		129	258	322	386	515	773	1,110	1,110
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)		Yuma County		298	596	745	894	1,192	1,788	2,569	2,569
4	Cibola Resources		La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)		La Paz County	0.961	1,209	2,419	3,023	3,628	4,837	7,256	10,423	10,423
4	Curtis, Armon (Curry Family LTD)		Yuma County		43	85	106	128	170	255	367	367
4	Gila Monster Farms (formerly Sturges Farms Inc.)		Yuma County		191	383	478	574	765	1,148	1,648	1,648
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)		Yuma County		193	386	482	578	771	1,157	1,662	1,662
4	Mohave County Water Authority (new entitlement)		La Paz County		1,348	2,696	3,370	4,044	5,392	8,088	11,618	11,618
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)		Mohave County	0.761	3,417	6,835	8,544	10,252	13,670	20,505	29,453	29,453
4	North Baja LLC (formerly Jamar Produce) (72af M&I)		La Paz County	0.811	51	102	128	154	205	307	441	441
4	Ogram Boys Enterprises (new contract)		Yuma County		131	262	328	393	524	786	1,130	1,130
4	Ogram, George		Yuma County		68	136	170	204	273	409	587	587
4	Pasquinelli, Gary and Barbara (formerly Ansel Hall)		Yuma County		72	145	181	217	290	434	624	624
4	Peach, John (2004 over use of 45af)		Yuma County		81	163	204	244	326	488	702	702
4	Phillips, Milton and Jean		Yuma County		3	6	8	10	13	19	28	28
4	Rayner Ranches		Yuma County		636	1,271	1,589	1,907	2,542	3,813	5,477	5,477
2/3	Yuma Irrigation District (5,000af M&I)		Yuma County	0.851	0	0	0	0	0	0	1,513	15,391
2/3	Yuma County Water Users' Association (14,701af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)		Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers		Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)		Yuma County	0.936	0	0	0	0	0	0	6,842	69,583
2/3	University of Arizona		Yuma County		0	0	0	0	0	0	20	206
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)		Yuma County		0	0	0	0	0	0	2	21
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	494	5,020
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.982	0	0	0	0	0	0	10,450	106,273
2/3	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	161	1,634
2/3	Sturges, Harold (not taking water)		Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)		Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)		Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****		Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Hoipal (in MVIDD/formerly Hurschler) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Sherill & LaFollette (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association		Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Diversion Shortages					8,855	17,710	22,137	26,564	35,419	53,129	95,796	274,443
Agricultural Diversion Shortage by County			# of Tribes in the County									
	Coconino County		0		0	0	0	0	0	0	0	0
	La Paz County		4		2,609	5,217	6,521	7,826	10,434	15,652	22,482	22,482
	Maricopa County		0		7,330	7,330	7,330	7,330	7,330	7,330	7,330	7,330
	Mohave County		6		3,417	6,835	8,544	10,252	13,670	20,505	29,453	29,453

Table G-39
Arizona Agricultural Diversion Shortages

2027				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Arizona Agricultural Diversion Shortages		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Pinal County	1		28,214	32,951	33,565	33,565	33,565	33,565	33,565	33,565
	Yuma County	32		2,829	5,658	7,072	8,486	11,315	16,973	43,862	222,509
	Total Agricultural Diversion Shortage by County	43		44,399	57,991	63,032	67,459	76,314	94,023	136,691	315,338

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

1
2

Table G-40
Arizona Agricultural Consumptive Use Shortages

2027				Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Arizona Agricultural Consumptive Use Shortages		County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA	Maricopa/Pinal/Pima		31,869	31,869	31,869	31,869	31,869	31,869	31,869	31,869
CAP	Arizona State Land Department	Pinal County		3,676	8,412	9,026	9,026	9,026	9,026	9,026	9,026
4	Arizona State Land Department	Yuma County		639	1,278	1,598	1,918	2,557	3,835	5,509	5,509
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)	Yuma County		84	167	209	251	335	502	722	722
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)	Yuma County		194	387	484	581	775	1,162	1,670	1,670
4	Cibola Resources	La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)	La Paz County	0.961	865	1,729	2,162	2,594	3,459	5,188	7,452	7,452
4	Curtis, Armon (Curry Family LTD)	Yuma County		28	55	69	83	111	166	239	239
4	Gila Monster Farms (formerly Sturges Farms Inc.)	Yuma County		103	206	258	310	413	619	890	890
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)	Yuma County		125	251	313	376	501	752	1,080	1,080
4	Mohave County Water Authority (new entitlement)	La Paz County		445	890	1,112	1,335	1,779	2,669	3,834	3,834
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.761	1,845	3,691	4,614	5,536	7,382	11,073	15,905	15,905
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.811	36	72	90	108	144	216	310	310
4	Ogram Boys Enterprises (new contract)	Yuma County		85	170	213	256	341	511	734	734
4	Ogram, George	Yuma County		44	89	111	133	177	266	382	382
4	Pasquinelli, Gary and Barbara (formerly Ansel Hall)	Yuma County		47	94	118	141	188	282	406	406
4	Peach, John (2004 over use of 45af)	Yuma County		53	106	132	159	212	317	456	456
4	Phillips, Milton and Jean	Yuma County		2	4	5	6	8	13	18	18
4	Rayner Ranches	Yuma County		413	826	1,032	1,239	1,652	2,478	3,559	3,559
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.851	0	0	0	0	0	0	689	7,007
2/3	Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers	Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.936	0	0	0	0	0	0	3,546	36,062
2/3	University of Arizona	Yuma County		0	0	0	0	0	0	20	206
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)	Yuma County		0	0	0	0	0	0	1	15
2/3	North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	298	3,029
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.982	0	0	0	0	0	0	6,577	66,880
2/3	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	87	882
2/3	Sturges, Harold (not taking water)	Yuma County		0	0	0	0	0	0	0	0

Table G-40
Arizona Agricultural Consumptive Use Shortages

2027		County	Ratio	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Arizona Agricultural Consumptive Use Shortages				200000	400000	500000	600000	800000	1200000	1800000	2500000
2/3	Sturges, Irma (not taking water)	Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)	Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****	Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association	Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Consumptive Use Shortages				5,008	10,017	12,521	15,025	20,034	30,050	54,382	157,247
Agricultural Consumptive Use Shortage by County		# of Tribes in the County									
Coconino County		0		0	0	0	0	0	0	0	0
La Paz County		4		1,345	2,691	3,364	4,036	5,382	8,073	11,596	11,596
Maricopa County		0		7,330	7,330	7,330	7,330	7,330	7,330	7,330	7,330
Mohave County		6		1,845	3,691	4,614	5,536	7,382	11,073	15,905	15,905
Pinal County		1		28,214	32,951	33,565	33,565	33,565	33,565	33,565	33,565
Yuma County		32		1,817	3,635	4,544	5,452	7,270	10,904	26,881	129,746
Total Agricultural Consumptive Use Shortage by County		43		40,553	50,298	53,416	55,920	60,928	70,945	95,277	198,142

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

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Table G-41
Arizona Tribal Diversion Shortages

CAP Tribal Diversion Shortages		County	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
			200000	400000	500000	600000	800000	1200000	1800000	2500000
	Ak-Chin Indian Community	Pinal County	0	0	0	0	4,892	14,683	28,644	39,137
	Fort McDowell	Maricopa County	0	0	0	0	3,080	9,245	17,315	17,315
	Gila River	Maricopa and Pinal County	27,381	62,669	94,047	110,515	136,829	189,494	258,440	258,440
	TON-Chui Chu	Pinal County	0	0	671	800	2,081	4,644	8,000	8,000
	TON-San Xavier	Pima County	6,975	15,963	17,128	17,128	21,931	31,543	44,128	44,128
	TON-Schuk Toak	Pima County	1,577	3,609	3,872	3,872	5,793	9,639	14,672	14,672
	Pasqua Yaqui	Pima County	0	0	0	0	89	267	500	500
	Salt River	Maricopa County	0	0	0	1,323	3,459	7,721	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	6,069	12,753	26,068	43,500	43,500
	Tonto Apache	Gila County	0	0	0	0	23	68	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	0	213	641	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	89	267	500	500
	Unallocated HVID	Maricopa County	0	0	0	0	217	650	1,218	1,218

Table G-41
Arizona Tribal Diversion Shortages

CAP Tribal Diversion Shortages		County	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
			200000	400000	500000	600000	800000	1200000	1800000	2500000
	Reserved Federal	---	25,370	58,065	62,300	62,300	62,300	62,300	62,300	62,300
Total CAP Tribal Diversion Shortages			61,303	140,306	178,018	202,008	253,748	357,229	493,846	504,338
Non-CAP Arizona Tribal Diversion Shortages										
	Cocopah Indian Reservation	Yuma County	158	316	395	474	632	948	1,362	1,362
	Hopi Tribe (new entitlement)	La Paz County	684	1,369	1,711	2,053	2,738	4,106	5,898	5,898
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Diversion Shortages			842	1,685	2,106	2,527	3,370	5,055	7,261	7,261
Tribal Diversion Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	6,069	12,989	26,777	44,828	44,828
	La Paz County	2	684	1,369	1,711	2,053	2,738	4,106	5,898	5,898
	Maricopa County	3	8,214	18,801	28,214	34,478	47,805	74,464	109,365	109,365
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	8,552	19,572	21,000	21,000	27,813	41,449	59,300	59,300
	Pinal County	2	19,167	43,868	66,504	78,161	102,753	151,972	217,552	228,045
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	0	89	267	500	500
	Yuma County	2	158	316	395	474	632	948	1,362	1,362
	---	1	25,370	58,065	62,300	62,300	62,300	62,300	62,300	62,300
Total Tribal Diversion Shortages by County			62,145	141,990	180,124	204,535	257,118	362,284	501,106	511,599

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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Table G-42
Arizona Tribal Consumptive Use Shortages

CAP Tribal Consumptive Use Shortages		County	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
			200000	400000	500000	600000	800000	1200000	1800000	2500000
	Ak-Chin Indian Community	Pinal County	0	0	0	0	4,892	14,683	28,644	39,137
	Fort McDowell	Maricopa County	0	0	0	0	3,080	9,245	17,315	17,315
	Gila River	Maricopa and Pinal County	27,381	62,669	94,047	110,515	136,829	189,494	258,440	258,440
	TON-Chui Chu	Pinal County	0	0	671	800	2,081	4,644	8,000	8,000
	TON-San Xavier	Pima County	6,975	15,963	17,128	17,128	21,931	31,543	44,128	44,128
	TON-Schuk Toak	Pima County	1,577	3,609	3,872	3,872	5,793	9,639	14,672	14,672
	Pasqua Yaqui	Pima County	0	0	0	0	89	267	500	500
	Salt River	Maricopa County	0	0	0	1,323	3,459	7,721	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	6,069	12,753	26,068	43,500	43,500

Table G-42
Arizona Tribal Consumptive Use Shortages

CAP Tribal Consumptive Use Shortages			Lower Colorado River Shortage Volumes in Annual Acre-Feet							
			200000	400000	500000	600000	800000	1200000	1800000	2500000
	County									
	Tonto Apache	Gila County	0	0	0	0	23	68	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	0	213	641	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	0	89	267	500	500
	Unallocated HVID	Maricopa County	0	0	0	0	217	650	1,218	1,218
	Reserved Federal	---	25,370	58,065	62,300	62,300	62,300	62,300	62,300	62,300
Total CAP Tribal Consumptive Use Shortages			61,303	140,306	178,018	202,008	253,748	357,229	493,846	504,338
Non-CAP Arizona Tribal Consumptive Use Shortages										
	Cocopah Indian Reservation	Yuma County	155	310	388	465	621	931	1,337	1,337
	Hopi Tribe (new entitlement)	La Paz County	445	890	1,112	1,335	1,779	2,669	3,834	3,834
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Consumptive Use Shortages			600	1,200	1,500	1,800	2,400	3,600	5,171	5,171
Tribal Consumptive Use Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	6,069	12,989	26,777	44,828	44,828
	La Paz County	2	445	890	1,112	1,335	1,779	2,669	3,834	3,834
	Maricopa County	3	8,214	18,801	28,214	34,478	47,805	74,464	109,365	109,365
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	8,552	19,572	21,000	21,000	27,813	41,449	59,300	59,300
	Pinal County	2	19,167	43,868	66,504	78,161	102,753	151,972	217,552	228,045
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	0	89	267	500	500
	Yuma County	2	155	310	388	465	621	931	1,337	1,337
	---	1	25,370	58,065	62,300	62,300	62,300	62,300	62,300	62,300
Total Tribal Consumptive Use Shortages by County		18	61,903	141,506	179,518	203,808	256,148	360,829	499,017	509,509

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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Appendix G

1 **Attachment 6: 2040 Summary Output of Shortages**

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Table G-43
Lower Colorado River Shortage Summary

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Stage I Shortage:		200,000	400,000	500,000	600,000	800,000	1,200,000	1,714,362	1,714,362
Stage II Shortage:		0	0	0	0	0	0	85,638	785,638
Total U.S. & Mexican Shortage		200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000
Mexico		33,333	66,667	83,333	100,000	133,333	200,000	300,000	416,667
Nevada		6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
	Surplus Water - SNWA	0	0	0	0	0	0	0	0
	8th Priority (SNWA - Balance & Unused)	6,667	13,333	16,667	20,000	26,667	40,000	60,000	70,914
	8th Priority (SNWA & Big Bend)	0	0	0	0	0	0	0	12,419
	7th Priority (Boy Scouts, BOR, NV Dept of...)	0	0	0	0	0	0	0	0
	6th Priority (Las Vegas Valley Water District)	0	0	0	0	0	0	0	0
	5th Priority (PABCO & Lakeview Co.)	0	0	0	0	0	0	0	0
	4th Priority (Henderson & Basic Management)	0	0	0	0	0	0	0	0
	3rd Priority (Boulder City)	0	0	0	0	0	0	0	0
	2nd Priority (Lake Mead National Rec Area)	0	0	0	0	0	0	0	0
	1st Priority (PPR's: LMNRA & Fort Mohave)	0	0	0	0	0	0	0	0
	SUBTOTAL	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333
Arizona		160,000	320,000	400,000	480,000	640,000	960,000	1,388,281	1,525,531
	Surplus Contracts (Hopi Tribe, Mohave Co., Ag)	0	0	0	0	0	0	0	0
	5th Priority & CAP Bank (unused)	0	0	0	0	0	0	0	0
	4th Priority (River users and CAP)	160,000	320,000	400,000	480,000	640,000	960,000	1,371,490	1,371,490
	CAP Excess Water for Agriculture*	0	0	0	0	0	0	0	0
	CAP NIA Priority (M&I, Indian, and Agriculture)	129,898	219,440	219,440	219,440	219,440	219,440	219,440	219,440
	CAP Indian Priority	74,171	138,517	156,515	181,583	233,056	336,001	469,648	480,025
	CAP M&I Priority	55,727	132,886	185,640	231,324	321,356	501,419	733,523	738,089
	2/3 Priority (includes some CAP entities)	0	0	0	0	0	0	16,791	154,042
	1st Priority (PPR's)	0	0	0	0	0	0	0	0
	SUBTOTAL	160,000	320,000	400,000	480,000	640,000	960,000	1,388,281	1,525,531
California		0	0	0	0	0	0	51,719	474,468
	Surplus (BLM, Needles, Coachella, Navy, MET)	0	0	0	0	0	0	0	0
	7th Priority (unused & surplus - CVWD, IID, PVID)	0	0	0	0	0	0	0	0
	6th Priority (unused & surplus - MET)	0	0	0	0	0	0	0	0
	5th Priority (MET)	0	0	0	0	0	0	51,719	474,468
	4th Priority (PVID, CVWD, IDD - MET & San Diego)	0	0	0	0	0	0	0	0
	3rd Priority (Reservation Division)	0	0	0	0	0	0	0	0
	2nd Priority (PVID)	0	0	0	0	0	0	0	0
	1st Priority (PPR's - include PVID & IID)	0	0	0	0	0	0	0	0
	SUBTOTAL	0	0	0	0	0	0	51,719	474,468
TOTAL		200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000

*Shortage allocation may be zero if excess water for agriculture is not available.

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Table G-44
Arizona M&I Consumptive Use Shortages

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet									
CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
Apache Junction (AZ Water Co)	Pinal County		0	364	859	1,288	2,134	3,825	6,000	6,000	
Avra Coop	Pima County		0	49	116	174	287	515	808	808	
AZ-American (Agua Fria)	Maricopa County		0	673	1,589	2,382	3,946	7,072	11,093	11,093	
AZ-American (Paradise Valley)	Maricopa County		0	196	463	694	1,149	2,060	3,231	3,231	
AZ-American (Sun City)	Maricopa County		0	254	600	900	1,490	2,671	4,189	4,189	
AZ-American (Sun City West)	Maricopa County		0	144	340	509	844	1,512	2,372	2,372	
AZ State Land Dept.	Maricopa County		0	1,218	2,875	4,311	7,141	12,799	20,076	20,076	
ASARCO (Ray Mine)	Pima County		0	1,274	3,008	4,510	7,469	13,388	21,000	21,000	
Avondale	Maricopa County		0	328	776	1,163	1,926	3,453	5,416	5,416	
Bemell Water Co (Cave Creek)	Maricopa County		0	12	29	43	71	128	200	200	
Buckeye	Maricopa County		0	2	4	5	9	16	25	25	
Carefree Water Co	Maricopa County		0	79	186	279	462	829	1,300	1,300	
Casa Grande (AZ Water Co)	Pinal County		0	539	1,272	1,908	3,160	5,664	8,884	8,884	
Cave Creek Water Co	Maricopa County		0	146	345	517	856	1,534	2,406	2,406	
CAGR	Maricopa County		0	470	1,109	1,663	2,755	4,938	7,746	7,746	
Chandler*	Maricopa County		1,472	3,011	3,725	4,344	5,564	8,003	11,249	12,136	
Chandler Heights Citrus ID	Maricopa County		0	19	45	68	112	201	315	315	
Chaparral City Water Co	Maricopa County		0	540	1,276	1,913	3,169	5,680	8,909	8,909	
Circle City Water Co	Maricopa County		0	238	563	844	1,399	2,507	3,932	3,932	
Comm. Water Co (Green Valley)	Pima County		0	173	409	614	1,017	1,822	2,858	2,858	
Coolidge (AZ Water Co)	Pinal County		0	121	286	429	711	1,275	2,000	2,000	
El Mirage	Maricopa County		0	31	73	109	181	324	508	508	
Eloy	Pinal County		0	132	311	466	772	1,384	2,171	2,171	
Florence	Pinal County		0	124	293	440	728	1,306	2,048	2,048	
Flowing Wells ID	Pima County		0	264	624	935	1,549	2,776	4,354	4,354	
Gilbert	Maricopa County		576	1,413	2,010	2,527	3,547	5,586	8,380	9,784	
Glendale	Maricopa County		256	1,477	2,901	4,133	6,563	11,421	17,744	18,367	
Goodyear	Maricopa County		0	651	1,539	2,307	3,821	6,849	10,742	10,742	
Green Valley DWD	Pima County		0	115	272	408	676	1,211	1,900	1,900	
H2O Water Co	Maricopa County		0	9	21	32	52	94	147	147	
Marana	Pima County		0	3	7	10	17	30	47	47	
Maricopa County Parks & Rec	Maricopa County		0	40	95	143	237	424	665	665	
Mesa*	Maricopa County		2,082	6,156	9,748	12,859	18,990	31,253	47,091	47,664	
MDWID	Pima County		0	816	1,928	2,890	4,787	8,581	13,460	13,460	
Oro Valley	Pima County		0	625	1,476	2,213	3,665	6,570	10,305	10,305	
Peoria	Maricopa County		0	1,531	3,615	5,419	8,976	16,089	25,236	25,236	
Phelps Dodge Miami	Gila County		0	176	416	624	1,034	1,853	2,906	2,906	
Phoenix*	Maricopa County		13,981	31,752	42,828	52,419	71,321	109,125	157,865	158,903	
Phoenix Memorial Park	Maricopa County		0	5	12	18	30	54	84	84	
Pine Water Co	Gila County		0	10	23	35	57	103	161	161	
Queen Creek Water Co	Maricopa County		0	21	50	75	124	222	348	348	
Rio Verde Utilities	Maricopa County		0	49	116	174	289	518	812	812	
San Tan ID	Maricopa County		0	14	34	51	84	150	236	236	
Scottsdale*	Maricopa County		1,240	5,297	9,658	13,435	20,878	35,763	54,907	54,928	
Spanish Trail Water Co	Pima County		0	184	435	652	1,080	1,936	3,037	3,037	
Superior	Pinal County		0	17	41	61	101	182	285	285	
Surprise	Maricopa County		0	622	1,468	2,201	3,645	6,534	10,249	10,249	
Tempe	Maricopa County		9	276	633	941	1,549	2,766	4,332	4,353	
Tonto Hills Utility Co	Maricopa County		0	4	10	15	25	45	71	71	
Tucson	Pima County		0	8,744	20,650	30,960	51,279	91,916	144,172	144,172	

Table G-44
Arizona M&I Consumptive Use Shortages

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet									
CAP M&I		County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Vail Water Co	Pima County		0	113	266	399	660	1,184	1,857	1,857
	Valley Utilities Water Co	Maricopa County		0	15	36	54	89	159	250	250
	Water Util. Comm. Fac. Dist. (AJ)	Pinal County		0	177	418	627	1,038	1,861	2,919	2,919
	Water Util. Greater Buckeye	Maricopa County		0	3	6	9	15	27	43	43
	Water Util. Greater Tonopah	Maricopa County		0	4	9	14	23	41	64	64
	White Tank Sys. (AZ Water Co.)	Maricopa County		0	59	139	208	344	617	968	968
	San Carlos (Phelps Dodge/Globe)	Gila County		0	1,100	2,599	3,896	6,454	11,568	18,145	18,145
	State Reserved	All Counties in CAP		32,727	55,287	55,287	55,287	55,287	55,287	55,287	55,287
	M&I Subtotal			52,342	127,167	179,922	225,606	315,637	495,701	727,805	732,371
	Arizona M&I										
4	Arizona State Land Department	Yuma County		91	182	227	273	364	546	780	780
4	Arizona State Parks Board - Contact Point	Mohave County		2	3	4	5	6	9	13	13
4	Arizona State Parks Board - Windsor Beach	Mohave County		2	5	6	7	9	14	20	20
4	Arizona-American Water Company	Mohave County		37	73	91	110	146	219	313	313
4	Brooke Water Company (formerly Graham)	La Paz County		10	19	24	29	39	58	83	83
4	Bullhead City	Mohave County		1,289	2,578	3,223	3,868	5,157	7,735	11,051	11,051
4	Bureau of Land Management	La Paz County		99	199	248	298	397	596	851	851
4	Cibola Valley Irrigation & Drainage District***** (M&I: 300af)	La Paz County	0.039	35	70	87	105	140	210	300	300
4	City of Somerton (new contract)	Yuma County		58	115	144	173	231	346	495	495
4	City of Yuma (Smucker Park)	Yuma County		0	0	0	0	0	0	0	0
4	Crystal Beach Water Conservation District	Mohave County		9	19	24	28	38	57	81	81
4	Desert Lawn Memorial Park Association, Inc.	Yuma County		2	3	4	5	7	10	15	15
4	Ehrenburg Improvement District	La Paz County		52	105	131	157	209	314	448	448
4	Fisher's Landing Water and Sewer Works, LLC	Yuma County		4	8	10	12	16	24	34	34
4	Gold Dome Mining Corporation	Yuma County		0	0	0	0	0	0	0	0
4	Gold Standard Mines Corporation	Mohave County		0	0	0	0	0	0	0	0
4	Golden Shores Water Conservation District	Mohave County		69	138	173	207	276	414	592	592
4	Hillcrest Water Company	La Paz County		6	11	14	17	22	33	48	48
4	Lake Havasu City	Mohave County		1,756	3,512	4,390	5,268	7,024	10,537	15,053	15,053
4	Marble Canyon Company, Inc.	Coconino County		2	4	5	5	7	11	16	16
4	Martinez Lake Cabin Sites (recommended)	Yuma County		2	3	4	5	7	10	15	15
4	McAllister, Maurice L.	Mohave County		0	1	1	1	2	3	4	4
4	Mohave County Water Authority (recommended 3,500af)	Mohave County		692	1,384	1,730	2,076	2,768	4,152	5,932	5,932
4	Subcontract to Bullhead City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Lake Havasu City (6,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Mohave Water Cons. Dist. (3,000 AF)	Mohave County		0	0	0	0	0	0	0	0
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.233	583	1,167	1,458	1,750	2,333	3,500	5,000	5,000
4	Mohave Water Conservation District	Mohave County		92	184	230	276	368	551	788	788
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.185	8	17	21	25	34	50	72	72
4	Roy, Edward P. & Anna R.	Yuma County		0	0	0	0	0	1	1	1
4	Shepard Water Company	Yuma County		4	8	9	11	15	23	33	33
4	City of Parker	La Paz County		64	127	159	191	254	381	545	545
4	Town of Quartzsite	La Paz County		63	127	159	190	254	381	544	544
4	Verizon (formerly Continental Telephone)	La Paz County		0	0	0	0	0	1	1	1
2/3	Cibola National Wildlife Refuge	La Paz County		0	0	0	0	0	0	455	4,171
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.147	0	0	0	0	0	0	134	1,226
2/3	National Park Service	Mohave County		0	0	0	0	0	0	20	181
2/3	Yuma Union High School	Yuma County		0	0	0	0	0	0	3	29
2/3	Union Pacific Railroad (formerly Southern Pacific Co.)	Yuma County		0	0	0	0	0	0	1	7
2/3	Kaman, Inc.	Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma	Yuma County		0	0	0	0	0	0	1,124	10,309
2/3	Department of Navy MCAS	Yuma County		0	0	0	0	0	0	57	522

Table G-44
Arizona M&I Consumptive Use Shortages

2040			Lower Colorado River Shortage Volumes in Annual Acre-Feet									
CAP M&I			County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
2/3	Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0	0
2/3	City of Yuma (cemetary)	Yuma County		0	0	0	0	0	0	0	0	0
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.064	0	0	0	0	0	0	267	2,452	
2/3	Desert Lawn Memorial Park	Yuma County		0	0	0	0	0	0	0	4	34
2/3	North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0	0
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.018	0	0	0	0	0	0	134	1,226	
2/3	Chandler (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	114	1,049	
2/3	Gilbert (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	181	1,658	
2/3	Glendale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	80	736	
2/3	Mesa (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	74	677	
2/3	Phoenix (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	134	1,226	
2/3	Scottsdale (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	3	25	
2/3	Tempe (Salt River Pima-Maricopa Exchange)****	Maricopa		0	0	0	0	0	0	3	25	
2/3	Department of Army - Yuma Proving Ground	Yuma County		0	0	0	0	0	0	20	186	
2/3	Bureau of Reclamation - Davis Dam	Mohave County		0	0	0	0	0	0	0	0	0
2/3	Imperial National Wildlife Refuge	La Paz County		0	0	0	0	0	0	97	887	
2/3	Havasas Lake National Wildlife Refuge (2004 over use of 7,777af)	Mohave County		0	0	0	0	0	0	129	1,187	
1	Brooke Water Company (formerly Graham)	La Paz County		0	0	0	0	0	0	0	0	0
1	City of Parker	La Paz County		0	0	0	0	0	0	0	0	0
1	Miller (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0	0
1	Swan (in MVIDD)	Mohave County		0	0	0	0	0	0	0	0	0
1	City of Yuma	Yuma County		0	0	0	0	0	0	0	0	0
Total Arizona M&I:				5,031	10,062	12,578	15,094	20,125	30,187	46,158	70,939	
M&I Summary by County			# of Tribes in the County									
	Coconino County		1	2	4	5	5	7	11	16	16	
	Gila County		3	0	1,286	3,038	4,555	7,545	13,524	21,212	21,212	
	La Paz County		13	337	675	843	1,012	1,349	2,024	3,443	7,949	
	Maricopa County		36	19,615	56,759	88,925	116,779	171,674	281,464	423,201	427,767	
	Mohave County		20	4,532	9,064	11,330	13,596	18,128	27,192	38,996	40,215	
	Pima County		11	0	12,360	29,190	43,764	72,486	129,930	203,798	203,798	
	Pinal County		7	0	1,474	3,481	5,220	8,645	15,497	24,307	24,307	
	Yuma County		24	160	320	400	480	641	961	3,116	17,364	
	All Counties in CAP		1	32,727	55,287	55,287	55,287	55,287	55,287	55,287	55,287	
	(blank)		0	0	0	0	0	0	0	0	0	
Total Arizona M&I:				116	57,373	137,230	192,500	240,699	335,762	525,888	773,375	797,915

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

Table G-45
Arizona Agricultural Diversion Shortages

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Diversion Shortages		County	M&I/Aq Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA	Maricopa/Pinal/Pima		0	0	0	0	0	0	0	0
CAP	Arizona State Land Department	Pinal County		3,385	5,718	5,718	5,718	5,718	5,718	5,718	5,718
4	Arizona State Land Department	Yuma County		1,005	2,010	2,513	3,016	4,021	6,031	8,616	8,616
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)	Yuma County		129	259	324	388	518	777	1,110	1,110
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)	Yuma County		305	611	763	916	1,221	1,832	2,617	2,617
4	Cibola Resources	La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)	La Paz County	0.961	1,216	2,432	3,040	3,648	4,864	7,296	10,423	10,423
4	Curtis, Armon (Curry Family LTD)	Yuma County		44	87	109	131	174	262	374	374
4	Gila Monster Farms (formerly Sturges Farms Inc.)	Yuma County		192	385	481	577	769	1,154	1,648	1,648
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)	Yuma County		194	388	485	582	775	1,163	1,662	1,662
4	Mohave County Water Authority (new entitlement)	La Paz County		1,355	2,711	3,388	4,066	5,421	8,132	11,618	11,618
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.767	3,549	7,099	8,874	10,648	14,198	21,296	30,425	30,425
4	North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.815	53	105	132	158	211	316	451	451
4	Ogram Boys Enterprises (new contract)	Yuma County		134	269	336	403	537	806	1,151	1,151
4	Ogram, George	Yuma County		70	140	175	209	279	419	598	598
4	Pasquinelli, Gary and Barbara (formerly Ansel Hall)	Yuma County		74	148	185	222	297	445	635	635
4	Peach, John (2004 over use of 45af)	Yuma County		82	164	205	246	327	491	702	702
4	Phillips, Milton and Jean	Yuma County		3	6	8	10	13	19	28	28
4	Rayner Ranches	Yuma County		650	1,301	1,626	1,951	2,602	3,903	5,576	5,576
2/3	Yuma Irrigation District (5,000af M&I)	Yuma County	0.853	0	0	0	0	0	0	1,698	15,575
2/3	Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers	Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.936	0	0	0	0	0	0	7,544	69,206
2/3	University of Arizona	Yuma County		0	0	0	0	0	0	22	206
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)	Yuma County		0	0	0	0	0	0	2	21
2/3	North Gila Valley Irrigation District (2,500af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	536	4,918
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)	Yuma County	0.982	0	0	0	0	0	0	11,594	106,364
2/3	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	178	1,635
2/3	Sturges, Harold (not taking water)	Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)	Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)	Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)	Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****	Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)	Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)	Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association	Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)	Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Diversion Shortages				9,057	18,114	22,642	27,170	36,227	54,341	99,208	275,562

Table G-45
Arizona Agricultural Diversion Shortages

2040			Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Arizona Agricultural Diversion Shortages	County	M&I/Aq Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
Agricultural Diversion Shortage by County	# of Tribes in the County									
Coconino County	0		0	0	0	0	0	0	0	0
La Paz County	4		2,624	5,248	6,560	7,872	10,496	15,744	22,492	22,492
Maricopa County	0		0	0	0	0	0	0	0	0
Mohave County	6		3,549	7,099	8,874	10,648	14,198	21,296	30,425	30,425
Pinal County	1		3,385	5,718	5,718	5,718	5,718	5,718	5,718	5,718
Yuma County	32		2,883	5,767	7,209	8,650	11,534	17,301	46,292	222,646
Total Agricultural Diversion Shortage by County	43		12,442	23,832	28,360	32,889	41,945	60,059	104,927	281,281

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

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Table G-46
Arizona Agricultural Consumptive Use Shortages

2040			Lower Colorado River Shortage Volumes in Annual Acre-Feet							
Arizona Agricultural Consumptive Use Shortages	County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP Agricultural Relinquished Water Contracts under AWSA	Maricopa/Pinal/Pima			0	0	0	0	0	0	0
CAP Arizona State Land Department	Pinal County		3,385	5,718	5,718	5,718	5,718	5,718	5,718	5,718
4 Arizona State Land Department	Yuma County		653	1,307	1,633	1,960	2,613	3,920	5,600	5,600
4 Beattie Farms Southwest (new contract) (2004 over use of 263af)	Yuma County		84	168	210	253	337	505	722	722
4 ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)	Yuma County		198	397	496	595	794	1,191	1,701	1,701
4 Cibola Resources	La Paz County		0	0	0	0	0	0	0	0
4 Cibola Valley Irrigation & Drainage District (M&I: 300af)	La Paz County	0.961	869	1,739	2,173	2,608	3,478	5,216	7,452	7,452
4 Curtis, Armon (Curry Family LTD)	Yuma County		28	57	71	85	113	170	243	243
4 Gila Monster Farms (formerly Sturges Farms Inc.)	Yuma County		104	208	259	311	415	623	890	890
4 Jessen Family Limited (new contract) (2004 over use of 4,984af)	Yuma County		126	252	315	378	504	756	1,080	1,080
4 Mohave County Water Authority (new entitlement)	La Paz County		447	895	1,118	1,342	1,789	2,684	3,834	3,834
4 Mohave Valley Irrigation and Drainage District (5,000af M&I)	Mohave County	0.767	1,917	3,833	4,792	5,750	7,667	11,500	16,430	16,430
4 North Baja LLC (formerly Jamar Produce) (72af M&I)	La Paz County	0.815	37	74	92	111	148	222	317	317
4 Ogram Boys Enterprises (new contract)	Yuma County		87	175	218	262	349	524	748	748
4 Ogram, George	Yuma County		45	91	113	136	182	272	389	389
4 Pasquinelli, Gary and Barbara (formerly Ansel Hall)	Yuma County		48	96	120	145	193	289	413	413
4 Peach, John (2004 over use of 45af)	Yuma County		53	106	133	160	213	319	456	456
4 Phillips, Milton and Jean	Yuma County		2	4	5	6	8	13	18	18
4 Rayner Ranches	Yuma County		423	845	1,057	1,268	1,691	2,536	3,623	3,623
2/3 Yuma Irrigation District (5,000af M&I)	Yuma County	0.853	0	0	0	0	0	0	773	7,091
2/3 Yuma County Water Users' Association (14,701af M&I)	Yuma County	0.000	0	0	0	0	0	0	0	0
2/3 Yuma Area Office (489.95af M&I Conversion)	Yuma County		0	0	0	0	0	0	0	0
2/3 Yuma Mesa Fruit Growers	Yuma County		0	0	0	0	0	0	0	3
2/3 Yuma Mesa Irrigation & Drainage District (10,000af M&I)	Yuma County	0.936	0	0	0	0	0	0	3,910	35,867
2/3 University of Arizona	Yuma County		0	0	0	0	0	0	22	206

Table G-46
Arizona Agricultural Consumptive Use Shortages

2040			Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Consumptive Use Shortages			County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)		Yuma County		0	0	0	0	0	0	2	15
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	324	2,968
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.982	0	0	0	0	0	0	7,296	66,937
2/3	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	96	883
2/3	Sturges, Harold (not taking water)		Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)		Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)		Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****		Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association		Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Consumptive Use Shortages					5,123	10,246	12,808	15,370	20,493	30,739	56,338	157,885
Agricultural Consumptive Use Shortage by County			# of Tribes in the County									
Coconino County			0		0	0	0	0	0	0	0	0
La Paz County			4		1,354	2,707	3,384	4,061	5,415	8,122	11,603	11,603
Maricopa County			0		0	0	0	0	0	0	0	0
Mohave County			6		1,917	3,833	4,792	5,750	7,667	11,500	16,430	16,430
Pinal County			1		3,385	5,718	5,718	5,718	5,718	5,718	5,718	5,718
Yuma County			32		1,853	3,706	4,632	5,559	7,411	11,117	28,305	129,852
Total Agricultural Consumptive Use Shortage by County			43		8,508	15,965	18,526	21,088	26,211	36,458	62,057	163,603

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

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Table G-47
Arizona Tribal Diversion Shortages

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Diversion Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
Ak-Chin Indian Community		Pinal County	0	0	0	451	5,305	15,015	28,770	39,147
Fort McDowell		Maricopa County	0	0	0	299	3,518	9,955	18,233	18,233
Gila River		Maricopa and Pinal County	36,182	74,018	91,576	106,822	132,936	185,163	252,323	252,323
TON-Chui Chu		Pinal County	0	323	762	918	2,189	4,731	8,000	8,000
TON-San Xavier		Pima County	10,399	17,568	17,568	18,011	22,777	32,310	44,568	44,568
TON-Schuk Toak		Pima County	2,351	3,972	3,972	4,149	6,055	9,869	14,772	14,772
Pasqua Yaqui		Pima County	0	0	0	8	96	273	500	500

Table G-47
Arizona Tribal Diversion Shortages

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Diversion Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Salt River	Maricopa County	0	0	0	1,526	3,639	7,866	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	6,713	13,315	26,520	43,500	43,500
	Tonto Apache	Gila County	0	0	0	2	25	70	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	20	232	655	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	8	96	273	500	500
	Unallocated HVID	Maricopa County	0	0	0	20	235	665	1,218	1,218
	Reserved Federal	---	25,239	42,636	42,636	42,636	42,636	42,636	42,636	42,636
Total CAP Tribal Diversion Shortages			74,171	138,517	156,515	181,583	233,056	336,001	469,648	480,025
Non-CAP Arizona Tribal Diversion Shortages										
	Cocopah Indian Reservation	Yuma County	159	318	397	477	636	954	1,362	1,362
	Hopi Tribe (new entitlement)	La Paz County	688	1,376	1,720	2,064	2,752	4,129	5,898	5,898
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Diversion Shortages			847	1,694	2,118	2,541	3,388	5,082	7,261	7,261
Tribal Diversion Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	6,735	13,572	27,245	44,828	44,828
	La Paz County	2	688	1,376	1,720	2,064	2,752	4,129	5,898	5,898
	Maricopa County	3	10,855	22,205	27,473	33,892	47,273	74,035	108,448	108,448
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	12,751	21,540	21,540	22,168	28,929	42,451	59,840	59,840
	Pinal County	2	25,327	52,135	64,866	76,144	100,550	149,360	213,395	223,773
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	8	96	273	500	500
	Yuma County	2	159	318	397	477	636	954	1,362	1,362
	---	1	25,239	42,636	42,636	42,636	42,636	42,636	42,636	42,636
Total Tribal Diversion Shortages by County			75,018	140,211	158,632	184,124	236,444	341,083	476,908	487,285

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona
*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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Table G-48
Arizona Tribal Consumptive Use Shortages

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Ak-Chin Indian Community	Pinal County	0	0	0	451	5,305	15,015	28,770	39,147
	Fort McDowell	Maricopa County	0	0	0	299	3,518	9,955	18,233	18,233
	Gila River	Maricopa and Pinal County	36,182	74,018	91,576	106,822	132,936	185,163	252,323	252,323
	TON-Chui Chu	Pinal County	0	323	762	918	2,189	4,731	8,000	8,000
	TON-San Xavier	Pima County	10,399	17,568	17,568	18,011	22,777	32,310	44,568	44,568
	TON-Schuk Toak	Pima County	2,351	3,972	3,972	4,149	6,055	9,869	14,772	14,772
	Pasqua Yaqui	Pima County	0	0	0	8	96	273	500	500

Table G-48
Arizona Tribal Consumptive Use Shortages

2040		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Salt River	Maricopa County	0	0	0	1,526	3,639	7,866	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	6,713	13,315	26,520	43,500	43,500
	Tonto Apache	Gila County	0	0	0	2	25	70	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	20	232	655	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	8	96	273	500	500
	Unallocated HVID	Maricopa County	0	0	0	20	235	665	1,218	1,218
	Reserved Federal	---	25,239	42,636	42,636	42,636	42,636	42,636	42,636	42,636
	Total CAP Tribal Consumptive Use Shortages		74,171	138,517	156,515	181,583	233,056	336,001	469,648	480,025
	Non-CAP Arizona Tribal Consumptive Use Shortages									
	Cocopah Indian Reservation	Yuma County	156	312	390	468	624	936	1,337	1,337
	Hopi Tribe (new entitlement)	La Paz County	447	895	1,118	1,342	1,789	2,684	3,834	3,834
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
	Total Non-CAP Arizona Tribal Consumptive Use Shortages		603	1,207	1,508	1,810	2,413	3,620	5,171	5,171
	Tribal Consumptive Use Shortages by County	Number of Tribes in the County								
	Gila County	3	0	0	0	6,735	13,572	27,245	44,828	44,828
	La Paz County	2	447	895	1,118	1,342	1,789	2,684	3,834	3,834
	Maricopa County	3	10,855	22,205	27,473	33,892	47,273	74,035	108,448	108,448
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	12,751	21,540	21,540	22,168	28,929	42,451	59,840	59,840
	Pinal County	2	25,327	52,135	64,866	76,144	100,550	149,360	213,395	223,773
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	8	96	273	500	500
	Yuma County	2	156	312	390	468	624	936	1,337	1,337
	---	1	25,239	42,636	42,636	42,636	42,636	42,636	42,636	42,636
	Total Tribal Consumptive Use Shortages by County	18	74,774	139,723	158,023	183,393	235,469	339,620	474,819	485,196

Notes:
 1 means Priority One in Arizona
 2/3 means Priority Two/Three in Arizona
 4 means Priority Four in Arizona
 *Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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1 **Attachment 7: 2060 Summary Output of Shortages**

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Table G-49
Lower Colorado River Shortage Summary

2060	Lower Colorado River Shortage Volumes in Annual Acre-Feet								
Stage I Shortage:	200,000	400,000	500,000	600,000	800,000	1,200,000	1,714,362	1,714,362	
Stage II Shortage:	0	0	0	0	0	0	85,638	785,638	
Total U.S. & Mexican Shortage	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000	
Mexico	33,333	66,667	83,333	100,000	133,333	200,000	300,000	416,667	
Nevada	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333	
Surplus Water - SNWA	0	0	0	0	0	0	0	0	
8th Priority (SNWA - Balance & Unused)	6,667	13,333	16,667	20,000	26,667	40,000	60,000	70,914	
8th Priority (SNWA & Big Bend)	0	0	0	0	0	0	0	12,419	
7th Priority (Boy Scouts, BOR, NV Dept of...)	0	0	0	0	0	0	0	0	
6th Priority (Las Vegas Valley Water District)	0	0	0	0	0	0	0	0	
5th Priority (PABCO & Lakeview Co.)	0	0	0	0	0	0	0	0	
4th Priority (Henderson & Basic Management)	0	0	0	0	0	0	0	0	
3rd Priority (Boulder City)	0	0	0	0	0	0	0	0	
2nd Priority (Lake Mead National Rec Area)	0	0	0	0	0	0	0	0	
1st Priority (PPR's: LMNRA & Fort Mohave)	0	0	0	0	0	0	0	0	
SUBTOTAL	6,667	13,333	16,667	20,000	26,667	40,000	60,000	83,333	
Arizona	160,000	320,000	400,000	480,000	640,000	960,000	1,388,281	1,525,531	
Surplus Contracts (Hopi Tribe, Mohave Co., Ag)	0	0	0	0	0	0	0	0	
5th Priority & CAP Bank (unused)	0	0	0	0	0	0	0	0	
4th Priority (River users and CAP)	160,000	320,000	400,000	480,000	640,000	960,000	1,371,490	1,371,490	
CAP Excess Water for Agriculture ¹	0	0	0	0	0	0	0	0	
CAP NIA Priority (M&I, Indian, and Agriculture) ²	222,436	258,060	258,060	258,060	258,060	258,060	258,060	258,060	
CAP Indian Priority	132,218	172,941	186,015	211,449	262,604	364,913	497,743	508,120	
CAP M&I Priority	90,217	190,126	247,367	292,248	381,725	560,677	791,351	795,917	
2/3 Priority (includes some CAP entitlements)	0	0	0	0	0	0	16,791	154,042	
1st Priority (PPR's)	0	0	0	0	0	0	0	0	
SUBTOTAL	160,000	320,000	400,000	480,000	640,000	960,000	1,388,281	1,525,531	
California	0	0	0	0	0	0	51,719	474,468	
Surplus (BLM, Needles, Coachella, Navy, MET)	0	0	0	0	0	0	0	0	
7th Priority (unused & surplus - CVWD, IID, PVID)	0	0	0	0	0	0	0	0	
6th Priority (unused & surplus - MET)	0	0	0	0	0	0	0	0	
5th Priority (MET)	0	0	0	0	0	0	51,719	474,468	
4th Priority (PVID, CVWD, IDD - MET & San Diego)	0	0	0	0	0	0	0	0	
3rd Priority (Reservation Division)	0	0	0	0	0	0	0	0	
2nd Priority (PVID)	0	0	0	0	0	0	0	0	
1st Priority (PPR's - include PVID & IID)	0	0	0	0	0	0	0	0	
SUBTOTAL	0	0	0	0	0	0	51,719	474,468	
TOTAL	200,000	400,000	500,000	600,000	800,000	1,200,000	1,800,000	2,500,000	

¹Shortage allocation may be zero if excess water for agriculture is not available.

² It is important to note that the schedules were inadvertently not adjusted after year 2044 to account for the M&I transfer in the AWSA, therefore impacts are over stated to the NIA priority in year 2060. This error will be fixed for the Final EIS.

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Table G-50
Arizona M&I Consumptive Use Shortages

2060			Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP M&I	County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000	
Apache Junction (AZ Water Co)	Pinal County		0	747	1,248	1,640	2,423	3,988	6,000	6,000	
Avra Coop	Pima County		0	101	168	221	326	537	808	808	
AZ-American (Agua Fria)	Maricopa County		0	1,382	2,307	3,033	4,479	7,373	11,093	11,093	
AZ-American (Paradise Valley)	Maricopa County		0	402	672	883	1,305	2,147	3,231	3,231	
AZ-American (Sun City)	Maricopa County		0	522	871	1,145	1,692	2,784	4,189	4,189	
AZ-American (Sun City West)	Maricopa County		0	295	493	648	958	1,576	2,372	2,372	
AZ State Land Dept.	Maricopa County		0	2,501	4,175	5,489	8,107	13,343	20,076	20,076	
ASARCO (Ray Mine)	Pima County		0	2,616	4,368	5,741	8,480	13,957	21,000	21,000	
Avondale	Maricopa County		0	675	1,126	1,481	2,187	3,600	5,416	5,416	
Berneil Water Co (Cave Creek)	Maricopa County		0	25	42	55	81	133	200	200	
Buckeye	Maricopa County		0	3	5	7	10	17	25	25	
Carefree Water Co	Maricopa County		0	162	270	355	525	864	1,300	1,300	
Casa Grande (AZ Water Co)	Pinal County		0	1,107	1,848	2,429	3,587	5,904	8,884	8,884	
Cave Creek Water Co	Maricopa County		0	300	500	658	972	1,599	2,406	2,406	
CAGR D	Maricopa County		0	965	1,611	2,118	3,128	5,148	7,746	7,746	
Chandler*	Maricopa County		2,382	4,209	5,178	5,937	7,450	10,477	14,479	15,366	
Chandler Heights Citrus ID	Maricopa County		0	39	66	86	127	209	315	315	
Chaparral City Water Co	Maricopa County		0	1,110	1,853	2,436	3,597	5,921	8,909	8,909	
Circle City Water Co	Maricopa County		0	490	818	1,075	1,588	2,613	3,932	3,932	
Comm. Water Co (Green Valley)	Pima County		0	356	594	781	1,154	1,899	2,858	2,858	
Coolidge (AZ Water Co)	Pinal County		0	249	416	547	808	1,329	2,000	2,000	
El Mirage	Maricopa County		0	63	106	139	205	338	508	508	
Eloy	Pinal County		0	270	452	594	877	1,443	2,171	2,171	
Florence	Pinal County		0	255	426	560	827	1,361	2,048	2,048	
Flowing Wells ID	Pima County		0	542	906	1,190	1,758	2,894	4,354	4,354	
Gilbert	Maricopa County		933	1,984	2,587	3,061	4,004	5,891	8,489	9,893	
Glendale	Maricopa County		414	2,627	4,065	5,193	7,440	11,936	17,793	18,415	
Goodyear	Maricopa County		0	1,338	2,234	2,937	4,338	7,139	10,742	10,742	
Green Valley DWID	Pima County		0	237	395	519	767	1,263	1,900	1,900	
H2O Water Co	Maricopa County		0	18	31	40	59	98	147	147	
Marana	Pima County		0	6	10	13	19	31	47	47	
Maricopa County Parks & Rec	Maricopa County		0	83	138	182	269	442	665	665	
Mesa*	Maricopa County		3,371	9,942	13,982	17,150	23,466	36,096	52,408	52,981	
MDWID	Pima County		0	1,676	2,799	3,680	5,435	8,946	13,460	13,460	
Oro Valley	Pima County		0	1,284	2,143	2,817	4,161	6,849	10,305	10,305	
Peoria	Maricopa County		0	3,143	5,249	6,899	10,190	16,772	25,236	25,236	
Phelps Dodge Miami	Gila County		0	362	604	794	1,173	1,931	2,906	2,906	
Phoenix*	Maricopa County		22,633	47,465	61,670	72,807	95,011	139,419	196,649	197,687	
Phoenix Memorial Park	Maricopa County		0	10	17	23	34	56	84	84	
Pine Water Co	Gila County		0	20	33	44	65	107	161	161	
Queen Creek Water Co	Maricopa County		0	43	72	95	141	231	348	348	
Rio Verde Utilities	Maricopa County		0	101	169	222	328	540	812	812	
San Tan ID	Maricopa County		0	29	49	65	95	157	236	236	
Scottsdale*	Maricopa County		2,007	9,315	13,995	17,664	24,979	39,609	58,424	58,445	
Spanish Trail Water Co	Pima County		0	378	632	830	1,226	2,018	3,037	3,037	
Superior	Pinal County		0	35	59	78	115	189	285	285	
Surprise	Maricopa County		0	1,277	2,132	2,802	4,139	6,812	10,249	10,249	
Tempe	Maricopa County		14	554	914	1,196	1,759	2,884	4,334	4,354	
Tonto Hills Utility Co	Maricopa County		0	9	15	19	29	47	71	71	
Tucson	Pima County		0	17,957	29,985	39,416	58,217	95,819	144,172	144,172	
Vail Water Co	Pima County		0	231	386	508	750	1,234	1,857	1,857	
Valley Utilities Water Co	Maricopa County		0	31	52	68	101	166	250	250	

Table G-50
Arizona M&I Consumptive Use Shortages

CAP M&I		2060	County	M&I/Ag Ratio	Lower Colorado River Shortage Volumes in Annual Acre-Feet							
					200000	400000	500000	600000	800000	1200000	1800000	2500000
	Water Util. Comm. Fac. Dist. (AJ)		Pinal County		0	364	607	798	1,179	1,940	2,919	2,919
	Water Util. Greater Buckeye		Maricopa County		0	5	9	12	17	29	43	43
	Water Util. Greater Tonopah		Maricopa County		0	8	13	17	26	43	64	64
	White Tank Sys. (AZ Water Co.)		Maricopa County		0	121	201	265	391	643	968	968
	San Carlos (Phelps Dodge/Globe)		Gila County		0	2,260	3,774	4,961	7,327	12,059	18,145	18,145
	State Reserved		All Counties in CAP		52,983	61,468	61,468	61,468	61,468	61,468	61,468	61,468
M&I Subtotal					84,737	183,768	241,009	285,891	375,367	554,319	784,993	789,559
Arizona M&I												
4	Arizona State Land Department		Yuma County		91	182	227	273	364	546	780	780
4	Arizona State Parks Board - Contact Point		Mohave County		2	3	4	5	6	9	13	13
4	Arizona State Parks Board - Windsor Beach		Mohave County		2	5	6	7	9	14	20	20
4	Arizona-American Water Company		Mohave County		37	74	93	111	148	223	318	318
4	Brooke Water Company (formerly Graham)		La Paz County		10	20	25	30	40	59	85	85
4	Bullhead City		Mohave County		1,367	2,733	3,416	4,100	5,466	8,199	11,714	11,714
4	Bureau of Land Management		La Paz County		99	199	248	298	397	596	851	851
4	Cibola Valley Irrigation & Drainage District***** (M&I: 300af)		La Paz County	0.039	35	70	87	105	140	210	300	300
4	City of Somerton (new contract)		Yuma County		58	115	144	173	231	346	495	495
4	City of Yuma (Smucker Park)		Yuma County		0	0	0	0	0	0	0	0
4	Crystal Beach Water Conservation District		Mohave County		10	19	24	29	38	57	82	82
4	Desert Lawn Memorial Park Association, Inc.		Yuma County		2	3	4	5	7	10	15	15
4	Ehrenburg Improvement District		La Paz County		52	105	131	157	209	314	448	448
4	Fisher's Landing Water and Sewer Works, LLC		Yuma County		4	8	10	12	16	24	34	34
4	Gold Dome Mining Corporation		Yuma County		0	0	0	0	0	0	0	0
4	Gold Standard Mines Corporation		Mohave County		0	0	0	0	0	0	0	0
4	Golden Shores Water Conservation District		Mohave County		73	146	183	219	293	439	627	627
4	Hillcrest Water Company		La Paz County		6	11	14	17	23	34	49	49
4	Lake Havasu City		Mohave County		1,920	3,840	4,800	5,760	7,679	11,519	16,457	16,457
4	Marble Canyon Company, Inc.		Cocconino County		2	4	5	5	7	11	16	16
4	Martinez Lake Cabin Sites (recommended)		Yuma County		2	3	4	5	7	10	15	15
4	McAlister, Maurice L.		Mohave County		0	1	1	1	2	3	4	4
4	Mohave County Water Authority (recommended 3,500af)		Mohave County		731	1,462	1,828	2,193	2,924	4,386	6,266	6,266
4	Subcontract to Bullhead City (6,000 AF)		Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Lake Havasu City (6,000 AF)		Mohave County		0	0	0	0	0	0	0	0
4	Subcontract to Mohave Water Cons. Dist. (3,000 AF)		Mohave County		0	0	0	0	0	0	0	0
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)		Mohave County	0.229	583	1,167	1,458	1,750	2,333	3,500	5,000	5,000
4	Mohave Water Conservation District		Mohave County		97	195	244	292	390	584	835	835
4	North Baja LLC (formerly Jamar Produce) (72af M&I)		La Paz County	0.185	8	17	21	25	34	50	72	72
4	Roy, Edward P. & Anna R.		Yuma County		0	0	0	0	0	1	1	1
4	Shepard Water Company		Yuma County		4	8	9	11	15	23	33	33
4	City of Parker		La Paz County		65	130	163	195	260	391	558	558
4	Town of Quartzsite		La Paz County		65	130	162	195	259	389	556	556
4	Verizon (formerly Continental Telephone)		La Paz County		0	0	0	0	0	1	1	1
2/3	Cibola National Wildlife Refuge		La Paz County		0	0	0	0	0	0	455	4,171
2/3	Yuma Irrigation District (5,000af M&I)		Yuma County	0.147	0	0	0	0	0	0	134	1,226
2/3	National Park Service		Mohave County		0	0	0	0	0	0	20	181
2/3	Yuma Union High School		Yuma County		0	0	0	0	0	0	3	29
2/3	Union Pacific Railroad (formerly Southern Pacific Co.)		Yuma County		0	0	0	0	0	0	1	7
2/3	Kaman, Inc.		Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma		Yuma County		0	0	0	0	0	0	1,123	10,305
2/3	Department of Navy MCAS		Yuma County		0	0	0	0	0	0	57	522
2/3	Yuma County Water Users' Association (14,701af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)		Yuma County		0	0	0	0	0	0	0	0
2/3	City of Yuma (cemetary)		Yuma County		0	0	0	0	0	0	0	0

Table G-50
Arizona M&I Consumptive Use Shortages

2060				Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP M&I			County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)		Yuma County	0.064	0	0	0	0	0	0	267	2,452
2/3	Desert Lawn Memorial Park		Yuma County		0	0	0	0	0	0	4	34
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.018	0	0	0	0	0	0	134	1,226
2/3	Chandler (Salt River Pima-Maricopa Exchange)****		Maricopa		0	0	0	0	0	0	114	1,049
2/3	Gilbert (Salt River Pima-Maricopa Exchange)****		Maricopa		0	0	0	0	0	0	181	1,658
2/3	Glendale (Salt River Pima-Maricopa Exchange)****		Maricopa		0	0	0	0	0	0	80	736
2/3	Mesa (Salt River Pima-Maricopa Exchange)****		Maricopa		0	0	0	0	0	0	74	677
2/3	Phoenix (Salt River Pima-Maricopa Exchange)****		Maricopa		0	0	0	0	0	0	134	1,226
2/3	Scottsdale (Salt River Pima-Maricopa Exchange)****		Maricopa		0	0	0	0	0	0	3	25
2/3	Tempe (Salt River Pima-Maricopa Exchange)****		Maricopa		0	0	0	0	0	0	3	25
2/3	Department of Army - Yuma Proving Ground		Yuma County		0	0	0	0	0	0	20	186
2/3	Bureau of Reclamation - Davis Dam		Mohave County		0	0	0	0	0	0	0	0
2/3	Imperial National Wildlife Refuge		La Paz County		0	0	0	0	0	0	97	887
2/3	Havasus Lake National Wildlife Refuge (2004 over use of 7,777af)		Mohave County		0	0	0	0	0	0	129	1,187
1	Brooke Water Company (formerly Graham)		La Paz County		0	0	0	0	0	0	0	0
1	City of Parker		La Paz County		0	0	0	0	0	0	0	0
1	Miller (in MVIDD)		Mohave County		0	0	0	0	0	0	0	0
1	Swan (in MVIDD)		Mohave County		0	0	0	0	0	0	0	0
1	City of Yuma		Yuma County		0	0	0	0	0	0	0	0
Total Arizona M&I:					5,325	10,650	13,312	15,975	21,299	31,949	48,675	73,452
M&I Summary by County			# of Tribes in the County									
	Coconino County		1		2	4	5	5	7	11	16	16
	Gila County		3		0	2,642	4,412	5,799	8,565	14,098	21,212	21,212
	La Paz County		13		341	681	852	1,022	1,362	2,044	3,471	7,978
	Maricopa County		36		31,755	91,247	127,688	156,261	213,224	327,151	474,208	478,775
	Mohave County		20		4,822	9,645	12,056	14,467	19,289	28,934	41,485	42,704
	Pima County		11		0	25,384	42,386	55,717	82,294	135,447	203,798	203,798
	Pinal County		7		0	3,028	5,055	6,645	9,815	16,155	24,307	24,307
	Yuma County		24		160	320	400	480	641	961	3,115	17,360
	All Counties in CAP		1		52,983	61,468	61,468	61,468	61,468	61,468	61,468	61,468
	(blank)		0		0	0	0	0	0	0	0	0
Total Arizona M&I:					90,062	194,418	254,322	301,866	396,667	586,268	833,080	857,617

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

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Table G-51
Arizona Agricultural Diversion Shortages

2060				Lower Colorado River Shortage Volumes in Annual Acre-Feet								
Arizona Agricultural Diversion Shortages			County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA		Maricopa/Pinal/Pima		0	0	0	0	0	0	0	0
CAP	Arizona State Land Department		Pinal County		5,480	6,357	6,357	6,357	6,357	6,357	6,357	6,357
4	Arizona State Land Department		Yuma County		1,005	2,010	2,513	3,016	4,021	6,031	8,616	8,616
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)		Yuma County		129	259	324	388	518	777	1,110	1,110
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)		Yuma County		305	611	763	916	1,221	1,832	2,617	2,617

Table G-51
Arizona Agricultural Diversion Shortages

2060			Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Diversion Shortages			County	M&I/Ag Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
4	Cibola Resources		La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)		La Paz County	0.961	1,216	2,432	3,040	3,648	4,864	7,296	10,423	10,423
4	Curtis, Armon (Curry Family LTD)		Yuma County		44	87	109	131	174	262	374	374
4	Gila Monster Farms (formerly Sturges Farms Inc.)		Yuma County		192	385	481	577	769	1,154	1,648	1,648
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)		Yuma County		194	388	485	582	775	1,163	1,662	1,662
4	Mohave County Water Authority (new entitlement)		La Paz County		1,355	2,711	3,388	4,066	5,421	8,132	11,618	11,618
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)		Mohave County	0.771	3,633	7,266	9,083	10,899	14,532	21,798	31,142	31,142
4	North Baja LLC (formerly Jamar Produce) (72af M&I)		La Paz County	0.815	53	105	132	158	211	316	451	451
4	Ogram Boys Enterprises (new contract)		Yuma County		134	269	336	403	537	806	1,151	1,151
4	Ogram, George		Yuma County		70	140	175	209	279	419	598	598
4	Pasquinelli, Gary and Barbara (formerly Ansel Hall)		Yuma County		74	148	185	222	297	445	635	635
4	Peach, John (2004 over use of 45af)		Yuma County		82	164	205	246	327	491	702	702
4	Phillips, Milton and Jean		Yuma County		3	6	8	10	13	19	28	28
4	Rayner Ranches		Yuma County		650	1,301	1,626	1,951	2,602	3,903	5,576	5,576
2/3	Yuma Irrigation District (5,000af M&I)		Yuma County	0.853	0	0	0	0	0	0	1,698	15,576
2/3	Yuma County Water Users' Association (14,701af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)		Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers		Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)		Yuma County	0.936	0	0	0	0	0	0	7,544	69,208
2/3	University of Arizona		Yuma County		0	0	0	0	0	0	22	206
2/3	Yuma Mesa Grapefruit Company (Camille Allec, Jr.)		Yuma County		0	0	0	0	0	0	2	21
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Auxiliary Project (Unit B)		Yuma County		0	0	0	0	0	0	536	4,918
2/3	Wellton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.982	0	0	0	0	0	0	11,595	106,368
2/3	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	178	1,636
2/3	Sturges, Harold (not taking water)		Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)		Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)		Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****		Yuma County		0	0	0	0	0	0	0	0
1	Yuma Auxiliary Project (Unit B)		Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Sherill & Lafollette (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association		Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Diversion Shortages					9,140	18,281	22,851	27,421	36,562	54,842	99,926	276,285
Agricultural Diversion Shortage by County			# of Tribes in the County									
Coconino County			0		0	0	0	0	0	0	0	0
La Paz County			4		2,624	5,248	6,560	7,872	10,496	15,744	22,492	22,492
Maricopa County			0		0	0	0	0	0	0	0	0
Mohave County			6		3,633	7,266	9,083	10,899	14,532	21,798	31,142	31,142
Pinal County			1		5,480	6,357	6,357	6,357	6,357	6,357	6,357	6,357
Yuma County			32		2,883	5,767	7,209	8,650	11,534	17,301	46,292	222,652
Total Agricultural Diversion Shortage by County					43	14,620	24,638	29,209	33,779	42,919	61,200	282,643

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

Table G-52
Arizona Agricultural Consumptive Use Shortages

2060			Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Consumptive Use Shortages			County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP	Agricultural Relinquished Water Contracts under AWSA		Maricopa/Pinal/Pima			0	0	0	0	0	0	0
CAP	Arizona State Land Department		Pinal County		5,480	6,357	6,357	6,357	6,357	6,357	6,357	6,357
4	Arizona State Land Department		Yuma County		653	1,307	1,633	1,960	2,613	3,920	5,600	5,600
4	Beattie Farms Southwest (new contract) (2004 over use of 263af)		Yuma County		84	168	210	253	337	505	722	722
4	ChaCha (Curtis Family Trust) (Auza Farm and West Farm) (over 13af)		Yuma County		198	397	496	595	794	1,191	1,701	1,701
4	Cibola Resources		La Paz County		0	0	0	0	0	0	0	0
4	Cibola Valley Irrigation & Drainage District (M&I: 300af)		La Paz County	0.961	869	1,739	2,173	2,608	3,478	5,216	7,452	7,452
4	Curtis, Armon (Curry Family LTD)		Yuma County		28	57	71	85	113	170	243	243
4	Gila Monster Farms (formerly Sturges Farms Inc.)		Yuma County		104	208	259	311	415	623	890	890
4	Jessen Family Limited (new contract) (2004 over use of 4,984af)		Yuma County		126	252	315	378	504	756	1,080	1,080
4	Mohave County Water Authority (new entitlement)		La Paz County		447	895	1,118	1,342	1,789	2,684	3,834	3,834
4	Mohave Valley Irrigation and Drainage District (5,000af M&I)		Mohave County	0.771	1,962	3,924	4,905	5,886	7,848	11,771	16,817	16,817
4	North Baja LLC (formerly Jamar Produce) (72af M&I)		La Paz County	0.815	37	74	92	111	148	222	317	317
4	Ogram Boys Enterprises (new contract)		Yuma County		87	175	218	262	349	524	748	748
4	Ogram, George		Yuma County		45	91	113	136	182	272	389	389
4	Pasquinelli, Gary and Barbara (formerly Ansel Hall)		Yuma County		48	96	120	145	193	289	413	413
4	Peach, John (2004 over use of 45af)		Yuma County		53	106	133	160	213	319	456	456
4	Phillips, Milton and Jean		Yuma County		2	4	5	6	8	13	18	18
4	Rayner Ranches		Yuma County		423	845	1,057	1,268	1,691	2,536	3,623	3,623
2/3	Yuma Irrigation District (5,000af M&I)		Yuma County	0.853	0	0	0	0	0	0	773	7,091
2/3	Yuma County Water Users' Association (14,701af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Area Office (489.95af M&I Conversion)		Yuma County		0	0	0	0	0	0	0	0
2/3	Yuma Mesa Fruit Growers		Yuma County		0	0	0	0	0	0	0	3
2/3	Yuma Mesa Irrigation & Drainage District (10,000af M&I)		Yuma County	0.936	0	0	0	0	0	0	3,910	35,868
2/3	University of Arizona		Yuma County		0	0	0	0	0	0	22	206
2/3	Yuma Mesa Grapefruit Company (Camille Allec Jr.)		Yuma County		0	0	0	0	0	0	2	15
2/3	North Gila Valley Irrigation District (2,500af M&I)		Yuma County	0.000	0	0	0	0	0	0	0	0
2/3	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	324	2,968
2/3	Welton-Mohawk Irrigation and Drainage District (5,000af M&I)		Yuma County	0.982	0	0	0	0	0	0	7,297	66,939
2/3	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	96	883
2/3	Sturges, Harold (not taking water)		Yuma County		0	0	0	0	0	0	0	0
2/3	Sturges, Irma (not taking water)		Yuma County		0	0	0	0	0	0	0	0
1	Molina (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
1	Gila Monster Farms (formerly Sturges)		Yuma County		0	0	0	0	0	0	0	0
1	Powers (Power, R.E. & P.) (2004 use 384af over entitlement)		Yuma County		0	0	0	0	0	0	0	0
1	Zozaya (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	North Gila Valley Irrigation District****		Yuma County		0	0	0	0	0	0	0	0
1	Yuma Axillary Project (Unit B)		Yuma County		0	0	0	0	0	0	0	0
1	Hulet (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Holpal (in MVIDD/formerly Hurschler) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	McKellips and Granite Reef Farms (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Sherill & LaFollette (in MVIDD) (Water Use Not Reported)		Mohave County		0	0	0	0	0	0	0	0
1	Yuma County Water Users' Association		Yuma County		0	0	0	0	0	0	0	0
1	Phillips, Milton and Jean (Water Use Not Reported)		Yuma County		0	0	0	0	0	0	0	0
Total Arizona Agricultural Consumptive Use Shortages					5,168	10,337	12,921	15,505	20,673	31,010	56,726	158,276
Agricultural Consumptive Use Shortage by County			# of Tribes in the County									
	Coconino County		0		0	0	0	0	0	0	0	0
	La Paz County		4		1,354	2,707	3,384	4,061	5,415	8,122	11,603	11,603
	Maricopa County		0		0	0	0	0	0	0	0	0

Table G-52
Arizona Agricultural Consumptive Use Shortages

2060		Lower Colorado River Shortage Volumes in Annual Acre-Feet									
Arizona Agricultural Consumptive Use Shortages		County	Ratio	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Mohave County	6		1,962	3,924	4,905	5,886	7,848	11,771	16,817	16,817
	Pinal County	1		5,480	6,357	6,357	6,357	6,357	6,357	6,357	6,357
	Yuma County	32		1,853	3,706	4,632	5,559	7,411	11,117	28,306	129,855
	Total Agricultural Consumptive Use Shortage by County	43		10,648	16,694	19,278	21,863	27,031	37,368	63,083	164,633

Notes:
1 means Priority One in Arizona
2/3 means Priority Two/Three in Arizona
4 means Priority Four in Arizona

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Table G-53
Arizona Tribal Diversion Shortages

2060		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
CAP Tribal Diversion Shortages										
	Ak-Chin Indian Community	Pinal County	0	0	0	618	5,442	15,092	28,770	39,147
	Fort McDowell	Maricopa County	0	0	0	410	3,608	10,006	18,233	18,233
	Gila River	Maricopa and Pinal County	58,575	87,026	99,781	114,554	140,506	192,411	259,156	259,156
	TON-Chui Chu	Pinal County	0	477	796	962	2,225	4,751	8,000	8,000
	TON-San Xavier	Pima County	26,739	31,022	31,022	31,628	36,365	45,839	58,022	58,022
	TON-Schuk Toak	Pima County	6,045	7,014	7,014	7,256	9,151	12,941	17,814	17,814
	Pasqua Yaqui	Pima County	0	0	0	11	99	274	500	500
	Salt River	Maricopa County	0	0	0	1,599	3,699	7,899	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	6,940	13,502	26,625	43,500	43,500
	Tonto Apache	Gila County	0	0	0	3	25	70	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	27	237	659	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	11	99	274	500	500
	Unallocated HVID	Maricopa County	0	0	0	27	241	668	1,218	1,218
	Reserved Federal	---	40,859	47,403	47,403	47,403	47,403	47,403	47,403	47,403
	Total CAP Tribal Diversion Shortages		132,218	172,941	186,015	211,449	262,604	364,913	497,743	508,120
Non-CAP Arizona Tribal Diversion Shortages										
	Cocopah Indian Reservation	Yuma County	159	318	397	477	636	954	1,362	1,362
	Hopi Tribe (new entitlement)	La Paz County	688	1,376	1,720	2,064	2,752	4,129	5,898	5,898
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
	Total Non-CAP Arizona Tribal Diversion Shortages		847	1,694	2,118	2,541	3,388	5,082	7,261	7,261
Tribal Diversion Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	6,970	13,765	27,354	44,828	44,828
	La Paz County	2	688	1,376	1,720	2,064	2,752	4,129	5,898	5,898
	Maricopa County	3	17,572	26,108	29,934	36,402	49,700	76,297	110,498	110,498
	Mohave County	1	0	0	0	0	0	0	0	0

Table G-53
Arizona Tribal Diversion Shortages

2060		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Diversion Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Pima County	3	32,784	38,035	38,035	38,895	45,615	59,054	76,335	76,335
	Pinal County	2	41,002	61,395	70,643	81,767	106,022	154,531	218,179	228,556
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	11	99	274	500	500
	Yuma County	2	159	318	397	477	636	954	1,362	1,362
	---	1	40,859	47,403	47,403	47,403	47,403	47,403	47,403	47,403
Total Tribal Diversion Shortages by County		18	133,066	174,635	188,133	213,990	265,992	369,995	505,003	515,381

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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Table G-54
Arizona Tribal Consumptive Use Shortages

2060		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
	Ak-Chin Indian Community	Pinal County	0	0	0	618	5,442	15,092	28,770	39,147
	Fort McDowell	Maricopa County	0	0	0	410	3,608	10,006	18,233	18,233
	Gila River	Maricopa and Pinal County	58,575	87,026	99,781	114,554	140,506	192,411	259,156	259,156
	TON-Chui Chu	Pinal County	0	477	796	962	2,225	4,751	8,000	8,000
	TON-San Xavier	Pima County	26,739	31,022	31,022	31,628	36,365	45,839	58,022	58,022
	TON-Schuk Toak	Pima County	6,045	7,014	7,014	7,256	9,151	12,941	17,814	17,814
	Pasqua Yaqui	Pima County	0	0	0	11	99	274	500	500
	Salt River	Maricopa County	0	0	0	1,599	3,699	7,899	13,300	13,300
	San Carlos Apache	Gila County	0	0	0	6,940	13,502	26,625	43,500	43,500
	Tonto Apache	Gila County	0	0	0	3	25	70	128	128
	Yavapai Apache (Camp Verde)	Gila County	0	0	0	27	237	659	1,200	1,200
	Yavapai Prescott	Yavapai County (Reassignment to Scottsdale)*	0	0	0	11	99	274	500	500
	Unallocated HVID	Maricopa County	0	0	0	27	241	668	1,218	1,218
	Reserved Federal	---	40,859	47,403	47,403	47,403	47,403	47,403	47,403	47,403
Total CAP Tribal Consumptive Use Shortages			132,218	172,941	186,015	211,449	262,604	364,913	497,743	508,120
Non-CAP Arizona Tribal Consumptive Use Shortages										
	Cocopah Indian Reservation	Yuma County	156	312	390	468	624	936	1,337	1,337
	Hopi Tribe (new entitlement)	La Paz County	447	895	1,118	1,342	1,789	2,684	3,834	3,834
	Fort Mohave Indian Reservation	Mohave County	0	0	0	0	0	0	0	0
	Fort Yuma Indian Reservation (new entitlement)	Yuma County	0	0	0	0	0	0	0	0
	Colorado River Indian Reservation	La Paz County	0	0	0	0	0	0	0	0
Total Non-CAP Arizona Tribal Consumptive Use Shortages			603	1,207	1,508	1,810	2,413	3,620	5,171	5,171

Table G-54
Arizona Tribal Consumptive Use Shortages

2060		Lower Colorado River Shortage Volumes in Annual Acre-Feet								
CAP Tribal Consumptive Use Shortages		County	200000	400000	500000	600000	800000	1200000	1800000	2500000
Tribal Consumptive Use Shortages by County		Number of Tribes in the County								
	Gila County	3	0	0	0	6,970	13,765	27,354	44,828	44,828
	La Paz County	2	447	895	1,118	1,342	1,789	2,684	3,834	3,834
	Maricopa County	3	17,572	26,108	29,934	36,402	49,700	76,297	110,498	110,498
	Mohave County	1	0	0	0	0	0	0	0	0
	Pima County	3	32,784	38,035	38,035	38,895	45,615	59,054	76,335	76,335
	Pinal County	2	41,002	61,395	70,643	81,767	106,022	154,531	218,179	228,556
	Yavapai County (Reassignment to Scottsdale)*	1	0	0	0	11	99	274	500	500
	Yuma County	2	156	312	390	468	624	936	1,337	1,337
	---	1	40,859	47,403	47,403	47,403	47,403	47,403	47,403	47,403
Total Tribal Consumptive Use Shortages by County		18	132,822	174,147	187,523	213,259	265,017	368,533	502,914	513,291

Notes:

1 means Priority One in Arizona

2/3 means Priority Two/Three in Arizona

4 means Priority Four in Arizona

*Yavapai, 500AF was re-assigned to Scottsdale (1994 Act, PL 103-434)

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1 **Attachment 8: Supporting Worksheets in the Shortage Allocation Model**

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Table G-55
Arizona and CAP Summary Schedules

Year	Priority 1 - Priority 3 Mainstem Total with Ten Tribes Partnership Schedule	Priority 4 Mainstem Total	Priority 1 - Priority 4 Mainstem Total	Central Arizona Project Schedule before losses	Central Arizona Project Schedule after losses	Adjusted by Reclamation				Provided by ADWR		
						CAP M&I & Indian Schedule (after losses)	CAP NIA Priority Schedule (after losses)	Excess Water (after losses)	CAP Bank & 5th	CAP M&I & Indian Schedule	CAP NIA Priority Schedule	Excess Water
2008	1,337,954	79,859	1,417,813	1,382,187	1,313,077	520,938	66,304	400,000	325,835	520,938	66,304	400,000
2009	1,350,703	81,161	1,431,864	1,368,136	1,299,729	568,355	67,304	400,000	264,070	568,355	67,304	400,000
2010	1,363,452	82,463	1,445,915	1,354,085	1,286,381	626,548	96,402	400,000	163,430	626,548	96,402	400,000
2011	1,373,770	82,800	1,456,570	1,343,430	1,276,259	673,296	97,402	400,000	105,560	673,296	97,402	400,000
2012	1,384,087	83,138	1,467,225	1,332,775	1,266,136	714,429	98,402	400,000	53,305	714,429	98,402	400,000
2013	1,394,405	83,475	1,477,880	1,322,120	1,256,014	750,424	99,402	400,000	6,188	750,424	99,402	400,000
2014	1,404,722	83,812	1,488,535	1,311,465	1,245,892	779,002	100,402	366,488	0	779,002	100,402	400,000
2015	1,415,040	84,150	1,499,190	1,300,810	1,235,770	808,019	103,702	324,049	0	808,019	103,702	400,000
2016	1,415,557	84,487	1,500,044	1,299,956	1,234,958	833,480	109,702	291,776	0	833,480	109,702	400,000
2017	1,416,075	84,825	1,500,899	1,299,101	1,234,146	845,753	115,702	272,691	0	845,753	115,702	300,000
2018	1,416,592	85,415	1,502,007	1,297,993	1,233,093	849,457	121,702	261,934	0	849,457	121,702	300,000
2019	1,417,110	86,005	1,503,115	1,296,885	1,232,041	853,161	127,702	251,178	0	853,161	127,702	300,000
2020	1,417,627	85,133	1,502,760	1,297,240	1,232,378	863,860	161,801	206,717	0	863,860	161,801	300,000
2021	1,418,119	85,619	1,503,738	1,296,262	1,231,449	873,758	167,801	189,889	0	873,758	167,801	300,000
2022	1,418,612	86,105	1,504,717	1,295,283	1,230,519	881,977	173,801	174,741	0	881,977	173,801	300,000
2023	1,419,104	86,591	1,505,695	1,294,305	1,229,590	890,201	179,801	159,588	0	890,201	179,801	300,000
2024	1,419,596	87,077	1,506,673	1,293,327	1,228,661	898,420	185,801	144,440	0	898,420	185,801	225,000
2025	1,420,088	87,562	1,507,651	1,292,349	1,227,732	906,596	215,921	105,215	0	906,596	215,921	225,000
2026	1,420,580	88,046	1,508,626	1,291,374	1,226,805	914,785	246,041	65,979	0	914,785	246,041	225,000
2027	1,421,073	88,529	1,509,601	1,290,399	1,225,879	922,969	271,041	31,869	0	922,969	271,041	225,000
2028	1,421,565	89,012	1,510,577	1,289,423	1,224,952	931,152	293,800	0	0	931,152	306,281	225,000
2029	1,422,057	89,495	1,511,552	1,288,448	1,224,026	938,423	285,602	0	0	938,423	331,401	225,000
2030	1,422,549	89,978	1,512,527	1,287,473	1,223,099	945,689	277,410	0	0	945,689	360,499	225,000
2031	1,423,041	90,461	1,513,502	1,286,504	1,222,173	952,932	269,152	0	0	952,932	361,499	0
2032	1,423,533	90,944	1,514,477	1,285,536	1,221,247	960,174	260,895	0	0	960,174	362,499	0
2033	1,424,025	91,427	1,515,452	1,284,567	1,220,321	967,417	252,637	0	0	967,417	363,499	0
2034	1,424,517	91,910	1,516,427	1,283,599	1,219,395	974,660	244,379	0	0	974,660	364,499	0
2035	1,425,009	92,393	1,517,402	1,282,630	1,218,469	981,902	236,122	0	0	981,902	364,699	0
2036	1,425,501	92,876	1,518,377	1,281,662	1,217,543	981,902	235,107	0	0	981,902	364,699	0
2037	1,426,000	93,359	1,519,352	1,280,693	1,216,617	981,902	234,092	0	0	981,902	364,699	0
2038	1,426,500	93,842	1,520,327	1,279,724	1,215,691	981,902	233,077	0	0	981,902	364,699	0
2039	1,427,000	94,325	1,521,302	1,278,755	1,214,765	981,902	232,062	0	0	981,902	364,699	0
2040	1,427,500	94,808	1,522,277	1,277,786	1,213,839	981,902	231,047	0	0	981,902	364,699	0
2041	1,428,000	95,291	1,523,252	1,276,817	1,212,913	981,902	230,032	0	0	981,902	364,699	0
2042	1,428,500	95,774	1,524,227	1,275,848	1,211,987	981,902	229,017	0	0	981,902	364,699	0
2043	1,429,000	96,257	1,525,202	1,274,879	1,211,061	981,902	228,002	0	0	981,902	364,699	0
2044	1,429,500	96,740	1,526,177	1,273,910	1,210,135	981,902	226,987	0	0	981,902	317,395	0

Table G-55
Arizona and CAP Summary Schedules

Year	Priority 1 - Priority 3 Mainstem Total with Ten Tribes Partnership Schedule	Priority 4 Mainstem Total	Priority 1 - Priority 4 Mainstem Total	Central Arizona Project Schedule before losses	Central Arizona Project Schedule after losses	Adjusted by Reclamation			CAP Bank & 5th	Provided by ADWR		
						CAP M&I & Indian Schedule (after losses)	CAP NIA Priority Schedule (after losses)	Excess Water (after losses)		CAP M&I & Indian Schedule	CAP NIA Priority Schedule	Excess Water
2045	1,428,510	97,398	1,525,909	1,274,091	1,210,387	981,902	228,485	0	0	981,902	317,395	0
2046	1,428,510	97,938	1,526,448	1,273,552	1,209,874	981,902	227,972	0	0	981,902	317,395	0
2047	1,428,510	98,477	1,526,987	1,273,013	1,209,362	981,902	227,460	0	0	981,902	317,395	0
2048	1,428,510	99,016	1,527,527	1,272,473	1,208,850	981,902	226,948	0	0	981,902	317,395	0
2049	1,428,510	99,556	1,528,066	1,271,934	1,208,337	981,902	226,435	0	0	981,902	317,395	0
2050	1,428,510	100,095	1,528,605	1,271,395	1,207,825	981,902	225,923	0	0	981,902	317,395	0
2051	1,428,510	100,344	1,528,854	1,271,146	1,207,588	981,902	225,686	0	0	981,902	317,395	0
2052	1,428,510	100,593	1,529,103	1,270,897	1,207,352	981,902	225,450	0	0	981,902	317,395	0
2053	1,428,510	100,842	1,529,352	1,270,648	1,207,116	981,902	225,214	0	0	981,902	317,395	0
2054	1,428,510	101,091	1,529,601	1,270,399	1,206,879	981,902	224,977	0	0	981,902	317,395	0
2055	1,428,510	101,340	1,529,850	1,270,150	1,206,643	981,902	224,741	0	0	981,902	317,395	0
2056	1,428,510	101,589	1,530,099	1,269,901	1,206,406	981,902	224,504	0	0	981,902	317,395	0
2057	1,428,510	101,837	1,530,348	1,269,652	1,206,170	981,902	224,268	0	0	981,902	317,395	0
2058	1,428,510	102,086	1,530,597	1,269,403	1,205,933	981,902	224,031	0	0	981,902	317,395	0
2059	1,428,510	102,335	1,530,845	1,269,155	1,205,697	981,902	223,795	0	0	981,902	317,395	0
2060	1,428,510	102,584	1,531,094	1,268,906	1,205,460	981,902	223,558	0	0	981,902	317,395	0

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Table G-56A
CAP M&I Projected Use Schedules

Users	M&I Subcontract	M&I Subcontract Reallocation	M&I Subcontract Other	Total Entitlement	Hohokam Pre-GRIC	Hohokam Post-GRIC	Indian Lease / Assignment	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Apache Junction - Arizona Water Company	6,000			6,000				6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Arizona-American Water Company - Agua Fria	11,093			11,093				10,900	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093
Arizona-American Water Company - Paradise Valley	3,231			3,231				3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231
Arizona-American Water Company - Sun City	4,189			4,189				4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189
Arizona-American Water Company - Sun City West	2,372			2,372				2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372
Arizona State Land Department	20,076			20,076				700	700	700	700	700	700	700	700	700	700	700	700	1,911	3,122	4,333	5,544
ASARCO - Hayden/Ray Mine	21,000			21,000				0	0	0	0	0	0	0	0	0	0	0	0	1,313	2,625	3,938	5,250
Avondale, City of	5,416			5,416				4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,746	4,788	4,830	4,872	4,914
Avra Water Corporation		808		808				0	0	0	0	0	0	0	0	0	0	0	0	51	101	152	202
Bernell Water Company	200			200				0	0	0	0	0	0	0	0	0	0	0	0	13	25	38	50
Buckeye, Town of	25			25				0	0	0	0	0	0	0	0	0	0	0	0	2	3	5	6
Carefree, Town of	1,300			1,300				400	400	400	400	400	400	400	400	400	400	400	400	456	513	569	625

Table G-56A
CAP M&I Projected Use Schedules

Users	M&I Subcontract	M&I Subcontract Reallocation	M&I Subcontract Other	Total Entitlement	Hohokam Pre-GRIC	Hohokam Post-GRIC	Indian Lease / Assignment	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Valley Utility Water Company, Inc.		250		250				0	0	0	0	0	0	0	0	0	0	0	0	16	31	47	63
Water Utilities Community Facilities District	2,919			2,919				50	50	50	50	50	50	50	50	50	50	50	50	229	409	588	767
Water Utility of Greater Buckeye, Inc.	43			43				0	0	0	0	0	0	0	0	0	0	0	0	3	5	8	11
Water Utility of Greater Tonopah, Inc.	64			64				0	0	0	0	0	0	0	0	0	0	0	0	4	8	12	16
White Tanks - Arizona Water Company	968			968				968	968	968	968	968	968	968	968	968	968	968	968	968	968	968	968
CAP M&I TOTAL								388,855	403,697	427,899	445,655	460,078	471,581	482,417	493,693	501,412	512,767	515,553	518,339	528,121	537,102	544,403	551,709

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Table G-56B
CAP M&I Projected Use Schedules

Users	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Apache Junction - Arizona Water Company	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Arizona-American Water Company - Agua Fria	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093	11,093
Arizona-American Water Company - Paradise Valley	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231	3,231
Arizona-American Water Company - Sun City	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189	4,189
Arizona-American Water Company - Sun City West	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372	2,372
Arizona State Land Department	6,755	7,966	9,177	10,388	11,599	12,810	14,021	15,232	16,443	17,654	18,865	20,076
ASARCO - Hayden/Ray Mine	6,563	7,875	9,188	10,500	11,813	13,125	14,438	15,750	17,063	18,375	19,688	21,000
Avondale, City of	4,955	4,997	5,039	5,081	5,123	5,165	5,207	5,249	5,290	5,332	5,374	5,416
Avra Water Corporation	253	303	354	404	455	505	556	606	657	707	758	808
Berneil Water Company	63	75	88	100	113	125	138	150	163	175	188	200
Buckeye, Town of	8	9	11	13	14	16	17	19	20	22	23	25
Carefree, Town of	681	738	794	850	906	963	1,019	1,075	1,131	1,188	1,244	1,300
Casa Grande - Arizona Water Company	4,151	4,582	5,012	5,442	5,872	6,303	6,733	7,163	7,593	8,024	8,454	8,884
Cave Creek Water Company	2,398	2,406	2,406	2,406	2,406	2,406	2,406	2,406	2,406	2,406	2,406	2,406
Central Arizona Groundwater Replenishment District	7,746	7,746	7,746	7,746	7,746	7,746	7,746	7,746	7,746	7,746	7,746	7,746
Chandler, City of	8,654	8,654	8,654	8,654	8,654	8,654	8,654	8,654	8,654	8,654	8,654	8,654
Chandler Heights Citrus Irrigation District	98	118	138	158	177	197	217	236	256	276	295	315

Table G-56B
CAP M&I Projected Use Schedules

Users	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Chaparral City Water Company	6,863	7,048	7,235	7,421	7,606	7,793	7,979	8,166	8,351	8,537	8,724	8,909
Circle City Water Company	1,229	1,475	1,720	1,966	2,212	2,458	2,703	2,949	3,195	3,441	3,686	3,932
Coolidge - Arizona Water Company	625	750	875	1,000	1,125	1,250	1,375	1,500	1,625	1,750	1,875	2,000
Community Water Company of Green Valley	893	1,072	1,250	1,429	1,608	1,786	1,965	2,144	2,322	2,501	2,679	2,858
El Mirage, City of	159	191	222	254	286	318	349	381	413	445	476	508
Eloy, City of	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171	2,171
Florence, Town of	2,048	2,048	2,048	2,048	2,048	2,048	2,048	2,048	2,048	2,048	2,048	2,048
Flowing Wells Irrigation District	1,361	1,633	1,905	2,177	2,449	2,721	2,993	3,266	3,538	3,810	4,082	4,354
Gilbert, Town of	7,235	7,235	7,235	7,235	7,235	7,235	7,235	7,235	7,235	7,235	7,235	7,235
Glendale, City of	15,137	15,328	15,519	15,710	15,900	16,091	16,282	16,473	16,664	16,854	17,045	17,236
Goodyear, City of	10,742	10,742	10,742	10,742	10,742	10,742	10,742	10,742	10,742	10,742	10,742	10,742
Green Valley Water Company	938	1,025	1,113	1,200	1,288	1,375	1,463	1,550	1,638	1,725	1,813	1,900
H2O Water Company, Inc.	46	55	64	74	83	92	101	110	119	129	138	147
Marana, Town of	15	18	21	24	26	29	32	35	38	41	44	47
Maricopa County Parks	655	655	660	660	660	665	665	665	665	665	665	665
Mesa, City of	36,372	37,018	37,678	38,338	38,999	39,659	40,319	40,966	41,593	42,230	42,866	43,503
Metropolitan Domestic Water Improvement District	11,583	11,754	11,924	12,095	12,265	12,436	12,607	12,777	12,948	13,118	13,289	13,460
Oro Valley, Town of	10,305	10,305	10,305	10,305	10,305	10,305	10,305	10,305	10,305	10,305	10,305	10,305
Peoria, City	25,236	25,236	25,236	25,236	25,236	25,236	25,236	25,236	25,236	25,236	25,236	25,236
Phelps-Dodge Miami	908	1,090	1,271	1,453	1,635	1,816	1,998	2,180	2,361	2,543	2,724	2,906
Phoenix, City of	134,120	134,120	134,120	134,120	134,120	134,120	134,120	134,120	134,120	134,120	134,120	134,120
Phoenix Memorial Park	26	32	37	42	47	53	58	63	68	74	79	84
Pine Water Company	50	60	70	81	91	101	111	121	131	141	151	161
Queen Creek Water Company	348	348	348	348	348	348	348	348	348	348	348	348
Rio Verde Utilities, Inc.	812	812	812	812	812	812	812	812	812	812	812	812
San Carlos Apache M & I	5,670	6,804	7,938	9,073	10,207	11,341	12,475	13,609	14,743	15,877	17,011	18,145
San Tan Irrigation District	74	89	103	118	133	148	162	177	192	207	221	236
Scottsdale, City of	52,810	52,810	52,810	52,810	52,810	52,810	52,810	52,810	52,810	52,810	52,810	52,810
Spanish Trail Water Company	949	1,139	1,329	1,519	1,708	1,898	2,088	2,278	2,468	2,657	2,847	3,037
Superior - Arizona Water Company	89	107	125	143	160	178	196	214	232	249	267	285
Surprise, City of	10,249	10,249	10,249	10,249	10,249	10,249	10,249	10,249	10,249	10,249	10,249	10,249
Tempe, City of	4,315	4,315	4,315	4,315	4,315	4,315	4,315	4,315	4,315	4,315	4,315	4,315
Tonto Hills Utility Company	22	27	31	36	40	44	49	53	58	62	67	71
Tucson, City of	143,141	143,235	143,328	143,422	143,516	143,610	143,703	143,797	143,891	143,985	144,078	144,172
Vail Water Company	580	696	812	929	1,045	1,161	1,277	1,393	1,509	1,625	1,741	1,857
Valley Utility Water Company, Inc.	78	94	109	125	141	156	172	188	203	219	234	250
Water Utilities Community Facilities District	947	1,126	1,305	1,485	1,664	1,843	2,022	2,202	2,381	2,560	2,740	2,919
Water Utility of Greater Buckeye, Inc.	13	16	19	22	24	27	30	32	35	38	40	43
Water Utility of Greater Tonopah, Inc.	20	24	28	32	36	40	44	48	52	56	60	64
White Tanks - Arizona Water Company	968	968	968	968	968	968	968	968	968	968	968	968
CAP M&I TOTAL	559,011	566,270	573,541	580,808	588,073	595,344	602,610	609,853	617,095	624,338	631,581	638,823

Table G-56B
CAP M&I Projected Use Schedules

	Users		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
2056	1,200	128	18,233	43,500	13,300	191,200	27,500	8,000	10,800	500	27,000	500	1,218	343,079
2057	1,200	128	18,233	43,500	13,300	191,200	27,500	8,000	10,800	500	27,000	500	1,218	343,079
2058	1,200	128	18,233	43,500	13,300	191,200	27,500	8,000	10,800	500	27,000	500	1,218	343,079
2059	1,200	128	18,233	43,500	13,300	191,200	27,500	8,000	10,800	500	27,000	500	1,218	343,079
2060	1,200	128	18,233	43,500	13,300	191,200	27,500	8,000	10,800	500	27,000	500	1,218	343,079

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Table G-58
CAP NIA Priority Projected Use Schedules

Year	ASLD	Chandler	Glendale	Scottsdale	Tempe	Mesa	Phoenix	Gilbert	GRIC	San Xavier	Schuk Toak	Federal	Re-Allocation	Total
2008	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	1,631	369		2,974	66,304
2009	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	2,447	553		2,974	67,304
2010	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	3,262	738		31,072	96,402
2011	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	4,078	922		31,072	97,402
2012	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	4,894	1,106		31,072	98,402
2013	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	5,709	1,291		31,072	99,402
2014	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	6,525	1,475		31,072	100,402
2015	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	7,340	1,660	2,300	31,072	103,702
2016	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	8,156	1,844	7,300	31,072	109,702
2017	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	8,972	2,028	12,300	31,072	115,702
2018	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	9,787	2,213	17,300	31,072	121,702
2019	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	10,603	2,397	22,300	31,072	127,702
2020	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	11,418	2,582	27,300	59,171	161,801
2021	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	12,234	2,766	32,300	59,171	167,801
2022	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	13,050	2,950	37,300	59,171	173,801
2023	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	13,865	3,135	42,300	59,171	179,801
2024	9,026	3,924	682	3,306	23	5,552	37,280	1,537	0	14,681	3,319	47,300	59,171	185,801
2025	9,026	3,924	682	3,306	23	5,552	37,280	1,537	24,120	15,496	3,504	52,300	59,171	215,921
2026	9,026	3,924	682	3,306	23	5,552	37,280	1,537	48,240	16,312	3,688	57,300	59,171	246,041
2027	9,026	3,924	682	3,306	23	5,552	37,280	1,537	67,240	17,128	3,872	62,300	59,171	271,041
2028	8,658	3,764	654	3,171	22	5,326	35,761	1,474	92,549	17,212	3,891	64,558	56,760	293,800
2029	7,779	3,382	588	2,849	20	4,785	32,128	1,325	83,147	16,166	3,655	57,999	50,994	264,816
2030	6,946	3,020	525	2,544	18	4,272	28,688	1,183	74,243	15,063	3,406	51,788	67,155	258,849
2031	6,720	2,922	508	2,461	17	4,134	27,757	1,144	71,834	15,181	3,432	50,108	64,976	251,193
2032	6,496	2,824	491	2,379	17	3,996	26,831	1,106	69,438	15,262	3,451	48,437	62,809	243,535
2033	6,273	2,727	474	2,298	16	3,859	25,910	1,068	67,055	15,305	3,460	46,774	60,653	235,873
2034	6,048	2,629	457	2,215	15	3,720	24,981	1,030	64,650	15,303	3,460	45,097	58,478	228,082
2035	5,844	2,541	442	2,140	15	3,595	24,137	995	62,465	15,314	3,462	43,573	56,502	221,024
2036	5,819	2,530	440	2,131	15	3,579	24,033	991	62,197	15,774	3,566	43,386	56,259	220,718
2037	5,794	2,519	438	2,122	15	3,564	23,929	987	61,928	16,229	3,669	43,198	56,016	220,407
2038	5,768	2,508	436	2,113	15	3,548	23,825	982	61,660	16,680	3,771	43,011	55,773	220,090
2039	5,743	2,497	434	2,104	15	3,533	23,722	978	61,391	17,126	3,872	42,824	55,530	219,768
2040	5,718	2,486	432	2,094	15	3,517	23,618	974	61,123	17,568	3,972	42,636	55,287	219,440
2041	5,706	2,480	431	2,090	15	3,510	23,566	972	60,987	18,045	4,080	42,542	55,165	219,586
2042	5,693	2,475	430	2,085	15	3,502	23,513	969	60,852	18,519	4,187	42,447	55,042	219,729
2043	5,680	2,469	429	2,081	14	3,494	23,461	967	60,716	18,991	4,294	42,353	54,919	219,868
2044	6,512	2,831	492	2,385	17	4,006	26,897	1,109	69,609	22,361	5,056	48,556	62,964	252,795
2045	6,498	2,825	491	2,380	17	3,997	26,837	1,106	69,454	22,898	5,177	48,448	62,823	252,949
2046	6,483	2,818	490	2,375	17	3,988	26,777	1,104	69,298	23,433	5,298	48,339	62,682	253,100

Table G-58
CAP NIA Priority Projected Use Schedules

Year	ASLD	Chandler	Glendale	Scottsdale	Tempe	Mesa	Phoenix	Gilbert	GRIC	San Xavier	Schuk Toak	Federal	Re-Allocation	Total
2047	6,468	2,812	489	2,369	16	3,979	26,717	1,101	69,142	23,964	5,418	48,230	62,541	253,248
2048	6,454	2,806	488	2,364	16	3,970	26,656	1,099	68,986	24,494	5,538	48,122	62,400	253,392
2049	6,439	2,799	487	2,359	16	3,961	26,596	1,097	68,831	25,020	5,657	48,013	62,259	253,534
2050	6,425	2,793	485	2,353	16	3,952	26,536	1,094	68,675	25,544	5,775	47,904	62,118	253,672
2051	6,418	2,790	485	2,351	16	3,948	26,508	1,093	68,603	26,097	5,900	47,854	62,053	254,117
2052	6,411	2,787	484	2,348	16	3,944	26,480	1,092	68,531	26,649	6,025	47,804	61,988	254,562
2053	6,405	2,784	484	2,346	16	3,940	26,453	1,091	68,459	27,200	6,150	47,754	61,923	255,004
2054	6,398	2,781	483	2,343	16	3,935	26,425	1,089	68,387	27,750	6,274	47,704	61,858	255,445
2055	6,391	2,779	483	2,341	16	3,931	26,397	1,088	68,315	28,298	6,398	47,654	61,793	255,885
2056	6,384	2,776	482	2,338	16	3,927	26,369	1,087	68,244	28,845	6,522	47,604	61,728	256,323
2057	6,378	2,773	482	2,336	16	3,923	26,342	1,086	68,172	29,391	6,645	47,553	61,663	256,760
2058	6,371	2,770	481	2,334	16	3,919	26,314	1,085	68,100	29,936	6,768	47,503	61,598	257,195
2059	6,364	2,767	481	2,331	16	3,915	26,286	1,084	68,028	30,479	6,891	47,453	61,533	257,628
2060	6,357	2,764	480	2,329	16	3,911	26,258	1,083	67,956	31,022	7,014	47,403	61,468	258,060

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Table G-59
Exhibit B of the QSA

In Thousands of Acre-feet

Calendar Year	2 Priority 1, 2 and 3b	IID Priority 3a										CVWD Priority 3a							12 ISG Bench-marks	12 Annual Targets		
		IID Priority 3a Quantified Amount	Reductions									10 IID Net Consumptive Use Amount (difference between column 3 and column 12)	CVWD Priority 3a Quantified Amount	Reductions			Additions				CVWD Net Consumptive Use Amount (sum of columns 14 - 17 plus columns 18 + 19)	Total Priority 1-3 Use Plus PPR Consumptive Use (sum of columns 2+13+20 plus: 11+16)
			3 IID Reduction: MWD 1988 Agreement Transfer	IID Reduction: SDCWA Transfer	4 IID Reduction: AAC Lining IID, SDCWA & SLR	5 IID Reduction: SDCWA Mitigation Transfer	7 Intra-Priority 3 Transfer IID/CVWD	6 IID Reduction: MWD Transfer with Salton Sea Restoration	8 IID Reduction: Conditional ISG Backfill	9 IID Reduction: Misc. PPRs	IID Reductions: Total Amount (sum of columns 4 through 11)			4 CVWD Reduction: CC Lining, SDCWA & SLR	9 CVWD Reduction: Misc. PPRs	11 CVWD Reductions: Total Amount (sum of columns 15 + 16)	7 Intra-Priority 3 Transfer IID / CVWD	3 Intra-Priority 3 Transfer MWD / CVWD				
2003	420	3,100	110	10	0	5	0	0	0	11.5	136.5	2,963.5	330	0	3	3	0	20	347	3,745.0	3,740	3,740
2004	420	3,100	110	20	0	10	0	0	0	11.5	151.5	2,948.5	330	0	3	3	0	20	347	3,730.0		3,707
2005	420	3,100	110	30	0	15	0	0	0	11.5	166.5	2,933.5	330	0	3	3	0	20	347	3,715.0		3,674
2006	420	3,100	110	40	0	20	0	0	0	11.5	190.5	2,909.5	330	26	3	29	0	20	321	3,665.0	3,640	3,640
2007	420	3,100	110	50	0	25	0	0	0	11.5	196.5	2,903.5	330	26	3	29	0	20	321	3,659.0		3,603
2008	420	3,100	110	50	67.7	25	4	20	0	11.5	288.2	2,811.8	330	26	3	29	4	20	325	3,571.3		3,566
2009	420	3,100	110	60	67.7	30	8	40	0	11.5	327.2	2,772.8	330	26	3	29	8	20	329	3,536.3	3,530	3,530
2010	420	3,100	110	70	67.7	35	12	60	0	11.5	366.2	2,733.8	330	26	3	29	12	20	333	3,501.3		3,510
2011	420	3,100	110	80	67.7	40	16	80	0	11.5	405.2	2,694.8	330	26	3	29	16	20	337	3,466.3		3,490
2012	420	3,100	110	90	67.7	45	21	100	0	11.5	445.2	2,654.8	330	26	3	29	21	20	342	3,431.3	3,470	3,470
2013	420	3,100	110	100	67.7	70	26	100	0	11.5	485.2	2,614.8	330	26	3	29	26	20	347	3,396.3		3,462
2014	420	3,100	110	100	67.7	90	31	100	0	11.5	510.2	2,589.8	330	26	3	29	31	20	352	3,376.3		3,455
2015	420	3,100	110	100	67.7	110	36	100	0	11.5	535.2	2,564.8	330	26	3	29	36	20	357	3,356.3		3,448
2016	420	3,100	110	100	67.7	130	41	100	0	11.5	560.2	2,539.8	330	26	3	29	41	20	362	3,336.3		3,440
2017	420	3,100	110	100	67.7	150	45	91	0	11.5	575.2	2,524.8	330	26	3	29	45	20	366	3,325.3		

Table G-59
Exhibit B of the QSA

		In Thousands of Acre-feet																					
Calendar Year	2 Priority 1, 2 and 3b	IID Priority 3a										CVWD Priority 3a							12 ISG Benchmarks	12 Annual Targets			
		IID Priority 3a Quantified Amount	Reductions									CVWD Priority 3a Quantified Amount	Reductions			Additions							
			3 IID Reduction: MWD 1988 Agreement Transfer	IID Reduction: SDCWA Transfer	4 IID Reduction: AAC Lining IID, SDCWA & SLR	5,6 IID Reduction: SDCWA Mitigation Transfer	7 Intra-Priority 3 Transfer IID/CVWD	6 IID Reduction: MWD Transfer with Salton Sea Restoration	8 IID Reduction: Conditional ISG Backfill	9 IID Reduction: Misc. PPRs	IID Reductions: Total Amount (sum of columns 4 through 11)		10 IID Net Consumptive Use Amount (difference between column 3 and column 12)	4 CVWD Reduction: CC Lining, SDCWA & SLR	9 CVWD Reduction: Misc. PPRs	11 CVWD Reductions: Total Amount (sum of columns 15 + 16)	7 Intra-Priority 3 Transfer IID / CVWD	3 Intra-Priority 3 Transfer MWD / CVWD			CVWD Net Consumptive Use Amount (columns 14 - 17 plus columns 18 + 19)	Total Priority 1-3 Use Plus PPR Consumptive Use (sum of columns 2-13+20 plus 11+16)	
2018	420	3,100	110	130	67.7	0	63	0	0	11.5	382.2	2,717.8	330	26	3	29	63	20	384	3,536.3			
2019	420	3,100	110	160	67.7	0	68	0	0	11.5	417.2	2,682.8	330	26	3	29	68	20	389	3,506.3			
2020	420	3,100	110	193	67.7	0	73	0	0	11.5	454.7	2,645.3	330	26	3	29	73	20	394	3,473.8			
2021	420	3,100	110	205	67.7	0	78	0	0	11.5	472.2	2,627.8	330	26	3	29	78	20	399	3,461.3			
2022	420	3,100	110	203	67.7	0	83	0	0	11.5	474.7	2,625.3	330	26	3	29	83	20	404	3,463.8			
2023	420	3,100	110	200	67.7	0	88	0	0	11.5	477.2	2,622.8	330	26	3	29	88	20	409	3,466.3			
2024	420	3,100	110	200	67.7	0	93	0	0	11.5	482.2	2,617.8	330	26	3	29	93	20	414	3,466.3			
2025	420	3,100	110	200	67.7	0	98	0	0	11.5	487.2	2,612.8	330	26	3	29	98	20	419	3,466.3			
2026	420	3,100	110	200	67.7	0	103	0	0	11.5	492.2	2,607.8	330	26	3	29	103	20	424	3,466.3			
2027	420	3,100	110	200	67.7	0	103	0	0	11.5	492.2	2,607.8	330	26	3	29	103	20	424	3,466.3			
2028	420	3,100	110	200	67.7	0	103	0	0	11.5	492.2	2,607.8	330	26	3	29	103	20	424	3,466.3			
2029-2037	420	3,100	110	200	67.7	0	103	0	0	11.5	492.2	2,607.8	330	26	3	29	103	20	424	3,466.3			
2038-2047	420	3,100	110	200	67.7	0	103	0	0	11.5	492.2	2,607.8	330	26	3	29	103	20	424	3,466.3			
2048-2077	420	3,100	110	200	67.7	0	100	0	0	11.5	489.2	2,610.8	330	26	3	29	100	20	421	3,466.3			

1Exhibit B is independent of increases and reductions as allowed under the Inadvertent Overrun and Payback Policy.

2Any higher use covered by MWD, any lesser use will produce water for MWD and help satisfy ISG Benchmarks and Annual Targets.

3IID/MWD 1988 Conservation Program conserves up to 110,000 AFY and the amount is based upon periodic verification. Of amount conserved, up to 20,000 AFY to CVWD (column 19), which does not count toward ISG Benchmarks and Annual Targets, and remainder to MWD.

4Ramp-up amounts may vary based upon construction progress, and final amounts will be determined by the Secretary pursuant to the Allocation Agreement.

5Any amount identified in Exhibit B for mitigation purposes will only be from non-Colorado River sources and these amounts may be provided by exchange for Colorado River water.

6Water would be transferred to MWD subject to satisfaction of certain conditions and to appropriate Federal approvals. These transfers may also be subject to state approvals. Schedules are subject to adjustments with mutual consent. After 2006, these quantities will count toward the ISG Benchmarks (column 22) and Annual Targets (column 23) only if and to the extent that water is transferred into the Colorado River Aqueduct for use by MWD and/or SDCWA.

7MWD can acquire if CVWD declines the water. Any water obtained by MWD will be counted as additional agricultural reduction to help satisfy the ISG Benchmarks and Annual Targets. MWD will provide CVWD 50,000 AFY of the 100,000 AFY starting in year 46.

8IID has agreed to provide transfer amounts to meet the minimum ISG benchmarks, not to exceed a cumulative total of 145,000 AF. Maximum transfer amounts are 25,000 AF in 2006, 50,000 AF plus the unused amount from 2006 in 2009, and 70,000 AF plus the unused amounts from 2006 and 2009 in 2012. In addition to the maximum transfer amounts IID has also committed that no more than 72,500 AF of reduced inflow to the Salton Sea would result from these additional transfers.

9Up to the amount shown, as agreed upon reduction to IID or CVWD to cover collectively the sum of individual Miscellaneous PPRs, Federal reserved rights and Decreed rights. This is a reduction that counts towards ISG Benchmarks and Annual Targets.

10For purposes of Subparagraph 8(b)(2)(i) and (ii) and 8(c)(1) and (4) the Secretary will take into account: (i) the satisfaction of necessary conditions to certain transfers (columns 7 and 9) not within IID's control; (ii) the amounts of conserved water as determined, where such amounts may vary (columns 4, 6, 9 and 10); and (iii) with respect to column 7, reductions by IID will be considered in determining IID's compliance regardless of whether the conserved water is diverted into the Colorado River Aqueduct.

11For purposes of Subparagraph 8(c)(1) and (4) the Secretary will take into account: (i) the satisfaction of necessary conditions to certain transfers (columns 15 and 16) not within CVWD's control; and (ii) the amounts of conserved water as determined, where such amounts may vary (column 15).

12All consumptive use of priorities 1 through 3 plus 14,500 AF of PPRs must be within 25,000 AF of the amount stated.

13Assumes SDCWA does not elect termination in year 35.

14Assumes SDCWA and IID mutually consent to renewal term of 30 years.

Notes:

Substitute transfers can be made provided the total volume of water to be transferred remains equal or greater than amounts shown consistent with applicable Federal approvals.

The shaded columns represent amounts of water that may vary.

Table G-60
Present Perfected Right Holders

	Priority Date	PPR Number	State	Diversion Entitlement	CU Entitlement
Lake Mead National Recreation Area	5/3/1929	82	NV	500	
Molina	1928	15	AZ	318	
Sonny Gowan (Grannis)	1928	32	CA	180	
Diehl*	1928	59	CA	1	0.6
Stallard*	1928	66	CA	1	0.6
Estrada*	1928	77	CA	1	0.6
Corington*	1928	79	CA	1	0.6
Tolliver*	1928	80	CA	1	0.6
Randolph*	1926	65	CA	1	0.6
Keefe*	1926	67	CA	1	0.6
Gila Monster Farms (formerly Sturges)	1925	16	AZ	780	
Chagnon	1925	41	CA	120	
Faubion*	1925	48	CA	1	0.6
Earle*	1925	58	CA	1	0.6
Whittle*	1925	78	CA	1	0.6
Beauchamp*	1924	51	CA	1	0.6
McGee*	1924	63	CA	1	0.6
Stallard*	1924	64	CA	1	0.6
Hadlock*	1924	72	CA	1	0.6
Stephenson	1923	30	CA	240	
Draper, G.*	1923	46	CA	1	0.6
Dudley*	1922	49	CA	1	0.6
Colorado River Sportsmen's League	1921	36	CA	96	
Andrade	1921	38	CA	66	
Conger*	1921	45	CA	1	0.6
Vaulin*	1920	70	CA	1	0.6
Salisbury*	1920	71	CA	1	0.6
McDonough*	1919	47	CA	1	0.6
Cate*	1919	62	CA	1	0.6
Milpitas	1918	34	CA	108	
Cocopah Indian Reservation	9/27/1917	1	AZ	7,681	
Schneider*	1917	56	CA	1	0.6
Douglas*	1916	50	CA	1	0.6
Clark*	1916	52	CA	1	0.6
Graham*	1916	61	CA	1	0.6
Cocopah Indian Reservation	1915	8	AZ	1,140	
Powers (Power, R.E. & P.)	1915	7	AZ	960	
Lawrence	1915	42	CA	120	
Lawrence*	1915	53	CA	1	0.6
Milpitas	1914	37	CA	69	
Graham, J.*	1914	54	CA	1	0.6
Morqan	1913	33	CA	150	
Zozaya	1912	17	AZ	720	
Reid*	1912	60	CA	1	0.6
Fitz*	1912	75	CA	1	0.6
Fort Mohave Indian Reservation	2/2/1911	3	AZ	75,566	
Brooke Water Company (formerly Graham)	1910	9	AZ	360	
Geiger*	1910	55	CA	1	0.6
Williams*	1909	76	CA	1	0.6
Chemehuevi Indian Reservation	2/2/1907	22	CA	11,340	
North Gila Valley Unit	7/8/1905	6	AZ	24,500	

Table G-60
Present Perfected Right Holders

	Priority Date	PPR Number	State	Diversion Entitlement	CU Entitlement
Yuma Axillary Project (Unit B)	7/8/1905	5	AZ	6,800	
City of Parker	1905	20	AZ	630	400
Cooper	1905	40	CA	60	
Reservation Division/Yuma Project (non-Indian portion)	1905	28	CA	38,270	
Reynolds	1904	39	CA	36	
Ferguson, C.*	1903	68	CA	1	0.6
Ferguson, W.*	1903	69	CA	1	0.6
Streeter*	1903	73	CA	1	0.6
Draper, J.*	1903	74	CA	1	0.6
Hulet	1902	10	AZ	1,080	
Holpal (formerly Hurschler)	1902	11	AZ	1,050	
Miller	1902	12	AZ	240	
McKellips and Granite Reef Farms	1902	13	AZ	810	
Sherill & Lafollette	1902	14	AZ	1,080	
Swan	1902	18	AZ	960	
Yuma County Water Users' Association	1901	4	AZ	254,200	
Imperial Irrigation District & CVWD lands	1901	27	CA	2,600,000	
Milton and Jean Phillips	1900	19	AZ	42	
Atchison, Topeka, and Santa Fe Railway Co.	1896	44	CA	1,260	273
Martinez*	1895	57	CA	1	0.6
City of Yuma	1893	21	AZ	2,333	1,478
Picacho Development Corp and CA Dept of Parks and Rec	1893	31	CA	120	
Fort Mohave Indian Reservation	9/18/1890	3	AZ	27,969	
Fort Mohave Indian Reservation	9/18/1890	25	CA	16,720	
Fort Mohave Indian Reservation	9/18/1890	81	NV	12,534	
Simons	1889	35	CA	60	
City of Needles (includes Parker Dam & Gov Camp)	1885	43	CA	1,500	950
Fort Yuma Indian Reservation	1/9/1884	23	CA	71,616	
Fort Yuma Indian Reservation	1/9/1884	3	AZ	6,350	
Palo Verde Irrigation District	1877	26	CA	219,780	
Colorado River Indian Reservation	5/15/1876	24	CA	5,860	
Colorado River Indian Reservation	11/16/1874	24	CA	40,241	
Colorado River Indian Reservation	11/16/1874	2	AZ	51,986	
Colorado River Indian Reservation	11/22/1873	2	AZ	252,016	
Colorado River Indian Reservation	10/22/1873	24	CA	10,745	
Colorado River Indian Reservation	3/3/1865	2	AZ	358,400	
Yuma Associates LTD and Winterhaven Water District (formerly Wavers)	1856	29	CA	780	
California Total				3,019,575	
Arizona Total				1,077,971	
Nevada Total				13,034	
TOTAL PPR's in Region				4,110,580	

Source: Consolidated Decree, Supreme Court of the United States, 2006

*One Acre-Foot PPR's

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