STATE OF NEW MEXICO
COUNTY OF SAN JUAN
ELEVENTH JUDICIAL DISTRICT COURT

STATE OF NEW MEXICO, *ex rel.*
THE STATE ENGINEER,

Plaintiff,

vs.

THE UNITED STATES OF AMERICA, *et al.*,

Defendants.

AB-07-1
Claims of Navajo Nation

No. CV 75-184
Honorable James J. Wechsler
Presiding Judge

DESCRIPTIVE SUMMARY: Motion for Partial Summary Judgment #3. The proposed decree cannot be approved because it provides for more water than is available and because it will not reduce or eliminate impacts on junior water rights.

NUMBER OF PAGES: 3 + 13 page exhibit

DATE OF FILING: April 15, 2013

COMMUNITY DITCH MOTION FOR PARTIAL SUMMARY JUDGMENT CONCERNING AVAILABILITY OF WATER AND IMPACTS ON OTHER WATER USERS

In order for the proposed settlement agreement to be approved by the court, its proponents must prove (A) that there is enough water available from New Mexico's share of the Colorado River system to accommodate the proposed settlement, and (B) that the proposed settlement will reduce or eliminate impacts on junior water rights. The first requirement was imposed by Congress in the authorizing legislation as a condition to any settlement. Omnibus Public Land Management Act of 2009, Subtitle B – Northwestern New Mexico Rural Water Projects, Pub. L. 111-11, 123 Stat. 991, 1367, 1388 (Mar. 30,

2009). The second requirement was imposed by this court. Order Establishing the Legal Standards 2 (Feb. 3, 2012).

The availability of water within the Colorado River system is governed primarily by the Colorado River Compact of 1922 and the Upper Basin Compact of 1948. Under these compacts, New Mexico is entitled to an 11.25% share of the water that is left over for the upper basin states after they meet their obligation to deliver water to the lower basin and to Mexico. The operation of the Colorado River compacts is set forth in Exhibit A to this motion: Allocation of Water Under the Colorado River Compacts. Exhibit A illustrates the amount of water that the compacts make available to New Mexico depending upon the "natural flow" of the Colorado River system as a whole. These natural flows vary wildly from year to year. And the natural flows are substantially less than estimated by the persons who negotiated the 1922 and 1948 compacts.

Exhibit A also sets forth facts stated by the settling parties themselves in various documents. There is no genuine dispute about these facts, which come from the settling parties themselves.

Under the law on the facts set forth in Exhibit A, there is not enough water in the Colorado River system to accommodate the proposed Navajo settlement. Using the settling parties own most recent projections of the natural flows within the Colorado River system, there is not nearly enough water to accommodate the huge size of the proposed Navajo settlement. Under almost all reasonable scenarios, the Navajo settlement and the other demands on the San Juan River would result in huge unresolved water deficits in most years leaving virtually no water for other users. Accordingly, the proposed settlement cannot be

approved in its present form because it does not meet the legal criteria established by Congress and this court.

Respectfully submitted,

VICTOR R. MARSHALL & ASSOCIATES, P.C.

By /s/ Victor R. Marshall

Victor R. Marshall
Attorneys for San Juan Agricultural Water Users Association; Hammond Conservancy District; Bloomfield Irrigation District; various ditches; and various members thereof.
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CERTIFICATE OF SERVICE

I hereby certify that on April 15, 2013, a true and correct copy of the foregoing was served on the parties and claimants by attaching a copy of said document to an email sent to the following list server: wrnavajointerse@nmcourts.gov and to the filing list referred to in the Notice of Amended Service List filed February 25, 2013.

/s/ Victor R. Marshall
Victor R. Marshall, Esq.

ALLOCATION OF WATER UNDER COLORADO RIVER COMPACTS

CC - Colorado River Compact of 1922, NMSA § 72-15-5.
UB - Upper Basin Compact of 1948, NMSA § 72-15-16.

	ANNUAL "NATURAL" OR "VIRGIN" FLOW in acre-feet[1]			
	10,000,000	12,500,000	13,700,000	15,000,000
less				
Priority for Lower Basin[2] CC Art. III (d)	7,500,000	7,500,000	7,500,000	7,500,000
½ of obligation to Mexico 1944 Treaty; CC Art. III (c)	750,000	750,000	750,000	750,000
Arizona's share of Upper Basin UB Art. III (a) (1)	50,000	50,000	50,000	50,000
OWED TO LOWER BASIN	8,300,000	8,300,000	8,300,000	8,300,000
UPPER BASIN REMAINDER	1,700,000	4,200,000	5,400,000	6,700,000
New Mexico's 11.25% share[3] UB Art. III (a) (2)	191,250	472,500	607,500	753,750
less: demands on the San Juan River				
Navajo settlement claim (depletion)[4]	335,681	335,681	335,681	335,681
Required water for endangered species at Bluff UT[5]	759,293	759,293	759,293	759,293
Jicarilla settlement claim	32,000	32,000	32,000	32,000
San Juan - Chama Project[6]	135,000	135,000	135,000	135,000
Ute Mountain Ute claim	?	?	?	?
Other U.S. claims for nat. parks, forests, etc	?	?	?	?
Evaporation from Navajo Reservoir, etc[7]	28,208	28,208	28,208	28,208
Shared Evaporation from Lake Powell, etc[7]	59,749	59,749	59,749	59,749
Local farms, homes, municipalities, industry	?	?	?	?
UNRESOLVED NEW MEXICO DEFICIT	(1,158,681)	(877,431)	(742,431)	(596,181)
AVAILABLE FOR CONSUMPTION IN NEW MEXICO by non-Indians[8]	none	none	none	none

Pro forma. Figures are projected, estimated, and annualized.

EXHIBIT A

NOTES

1. "Natural" or "virgin" flow is the hypothetical flow that would occur in nature if there were no human diversions, depletions, dams, or impoundments. UB Art. II(n). Natural flow no longer exists. The actual flow measured by a stream gauge at a given point, such as Lee Ferry, is less than the hypothetical natural flow.

The 1922 Colorado River Compact Commission estimated a natural flow of approximately 16,400,000 acre-feet at Lee Ferry, without having a stream gauge there. This estimated flow is now known to be too high. The latest modeling in the BOR 2012 Study projects a long term average of 13,700,000 acre-feet, with periods of drought extending for many years, punctuated by an occasional wet year. EXHIBIT 1 – TR-B, page B-66.

2. The Colorado River Compact requires the states of the Upper Basin collectively to deliver 75,000,000 acre-feet at Lee Ferry, just below Lake Powell, during each 10 year period, rolling forward. The 1922 Compact divided the estimated total flow roughly equally (with a buffer), giving 7,500,000 acre-feet to the Lower Basin and 7,500,000 acre-feet to the Upper Basin. But the Lower Basin received priority for its water.

3. New Mexico is entitled to an 11.25% share of the water available for the entire Upper Basin, rather than a percentage share of the San Juan River, or a fixed amount from the San Juan.

4. The amounts in the proposed settlement are 646,640 acre-feet of diversion and 335,681 acre-feet of depletion. EXHIBIT 2 – Statement of John Leeper, February 2013. Since the water for NIIP is diverted at Navajo Reservoir and pumped uphill to NIIP, the diverted water is not available in the San Juan River for many miles, even assuming that there is return flow. Therefore the 335,681 depletion figure drastically understates the drying effects on the river below Navajo Dam.

5. On the San Juan River, there are 4 endangered fishes and 1 endangered bird: the razorback sucker (*Xyrauchen texanus*); Colorado pikeminnow, formerly known as Colorado squawfish (*Ptychocheilus lucius*); humpback chub (*Gila cypha*); bonytail chub or bonytail (*Gila elegans*); and southwestern willow flycatcher (*Empidonax trailli extimus*).

To protect these federally endangered species, the Colorado River Basin Water Supply and Demand Study of December 12, 2012 calls for a required minimum in-stream base flow of <u>at least</u> 500 cfs to <u>at least</u> 1,000 cfs, at Bluff, Utah. Therefore a midpoint of 750 cfs is used for this calculation. In addition, larger pulses of water are required in the springtime. (Due to ambiguity in the report descriptions of the springtime pulses, a small downward adjustment in this calculation might be appropriate.) EXHIBIT 3 – TR_D Appendix 3, pages D3-9, D3-10. EXHIBIT 4 – calculation.

Bluff, Utah is used as a proxy for 3 measuring stations in Utah. Bluff is downstream from New Mexico, so any required water for endangered species cannot be consumed in New Mexico. This is unlike the silvery minnow in the Rio Grande, where the instream flow can be used farther downstream within New Mexico.

The U.S. claims that it has the right to adjust the amounts for endangered species up or down, in its sole discretion. The U.S. also asserts that the state court has no jurisdiction or authority to review any of its decisions, no matter how they affect water rights in the San Juan River.

It appears that there are no binding agreements or laws to decide how the water for endangered species would be allocated.

6. The San Juan - Chama Project transports water from the upper San Juan to the Rio Grande Basin through a system of siphons and tunnels. The project claims a 1955 priority. The proposed settlement calls for up to 135,00 acre-feet of normal diversion annually. Diversions to San Juan - Chama are equivalent to depletion because the water leaves the Colorado River Basin.

7. Under the Upper Basin Compact as currently interpreted, New Mexico is charged with all the evaporation from Navajo Reservoir and an 11.25% share of the evaporation from reservoirs in other states like Lake Powell and Flaming Gorge. EXHIBIT 5 – Navajo Reservoir Historic Net Evaporation, 2007 BOR study, 25-year average calculated. EXHIBIT 6 – Upper Colorado River Basin Main Stem Reservoir Evaporation, New Mexico share calculated.

CONCLUSIONS

8. **Under most projected long-term natural flow scenarios, satisfying the demands for compact compliance and Indian tribes and endangered species would leave no San Juan River water available for consumption in New Mexico by non-Indians.** The most likely scenarios show large unresolved deficits, in excess of 500,000 acre-feet, even without factoring in the Ute Mtn Ute claims or the claims of the U.S. for national parks, national forests, etc.

Shortage sharing agreements do not solve these deficits. The alleged protections in the proposed settlement cannot cure the fundamental deficits that would be caused by the settlement itself, i.e. 646,640 acre-feet of diversion and 335,681 of depletion, and the water demanded for endangered species.

In order for water to be available for depletion by persons in New Mexico, the water must be physically available and legally available. There must be enough wet water in the river at a given location, and that water must also be legally available for depletion under the law of the river. There might, or might not, be wet water flowing in the San Juan River within New Mexico at a particular point. However, if that water must be delivered to Lee Ferry for the Lower Basin, or to Bluff Utah for endangered species, then this water is not available for use within New Mexico.

In most years, there would be no water available from the San Juan River for any non-Indian use (irrigation, domestic, municipal or San Juan - Chama) unless the natural flow in the Upper Basin is far above the projected long-term average. However, large enough flows would be a rare occurrence, and the accumulated rolling deficit to the Lower Basin would have to be satisfied first.

8. The Colorado River Compacts do not apply to water awarded to Indian tribes.

9. The priorities of the demands on the San Juan River are uncertain, for the most part.

10. These calculations are intended primarily to show the order of magnitude of the problems on the San Juan-Colorado River system. The calculations indicate the approximate scale of the water deficits that would occur in the future, if the Court were to approve the proposed Richardson-Navajo settlement.

11. All parties are invited to offer suggestions and comments for improving this analysis.

Colorado River Basin Water Supply and Demand Study

Technical Report B – Water Supply Assessment

EXHIBIT
1

U.S. Department of the Interior
Bureau of Reclamation

December 2012

participated in the CMIP3. They found that only a subset of the GCMs produce realistic amplitudes of NINO3 (index of the sea surface temperatures in the Pacific Ocean) and SOI, but ENSO often tends to occur at higher than observed frequency. In their recent study (AchutaRao and Sperber, 2006), though, they find the next generation GCMs that participated in the IPCC AR4 tend to be more realistic in representing the frequency with which ENSO occurs. The GCMs are better at locating enhanced temperature variability over the eastern Pacific Ocean. They suggest multi-century integrations of GCMs may be required to statistically assess model improvement of ENSO.

ENSO has an important role in western U.S. climate. Whether the frequency and characteristics of ENSO will be changed in a changing climate has strong practical importance. A few of the recent studies analyzed GCM simulations to address these questions (Yeh et al. 2009; Collins et al., 2010). However, there is no common consensus yet in the scientific community. Collins et al. (2010) argue that despite considerable progress in the understanding of the impact of climate change on many of the processes that contribute to El Niño variability, it is not yet possible to say whether ENSO activity will be enhanced or damped, or if the frequency of events will change. Yeh and Kirtman (2007) investigate two coupled GCMs—the Meteorological Research Institute's model, and the Geophysical Fluid Dynamics Laboratory's model—to analyze projected ENSO amplitude changes using a four times carbon dioxide emission scenario. They determine that despite the large changes in the tropical Pacific mean state, the changes in ENSO amplitude are highly model-dependent. Results suggest that the understanding of changes in ENSO statistics among various climate change projections is highly dependent on whether the model ENSO is in the linear or nonlinear regime. ENSO and PDO provide only limited skill in determining basin precipitation; thus, even improved simulation results for these indices may be of limited value in making assessments of future supply conditions. Further research is needed to investigate the teleconnections and the direction of these teleconnections in the future.

8.3.6 Streamflow

Natural streamflows were simulated at the 29 flow locations for each of the 112 climate projections. Figure B-44 displays all of the individual 112 sequences in the Downscaled GCM Projected scenario. The sequence bolded in figure B-44 also appears in figure B-45, which is a representative trace of the 112 sequences. In figure B-45, the mean annual flow of the 112 sequences at this location declines substantially over time due to changes in hydrologic processes. Mean annual flows for Colorado River at Lees Ferry, Arizona, for the 50-year period of the Study (2011 to 2060) are approximately 13.7 maf. This represents a reduction in streamflow of approximately 6 percent compared to the period 1950 to 1999 (14.6 maf), or approximately 9 percent compared to the long-term period 1906 to 2007 (15.0 maf). It should be noted that the median of the projections is nearly 1.0 maf lower (annual flow of around 12.7 maf) than the mean, indicating that the projection ensemble exhibits a strong drying trend but that some wetter projections are compensating in the mean statistic. A few projections (less than 10 percent) show considerably more annual variability than the observed record. Although simulated future minimum flows are similar to those in the observed record, the maximum annual flows are significantly higher.

Finally, figure B-46 shows the range of Colorado River flow projections under the Downscaled GCM Projected scenario as compared to the historical observed flows. Observed

Report on
San Juan River Basin in New Mexico
Navajo Nation Water Rights Settlement Agreement

John Leeper
AMEC Environment & Infrastructure

February 2013

I. Introduction

This report responds to the four specific issues regarding the *San Juan River Basin in New Mexico Navajo Nation Water Rights Settlement Agreement* (Settlement Agreement): 1) The Settlement Agreement is a product of good faith, arms-length negotiations that occurred over the course of two negotiation phases and an implementation phase, 2) Provisions in the Settlement Agreement and Proposed Decrees will reduce or eliminate impacts on junior water rights, 3) The Settlement Agreement provides to the Navajo Nation less than the potential claims for water rights that could be secured at trial, and 4) the Settlement is consistent with public policy and applicable law.

II. The Settlement Agreement is a product of good faith, arms-length negotiations that occurred during two negotiation phases and an implementation phase

The first negotiation phase refers to the time prior to introduction of the federal Settlement Legislation in December 2006. The second negotiation phase refers to the time after the introduction of the Settlement Legislation until the passage of the Settlement Legislation as Public Law 111-11 in March 2009. The implementation phase refers to the time since the passage of the Settlement Legislation. These descriptions are useful in so far as they set a timeframe when the federal Executive Branch assumed very different roles and responsibilities. However, within those very broad timeframes numerous significant benchmarks occurred that demonstrate that the Settlement Agreement and the related documents (Settlement Documents) are collectively a product of good faith, arms-length negotiations.

Phase 1. Negotiations prior to Introduction of Federal Legislation

The settlement process began with an invitation. In September 1996 President Albert Hale sent a letter to Governor Gary Johnson expressing a willingness of the Navajo Nation to meet with the

EXHIBIT
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Attachment A

settlement documents supporting more than a dozen different tribal communities, including the Navajo Nation.

Although I was not responsible for the preparation of the United States' claim on behalf of the Navajo Nation, the Water Management Branch was a key resource for the technical teams that prepared the claim. The Water Management Branch provided Navajo Nation water resources data on a wide range of water uses for the preparation of these claims. The Water Management staff became familiar with the approaches incorporated into the resulting technical reports.

In almost every category of water use described in the claim prepared by the United States, the amount of water exceeds the water rights described in the Settlement Documents. The total claim prepared by the United States on behalf of the Navajo Nation is 920,745 acre-feet per year diversion and the total depletion is 591,401 acre-feet per year. For the Navajo Final Settlement Decree the total diversion is only 646,640 acre-feet per year and the depletion is only 335,681 acre-feet per year. The following sections describe a few of the differing assumptions between the two sets of values.

1. Domestic, Commercial, Municipal and Industrial (DCMI) Water Use.

The DCMI claim prepared by the United States on behalf of the Navajo Nation is based on the population, the projected population growth, and the per capita water use rate. For this claim the federal experts used the U.S. Census for its estimate of the population. The experts projected population growth through the year 2100 using a cohort model with birth, death and migration assumption made for various age groups. And the per capita water use rate of 160 gallons per capita per day is consistent with regional norms. The assumptions made by the federal experts are in my opinion reasonable. Based on the analysis of the federal experts, the claim for DCMI uses are 36,592 acre-feet per year for both the diversions and depletions from the San Juan River system.

By comparison, the Final Settlement Decree includes three distinct San Juan River DCMI water sources, the Navajo Gallup Water Supply Project (NGWSP), the Navajo Nation Municipal Pipeline (NNMP) and water diverted directly from the mainstem of the San Juan River by the Shiprock Public Water System. The total surface water diversion is only 29,930 acre-feet per year and the total surface water depletion is 24,420 acre-feet per year. The Final Settlement Decree also allows the Navajo Nation to develop groundwater, with certain limitations, to meet DCMI demands.

The NGWSP and the NNMP were authorized for construction based on the Bureau of Reclamation's Principles and Guidelines. Both projects were designed based on a 40-year

Appendix D3
Threatened and Endangered Species Metrics

EXHIBIT
3

TABLE D3-5
Monthly Approximations (af) of Flow Recommendations for the Duchesne River near Randlett, Utah

Year Type Exceedance	Dry 70–100%	Average 40–70%	Wet 10–40%	Extremely Wet 0–10%
January	3,074	3,074	7,071	7,071
February	2,777	2,777	6,387	6,387
March	47,619	173,642	7,071	7,071
April			368,554	534,897
May				
June				
July	3,074	3,074		
August	3,074	3,074	7,071	7,071
September	2,975	2,975	6,843	6,843
October	3,074	3,074	7,071	7,071
November	2,975	2,975	6,843	6,843
December	3,074	3,074	7,071	7,071

3.3 Direct Use of Daily Recommendations

The flow targets for Greendale, Jensen, and Bluff are presented in this section. Because CRSS can produce daily flow values at these sites, the tables presented are identical to those in the documents that establish the recommended flows. Table D3-6 presents both the base flow and peak flow recommendations for Greendale, and Table D3-7 presents the recommendations for Jensen. Table D3-8 presents the peak flow recommendations for Bluff. The base flow recommendations below Navajo are stated to be 500 to 1,000 cfs using a three-gage average (Reclamation, 2006c). Due to modeling constraints, Bluff is the only gage available below Navajo. It is assumed that if the base flow is met at Bluff, then the base flow recommendation is met (Butler, 2011).

TABLE D3-6
Flow Recommendations for Green River near Greendale, Utah

Year Type Exceedance	Dry 90–100%	Moderately Dry 70–90%	Average 30–70%	Moderately Wet 10–30%	Wet 0–10%
Maximum Spring Peak Flow (cfs)	4,600	4,600	4,600	4,600	8,600
Peak Flow Duration	Depends on inflows into the Green River and the flows needed to achieve recommended flows at Jensen and Green River, Utah				
Summer-to-Winter Base Flow (cfs)	800–1,000	800–1,300	800–2,200	1,500–2,600	1,800–2,700

Source: Reclamation, 2005

TABLE D3-7
Flow Recommendations for Green River near Jensen, Utah

Year Type	Dry 90–100%	Moderately Dry 70–90%	Average 30–70%	Moderately Wet 10–30%	Wet 0–10%
Max Spring Peak Flow (cfs)	8,300	8,300	18,600[1]; 8,300[2]	20,300	26,400
Peak Flow Duration	Flows greater than 8,300 cfs should be maintained for 2 days or more except in extremely dry years (98% exceedance).	Flows greater than 8,300 cfs should be maintained for at least 1 week	Flows greater than 18,600 cfs should be maintained for 2 weeks in at least 1 of 4 average years.	Flows greater than 18,600 cfs should be maintained for 2 weeks or more.	Flows greater than 22,700 cfs should be maintained for 2 weeks or more and flows greater than 18,600 cfs for 4 weeks or more.
Summer-to-Winter Base Flow (cfs)	900–1,100	1,100–1,500	1,500–2,400	2,400–2,800	2,800–3,000

Source: (Reclamation, 2005)

[1] Recommended flows: 18,600 cfs in 1 of 2 average years.
[2] Recommended flows: 8,300 cfs in other average years.

TABLE D3-8
Peak Flow Recommendations for the San Juan River near Bluff, Utah

Target Peak Flow (cfs)	Minimum Duration (days)	Frequency	Maximum interval between occurrences (years)
> 10,000	5	20%	11
> 8,000	10	33%	7
> 5,000	21	50%	5
> 2,500	10	80%	3

Source: Reclamation, 2006b

4.0 Summary

The flow targets presented here were included in CRSS to track the threatened and endangered species attribute of interest at the discussed locations. The monthly approximations of the daily flow targets are neither prescriptive in nature nor an interpretation of a flow need. Rather, they are coarse approximations of the cited flow recommendations developed to fit into the available modeling resources. All target flows are well suited to compare how flow metrics perform across scenarios, although they are not meant to identify specific years in the future that flow targets are or are not met.

REQUIRED SAN JUAN RIVER FLOW FOR ENDANGERED SPECIES

according to the U.S. Department of the Interior and Bureau of Reclamation
at Bluff, Utah (first measuring station downstream from New Mexico)

A. *BASE FLOW* (all year) : at least 500 to 1000 cubic feet per second. Midpoint is 750 cfs.

1 cfs flowing all year = 724.46 acre-feet.

750 cfs base flow equals 543,345 acre-feet per year.

[500 cfs equals 362,230 acre-feet per year.]
[1,000 cfs equals 724,460 acre-feet per year.]

TOTAL BASE FLOW ALL YEAR: at least 543,345 acre-feet per year

B. *PEAK FLOW* (in spring):

	flow	min. duration	frequency	min. average per year
at least	10,000 cfs	5 days	20%	= 19,830 acre-feet
at least	8,000	10	33%	52,351
at least	5,000	21	50%	104,107
at least	2,500	10	80%	39,660

TOTAL PEAK FLOWS IN SPRING: at least 215,948 acre-feet per year

TOTAL REQUIRED ANNUAL FLOW: at least 759,293 acre-feet per year

[Long term annual average. BOR claims the right to decide and change the required flow, which may vary from year to year.]

Source: COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY, U.S. Department of the Interior and Bureau of Reclamation, December 2012, pages D3-9 and D3-10 , TR_D Appendix3_FINAL.

http://www.usbr.gov/lc/region/programs/crbstudy/finalreport/index.html

EXHIBIT
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Table 1. Navajo Reservoir Historic Net Evaporation Losses
(Units: Acre-Feet)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1962	0	0	0	0	0	8	361	282	224	160	89	70	1,193
1963	73	103	247	545	1,007	1,440	1,571	1,233	1,004	611	292	206	8,332
1964	199	241	499	821	1,354	1,929	1,859	1,395	1,127	679	322	230	10,655
1965	212	223	418	747	1,602	2,473	3,013	2,411	1,813	1,055	451	266	14,685
1966	204	198	400	683	1,103	1,788	2,078	1,669	1,328	752	324	235	10,760
1967	230	271	539	849	1,379	2,088	2,428	1,994	1,574	952	457	327	13,089
1968	322	393	822	1,321	1,970	2,917	3,387	2,800	2,258	1,345	649	468	18,652
1969	463	547	1,070	1,723	2,677	3,620	3,975	3,140	2,488	1,493	715	503	22,414
1970	484	569	1,120	1,727	2,625	3,542	3,954	3,118	2,637	1,604	747	512	22,639
1971	473	540	1,064	1,711	2,539	3,217	3,510	2,756	2,211	1,345	659	478	20,505
1972	461	542	1,093	1,684	2,507	3,173	3,401	2,636	2,079	1,284	655	473	19,988
1973	463	550	1,155	1,992	3,498	5,083	5,606	4,083	3,019	1,732	789	537	28,507
1974	502	585	1,199	1,880	2,758	3,445	3,690	2,880	2,259	1,343	650	468	21,659
1975	461	559	1,175	1,923	3,104	4,301	5,032	3,852	2,992	1,743	812	560	26,511
1976	532	637	1,306	2,083	3,101	4,025	4,388	3,444	2,732	1,659	800	566	25,273
1977	542	646	1,328	2,061	2,950	3,547	3,721	2,890	2,307	1,374	656	470	22,491
1978	463	561	1,169	1,905	2,924	3,927	4,395	3,413	2,679	1,592	766	553	24,347
1979	548	666	1,391	2,202	3,411	4,660	5,064	3,686	2,923	1,732	831	582	27,695
1980	550	643	1,270	2,032	3,331	4,687	5,489	4,208	3,291	1,933	909	638	28,982
1981	607	715	1,456	2,270	3,361	4,210	4,500	3,464	2,705	1,625	791	570	26,276
1982	560	680	1,437	2,328	3,537	4,508	4,899	3,800	3,105	1,918	926	670	28,370
1983	646	762	1,559	2,388	3,542	4,898	5,525	4,334	3,409	2,048	979	697	30,787
1984	673	779	1,551	2,458	3,752	5,069	5,501	4,294	3,429	2,057	990	695	31,250
1985	673	783	1,614	2,603	3,969	5,030	5,453	4,238	3,306	2,018	957	654	31,297
1986	601	686	1,429	2,399	3,788	5,033	5,495	4,116	3,180	1,934	957	666	30,284
1987	616	702	1,417	2,133	3,248	4,073	4,077	3,058	2,424	1,439	702	508	24,396
1988	500	607	1,276	2,060	3,072	3,893	4,192	3,257	2,619	1,569	750	538	24,333
1989	529	643	1,377	2,334	3,543	4,418	4,658	3,606	2,816	1,679	799	569	26,972
1990	559	677	1,399	2,196	3,281	4,262	4,639	3,621	2,882	1,763	864	627	26,771
1991	623	761	1,601	2,636	3,856	4,905	5,277	4,108	3,303	1,988	957	694	31,710
1992	690	844	1,781	2,892	4,139	4,946	5,273	4,121	3,305	1,981	953	686	31,609
1993	681	835	1,693	2,592	3,751	4,872	5,345	4,145	3,395	2,038	983	705	31,035
1994	692	841	1,784	2,892	4,231	5,031	4,996	3,774	2,977	1,785	867	630	30,501
1995	627	771	1,701	2,709	3,755	4,458	5,226	4,148	3,280	1,951	929	661	30,215
1996	653	797	1,654	2,585	3,777	4,384	4,473	3,372	2,614	1,554	748	546	27,157
1997	547	674	1,444	2,390	3,652	4,539	4,827	3,852	3,121	1,972	967	698	28,683
1998	686	829	1,717	2,787	3,976	4,533	4,803	3,738	2,941	1,766	872	637	29,286
1999	632	769	1,593	2,526	3,820	4,716	5,238	4,276	3,316	1,954	939	674	30,452
2000	664	808	1,673	2,679	4,004	4,737	4,911	3,724	2,918	1,714	821	590	29,245
2001	582	708	1,482	2,458	3,860	4,682	4,900	3,810	3,008	1,776	848	609	28,723
2002	600	728	1,495	2,296	3,176	3,679	3,677	2,692	2,054	1,211	580	419	22,607
2003	414	504	1,049	1,658	2,429	3,068	3,141	2,310	1,806	1,072	515	375	18,339
2004	373	458	983	1,686	2,604	3,347	3,553	2,701	2,103	1,288	633	468	20,198
2005	476	611	1,359	2,337	3,794	4,776	5,204	4,031	3,180	1,931	946	685	29,331
2006	680	830	1,721	2,719	4,023	4,673	4,834	3,743	2,983	1,863	945	692	29,707
2007	690	846	1,784	2,879	4,056	4,999	5,282	4,092	3,189	1,906	915	664	31,302
Average	510	611	1,267	2,039	3,083	3,948	4,279	3,311	2,615	1,569	755	538	24,526

The 25-year (1983-2007) average is 28,208

EXHIBIT
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Table UC-1
Upper Colorado River Basin
Estimated Main Stem Reservoir Evaporation [1]
2006-2010

(1,000 acre-feet)

Reservoir	Evaporation					
	2006	2007	2008	2009	2010	Average
Flaming Gorge	76.5	76.6	75.3	79.7	78.4	77.3
Blue Mesa	8.8	8.7	8.2	8.8	8.4	8.6
Morrow Point	0.8	0.8	0.8	0.8	0.8	0.8
Lake Powell	357.9	367.0	410.8	443.8	443.4	404.6
TOTAL	444.0	453.0	495.1	533.1	531.1	491.3

[1] Undistributed by States. Evaporation determined using average historical evaporation rates.

New Mexico's share
531.1 x .1125=59.749

EXHIBIT
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