

The Colorado River: A Diminishing Oasis in an Arid Region with Increasing Demands.

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INTRODUCTION

It is hard to believe that less than a century ago the Colorado was nothing more than a muddy, fast-flowing river causing little to no controversy among the basin states, the United States government, and the Mexican people.¹ This once free-flowing river has become one of the most regulated and legislated bodies of water in the United States and the world.² The Colorado River Basin is the fifth largest in North America, draining about 242,000 square miles and extending throughout the Seven Western states and the country of Mexico.³ Because of its size, the Colorado has become an indispensable resource in the arid-western United States. As early as the late 1800s, settlers of the region depended on the Colorado's water to support their families.⁴ Dependence on this water has only increased in the last one hundred years. This in turn has caused problems arising out water shortage and the destruction of the native species' natural habitat. It is because these problems continue to increase, that the river-basin states, the United States Federal government, and the Mexican government have had to reach agreements to confront the Colorado's growing problems.

¹ Peter W. Culp, *The Last Green Lagoon: How and Why the Bush Administration Should Save the Colorado River Delta*, 28 Ecology L.Q. 903, 905 (2002)

² Ethan Shaner, *Balancing Current and Future Demands For Colorado River Water With the Requirements of the Endangered Species Act*, 28 Wm. & Mary Env'tl. L. & Pol'y Rev. 951, 953 (2004)

³ David L. Wegner, *New Ideas for Old Dams: Developing Solutions for a Shrinking Colorado River*, 2 GGUELJ 69, 70 (2008)

⁴ Dale Pontius, Western Water Review Advisory Committee, *Colorado River Basin Study*, 2 (August 1997) available at http://wwa.colorado.edu/colorado_river/docs/pontius%20colorado.pdf, 1997, retrieved March 15th, 2010

The first part of this paper will explore the factual background of the river. The second section will address the carving of the law of the river, along with its current standing. The third part will analyze some of the hot pressing issues involving the Colorado. Finally, part four will be a summary of the three parts with a prediction of probable outcomes of some of the Colorado River issues. Perhaps the most important prediction is that the United States and Mexico have to work together to address some of the Colorado's issues. In fact, because the Colorado River covers both the United States and Mexico, in order for some of the river's problems to be successfully tackled, both countries have to set aside their differences and work together with the management, restoration, and preservation of the Colorado as their main objectives.

I. BACKGROUND

For over a century, the mighty Colorado River has served as a lifeline for people living around Imperial Valley in California.⁵ As commentator Dale Pontius stated, the Colorado River “has a dramatic history going back millions of years; within its watershed are located some of the most majestic geologic features in North America, including the Grand Canyon.”⁶ As early as 1869, development of the Colorado had begun with early settlers of the region beginning to divert its waters to support their crops and families.⁷ At this time, the first map of the river basin was completed by John Wesley Powell.⁸ The modern version of this map shows the Colorado flowing through seven states in the US and two states in Mexico.⁹ Despite earlier developments

⁵ Wegner, *supra* note 3, at 73

⁶ Pontius, *supra* note 4

⁷ Wegner, *supra* note 3, at 73

⁸ *Id.*

⁹ Jennifer Pitt, *et al*, *Two Nations, One River: Managing Ecosystem Conservation In the Colorado River Delta*, 40 Nat. Resources J. 819, 882 (2000)

by early settlers, major developments in the Colorado did not begin until the early 1900s when Imperial Valley farmers began to irrigate their crops on a large scale.¹⁰

Today, the Colorado continues to provide a lifeline for residents of the region. Its region of dependency, however, has increased from an area in California in the late 1800s to nine states in two countries today.¹¹ The river's water supports over 30 million people and 3.7 irrigated farm land throughout its basin.¹² In addition, 11.5 billion kilowatt-hours of hydroelectric power are generated from the Colorado.¹³ While its water yield is only eight percent of the annual flow of the Columbia and three percent of the Mississippi,¹⁴ the sheer number of people depending on it has made the Colorado the most debated, legislated, and litigated river in the world.¹⁵ John Wesley Powell insightfully commented in the late 1800s "[t]he great values of this region will be measured in acre-feet."¹⁶ This early statement has proved to be accurate, as in the last decades, the Colorado had been an oasis in this arid land, thereby providing water—which otherwise would not be available—to millions of people.

The basin covers over 244,000 square miles, with 2,000 of these found entirely within the Mexico borders.¹⁷ These numerical dimensions make the Colorado the fifth largest watershed basin in North America.¹⁸ From its humble birth in the Rocky Mountains to its mouth in the Sea of Cortez in Mexico, the Colorado stretches over 1,000 miles¹⁹ with a drop of over 13,000 feet.²⁰ In such an arid region, the Colorado has provided an invaluable source of water, which has made

¹⁰ Culp, *supra* note 1

¹¹ Pitt, *et al*, *supra* note 5

¹² Culp, *supra* note 1

¹³ Pontius, *supra* note 4

¹⁴ *Id.*

¹⁵ Shaner, *supra* note 2

¹⁶ Emily Jeffers, *Creating Flexibility in Interstate Compacts*, 36 *Ecology L. Q.* 209, 223 (2009)

¹⁷ Pitt *et al*, *supra* note 5, at 822

¹⁸ Wegner, *supra* note 3

¹⁹ Pitt, *et al*, *supra* note 5, at 822

²⁰ Shaner, *supra* note 2

it possible for civilization to flourish over the years. With increasing demands of its waters, the Colorado has every drop of its water carefully controlled and mathematically delivered through the usage of dams, canals, and head-gates.²¹

Several decades ago, the Colorado River was still free-flowing and humans had not made substantial changes to its natural state.²² Nevertheless, the current basin is far from a free-flowing river. The more than 100 dams on the river and its tributaries make possible for the basin states to meet their increasing fresh-water demands.²³ This reliance on its waters has sparked heated controversy amongst those relying on the Colorado. Such issues primarily become apparent in times of drought when the river, despite its majestic size, fails to deliver the demanded water. A recent example occurred from 2000 to 2005 when the river basin experienced an unprecedented drought, substantially reducing water storage in the system and leaving reservoir levels at historic lows, which in turn made it difficult for relying states to obtain the expected water.²⁴

Despite its impressive size, the Colorado's watershed accumulates less precipitation per kilometer than any other major watershed in the United States.²⁵ Furthermore, its waters are fully allotted amongst the seven basin states and Mexico. The waters of the Colorado, along with any other changes or developments to its basin, are governed by what has become known as the "law of the river." This law of the river is not codified in any statute book, but is instead a compilation of interstate compacts, statutes, administrative rules, court decisions, and federal acts.²⁶ Most of what now forms part of the law of the river is based on the sole purpose of utilizing the water for

²¹ Culp, *supra* note 1

²² *Id.*

²³ Wegner, *supra* note 3

²⁴ Brian Poulsen, *the North Giveth and the North Taketh Away: Negotiating Delivery Reductions to Mexico Through the Colorado River Seven State Agreement for Drought Management—a Potential Conflict?*, 30 *Environ. L. & Pol'y J.* 221, 223 (2007)

²⁵ Shaner, *supra* note 2, at 954

²⁶ Culp, *supra* note 1, at 912

irrigation and municipal use by the basin states and Mexico. Over the years, this ideal has caused, and continues to cause, problems amongst the states and with Mexico over water quantity and quality. The most recent problems are arising because of the growing scarcity of water and the growing destruction of habitat for species of the Colorado's basin.

I. THE LAW OF THE RIVER

Although the law of the river is not codified in any statute book, it is still the compilation of laws and agreements that has kept the waters of the Colorado in tight regulation for nearly a century. What has become known as the law of the river officially traces its origins to the 1922 Colorado River Compact. However, prior to this Compact, the basin states were consistently trying to reach agreements as to how to regulate usage of the Colorado's resources.²⁷ In the early 1900s, California was particularly interested in developing the Colorado; because they lacked the money to make the developments alone, they were lobbying the federal government to get involved and take charge of the developments.²⁸ At that point, it seemed almost impossible to think that an actual agreement was going to be reached. California wanted the federal government to control, while some of the other states wanted to keep their independence from the national government.²⁹ The differing water laws in the basin areas were the biggest obstacles faced by those states lobbying for an early agreement.

Two Supreme Court cases prior to the 1922 Compact had a considerable impact on the downturn of the Compact negotiations.³⁰ In 1902, the states of Kansas and Colorado reached the Supreme Court in litigation involving the waters of the Arkansas River.³¹ In the original

²⁷ James S. Lochhead, *An Upper Basin Perspective on California's Claims to Water From the Colorado River Part I: the Law of the River*, 4 U. Denv. Water L. Rev. 290, 297 (2001)

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ *Kansas I v. Colorado*, 185 U.S. 125 (1902)

complaint, Kansas wanted to keep Colorado from diverting water from the Arkansas River.³² Colorado filed a demurrer and the Supreme Court dismissed the demurrer without prejudice.³³ More significant was the Supreme Court's later decision in *Kansas II v. Colorado*, which was decided in 1907. In this second decision of the same facts, the Court reviewed the claim on its merits.³⁴ The main deciding factor the Court used in its rationale was that the case involved disputes between two states with different water law systems.³⁵ The Court imposed an equitable apportionment of water, without regard to the dates of use within the two states.³⁶ The upper-basin states, particularly Colorado, were pleased with this decision because it would secure even the less developed basin states an equitable share of water.³⁷

Nevertheless, a spark to the ineffective negotiations occurred in early 1922 when the Supreme Court in *Wyoming v. Colorado*, decided prior appropriation was to be the water law governing disputes between two prior appropriation states.³⁸ This decision by the Court unleashed panic in the upper-Colorado states. They feared that under the prior appropriation law, California and the faster-developing lower-basin states were going to secure senior rights to the waters of the Colorado without giving the upper states an opportunity to develop their share of the Colorado.³⁹ Thus, this decision encouraged the upper-basin states to finally cooperate in the agreement negotiations. By this time, the objective of these states was to secure equitable water rights to the Colorado River.⁴⁰

³² *Id.* at 137

³³ *Id.* at 147

³⁴ *Kansas II v. Colorado*, 206 U.S. 46 (1907)

³⁵ *Id.* at 48

³⁶ *Id.* at 117-18

³⁷ Lochhead, *supra* note 27, at 298

³⁸ *Wyoming v. Colorado*, 259 U.S. 419, 470-71 (1922)

³⁹ Lochhead, *supra* note 27, at 298

⁴⁰ *Id.*

A. The Colorado River Compact

After years of hard-fought negotiations, the *Wyoming* decision was the major motivator for the upper-basin states to finally reach an agreement with the lower basin.⁴¹ This agreement was the Colorado River Compact (the Compact), which was finally signed on November 24th of 1922.⁴² The Compact provides for the equitable apportionment of the use of the Colorado River's waters.⁴³ It divided the Colorado River basin into upper and lower basin.⁴⁴ The upper basin includes the states of Colorado, New Mexico, Utah, and Wyoming, while the lower basin covers Arizona, California, and Nevada.⁴⁵ The Compact allotted the waters of the Colorado in perpetuity, the upper and lower basins are both to receive 7,500,000 million acre-feet per year to be averaged every ten years to account for years of drought.⁴⁶ The final important notes from the Compact are that it mentioned that Mexico may some day, as a result of international comity, have a right to Colorado River water. Yet it failed to include the potential rights of Native American tribes.⁴⁷

Six of the seven basin states promptly ratified the agreement, but Arizona feared that California was going to secure rights to the lower basin apportionment by developing faster, and was the last state to ratify the Compact in 1944.⁴⁸ The Compact, despite several years of negotiations, eventually became the heart of what is now the law of the river. It is from this Compact that other pieces of law have emerged and been molded to comply and further the original intentions of the 1922 Compact.

⁴¹ *Id.*

⁴² Colorado River Compact, C.R.S.A §37-61-101 (West 2010)

⁴³ *Id.* at Article I

⁴⁴ *Id.* at Article II

⁴⁵ *Id.*

⁴⁶ *Id.* at Article III

⁴⁷ *Id.*

⁴⁸ Joseph L. Sax, *et al*, Legal Control of Water Resources Cases and Materials, 805 (4th ed. 2006)

B. The Boulder Canyon Project Act

Following the agreement on the Compact, the basin states still lacked an efficient system to develop their basin's apportionment of water. California wanted to begin developing its share, as the needs in its municipalities and Imperial Valley continued to increase. However, like the other basin states, California did not have the financial capabilities to make arrangements on its own. Thus, after being the first state to ratify the Compact, California turned to the federal government for funding.⁴⁹ The response to the state's requests was the 1928 Boulder Canyon Project Act.⁵⁰ Basin states were pleased to have the federal government assume the financial responsibility of developing the Colorado River. Nevertheless, they would later discover that the federal government, through this act, began carving the way for federal imposition of authority over the river management.⁵¹

Under this act, Congress compromised to finance the construction of Hoover Dam and the All-American Canal, which would both serve to provide the basin states with water.⁵² Prior to the construction of the All-American Canal, Imperial Valley farmers had been using the Alamo Canal as their only source of water.⁵³ The Alamo Canal was almost entirely on Mexican soil and resulted in the deterioration of international relations between the US and Mexico, which gave rise to a movement to have a canal entirely within the US borders.⁵⁴

The Act also provided for the lower-basin states to allocate their share of the water, limiting California to 4.4 million acre-feet (maf).⁵⁵ The Secretary of the Interior was given the authority to regulate water allocation and surpluses in the lower basin and allocated the water as

⁴⁹ Lochhead, *supra* note 27, at 306-07

⁵⁰ Boulder Canyon Project Act, 43 U.S.C. § 617 et seq. (West 2010)

⁵¹ Lochhead, *supra* note 27, at 307

⁵² Culp, *supra* note 1, at 918

⁵³ *Consejo de Desarrollo Económico de Mexicali v. United States*, 482 F.3d 1157, 1162 (9th Cir. 2007)

⁵⁴ *Id.* at 1162-63

⁵⁵ Culp, *supra* note 1, at 920

follows: California 4.4 maf, Arizona 2.8 maf, and Nevada 0.3 maf.⁵⁶ **California's Seven Party Agreement**⁵⁷ serves as an early example of the Secretary of Interior using his powers pursuant to the Boulder Canyon Project Act. The Secretary of Interior pressed California to allocate its share of the water to agricultural and municipal uses.⁵⁸ This agreement would later cause controversy because California allotted more than its 4.4 maf (3.85 maf for agricultural uses and 1.212 maf for municipal uses).⁵⁹ In the end, Hoover Dam has become known as a modern marvel of architecture and the All-American Canal was completed. However, the disputes, litigations, and regulations surrounding the River have continued.

C. The 1944 Mexico Treaty

The Colorado River basin extends about 2,000 square miles into Mexico. It is because of this international basin that the Colorado's waters have been claimed by both the US and Mexico. The Colorado River Compact does not specifically allot any water to Mexico. However, as early as the late 1800s, the US was attempting to secure an agreement with Mexico as to international waters.⁶⁰ The US was primarily interested in securing waters from the Rio Grande, which serves as the border between the state of Texas and Mexico. Faced with the US's proposals, Mexico initially submitted that the US did not need the water and that water users in the US were wasteful.⁶¹ Later, Mexico saw an opportunity to create a better package by including the Colorado River into the negotiations.⁶²

⁵⁶ *Id.*

⁵⁷ California Seven Party Agreement also forms part of the law of the river. However, for the purposes of this paper, it is not necessary to use a whole section to address its relevance to the law of the river.

⁵⁸ Lochhead, *supra* note 27, at 308

⁵⁹ *Id.*

⁶⁰ Allie Alexis Umoff, *An Analysis of the 1944 U.S.-Mexico Water Treaty: Its Past, Present, and Future*, 32-FALL *Environs Envtl. L. & Pol'y J.* 69, 72 (2008)

⁶¹ *Id.*

⁶² *Id.*

By the 1920s, the US was determined to reach an agreement with Mexico. In 1929, the US made its first formal offer including the waters of the Colorado. Under this offer, the US was to provide Mexico 750,000 acre-feet annually.⁶³ Mexico did not like this offer, as they were demanding 3.6 maf per year. Thus, Mexico plainly rejected this first offer.⁶⁴ After this initial attempt by the US, negotiations were somewhat suspended until 1941 when the US made another offer.⁶⁵ Under this offer, the US was to deliver 900,000 acre-feet to Mexico every year.⁶⁶ Mexico, still demanding more water, proposed a counteroffer enabling them to receive 2 maf annually.⁶⁷ This offer was also declined, and negotiations were temporarily suspended.⁶⁸ A third by the US was made in 1942. It offered to provide Mexico with 1.15 maf per year, but Mexico stood strong with its 2 maf minimum demand, which resulted in another rejection.⁶⁹

Negotiations between the two nations continued, and in 1944 an agreement was finally reached.⁷⁰ Initially, the US wanted to secure water from the Rio Grande, but the final treaty includes the waters of the Colorado, Tijuana, and the Rio Grande. The treaty provides that the US is to be entitled to 350,000 acre-feet of water from the Rio Grande annually, to be averaged every 5 years to account for years of drought.⁷¹ This water delivery was to be facilitated by the joint development of the main Rio Grande channel.⁷² Mexico was allotted 1.5 maf of water from the Colorado annually, with the possibility to obtain an additional 200,000 acre-feet in surplus

⁶³ Charles J. Meyers & Richard L. Noble, *The Colorado River: the Treaty with Mexico*, 19 Stan. L. Rev. 367, 368 (1967)

⁶⁴ Damien M. Schiff, *Rollin', Rollin', Rollin', on the River: A Story of Drought, Treaty Interpretation, and Other Rio Grande Problems*, 14 Ind. Int'l & Comp. L. Rev. 117, 125 (2003)

⁶⁵ Memorandum From the Department of State to the Mexican Embassy, 6 Foreign Rel. U.S. 547 (1963)

⁶⁶ *Id.*

⁶⁷ Meyers & Noble, *supra* note 63, at 375

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ Treaty with Mexico Respecting Utilization of the Waters of the Colorado and Tijuana Rivers and the Rio Grande, 59 Stat. 1219, 1265 T.S. No. 994, at 55 (West 2010) (agreement reached in February of 1944, treaty became effective on November 8, 1945)

⁷¹ *Id.* at Article 4 § B

⁷² *Id.* at Article 5

years, but during droughts Mexico was to give up water equitably with the US states.⁷³ Mexico was to build the means to obtain its allotted water at its own cost.⁷⁴ Finally, the treaty vested authority on the International Boundary and Water Commission (IBWC) to control delivery of the allotted water, resolve disputes, and allocate the waters of the Tijuana River.⁷⁵

At the time of ratification by the Senate, many opponents had some concerns about the treaty. The major concern was the quality of the water. Some of these opponents believed that eventually the quality of the water was going to decrease and that this would cause problems.⁷⁶ These senators were correct, as a dispute involving the treaty arose in the early 1960s when the salinity of the water reaching the Mexicali Valley increased to the point that it was killing crops.⁷⁷ Initially, when Mexico complained, the US answered that the treaty did not specify anything about water quality.⁷⁸ Nonetheless, when Mexico's President Luis Echeverria threatened to sue in the International Court of Justice (ICJ), the US decided to find a solution to the salinity problem.⁷⁹ The solution agreed on was Minute 242 signed by the IBWC, which included the extension of the Wellton-Mohawk drain—this would enable the winter months (little water delivery of water to Mexico) to dilute some of the excess salt and in summer months (when most of the delivery occurs) the water would be of acceptable quality.⁸⁰ This solution went into effect in 1972 and has worked since.⁸¹

In the end, years of negotiations between the two countries resulted in much more than the US had originally bargained for. The 1960s salinity crisis is one of such unwanted conflicts

⁷³ *Id.* at Article 10

⁷⁴ *Id.*

⁷⁵ *Id.* at Articles 2 & 16

⁷⁶ Meyers & Noble, *supra* note 63, at 406-08

⁷⁷ Meyers & Noble, *supra* note 63, at 79.

⁷⁸ *Id.*

⁷⁹ Umoff, *supra* note 60, at 80

⁸⁰ *Id.*

⁸¹ *Id.*

between the two nations. Nevertheless, the treaty has been successful in maintaining the Colorado water interests of both nations. After the 1944 Treaty with Mexico, the law of the river would experience about a decades of inactivity. However, it continued evolving in 1956 with the Colorado River Storage Project Act was enacted by Congress.

D. The Upper Colorado River Compact and the Colorado River Storage Project Act

In 1968, the Department of Interior displayed its authority over the Colorado River matters by pressuring the upper-basin states to allot their 7.5 maf among themselves. The Upper Colorado River Compact was the result of this federal pressure.⁸² The Upper Basin Compact allocated the waters of the upper-basin in the following percentages: 51.75% to Colorado, 11.25% to New Mexico, 23% to Utah, 14% to Wyoming, and 50,000 acre-feet to Arizona for its small upper basin share (this was the lone actual amount allotted).⁸³ These allotments were based on the needs of the upper-basin states in 1948, which means that if any of these states need more water, amendments or renegotiations of the Upper Basin Compact will need to take place.⁸⁴ Thus far, this allocation of water based on 1948 needs has not caused controversy among the upper-basin states because the upper-basin has yet to develop its full allotment of the Colorado River water.⁸⁵ Nevertheless, given the way the Colorado is regulated and litigated; it is probable that the Upper Basin Compact will eventually give rise to disputes.

As a result of the Upper Basin Compact, the upper-basin states petitioned Congress to assist them developing their basin's water.⁸⁶ Thus, in 1956 Congress enacted the **Colorado**

⁸² Culp, *supra* note 1, at 917-18

⁸³ Upper Colorado River Compact, Colo. Rev. Stat. §§37-62-101 (West 2010)

⁸⁴ *Id.*

⁸⁵ Robert W. Andler, *Revisiting the Colorado River Compact: Time for a Change?*, 28 J. Land Resources & Env'tl. L. 19, 45-6 (2008)

⁸⁶ Lochhead, *supra* note 27, at 312-13

River Storage Project Act.⁸⁷ This act authorized the construction of four additional dams on the upper Colorado. These dams are known as the “holdover dams” because they are used by the upper-basin states to store water in their basin in order to develop their full apportionment.⁸⁸ This act also requires the upper basin to fully deliver its obligation of water to the lower basin.⁸⁹ Through this act, the federal government enabled the upper basin to fully utilize their Colorado water allotments. However, the addition of more dams to the Colorado River has slowed its downstream flow, which is causing several environmental problems. Even though these problems were not addressed in the earlier 1900s, by the late 1900s and early 2000s, these started to become ever more pressing. The “holdover dams” alone did not cause these environmental changes, but they certainly contributed to them.

This Act was the second enacted by Congress to deal with the Colorado River. It was 1956 then, and the basin states were beginning to realize that the federal government was not simply *aiding the states develop the Colorado for the states’ own good*. The *Arizona v. California* decision by the Supreme Court in 1963 would strengthen this theory of federal imposition upon the Colorado River basin states.

E. *Arizona v. California*

Arizona v. California marks a turning point for the Colorado River basin management. In this case, the Court was faced with questions as to how much water each lower-basin state was allotted, whether the Boulder Project Act had given the Secretary of Interior the authority to serve as the regulator of water in the lower basin, and whether the doctrine of equitable apportionment applied to the lower basin.⁹⁰ In its decision, which was later reinforced by the

⁸⁷ Colorado River Storage Project Act, 70 Stat. 105 (codified at 43 U.S.C. §§ 620 (1994))

⁸⁸ Lochhead, *supra* note 27, at 313

⁸⁹ *Id.*

⁹⁰ *Arizona v. California*, 373 U.S. 546, 564-65 (1963)

Arizona v. California Decree, the Court explained that California was allotted 4.4 maf, Arizona 2.8 maf, and Nevada 0.3 maf per year.⁹¹ Further, it indicated that the Secretary of Interior had been given the authority to act as water regulator for the lower basin through the Boulder Canyon Project Act.⁹² Lastly, the Court articulated that the doctrine of equitable apportionment did not apply to the lower basin because all the lower-basin states followed prior appropriation water systems.⁹³ The *Arizona v. California* decision and subsequent decree served as a demonstration by the federal government of its authority over the Colorado River management.⁹⁴ Finally, this decision also contributed a small victory for Native American tribes by recognizing that the region's Native Americans were entitled to Colorado River water rights.⁹⁵

As mentioned, following the Boulder Canyon Project Act of 1928, the Colorado River Storage Act of 1956, and *Arizona v. California* in 1963, the Colorado River was being managed by the federal government. This trend continued to become evident in 1968 when Congress enacted the Colorado River Project Act.

F. The Colorado River Basin Project Act

In 1968, Congress again decided to manifest its authority of the Colorado River system by passing the Colorado River Basin Project Act. This act gave the Secretary of Interior more authority over the Colorado River, including the upper basin.⁹⁶ It provided guidelines for the

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ Lochhead, *supra* note 27, at 307

⁹⁵ *Arizona v. California* explained that Native American tribes along the Colorado River basin were entitled to water from the River. This small win for the tribes has resulted in a still unresolved controversy of where this entitlement of water is to come from, since the every drop of the river's water is already allocated. This issue is not as controversial in the upper basin because this basin has not used its full apportionment.

⁹⁶ Colorado River Basin Project Act, 43 U.S.C. §§ 1521(b) (1968)

storage of water in the upper basin and the required deliveries to the lower basin.⁹⁷ Furthermore, the Act finally put an end to Arizona's fears of losing out on its share of water by not developing a system to divert it because it authorized the Arizona Central Project.⁹⁸ This would allow Arizona to finally develop its full entitlement of the Colorado River, something it had not yet been able to do. Arizona was warned that its project could not have an impact on the other lower-basin states failing to obtain their allotted water or else it would not be authorized.⁹⁹ Even though the Central Arizona Project was authorized, the first priority on the lower basin was still given to California.¹⁰⁰ In addition, in the case of any shortage in the lower basin, delivery to the Central Arizona Project was to stop in order to ensure that California had its 4.4 maf available.¹⁰¹

The Colorado River Basin Project Act gave Arizona a sense that it finally was going to be able to enjoy its Colorado River benefits. However, this accomplishment came at a heavy price, as the priority continued to be placed on meeting California's allotment. Thus, Arizona's fear of California's faster development came true. Furthermore, pursuant to this Act, the federal government reassured its authority over Colorado River management and even added some power over the upper basin states.

In more recent years, as a direct result of the Central Arizona Project Act, Arizona has begun to divert its full entitlement of Colorado River water.¹⁰² This has forced California to implement a plan to stop relying on surplus water because now that Arizona is taking its full allotment, it is less likely that there will be any surplus water. In 2003, California passed **the**

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ Lochhead, *supra* note 27, at 313.

¹⁰¹ *Id.*

¹⁰² Jeffrey Kightlinger, *The Lower Colorado River Multi-Species Conservation Program*, 19 Pac. McGeorge Global Bus. & Dev. L. J. 33, 37 (2006)

Quantification Settlement Agreement.¹⁰³ This agreement submitted California's compromise to limit its usage of the Colorado River water to its 4.4 maf annual allotment.¹⁰⁴ In an effort to make this promise a reality, California encourages transfers of water from farming districts to municipal districts.¹⁰⁵ These transfers are particularly encouraged to meet the municipal needs of southern California, which has traditionally utilized the surplus water.

G. The Grand Canyon Project Act

After increasing environmental problems due to the human alterations of the Colorado River Basin, Congress finally began to acknowledge the issue by enacting the Grand Canyon Project Act.¹⁰⁶ The main purpose of this act was to mitigate the adverse impacts of human action to the Grand Canyon National Park and the Glen Canyon National Recreation Area.¹⁰⁷ More precisely the Act addressed the concerns of habitat destruction for some native species because of the development of the river. Amongst other things, it recognized the need for different flood patterns in order to restore and prevent erosion of sand beaches.¹⁰⁸

Even though this act was not enacted until 1992, it signified an important stepping-stone in Colorado River management. For the first time, a legislative body began to express (through a piece of law) its concern for the basin's ecological problems. In addition, it provided for the recognition of the Endangered Species Act and for adopting the necessary measures to ensure that endangered species were preserved—at least in the Grand Canyon and Glen Canyon National Parks.¹⁰⁹

¹⁰³ This agreement is complex, but this paper focuses merely on its general impact on the law of the river.

¹⁰⁴ Kightlinger, *supra* note 102

¹⁰⁵ *Id.* at 38

¹⁰⁶ Dan Tarlock, *International Water Law and the Protection of River System Ecosystem Integrity*, 10 *BYU J. Pub. L.* 181, 205 (1996)

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* at 207

¹⁰⁹ *Id.* at 205

H. The Lower Colorado River Multi-Species Conservation Program

Concerns regarding the diminishing habitat in the lower Colorado River were initially manifested by Congress in the Grand Canyon Project Act. However, this act addressed primarily only two specific protected areas. Because the threats to of native species are occurring in more than these two areas, in 1994 the lower basin states began to work toward the development of a habitat preservation program with the intent to protect native species.¹¹⁰ The product of this work was consummated in 2004 when the Lower Colorado River Multi-Species Conservation Program (LCRMSCP) was signed by Secretary of Interior Dale Gorton.¹¹¹ This program reflected the work of the lower-basin states, the Bureau of Reclamation, and the Department of Fish and Wildlife.¹¹²

The program was driven by the growing concerns caused by habitat destruction and threats to area's species. Thus, it focuses on habitat restoration and preservation (particularly of big river fish).¹¹³ The reaching of this agreement was the result of lobbying and negotiations that lasted from 1996 to 2004.¹¹⁴ The preservation measures of the program, which is to be carried out over a 50-year term, include:

- Creating 5,940 acres of riparian vegetation (cottonwood and willow);
- Creating 1,230 acres of mesquite woodland;
- Creating 512 acres of marsh;
- Creating 360 acres of backwaters;
- Rearing and stocking of over 600,000 each of razorback sucker and bonytail;
- Funding for projects to preserve and protect existing habitat; and

¹¹⁰ Kightlinger, *supra* note 102, at 44

¹¹¹ US Department of Interior, *Secretary Norton Signs Agreement for Multi-Species Conservation Program on Lower Colorado River*, available at https://www.doi.gov/news/04_News_Releases/040914b.htm, 2004, retrieved April 15th, 2010.

¹¹² Shaner, *supra* note 2, at 967-68

¹¹³ *Id.* at 969

¹¹⁴ Bureau of Reclamation, *Lower Colorado River Multi-Species Conservation Program*, available at <http://www.lcrmcp.gov/>, 2007, retrieved April 15th, 2010

- Funding for monitoring, research, and adaptive management.¹¹⁵

The estimated cost of this project amounted to 626 million US dollars (in 2003 dollar estimation).¹¹⁶

The LCRMSCP begins to consolidate the overall environmental concern due to human alterations to the Colorado River. This program has already faced several waves of criticism. According to critics, one of the major problems with this program is that it did not include any of the problems facing the Colorado River Delta.¹¹⁷ This argument has led environmental groups from both the US and Mexico to litigation in United States Federal Court.¹¹⁸ Despite the criticism, the LCRMSCP represents a combination of state and federal cooperation working towards preserving species native to the Colorado River basin. Hence, even though the issues involving the delta are still largely unaddressed (by the legislature and governing bodies), this program constitutes a step in the right direction in order to continue seeking the preservation of Colorado River native species.

II. CURRENT ISSUES INVOLVING THE COLORADO RIVER

Since the early 1900s, the Colorado has been generating many disputes among the basin states. Most of the controversies involving the Colorado are based on the quantity of water, but there are some others based on quality as well. In recent years, issues as to the ecological effect of the continued development of the river have also arisen.

A. Over-Allotment of Colorado River Water

¹¹⁵ Bureau of Reclamation, *Lower Colorado River Multi-Species Conservation Plan, Volume II: Habitat Conservation Plan*, chapter 5, table 5-1, available at <http://www.lcrmscp.gov/publications/VolumeII.pdf>, 2004, retrieved April 15th, 2010

¹¹⁶ US Department of Interior, *supra* note 111

¹¹⁷ Shaner, *supra* note 2, at 973

¹¹⁸ See *Defenders of Wild Life v. Norton*, 257 F.Supp.2d 53 (2003) (District Court for the District of Columbia decided that the Bureau of Reclamation did not have to take into account species outside the United States' borders)

The 1922 Colorado River Compact allocated the waters of the Colorado River to both the upper and lower basin.¹¹⁹ While, the Compact has become the heart of the law of the river, it was based on misleading facts. In 1922, when the Compact was negotiated, the Colorado River basin had experienced the wettest decade on record.¹²⁰ These wet years led the basin to average flows nearing 18 maf annually between 1914 and 1923.¹²¹ Thus, at the time the Compact was negotiated, the basin states erroneously believed that the average flow of the river was 17 maf per year. The states believed that even if the annual flow was 16.5 maf, the basin would easily meet the 15 maf allotted to both basins.¹²² Had these predictions been accurate, the Colorado would have had no problem meeting its allotted obligation with both basins.

These predictions, however, were inaccurate. As early as the 1930s, the wet years began to diverge giving way to dryer years. This caused the average flow of the basin to reach a 4.4 maf record low.¹²³ The following years proved to be even dryer. The Colorado averaged closer to 13.9 maf per year between 1930 and 1996.¹²⁴ This average flow has caused problems because the Colorado is expected to provide 15 maf to the basins¹²⁵ and 1.5 maf to Mexico every year.¹²⁶ Hence, the Colorado must average 16.5 maf annually in order to fulfill its allotments. Furthermore, these allotments do not include the recently recognized Native American water rights. Averaging 13.9 maf over the years constitutes a shortage of at least 2.5 maf short of its obligations. However, the upper basin has yet to use its full allotment of 7.5 maf per year and

¹¹⁹ Colorado River Compact, *supra* note 42, at Article III

¹²⁰ Pontius, *supra* note 4, at 6

¹²¹ *Id.*

¹²² Andler, *supra* note 85, at 28

¹²³ *Id.*

¹²⁴ Pontius, *supra* note 4, at 6

¹²⁵ Colorado River Compact, *supra* note 42, at Article III

¹²⁶ Treaty with Mexico, *supra* note 70

until recently Arizona was not using its full allotment of 2.8 maf per year.¹²⁷ This is likely why the shortage of flow has not caused more litigation over the years.

The 1922 Compact was based on wishful high average flows that have disappeared over the years. With projects in the upper basin and with Arizona finally diverting its full allotment, the shortage of flow is likely to create disputes among the basin states, unless the basin sees another wet period. Hence, the over allotment of the river's waters is likely to become an important concern among the basin states. In addition to the basin states, environmentalists are also concerned with the over allotment of the water. This allotment is preventing Colorado River water from reaching the Colorado River Delta. Environmentalists, both in the United States and Mexico, are watching the Delta decrease in size and overall health.

B. The Diminishing Colorado River Delta

Today, the Colorado River Delta continues to be the largest wetland area in North America, despite its diminishing size.¹²⁸ Once one of the world's greatest deltas,¹²⁹ the Delta used to encompass over 2.5 million acres of wetlands¹³⁰ stretching from the Sonora desert (in the US) to the Gulf of California (in Mexico),¹³¹ During its flourishing years, the Delta provided water for adjacent farm lands, and people fished and hunted its waters,¹³² Nevertheless, like other river deltas, human alterations have changed the Delta's natural conditions drastically.¹³³

Beginning with Hoover Dam in 1936, the flow of water reaching the Delta began to decrease,

¹²⁷ Kightlinger, *supra* note 102 , at 5

¹²⁸ Dan Tarlock, *Possible Lessons From A Comparison Of The Restoration Of The Danube And Colorado Deltas*, 19 Pac. McGeorge Global Bus. & Dev. L.J. 61, 64 (2006)

¹²⁹ Kevin G. Wheeler, *et al*, *Alternatives For Restoring The Colorado River Delta*, 47 Nat. Resources J. 917, 918 (2007)

¹³⁰ Tarlock, *supra* note 128

¹³¹ Wheeler, *et al*, *supra* note 129

¹³² *Id.*

¹³³ Pitt, *et al*, *supra* note 5, at 820

causing the Delta to begin drying out.¹³⁴ At some point in the mid 1900s, environmentalists actually thought the Delta was in an inevitable-death path.¹³⁵

During the wet decades of the 1980s and 1990s, the water of the Colorado began reaching the Delta.¹³⁶ In these years, weather phenomenon such as El Niño created large snow-packs and spring floods that surpassed the capacity of the reservoirs and caused the Delta to receive water.¹³⁷ Between 1980 and 2000, it is estimated that the water of the Colorado reached the Delta five times, which allowed the Delta to re-flourish about ten percent of its original size.¹³⁸ This revival gives hope to environmental groups that wish to save the Delta, but in order for the Delta to be preserved, the governments of both Mexico and the US are going to have to compromise to work together.

Despite the recent regeneration of a small portion of the Delta, its diminished size has caused severe changes to the Delta's ecology.¹³⁹ For example, native cottonwood and willow have ceded to the non-native salt cedar and iodinebush.¹⁴⁰ These native trees supported greater species richness and density and the cedar is decreasing the native habitant quality.¹⁴¹ When the Delta was healthy, it supported a variety of wild life.¹⁴² However, now that its size continues to decrease, some of its native species are disappearing or becoming endangered.¹⁴³ Four endemic fish have already disappeared from the Delta: bonytail chub, woundfin, razorback sucker, and the

¹³⁴ *Id.*

¹³⁵ Culp, *supra* note 1, at 907

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ Tarlock, *supra* note 128

¹³⁹ *Id.*

¹⁴⁰ Pitt, *et al*, *supra* note 5, at 824-25

¹⁴¹ *Id.*

¹⁴² *Id.* at 829

¹⁴³ *Id.*

colorado pikeminnow.¹⁴⁴ The only endemic fish surviving in the Delta is the desert pupfish, but it exists in limited locations.¹⁴⁵ An alarming fifty other species are considered endangered and threatened in the Delta region.¹⁴⁶ Of these, the totoaba and vaquita stand out because they are the most endangered cetacean in the world.¹⁴⁷ The Colorado southwestern willow flycatcher and the Yuma clapper rail are also endangered species in the Delta.¹⁴⁸ These are merely four examples of endangered species of fish and birds, but there are many other species of other fish, birds, and plants that are considered threatened because of their diminishing habitat. These species that have disappeared could have potentially been saved with the proper preservation program. International treaties such as the Convention on Biological Diversity, require their ratifying countries to set forth programs and guidelines in order to maintain biodiversity.¹⁴⁹ At times, this would require the cooperation between states outside their individual jurisdiction.¹⁵⁰ However, this should not stop the region states, foreign or domestic, from preserving biodiversity; thereby enabling native species' preservation. Agreements, such as this Convention, enable and encourage more effective preservation efforts in order to save endangered species.

The Delta also plays an important ecological function on a continental scale for North American migratory birds.¹⁵¹ It is estimated that the Delta serves as a stopover point on the Pacific Flyway, a bird migration corridor in North America.¹⁵² It is estimated that over 75 % of North American migratory birds use the Delta as a rest stop on their journeys from north to

¹⁴⁴ Wegner, *supra* note 3, at 84-85

¹⁴⁵ *Id.*

¹⁴⁶ *Id.* at 84

¹⁴⁷ John All, *International Application of The Endangered Species Act: The Colorado River Delta, Mexico*, 21 J. Nat. Resources & Env'tl. L. 81, 90 (2006-2007)

¹⁴⁸ Tarlock, *supra* note 128

¹⁴⁹ Convention on Biological Diversity, S. Treaty Doc. No. 103-20 (signed June 1993)

¹⁵⁰ *Id.* at Article 5

¹⁵¹ Culp, *supra* note 1, at 909

¹⁵² *Id.*

south.¹⁵³ Thus, a flourishing Delta supports an abundance of wildlife and it serves North American migratory birds when they need a rest stop.

In recent years, environmental groups (both from the US and Mexico) have made proposals to save the Delta.¹⁵⁴ However, for any proposals to work, both countries have to work together and be willing to give up some of their water rights. These groups continued petitioning the Secretary of Interior to include protection of some species that are found both in the US and Mexico, such as the Colorado willow flycatcher and the Yuma clapper rail.¹⁵⁵ The Bureau of Reclamation did instruct the Fish and Wild Life Service to investigate these species, but decided not to include them on the LCMSCP.¹⁵⁶ Three years later, in *Defenders of Wildlife v. Norton*, environmental groups sued the Secretary of Interior for failure to include Delta endangered species in the LCMSCP.¹⁵⁷ The main issue of the case was whether the Bureau of Reclamation's duty of consultation under the Endangered Species Act extended to operations affecting extraterritorial species in parts of the Delta that are downstream from river flows over which the Reclamation has no discretionary control.¹⁵⁸ In its decision, the District Court acknowledged that these species are of concern to the US. However, the court cited to the Supreme Court holding that "in absence of Congress's affirmative intention, there is a general presumption against extraterritorial application of American statutes."¹⁵⁹ Thus, the court held that the Reclamation did not have the duty to extend its application of the ESA to species in the Delta.¹⁶⁰ This decision was an important obstacle in environmentalists' efforts to protect species in the Delta.

¹⁵³ *Id.*

¹⁵⁴ Tarlock, *supra* note 128, at 65

¹⁵⁵ *Defenders of Wild Life v. Norton*, 257 F.Supp 2d 53, 61 (D.C. 2003)

¹⁵⁶ *Id.*

¹⁵⁷ *See Defenders of Wild Life, supra* note 155

¹⁵⁸ *Id.* at 62

¹⁵⁹ *EEOC v. Arabian American Oil Co.*, 499 U.S. 244, 248 (1991)

¹⁶⁰ *Defenders of Wild Life, supra* note 155, at 68

These groups have continued their attempts to save the Delta through a few proposals. The Pacific Institute made a proposal to save the Delta, which would secure flows to reach the Delta.¹⁶¹ It would require flows of 32,000 af on average years and 260,000 af on surplus years.¹⁶² The Reclamation rejected this proposal, arguing that the Delta was beyond its territorial obligations and that Mexico could direct some of its own water to the Delta.¹⁶³ The Sonora Institute also made a proposal.¹⁶⁴ This proposal would consist of voluntary purchases of water from American farmers.¹⁶⁵ It would then allow this water to the Delta thereby securing annual flows reaching the Delta.¹⁶⁶ This proposal, too, was rejected because it required the US and Mexico to work together and an agreement was not reached.¹⁶⁷ These proposals demonstrate that a solution to the diminishing Delta problem could be found, but to this day the main obstacle has been the lack of an international agreement between the US and Mexico.

C. Endangered Species on the Colorado River

Due to human activity on the Colorado River basin, native species are becoming endangered or threatened species. Currently, there are at least four species native to the Colorado that are listed as endangered.¹⁶⁸ These fish (the Colorado pikeminnow, the humpback chub, the bonytail, and the razorback sucker) were once referred to as “trash fish” because they were not highly valued sport fish.¹⁶⁹ Nevertheless, these fish, along with some other species of plants and

¹⁶¹ Pacific Institute, *Laguna Reach Restoration*, available at http://www.pacinst.org/topics/water_and_sustainability/colorado_river/laguna_reach/index.htm, 2009, retrieved April 15th, 2010

¹⁶² Culp, *supra* note 1, at 954-55

¹⁶³ *Id.*

¹⁶⁴ Pacific Institute, *Colorado River Delta Restoration & Outreach*, available at http://www.sonorainstitute.org/index.php?option=com_content&view=category&layout=blog&id=22&Itemid=111, 2009, retrieved April 15th, 2010

¹⁶⁵ Culp, *supra* note 1, at 964

¹⁶⁶ *Id.*

¹⁶⁷ *Id.* at 966

¹⁶⁸ Shaner, *supra* note 2, at 956

¹⁶⁹ *Id.*

birds, have suffered drastic reduction in numbers because of the changing conditions of the Colorado.

One of the major factors in native species decreasing in number is habitat destruction and reduction of fish runs due to dam and reservoir construction.¹⁷⁰ Human altercations have caused the modification of the historic flow cycle, degradation of estuarine systems, increased flood damage, and produced other environmental problems, which eventually resulted in the decreasing numbers of native species.¹⁷¹ More specifically, river fish have lost customary spawning habitat and migration routes because of the flooding of beaches, beach erosion, and the building of dams.¹⁷² Another example of habitat destruction was explained in *Defenders of Wild Life*. There the district court explained that the construction of Hoover Dam destroyed riparian habitat because it blocked high flows in spring and early summer, and trapped massive amounts of sediment in Lake Mead. The dam releases, allowed cold and clear water, which resulted in significant changes in fish habitat.¹⁷³ The LCMSCP indicates that the federal government should attempt to restore and preserve Colorado River habitat. However, this program alone is not likely to resolve the problem. The basin states have to work together with the federal government to implement more programs like the LCMSCP in order to protect the endangered and threatened species in the Colorado. It appeared that the states and federal governments were beginning to successfully address the endangered species issue, which at least in the Delta requires Mexico's cooperation. Nevertheless, Mexico's alliance for this cause may be hindered by the projected lining of the All American Canal. Mexico's citizens are to be severely affected by this project

¹⁷⁰ Tarlock, *supra* note 106, at 181

¹⁷¹ *Id.* at 182

¹⁷² Shaner, *supra* note 2, at 957

¹⁷³ *Defenders of Wild Life*, *supra* note 155

and the Mexican government has already complained to the US demanding an injunction of the project.

D. The Lining of the All American Canal¹⁷⁴

As the district court stated in *Defenders of Wild Life*, “the All-American Canal is one of the world’s largest irrigation canals, carrying water from the Colorado to Imperial Valley in California.”¹⁷⁵ The canal was approved by the Secretary of Interior in 1928 along with the Hoover Dam.¹⁷⁶ Even before the All-American Canal, Imperial Valley farmers were using the Alamo Canal to irrigate their crops.¹⁷⁷ When the All-American Canal was approved in 1928, Mexico complained because they wanted to continue relying on seepage from the Alamo Canal, which was almost entirely within Mexico’s territory.¹⁷⁸

Despite Mexico’s opposition to the All-American Canal, it was built and has served as Imperial Valley’s only source of Colorado River water.¹⁷⁹ In 1988 Congress decided that the canal was losing too much water through seepage and authorized the Bureau of Reclamation to come up with a solution to this problem.¹⁸⁰ Approved in 1988, no formal plans for lining the canal were published until 1994.¹⁸¹ Funding for the project was a problem and the US Fish and Wildlife Service did not issue final approval until 2004.¹⁸² After this final approval, farmers in Mexicali Valley, Mexico began to complain to their federal officials that this lining was going to

¹⁷⁴ Global Warming was another issue that was addressed when the federal government decided that too much water was being lost in the All-American Canal. However, the global warming issue is beyond the scope of this paper. For the purposes of this paper, global warming played a role in motivating the federal government to line the All-American Canal with concrete. Wegner, *supra* note 1, at 81

¹⁷⁵ *Consejo De Desarrollo*, *supra* note 53

¹⁷⁶ Boulder Canyon Project Act, *supra* note 50

¹⁷⁷ *Consejo De Desarrollo*, *supra* note 53

¹⁷⁸ *Id.*

¹⁷⁹ *Id.*

¹⁸⁰ Paul Stanton Kibel, *A Line Drawn In Water: Aquifers Beneath The Mexico-United States Border*, 12 U. Denv. Water L. Rev. 191, 195 (2008)

¹⁸¹ *Id.*

¹⁸² *Id.*

deprive the Mexicali aquifer of valuable seepage.¹⁸³ These complaints resulted in a lawsuit brought by Consejo De Desarrollo Economico De Mexicali on behalf of Mexicali farmers.¹⁸⁴

In *Consejo De Desarrollo*, the complainants alleged that nearly 1.3 million people who lived in Mexicali Valley depended on the groundwater from the aquifer, which is recharged by the seepage from the All-American Canal.¹⁸⁵ The complaint also alleged that, pursuant to minute 242 to the Mexico Treaty of 1944, the US was required to consult with Mexico before making any changes that would affect Mexico.¹⁸⁶ Initially, the district court granted a temporary injunction on the project, but the Court of Appeals for the Ninth Circuit later vacated the injunction and dismissed the claim.¹⁸⁷ This decision was handed down in 2007, and it was a substantial loss to the Mexicali people. However, in 2008, commentator Paul Stanton Kibel stated that the canal was “still earthen and not lined.”¹⁸⁸ In the absence of more recent literature on the topic, it is safe to predict that the lining is still on hold, even though in 2006 Congress passed a law directing the Secretary of Interior to proceed with the project.¹⁸⁹ Mexicali residents would be seriously affected if the All-American Canal is lined with concrete. However, all the seepage prevented would signify more water for California and Imperial Valley, who are in serious need of more water. Thus, the completion of the project is likely to depend on whether the US wants to acknowledge equitable international relations.

E. The Renegotiation of the 1922 Colorado River Compact

As noted above, the Colorado River Compact has been adopted by the seven basin states, the federal government, and has become the base of the law of the river. These facts show the

¹⁸³ *Id.* at 196

¹⁸⁴ *Consejo De Desarrollo*, *supra* note 53

¹⁸⁵ *Id.* at 1163

¹⁸⁶ *Id.* at 1164

¹⁸⁷ *Id.* at 1174

¹⁸⁸ Kibel, *supra* note 180, at 195

¹⁸⁹ *Consejo De Desarrollo*, *supra* note 53, at 1167

Compact's overall success over the years. In recent years, however, reports indicate that it is time for the Compact to be revisited. As with most other components of the law of the river, there are arguments against renegotiation and for renegotiation. Commentators in favor of renegotiation base their arguments on the misleading facts that were used during the the Colorado River Compact negotiations.¹⁹⁰ Another argument is that municipal growth was not considered in the Compact and that with the lower-basin states' fast-growing population, these states should be allowed more water than the less populated upper-basin states.¹⁹¹ Furthermore, reference is made to the lack of consideration of Native American tribes and of Mexico in the Compact.¹⁹²

The opposing side argues that despite the Compact's over allotment, the Compact has served as a model for other laws and has kept the development of the Colorado in control of both the states and the federal government. Furthermore, the Supreme Court has given the Native American tribes reserved rights in the Colorado and Mexico now has a 1.5 maf yearly allotment to the Colorado's water.¹⁹³ Thus, if new negotiations were to take place, Native American tribes and Mexico would have to be parties to the negotiations, which would likely complicate reaching an equitable agreement.¹⁹⁴ Finally, the upper-basin states are not likely to give up water for the benefit of the lower-basin states because preventing the lower basin from securing more water was precisely the upper basin's main motivation in entering the Compact in 1922.¹⁹⁵ Therefore, considering that the original 1922 agreement was difficult to reach, that the main objective was to keep the lower basin from taking all the water, and that now the tribes and Mexico are also parties, it is unlikely the 1922 Compact will be renegotiated.

¹⁹⁰ Jeffers, *supra* note 16, at 224

¹⁹¹ *Id.* at 224-25

¹⁹² *Id.*

¹⁹³ Andler, *supra* note 85, at 23

¹⁹⁴ *Id.*

¹⁹⁵ Lochhead, *supra* note 27, at 298

IV. Conclusion

Although not codified in any statute book, the law of the river has been and continues to be the body of law controlling every drop of water of the Colorado River. It is composed of the aggregation of interstate compacts, statutes, acts, court decisions and other pieces of law. Because of its continued additions, what is allowed in a given year may not be allowed the next year. The Colorado is an oasis of life in an arid area of the United States, and it is because of this that it continues to create disputes among the basin states, Native American Tribes, and Mexico. However, these issues come down to the allotment of the water. The upper basin has not yet used its full allotment and this makes the lower basin believe that they should be given more water because they support more people and have greater water needs. However, the issues continue because no one in this arid land wants to give up any water. Even though the upper basin is not using its full allotment, they are not likely to give up any water to the lower basin because they want to secure water for their own future growth. The fight for water grew when the Supreme Court gave reserved water right to the Native American tribes because no basin states want to share their allotted water.

In the end, the Colorado River Compact made it possible for the seven basin states to initiate major development of the river without fearing that one state was going to have superior rights to another. The Compact serves as the base of the law of the river and has helped keep the basin states somewhat content with their allotted share. In the earlier years, Arizona feared California, but now Arizona has the capabilities to divert its full allotment. Therefore, even though the 1922 Compact was based on misleading facts, it constitutes a compromise among the basin states, it is the base of the law of the river, and, as such, continues to be regarded as a successful agreement between the basin states. Throughout the Colorado's development, the

federal government has been a major player and if changes as to the usage or allotments of the river are to happen now, it will likely be the federal government that steps in to put pressure on the basin states. Otherwise, California is likely to continue to use more than its allotted 4.4 maf and the upper basin states are likely to continue not using their full allotment, yet not delivering any additional water to the lower basin. In addition, the co-riparians of the Colorado can sustain reasonable and equitable use of their share of the river's water. The key is that the use has to be reasonable in order to continue striving to address ecological problems in the region such as the diminishing Delta. However, before any of these efforts or proposals to save the Delta may be effective, both the United States government and the Mexican government will need to agree to work in concert to enable such proposals to succeed.