

# **Managing the Colorado River Basin: An Assessment of What Two Generations Believe About the Future of Water in the Southwest**

**June 2012**

A survey conducted by the Colorado College State of the Rockies Project



The Colorado College  
**State of the Rockies Project**

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## Introduction

The 2011-12 Colorado College State of the Rockies Project was solely focused on the Colorado River Basin. Our concern involved the current condition of the Basin and what it may become for the next generation. We believe youth today deserve say in these complex issues and decisions. Experts for over 9 decades have managed the Colorado River; the results exist as what has come to be called the “Law of the River.” Many view this set of legislation and action as comprehensive “wisdom” about the river, an evolving set of principles and guidelines that has taken into account not only current demands upon the Basin’s resources but also planning for the future. And yet when pushed, some of these same experts admit that as one observer said: “... certain voices in the Colorado River discussion (for ecosystems, tribal rights, equity for Mexico) need to be amplified beyond current levels.” Others disagree. Humans have for centuries appropriated waters provided by nature and put it to “beneficial uses”. As societal values have changed over the decades and centuries, so has the definition of beneficial uses of water. Thus what many call the “Law of the Colorado River” itself has adapted as humans have changed their values, needs and wants. From either perspective it is reasonable to expect that each new generation might have somewhat different values, needs and wants for the waters of the Colorado River Basin. It is also reasonable for today’s youth to question the current uses of the Colorado River Basin and seek to have influence on the gradual evolution of laws and policies shaping the uses of the Colorado River.

During fall 2011 we sought out the involvement and opinions of college students around the Basin to help influence and shape a desirable future for the Basin that meets our project title: The Colorado River Basin: Agenda for Use, Restoration and Sustainability for the Next Generation. As part of our research we conducted a survey of college students to understand their generation’s priorities when it comes to addressing the stresses facing the Basin, as well as their preferred solutions to such challenges (what we call the “college age survey”). The cooperation of faculty around the Basin in focusing their students’ attention to the Basin issues and encouraging them to take the anonymous college age survey has been essential and is appreciated. We also have carefully reviewed a survey taken by a group of experts about the Basin (what we call the “water experts survey”) so that a comparison of attitudes by age and background can be made. Results of the college age survey have been used to help represent the attitudes, values and priorities of young people in the future management of the Colorado River Basin.

## Summary of Survey Comparisons

An overview of the two surveys and how results can be compared was included in the April 2012 *Colorado College State of the Rockies Report Card* and is repeated here to provide an Overview, with the remainder of this document providing additional details and results.



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The Colorado River seen from Navajo Bridge in Arizona.

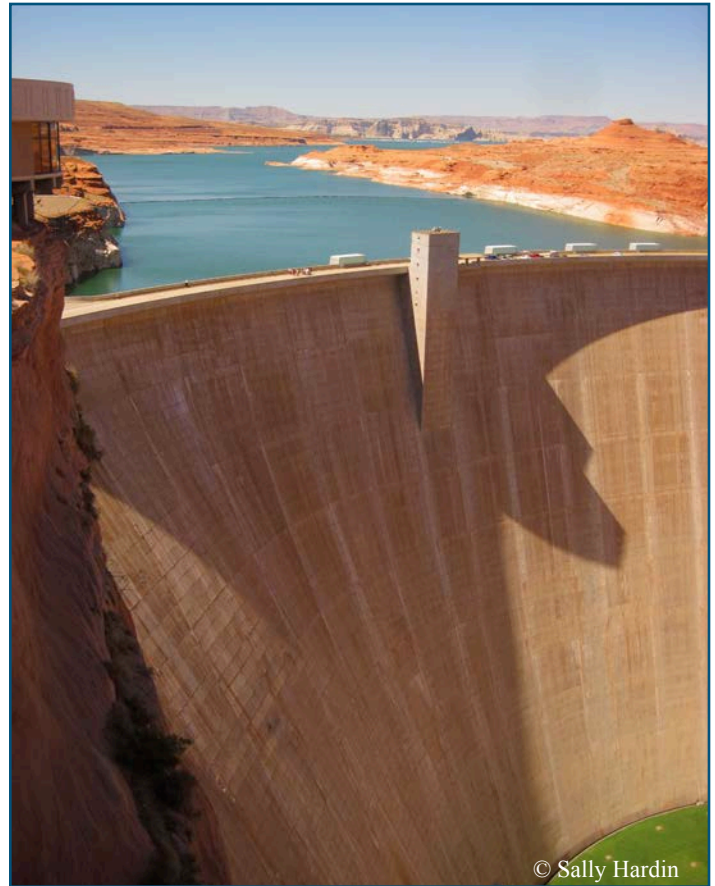
## The Evidence from a Survey of College-Age Youth Contrasted with Opinions of Water Experts

How can young people understand the complexities of a massive system like the Colorado River Basin? Are they prepared to grapple with nine decades of enshrined laws and regulations that form the Law of the River? Might they take immature stances on issues that deeply affect existing groups with vested interests in the basin?

In anticipation of such questions being asked, part of our 2011-12 research on the management of the Colorado River Basin has been a survey offered to college faculty throughout the basin for use by students in their courses. We structured the survey as a companion to an “Overview of the Basin,” which was carefully written and peer reviewed so that college students taking the survey would first have access to the history, operation, and challenges to the basin that abound. Over six months a total of 197 college-age students completed the survey. Four-fifths of respondents were 18-24 years of age; 60% male vs. 40% female; 81% Caucasian; all but 10% undergraduates; and a majority whose home state is in the Rockies region.

To provide a comparison to these views of youth, we obtained permission to report on the results of a similar survey of “water experts” conducted by the Colorado River Governance Initiative and contained in a December, 2010 Report: Rethinking the Future of the Colorado River, a part of the Water Policy Program at the University of Colorado-Boulder Law School. A total of 184 people answered the anonymous survey, half water managers/government officials, 30% water professionals, and the rest water users, citizens, and members of non-governmental organizations.

What about the adequacy of the current “Law of the River?” Among college-age respondents, 90% responded that a new body of laws and regulations should be created to meet new challenges facing the basin in the 21st century. Among “water expert” respondents only 20% agreed that no changes are needed, the current Law of the River being adequate. Another 70% called for minor to significant changes and only 10% called for a fundamental restructuring. Thus, youth and experts alike in large majorities believe that changes are needed in the Law of the River. The survey of “water experts” went one step further and asked when water demand will exceed supply in



Glen Canyon Dam and Lake Powell.

the basin, thus helping trigger need for changes in management. Nearly 40% believe that demand already exceeds supply, another 23% believe that will be the case by 2020 and another 21% believe so by 2050.

How can the basin be fixed? Priority for conservation efforts in the face of a severe shortage of water in the basin received the highest ranking among college-age respondents, with depletion of reservoirs and efforts to augment supply falling lower in priority. Among “water experts” asked to rank solutions, technology to reduce waste (efficiency) and desalination were ranked highest, followed by improved intra-state management and infrastructure updates and expansions.

In handling unmet Native American water rights within an over-allocated basin, college-age respondents interestingly chose recreation as the first use that might be curtailed, followed by industry, municipal use, electric power, and then agriculture; meeting the needs of Mexico and environmental flows were last in line to offer up some water.

Pursuit of efficiency rather than basin augmentation is a strong measure of where college-age respondents come down on conservation of water. They strongly chose pursuit of degrees of efficiency



(nearly 95%) over degrees of augmentation. Similarly among “water experts,” augmentation ranked lowest as a solution to basin challenges; this means that cloud seeding, vegetation management, and imports from other basins were ranked last.

Water for nature registers strongly with college-age respondents; 93% replied that even in the face of extreme water shortage there should be assured environmental flows.

What are the major challenges to managing the basin? In the college-age survey population growth was seen as most serious, next to climate change, salinity/water quality, water diversion, and then endangered species. Interestingly Native American water rights and Mexican treaty rights were seen as less of a challenge.

We present this brief glimpse of these two surveys to demonstrate that college-age respondents in some cases closely agree with “water experts” on the major issue of adequacy of the Law of the River. In other cases, priorities of youth are supportive of traditional uses of water in the basin, even ranking “unmet” needs lower than traditional uses for agriculture, industry, and municipalities. Even with only a brief overview of the Colorado River Basin and their class materials and discussion, college-age respondents demonstrate a maturity and sensitivity in prioritizing basin challenges and recommending solutions. This is good news since these young people will soon be part of a generation both inheriting the basin and being challenged to manage it sustainably. *Taken from the 2012 Colorado College State of the Rockies Report Card, part of “Managing the Colorado River Basin: An Agenda for Use, Restoration and Sustainability – An Open Letter” (p 130).*

## The Two Surveys

### The College Age Survey

A short overview about the Basin and its challenges was created to provide background to students and prepare them to take our Poll. It outlines the natural and socio-economic characteristics of the Basin and presents a number of commonly agreed upon stresses that are affecting the Basin including increasing water demands, climate change, habitat modification and water quality. Having gained background knowledge from reading the overview and from other information they may already have had, students were asked in the poll, given the Basin’s situation and the current uses of water, to rank the stresses affecting the

Basin in order of magnitude and to prioritize water uses and possible solutions under different scenarios.

The college age survey was available “on-line” to be taken by students anywhere as part of a relevant course, from September, 2011 through February, 2012. The target group was college and university students ages 18-24. The poll received 197 responses, of which 96% were students and 3% university faculty. Other dimensions to the respondents:

#### Age:

- 80% of respondents fell within the 18-24 year old age bracket
- 12% between 25 and 34
- 4% between 35 and 44
- 2% between 45 and 54
- 2% under 18 years old.

#### Gender:

- 60% identified themselves as male
- 38% as female
- 3% preferring not to answer.

#### Race & Ethnicity:

- 81% of participants identified as Caucasian
- 4% as Hispanic
- 3% as Asian
- 2% as Native American
- 2% as Pacific Islander
- 1% as African American
- 8% identifying their race as other.

#### Level of studies:

- 28% were first year students
- 19% second year students
- 27% third year
- 15% fourth year
- 9% fifth year or more
- and 2% graduate students.

#### College/University:

- Colorado College
- Mesa State College
- The University of Colorado at Boulder
- The University of Denver
- The University of Northern Colorado
- The University of Utah
- Western State College of Colorado.

The vast majority (140) of poll-takers had always, or currently lived in Colorado, particularly in either El Paso, Weld, Mesa, and Gunnison county. The remainder of respondents identified home states from Hawaii to New York.

## The Water Experts Survey

While the primary aim of conducting our college age survey was to identify the values of the younger generation in relation to the Colorado River Basin we also wanted to compare and contrast youth opinions alongside those reported in *Rethinking the Future of the Colorado River*, a draft interim report by the Colorado River Governance Initiative (CRGI), released in December of 2010. The Colorado River Governance Initiative is a project of the Western Water Policy Program at the University of Colorado-Boulder Law School. Its intent is to:

“...examine the current governance structure on the Colorado River and engage policymakers on possible institutional reforms. They [analyze] reform options to determine the extent to which they protect wildlife resources of the river system, protect or improve water quality, and promote improved wildlife habitat along the river corridor, while at the same time assuring adequate water supplies for human needs.”

CRGI does not emphasize the need for the Compact to be “thrown out” or “renegotiated”, it does not see those options as politically viable, and feels such an assumption ignores the fact that the core principles of the Compact are appropriate and highly valued. Instead, CRGI believes the way in which those core principles are translated into river management and

water allocation will at some point need to be revisited. The Interim Phase 1 Report summarizes research and analysis conducted in Year 1 of the CRGI, focused primarily on articulating the argument for significant reform. Appendix C of the Interim Report, of direct importance for helping facilitate comparisons of opinion, consists of a survey of Colorado River Water Users Association (CRWUA) members on Colorado River issues and options. Of 903 invitations to participate, the survey received 184 anonymous responses from CRWUA members. Of those who completed the survey:

### Profession/employment:

- 50.8% water managers/ government
- 30.8% water professionals
- 7.6% water users
- 7.6% citizens or other
- 3.2% non-governmental organizations.

### Results and Comparisons

Both surveys pursue attitudes, opinions and values about the Colorado River Basin and its management. There is some similarity of questions asked in our college age survey to those asked in the water experts survey by CRGI, but also substantial differences. Where possible we compare similar types of questions asked of these two different groups surveyed, and draw conclusions that are warranted.



A summer thunderstorm over Lake Powell.

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## Water Supply and Demand: Adequacy and Shortages

### College Age Survey Question: How to Share the Flow?

**Question 2:** *The current Law of the River specifies what could be interpreted as “normal” shares of an assumed average annual flow of 16.5 million acre feet, with each state/region’s legal share in %. In an ideal world what percentage of the Colorado River water in a normal year do you think should be allocated to each of the following geographic entities (note that total must equal 100)? Note: the current allocation is given in parenthesis (assuming a flow of total allocated 16.5 million acre-feet), and the amount for the upper basin, lower basin and Mexico does not add to 100% due to rounding. If you believe the current allocation is fair, enter the current shares.*

Given the seven Colorado River Basin States’ and Mexico’s annual allocation by percentage of Colorado River Water, assuming a flow of 16.5 MAF, Question 2 asked college age respondents’ to assign the seven Colorado River Basin States and Mexico a percentage share of water. **See Table 1 below.**

While there was some variability in the responses, the average of recommended “new” allocations for each State (and Mexico) is not radically different from current shares. It is clear the lower basin states of Arizona and California give up water so that Nevada, Mexico, New Mexico and Colorado gain. Few would engage in wholesale restructuring of water shares among the states and Mexico, although states losing any share will object!

## Water Experts Survey Question: Water Supply, Demand and Availability

**Question 1:** *Between now and 2026, what do you think the chances are that Lake Mead storage will drop to a level that requires curtailments to the Central Arizona Project (CAP) (as called for in the shortage sharing rules)?*

**Question 2a:** *What do you think the chances are that a “compact call” will arise between the Upper and Lower Basins by 2026?*

**Question 2b:** *What do you think are the chances are that a “compact call” will arise between the Upper and Lower Basins by 2050?*

In the CRGI water experts survey, respondents were asked what they thought the chances were of a “compact call” by the years 2026 and 2050. A “compact call” could be initiated by the Lower Basin states in a time of drought. The 1922 Colorado River Compact states that while the Upper Basin is entitled to 7.5 MAF of water a year, the Upper Basin states are also required to deliver 75 MAF to the Lower Basin states over any ten year period. Given the wording in the Compact, if a significant drought was to occur it could potentially result in a demand for water by the Lower Basin states from the Upper Basin states. The Upper Basin states would therefore have to reduce their consumption below 7.5 MAF a year in order to satisfy the Lower Basin demand. The majority, 31.9% of respondents thought this scenario was possible (described as  $\geq 70\%$  chance) by 2026 and 25.3% though it very likely (described as  $\geq 90\%$ ) by 2050. **See Table 2 on following page.**

**Table 1: Current Apportionments vs. New Proposed Apportionments by College-Age Survey Responders**

State/Country	Current Apportionment (MAF)	Current Apportionment (%)	New Apportionment (MAF)	New Apportionment (%)	Change in Apportionment (MAF)
Arizona	2.85 MAF	17.3%	2.42 MAF	14.7%	-.43 MAF
California	4.40 MAF	26.7%	3.37 MAF	20.4%	-1.03 MAF
Colorado	3.86 MAF	23.4%	3.91 MAF	23.7%	+.05 MAF
Mexico	1.50 MAF	9.0%	1.77 MAF	10.7%	+.27 MAF
Nevada	.30 MAF	1.8%	.71 MAF	4.3%	+.41 MAF
New Mexico	.84 MAF	5.1%	1.14 MAF	6.9%	+.30 MAF
Utah	1.71 MAF	10.4%	1.78 MAF	10.8%	+.07 MAF
Wyoming	1.04 MAF	6.3%	1.30 MAF	7.9%	+.26 MAF
<b>Total</b>	<b>16.5 MAF</b>	<b>100.0%</b>	<b>16.40 MAF</b>	<b>99.40%</b>	

**Table 2: Supplies, Demands and Water Availability from Water Expert Survey Responders**

	<b>Chances by 2026 Lake Mead storage will drop to a level that will require curtailment of Central Arizona Project (as called for in the shortage sharing rules)</b>	<b>Chances by 2026 that a “compact call” will arise between the Upper and Lower Basins</b>	<b>Chances by 2050 that a “compact call” will arise between the Upper and Lower Basins</b>
Very Likely (> or = 90%)	18.4%	5.6%	25.3%
Probable (> or = 70%)	31.9%	31.1%	24.7%
Possible (> or = 50%)	30.3%	23.3%	21.0%
Unlikely (> or = 30%)	11.9%	20.0%	13.6%
Very Unlikely (> or = 10%)	4.9%	15.6%	8.0%
Don't Know	2.7%	4.4%	7.4%

While the questions posed by the CRGI regarding expected flows (**Table 3**) and the supply and demand imbalance of the river (**Table 4**) do not directly correspond to the State of the Rockies question on current allocations, the results from the CRGI survey show that a majority of Colorado River water experts can envision this scenario playing out at some point in the future. These results could be inferred as CRWUA members acknowledging a flaw in the current allocation system:

- 39.5% of respondents believed that a severe drought condition had already happened
- 28.7% thought it would occur by 2020.

In other words, those managing the Colorado River may be called upon shortly to prioritize water uses (expectations of water experts survey) and the college age survey responses hint at how they would reprioritize water among the states and Mexico.

**Table 4: Water Experts Survey Question on Supply and Demand of Colorado River Water**

<b>When will total average water demands on the Colorado River meet or exceed total average supplies (based on 10-year running averages)?</b>	<b>Response Percentages</b>
Has already happened	39.5%
By 2020	23.8%
By 2050	21.2%
Later than 2050	8.6%
Don't Know	7.0%

**Table 3: Water Experts Survey Question on Expected Natural Flows**

<b>Between now and 2050, what do you expect average natural flows on the river (at Lee's Ferry) to be?</b>	<b>Response Percentages</b>
Roughly same as the past century (about 15 MAF/year)	30.4%
Higher than the previous century	0.5%
Lower than the previous century	57.1%
Don't Know	12.0%



Sweet corn ready for harvest in Olathe, CO.

## Ways to Manage the Basin

### College Age Survey Question: Rank Challenges to Managing the Basin

*Question 3* asked college age respondents to rank challenges to managing the Basin in order of importance, assigning a value of “1” for being the most important and “10” for being the least. Results show the following ranking of most important challenges:

- “Population Growth” (mean value of 3.75) was chosen as the number one priority
- “Climate Change” (mean: 4.00)
- Salinity and water quality (mine tailings, sediment). (mean: 4.01)
- “Water Diversion (water leaving the basin to LA, Denver, etc.)” (mean: 4.77).
- Endangered Species (mean 5.14)
- Colorado River Delta (mean 5.37)
- Native American Water Rights (mean 5.80)
- “Mexican Treaty Rights” (mean: 6.57)
- “Nonnative/Exotic Species” (mean: 6.4)
- the “Other” category (mean: 9.19) was given the lowest priority.

The majority of college age survey respondents believe that population growth as well as climate change will prove to be the greatest challenges to managing the Basin in the years to come. Given the current population growth estimates for the region as well as the regional climate change predictions, it makes sense that most would view these issues as most pressing. Population growth will undoubtedly increase water demand, while climate change has the potential to decrease supplies. The younger generation has identified this combined threat as the greatest challenge. Meanwhile, Mexican water rights and Native American Water rights are ranked lower than issues of salinity, water diversion, endangered species and the Colorado River Delta.

### Water Experts Survey on Priorities for Research and Experimentation

The CRGI survey *Question 6* asked water experts to identify what category of solution strategies should be the primary focus of research and experimentation. While the State of the Rockies poll asked respondents to rank challenges, the CRGI poll results can be inferred to determine what issues CRWUA members see as most important to remedy future problems. The results:

- Technology to reduce waste was the most important category of strategies to focus energy on. In other words respondents felt that increased waste was the most important issue.
- Salinity was the second most important issue where effort should be spent developing solutions.

While waste reduction was not given as an option in the Rockies college age poll, salinity was. Interestingly, salinity was identified as the third most important issue in the Basin, showing that the younger generation and older generation acknowledge the severity of the salinity issue.

### College Age Survey Question: Priorities for Water in Severe Drought

**Question 4:** *Prioritize water uses in the event of a severe drought (Colorado River is under 70% of normal flows) with 1 being the most important and 8 being the least.*

The priorities college age survey respondents assign were:

- “Agriculture” (mean 2.54) was chosen as the number one priority
- “Environment” (mean 3.06)
- “Urban/Households” (mean of 3.95)
- Treaty Obligations to Native Americans (mean 4.64)
- Electric Power (mean 4.65)
- Treaty Obligations to Mexico (mean 4.84)
- “Industry” (mean: 5.49)
- “Recreation” (mean: 6.84) was given the lowest priority.

Given the negative stigma typically associated with agricultural production in the Lower Basin states it was interesting to see that the younger generation prioritizes the continuation of agriculture over all other water uses in times of severe drought. The State of the Rockies poll also shows that the younger generation places great value on environmental and household water needs.

### College Age Survey Question: Which Choice from Interim Guidelines?

**Question 5:** *A multi-year severe drought prompted the development of Interim Guidelines in 2007 for dealing with shortages experienced in the Colorado River Basin. The decision of the Bureau of Reclamation in the Final Environmental Impact Statement and Record of*

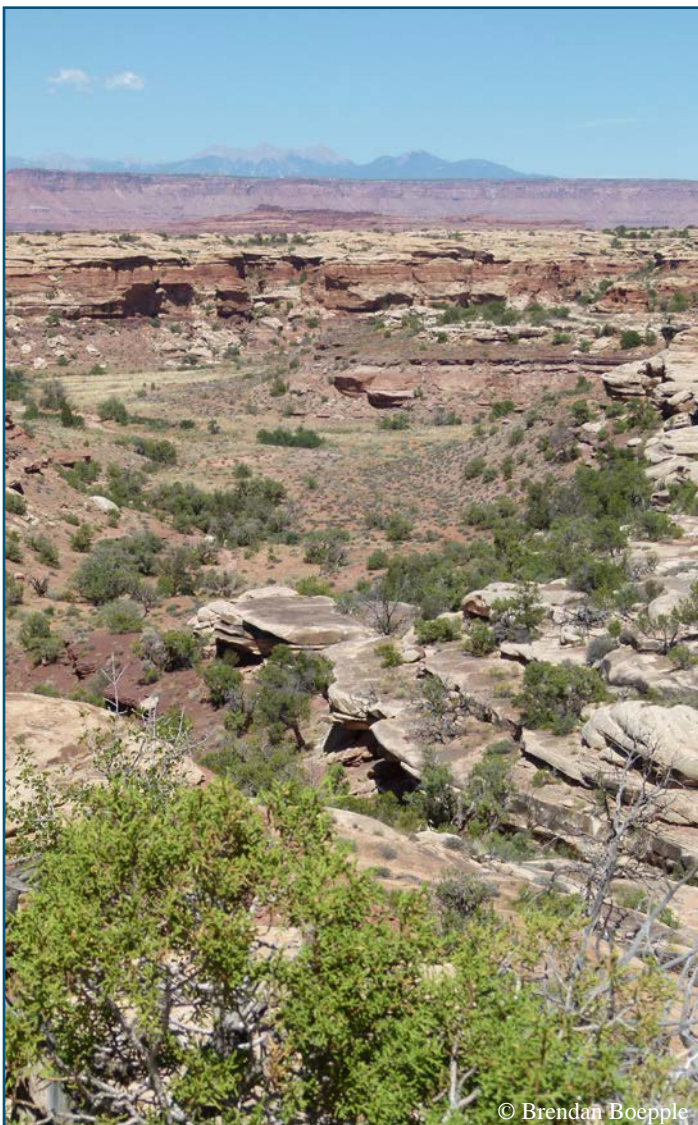


*Decision mixed several alternatives; which alternative(s) would you use in the face of such a shortage? (with 1 being preferred and 6 being the least desirable).*

Survey respondents provided the following ranking of the six alternatives for dealing with shortage in the 2007 Interim Guidelines:

- “Conservation Before Shortage Alternative” (mean: 1.97), was ranked the highest
- Preferred Alternative (mean 2.73)
- Reservoir Storage Alternative (mean 3.28)
- Basin States Alternative (mean 3.38)
- Water Supply Alternative (mean 4.44)
- “No Action Alternative” (mean: 5.20) was ranked to lowest.

Students believed that implementing conservation strategies now could curtail issues arising in the event of a shortage and should come before the “preferred alternative” chosen by the Bureau of Reclamation.



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Canyonlands National Park, Utah.

## **College Age Survey Question: How to Handle Unmet Native American Water Rights?**

**Question 6:** *Native American reservations are entitled to water rights under the federal reserved rights doctrine. In a water-short, over-appropriated Colorado River the quantification process for these rights poses an enormous challenge. To satisfy these water rights claimed by reservations water must be released from other users. In general from what water uses do you think water should be released to meet Native American water requirements? Mark all that apply.*

The Basin Overview, provided to college age survey respondents, makes it clear that having Reserved Rights is fundamentally different from the long, complex process of quantification of Native American water rights, which are still largely undetermined in much of the Basin. This question asked respondents’ to choose which multiple uses of water in the Basin they considered as appropriate for giving up shares of water to meet Native American water rights guaranteed under the Reserved Water Rights doctrine. The results:

- Recreation chosen by 66% was highest ranked
- Industry (62%)
- Urban Use/Households (53%)
- Electric Power (41%)
- Agriculture (39%)
- Treaty Obligations (Water to Mexico) (27%)
- Environmental Flows (20%) were seen as the least likely source of water for Native American rights.

From these rankings it can be inferred that students felt recreation and industrial use should first see reductions in water allocation so that Native American rights can be met. The uses least favored for reduction are Treaty Obligations with Mexico and Environmental Flows.

## **College Age Survey Question: Choice between Efficiency vs. Augmentation?**

**Question 7:** *In a situation of scarce funding, how much emphasis should be given to implementing higher water efficiency measures--such as requiring more water-efficient farming practices, reducing water loss to evaporation, and having stricter building codes--versus water augmentation projects--such as desalination plants and acquiring water from other Basins (Mississippi, Missouri, Northern Nevada*

Groundwater, etc.)? (Assign a value from 1 to 6—with 1 meaning “All Efficiency” and 6 “All Augmentation”)

Given that there is scarce funding available, Question 7 asked respondents’ to emphasize either implementing higher water efficiency measures or water augmentation measures. Assigning a value 1-6—with 1 meaning “All Efficiency” and 6 “All Augmentation”—students clearly showed a bias towards efficiency as shown by the proportion of respondents selecting each option:

- All Efficiency (18%)
- Mostly Efficiency (60%)
- Some Preference toward Efficiency (17%)
- Some Preference Toward Augmentation(0.3%)
- Mostly Augmentation (0.2%)
- All Augmentation (0%)

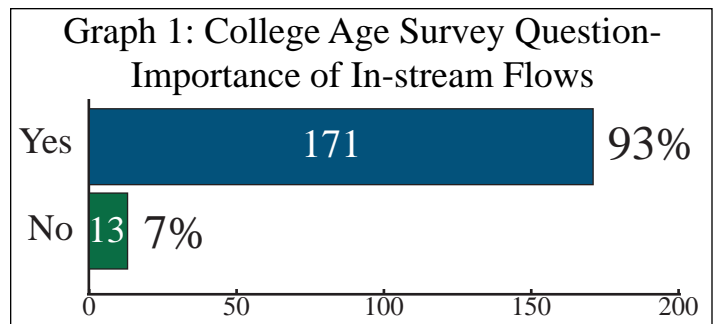
While respondents in the CRGI water experts survey were never given the option of water conservation and efficiency strategies as a possible solution that should be focused on, *Question 6* of the CRGI poll did include augmentation and water from other basins as possible strategies. When evaluated against other solutions that should be the primary focus of research and experimentation, augmentation ranked fifth to last and water from other basins ranked second to last. In this instance, students and CRWUA members seem to agree that augmentation should not be receiving

attention. While respondents from the CRGI poll did not rank efficiency measures above augmentation in terms of solutions that should be focused on, they did identify augmentation as one of the lowest options.

## College Age Survey Question: Importance of In-Stream Flows

**Question 8:** *Currently, there are very limited Environmental or In-Stream flow rights in the Colorado River Basin (The Black Canyon National Park’s water right being a notable one). Even in the case of severe water shortages, should there always be an Environmental flow in the Colorado River?*

Overwhelmingly, 93% of students said, “Yes” (see **graph 1**). Respondents’ were then allowed to explain their choice, and two of the most common reasons were regarding protecting ecosystem integrity and economics (lower flows means more expensive water treatment, damage to ecosystem services, recreation use, etc.).



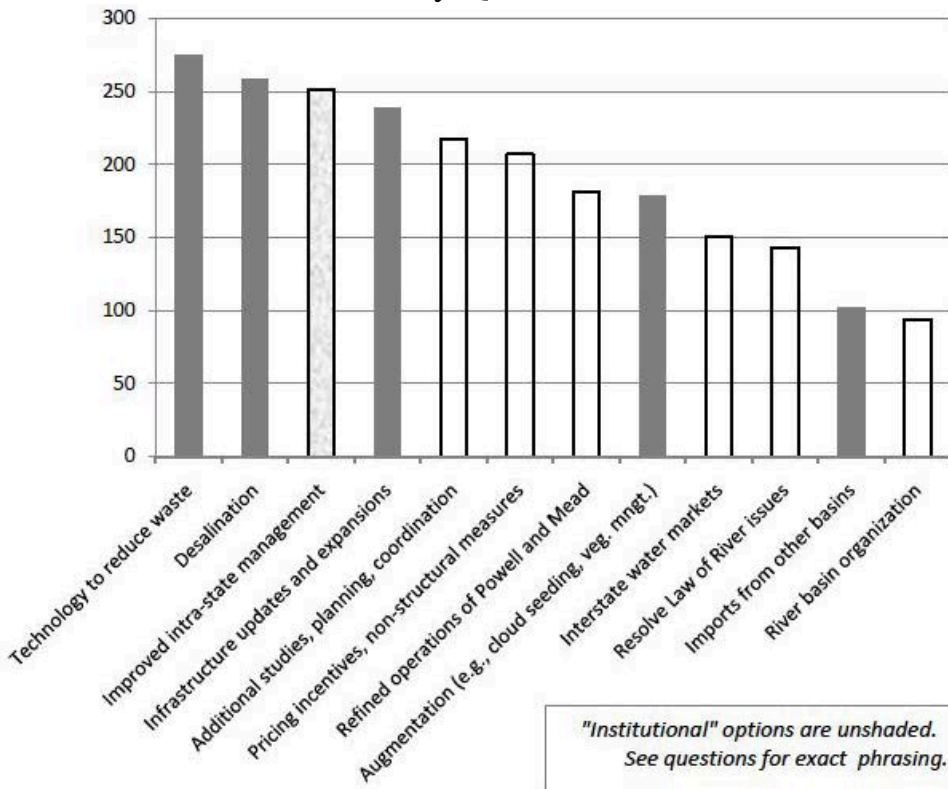
## Water Experts Survey Question 6: Solution Preferences

From page 93 of the CRGI *Rethinking the Future of the Colorado River Report*: *In this question, respondents were presented with 12 different “solution strategies” and asked to rate each as “high Priority,” “Medium Priority,” or “Not a Priority.” The order that each option was presented in the survey varied randomly from respondent to respondent. Tables on the following pages provide the full results for each category. In the figure below, they are compiled into a rough “ranking order” determined by assigning 2 points per every “high priority” response, 1 point for every “medium priority” response, and zero points for each “not a priority” response. These rankings are admittedly quite rough, as several respondents indicated their preferences would, in practice, be largely shaped by the details of any specific proposal. Proposals that are primarily “institutional” in nature—the focus of the Colorado River Governance Initiative—are shown as unshaded bars (see **graph 2**).*



The Painted Wall in the Black Canyon of the Gunnison.

**Graph 2: Options Ranked from Water Experts  
Survey Question 6**



Source: *Rethinking the Future of the Colorado River- Interim Report of the Colorado River Governance Initiative*, Colorado River Governance Initiative. December, 2010. p. 93

**Law of the River: Is it Adequate Or Does it Needs to be Fixed?**

**College Age Survey Question: Adequacy of Law of the River**

**Question 10:** *In your opinion, should water in the Colorado River Basin continue to be managed under the “Law of the River” including the 1922 Colorado River Compact, or should a new body of law and regulations be created to meet the new challenges facing the Colorado River basin in the 21st century? Pick one from “continue under the Colorado River Compact Current Law of the River” OR “New Compact/Body of Law.”*

90% of students chose “New Compact/Body of Law,” (see **Graph 3**) citing reasons such as popula-

tion growth, more advanced science/understanding to the river system (noting that 1922 came on the tail end of a high-flow decade), and recognizing a shift in national priorities (from agrarian to urban/suburban, for example).

**Water Experts Survey Question: Adequacy of Law of the River**  
**Question 5:** *In your opinion, will addressing current and future water availability concerns on the Colorado River require making changes to the Law of the River and related “institutional” arrangements?*

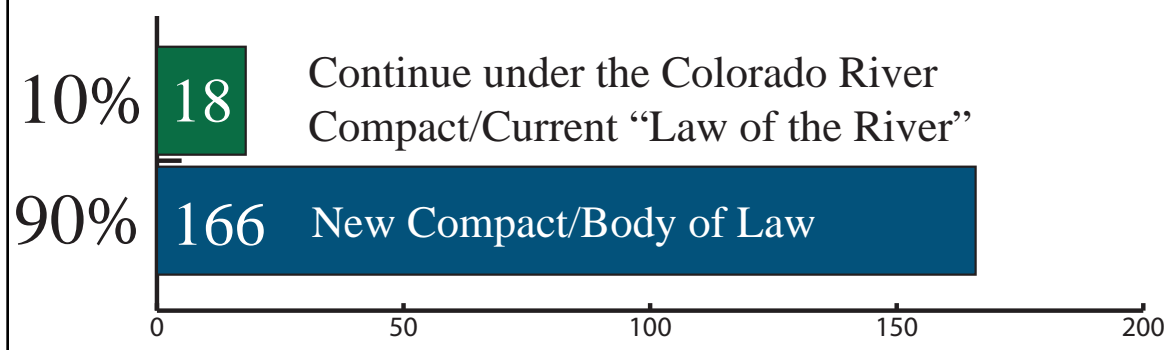
While water experts calling for a complete restructuring were a small minority, it should be noted that over 70% of respondents acknowledged that some sort of changes to the Law of the River would be necessary. The State of the Rockies poll showed overwhelmingly that the younger generation is in favor of a new body of law, however, the option for slight or significant revision was not given.

generation is in favor of a new body of law, however, the option for slight or significant revision was not given.

**Conclusions**

In many cases it appears that the values of the older and younger generations, as extrapolated from these two polls, are not all that divergent. Both groups surveyed see the need for some sort of restructuring of the Law of the River, both identify augmentation as a relatively ineffective strategy, and both believe that reduced supply along with increasing demand will occur and bring about a plethora of challenges. While the younger generation places a greater priority on meeting environmental needs and securing minority interest water rights, the differences between the older and younger generation may not be so great after all.

**Graph 3: College Age Survey Question- Adequacy of the Law of the River**



# Colorado College State of the Rockies Project

## Students Researching, Reporting, and Engaging:

The Colorado College *State of the Rockies Report Card*, published annually since 2004, is the culmination of research and writing by a team of Colorado College student researchers. Each year a new team of students studies critical issues affecting the Rockies region of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

Colorado College, a liberal arts college of national distinction, is indelibly linked to the Rockies. Through its Block Plan, students take one course at a time, and explore the Rockies and Southwest as classes embark in extended field study. Their sense of “place” runs deep, as they ford streams and explore acequias to study the cultural, environmental, and economic issues of water; as they camp in the Rocky Mountains to understand its geology; as they visit the West’s oil fields to learn about energy concerns and hike through forests to experience the biology of pest-ridden trees and changing owl populations. CC encourages a spirit of intellectual adventure, critical thinking, and hands-on learning, where education and life intertwine.

The Colorado College State of the Rockies Project dovetails perfectly with that philosophy, providing research opportunities for CC students and a means for the college to “give back” to the region in a meaningful way. The *Report Card* fosters a sense of citizenship for Colorado College graduates and the broader regional community.



### Research

During summer field work, the student researchers pack into a van and cover thousands of miles of the Rocky Mountain West as they study the landscape, interview stakeholders, and challenge assumptions. Back on campus, they mine data, crunch numbers, and analyze information.



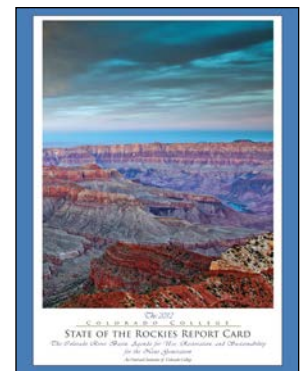
### Report

Working collaboratively with faculty, the student researchers write their reports, create charts and graphics, and work with editors to fine-tune each *Report Card* section. Their reports are subjected to external review before final publication.



### Engage

Through a companion lecture series on campus, the naming of a Champion of the Rockies, and the annual State of the Rockies Conference, citizens and experts meet to discuss the future of our region.



Each *Report Card* has great impact: Media coverage of *Report Cards* has reached millions of readers, and the 2006 report section on climate change was included in a brief presented to the U.S. Supreme Court. Government leaders, scientists, ranchers, environmentalists, sociologists, journalists, and concerned citizens refer to the Colorado College *State of the Rockies Report Card* to understand the most pressing issues affecting the growing Rockies region.

[www.stateoftherockies.com](http://www.stateoftherockies.com)

