Toward a Sense of the Basin

Designing a Collaborative Process to Develop the Next Set of Guidelines for the Colorado River System

Water & Tribes Initiative | Colorado River Basin

Cover Photo: Colorado River above Canyonlands National Park

Toward a Sense of the Basin:

Designing a Collaborative Process to Develop the Next Set of Guidelines for the Colorado River

About this Report

This report summarizes the results of more than 100 confidential interviews, three workshops, and countless conversations with tribal and other leaders throughout the basin -- all focused on designing a collaborative process to develop the next set of guidelines for the Colorado River. The Colorado River provides water to more than 40 million people in two countries, seven states, and 29 Indian tribes. The demand for water currently exceeds available supply in any given year and is complicated by chronic drought and the uncertainty of impacts from climate change. The river is governed by a set of laws, policies, and institutions collectively referred to as the "Law of the River." Several key components of this framework, including the 2007 Interim Guidelines, Minute 323, and the 2019 Drought Contigency Plan all expire in 2026, creating a unique opportunity to revise and update the framework for managing the river.

Since 2017, the Water & Tribes Initiatives has pursued two complimentary objectives: to enhance tribal capacity to participate in basin-wide policy decisions and to advance sustainable water management in the basin through collaborative decision-making.

Acknowledgments

Several individuals and organizations contributed to the success of this report and the associated workshops. Thanks especially to the participants that contributed valuable time, expertise, and resources. Thanks also to our sponsors (see logos below), especially the Walton Family Foundation and the Babbitt Center for Land and Water Policy. And a huge thanks to the Leadership Team of the Water & Tribes Initiative (see back cover). None of this would have been possible without your vision, passion, and guidance. Finally, thanks to John Weisheit for all the photos.

Canyonlands National Park below the confluence of Green River

Contents

Petroglyhs along the Green River, Tavaputs Plateau

Executive Summary

This report presents the results of over 100 interviews and three workshops with tribal and other leaders in the Colorado River Basin on the design of a collaborative process to develop the next set of guidelines for the river, and indirectly to review and evaluate the 2007 Interim Guidelines. According to the 2007 Interim Guidelines, "Beginning no later than December 31, 2020, the Secretary shall initiate a formal review for purposes of evaluating the effectiveness of these Guidelines." This review will inevitably lead to the development of a new set of guidelines for the Colorado River.

The Water & Tribes Initiative (WTI) initiated a conversation at a basin-wide workshop in February 2019 to begin exploring the design of a collaborative process that would facilitate meaningful participation by tribes and others in the review and evaluation of the existing guidelines and the development of the next set of guidelines. Building on this workshop, the WTI then completed more than 100 confidential interviews with tribal and other leaders in the basin to solicit their input and advice on process options. The initial results of the interviews were presented at the annual meeting of the Colorado River Water Users Association in December 2019, and more thoroughly discussed during a basin-wide workshop in February 2020.

At the 2019 annual meeting of the Colorado River Water Users Association, Bureau of Reclamation Commissioner Brenda Burman encouraged participants to reflect on past processes, to highlight lessons learned, and to explore options for the future. This report and the associated body of work responds to that request, and the findings are timely in light of the Bureau's ongoing review of the 2007 Interim Guidelines.

The intent of this report is to promote dialogue and deliberation. It provides information on the following topics:

- A sense of the basin's views on the process (or processes) to develop the next set of guidelines (Chapter 1);
- Visions for the future of the river (Chapter 2);
- The most compelling issues that should be addressed in the set next of guidelines (Chapter 2);
- Options to enhance participation and collaboration (Chapter 3);
- Options to enable tribal participation in developing the next set of guidelines (Chapter 4); and
- Issues, concerns, and options related to the role of scientific and technical information during the development of the next set of operating guidelines, including the importance of translating tribal spiritual and cultural values into terms that can be used by water managers Chapter 5).

Chapter 1: Toward a Sense of the Basin

Nearly 100 tribal and other leaders in and around the Colorado River Basin gathered in February 2020 at We-Ko-Pa Resort to (1) review and discuss findings from interviews on designing a collaborative process to develop the next set of guidelines for the Colorado River system; and (2) consider options and proposals related to:

- Potential purpose(s), need, and scope of the next set of guidelines.
- Collaborative participation, problem-solving, and decision-making.
- Incorporating science, traditional knowledge, and cultural values.

The sense of the basin (i.e., the general areas of consensus among participants, as well as key outstanding issues, concerns, and question) for each one of these topics is as follows.

With respect to the **purpose, need, and scope of the next set of guidelines**, the participants considered two strawman proposals: (1) maintain the existing structure of the guidelines; and (2) broaden the purpose and scope of the next set of guidelines. Reflecting the diversity of opinions on this topic, these two proposals were offered as bookends on a continuum of possibilities on how to frame the purpose, need, and scope of the next set of guidelines.

Participants generally seemed to think that the first option is a safe, known place to start; proved to be flexible enough to allow the 2007 Interim Guidelines to be revised and updated by the 2019 Drought Contingency Plan; and that there is sufficient institutional capacity in the basin to implement this approach. Participants also noted that this option is more reactive than proactive; that its scope is unduly limited, it perpetuates longstanding inequalities in the basin, and it leaves other important issues unaddressed.

Referring to the second option, the participants generally seemed to think that it would be more inclusive of diverse values, interests, and viewpoints in the basin; it includes a pathway for addressing new or currently under-utilized tribal allocations; it would provide explicit opportunities to address risks facing the basin from climate change; and it reflects the transformation of relationships within the basin. Participants also explained that this option is untested and therefore uncertain, and it would add complexity and time to the process of developing the next set of guidelines

Most of the participants seemed to agree with a third or hybrid option that emerged from the discussion and includes the following elements: (1) start with option 1 and expand toward option

Spring water flow of the Little Colorado River

2 by articulating a comprehensive, integrated, holistic view of water resource management for the basin and developing new operating rules and tools to realize that vision; (2) adopt a 25-year planning horizon (to the year 2050) with an adaptative process; (3) integrate measures to address uncertainty and risks associated with climate change; (4) develop contingency plans to meet future needs of the basin and its communities; and (5) provide opportunities for tribes and NGOs to be more meaningfully involved in generating solutions and making decisions.

Reflecting on the second topic -- **options for collaborative problem-solving and tribal participation** -- the participants considered a strawman proposal that called for creating a Sovereign Review Team (SRT) composed of representatives from federal, state, and tribal sovereigns with territory and interests in the basin. This concept is based on the successful experience with a similar team in the Columbia River Basin. It also suggested creating a separate Tribal Advisory Council (TAC) that would include representatives of each of the 29 tribes in the basin to supplement and complement the SRT and provide a distinct forum for tribes to build their capacity, exchange information, and forge common ground.

The idea of an SRT received mixed reviews, which are explained in Chapter 1. With respect to the TAC, the participants seemed to agree that some sort of forum for tribes to build capacity and to facilitate engagement in basin-wide policy discussions is an essential step forward. The participants identified a number of factors that would enable the TAC to be successful, and suggested that this is one place where tribes that have recently been more active participants in basin-wide problem-solving processes, such as the Colorado River Indian Tribes and the Gila River Indian Community, could share their experiences with other tribes to enhance their capacity.

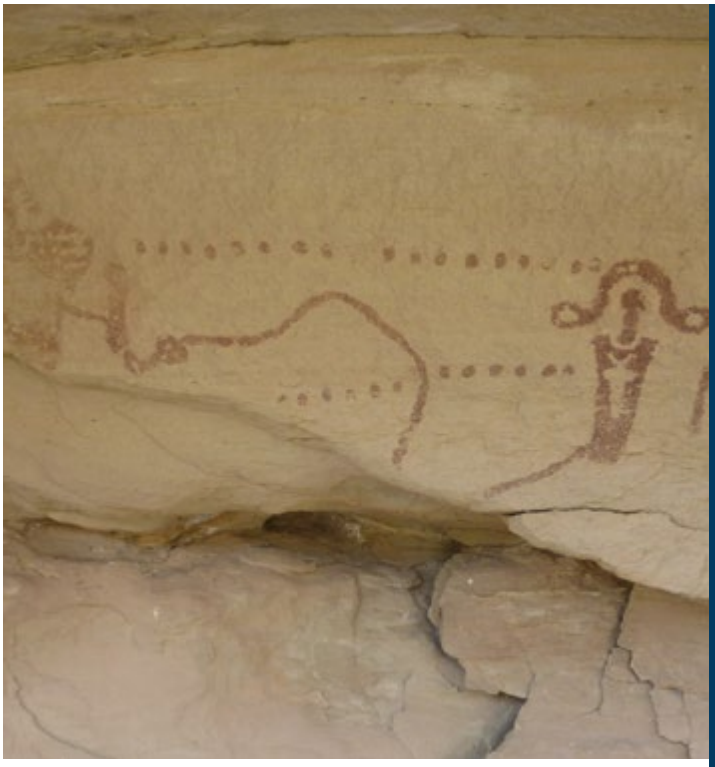
The third and final discussion focused on options to address science, traditional knowledge, and cultural values. Reflecting many views expressed during the interviews, this discussion was framed by a strawman proposal that called for the Secretary of the Interior to create or encourage the creation of a Colorado River Science and Culture Open Forum. The goals of the forum would be to provide an inclusive forum to explore and understand the scientific and technical issues facing the basin; move beyond a science agenda focused largely on water supply concerns to a more holistic, integrated understanding of the river system based on western science, traditional knowledge, and cultural values; integrate the findings and conclusions of the open forum into decision-making processes related to the next set of guidelines; enhance public awareness and understanding of the scientific and technical issues facing the basin; and surface the broadest possible range of policy alternatives, including "third rail" options unlikely to surface in more conventional processes.

In general, participants seemed to agree with the intent of this proposal but raised a number of concerns and cautions and wondered whether a Colorado River Science and Culture Open Forum is the best way to achieve those aspirations. More specifically, participants seemed to agree that it is essential to better integrate traditional knowledge and cultural values into decisions about the next set of guidelines, and that this should be done as early in the decision-making process as possible. Most participants also seemed to agree that everyone should have access to the same body of information, realizing that equal access to information does not necessarily mean that everyone will agree on the interpretation and meaning of that information.

Chapter 2: Visions for the Future of the River

This chapter highlights the reflections of interviewees about their personal and professional relationships with the Colorado River. It presents "visions for the future of the river" as articulated by the interviewees, including process-oriented and policy-oriented visions. Finally, it identifies a range of process-oriented and policy-oriented issues that, according to the interviewees, should be addressed in the review and evaluation of the 2007 Interim Guidelines and the development of a new set of guidelines for the river. It is important to emphasize that not everyone touched on every theme, different people expressed similar visions and issues with slightly different words, and not everyone agrees with every vision or issue presented. Many of the issues identified overlap and reinforce the vision statements, so there is some repetition of themes.

One striking theme that emerged from the interviews was the vision and passion many people have for the river as a river, not just a water supply pipe. Concerns about sustainability, connection of communities to the river, and its ecological values and life-giving qualities were pervasive. For many interviewees, these values translated into a desire for better integration of water supply operations with the ecological, cultural, sacred, environmental, recreational, and natural values of the river. The processes to achieve that integration, according to many interviewees, require more inclusive discussions and decision-making about operational guidelines and also a broader view of the goals of those operations.



Pictograph in Desolation Canyon, Uinta Basin Subprovince

Chapter 3: Options to Enhance Participation and Collaboration

This chapter presents a wealth of information provided by interviewees about alternative ways to design and facilitate a process (or processes) to development the next set of guidelines for the Colorado River. It begins by highlighting key principles to guide the collaborative process, including:

- The role of federal, state, and tribal officials;
- Opportunities for stakeholders and the public to participate;
- The importance of seeking consensus, defined by one participant as "a broad coalition of states, water users, tribes, stakeholders, and others that support the preferred alternative/recommendation in the ROD;"
- Developing a 25-year plan (rather than a series of 3-5-year plans) and creating systems for learning and adaptive management on a year-to-year basis; and

Hopi garden ready for seeds and water from a perennial spring

- Emphasizing that, while the formal process to develop a new set of guidelines should be structured around the requirements of the National Environmental Policy Act, some type of informal collaborative process is needed to build awareness, understanding, and agreement before and during that formal NEPA process.

This chapter then highlights a variety of options to enhance participation and collaboration as identified by interviewees. The options are not necessarily mutually exclusive and, in some cases, could be implemented concurrently. This chapter concludes by highlighting the benefits and constraints of a collaborative process to develop the next set of guidelines, as well as reflections on what success looks like.

Most interviewees seem to believe that the development of the next set of guidelines is likely to follow the *federal and state-led process* similar to the process used to develop the 2007 Interim Guidelines. However, most interviewees also suggested that this process could be enhanced in a number of ways, such as a *Sovereign Review* Team that creates a level playing field among the basin's federal, state, and tribal sovereigns and provides opportunities for all stakeholders, experts, and the public to be involved; a *multi-stakeholder collaborative process*, similar to the BOR's *Moving Forward Effort*; *a network of networks* or an organic system of many nested processes for participation and collaboration, from international and basin-wide forums to more local and place-based forums; and *public participation*, including innovative methods to inform and educate the general public as well as ways to seek their input and advice.

Chapter 4: Options for Tribal Participation

This chapter reviews the history of tribal participation in shaping the "Law of the River." It then presents five options, as identified by interviewees, for tribal participation in developing the next set of guidelines for the Colorado River:

- Work with officials from the state within which tribes' reservations are located to ensure tribal needs, interests, and priorities are integrated into the state's negotiating strategy
- Engage in government-to-government consultations with the federal government (consider jump-starting the 7/10 process that was initiated years ago by the Ten Tribes Partnership and the Secretary of the Interior);
- Participate in something like a Sovereign Review Team;

- Participate in issue-specific, place-based, and other collaborative processes that may emerge; and
- Co-create and participate in a distinctly tribal work group or tribal-led organization to facilitate the involvement of all interested tribes.

It is important to emphasize four caveats to these options. First, these options emerged from interviews with more than 100 tribal and non-tribal leaders throughout the basin. They do not in any way, shape, or form represent an official "ask" or position of tribes in the basin, individually or collectively. Second, these options are not mutually exclusive, and tribes may choose to participate in one, some, all, or none of the processes. Third, these options do not take the place of government-to-government consultation, as called for in option two. And fourth, in the case of the first three options, it is critical to hold state and federal officials accountable to champion any issues on which there is consensus among tribal, state, and federal officials.

Chapter 5: Options to Address Science, Indigenous Knowledge, and Cultural Values

This chapter highlights a series of issues and concerns raised by interviewees related to scientific and technical information, as well as the importance of translating tribal spiritual and cultural values into terms that can be used by water managers. In addition to emphasizing the need to better integrate scientific and indigenous knowledge into decision-making, plan for uncertainty, and facilitate adaptive management, interviewees highlighted the need to manage risk; translate tribal spiritual and cultural values into terms that are useful to water managers; and more completely assess the trade-offs between water supply decisions and ecological values and objectives. They also expressed the need to build the capacity of individuals and organizations to access, analyze, and understand scientific and technical information; and to better communicate scientific and technical information to decision-makers and lay-people.

In response to these issues and concerns, interviewees offered several options on to address science, indigenous knowledge, and cultural values:

- Build on and coordinate existing knowledge;
- Create a science work group to review proposals offered by states, tribes, NGOs, and others, supplement the scientific and technical expertise provided by the BOR and the states, and provide an independent, consistent review to ensure that all proposals are subjected to the same rigorous review and evaluation using the best available information;
- Enhance tribal capacity by encouraging the BOR to provide the same type and level of technical support to tribes as they did to states during the development of the 2007 Interim Guidelines (and the technical support provided by the BOR during the development of the 2018 Tribal Water Study);
- Integrate western science with traditional knowledge and translate tribal spiritual and cultural values into terms that can be used by water managers by experimenting with innovative methods of engagement, such as "ethical space."
- Create a system for ongoing learning and adaptive management, building on examples like the Grand Canyon Monitoring and Research Center and the Public Policy Institute of California.

Dinosaur National Monument

Chapter 1

Toward a Sense of the Basin

Introduction

Nearly 100 tribal and other leaders in and around the Colorado River Basin gathered on February 12-13, 2020 at We-Ko-Pa Resort in Fort McDowell, Arizona (see Appendix 1 for a list of participants). The objectives of this workshop were to:

1. Review and discuss findings from interviews on designing a collaborative process to develop the next set of guidelines for the Colorado River system.

2. Consider options and proposals related to:
   a. Potential purpose(s), need, and scope of the next set of guidelines.
   b. Collaborative participation, problem-solving, and decision-making.
   c. Incorporating science, traditional knowledge, and cultural values.

3. Develop a "sense of the basin" in terms of the design of one or more collaborative processes to develop the next set of guidelines for the Colorado River system.

Workshop participants represented 14 tribes, Bureau of Reclamation, five basin states, irrigators, conservation NGOs, universities, and journalists. This summary provides a preliminary "sense of the basin" growing out of the gathering. In other words, it highlights general areas of consensus among participants, as well as key outstanding issues, concerns, and questions. For each major area of discussion, the co-facilitators of the Water & Tribes Initiative (WTI) started by providing an overview of findings and suggestions presented in the relevant memo (all of which are part of this report). This short presentation, in turn, was followed by an introduction to the relevant strawman proposal from one or more members of the team that drafted the proposal. The participants then discussed the relevant strawman proposal in small groups and ultimately reported out to the plenary session.

Please refer to the four memoranda (see Chapters 2-5) and three strawman proposals (see Appendices 3-5), as applicable, to put the following narrative into context

Purpose, Need, and Scope of the Next Set of Guidelines

The first discussion revolved around Memorandum # 1 (see Chapter 2) and Strawman Proposal # 1 (see Appendix 3).

Strawman proposal # 1 provided two proposals about the purpose, need, and scope of the next set of guidelines. Proposal 1(A) focused on maintaining the existing structure of the guidelines, while proposal 1(B) suggests broadening the purpose and scope of the next set of guidelines. Reflecting the diversity of opinions on this topic, these two proposals

were offered as bookends on a continuum of possibilities on how to frame the purpose, need, and scope of the next set of guidelines. Referring to proposal 1(A), participants generally seemed to think that it is a safe, known place to start; it's an approach that proved to be flexibile enough to allow the 2007 Interim Guidelines to be revised and updated by the 2019 Drought Contingency Plan; and that there is sufficient institutional capacity in the basin to implement this approach. Some drawbacks noted by participants include that this status quo option is more reactive than proactive; that its scope is unduly limited, it perpetuates longstanding inequalities in the basin, and it leaves other important issues unaddressed; that the 2007 guidelines were developed with limited tribal input; and that it does nothing to acknowledge that the Law of the River is based on over-optimistic hydrology.

Referring to proposal 1(B), the participants generally seemed to think that it would be more inclusive of diverse values, interests, and viewpoints in the basin; it includes a pathway for addressing new or currently under-utilized tribal allocations; it would provide explicit opportunities to address risks facing the basin from climate change and human-caused events; and it reflects the transformation of relationships within the basin. Participants also voiced concerns about this option, including that it is untested and therefore uncertain; it would add complexity and time to the process of developing the next set of guidelines given that it calls for the direct participation by a broader set of players in the process; that there is a lack of clarity about roles and responsibilities; and that it is potentially risky to try new approaches.

Most of the participants seemed to agree that proposals 1(A) and 1(B) are perhaps best seen as bookends on a continuum of possibilities for framing the purpose, need, and scope of the next set of guidelines. With that perspective in mind, the participants generated a third or hybrid option that includes the following elements:

- Start with 1(A)and expand toward 1(B) by articulating a comprehensive, integrated, holistic view of water resource management for the basin and developing new operating rules and tools;
- Adopt a 25-year planning horizon (keeping in mind a seven-generation time horizon) with an adaptative process;
- Integrate measures to address uncertainty and risks associated with climate change;
- Develop contingency plans to meet future needs of the basin and its communities; and
- Provide opportunities for tribes and NGOs to be more meaningfully involved in generating solutions and making decisions.

Regardless of how the purpose, need, and scope of the next set of guidelines is framed, several participants emphasized the need to reflect a comprehensive understanding of tribal water rights in the basin, and to translate tribal cultural and sacred values into terms that can be integrated into modeling and decision-making.

Desolation Canyon of the Green River, east-central Utah

Options for Collaborative Problem-solving and Tribal Participation

The next discussion revolved around Memorandum # 2 (see Chapter 3), Memorandum # 3 (see Chapter 4), and Strawman Proposal # 2 (see Appendix 4). In sum, this strawman proposal suggested creating a Sovereign Review Team (SRT) composed of representatives from federal, state, and tribal sovereigns with territory and interests in the basin. The concept is based on the successful experience with a similar team in the Columbia River Basin. It also suggested creating a separate Tribal Advisory Council (TAC) that would include representatives of each of the 29 tribes in the basin to supplement and complement the SRT and provide a distinct forum for tribes to build their capacity, exchange information, and forge common ground.

The idea of an SRT received mixed reviews. On the one hand, many participants agreed that it could provide a more meaningful role for basin tribes, integrate more perspectives and information into the planning and problem-solving process, and facilitate learning and education by all participants. Some participants suggested that an SRT should facilitate transactional opportunities in addition to sharing information, building relationships, and refining the basin's governance structure. Several participants emphasized that an SRT could make sense as a supplement and complement other processes, but not as a replacement for formal consultation with basin tribes. Creating an SRT, according to many participants, would be a major step forward in the governance of the river system.

On the other hand, many participants raised the question of how all 29 tribes in the basin could best be represented on the SRT -- particularly in light of the variation in interests, capacities, and culture among the tribes. The priorities for some tribes may be to develop and use their water rights for economic purposes, while other tribes may be interested in developing and using their water rights for a mix of economic, environmental, and cultural objectives. Moreover, some tribe have unsettled water rights which further complicates the question of how best to represent all the tribes on an SRT.

Participants also expressed concern about how an SRT could be structured to ensure that its work would be seriously considered by the ultimate decision-makers (i.e., the Secretary of the Interior and Commissioner of the Bureau of Reclamation), since the SRT itself is not envisioned as a formal decision-making body. Some participants raised a question as to whether the creation of a SRT would be subject to the Federal Advisory Committee Act, while other participants asked operational questions about who would convene, staff, and fund an SRT as well as the challenge of how consensus might be reached among such a large and diverse group of participants. Some participants noted as problematic the fact that, by definition, an SRT would not include representatives of irrigators, conservation NGOs, and other water users in the basin. Other participants noted that states would need to work closely with tribes within their states to forestall attempts to use the SRT as an appeals process. And finally, some participants wondered whether an SRT would distract tribes from engaging in more formal decision-making processes.

With respect to the TAC, the participants seemed to agree that some sort of forum for tribes to build capacity and to facilitate engagement in basin-wide policy discussions is an essential step forward. To be most effective, a TAC would need to be driven by tribes with all 29 tribes invited to participate -- notwithstanding the variation among tribes in terms of their interest,

knowledge, resources, capacity, and experience. The TAC would need to be well-funded and staffed and would need access to a robust suite of scientific and technical information. When viewed in connection with the SRT proposal, some participants suggested that the TAC could select representatives to participate on the SRT and otherwise provide tribal input and advice to the SRT and could provide a mechanism to ensure that all tribal needs and interests are adequately represented in the SRT.

According to some participants, the TAC is one place where tribes that have recently been more active participants in basin-wide problem-solving processes, such as the Colorado River Indian Tribes and the Gila River Indian Community, could share their experiences with other tribes to enhance their capacity. Some participants wondered whether the Ten Tribes Partnership and the Inter-Tribal Council of Arizona could come together to help launch and facilitate the TAC, while other participants suggested that it should be convened and facilitated by the Bureau of Reclamation to maximize its legitimacy and credibility, or perhaps by the WTI given its demonstrated capacity.

Taken together, some participants suggested that an SRT and a TAC should have an impact far beyond the development of the next set of guidelines.

Options to Address Science, Traditional Knowledge, and Cultural Values

The third and final discussion revolved around Memorandum # 4 (see Chapter 5) and Strawman Proposal # 3 (see Appendix 5). Reflecting many views expressed during the interviews, this strawman proposal calls for the Secretary of the Interior to create or encourage the creation of a Colorado River Science and Culture Open Forum. The goals of the forum would be to provide an inclusive forum to explore and understand the scientific and technical issues facing the basin; move beyond a science agenda focused largely on water supply concerns to a more holistic, integrated understanding of the river system based on western science, traditional knowledge, and cultural values; integrate the findings and conclusions of the open forum into decision-making processes related to the next set of guidelines; enhance public awareness and understanding of the scientific and technical

The sedimentary rock layers of Desolation Canyon in Utah are terrestrial lake deposits

issues facing the basin; and surface the broadest possible range of policy alternatives, including "third rail" options unlikely to surface in more conventional processes.

At the most general level, participants observed that values and policy preferences drive the generation of data and modeling. This led some participants to raise the question of "how should we decide what we need to know, and how should we go about gathering that information?" Participants suggested that examining the assumptions about what type of data are needed would not only foster a broader conversation but also influence decisions about operating guidelines. For example, what would happen if we were to assume that all existing and pending tribal water rights in the basin were fully developed? Or, what would happen if we were to prescribe river ecology goals for different segments of the river system? Should we be modeling for short-term water supply or long-term sustainability (or both)?

Along these lines, some participants also observed that the next set of guidelines should consider and reflect a broader, more comprehensive and inclusive set of values and interests than have historically been considered by water managers in the basin. Some participants explained that the Colorado River Compact talks about "no impairment," and that this provision has long focused exclusively on water supply. In developing the next set of guidelines, these participants advocated that the "no impairment" provision should be interpreted more broadly to include issues such as basic access to water and the protection of ecological values. According to some participants, the Compact protects water rights that pre-date the Compact from impairment, including almost all tribal rights -- even those that have not yet been adjudicated Some participants suggested that we should be focused on how to create a river system sustainable for seven generations. Building on this more general statement, participants seemed to agree that it is essential to better integrate traditional knowledge and cultural values into decisions about the next set of guidelines, and that this should be done as early in the decision-making process as possible. This suggestion is motivated not only by a desire to broaden the purpose, scope, and aspirations of the next set of guidelines, but also by a recognition of the importance of respecting different types of knowledge (both western science and traditional knowledge) and different values (tribal sacred and spiritual values as well as ecological and environmental values, along with the value of water supply). Most participants also seemed to agree that everyone should have access to the same body of information, realizing that equal access to information does not necessarily mean that everyone will agree on the interpretation and meaning of that information.

Some participants observed that integrating traditional knowledge and cultural values into decision-making is easier said than done, and several specific challenges were identified. First, what is the best way to gather information about traditional knowledge and cultural values, and how do you do that in a way that respects the type of information that tribes do/do not want to share for cultural and other reasons? Some participants suggested that one path forward is to convene listening sessions with tribal and other leaders, reflecting what the WTI did to prepare the four memos and three strawman proposals discussed at the workshop. Second, how do we translate spiritual and cultural values into terms (or parameters) capable of being included in modelling work -- keeping in mind that western science or understanding cannot dictate the value of traditional knowledge and vice versa? How do we make that information actionable? Although the Bureau of Reclamation

said they are willing to explore how to package this information in a way that can be integrated into CRSS, other participants suggested that perhaps we need a new model and/or decision-making framework that better accommodates a broader range of values and aspirations. Third, it was suggested that the economic system the undergirds the water allocation system needs to be better understood to determine how and if traditional knowledge and cultural values can indeed be folded into the development of the next set of guidelines.

In terms of the proposal to create a Colorado River Science and Culture Open Forum, some participants wondered whether this is the best way to achieve the objectives presented above. Some participants suggested that we do not need to create new platforms to do this type of work, and that doing so only distracts us from other planning and problem-solving forums. Other participants suggested that there is a need for more independent scientific and technical review of alternative proposals for the next set of guidelines, and that this type of review should be informed not only by western science but also by traditional knowledge and cultural values. Some participants, however, raised a concern about how the work of the Open Forum would be considered and/or integrated into the decision-making process. Perhaps the best option to address this challenge, according to some participants, is for the Secretary of the Interior and the Bureau of Reclamation to authorize the creation of the Open Forum, thereby establishing its visibility, legitimacy, and credibility.

Many participants highlighted the need to ensure that the Open Forum would be well funded and staffed and have access to the most relevant information available. Tribes (and others) would most likely need time, money, expertise, and other resources to enhance their capacity to effectively participate in such a forum and to capture and share traditional knowledge. The Open Forum would also need some expertise to help translate, interpret, and communicate technical information to leaders, stakeholders, and citizens in and adjacent to the basin.

Conclusion

The WTI hopes that this summary of the 2020 basin-wide workshop, along with the following chapters and strawman proposals, provide useful input on the design of one or more collaborative processes to develop the next set of guidelines. In this context and more broadly, the WTI will continue serving as a resource to enhance tribal capacity to participate in basin-wide policy discussions and to advance sustainable water management through collaborative decision-making.

Pueblo III granary within Canyonlands National Park

Native box elder trees (maple) thrive on the floodplain of the Green River

Chapter 2

Visions for the Future of the River

This is the first of four chapters that present findings of over 100 interviews with tribal and other leaders in the Colorado River Basin. The intent of the interviews, which were conducted from June through December 2019, was to solicit input and advice on the design of a collaborative process to develop the next set of guidelines for the river, and indirectly to review and evaluate the 2007 Interim Guidelines. The interviews sought to clarify the goals, expectations, and perceived constraints to convening some type of a collaborative process, rather than identifying solutions to particular problems.

According to the 2007 Interim Guidelines, "Beginning no later than December 31, 2020, the Secretary shall initiate a formal review for purposes of evaluating the effectiveness of these Guidelines."[1] This review will inevitably lead to the development of a new set of guidelines for the Colorado River.

In anticipation of this activity, the Water & Tribes Initiative (WTI) catalyzed a conversation at a basin-wide workshop in February 2019 to begin exploring the design of a collaborative process that would help facilitate meaningful participation by tribes and others in the review, evaluation, and negotiation process.[2] Building on the discussions, concerns, and ideas developed through the basin-wide workshop and follow-up efforts, the WTI completed more than 100 confidential interviews with tribal and non-tribal leaders in the basin to solicit input on the design of the process for the upcoming review, evaluation, and negotiation (see Appendix 2 for interviewees).

In December 2019, Bureau of Reclamation Commissioner Brenda Burman encouraged participants at the annual meeting of the Colorado River Water Users Association (CRWUA) to reflect on past processes, to highlight lessons learned, and to explore options for the future. This report and the associated body of work responds to that request, and the findings are timely in light of U.S. Secretary of the Interior David Bernhardt's announcement at the same CRWUA gathering that the Bureau of Reclamation will commence its formal review of the 2007 Interim Guidelines in early 2020 and complete that review by issuing a report at the end of 2020.

In addition to providing the context and rationale for Chapters 2-5, the purpose of this chapter is to present findings from the interviews on (1) visions for the future of the river, and (2) the most compelling issues that should be addressed in the set next of guidelines. Three following chapters address the following topics:

- Chapter 3 -- Options to enhance participation and collaboration in developing the next set of guidelines.
- Chapter 4 -- Options to enable tribal participation in the collaborative process.
- Chapter 5 -- Issues, concerns, and options

related to the role of scientific and technical information during the development of the next set of operating guidelines, including the importance of translating tribal spiritual and cultural values into terms that can be used by water managers.

The intent of this information is to promote dialogue. For a complete picture of the findings and suggestions, please review this entire report.

Relationship to the River

We started each conversation by asking interviewees to describe their role and relationship to the Colorado River, both professional and personal.

Most people responded by explaining they are professional water managers responsible for long-term planning, managing water in a sustainable way, and providing technical support for negotiations. Some interviewees are representatives of governors, chief negotiators for interstate agreements, and state engineers responsible for ensuring their water rights and interests are protected to meet the future needs of constituents. Others are representatives of the federal government, tribal governments, conservation organizations, philanthropic foundations, water providers, and academics and other experts. For some interviewees, their entire professional career has focused on water policy and management.

Nearly everyone consulted also has a personal connection to the river. For some, it is a spiritual and cultural connection. Many people have family roots in the basin, some are life-long residents of it (at least one person tells of having been conceived on the river), and almost everyone spends time enjoying water-based recreation in the basin (e.g., white-water rafting, boating on the lakes, fly fishing, etc.), as well as hiking, biking, and sightseeing (several people have visited virtually every mile of the river!). Nearly everyone explained that spending time on the river and/or surrounding landscape builds relationships, connects people to the river and landscape, and promotes common understanding.

Across the board, interviewees are passionate about the river and surrounding landscape. They seek to understand the diverse, deeply held values of the place and are fascinated by the history and politics of managing the river. Most people expressed some form of the philosophy

Sandstone cliffs of the Yampa River in Colorado at Dinosaur National Monument

Curious stone masonry structure along the Green River in Labyrinth Canyon

that water is life, and that we should leave the river and surrounding landscape at least as good as we found them for future generations, promote and support long-term sustainability, and focus on finding creative solutions to difficult problems. For many interviewees, their professional and personal commitment to the river are seamless.

From a distinctly tribal perspective, there is a deep sense that "we are the river." Water is life-giving -- the land, plants, animals, and people are all of the river. As described by one tribal interviewee: "We are all made from the mud and clay from the river. It is important to never forget who you are and where you came from, and to protect the river and the landscape for future generations. This is home. We are not going anywhere."

Everyone interviewed is deeply concerned about the future of people and nature in the basin and genuinely interested in finding solutions that work for the broadest possible mix of interests. There is also a general sense that the best way to pursue broad-based agreements is to put yourself in other people's shoes to understand their needs, interests, and priorities, to look at things from a variety of perspectives, and to seek solutions that advance your interests as well as those of other people.

Visions for the Future of the River

After reflecting on their personal and professional relationships to the river, interviewees were asked about their visions for the future of the river in the spirit that form follows function. In other words, the most appropriate collaborative process and the search for effective solutions to particular issues will be driven by people's hopes, dreams, and aspirations for the future. When asked about their vision of the river over the next 25-50-150 years, interviewees' responses revolved around "process-oriented" visions and "policy-oriented" visions. Not everyone touched on every theme, and different people expressed similar visions with slightly different words. The following presentation of themes is not intended to indicate any order of priority.

Process-oriented Visions

From a process perspective, the sense among interviewees is to *use collaboration as the method of first resort, in contrast to litigation and other adversarial processes*. Many interviewees explained that we are at a critical time in the basin, and that the process to develop the next set of guidelines provides a unique opportunity to build on and expand the emerging culture of collaborative problem-solving, keeping in mind the legal and historical constraints

imposed by the Law of the River. Different people expressed this sentiment in different words, as revealed by this representative sample:

- It is going to take everyone working together to seek consensus on the path forward;
- Move from win-lose to mutual-gain solutions;
- Catalyze and sustain fair, effective ways to engage more people in decision-making;
- Tap into people's passion, common interests, and mutual goals;
- Rely on formal and informal networks for collaborative problem-solving; and
- Build on recent and ongoing cooperative relationships and agreements.

Several interviewees explained that the unique opportunity facing the basin suggests that we should *move from ad hoc collaboration to more intentional, ongoing systems of collaborative problem-solving and decision-making*. According to some interviewees, the rate and scale of change occurring in the basin, including climate change, challenges existing systems of problem-solving and decision-making. Therefore, it may be time to create an ongoing system of learning, sharing, and adapting the operations of the system. In short, it may be time to *move toward a more adaptive governing framework*. Put differently, rather than creating and engaging in big, messy basin-wide processes every 5-10 years, which is time-consuming and fraught with uncertainty, several interviewees suggest it is time to create a global framework for operating the system that builds in flexibility and adaptability. Such a system would avoid the need to renegotiate new guidelines and agreements every 5-10 years, and to seek congressional approval every time changes are needed. By contrast, it would allow the basin to adjust river operations based on the changing climate and emerging needs, interests, and priorities. An adaptive system of planning and decision-making reflects the realization that the system is too complex and faced with too many uncertainties to have a permanent (stationary) solution. In contrast, it seeks to move from reactive to proactive decision-making and management.

Adding to the vision of a collaborative, adaptive system of planning and decision-making, several interviewees suggested the basin needs to *continue moving in the direction of a unified system of management*. This vision builds on the reality that the basin is increasingly managed in a unified manner -- e.g., Minute No. 323 links the United States and Mexico, and the 2019 DCP links the Upper Basin and Lower Basin. Irrespective of whether the basin is ever managed by a single agency/governing body (e.g., a river basin commission), interviewees suggested that the process of crafting new legal and institutional arrangements must come from the ground-up via collaborative problem-solving.

Although some interviewees see a tension between taking a more holistic or comprehensive approach to the next set of guidelines versus a more incremental approach, most interviewees see this choice as a false dichotomy. It is not an either/or proposition; it is more of a both/and proposition. Most people seem to believe it is desirable to *articulate a broad, comprehensive vision for the next 25-years (or longer) and then to move in that direction incrementally (a sort of pragmatic idealism as one interviewee commented)*. This approach is consistent with the vision of a more adaptive system of planning and decision-making and contemplates adapting operations according to changing circumstances year-to-year.

Many interviewees believe the basin is slowly, incrementally making progress on at least some elements of this process-oriented vision.

Policy-oriented Visions

From a policy perspective, the most common goal that emerged from the interviews is to *promote and support sustainable/resilient use of the river for people and nature*. Some interviewees framed this vision as aligning the use of the river with what the river can provide. In other words, acknowledge hydrological realities, including climate change. A few interviewees named the next set of guidelines "sustainability guidelines," highlighting the importance of sustaining the river for people and nature.

Another common policy-oriented goal is to *maximize certainty and reliability*. Several interviewees suggested negotiations over the next set of guidelines provide a timely opportunity to address "all" of the uncertainties facing the basin, including (but not limited to) resolving the big issues as best we can to avoid coming back to them: the structural deficit in the Lower Basin; the Upper Basin's compact obligations; and the existence, scope, development, and use of tribal water rights. Many interviewees also highlighted the need to provide as much predictability as possible in light of uncertainties created by climate change and population growth. The idea here seems to be to strive for certainty and reliability by developing alternative scenarios/contingency plans that allow the basin to respond to variable conditions and flows (i.e., the water budget).

A third policy-oriented goal offered by some interviewees is to *move beyond operating guidelines for the river to a more comprehensive, integrated resource management plan*. The idea here is to manage the river as a natural system for multiple outcomes -- i.e., to manage the river in a more holistic way as an ecosystem, rather than just a plumbing system. Several interviewees offered slightly different ways of framing this goal:

- Integrate the functional values of the river to provide water for cities, agriculture, and other human needs with the ecological, cultural, sacred, environmental, and recreational, and natural values of the river;
- Accommodate sacred, cultural, environmental, recreational, wildlife, and other values and uses of the river;
- Restore the delta -- imagine how our relationships would change if there was a consistent flow of water into the delta;
- Return to the spiritual and sacred values associated with the river -- we need a spiritual fix, not simply another technical/ plumbing fix; and
- Move from a focus on the legal and historical artifacts governing the basin to a focus on the social, cultural, and ecological elements of the basin.

Interviewees offering this vision for the river suggest that it will not be easy to satisfy all existing and pending water supply agreements while trying to sustain the ecological values of the river, and that it will take time to move in this direction. At least one interviewee expressed this vision in terms of thresholds -- i.e., what actions can we take to preserve the emerging collaborative culture, address infrastructure needs, and use science to aid decision-making?

In contrast, other interviewees suggested the operating guidelines should *focus exclusively on the coordinated operations of Lake Powell and Lake Mead, and perhaps some of the other reservoirs in the system*. The core idea here is to amend the 2007 Interim Guidelines and the 2019 Drought Contingency Plan that provide (1) coordinated strategies for Colorado River reservoir operations during drought or shortages, and (2) a mechanism that allows water users to store conserved water in Lake Mead and to access that water in future years (e.g., Intentionally Created Surplus program).

New family of Canada goose Green River in Desolation Canyon

Some interviewees offered a vision of the river where *all future policy is oriented around a water ethic and incentives to use less water and to allow for more creative and flexible arrangements and tools within the Law of the River* (e.g., strategies to reduce demand, augment supply, modify operations, and facilitate governance and implementation).

While there seems to be significant convergence around the policy-oriented themes above, one theme where there are different viewpoints concerns how to equitably share risk. Some interviewees suggested the development of the next set of guidelines provide a timely opportunity to *revisit and refine the core policy objective of the Colorado River Compact: "to provide for the equitable division and apportionment of the use of the waters of the Colorado River System."*[3] Some interviewees explained that the prior appropriation system is a risk management system, and that senior users are allowed to satisfy all of their needs and interests prior to more junior users. In contrast, other people argue for a more proportional approach to sharing water during drought, where all users lose the same proportion of their entitlements. Still other interviewees commented that the basin should focus on what each state and sector can live with, rather than entitlements. How would a reconsideration of the principle of equitable apportionment influence relationships and water allocation between the United States and Mexico; the Upper Basin, Lower Basin, and the delta; urban and agricultural water users; water supply, ecological values, and tribal spiritual and cultural values?

Most Compelling Issues

Moving from vision to reality, we next asked interviewees to identify the most compelling issues that should be addressed in the review, evaluation, and renegotiation of the 2007 Interim Guidelines. Several people suggested that these and other issues might be more formally identified and refined during a NEPA scoping process, assuming federal and state decision-makers employ that approach. Similar to the visions for the river, the most compelling issues can be organized by "policy issues" and "process issues." Many issues overlap and reinforce the visions statements, so there is some repetition of themes.

Process Issues

• **Starting with a clean slate**. Many interviewees commented that the development of the next set of guidelines provides a unique opportunity to

reconsider the basic framework for managing the river given that the 2007 Interim Guidelines, Minute 323, and the 2019 DCP all expire in 2026. Most of these interviewees also explained that, while it is important build on existing legal and institutional arrangements, this is also a unique opportunity to consider alternative agreements and arrangements for managing the river.

• **Sovereign-to-sovereign consultation**. Several interviewees commented that the review, evaluation, and renegotiation process should enhance the participation of tribes and Mexico as recognized sovereign governments. Comments revolved around the merits of bringing tribes and Mexico into the review process and the next round of negotiations as soon as possible, rather than after decisions have been made and plans completed.

• **Encouraging experiments and pilot projects**. Many interviewees commented on the need to enhance the toolkit or strategies to achieve sustainable/resilient water use, including experimental or pilot projects aimed at augmenting supply, reducing demand, modifying operations, and/or facilitating governance and implementation of operating guidelines and water management strategies.[4]

• **Public awareness and understanding**. Nearly all interviewees commented on the need to enhance public awareness and understanding of the Colorado River system, including its critical role as a water source ("where does your water come from?"), the issues facing the basin, and the options and trade-offs for future management.

• **Need for ongoing systems of engagement and problem-solving.** Nearly all interviewees commented that we need to acknowledge and accept all the uncertainties facing the basin and that we are going to live in a state of perpetual negotiation to manage the river. Thus, we should build ongoing systems of collaborative, adaptive governance and move away from more centralized systems of problem-solving and decision-making.[5]

Policy Issues

• **Operational elements**. Most interviewees commented that the next set of guidelines should include operational elements similar to the 2007 Interim Guidelines and the 2019 DCPs, including shortage guidelines, coordinated reservoir operations, storage and delivery of conserved water, and surplus guidelines.

• **More holistic, integrated vision**. Many interviewees believe it is time to move

Western collared lizard sunning and foraging for insects

beyond managing the river as a plumbing and engineering system that supplies water to cities and farms and toward a more holistic, integrated system that better accommodates multiple needs and interests, including but not limited to tribal sacred and cultural values, ecological and recreational values, and the integration of land and water management decisions.[6] The intent here is to articulate a holistic, integrated vision and then make progress toward that vision incrementally over some period of time -- sort of pragmatic idealism as noted above.[7] In the process, we need to carefully consider the trade-offs between water supply decisions and river ecosystem objectives, and to move from a system focused on water use to watershed management.[8]

• **Structural deficit in the Lower Basin.** Nearly all interviewees commented that the next set of guidelines should address this core issue.

• **Upper Basin's delivery obligations to the Lower Basin and Mexico.** Likewise, nearly all interviewees commented that this issue, stemming from Articles III(c)-(d) of the 1922 compact,[9] should be addressed in the next set of guidelines. Many interviewees see this issue as linked to the structural deficit in the Lower Basin. The general question seems to be whether the existing expectation is fair and equitable in light of climate change/drought and future development of tribal and state water rights in the Upper Basin.[10] Some people believe that the Upper Basin needs to come to terms with the fact that it is not going to be able to develop and use more than 4.5 MAFY.

This issue is also related to implementation of a demand management program to reduce demand, make water available to the system, and shepherd the water where it is needed -- all of which is a work in progress and will likely take time to develop and implement.

• **Tribal water rights, development, and use**. Nearly all interviewees commented on the need to address the recognition, quantification, development, and use of tribal water rights -- in part to reduce the uncertainty facing water managers. For more information on this issue and options for tribal participation, see Memo # 3.

Endnotes

1. *Record of Decision, Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead. Section 7.D* (December 2007): 56.

2. The WTI is a multiparty effort to enhance the capacity of tribes to participate in basin-wide policy discussions and to advance sustainable water management through collaborative decision-making. For more information on the WTI, including a list of Leadership Team members and a summary of the February 2019 basin-wide workshop, please see http://naturalresourcespolicy.org/projects/water-tribes-colorado-river-basin.php.

3. Colorado River Compact, Article I (1922).

4. Building on the framework of tools presented in the 2012 BOR Basin Study (see pages 11-14, Executive Summary) interviewees suggested the following tools should be more fully developed and employed, at least experimentally: (1) augment supply -- recycle/reuse, aquifer re-charge/ underground storage, desalination, and stormwater collection; (2) reduce demand -- create incentives to conserve water/use water more efficiently (e.g., system conservation program, create ICS at Lake Powell, drought management at CRSP units, and conserving water should be considered a beneficial use in both the Upper Basin and Lower Basin, develop the idea of conservation easements for currently unused tribal water, and implement demand management by compensating people for not using water, including tribes); (3) modify operations -- create incentives to trade and share water where it is most needed (nothing should be off the table to begin, including but not limited to transferring both developed and undeveloped/unused tribal water as well as interstate and inter-basin transfers; recognize, respect, and compensate water users for the value of their water rights; agriculture-to-urban transfers; flexibility in sharing/trading

Scour holes along the high water zone in Western Grand Canyon, Hualapai Nation

water); and (4) facilitate governance and implementation -- manage growth; link land use and water supply.

Many interviewees commented that the future of water management in the Colorado River Basin is less about acquiring and developing water rights (except for tribes) and more about sharing available water resources through trading and other exchange mechanisms. To this end, many interviewees commented that interstate water sharing arrangements should become possible in the near future, whereas inter-basin transfers will likely take more time. Some interviewees also commented that tribes (and perhaps irrigators) should be allowed to leave water in the system for conservation and other purposes (in other words, create a tribal water conservation trust), and that they should receive some type of credit for that contribution -- particularly in light of the understanding that tribal water rights are not system water per se; according to some experts, they are not like state water rights and are not subject to the same standards.

[5.] Many interviewees expressed an interest in building on the collaborative culture in the basin and to move slowly -- but intentionally -- from ad hoc collaborative processes to more ongoing collaborative systems of problem-solving and decision-making. The rationale for this evolution revolves around three observations: (1) we live in an era where decisions must be made in the face of uncertainty, and thus there is an ongoing need to learn what is/is not working and to adapt the management of the river accordingly; (2) it should be possible to build flexibility into the Record of Decision to allow decision-makers to adjust management strategies without engaging in multi-year negotiations and seeking the consent of Congress; and (3) there are significant transaction costs to starting-up a basin-wide collaborative process every 3-5 years. In sum, we know that we need to work together so let's establish a more permanent system of collaborative problem-solving to allow that to happen in an efficient and effective way.

Some interviewees take this process issue one step further and suggest that the basin should start moving (albeit slowly) in the direction of a unified system of management and governance, keeping in mind that the basin is already moving in this direction via Minute 323, which provides for more coordination between the U.S. and Mexico, and the DCP process, which contemplates enhanced coordination between the Upper Basin and Lower Basin. The idea here is to strive for incremental progress toward sustainable water use, realize that climate change and other external forces are accelerating the timeline for change, and therefore adjust the basic architecture for governing the river -- not necessarily quickly, but intentionally and over the next 10-years or so. By contrast, other interviewees prefer an "if it ain't broke, don't fix it" approach. In other words, the existing ad hoc system of collaborative problem-solving is working, so let it be and make marginal improvements where that is quick and easy. Some people also suggested that the seven basin states may resist this evolution in governance given (1) the Lower Basin's (uneasy)] partnership with the Bureau of Reclamation, which serves as the water master along the Lower Colorado River; and (2) the Upper Basin's more autonomous system facilitated by the Upper Colorado River Commission. Another underlying theme or tension seems to be the degree to which tribes should be treated as co-equal sovereigns along with federal and state governments.

[6.] Many people acknowledged that the next round of negotiations will most likely start with the existing agreements (particularly the DCPs), and that a logical path forward is to clarify gaps and identify how the DCP framework could be improved. By contrast, several people commented that the 2007 Interim Guidelines, Minute 323, and the Upper and Lower Basin DCPs all expire at the end of 2026. These deadlines, they explained, provide a unique opportunity to frame and reframe how the river will be managed beginning with water year 2027. The people suggesting this option believe that nothing should be off

the table, at least from the start, and that participants should carefully evaluate the tradeoffs and/or estimate the return on the investment if this or that issue and solution are addressed. Many, perhaps most, of the interviewees endorsed the idea that the next basin-wide negotiation should strike a balance between addressing the basin's most urgent needs and interests (e.g., refining the operating guidelines for Powell and Mead) and addressing underlying, unresolved problems (e.g., the structural deficit in the Lower Basin and the Upper Basin's compact obligation). The intent here is to address broader issues as well as to generate an operational plan, a dynamic combination of an integrated vision and incremental steps forward.

The basic rationale for this position is that things have changed since the promulgation of the 2007 Interim Guidelines, and changed in some fundamental ways. The basin needs to do a much better job accommodating the interests of Mexico, tribes, recreationists, and the environment, and to acknowledge the realities of climate change -- all of which suggests the need to better balance water supply objectives with other values, interests, and objectives. The immediate goal is to find the sweet spot between the perfect and the practical -- i.e., to craft an inclusive long-term vision and then take incremental steps toward that vision.

[7.] This issue was framed in different ways by different people. Here is a representative sample of more specific elements of this issue: (1) seek agreement on the standards or principles for sharing shortages. Provide equity in processes and policies governing shortage sharing between the United States and Mexico; tribal sovereigns vis-à-vis state and federal sovereigns; the Upper Basin and Lower Basin; agricultural and municipal water users in regards to the Salton Sea; consumptive and non-consumptive users, etc.; (2) integrate a shortage-sharing plan(s) with the Glen Canyon Dam Long-Term Experimental and Management Plan, Lower Colorado River Multispecies Conservation Program, Upper Colorado River Endangered Fish Recovery Program, San Juan River Basin Recovery Implementation Program, Salinity Control Program, and operating guidelines for all dams/reservoirs in the system (per 2019 DCPs) (in response to this observation, some interviewees responded that water is still released through Glen Canyon Dam annually on its way to Lake Mead; habitats in the Lower Colorado River MSCP still receive water each year with no risk of curtailment because they are either very senior rights or the habitats depend upon system use and there is no way to control the habitat water use; Upper Basin recovery programs depend upon flow regimes at each of the CRSP facilities that have RODs in place that guide annual operations, etc. and the Upper Basin Drought Ops DCP element is not changing those flow regimes); (3) address environmental impacts to Mexico and the delta; (4) address the issues in and around the Salton Sea; (5) address fish, wildlife, and recreational issues, as well as hydropower issues/provide recreational and environmental flows; and (6) produce a comprehensive environmental impact statement and long-term plan for the basin -- including financing, legislation, and governance -- rather than addressing issues in silos and/or in a fragmented way.

[8.] To this end, some interviewees commented that we need to clarify the legal foundations for protecting and restoring ecological values in the Colorado River Basin, and to clarify the river ecosystem goals and specific targets for different stretches of the river (e.g., Upper Basin, Grand Canyon, Lower Basin, and the Delta). Without that base of information, the default is to allow water supply decisions to continue driving the system. A few interviewees commented that a long-term vision for a sustainable, resilient river suggests that we should move in the direction of John Wesley Powell's "watershed democracies." In May of 1890, after surveying the West, John Wesley Powell published an essay titled "Institutions for the Arid Lands." In that essay, Powell articulated his vision that the most appropriate institutions

Egg casings of adult Dobsonfly on vertical face of large boulder at edge of river

for governing Western resources would be commonwealths defined by watersheds. He reasoned that, "there is a body of interdependent and unified interests and values, all collected in [a] hydrographic basin, and all segregated by well-defined boundary lines from the rest of the world. The people in such a district have common interests, common rights, and common duties, and must necessarily work together for common purposes." Powell concluded that such people should be allowed to organize "under national and state laws, a great irrigation district, including an entire hydrographic basin, and … make their own laws for the division of waters, for the protection and use of the forests, for the protection of the pasturage on the hills, and for the uses of the powers [created by the flow of water]."

9. One source explained that the current "Minimum Objective Release" from Glen Canyon Dam is 8.23 MAF/year (including 7.5 MAF or the average annual obligation of the Upper Basin states under Article III(d) of the compact plus 750,000 acre-feet or one-half the normal annual delivery of 1.5 million acre-feet per year to Mexico under the treaty). Another source explained that the "minimum objective release" of 8.23 MAFY was a function of the 602(a) storage provision of the 1970 Coordinated Long-Range Operating Criteria, which is currently superseded by the 2007 Interim Guidelines and their coordinated operating regime for Lakes Powell and Mead. Releases from Glen Canyon Dam are now driven by the tier determinations specified in the 2007 Interim Guidelines based upon elevations in the two reservoirs.

10. Do the impacts of climate change rise to the level of an "extraordinary drought" as that term appears in the 1944 treaty with Mexico, which would partially or wholly relieve the United States (and therefore the Upper Basin) of its obligation under the Treaty to deliver 1.5 MAF annually to Mexico? Several people interviewed suggested that this issue should be addressed and resolved during the next basin-wide negotiation.

Algodones Dunes between the Colorado River and the Salton Through, Imperial County, California

Chapter 3

Options to Enhance Participation and Collaboration

A pipeline crossing the Colorado River above The Needles and Topock Gorge near Mojave Nation

The purpose of this chapter is to present options to enhance participation and collaboration to develop the next set of guidelines for the Colorado River, and indirectly to review and evaluate the 2007 Interim Guidelines. This chapter focuses on options for tribal participation in developing the next set of guidelines. Chapter 4 provides much more detail on tribal options.

Drawing on their experiences with recent processes in the basin, as well as reflecting on lesson learned from other river basin planning and decision-making processes, interviewees offered the following suggestions about options to design a collaborative process to develop a new set of guidelines. Many of the lessons, observations, and suggestions may apply as well to the process to review and evaluate the 2007 Interim Guidelines. Many interviewees began by offering philosophical-type observations:

- Don't start from scratch; build on the emerging collaborative culture in the basin;
- Look at things differently; don't negotiate from predetermined outcomes or past positions;
- Create spaces for dialogue, difficult conversations, and problem-solving;
- Work together to identify issues, common interests, areas of agreement and disagreement, and practical solutions;
- Investments in process are essential to producing good outcomes; however, don't let the search for a perfect process become the enemy of a good process/outcome;
- Although a good collaborative process does not necessarily produce a good outcome, a more conventional (top-down) process will almost always produce a less than optimal outcome;
- It's a marathon, not a sprint;
- If it ain't broke, don't fix it;
- Don't care who takes credit; do what is right for people and nature in the basin.

Beyond these philosophical observations, interviewees offered some very practical input and advice.

Key Elements or Principles

The responses from interviewees converged around the following key elements or principles concerning the process to develop a new set of guidelines for managing the river (and indirectly for reviewing and evaluating the 2007 Interim Guidelines). Many people used different words to express similar concepts, key elements, and principles. Not everyone identified each of the following key elements/principles, nor does every interviewee necessarily agree to the same degree with each of the key elements/principles. A substantial number of interviewees, however, agree to each and every one of the following key elements/principles.

1) NEPA Framework & Role of the United States. Most interviewees agree that the formal process to develop a new set of guidelines should be structured around the requirements of the National Environmental Policy Act (NEPA), including opportunities for public participation.[1] However, many interviewees explained that before and during that formal NEPA process, some type of informal collaborative process (or processes) is needed to build awareness, understanding, and agreement. This "supplemental" or "parallel" process (or processes) may include both formal and informal opportunities for participation and may take the form of a "network of networks" (see sub-section below on *Network of Networks*).

Most, if not all, interviewees agree that the Secretary of the Interior and/or the Commissioner of the Bureau of Reclamation (BOR) will have final decision-making authority given that the new guidelines will more than likely constitute a "major federal action" under NEPA. In addition to initiating and convening the formal, official process, the BOR may also play other roles, such as designated lead agency, technical advisor, facilitator/mediator, and advisor for international negotiations with Mexico.

Some people mused about an alternative to a NEPA-driven framework -- that is, something more like the process used to negotiate the 2019 Drought Contingency Plans (DCP), where states negotiated an agreement that was then enacted into law by Congress and the president and implemented by federal agencies. Not many, if any, interviewees strongly advocated this option, in large part because the new set of guidelines will most likely constitute a "major federal action" that will require a NEPA process. According to some interviewees, it may also be possible (although not necessarily desirable) to employ something like the process used to develop the 2019 DCP, and then consider the negotiated outcome of that process as one alternative in a NEPA process.

2) Roles of States. Most interviewees believe that the seven basin states will (and should) play a significant role in developing the next set of guidelines -- within the context of the NEPA framework -- because (a) the 1922 Compact allocates water among the Upper Basin and Lower Basins and the states control administration of water within their boundaries; (b) tribal water is (generally considered to be) part of the states' allocations; (c) states will (or at least should) build coalitions among diverse constituents within their boundaries; (d) states negotiate and agree to interstate compacts and agreements; and (e) the federal government generally defers to state water law, other than when it comes to federal reserved water rights.[2]

3) Role of Tribes. Most, if not all, interviewees agree that tribal leaders and experts should be more involved and take advantage of multiple options to engage and participate (see Chapter 4 on *Options for Tribal Participation*).

4) Inclusive. All interviewees agree that the processes to review and evaluate the 2007 Interim Guidelines and to negotiate a new set of guidelines should be open, transparent, and inclusive. Anyone interested in or affected by the processes should have opportunities to meaningfully participate, including but not limited to individuals and organizations representing hydropower, recreation, fish and wildlife, and cultural and historical interests, as well as political decision-makers, watershed groups, young people, and the public at large (see sub-sections below on *Network of Networks* and *Public Participation*). The BOR, states, and others should provide options and resources to ensure that everyone has an opportunity to participate, learn, and contribute.

Although the states and BOR may play a key decision-making role, the outcomes need to be embraced and supported by tribes and all sectors and stakeholders. Many interviewees explained that there is no one decision-maker. "Nobody can do it alone! It will take multiple decisions through cooperation and collaboration." "We need to build consensus." However, "don't make the process so big that it becomes unwieldy and we can't get anything done; focus on getting something done through the best possible collaborative process."

5) Purpose, Need, & Scope. Some people believe that the purpose, need, and scope of the NEPA-driven process should focus on shortage sharing and coordinating operations among Lake Powell, Lake Mead, and perhaps other reservoirs (similar to the 2007 Interim Guidelines). Other people suggest that the purpose, need, and scope should be broader and more inclusive, including guidelines for operating the reservoirs as well as strategies for managing the river for ecological and cultural values. Many people sought to bridge these two approaches by suggesting that it may be valuable to seek agreement on a long-term vision and then stay focused on the most immediate needs. In other words, define the purpose, need, and scope in a broad, visionary way, and then begin to make incremental progress toward that vision.

6) Informed. Everyone agrees that it is essential to use the best available scientific and technical information, including indigenous knowledge, to develop the next set of guidelines. In addition to modeling alternative scenarios, many people explained that an informed process is one that fosters mutual learning, common understanding, and consideration of a variety of options. All participants should have equal opportunity to share views and information. Some interviewees commented that the process should provide sufficient time and space for creative, out-of-the-box thinking to generate innovative ideas, options, and solutions, including options that might technically be outside the constraints of the current interpretation of the Law of the River. As one interviewee explained, "the crisis of the moment is solved by whatever good ideas are laying around; so, an important part of preparing for and engaging in the next basin-wide negotiation process is to litter the field with good ideas so there are lots of resources available when the decision-making process catches up."

The Green River enters the Colorado Plateau Province at Whirlpool Canyon at Dinosaur National Monument near Colorado/Utah border

The San Francisco River in the east-central Basins of Arizona near the New Mexico border

An informed process should also enable participants to develop a range of alternatives or options to address the purpose and need, realizing that no one alternative is likely to be the perfect alternative. More likely, elements from many different alternatives will be selected to create an agreed-upon package. In other words, there may be one or more state-generated alternatives, tribal alternatives, conservation/environmental alternatives, and ultimately a negotiated alternative that integrates elements from multiple alternatives. The 2007 Guidelines were based on an alternative that adopted large portions of a seven-state proposal, but also incorporated concepts from other proposed alternatives. (See Memo # 4 for more information on enhancing scientific and technical information and translating tribal spiritual and culture values into decision-making.)

7) Consensus-seeking. Most interviewees agreed that the goal of the process to develop a new set of guidelines should be to seek as much consensus as possible. As one group of interviewees explained, the goal is to "build a broad coalition of states, water users, tribes, stakeholders, and others that support the preferred alternative/recommendation in the ROD."

8) Implementation. Many interviewees suggested that, in addition to building consensus on new guidelines, the basin should implement any agreement via the path of least resistance, whether that is an interstate agreement, administrative fiat, or congressional action.

9) Adaptive Management. Many interviewees suggested that the basin should develop a 25-year plan rather than a series of 3-5 year plans given the transaction costs of starting and stopping every few years. Within the longer-term framework, the guidelines should allow for learning and adaptive management given that we will never have complete knowledge and information and will always be managing the river in the face of change and uncertainty. In other words, the basin needs to create an ongoing process to monitor the system, to learn, and to adjust or adapt management strategies as we go along.[3] Similar to the DCP, this system could/should include explicit milestones or triggers (e.g., reservoir levels) to initiate alternative management strategies.

10) Timing. Many people suggested that basin leaders should start as soon as possible (and not wait until the end of 2020) to frame the problems, create a collaborative process, and start searching for solutions. Of course, many people also realize that human nature may compel individuals and groups to wait a year or two to get started given the wet year in 2019, the fact that the basin has until 2026 to complete the new guidelines, and the uncertainties created by the 2020 election.

A large part of the rationale to get started sooner than later is to build on the momentum and relationships generated through the DCP process. Many people also suggested that there should be a 2-3 year deadline for the next process so that it does not drag on until 2026 and devolve into last-minute negotiations. Most interviewees agreed that it would be great to complete the review and

evaluation of the 2007 Interim Guidelines and to develop the next set of guidelines in the shortest amount of time possible.

By contrast, some interviewees suggested that we take time to learn from the DCP process and its outcomes. If the next basin-wide process starts too early (e.g., in 2020), that may limit the amount of time the basin has to learn from the DCP's implementation.

Options for Participation & Collaboration

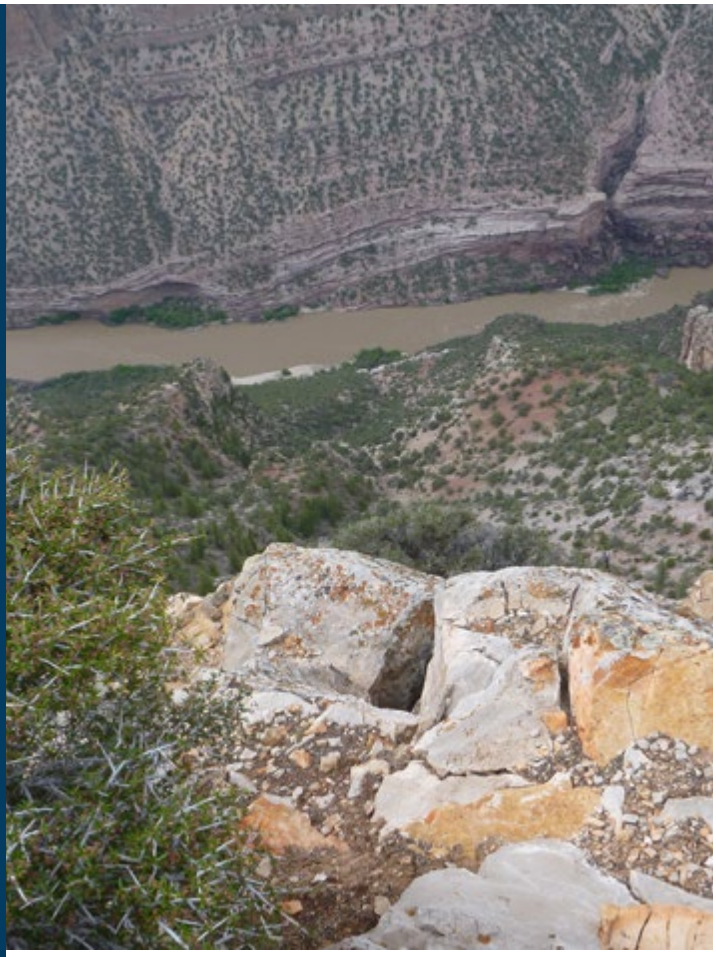
Interviewees identified a variety of options for participation and collaboration among states, tribes, federal agencies, stakeholders, experts, and the public. The following menu of options is not necessarily mutually exclusive, and in most cases could be implemented concurrently.

1) Federal and State-Led Process
Some interviewees suggested that the most likely process will follow the processes used before -- e.g., for the 2007 Interim Guidelines -- where federal and state officials take the lead and then invite other individuals and groups to participate in different ways and at different times.

2) Sovereign Review Team
Given the unique role of state, tribal, and federal governments, an alternative or a supplement to the federal-state option is to create a Sovereign Review Team (SRT) that includes representatives from the federal government, basin states, and basin tribes. This approach was used successfully in the Columbia River Basin, which encompasses portions of Montana, Idaho, Oregon, and Washington, to prepare for the ongoing renegotiation of the Columbia River Treaty between the United States and Canada. Several interviewees agreed that this option might be appropriate in the Colorado River Basin. Several interviewees commented that the purpose of the SRT could be to (1) serve as the primary forum to receive input and advice from various stakeholders, experts, and the public; (2) develop alternatives; (3) seek agreement; and (4) advise the Secretary of the Interior and the Bureau of Reclamation as the final decision-makers (i.e., signers of the Record of Decision). The SRT would effectively be an advisory group and provide a meaningful, high-level opportunity for sovereigns to build understanding and agreement. Several interviewees suggested that the SRT would be even more effective if the Secretary of the Interior established the SRT as not just advisory, but as a formal part of the decision-making process.

This option creates a level playing field among sovereigns. Tribes are treated as co-equals with states and the federal government, rather than as another "interest group" or "stakeholder" as in past processes. This option integrates tribes in a meaningful way into planning and decision-making; provides an opportunity for all stakeholders, experts, and the public to be involved; and could include Mexico as an additional sovereign (but not replace the need for separate international negotiations under the auspices of the IBWC). Some interviewees suggested that it might also be instructive to integrate lessons learned from Indian reserved water rights settlement negotiations in terms of how federal agencies, states, and tribal sovereigns work together.

One way to operationalize the SRT would be to ask each state to appoint one representative; ask the federal government to select one or two representatives; and ask the tribes how they would like to select a limited number of representatives given that it would be cumbersome to have 29 tribes participate directly



Overlook at a bench mark for the survey of proposed Echo Park Dam

in the SRT. Along these lines, it is important to emphasize that each tribe is unique, and it may be difficult (if not impossible) to expect a singular tribal vision. Potential options for tribal representation include (1) selecting one tribal representative per state for a total of seven or (2) selecting one or two tribal representatives for the Colorado River mainstem tribes, Central Arizona Project tribes, and Upper Basin tribes. These approaches would keep the core group relatively small yet inclusive of sovereigns. Each representative could be allowed a limited number of advisors.

The SRT could create working groups to include stakeholders and experts, delegate assignments, and ask the working groups to generate reports and recommendations. The SRT could also convene public participation workshops and the like to increase awareness and understanding and to seek input and advice from the broader public. To be effective, the SRT would need to be well-staffed and resourced, perhaps through a federal and state funding arrangement.

Taking a long view, some interviewees suggested that the SRT might start by helping shape the next set of guidelines to manage the river. Over time, it might then evolve into a standing body to help facilitate adaptive management and collaborative problem-solving in the basin. The interviewees commenting on this option recognize that the basin does not currently have a basin-wide commission, and that it might be time to slowly create such an organization based on the collaborative culture in the basin.[4] The evolution of the SRT could be incremental, but it could nonetheless provide a noticeable change in Colorado River governance. Eventually, according to some interviewees, it might evolve into a permanent body that formulates policy and makes decisions that are then implemented by the BOR and other water managers.

3) Multi-stakeholder Collaborative Process

Another option for participation offered by some interviewees is a multi-stakeholder forum similar to the BOR's *Moving Forward Effort*. This multi-stakeholder collaborative forum emerged from the 2012 Basin Study and was designed to facilitate implementation of certain recommendations and next steps identified in the Basin Study. It operated from 2013-2015 and included representation from federal and state governments, tribes, conservation NGOs, and irrigation districts.[5]

This type of multi-stakeholder collaborative process could supplement a federal and state led process and/or the Sovereign Review Team. It could also be considered an alternative to either of those options and operate as a formal advisory council to the final decision-makers -- the Secretary of the Interior and the BOR Commissioner.

4) Network of Networks

Several interviewees, perhaps most, suggested that the processes to develop a new set of guidelines for managing the river (and to review and evaluate the 2007 Interim Guidelines) should not and will not revolve around a single table or process. By contrast, these processes should include multiple opportunities for participation by people that are interested in and affected by the guidelines, as well as individuals and organizations needed to implement any outcomes. In short, "the" collaborative process should take the form of a network of networks (or "spheres of participation").

In addition to the NEPA framework mentioned above (including provisions for public participation), a network of networks could include both formal and informal (more organic) processes for participation. The vision of this approach is to:

- Create multiple opportunities for all stakeholders to participate in a meaningful way;
- Facilitate the flow of ideas and information across networks via shuttle diplomacy and other methods;
- Emphasize that participants need to represent a larger constituency of interests; and
- Seek consensus among the broadest possible coalition of individuals and groups, in part by keeping tables small enough to negotiate agreements, and then integrating various agreements into an integrated package of recommended guidelines.

Many people explained that the network of networks should start by building on existing processes and forums (e.g., the emerging work of water leaders in Arizona to seek input and advice from water users and constituents for the next round of basin-wide negotiations). There may also be an opportunity to create new working groups around particular issues or places.

One way to imagine how a network of networks might emerge and evolve is to *think about a system of nested processes*. Moving from the broadest, basin-wide spatial scale to more local processes for participation, the network of networks might include the following components:

- *International dialogue between the United States and Mexico* -- to negotiate formal international agreements between the two countries;

- *Interstate dialogue* -- to allow states to engage in dialogue and deliberation and to seek agreements (e.g., this could include any combination of a Federal & State-Led Process, Sovereign Review Team, and/or Multi-stakeholder Process);

Erosional mass wasting of Cataract Canyon near Tilted Park

• *Tribal Advisory Council or Work Group* -- to clarify tribal needs, interests, and priorities, and to advance distinctly tribal alternatives for consideration;

• *Upper Basin and Lower Basin forums* -- to build awareness, understanding, and agreement among states, tribes, and stakeholders within the two sub-basins;

• *State-level forums* -- to facilitate communication, understanding, and agreement on individual state needs and interests, including those of tribes, water users, and conservation NGOs (e.g., the emerging work of Arizona water leaders and the work led by the Colorado Water Conservation Board);

• *Issue-specific working groups* -- to facilitate communication, understanding, and agreement on particular issues (e.g., reservoir operations, environmental issues, tribal issues, water sharing, international/transboundary issues, innovative tools, etc.);

• *Place-based working groups* -- to focus on multiple issues in particular places, such as the Colorado River Delta, Salton Sea, Grand Canyon, and/or particular watersheds throughout the basin.

• *Citizen-diplomacy* -- to encourage unaffiliated citizens, NGOs, universities, and other interested parties to initiate, convene, and coordinate forums to explore issues of mutual interest, offer solutions and recommendations to solve problems, and facilitate shuttle diplomacy.

As these various processes emerge, some people suggested that it may be instructive to clarify the objectives of each process in terms of whether it is a decision-making forum, an advisory group, and/or an opportunity for learning and sharing. Most interviewees also emphasized the need to do as much work as possible prior to starting the formal NEPA process given the currently constrained process for completing an environmental impact statement.

5) Public Participation

Many interviewees said that it is important to distinguish between stakeholder participation (i.e., participation by organized interest groups) and public participation (i.e., unaffiliated citizens of the basin or the problem-shed, defined as the watershed and the geographic areas outside the basin that rely on Colorado River system water). While not every conversation had time to reflect on options to engage the general public, nearly everyone who touched on this topic emphasized the following themes:

• There is a huge need to inform and educate the general public about where their water comes from, as well as the issues, options, and trade-offs facing the basin (some people suggested the need for a dedicated, intentional public information and education campaign that is broad, inclusive, and innovative);[7]

• In terms of seeking input and advice from the public, use the formal NEPA process and supplement it with more innovative methods of public participation, including opportunities for the public to provide input and advice prior to the start of the formal NEPA process. Some interviewees suggested doing some research on innovative public participation processes, and also to review and consider resources such as the toolbox of the International Association for Public Participation;

• Given that each state has its own diverse constituency, each state should develop state-specific opportunities and approaches to inform and educate citizens, and to seek their input and advice. The general idea here is that each state needs to build agreement within their state

as well as to engage in interstate/basin-wide consensus building. See the work that Arizona and Colorado water leaders have already started along these lines;

• One or more individuals and/or groups should consistently brief state, tribal, and federal decision-makers with a consistent message;

• As opportunities emerge, leaders in the basin representing diverse interests should agree to joint interviews with the media to foster consistent messaging and reflect the spirit of collaborative problem-solving;

• Create a series of 5-10 minutes Ted-type Talks to explain the hydrology, Law of the River, alternative futures, and other issues facing the basin (use experts throughout the problem-shed to prepare and deliver these talks); and

• Political and civic will are most likely to change via an informed and compelling "constituency for change" -- in other words, a broad-based, inclusive coalition of federal, state, and tribal leaders, and a diversity of water users and stakeholders; this constituency should create a vision and then share that vision with the public and political decision-makers.

Benefits & Constraints

According to interviewees, the ***benefits*** of creating one or more collaborative processes to develop the next set of guidelines (and to review and evaluate the 2007 Interim Guidelines) include but may not be limited to the following:

- Results in decisions that receive broad public support;
- Saves time and money compared to litigation and more adversarial ways of determining how to operate and manage the river system;
- Provides the most direct and meaningful form of public participation;
- Effectively integrates social and political values with the best available scientific and technical considerations; and
- Makes implementation easier because the stakeholders have helped shape the proposed solutions.

At the same time, interviewees identified a number of potential ***constraints*** facing the basin as it develops the next of guidelines (for convenience, the identified constraints are organized into three categories):

Agriculture fields at Colorado River Indian Tribes below Headgate Diversion Dam near Parker, Arizona

Parker Dam pools the Colorado River at Lake Havasu for pumping stations and aqueducts to Southern California and Central Arizona

People

• Inevitable turnover in leadership in some key organizations, which translates into a loss of relationships, trust, and institutional memory (on the other hand, it creates an opportunity for fresh voices and perspectives);

• The "old guard" may be more resistant than others to broaden the purpose, need, and scope from a reservoir operating plan to a more integrated management plan;

• Some people may fear losing influence and water; need to create a safe space for creative problem-solving;

• Ensure that principals and staff are on the same page; it does not work for principals to agree and for staff to take a different position;

• Tribes need to step forward in a positive, proactive way to demonstrate good faith and a sense of common purpose;

• People get tired; it will take time; be mindful of proper pacing or sequencing the process in the best possible way (e.g., start with feds, states, and a few others, then slowly roll other people into the process);

• Lack of capacity among tribes (and others); need more resources to enhance capacity and effectiveness;

• Need for additional philanthropic investments in the basin; some people expressed concern that the Walton Family Foundation investment is not sustainable;

• Parochialism, a limited awareness of other people's needs, interests, and priorities;

• Tribes, feds, and states need to develop and maintain working relationships (some are better than others);

• Understand and respect differences and tensions between rural and urban water users.

Process

• Don't fixate on the process (or processes) and let that become burdensome; don't buckle under its weight;

• Keep in mind that the process needs to maintain an element of being organic and emergent; not everything can be designed in advance;

• Balance the tension between facilitating an open and inclusive process and keeping the process small enough to get something done;

• Balance openness and transparency with the need for frank, confidential conversations;

• Ensure that all interests and viewpoints are reflected in decision-making, not just dominant, historical uses;

• Carefully manage the process , beginning with people's expectations.

Policy

• States (and others) may be reluctant to solve underlying issues -- e.g., structural deficit in the Lower Basin and the Upper Basin's compact obligations; it will be hard to generate agreement among seven states if these types of issues are not addressed in some type of substantive way, rather than indirectly as "work arounds";

• The needs and interests of tribes to develop and use their water rights may conflict with basin-wide interests in using less water;

• The challenge of providing appropriate incentives to encourage people to share shortages and to otherwise conserve water;

• Be careful about the downsides of markets;

• The perceived reluctance of states and others to take a hard look at current legal and institutional arrangements.

Successful Outcomes

In response to a question about what success looks like at the end of the next basin-wide process (or where you would like the basin to be), many interviewees referred back to their vision for the future of the river as the primary metric of success. Others offered some additional metrics and perspectives (please note that there is some tension among these metrics):

• Build a broad coalition of states, water users, tribes, stakeholders, and others that support the preferred alternative/recommendation in the ROD:
  ◦ Develop actionable outcomes;
  ◦ Move beyond winners and losers to mutual gain solutions;
  ◦ Create safe space for creative/collaborative problem-solving;
  ◦ Seek agreement on a framework that will last 20-25 years; take a longer view;
  ◦ Craft management strategies for alternative scenarios, including extreme events such as floods and prolonged droughts;
  ◦ Address fundamental issues, including but not limited to the structural deficit in the Lower Basin and the Upper Basin's compact obligations (i.e., reduce the risk of a compact call);
  ◦ No litigation;
  ◦ Get it done on time;
  ◦ Fair, equitable solutions will emerge from a process characterized by the 3 C's -- Collaboration, Creativity, and Commitment.

• Balance the tension between incremental and transformational change:
  ◦ Seek agreement on a transformational vision (of sustainable water management), then focus on making incremental changes in that direction;
  ◦ Make a reasonable effort toward resilient water use for people and nature;
  ◦ Reconnect the river to the sea.

• Recognize and build on the interdependence of the basin -- two countries, seven states, many

tribes, Upper Basin and Lower Basin:
  - Individuals and communities realize they are connected by and to the river;
  - Share equitably benefits, costs, risks / shortages; clarify what we mean by an "equitable apportionment" in light of the diversity of water uses and values;
  - Realize that to reduce use, we need to talk about making cuts -- people need to be practical, acknowledge this reality, and make sacrifices;
  - Move toward more creative arrangements to share water and reward conservation (i.e., provide more flexibility to move water around where it is most needed);

• Continue to move toward unified basin management, realizing that the United States and Mexico are already linked via Minute 323 and the Upper Basin and Lower Basin are linked via the 2007 Interim Guidelines and the DCP:
  - The next set of guidelines or plan should look different than in the past; it should be more than just a water supply and delivery plan; it should be more integrated and reflect multiple values and interests;
  - Create a lasting legacy, an integrated river management plan.

• Some interviewees define success as continuing to refine the Law of the River through incremental adjustments; by contrast, other interviewees suggest that success should be defined by moving beyond incremental change to "noticeable change."

• Reduce demand and use of water; invest in conservation.

• Recognize that all life is valuable, start by taking care of biodiversity, and have faith that other demands/uses will fall into place (i.e., water for people, cities, agriculture, tribes, Mexico).

• Take care of Mexico, tribes, and environmental values as well as water for cities, agriculture, and hydropower:
  - Tribes exercise self-determination over the use of their water rights (including but not limited to development, conservation, and sharing).

• Move beyond allocating water to states and focus more on what is the best use of available water for the basin:
  - Manage the basin as a whole with more integration of Upper Basin and Lower Basin and multiple uses;
  - This will take time to move in this direction, so we should start sooner than later.

• Engage tribes in a meaningful way/develop options to allow tribes to develop and use water rights.

• Educate citizens and politicians about the system and the challenges it faces:
  - People are more connected to the river and the places where they live;
  - People understand the source of their water and energy.

Endnotes

[1.] In line with a memo released by the White House on Environmental Quality in January 2020, the Trump Administration has recently proposed changes to the NEPA "to prevent certain projects from enduring exhaustive environmental review. And, for projects that do require NEPA review, to speed it up." See https://www.eenews.net/stories/1062004543

As described by the memo, CEQ's "proposed rule would modernize and clarify the CEQ regulations to facilitate more efficient, effective, and timely NEPA reviews." The specifics include establishing two-year time limits for environmental impact statements and one-year limits for the watered-down environmental assessments; strengthening the lead agency

role and requiring senior agency officials to "timely resolve disputes that may result in delays"; providing direction regarding the "threshold consideration" of whether NEPA applies; requiring that public comments be "specific" and "timely submitted"; clarifying definitions such as "major federal action" to ensure they do not include projects with minimal federal funding or involvement; and clarifying that "reasonable alternatives must be technically and economically feasible." Some interviewees suggested that it may be necessary to seek a waiver of the deadlines should they become established in regulation.

2. The 1968 Colorado River Basin Project Act (Public Law 90-537) further clarifies the role of states in the basin by declaring that "the Secretary of the Interior shall continue to develop, after consultation with affected States and appropriate Federal agencies, a regional water plan, consistent with the provisions of this Act and with future authorizations, to serve as the framework under which projects in the Colorado River Basin may be coordinated and constructed."

3. Several people suggested doing some research to identify the best models of adaptive management or governance as applied in multi-jurisdictional river basins. Is anyone doing anything different or better/more effective than what folks are doing in the Colorado River Basin?

4. While this is not necessarily the time or place to review all of the arguments for and against a river basin commission for the Colorado River Basin, several interviews nevertheless offered some initial thoughts. *Arguments* for a commission include (1) establishing clear, consistent, transparent processes for making decisions and resolving disputes (and therefore avoiding the need to reinvent the process time and again); (2) dedicating staff whose responsibility is to consider the entire basin, rather than a portion of the basin; and (3) moving from an ad hoc system of collaboration (which has been very productive) to a more deliberate and inclusive system of planning and decision-making. Arguments against a commission include (1) redefining the role of states; (2) transaction costs to create such a commission; and (3) fear of the unknown. For literature on this topic, a good place to start is David H. Getches, "Colorado River Governance: Sharing Federal Authority as an Incentive to Create a New Institution," *University of Colorado Law Review* 68 (1997).

5. For more information on the Moving Forward process, see https://www.usbr.gov/lc/region/programs/crbstudy/MovingForward/Phase1Report/Chpt2.pdf.

6. *The Next Big Thing: Arizona Prepares for the Next Step in CO River Management Discussions* | Arizona Department of Water Resources https://new.azwater.gov/news/articles/2019-19-09

7. See, for example, the *For the Love of Colorado* public information and education campaign at https://www.fortheloveofcolorado.org/.

Flash flood debris from a cloudburst over the Tavaputs Plateau

A miner's abandoned cache of tools along the Green River

Chapter 4

Options For Tribal Participation

The purpose of this chapter is to present options to enable tribal participation during development of the next set of guidelines (including technical studies as well as negotiation), as well as during the review and evaluation the 2007 Interim Guidelines.

> *The ideas, viewpoints, and suggestions presented in this memo emerged from interviews with more than 100 tribal and non-tribal leaders throughout the basin. This memo does not in any way, shape, or form represent an official "ask" or position of tribes in the basin, individually or collectively. Likewise, the WTI does not represent or speak for tribes in the basin, but rather serves as an impartial reporter for purposes of this effort.*

History of Tribal Participation

Until recently, the 29 federally recognized tribes of the Colorado River Basin have not had the opportunity to participate directly in policy discussions shaping the river system's management. The states and federal government did not consult tribes while drafting the 1922 Colorado River Compact (the foundation of the Law of the River), although the Compact's Article VII does acknowledge that "nothing in this compact shall be construed as affecting the obligations of the United States of America to Indian tribes."

Tribes were not consulted, or only consulted after the fact, during negotiations over the 2007 Interim Guidelines. Tribes were apparently invited to participate in the 2012 Basin Study but limited their participation to formal consultations with the Bureau of Reclamation. Ultimately, tribal water development was not adequately considered in the 2012 Basin Study[1], resulting in the need for the separate 2018 Tribal Water Study. And only in the last decade have tribes been invited to participate in regular policy discussions on the Colorado River, such as the Colorado River Water Users Association (CRWUA) annual conference[2], and more recently the Colorado River Symposium convened by the Water Education Foundation.

The issue of tribal participation in Colorado River governance is compelling for many reasons, and chief among them being that tribes in the basin have water rights to roughly 20% of the river's average annual natural flow, many of which are senior to almost all other water users in the basin. This share will increase as additional rights are recognized and quantified.[3] Although many tribes are not currently in a position to use the full amounts of their water rights, undeveloped tribal water does not go unused.[4] Given that average annual consumptive uses and losses in the basin already exceed average annual water supplies -- a gap that is expected to increase over time -- the substantial rights of tribes and the manner in which those rights are ultimately exercised are critical to current and future water management in the basin.[5]

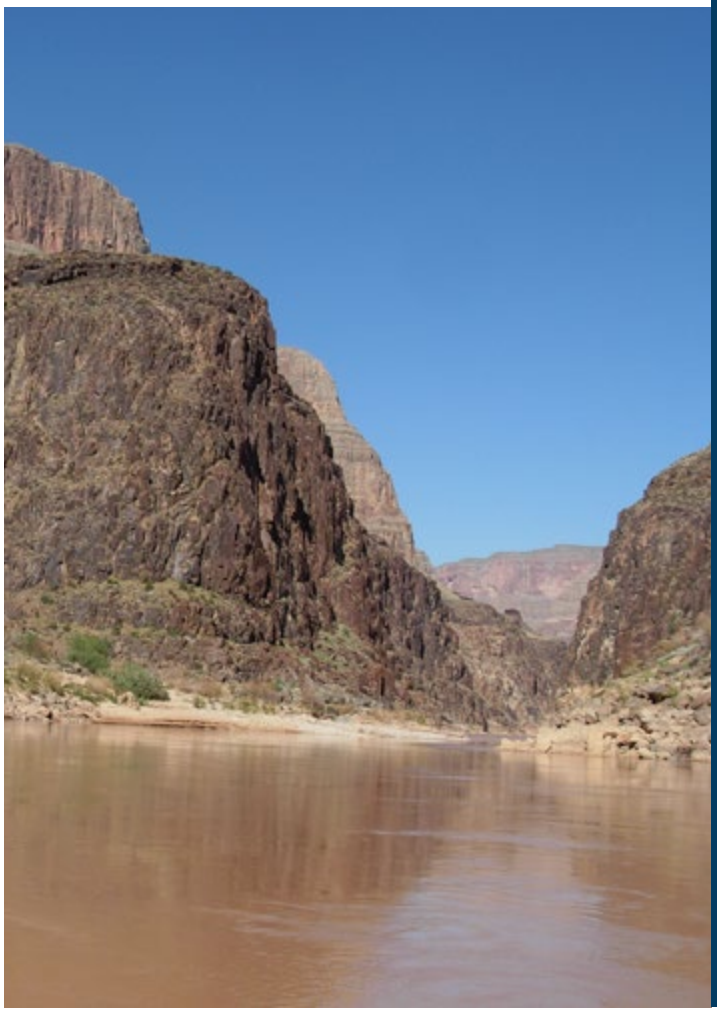
The benefits of tribal inclusion at policy and problem-solving tables are readily apparent. For example, from 2015-2017, the Navajo Nation, Tohono O'odham Nation, Colorado River Indian Tribes, and Gila River Indian Community all participated in the Pilot System Conservation Program to increase the amount of water stored in Lake Mead, thereby forestalling the risk of that reservoir dropping to critical elevations. More recently, representatives of the Colorado River Indian Tribes and Gila River Indian Community participated directly in the development of the Arizona Drought Contingency Plan (AZ DCP). Both tribes possess rights to large quantities of water, which they have developed, giving them a unique ability to contribute to mutually beneficial solutions, as well as considerable leverage in negotiating agreements to share shortages with municipal and agricultural neighbors. The Bureau of Reclamation also convened regular meetings with all Arizona tribes to keep them informed of the AZ DCP process and to seek their input.

Based on the WTI's interviews and comments by non-tribal and tribal leaders alike at recent conferences and policy discussions, there currently seems to be a *consensus that basin tribes should be more meaningfully involved in policy discussions and negotiations about the future of the river system*, including the development of the next set of guidelines, which will expire in 2026. While people have articulated diverse reasons for arriving at this consensus view[6], nearly everyone is interested in the critical question of "how"?

Options For Tribal Participation

All interviewees agree that tribal rights and interests must be addressed in a meaningful way in the next set of guidelines for operating and managing the river system.[7] Many interviewees emphasized the need to do a better job of reaching out to tribes, enhancing their capacity to participate vigorously in these types of processes, and listening to tribes in an effort to accommodate their needs, interests, and priorities.

Tribes also need to take advantage of opportunities to participate, to clarify their objectives for managing the river, and to communicate what they bring to the table in terms of history, knowledge, water rights, and potential solutions. Many interviewees suggested that tribes need to be more proactive and less reactive, more assertive and less deferential to federal and state officials, and to prepare, show-up, and engage robustly as the next set of guidelines are developed.



The gorge of Precambrian rocks at Western Grand Canyon above Lake Mead

A boulder near the Price River that tumbled, yet the petroglyhs remain unharmed

Interviewees identified a range of options for how tribes could participate in the planning and decision-making processes surrounding the next set of guidelines.[8] ***It is important to emphasize that these options are not mutually exclusive, and tribes may choose to participate in one, some, all, or none of the processes.*** The numbering of options below does not represent any sense of priority.

• **Option # 1** -- Work with officials from the state within which tribes' reservations are located to ensure tribal needs, interests, and priorities are integrated into the state's negotiating strategy, keeping in mind that some tribes' reservations cross state boundaries; hold states accountable to champion any issues on which there is consensus between the state and its' tribes ;

• **Option # 2** -- Engage in government-to-government consultations with the federal government and hold the federal government accountable to (1) fulfill its role as trustee of tribal needs, interests, and priorities; and (2) champion any issues on which there is consensus among tribes and the federal government (some interviewees suggested jump-starting the 7/10 process that was initiated years ago by the Ten Tribes Partnership and the Secretary of the Interior);[9]

• **Option #3** -- Participate in issue-specific, place-based, and other collaborative processes that may emerge;

• **Option # 4** -- Participate in something like a Sovereign Review Team (see Chapter 3 for an explanation of this option) and hold state and federal officials accountable to champion any issues on which there is consensus among tribal, state, and federal officials; and

• **Option # 5** -- Co-create and participate in a distinctly tribal work group or tribal-led organization to facilitate the involvement of all interested tribes, to serve as a primary conduit for organizing tribal involvement, and to exchange information, seek common ground, and develop options and recommendations for the next set of guidelines.[10]

Issues & Concerns Related To Tribal Participation

Tribal and non-tribal interviewees identified a number of process-oriented and policy-oriented issues and concerns related to tribal participation. These issues and concerns reflect what people shared during interviews and may or may not reflect the history of tribal participation in federal and state policymaking, or the preferences of any tribe or broad-based coalition of interests. Once again, the purpose

of this memo is to share and promote dialogue about what we heard through the interviews, not to evaluate the relative merits or validity of different viewpoints.

Process-Oriented

• Tribes need some assurance that their participation will be more than symbolic, that it will actually make a difference in the process.

• Tribes should step forward proactively to demonstrate good faith and a commitment to work together with the understanding that their interests and views will be considered to the same extent as those of other sovereigns in the basin and that they will have sufficient opportunity to influence decisions and outcomes.

• Tribes must have adequate capacity to participate, including time, staffing, knowledge and information, and funding to hire consultants.[11]

• Every tribe is unique and will determine how they want to engage in this process given their interest and capacity (there is no singular "tribal ask").

Policy-Oriented

• Perhaps the number one interest of tribes going into the next basin-wide negotiation is to promote and support the development and use of tribal water rights, including the construction and management of infrastructure needed to facilitate that development and use. Several issues were identified that fall into this general category:
  - Provide accessible drinking water and sanitation to every person in the basin;[12]
  - Complete settlements of unrecognized and unquantified tribal reserved water rights;
  - Support the full development of presently unused or under-used tribal water rights;[13]
  - Address future development of tribal water rights and its impacts on other water users;
  - Facilitate the ability of tribes to trade and share their water;
  - Recognize tribal water storage as a beneficial use; and
  - Allow currently unused tribal water to be dedicated to Intentionally Created Surplus and other water banking initiatives

• Clarify where all 29 tribes are with respect to securing their water rights; developing and using their water for domestic, commercial, ecological, cultural, and other purposes; and to specify outstanding needs, interests, and priorities.
  - This suggestion is similar to the work addressing the rights, needs, and goals of the tribes of the Ten Tribes Partnership that is contained in the Tribal Water Study
  - Develop methods to translate traditional tribal values associated with cultural and ecological values into operations, management, and decision-making

• Recognize that the needs and interests of tribes to develop and use their currently unused and un-developed water rights conflict with basin-wide efforts to reduce overall water use and focus on ways to reduce that conflict.[14]

• Resolve the question of whether tribal water rights are properly accounted as part of the compact allocation of the state in which the tribe's reservation is located.

• Develop a depletion schedule for Colorado River Basin tribes similar to the depletion schedule completed for the Upper Basin states in the 2007 Interim Guidelines.[15]

• Additional policy objectives are listed in Table 9-A of the Tribal Water Study.

Endnotes

1. Technical Report C and Appendix C9 of the Basin Study did address tribal water rights to a limited extent.

2. Tribes have participated in planning the annual CRWUA gathering since 2009 when George Arthur of the Navajo Nation served as vice-president and then president of CRWUA president.

3. The Bureau of Reclamation estimates that basin tribes possess water rights to 2.9 million acre-feet of water per year. See Technical Report C and Appendix C9 of the Bureau's 2012 Basin Study. Some tribal water rights have been recognized and quantified in judicial decrees -- particularly, the U.S. Supreme Court's decree in *Arizona v. California* -- while most tribal water rights have been recognized and quantified through negotiated settlements. Thirteen tribes in the basin have not had their water rights recognized or quantified.

4. See *Tribal Water Study*. Several interviewees explained that tribes currently are in a position to use only a fraction of their quantified rights, meaning that the unused portions are being relied on by other, junior Colorado River water users to satisfy their needs. These junior users are at risk of being displaced as tribes fully develop their rights, a process the *Tribal Water Study* anticipates occurring by 2040.

5. Some people commented that tribal water rights will be an important source of water to address the structural deficit in the lower basin.

6. Three major reasons are prevalent among the non-tribal stakeholders the WTI interviewed: (1) respect for equity, social justice, and/or tribal sovereignty in relation to the negotiation process and basin tribes' abilities to develop and use their water rights; (2) interest in mitigating uncertainty over the impacts of tribal water development on non-tribal water users; and (3) commitment to engaging basin tribes in collaborative problem-solving aimed at meeting the needs and interests of both tribes and other water users reliant on the Colorado River. Tribes, of course, believe they need to be at the table because of their aboriginal connections to the river, their expertise and knowledge developed from this longstanding presence, and as a recognition of their sovereign status and the significance of the water rights they possess.

7. The choice of "operating and managing" guidelines here reflects the views of some interviewees that the next set of guidelines (like the 2007 Interim Guidelines) should focus solely on updating the current structure and therefore be limited to defining operations between Powell and Mead, defining shortages, and mitigating the risk of shortages (e.g. through ICS & DCP). Other interviewees suggest that fully integrating tribal rights into operations, in addition to a host of other issues, will require a more expansive view of what the next set of guidelines should contain, and thus the "managing" part of the guidelines.

8. The options for tribal participation set forth here are only a subset of options for participation identified by interviewees. Other options, including ideas about engaging federal and state officials, Mexico, stakeholders, and the general public, are presented in Chapter 3. It is also important to emphasize that the options for tribal participation presented here emerged from ideas provided by one or more interviewees and may not appropriately address all tribal concerns or the history associated with tribal participation.

9. According to some interviewees, representatives of the seven basin states and the Ten Tribes Partnership (TTP) began discussions in the early 1990s to address the problems facing the Colorado River basin. Known as the "7/10 Process," state and tribal officials explored ways of improving water use efficiency, new river management strategies, and voluntary water transfers in order to extend supplies and reduce the risk of shortages. The 7/10 process was limited to the ten tribes of the TTP because they have undisputed water rights to waters of the mainstem of the Colorado River. All the tribes in the Upper Basin are part of the TTP and all water in the Upper Basin is considered Colorado River system water and therefore affected by the river's operating guidelines. In the Lower Basin, tributary water is not treated as system water and the operational regulations largely do not affect tributary uses. The 7/10 process has not been active for quite some time.

10. The WTI convened a working session in October 2019 in Tucson, Arizona with 22 tribal and non-tribal participants to explore this option. The idea is to build on the (1) Tribal Water Study; (2) the existing tribal vision developed by the five Lower Basin tribes and similar declarations prepared by other Basin tribes; and (3) other relevant and appropriate sources (e.g., the UN Declaration on the Rights of Indigenous People. Based on the October 2019 working session, the scope may include spiritual, cultural, and ecological values as well as water rights and water development and use. All 29 basin tribes would be invited to participate in this forum (and were invited to the working session), realizing from the start the

variations that exist in tribal needs, interests, and priorities. This option assumes there is value in a distinctly tribal forum to exchange information, to develop options and strategies, to seek consensus where possible, and to coordinate interaction with other sovereigns and stakeholders throughout the basin. Such a forum would need to be properly resourced and staffed, and participation in it would not limit tribes from participating in other forums or processes as well. One option that has emerged is to ask the Bureau of Reclamation to create and support the tribal forum or work group, thereby creating an official sense of legitimacy and credibility. A summary of the working session is available from the authors of this memo.

11. Some people suggested that one way to demonstrate a commitment to tribes as co-equal partners is to provide funding so tribes can contract for outside expertise and assistance, including but not limited to hydrologists, economists, lawyers, planners, and engineers. Some people note that, as a matter of social justice, there should be some level of funding for tribes in light of the fact that for a hundred years we spent billions of dollars on projects that diverted water away from Indian reservations.

12. An estimated 30 percent of people on the Navajo Nation lack access to running water and must haul water. For more information, see *Closing the Water Access Gap in the United States: A National Action Plan* (Dig Deep and US Water Alliance 2019), which cites *Draft Water Resources Development Strategy for the Navajo Nation* (Navajo Nation Department of Water Resources, July 2011), 2.

13. Some interviewees commented that all tribes may be able to support the idea of treating all tribal water rights -- both currently used as well as undeveloped water rights -- as "developed and used" by definition and thus available for trading and sharing. One variation of this theme is to develop a method to measure unused tribal water and then provide tribes some type of "conservation credit" for not developing and diverting the water.

14. While cooperative arrangements have emerged among some tribes and states that allow tribes to share currently developed water through ICS and DCP mechanisms, none of those address the utilization of currently undeveloped tribal water rights.

15. This suggestion could/should build off the scenarios used in the Tribal Water Study where each of the ten tribes presented slow-growth, static growth, and fast growth scenarios.

White River spilling over Taylor Draw Dam near Rangely, Colorado

Bedrock scour of Colorado River at Grand Canyon National Park

Chapter 5

Options to Address Science, Indigenous Knowledge, and Cultural Values

The purpose of this chapter is to present issues, concerns, and options related to the role of scientific and technical information during the development of the next set of operating guidelines for the Colorado River System (as well as the review of the 2007 Interim Guidelines), including the importance of translating tribal spiritual and cultural values into terms that can be used by water managers.

Issues & Concerns

Interviewees identified a number of issues and concerns related to scientific and technical information, as well as the importance of translating tribal spiritual and cultural values into terms that can be used by water managers.

• **Best available science.** Nearly all interviewees commented that decisions about the future operations and management of the river system should be based on the best available scientific and technical information. Many interviewees said that this is easier said than done (in part for the reasons described below).

• **Decision-relevant information.** Some interviewees explained that the problem does not always revolve around science per se, but instead concerns the relevance of available information to decision-making process. What questions need what kind of information? How is information integrated into the political decision-making process?[1] Some interviewees explained that one way to better integrate science into decision-making is by crafting annual operating plans based on real-time/actual hydrologic data, rather than using forecasting and modeling to decide months in advance how to operate the system. Other interviewees suggested that forecasting and modeling are essential to establish benchmarks and triggers, and to clarify options and tradeoffs -- so perhaps the goal is to enhance forecasting and modeling tools to provide more real-time information. Either way, all interviewees agree that it is imperative to match expectations and water management to the hydrology of the basin.

• **Plan for uncertainty.** Many interviewees commented that decisions about managing the river system will inevitably be made in the face of uncertainty caused by climate change, future development (including tribal water use), and other variables. Some interviewees suggest that decision-makers need more and better data -- e.g., how much water is likely to be available under different climate-change scenarios and tribal water development scenarios, how to measure and monitor water use in the Upper Basin particularly in the context of demand management, and so on. Other interviewees encourage decision-makers and stakeholders to acknowledge the uncertainties and seek to make informed decisions based on what is known, with the expectation of learning and adapting as we go. Identifying a range of potential operating

procedures to be implemented based on real-time conditions is another possibility. Some interviewees explained that current and emerging science is expanding the range of uncertainty, making it even more difficult to build consensus on scientific and technical information.

• **Manage for risk.** Many interviewees commented on the need to better understand the vulnerability of the river system to low -- probability, high -- impact events that fall outside the scope of normal expectations and existing management plans (e.g., megadrought, extreme flood, and other stressors).[2] Most of these risks revolve around extreme hydrologic conditions that may stress the existing legal and institutional arrangements for the allocation and management of water, the protection of endangered species, the restoration of other ecological values, and otherwise compromise the stability of the socio-ecological system. Several interviewees explained that the likelihood of such events occurring in the Colorado River Basin is increasing. They emphasized that the next set of guidelines should carefully consider a range of potential futures that may stress the basin using the best available information to frame alternative scenarios and management strategies.

• **Tribal spiritual and cultural values.** Several interviewees commented about the need to better clarify, understand, and translate tribal spiritual and cultural values into terms that are understandable by and useful to water managers. Everyone seems to agree that building bridges between western science, traditional knowledge, and cultural values is challenging, but that we should experiment with different ways of achieving this objective.

• **Environmental impacts.** Many interviewees commented on the need to better assess and address the trade-offs between water supply decisions and ecological values and objectives. Some interviewees assert that some past water supply agreements were negotiated in the absence of environmental considerations, while other interviewees suggest that the endangered species recovery goals and other river ecosystem goals should be considered alongside water supply objectives and not simply as sideboards to water supply decisions. At a minimum, some interviewees comment that clear, specific river ecosystem goals should be articulated for each section of the river -- Upper Basin, Grand Canyon, Lower Basin, and the Delta -- and that these goals should inform water supply decisions.

Colorado River entrenched in reservoir sediment on Lake Mead above the boat ramp at Pierce's Ferry, Arizona

A perennial spring-fed creek with lush riparian corridor; a side-canyon of the Colorado River, Hualapai Nation

• **Coordination of information and expertise.** Several interviewees commented that there is a wealth of expertise in the basin -- including but not limited to the Bureau of Reclamation (BOR), U.S. Geological Survey and its' Grand Canyon Monitoring and Research Center, university-based experts, conservation NGOs, and others -- and that there may be value in better coordinating scientific and technical information and expertise. Realizing that different entities may have different research or learning objectives (e.g., modelling and forecasting, scenario planning, climate science, and trade-off analysis), some interviewees suggested that better coordinating scientific and technical resources and seeking a common understanding of relevant facts could help build agreement on management strategies.

• **Capacity building and knowledge sharing.** Interviewees commented that some parties have access to data and others don't, largely because parties have unequal scientific and technical resources. Some parties (such as states and conservation NGOs) have more expertise and can deploy the data better than other parties (e.g., tribes). Some interviewees also explained that parties have different tolerances for complexity and uncertainty.

• **Communicate scientific and technical information.** Some interviewees commented on several challenges related to communicating scientific and technical information, including but not limited to (1) communicating such information to decision-makers and stakeholders; (2) realizing that the issues of interest to scientists are not always those of most interest to decision-makers and stakeholders (another way of saying this is that scientists' values influence the questions they are asking, and some interviewees cautioned against using science to justify pre-determined outcomes); and (3) resolving differences or disagreements among scientists from different disciplines (although some interviewees commented on how much agreement there seems to be among experts on some of the most critical issues, such as the impact of climate change).

• **Adaptive management.** Many (if not most) interviewees commented that it is imperative to enhance our scientific and technical capacity to facilitate adaptive management if we are going to achieve a sustainable, resilient river. Some interviewees suggested that this issue is less about scientific and technical information per se, and more about integrating the capacity to learn and adapt into the planning and decision-making systems that govern the river system. Part of the challenge is to frame a flexible set of guidelines and management strategies with the expectation that actual operations and management will fluctuate depending on the hydrology of the basin. Several interviewees suggested that someone should complete research and evaluate examples of adaptive governance in other river basins.

Options to Address Science, Indigenous Knowledge, and Cultural Values

Everyone interviewed agrees that decisions about future operations and management of the river system should be based on the best available information. Several options emerged on how to achieve this objective. Please note that these options are not mutually exclusive or presented below in any order of priority.

• **Option # 1** -- Build on existing knowledge. Start with the data generated in the 2012 Basin Study and the 2018 Tribal Water Study. Supplement that information with the information generated via (1) the scenario planning initiative led by the University of Arizona; (2) the trade-off analysis work led by Utah State University; (3) the 2019 State of the Science report prepared by the Western Water Assessment; and (4) other information generated by the Colorado River Research Group. Most interviewees agree that this loose-knit body of information will be very useful to help develop alternatives and contingency plans.

• **Option # 2** -- Create a science work group. Some interviewees suggested that the Secretary of the Interior and/or the BOR Commissioner should create a science work group to review proposals offered by states, tribes, NGOs, and others. Several interviewees suggested that the Work Groups created via Minutes No. 319 and No. 323 may be a good model for creating a Science Work Group. Some interviewees suggested looking at other models as well, including but not limited to expert panels addressing the spotted owl and the California Bay-Delta. This Work Group would supplement, not replace, the scientific and technical expertise provided by the BOR and the states. It would provide an independent, consistent review to ensure that all proposals are subjected to the same rigorous review and evaluation using the best available information. Any reports developed by the Science Work Group would be widely disseminated to facilitate a common understanding.

In addition to reviewing proposals, this Science Work Group might also be charged to clarify what we know, what we don't know, and what we need to know to make informed decisions, and to work with decision-makers and stakeholders to frame the right questions and then generate decision-relevant information. It might also help decision-makers and stakeholders build a common vision for the river system using available knowledge to clarify trade-offs and what is/is not technically feasible. The Science Work Group could include experts in modelling and forecasting, scenario planning, climate science, and trade-off analysis among other disciplines.

• **Option # 3** -- Enhance tribal capacity. Several interviewees suggested that the BOR should provide the same type and level of technical support to tribes as they did to states during the development of the 2007 Interim Guidelines (and the technical support provided by the BOR during the development of the 2018 Tribal Water Study). Some interviewees also suggested the provision of resources to tribes to hire their own consultants, and to ensure that tribes have meaningful access to decision-making processes. This option could be integrated into something like a Tribal Advisory Committee/Work Group (see Memo # 3 for more information on this participation option).

• **Option # 4** -- Integrate western science with traditional knowledge and incorporate cultural values. To achieve this objective and to translate tribal spiritual and cultural values into terms that can be used by water managers, some interviewees suggested experimenting with

innovative methods of engagement, such as "ethical space."[3] The intent here is to respect and accommodate differences between traditional tribal values and knowledge and western culture/science[4], and many interviewees commented that this will be an important element in the design of any collaborative process going forward. Many interviewees commented that this is as much a discussion about values and vision as it is about scientific and technical knowledge. The intent, according to some interviewees, is to move beyond a science agenda determined largely by federal and state officials to a more holistic, integrated understanding of the river system based on western science and traditional knowledge and cultural values.

• **Option # 5** -- Create a system for ongoing learning and adaptive management. Some interviewees commented that the basin should explore the merits of creating some type of system or organization to facilitate ongoing learning and adaptive management. Interviewees identified a couple examples to learn from, including the Grand Canyon Monitoring and Research Center[5] and the Public Policy Institute of California.[6]

Endnotes

1. For more on this topic, particularly the history of ignoring science in making decisions on the allocation and management of the Colorado River, see Eric Kuhn and John Fleck, S*cience Be Dammed: How Ignoring Inconvenient Science Drained the Colorado River* (University of Arizona Press 2019).

2. For more on the role of risk in managing the Colorado River, see Colorado River Research Group, *Thinking About Risk on the Colorado River* (May 2019).

3. For information on this method of engagement, see Alberta Energy Regulator, *Voices of Understanding: Looking Through the Window* (November 2017); and Willie Ermine, "The Ethical Space of Engagement," Indigenous Law Journal (2007).

4. For more on bridging cultural differences, see Peter S. Adler and Juliana E. Burkhoff, *Building Trust: When Knowledge from "Here" Meets Knowledge from "Away,"* (National Policy Consensus Center undated).

5. https://www.usgs.gov/centers/sbsc/gcmrc

6. https://www.ppic.org

The boat docks and cabanas along the Parker Strip in Arizona. The opposite shore is California.

Appendix 1

List of Participants, 2020 Workshop

Sandy beach along the Green River near Rock Creek of the Tavaputs Plateau

Colorado River Mainstem Tribes -- Lower Basin

Fort Mojave Indian Tribe

1. Tim Williams, Chairman
2. Shan Lewis, Vice Chairman
3. Nora McDowell, Project Manager
4. Chris Love, Counsel

Quechan Indian Tribe

5. Charles Escalanti, Council Member
6. Jay Weiner, Attorney

Cocopah Indian Community

7. Rosa Long, Council Member
8. William Michael Smith, General Counsel

Colorado River Indian Tribes

9. Dennis Patch, Chairman
10. Vice-chairman Keith Moses
11. Tommy Drennan, Council Member
12. Robert Page, Council Member
13. Margaret Vick, Special Counsel
14. Doug Bonamici, Attorney

Colorado River Mainstem Tribes -- Upper Basin

Jicarilla Apache Nation

15. Darrell Paiz, President
16. Romaine Wood, Council Member
17. Jenny Dumas, Attorney
18. Daryl Vigil, Water Administrator

Navajo Nation

19. Lisa Yellow Eagle, Attorney
20. Crystal Tulley-Cordova, Principal Hydrologist
21. Robert Kirk, Principal Hydrologist
22. Bidtah Becker, Navajo Nation
23. Jason John, Navajo Nation

Southern Ute Indian Tribe

24. Lorelei Cloud, Council Member
25. Lorelyn Hall, Deputy Director, Legal Department
26. Lena Atencio, Director, Department of Natural Resources
27. Kathy Rall, Head, Water Resources Division
28. Andrew Straub, Water Resources Division
29. Sunshine Whyte, Tribal Council Affairs Office Manager

Ute Mountain Ute Indian Tribe

30. Manuel Heart, Chairman
31. Archie House, Council Member
32. Darwin Whiteman, Jr., Council Member
33. Leland Begay, Counsel

Central Arizona Tribes

Ak-Chin Indian Community

34. Lisa Garcia, Council Member
35. Katosha Nakai, Counsel

Sunset on the cliffs of Stillwater Canyon in the Maze District of Canyonlands National Park

Fort McDowell Yavapai Nation

36. Bernadine Burnette, President
37. Gerry Walker, Water Administrator
38. Robin Russell, Water Committee Member
39. Sarah Mott, Water Committee Member
40. Diandra Benally, General Counsel

San Carlos Apache Tribe

41. Justine Jimmie, Deputy Attorney General
42. Steve Titla, Special Counsel on Water Rights

Tohono O'odham Nation

43. Joshua Rees, Acting Attorney General

Tonto Apache Tribe

Jay Weiner, Attorney *(already counted)*

Other Tribes & Associations

Hopi Tribe

44. Howard Dennis, Traditional Leader
45. Colleen Seletsteva, Member

U.S. Bureau of Reclamation and US Department of the Interior

46. Rebecca Smith, Engineer
47. Kaylee Nelson, Engineer
48. Lawrence Marquez, Native American Affairs Manager
49. Leslie Meyers, Area Manager
50. Wayne Pullman, Deputy Regional Director

State Water Offices

51. Colorado -- Becky Mitchell, Colorado Water Conservation Board
52. New Mexico -- Dominique Work, Interstate Stream Commission
53. Upper Colorado River Basin Commission, Amy Haas, Director
54. Arizona -- Tom Buschatzke, Director, Arizona Department of Water Resources
55. California -- Chris Harris, Colorado River Board of California

Water Providers

56. Metropolitan Water District, Meena Westford
57. Southern Nevada Water Authority, Greg Walch
58. Southern Nevada Water Authority, Kimberly Reinhart
59. Central Arizona Project, Bridget Schwartz-Manock, Director of Public Affairs
60. Central Arizona Project, Tony Staffaroni, Stakeholder Relations Manage
61. Henry Martinez, IID General Manager
62. Tina Shields, IID Water Manager

Foundations

63. Walton Family Foundation, Ted Kowalski
64. Walton Family Foundation, Morgan Snyder
65. Babbitt Center, Jim Holway
66. Catena Foundation, Kate Burchenal
67. Catena Foundation, Catena Foundation

Conservation Groups

68. The Nature Conservancy, Celene Hawkins
69. Audubon, Jennifer Pitt
70. Environmental Defense Fund, Kevin Moran
71. Western Resource Advocates, Kim Mitchell
72. Trout Unlimited, Sara Porterfield

University & Other Experts

73. Kathy Jacobs, University of Arizona
74. Season Martin, University of Arizona Conversations Project
75. Amy McCoy, University of Arizona Conversations Project
76. Sharon Megdal, University of Arizona (and CAP Board member)
77. Jack Schmidt, Utah State University
78. John Fleck, University of New Mexico
79. Mike Connor, former Deputy Secretary, US Department of the Interior
80. Eric Kuhn, former General Manager, Colorado River Water Conservation District
81. Gigi Richard, Professor, Fort Lewis College
82. Kimiko Marinez, Water Hub at Climate Nexus
83. Allen Best, journalist
84. Talbrett Caramillo, Student, Fort Lewis College
85. Trevor Lomaomvaya, Student, Fort Lewis College
86. Nikki Tulley, Student, University of Arizona
87. Natasha Viteri, Student, University of Colorado
88. Injy Johnstone, Student, University of Colorado

Water & Tribes Initiative, Leadership Team

Margaret Vick, Colorado River Indian Tribe *(already counted)*

Jay Weiner, Quechan Tribe *(already counted)*

Nora McDowell, Fort Mojave Indian Tribe *(already counted)*

Jason John, Navajo Nation *(already counted)*

89. Anne Castle, University of Colorado
90. Peter Culp, Culp & Kelly or Mary Kelly
91. Julia Guarino, University of Colorado
92. Jason Robison, University of Wyoming, College of Law
93. Tanya Trujillo, Colorado River Sustainability Initiative
94. Garrit Voggesser, National Wildlife Federation
95. John Weisheit, Living Rivers
96. Matt McKinney, Water & Tribes Initiative, Colorado River Basin

Massive folded bedrock at the entrance of Split Mountain Canyon on the Green River in Dinosaur National Monument

Pumping station for the Central Arizona Project at Lake Havasu

Appendix 2

List of People Consulted in 2019

Tribes in the Colorado River Basin

Colorado River Mainstem Tribes -- Lower Basin

Fort Mojave Indian Tribe

1. Timothy Williams, Chairman

Chemehuevi Indian Tribe

2. Charles Wood, Chairman
3. Brian McDonald, Vice-Chairman
4. June Leivas, Council Member

Cocopah Indian Tribe

5. JD Begay, Vice-Chairman
6. Rosa Long, Council Member
7. Irwin Twist, Council Member
8. Edmund Dominiques, Council Member

Quechan Indian Tribe

9. Jordan Joaquin, President
10. Virgil Smith, Vice-President
11. Charles Escalanti, Council Member
12. Gloria McGee, Council Member
13. Jonathan Koteen, Council Member
14. Jay Weiner, Water Counsel

Colorado River Indian Tribes

15. Dennis Patch, Chairman
16. Keith Moses, Vice-Chairman
17. Amelia Flores, Secretary
18. Anisa Patch, Council Member
19. Doug Bonamici, Attorney

Colorado River Mainstem Tribes -- Upper Basin

Ute Mountain Ute Tribe

20. Manuel Heart, Chairman
21. Alston Turtle, Council Member
22. Darwin Whiteman Jr., Council Member
23. Archie House Jr., Member
24. Malcolm Lehi (White Mesa Representative Council)
25. Peter Ortego General Counsel
26. Leland Begay, Attorney
27. John Trocheck, Executive Director
28. Preston Corsa, Chief Financial Officer
29. Michela Alire, Secretary
30. Keith Yessilth, Acting BIA Superintendent

Navajo Nation Council

31. Rickie Nez, Chairperson, Resources and Development Committee
32. Thomas Walker, Jr., Vice-Chairperson
33. Mark A. Freeland, Resources and Development Committee
34. Wilson C. Stewart, Jr., Resources and Development Committee
35. Kee Allen Begay, Jr., Resources and Development Committee
36. Herman M. Daniels, Jr., Resources and Development Committee
37. Shammie Begay, Secretary
38. Crystal Tulley-Cordova, Principal Hydrologist

Southern Ute Indian Tribe

39. Cheryl Frost, Vice-Chair
40. Lorelei Cloud, Treasurer
41. Bruce Valdez, Council Member
42. Cedric Chavez, Council Member
43. Adam Red, Council Member
44. Melvin Baker, Council Member
45. Lena Atencio, Director, Natural Resources Department
46. Adam Reeves, Legal Counsel
47. Lorelyn Hall, Deputy Director, Legal Department
48. Kathy Condon, Legal Counsel

Central Arizona Tribes

Ak-Chin Indian Community

49. Robert Miguel, Chairman
50. Katosha Nakai, Counsel

Other Tribes & Associations

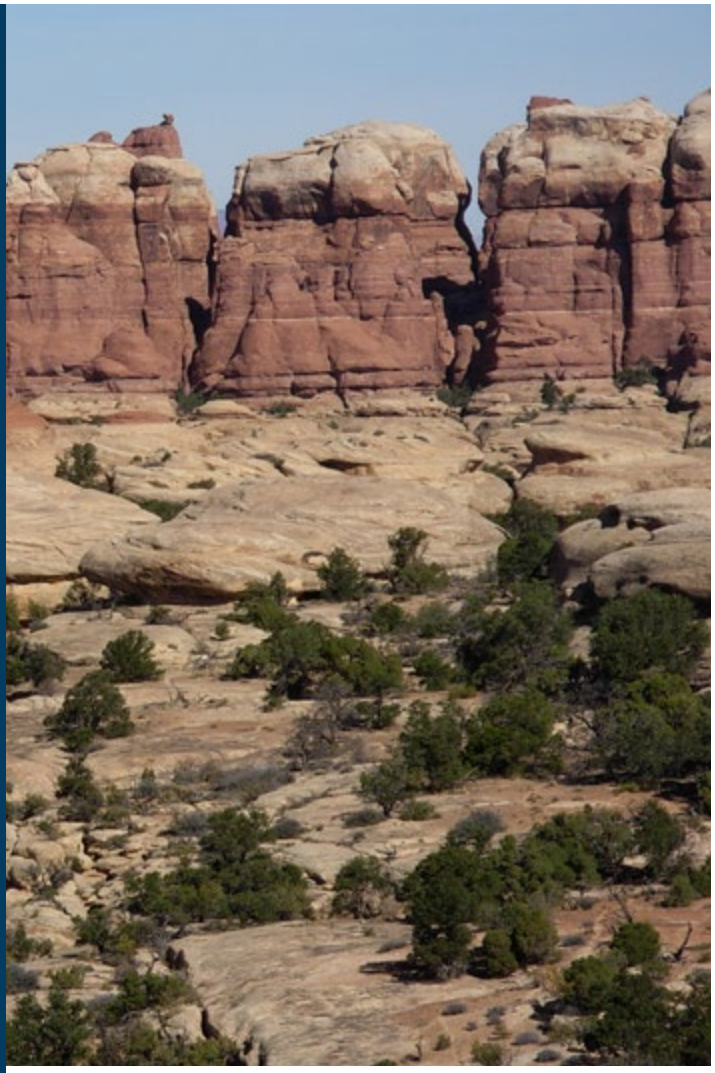
Hopi Tribe

51. Howard Dennis and others

Intertribal Council of Arizona

52. Maria Dadgar

The Henry Mountains near Lake Powell are igneous intrusive (granite) domes that pierced the sedimentary rock layers of the Colorado Plateau Province



Slickrock and cavernous joints in Maze District of Canyonlands National Park

Bureau of Reclamation, US Department of the Interior

53. Terry Fulp, Lower Colorado Basin Regional Director
54. Brent Esplin, Upper Colorado Basin Regional Director
55. Pam Adams, Lower Colorado Basin Native American Affairs Program Manager

State Water Officials

56. Wyoming, Pat Tyrrell
57. Wyoming, Chris Brown
58. Colorado, Becky Mitchell
59. New Mexico, Rolf Schmidt
60. Utah, Eric Millis
61. Utah AG Office, Norm Johnson
62. Utah, Scott McGettigan
63. Upper Colorado River Basin Commission, Amy Haas, Director
64. Nevada, John Entsminger
65. Nevada, Colby Pellegrino
66. Arizona -- Tom Buschatzke
67. California -- Chris Harris

Local Water Providers

68. Metropolitan Water District, Jeff Kightlinger
69. Metropolitan Water District, Meena Westford
70. Metropolitan Water District, Bill Hasencamp
71. Central Arizona Project, Ted Cooke
72. Central Arizona Project, Suzanne Ticknor
73. Denver Water, Jim Lochhead
74. Denver Water, Dan Arnold

International Boundary and Water Commission

75. USIBWC, Commissioner Jayne Harkins
76. USIBWC, Principal Engineer Daniel Avila
77. CILA, Commissioner Roberto Salmon

Foundations

78. Walton Family Foundation, Ted Kowalski
79. Walton Family Foundation, Morgan Snyder
80. Babbitt Center, Jim Holway
81. Catena Foundation, Clare Bastable,
82. Catena Foundation Kate Burchenal
83. Catena Foundation, Mike Wight

Conservation Groups

84. The Nature Conservancy, Taylor Hawes
85. The Nature Conservancy, Celene Hawkins
86. The Nature Conservancy, Patrick McCarthy
87. Audubon, Jennifer Pitt
88. Western Resource Advocates, John Berggren

University & Other Experts

89. Doug Kenney, University of Colorado

90. Larry MacDonnell, University of Colorado
91. Kathy Jacobs, University of Arizona
92. Sharon Megdal, University of Arizona (and CAP Board member)
93. Jack Schmidt, Utah State University
94. John Fleck, University of New Mexico
95. Mike Connor, former Deputy Secretary, US Department of the Interior
96. Lorri Gray, US Bureau of Reclamation, Columbia River Basin, Pacific Northwest Region

Water & Tribes Initiative, Leadership Team

97. Nora McDowell, Fort Mojave Indian Tribe
Jay Weiner, Quechan Tribe *(already counted)*
98. Anne Castle, Getches-Wilkinson Center, University of Colorado
99. Peter Culp and Mary Kelly, Culp & Kelly
100. Julia Guarino, Western Environmental Law Center
101. Jason Robison, University of Wyoming, College of Law
102. Tanya Trujillo, Colorado River Sustainability Initiative
103. Garrit Voggesser, National Wildlife Federation
104. John Weisheit, Living Rivers

Massive sandy beach in Meander Canyon of Colorado River from Newberry Butte

Mark Wilmer Pumping Station, Lake Havasu

Appendix 3

Strawman Proposal #1: Purpose, Need, and Scope of the Next Set of Guidelines

This document builds on and reflects the findings presented in Chapter 2. It consists of two proposals about the purpose, need, and scope of the upcoming process to develop the next set of guidelines. Think of these two proposals as bookends on a continuum of options on how to frame the purpose, need, and scope of the next set of guidelines.

Male Western collared lizards can change skin color to brown, blue, green, & yellow

Proposal #1-A -- Maintain the Existing Structure of the Guidelines

Purpose: The purpose of renegotiating the 2007 Interim Guidelines is to utilize the experience gained since their adoption to implement new guidelines to manage the Colorado River system post-2026. Thus, the next set of guidelines will build on the 2007 Interim Guidelines' purpose and scope, which are as follows: "1) [I]mprove Reclamation's management of the Colorado River by considering the trade-offs between the frequency and magnitude of reductions of water deliveries, and considering the effects on water storage in Lake Powell and Lake Mead, water supply, power production, recreation, and other environmental resources; 2) provide mainstream United States users of Colorado River water, particularly those in the Lower Division states, a greater degree of predictability with respect to the amount of annual water deliveries in future years, particularly under drought and low reservoir conditions; and 3) provide additional mechanisms for the storage and delivery of water supplies in Lake Mead."

Additionally, the 2027 guidelines will build on the 2019 Drought Contingency Plans (DCPs), which further implement reservoir operation and management strategies to stave off critical elevations at Lake Powell and Lake Mead. Specifically, the DCPs have been designed in the following manner:

Spring-fed gardens on Second Mesa 60 miles north of Winslow, Arizona

"The Upper Basin DCP is designed to: a) protect critical elevations at Lake Powell and help assure continued compliance with the 1922 Colorado River Compact, and b) authorize storage of conserved water in the Upper Basin that could help establish the foundation for a Demand Management Program that may be developed in the future.

The Lower Basin DCP is designed to: a) require Arizona, California and Nevada to contribute additional water to Lake Mead storage at predetermined elevations, and b) create additional flexibility to incentivize additional voluntary conservation of water to be stored in Lake Mead."

Scope: The 2027 guidelines' negotiations will mirror in scope the 2007 Interim Guidelines' and 2019 DCPs' negotiations. They will focus narrowly on reservoir operation and management strategies for facilitating mainstem deliveries of Colorado River water within the U.S. portion of the basin. The 1922 Colorado River Compact's historical bifurcation will circumscribe these actions -- i.e., they will be limited to upstream of Lee Ferry within the Upper Basin and downstream of Lee Ferry within the Lower Basin.

A layer of hard rock oil shale (kerogen) in the Uinta Basin, Tavaputs Plateau

Proposal #1-B -- Broaden the Purpose and Scope of the Next Set of Guidelines

Purpose: The purpose of renegotiating the 2007 Interim Guidelines is partly to utilize the experience gained since their adoption to implement new guidelines to manage the Colorado River System post-2026. These new guidelines will also build on the 2019 DCPs, which further specify reservoir operation and management strategies to stave off critical elevations at Lake Powell and Lake Mead. Beyond these priorities, however, the purpose of the 2027 guidelines' negotiation is much more far-reaching -- namely, to develop a consensus-based, integrated vision for future governance of the Colorado River System. New guidelines for reservoir operations and management are only one piece of this goal.

A more inclusive, holistic vision of the Colorado River System is needed at this point in the basin's history, as issues of over-allocation, climate change, and equity have become increasingly pronounced in recent years. Further, the measures set forth in the 2007 Interim Guidelines, Minute 323 (2018), and the 2019 DCPs all expire in 2026, providing an opportune moment to revisit these key issues and to create a modernized governance structure to equitably navigate them. Consider as just one example the wide

range of unresolved and underutilized tribal water rights in the basin. These water rights present an opportunity to more equitably manage the Colorado River System among all basin sovereigns. They also offer those sovereigns critical flexibility and certainty at this clutch time. In a similar vein, many recent scientific studies on climate change project out to mid-century and suggest potentially dire consequences for basin-wide water supplies. For these reasons and others, it is essential that the next set of guidelines -- foreseeably, another 20- or 30-year interim agreement -- evolve Colorado River governance to provide greater flexibility, to address looming uncertainty, and to realize equity.

Scope: The next set of guidelines will be inclusive and comprehensive, addressing the entire Colorado River Basin within the United States and Mexico. The negotiations will go beyond what has been historically considered in Colorado River governance. Specific policy-oriented concepts to be addressed during the negotiations may include the following: (1) promoting and supporting sustainable/resilient use of the river for both people and other parts of nature; (2) maximizing certainty and reliability; (3) moving beyond reservoir operation and management guidelines to integrated resource management; and (4) fulfilling the Colorado River Compact's fundamental goal -- "to provide for the equitable . . . apportionment of the use of the waters of the Colorado River System" -- for all basin sovereigns.

Questions for Discussion

1. What are the possibilities and constraints of each proposal? Please generate a list.

2. Which proposal, or potential combination of the proposals, is most *desirable* and *doable*? Is it possible to develop a comprehensive vision for the river system and then to go about realizing that vision incrementally?

Students from University of Utah collect water samples to determine the origin and quality of groundwater in White River watershed

Delta of alluvium at Joe Hutch Canyon along the Green River in Utah

Appendix 4

Strawman Proposal #2: Toward a Nested System for Collaborative Problem-Solving and Tribal Participation

This document builds on and reflects the findings and suggestions in Chapters 3 and 4. It presents a proposal to enhance participation and collaboration to shape the next set of guidelines for managing the Colorado River.

Background

The process to develop the next set of guidelines will most likely include multiple layers of individual and group participation. Based on past experience and ongoing efforts, it seems reasonable to assume the following system of nested processes for participation:

• The United States and Mexico will engage in formal negotiations either during or after the next set of guidelines are developed;

• Given their unique roles and responsibilities, federal and state officials will take the lead in developing the next set of guidelines and will work with other individuals and groups in different ways and at different times;

• The Department of the Interior and the Bureau of Reclamation will consult with tribes to fulfill their trust responsibilities;

• States will convene state-based forums to build coalitions among diverse constituents within their boundaries;

• States in the Upper Basin may work together to convene forums for participation and collaborative problem-solving in that geography, and states in the Lower Basin may do something similar in the Lower Basin;

• The general public will have an opportunity to participate, at a minimum, via the NEPA-required opportunities for public participation; and

• Conservation NGOs will develop and participate in one or more forums to articulate and advance their interests and priorities.

Proposal for Discussion

To supplement this nested system (or network of networks), the Secretary of the Interior should establish a Sovereign Review Team that includes representatives from the basin's sovereigns -- the federal government, states, and tribes.

The SRT would operate as an advisory group, create a more level playing field among sovereigns, and provide a meaningful, high-level opportunity for sovereigns to build understanding and agreement. It would align with and supplement the NEPA process. One way to operationalize the SRT is to ask each state to appoint a member; ask the Secretary of the Interior and/or the Commissioner of Reclamation to select a member or two; and ask the tribes how they would like to select a limited number

of members given that it would be infeasible to have 29 tribes participate directly in the SRT.

In addition to facilitating conversation and cooperation among sovereigns, the SRT could also serve as a forum to exchange input and advice from various stakeholders, experts, and the public; develop alternatives that seek to accommodate as many interests as possible; and advise the Secretary of the Interior and the Bureau of Reclamation as the final decision-makers (i.e., signers of the Record of Decision).

Once established, the SRT could create working groups to include stakeholders and experts, delegate assignments, and ask the working groups to generate reports and recommendations. Working groups could be issue-specific to facilitate communication, understanding, and agreement on particular issues (e.g., reservoir operations, environmental issues, tribal issues, water sharing, international/transboundary issues, innovative tools, and so on), as well as place-based to focus on multiple issues in particular places, such as the Colorado River Delta, Salton Sea, Grand Canyon, and/or particular watersheds throughout the basin.

The SRT could also convene public participation workshops and use innovative public involvement methods to increase awareness and understanding throughout the Basin and to seek input and advice from the broader public. To be most effective, all of the sovereigns would need to participate and the SRT would need to be well-staffed and resourced, perhaps through a federal and state funding arrangement.

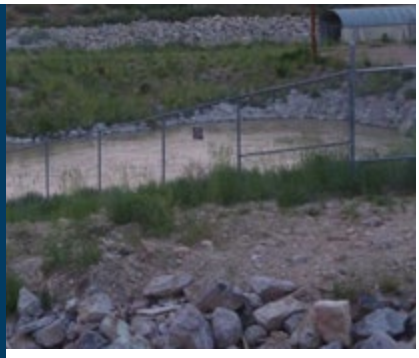
To further enhance the capacity of tribes to meaningfully participate in developing the next set of guidelines for the Colorado River (and to complement the SRT), the Secretary of the Interior should also establish a Tribal Advisory Council to facilitate the involvement of all interested tribes, to serve as a primary conduit for organizing tribal involvement, and to exchange information, seek common ground, and develop options and recommendations for the next set of guidelines. To be effective, the Tribal Advisory Council would also need to be well-staffed and resourced.

Questions for Discussion

1. What are the possibilities and limitations of this proposal? Please generate a list to share with the larger group.

2. What type of [legal, technical, financial, political, cultural] resources would be needed to enhance the effectiveness of the SRT and the Tribal Advisory Council?

Tailrace of Parker Dam



Tailrace below Taylor Draw Dam on the White River

Appendix 5

Strawman Proposal #3: Science, Traditional Knowledge, and Cultural Values

This document builds on and reflects the findings and suggestions in Chapter 5. It presents a proposal to enhance the role of science, traditional knowledge, and cultural values in shaping the next set of guidelines for managing the Colorado River.

Background

During 2020, the Bureau of Reclamation will initiate a review and evaluation of the 2007 Interim Guidelines. The basin states and major water agencies have already begun preparing for the negotiations that will follow the review and lead to the adoption of new guidelines for the river after 2026. Preparations include evaluating the 2007 Guidelines and Drought Contingency Plans, gathering technical information, and conducting modeling of alternative management strategies. This approach has problems:

1. It gives a major advantage to states and large water agencies with resources to make the detailed modeling and analyses. Historically, the Secretary of the Interior has given great deference to proposals developed by the state water agencies and larger (and thus politically powerful) water agencies. Tribes, many NGOs, smaller water agencies, and recreation interests that have a major stake in the future of the river have often been left out of those processes.

2. Because of the stakes involved, most modeling and technical reviews conducted by the states and major water agencies will be kept confidential or only selectively shared with others.

3. Historically, modeling and technical reviews conducted by states and major water agencies have focused on water supply, ignoring cultural, tribal, environmental, and recreation issues (leaving those issues for the formal NEPA process).

4. Proposals from groups and entities without access to sophisticated modeling and deep institutional knowledge about river operations can be dismissed as uninformed or impractical by more traditional stakeholders with such advantages.

5. Even with the best of intentions, decision makers in federal and state water agencies may not know how to translate environmental and traditional cultural values into river operational mechanisms.

Proposal for Discussion

The Secretary of the Interior should create or encourage the creation of a Colorado River Science and Culture Open Forum. The goals are to:

- Provide an inclusive forum to explore and understand the scientific and technical issues facing the basin;

- Move beyond a science agenda focused largely on water supply concerns to a more holistic,

integrated understanding of the river system based on western science, traditional knowledge, and cultural values;

• Integrate the findings and conclusions of the open forum into decision-making processes related to the next set of guidelines; and

• Enhance public awareness and understanding of the scientific and technical issues facing the basin.

• Surface the broadest possible range of policy alternatives, including "third rail" options unlikely to surface in more conventional processes.

The open forum would be built around three work groups dedicated to developing the information needed to provide a shared understanding of the scientific and cultural context -- (1) Climate Science; (2) Cultural and Environmental Values; and (3) Indigenous Knowledge. It would be established as soon as possible to supplement the review of the 2007 Interim Guidelines and the development of the next set of guidelines. It would include a series of meetings where a broad range of Colorado River stakeholders would share technical studies, propose and evaluate different management strategies and options, and request or recommend further studies by the Bureau of Reclamation, other DOI agencies, or qualified experts. An advisory panel would work with the DOI and other forum sponsors to ensure the forum achieves the stated goals. Invitations for participation in the forum's advisory panel would be open.

The forum will include a dedicated website as well as public meetings and workshops, as appropriate. The forum could be jointly funded by DOI, states, and perhaps private foundations.

Questions for Discussion

1. How can we ensure that the work and products of the Open Forum are integrated into the decision-making processes that will shape the next set of management guidelines?

2. What resources are needed to allow participation in the Open Forum by tribes and other underrepresented groups?

3. Should "cultural values" be considered independently from, and treated differently than, "traditional knowledge"?

Towering cliffs of Western Grand Canyon, Hualapai Nation

The eight penstocks at Glen Canyon Dam, Arizona

Appendix 6

Lessons from the Colorado River Basin & Other River Basins

During the process of interviewing over 100 tribal and other leaders in the Colorado River Basin, interviewees were asked to reflect on (1) lessons learned from recent basin-wide planning and decision-making processes in the Colorado River Basin; and (2) other basin-wide planning and decision-making processes outside the Colorado River Basin that might inform the design of the process to review and evaluate the 2007 Interim Guidelines and to develop the next set of guidelines.

The feedback to the first question is incorporated into the body of this report. Due to limitations of time, a critical review of lessons learned from other river basins has not yet been completed.

Here is a list of processes in the Colorado River Basin and beyond that were referred to by interviewees:

Hauling coal along the lower Gunnison River in Colorado

Colorado River Basin

Colorado River Drought Contingency Plans (2019)

Colorado River Basin Ten Tribes Partnership Tribal Water Study (2018)

Minute 323: Bi-national Water Scarcity Contingency Plan (2017)

Colorado River Basin Stakeholders Moving Forward (2015)

Minute 319: Colorado River Pulse Flow (2012)

Colorado River Basin Water Supply and Demand Study (2012)

Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (2007)

Lower Colorado River Multi-species Conservation Program (2004)

Colorado River Interim Surplus Guidelines: Final Environmental Impact Statement and Record of Decision (2001)

Glen Canyon Dam Adaptive Management Program (1995)

Other River Basins

Colorado Water Plan (2016)

Yakima River Basin Integrated Water Resource Management Plan (2012)

Columbia River Basin/Sovereign Review Team (2010)

Missouri River Recovery Implementation Committee (2008)

Murray-Darling Basin Authority (2007)

Comprehensive Everglades Restoration Program (2000)

Ecosystem Charter for the Great Lakes (1997)

Mackenzie River Basin Board (1997)

California Bay-Delta Program (CALFED) (1995)

Chesapeake Bay Program (1983)

Coal burning electric generation station along the Yampa River in northern Colorado

Water & Tribes Initiative | Colorado River Basin

The objectives of the Water & Tribes Initiative are to
(1) enhance the capacity of tribes to participate in basin-wide planning and decision-making; and
(2) advance sustainable water management through collaborative decision-making.

Leadership Team

Bidtah Becker, Navajo Nation
Leland Begay, Ute Mountain Ute
Lorelei Cloud, Southern Ute Tribe
Maria Dadgar, Inter Tribal Council of Arizona
Jason John, Navajo Nation
Nora McDowell, Fort Mojave Indian Tribe
Margaret Vick, Colorado River Indian Tribes
Jay Weiner, Quechan Tribe

Anne Castle, Getches-Wilkinson Center, University of Colorado
Peter Culp, Culp & Kelly (Mary Kelly, alternate)
Becky Mitchel, Colorado Water Conservation Board
Colby Pellegrino, Southern Nevada Water Authority
Jason Robison, University of Wyoming, College of Law
Tanya Trujillo, Colorado River Sustainability Campaign
Garrit Voggesser, National Wildlife Federation
John Weisheit, Living Rivers

Terry Fulp, Bureau of Reclamation (ex-officio)
Julia Guarino, University of Colorado (ex-officio)
Mike Wight, Catena Foundation (ex officio)

Daryl Vigil, Jicarilla Apache Nation, co-facilitator
Matthew McKinney, Center for Natural Resources & Environmental Policy, co-facilitator

http://naturalresourcespolicy.org/projects/water-tribes-colorado-river-basin/default.php