Results of the Fall 2016 Basin Roundtable and IBCC Survey

A technical report presented to the
Colorado Water Conservation Board and Basin Roundtable/IBCC Membership

Research conducted by:
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Dear Members of the CWCB, IBCC, and Basin Roundtables,

I am excited to share with you the results of a survey of the IBCC and Basin Roundtable membership that I conducted in late Fall 2016. The survey asked about participants' experiences in the Basin Roundtable/IBCC process and the impacts that it has had on Colorado water management thus far.

First, I would like to thank everyone who participated in this survey, which I conducted as part of my graduate research at the University of Colorado.[1] This includes a special thanks to Greg Johnson, Mara MacKillop, and Viola Bralish for helping me finalize and distribute the survey. Five years ago, I began studying how collaborative processes can help to improve water governance in Colorado and across the Colorado River Basin. The thoughtfulness and rigor with which the Basin Roundtables and IBCC have consistently—and collaboratively—tackled Colorado water issues has been inspiring to me, and as a result, this process became a central case study in my research. In addition to hearing from 111 of you through this survey, I have been fortunate to attend about 20 Basin Roundtable/IBCC meetings and events between 2013 and 2016, and to conduct in-depth interviews with over 40 process participants. The insight you have shared with me was instrumental in helping me complete my dissertation and graduate with my doctoral degree in May 2017.

The report that follows describes the purpose and methodology of the survey as well as major trends in the data. Appendix A reports the aggregate results to the survey questions. Appendix B provides information on my dissertation project, which this survey data helped to inform. I am in the process of publishing multiple academic articles from my dissertation and would be happy to share those with anyone who is interested as they are published.

If you would like to use any of this data, or have questions or comments about the survey or my research, please contact me at the email address/phone number below. I look forward to continuing my research on collaborative water governance in my new position as a faculty member at the University of Nevada Reno starting in August 2017. Thank you again for your input—it is truly appreciated.

Sincerely,

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[1] Funding for my graduate research was provided through generous scholarships and awards from the University of Colorado Boulder Graduate School, CU's Center for the Advancement of Research and Teaching in the Social Sciences, the Arkansas River Basin Water Forum, and the Horowitz Foundation for Social Policy.

Purpose and Methodology

An online survey was conducted in Fall 2016 by the researcher, a graduate student at the University of Colorado. As part of a broader research project on collaborative water governance in the Colorado River Basin, the intent of the survey was to learn about participants' experiences in the Basin Roundtable/IBCC process and the impacts that it has had on Colorado water management. Please see Appendix B for information on the researcher's broader project.

Prior to developing this survey questionnaire, the researcher conducted 40 interviews with Basin Roundtable/IBCC process participants across stakeholder groups and geographic regions, as well as with staff at the CWCB and DNR (28 interviews in 2013-2014, and 12 interviews in 2016). Working from the information learned through these interviews, the researcher developed the questions that comprise the survey questionnaire. The CWCB provided feedback on the questionnaire in order to ensure consistency of language and concepts with those used by potential survey respondents. Additionally, prior to officially disseminating the survey, the questionnaire was reviewed by five individuals in the academic and public spheres who have extensive knowledge of the Basin Roundtable/IBCC process and water governance issues.

A link to the electronic questionnaire was distributed to the 341 members[2] of the Basin Roundtables/IBCC and remained active for one month. Three reminder messages were sent via email from the CWCB to all members of the sample population, and one additional reminder was sent directly from the researcher to the chair of each Roundtable. Participation in the survey was voluntary, and respondents were not paid or provided an incentive to participate. No personally identifying information was collected from survey respondents, and only the aggregate responses to each survey question will be shared here.

The survey questionnaire was broad in scope, asking respondents to answer questions about whom they collaborated with and how during their participation in the Basin Roundtable/IBCC process, what they learned as a result of participating in the process, and what effects they believed the process has had on water planning and management in Colorado thus far. It also asked about basic demographic information, preferences about different types of decisionmaking processes, and beliefs about how Colorado's water should be managed.

The response rate for the survey was 32.6%, with 111 respondents completing some portion of the content-based survey questions (beyond an initial question that asked if respondents consented to taking the survey). Ninety-five surveys were fully completed. Demographic information about the survey respondents is provided in Table 1. Regarding political affiliation, respondents mirror Colorado's fairly equal division between Democrats, Republicans, and Independents. More males participated than females. The sample population is highly educated and dominated by people who have worked in Colorado water matters for more than 11 years. More survey respondents are residents of the Western Slope as compared to other regions of Colorado, but this is unsurprising considering that 4 of the 9 Basin Roundtables are located within this region. Figure 1 depicts survey responses by Basin Roundtable/IBCC membership, with the number of respondents listed next to each group name. Figure 2 depicts survey responses by the length of time a participant has participated in the Basin Roundtable/IBCC process, with the majority of respondents having participated for over 8 years.

[2] The email was initially sent to 344 individuals, but 3 individuals indicated on the survey that they had not participated in the Basin Roundtable/IBCC process and were thus removed from the sample.

Table 1. Respondent Demographics

Variable	Response Options						Total
Political Affiliation[a]	Democrat	Republican	Independent	Other			
	33%	33%	30.8%	2.7%			100%
	(30)	(30)	(28)	(3)			(91)
Gender	Male	Female					
	78.1%	22.9%					100%
	(75)	(21)					(96)
Education[b]	High School	Some College	4-year College Degree	Graduate Degree	Professional Degree		
	3.1%	10.4%	33.3%	37.5%	15.6%		100%
	(3)	(10)	(32)	(36)	(15)		(96)
Years Worked in CO Water	<2	2-5	6-10	11-15	16-20	20+	
	1%	3.1%	9.4%	10.4%	12.5%	63.5%	100%
	(1)	(3)	(9)	(10)	(12)	(61)	(95)
Colorado Region Of Residence	W. Slope/ Central Mountains	Metro Front Range	Eastern Plains/ NE CO	Southern CO/San Luis Valley			
	47.9%	25%	10.4%	14.4%			100%
	(46)	(24)	(10)	(16)			(96)

[a] According to the Colorado Secretary of State (2017) tally of active registered Colorado voters as of January 2017, 31.8% are Democrats, 31.6% are Republicans, and 34.7% are Independent/Unaffiliated. The remaining ~2% are registered with other parties.

[b] According to the U.S. Census Bureau (2017) statistics from 2011-2015, 38.1% of Coloradoans aged 25+ have a bachelor's degree or higher.

Figure 1: Survey Respondents by Group

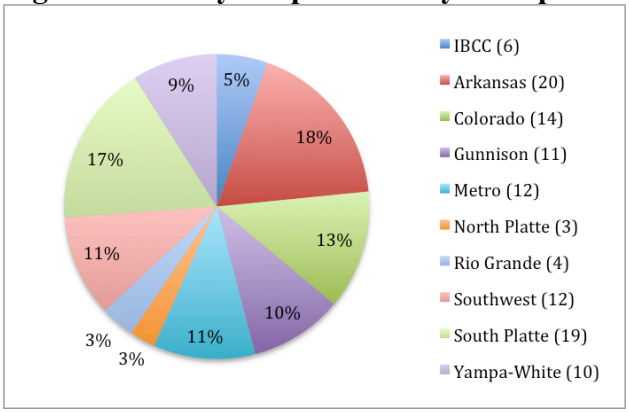
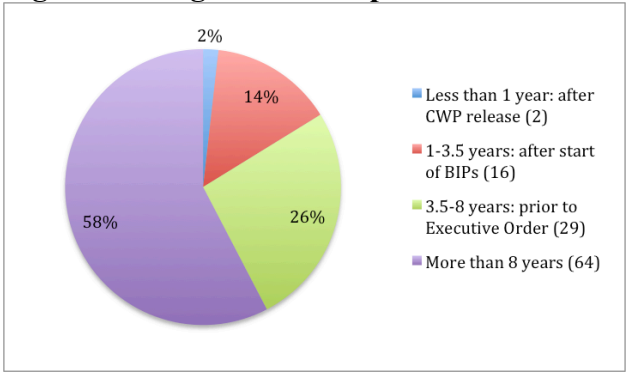


Figure 2: Length of Participation in the Basin Roundtable/IBCC Process



Results

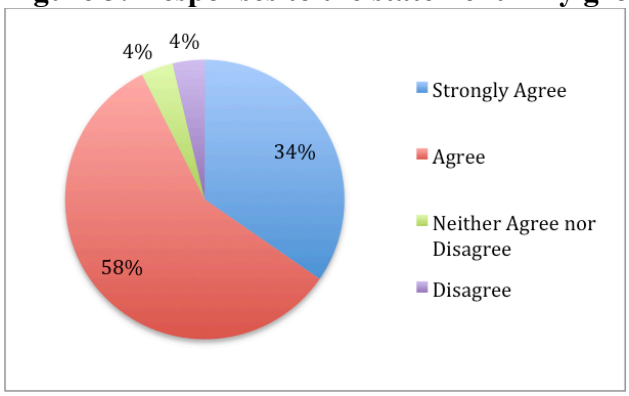
This section of the report briefly outlines the results of the survey. The results are broken down into four major sections: Collaborative Dynamics, Collaborative Learning, Collaborative Outcomes, and Perspectives on Water Governance. Most sections of the survey presented respondents with a list of statements pertaining to a topic and asked them to rate their level of agreement or disagreement with each statement (see Appendix A for more details on the specific wording of survey questions, response scales, and aggregate results for each question). Here, the types of questions in each section are briefly described, and major themes in the data are highlighted.

Section 1: Collaborative Dynamics

This section of the survey asked participants to respond to statements on three topics related to their participation in the Basin Roundtable/IBCC process: dynamics of the group (Basin Roundtable or IBCC) in which they participate, their group's use and integration of different types of information into decisionmaking, and how they collaborate with other stakeholders regarding both the allocation of funding and assessment/planning activities.

The majority of respondents agreed[3] that their group makes decisions based on consensus (92.5%, Figure 3), has a strong leader (74%), encourages face-to-face interaction among diverse stakeholders (87%), takes their values seriously (79%), and represents all relevant stakeholders (75%). These characteristics have been identified in the academic literature and by process participants in past interviews as elements of an effective collaborative process.[4] In particular, the Basin Roundtables and IBCC strived to serve as a forum that facilitated consensus-building among diverse stakeholders on Colorado water issues, a goal that was largely achieved according to the data collected in this survey.

Figure 3: Responses to the statement "My group makes decisions based on consensus."



[3] Throughout this report, the term "agreed" captures both those who selected "agree" and "strongly agree" in response to a statement. Please see Appendix A for the detailed breakdown of respondents by answer categories.

[4] While these characteristics have been identified across myriad studies on collaborative processes, see the following study for an example: Ansell, Chris, and Alison Gash. 2008. "Collaborative Governance in Theory and Practice." *Journal of Public Administration Research and Theory* 18 (4):543-71.

Regarding the use and integration of information, the majority of respondents agreed that their group welcomes different types of information (82%) and provides ample opportunities to deliberate on information brought to the table (78.5%). Furthermore, respondents largely agreed that their group has the capacity to integrate scientific information (81%), has frequent interactions or dialogue between scientists/engineers and non-scientists/engineers (73.5%), and allows for individuals to provide input into the scientific/engineering research related to the group's activities (86%).

Regarding funding activities (F) and assessment/planning activities (A), the majority of respondents reported that they "always" or "often" work with stakeholders within their group who hold different values (F = 77.5%, A = 78%), advocate for multi-use/multi-benefit actions (F = 81%, A = 75%), and engage with new scientific or technical information (F = 72%, A = 78%). Fewer respondents reported frequently ("always" or "often") working with members of other groups (i.e. participants working with individuals from other Roundtables or the IBCC) during these tasks (F = 36%, A = 42.5%), although some interviewees suggested that this was extremely beneficial to them in order to learn what other groups were doing and what "best practices" were being derived in other groups. Increased interaction and collaboration across groups (i.e. *across* Basin Roundtables or the IBCC) may therefore be one potential area that could be developed as the process continues. Furthermore, despite participants' willingness to work with stakeholders with different values in both funding and assessment/planning activities, few respondents reported frequently ("always" or "often") working with stakeholders on one project who they were simultaneously opposing on another project (F = 19%, A = 17%) or working with stakeholder temporarily, even if they expect to oppose them in the future (F = 24.5%, A = 28%). While these values may indicate that most stakeholders tend not to work with others with whom they actively disagree or oppose (currently or in the future), they may also reflect a trend toward increasingly-collaborative decisionmaking processes in which stakeholders expect less explicit disagreement overall.

Section 2: Collaborative Learning

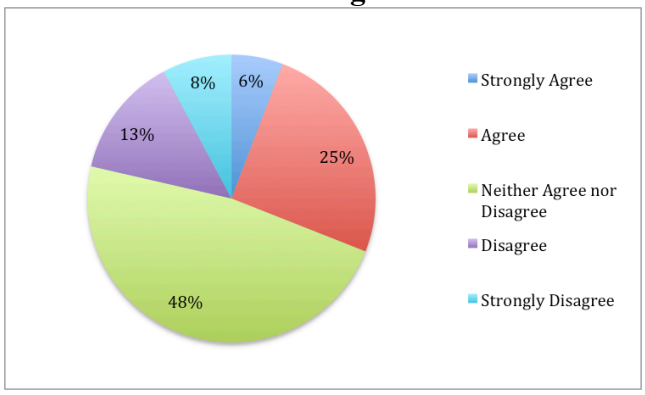
This section of the survey asked participants to respond to statements about what they learned as a result of participating in the Basin Roundtable/IBCC process, as well as the effects of participation on their individual actions, values, and relationships with others.

The majority of participants agreed that they learned about the following four concepts: water as a physical resource (88%), the laws and policies governing water in Colorado (78.5%), other water stakeholders' values (98%), and what actions are politically feasible (89%). It is somewhat unsurprising that the highest percentage of agreement was reported in response to learning about other stakeholders' values, as creating a broad understanding of the diverse water values across the state was a central goal of the Basin Roundtable/IBCC process. The success of the process in achieving this goal is evidenced not only in these data, but also in the wide-ranging stakeholder support for Colorado's Water Plan, which documented these diverse water values. Similarly, 90% of stakeholders agreed that, as a result of their participation in the Basin Roundtable/IBCC process, they are better prepared to more effectively participate in collaborative processes in the future, indicating that the Basin Roundtable/IBCC process may be playing a key role in developing the social infrastructure for more collaborative future decisionmaking processes about water and other natural resource management issues in

Colorado—a strategy that may become increasingly important as greater demands are placed upon limited resources.

The vast majority of survey respondents also agreed that due to their participation Basin Roundtable/IBCC process, they strengthened existing ties with people (93%), developed new contacts (98%), and formed working relationships with people who hold different values (84%). While only 31% of respondents agreed that they changed their personal values about how water should be managed in Colorado (Figure 4), over half of respondents agreed that their participation has impacted their own organization's activities or accomplishments (59%). These trends are reflective of both the academic literature about collaborative processes and the interview data collected by the researcher on the Basin Roundtable/IBCC process. While individuals may not significantly change their own values as a result of participating in a collaborative process, they may gain a better understanding of the things other stakeholders value and why. As a result, they may be more likely to begin working with other stakeholders in a variety of formal and informal ways, and may even change their own behaviors to accommodate a broader diversity of values.[5]

Figure 4: Responses to the statement "I have changed my personal values about how water should be used and managed in Colorado."



Section 3: Collaborative Outcomes

This section of the survey asked participants to respond to statements about the broader outcomes and impacts of the Basin Roundtable/IBCC process on Colorado water planning and management. The majority of respondents agreed that the process has brought new perspectives into water management (87%) and expanded the scope of participants in the water dialogue (83%), while only 28% agreed that the decisions and plans arising from the process tend to work in favor of one group of stakeholders over others. Although many of the effects of Colorado's Water Plan and other plans and projects developed through the Basin Roundtable/IBCC process are yet to be seen, most participants agreed that the process has improved water planning in Colorado (79%) and helped to generate innovative solutions that would not have otherwise been developed (72%). Most respondents also agreed that the decisions and plans arising from the

[5] For example, see the following study: Korfmacher, Katrina Smith. 1998. "Invisible Successes, Visible Failures: Paradoxes of Ecosystem Management in the Albemarle-Pamlico Estuarine Study." *Coastal Management* 26 (3):191-211.

process contribute to increasing water sustainability in Colorado (68%), while only 26% agreed that such decisions fail to tackle the state's major water issues. About half of the participants, however, agreed that the Basin Roundtable/IBCC process does not have enough authority to carry out the decisions it makes (49%). This disconnect between the ability to devise plans and recommendations and the ability to formally implement them is a challenge cited in both the academic literature on collaboration[6] and in interviews with process participants.

Participants also had the opportunity to list what they saw as the *three* most important decisions or plans that have arisen from the Basin Roundtable/IBCC process. Responses to this question varied widely, from very specific tools and policies such as the Colorado River Basin Roundtable's Nonconsumptive Flow Evaluation Tool and white papers on conservation and reuse, to broad outcomes such as increased collaboration and dialogue among stakeholders with different values and the consequent development of multi-benefit projects. The 207 individual responses to this question were categorized into 22 different themes (plus 8 responses under "other") by the researcher, with the three most frequently cited items being the Basin Implementation Plans (31), Colorado's Water Plan (21), and the Conceptual Framework specifically (14).

Section 4: Perspectives on Water Governance

This section of the survey asked participants to respond to statements about the benefits and tradeoffs of using a collaborative approach when making decisions about water, as well as about broad perspectives on water use and management in Colorado. The majority of respondents agreed that it is positive to have a wide variety of stakeholders with different viewpoints at the decisionmaking table (94%), and that a collaborative-type process is more useful than a top-down, regulatory-type process for making decisions about water at the basin scale (92%). A minority of stakeholders reported that the time it takes to come to agreement in collaborative process is not worth the outcome (8%) and that collaborative processes end up too mired in conflict to actually make decisions (9%). These results indicate that most respondents see value in the collaborative approach to decisionmaking used in the Basin Roundtable/IBCC process, despite the potential tradeoffs.

Finally, respondents were presented with a variety of value-based statements about Colorado water management with which they could agree or disagree. Note that the way in which these statements are phrased does not reflect the values of the researcher; instead, the same statements that were used in a previous survey of a similar population[7] were used again here so comparisons may eventually be made across time. Regarding perspectives on water use and management, 41% of respondents agreed that water rights holders should have a bigger say in Colorado water policy than other people, while 61% agreed that all stakeholder groups should have an equal say. Half of respondents agreed that recreation groups do not "pay their way" (51%) and that environmentalists do not understand the importance of water storage and development (50%), while 72% agreed that it is important to use instream flows to help protect

[6] For example, see the following study: Koontz, Tomas M, and Jens Newig. 2014. "From Planning to Implementation: Top-Down and Bottom-up Approaches for Collaborative Watershed Management." *Policy Studies Journal* 42 (3):416-42.

[7] The initial survey that used these statements is described in the following paper: Crow, Deserai Anderson, and Olga Baysha. 2013. "'Conservation' as a Catalyst for Conflict: Considering Stakeholder Understanding in Policy Making." *Review of Policy Research* 30 (3):302-20.

habitat and species. Approximately 43% of respondents agreed that irrigators should use less water-intense irrigation, while 62% agreed that most Colorado cities are developing at unsustainable rates when it comes to water. While these responses can provide general insight into the water values held by respondents, it is crucial that they are considered in the context of the other data presented here, particularly regarding respondents' willingness to work with stakeholders with a diversity of values in order to achieve successful, consensus-oriented outcomes.

Appendix A: Survey Results

The tables below present the text of each survey question as well as the percentage of respondents that selected each response option. As mentioned in the Results sections, most sections of the survey presented respondents with a list of statements pertaining to a topic and asked them to rate their level of agreement or disagreement with each statement on the following scale: Strongly Agree (SA), Agree (A), Neither Agree nor Disagree (N), Disagree (D), Strongly Disagree (SD), Not Applicable (N/A). Questions that use different response options from those listed above are clearly indicated here. Because respondents could choose to skip questions, the total number of respondents per question varies and is listed next to each statement (n=#).

Section 1: Collaborative Dynamics

1. Think about the group you primarily participate in, whether it is a specific Roundtable or the IBCC. Please rate your level of agreement or disagreement with each statement.

Statements about Group Dynamics	SA	A	N	D	SD	N/A
My group makes decisions based on consensus. (n=107)	34.6	57.9	3.7	3.7	0	0
My group has a strong leader. (n=107)	21.5	52.3	19.6	5.6	.9	0
My group encourages face-to-face interaction among diverse stakeholders. (n=106)	25.5	61.3	9.4	2.8	.9	0
My group takes my concerns and values seriously. (n=106)	21.7	57.5	16.0	2.8	0	1.9
All of the relevant stakeholder interests are represented in my group. (n=106)	17.9	57.5	13.2	11.3	0	0

Statements about Group Use of Science	SA	A	N	D	SD	N/A
My group welcomes different types of information (scientific, experiential, personal values/perspectives) into our discussions. (n=105)	27.6	54.3	12.4	5.7	0	0
My group has the capacity to incorporate scientific information in its decisions. (n=107)	27.1	54.2	13.1	5.6	0	0
My group has frequent interactions and/or dialogue between scientists/engineers and non-scientists/engineers. (n=106)	16	57.5	16.0	7.5	2.8	0
My group creates ample opportunities to openly deliberate on the information that is brought to the table. (n=107)	25.2	53.3	15.0	4.7	1.9	0
I have the opportunity to give input about the questions asked in scientific/engineering research related to my group's activities. (n=107)	28.0	57.9	8.4	3.7	.9	.9

2. The following questions focus on two of the main activities of the Basin Roundtable/IBCC process: 1) funding activities (e.g., allocating Water Supply Reserve Account funds or other available funds), and 2) assessments/planning activities (e.g., needs assessments, Basin Implementation Plans, Conceptual Framework, etc.). For each of these activities, please indicate how often you do the following things.

   Note: because this question asks about frequency, the scale for the following two tables is as follows: Always (A), Often (O), Sometimes (S), Rarely (R), Never (N), Not Applicable (N/A).

Statements about Funding Activities	A	O	S	R	N	N/A
I coordinate with stakeholders in my group who have different values than I do. (n=102)	30.4	47.1	14.7	5.9	2.0	0
I advocate for actions that benefit multiple users/groups at the same time, rather than those that benefit a single stakeholder group (including my own). (n=102)	31.4	50.0	13.7	2.0	2.9	0
I engage with new scientific/technical information (either on my own or in discussion with other members of my group). (n=102)	16.8	55.4	20.8	5.0	2.0	0
I work with participants from other groups (other Roundtables or the IBCC). (n=102)	7.8	28.4	38.2	16.7	8.8	0
I work with stakeholders on one project that I am simultaneously opposing on another project or plan. (n=101)	1.0	17.8	20.8	35.6	24.8	0
I work with stakeholders temporarily (such as on one project), even if I expect to oppose them on something else in the future. (n=102)	2.9	21.6	36.3	25.5	13.7	0

Statements about Assessment/Planning Activities	A	O	S	R	N	N/A
I work with stakeholders in my group who have different values than I do. (n=88)	34.1	44.3	13.6	5.7	2.3	0
I advocate for actions that benefit multiple users/groups at the same time, rather than those that benefit a single stakeholder group (including my own). (n=87)	28.4	46.6	20.5	1.1	3.4	0
I engage with new scientific/technical information (either on my own or in discussion with other members of my group). (n=88)	24.1	54.0	17.2	2.3	2.3	0
I work with participants from other groups (other Roundtables or the IBCC). (n=87)	10.3	32.2	39.1	10.3	8.0	0
I work with stakeholders on one project that I am simultaneously opposing on another project or plan. (n=87)	1.1	16.1	24.1	39.1	19.5	0
I work with stakeholders temporarily (such as on one project), even if I expect to oppose them on something else in the future. (n=88)	3.4	25.0	35.2	22.7	13.6	0

Section 2: Collaborative Learning

1. Please rate your level of agreement or disagreement with each statement about the consequences of your participation in the Basin Roundtable/IBCC process.

Statements about Individual Learning	SA	A	N	D	SD	N/A
I have a better understanding of water as a physical resource in Colorado. (n=103)	39.8	48.5	11.7	0	0	0
I have a better understanding of the laws and policies that govern water in Colorado. (n=102)	36.3	42.2	16.7	2.9	1.0	1.0
I have a better understanding of other stakeholders' values and needs regarding water in Colorado. (n=103)	50.5	47.6	1.9	0	0	0
I have a better understanding of what actions are politically feasible. (n=103)	25.2	64.1	9.7	1.0	0	0
I am better prepared to effectively participate in other collaborative governance processes in the future. (n=103)	22.3	68.0	9.7	0	0	0

Statements about Social Learning	SA	A	N	D	SD	N/A
I have strengthened existing ties with people. (n=103)	37.9	55.3	6.8	0	0	0
I have developed contacts with new people. (n=103)	49.5	48.5	1.9	0	0	0
I have developed working relationships (across multiple projects or multiple years) with people who hold different values than I do. (n=103)	29.1	55.3	10.7	2.9	0	1.9
I have changed my personal values about how water should be used and managed in Colorado. (n=103)	5.8	25.2	47.6	13.6	7.8	0
My participation has impacted my own organization's activities or accomplishments. (n=103)	15.5	43.7	34.0	4.9	1.0	1.0

Section 3: Collaborative Outcomes

1. The following questions ask about the outcomes and impacts of the Basin Roundtable/IBCC process as a whole (all Roundtables and the IBCC together). Please rate your level of agreement or disagreement with each statement.

Statements about Outcomes	SA	A	N	D	SD	N/A
The process has brought new perspectives into water discussions and planning in Colorado. (n=100)	32.0	55.0	8.0	4.0	1.0	0
The process has expanded the scope of participants (new stakeholders and the public) in the dialogue about water in Colorado. (n=99)	41.4	41.4	13.1	4.0	0	0
The process has generated innovative solutions that would not have happened without the Roundtables and IBCC. (n=100)	21.0	51.0	21.0	5.0	2.0	0
The decisions/plans devised by the process fail to tackle the state's major water issues. (n=100)	2.0	24.0	27.0	39.0	8.0	0
The decisions/plans arising from the process contribute to increasing the sustainability of water resources in Colorado. (n=100)	9.0	59.0	26.0	5.0	1.0	0
The process has improved water planning in Colorado. (n=100)	21.0	58.0	16.0	5.0	0	0
The process does not have enough authority to carry out most of the decisions/plans it produces. (n=100)	14.0	35.0	32.0	18.0	0	1.0
The process has changed the scale at which water issues are discussed and addressed in Colorado. (n=100)	20.0	63.0	15.0	2.0	0	0
The decisions/plans arising from the process usually work in favor of one group of stakeholders more than others. (n=100)	6.0	22.0	41.0	28.0	2.0	1.0

2. Please list the three most important decisions or plans that the Basin Roundtable/IBCC process has produced, from your perspective.

   Note: Because each respondent could list up to three responses, 207 total responses to this question were collected. These responses were categorized into 22 broad themes (plus "other") by the researcher; they are listed here alongside the number of times they were cited.

   - Basin Implementation Plans and components of plans (31)
   - Colorado Water Plan (21)
   - Conceptual Framework (14)
   - Funding external projects though the Water Supply Reserve Fund (13)
   - Procedural decisions about facilitation, collaboration among Roundtables on specific projects, etc. (12)
   - Specific mentions of projects, tools, policies, or studies (12)
   - Recognition of the value of Colorado agriculture and innovative approaches to preserving it (11)
   - Increased collaboration, support, and dialogue among diverse interests (11)
   - Recognition of the need for increased storage (10)
   - Inclusion of non-consumptive (environmental and recreational) interests in process and decisions, often with a focus on stream management plans (8)
   - Needs assessments (8)

- Public outreach and education about water issues (8)
- Focus on multi-benefit projects (7)
- Improved understanding of basin or state water issues, current impacts, and strategies (7)
- Decisions/conversations about Colorado River issues (5)
- Increased focus on conservation (4)
- Formation of external collaborative groups or agreements (4)
- Achieved or in-progress political action on water issues (3)
- SWSI Studies (3)
- Recognition of the need for more/continued funding to implement identified projects (3)
- Increased understanding of reuse (2)
- Focus on integrated land/water use planning (2)
- Other/unclear (8)

Section 4: Perspectives on Water Governance

1. There are many tradeoffs involved with governing water through a collaborative process, such as the Basin Roundtable/IBCC process. The following statements address some of these tradeoffs. Please rate your level of agreement or disagreement with each statement.

Statements about Collaborative Process Preferences	SA	A	N	D	SD	N/A
It is positive to have a wide variety of stakeholders with different viewpoints at the table in a water-related decision-making process. (n=95)	45.3	48.4	4.2	2.1	0	0
The time it takes to come to an agreement on decisions in a collaborative process is not worth the outcome. (n=95)	2.1	6.3	18.9	50.5	22.1	0
Collaborative decision-making processes end up too mired in conflict to actually make decisions. (n=94)	4.3	4.3	27.7	47.9	16.0	0
A collaborative-type process is more useful than a top-down regulatory-type process for making decisions about water at the basin scale. (n=95)	31.6	60.0	5.3	2.1	1.1	0

2. The following statements address broad perspectives on water use and management in Colorado. Please rate your level of agreement or disagreement with each statement.[8]

Statements about Stakeholder Water Beliefs	SA	A	N	D	SD	N/A
Water rights holders should have a bigger say in Colorado water policy than other people. (n=95)	7.4	33.7	32.6	15.8	10.5	0
All stakeholder groups (agriculture, environment, municipal, industrial, recreation) should have an equal say in Colorado water policy. (n=95)	21.1	40.0	20.0	13.7	5.3	0
Recreation groups do not "pay their way" – they free-ride on the water storage and releases of other users. (n=96)	10.2	40.6	17.7	17.7	13.5	0
Irrigators should use less water-intense irrigation. (n=96)	11.5	31.3	31.3	18.8	6.3	1
Environmentalists do not understand the importance of water storage and development. (n=96)	18.8	31.3	22.9	20.8	6.3	0
Most Colorado cities are developing at unsustainable rates when it comes to water. (n=95)	20.0	41.1	20.0	16.8	2.1	0
It is important to use instream flows to help protect habitat and species. (n=95)	23.2	48.4	24.2	3.2	1.1	0

[8] As discussed in the Results section, the way in which these statements are phrased does not reflect the values of the researcher; instead, the same statements that were used in a previous survey of a similar population were used again here so comparisons may eventually be made across time.

Appendix B: Elizabeth Koebele's Dissertation Information

Dissertation Title: Collaborative Water Governance in the Colorado River Basin: Understanding Coalition Dynamics and Processes of Policy Change

Dissertation Abstract:

Over the past three decades, collaboration has become a foundational tenet of modern environmental governance. By encouraging diverse stakeholders to interact repeatedly, explore complex issues in depth, and develop consensus on management actions, collaborative environmental governance processes have the potential to positively impact the environment and increase resource sustainability while also expanding citizen participation in policymaking. This dissertation investigates the role of collaboration in governing water resources in the Colorado River Basin, located in the western United States and Mexico. In this region, predictions for a warming climate and a rapidly growing human population make the effective management of limited freshwater one of the most critical challenges of our time. Although narratives abound of future "water wars" over a largely desiccated Colorado River, the Basin has become a test bed for processes that experiment with new ways for users to collaboratively govern the river in order to increase benefits across sectors.

Using a mixed-method approach, this project examines how stakeholders interact, learn, and produce policy change in three on-going "landmark" cases of collaborative water governance in the Colorado River Basin. It begins by suggesting how a well-tested policy process framework, the Advocacy Coalition Framework (ACF), can be adapted to rigorously evaluate collaborative processes in a way that ultimately facilitates comparisons across multiple governance arrangements (Chapter 3). The chapters that follow test ACF hypotheses that have been modified for collaborative contexts on cross-coalition coordination and the connection between learning and policy change. Findings indicate that while collaborative processes foster coordination across coalitions and facilitate the creation of multi-benefit policy outputs, they fail to breakdown boundaries among existing coalitions, a step presumed necessary for legitimizing collaborative approaches to policymaking (Chapter 4). Furthermore, specific institutional features of collaborative processes were found to increase individual learning, a variable that significantly predicts an actor's perception of collectively-produced policy change (Chapter 5). These findings are presented in hopes of informing both the theoretical study of collaborative environmental governance processes and improving the efficacy of such processes in practice.

Case Study Summary: The Roundtable Process and Colorado's Water Plan (CWP)[9]

Following a catastrophic drought in Colorado in 2002, Colorado's main water governance entity, the Colorado Water Conservation (CWCB) board, began "the most comprehensive analysis of Colorado water ever undertaken" through the Statewide Water Supply Initiative (State of Colorado 2016). While this initial process did include some degree of stakeholder involvement, the 2005 Colorado Water for the 21st Century Act (HB05-1177) established a more robust, multi-level stakeholder process to "facilitate discussions on water management issues and encourage locally driven collaborative solutions" (Colorado Water

[9] Three current collaborative water governance processes were examined in this dissertation, including the Basin Roundtable/IBCC process, the Colorado River System Conservation Pilot Program, and Minute 319. A basic "case study summary" of each process was composed and included, the first of which is reproduced here.

Conservation Board 2016a). This process has since involved over 300 Colorado citizens in water discussions through Basin Roundtables, or groups of diverse stakeholders from each of the state's eight hydrologic river basins plus the Denver Metro area, that work to assess each basin's water needs, values, and potential solutions to existing and future gaps. The Roundtables also fund a variety of different types of projects that help meet their basin's water-related needs using funding allocated to them through the CWCB. For example, these projects may include making improvements to a reservoir to increase storage or removing a retired in-stream diversion structure that negatively impacts aquatic life or recreation. Simultaneously, a 27-member Interbasin Compact Committee (IBCC) was established "to facilitate discussion across Colorado's river basins and to address statewide water issues" (Colorado Water Conservation Board 2016b).

Although the Roundtables and IBCC had a number of interim goals such as creating assessments of various water use sectors and funding basin-specific projects as described above, their largest task arose in March 2013 when Colorado's governor John Hickenlooper issued an executive order that called upon the CWCB to develop Colorado's first statewide water plan (referred to herein as "Colorado's Water Plan" or CWP). The creation of this plan was designed to be "a grassroots effort drawing upon eight years of unprecedented work, dialogue, and consensus building" through the IBCC and Roundtable process (Colorado Water Conservation Board 2014) to outline the current state of water in Colorado and plan for future needs. The Roundtables were tasked with providing data and insight for the statewide plan through "Basin Implementation Plans" (BIPs) that integrated the data they had gathered since their inception with actions that could help meet each basin's water supply needs. The information from the BIPs, along with broader policy recommendations created by the IBCC, became the centerpiece of Colorado's Water Plan. After releasing two drafts of the plan and soliciting extensive public feedback, a final draft of the plan was delivered to the governor in November 2015. James Eklund, the director of the CWCB at the time of the plan's release, argued that the "boldest thing this water plan does is injecting collaboration into the water conversation" (Estabrook 2015).

This dissertation focuses on different levels of this multi-level statewide collaborative process across the following chapters. For instance, Chapter 3 is primarily concerned with interactions among stakeholders within individual Roundtables (using data from interviews before the Roundtables produced BIPs), whereas Chapter 4 focuses on interactions among process participants across decisionmaking levels (Roundtables, IBCC, CWCB, DNR) to produce the CWP. Chapter 5 pairs survey data from participants in individual Roundtables from the time period after the CWP was produced with interviews with participants across decisionmaking levels before and after the completion of the CWP to understand learning in the collaborative process.

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