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Submitted to the MIT Department of Urban Studies and Planning and the MIT Department of Political Science in Partial Fulfillment of the Requirements for the Degree of Interdisciplinary Doctor of Philosophy in Negotiation, Communication, Diplomacy, and Leadership at the Massachusetts Institute of Technology June 2015

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Charting New Territories Together:  
Laying the Foundations for Mutual Gains in United States – Mexico Water and Energy Negotiations

by
Bruno Verdini Trejo

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ABSTRACT

This research examines two landmark negotiations between the United States and Mexico. The first involves the conflict over the shared hydrocarbon reservoirs in the Gulf of Mexico. The second analyzes the dispute over the shared waters of the Colorado River. For over seventy years, pursuing unilateral development, the U.S. and Mexico alternated between deadlock and confrontation in both cases. However, they were able to buck this trend in 2012, reaching two agreements. For the first time, the two sides have established a binational framework through which to co-develop and jointly manage these transboundary natural resources, as partners. This research explores how the negotiators shaped these agreements, and in what ways they contributed to the resolution of these long-standing disputes. With interviews with over 70 negotiators in the U.S. and Mexico, including every one of the chief negotiators who had decision-making authority at the negotiating table, the dissertation argues that a critical factor in breaking the cycle of disputes to reach agreement was that both sides were able to shift from solely allocating costs to also allocating benefits. The two countries reinterpreted the broader political and economic circumstances surrounding the shared water and energy resources, influenced in part by drastic natural disasters and resource shortages. These events, in turn, modified the countries’ alternatives, drew stakeholders to the negotiations with revised mandates, fostered new back table coalitions, and led to a reframing of beneficial trades that had not been obvious earlier. Changes in political leadership, especially in regard to the interpretation of and response to transboundary challenges, were additional enabling factors making this shift possible. By focusing on the negotiation process and the tension between creating and claiming value, the dissertation attempts to draw prescriptive negotiation and leadership advice that may be useful in other international resource management disputes, particularly between developing and developed countries. As such, it aims to highlight how stakeholders can move beyond hard-bargaining tactics and avoid the ultimatums that accompany the presumption that there are not enough resources to go around, and that one side must win and the other must inevitably lose.

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With joy, in deep gratitude, to my mentors

Back in the summer of 2012, I got a phone call from Professor Susskind. It was a blazing warm Cambridge afternoon, and as I paced the lawn, I listened intently to each and every word he said. He was calling to say that he believed that we could pursue a dream I had shared with him, no matter how much it seemed that the odds were stacked against it. You could not find a steadier and more caring voice. His message was that no challenge was insurmountable and that we were going to find a way to accomplish what I had thought would be impossible. And as he described the intricate web of steps and creative strategies we would need to try to build an interdisciplinary research project, I was in awe. I could barely contain my joy. It would not be the last time I experienced, through his support, dreams come true that are a hundred times more meaningful than I could have envisioned. That is the experience with Professor Susskind; that is what he does, tirelessly. He brings happiness, light, and inspiration to every person who crosses his path. Professor Susskind, you have been committed to creating, protecting, and expanding a safe space in which I can discover the things about which I am passionate. You always see fifteen steps ahead, and multiple permutations in the flash on an eye. I am extremely moved by the boldness and courage with which you have guided me from one step to the next, with absolute patience and kindness. There is not a more imaginative, talented, and noble leader, coach, and soul one could dream to work with. I am profoundly happy to continue to learn so much more from you.

During my first term at MIT, in the fall of 2010, I met Professor Nobles. Her class was held on the upper floor of a building overlooking the Charles River. I can close my eyes, and I still see in wonder, that warm sunset over the Boston skyline that was so new to me then. Her seminar on political thought was deeply inspiring because the ideas she asked us to consider, and the reasons why it was important to contemplate them, were compelling. There was an unbreakable moral backbone to the structure of the lessons she was guiding us to discover, and a great sense of responsibility about what we could do with them if we worked hard to understand their implications about how people structure power and the many ways they can choose to wield it. Those teachings have stayed with me ever since. I am forever thankful to you, Professor Nobles, because throughout the journey of the doctoral studies, you have believed in me with a great sense of joy and against all odds. Your trust and guidance have been so meaningful and have had a profound impact on my life. I am so delighted to count on your mentorship moving forward.

In the fall of 2012, it was the beginning of the term at the Harvard Kennedy School. I forgot the syllabus at home with the building and the room number, so by the time I finally figured out where Professor Jarding’s class was, I was 10 minutes late. I peeked through the door’s window, and the auditorium was packed. I could not see Professor Jarding, I could only hear his voice. Its power cannot be mistaken. I did not want to interrupt, so I took a chair from a nearby office, and sat outside the auditorium for over 60 minutes next to an entrance door. The sound that came through the walls was an impassioned speech about what politics can and should be, about what campaigns hinge on, about what leaders should stand for. It embodied that connection between heart and soul that gives you goose bumps. The kind of experience you get when you know you are in the presence of a force of nature. I was hooked right from the start. And I made sure to get to that packed auditorium way ahead of time from the next class onward! I am extremely thankful Professor Jarding, for how inspiring you have been from that very first class, for your wisdom, and for how generous you have been at every step of this research project. I am humbled to be able to continue to learn from you in the years to come.
In recognition to the negotiators

I am deeply thankful to the negotiators for their candid and straightforward conversations, for their enlightening anecdotes, and for their commitment to knock on every door, send the e-mails, make the calls, and convince their colleagues to also share their stories. Many of you went out of your way to share key insights and were fabulously kind as you hosted me. You were extremely generous with your time and expertise, and you are the reason why this research has been possible. By sharing your hard work, vision, and commitment to the communities you serve, you have set in motion a stream of opportunities that have brought immense happiness to my life. Thank you so much!

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Biographical Note

Bruno Verdini Trejo has pursued an interdisciplinary Ph.D. in negotiation, communication, diplomacy, and leadership, while based at the Department of Urban Studies and Planning at MIT, under the mentorship of faculty from Harvard Law School, MIT's Department of Political Science, and the Harvard Kennedy School of Government.

During the last three years, he has worked as a doctoral researcher at the Program on Negotiation at Harvard Law School, the MIT-Harvard Public Disputes Program, the MIT Science Impact Collaborative, and the MIT Environmental Policy and Planning Group.

Under the mentorship of Ford Professor of Urban and Environmental Planning Lawrence Susskind, co-Founder of the Program on Negotiation at Harvard Law School and co-Director of the National Science Foundation Water Diplomacy Program, Bruno has been able to draw upon various fields.

His research focuses on cognitive and emotional insights from negotiation, mediation, and conflict resolution; strategies from the practices of adaptive leadership and collaborative decision-making; and observations about the narrative structure of compelling political communication.

The aim has been to explore the skills and strategies by which resource management practitioners are increasing river-basin supply and energy security; re-thinking the possibilities of irrigation and storage infrastructure; restoring ecosystems and habitats; enhancing coordination between publicly traded and state owned energy companies; and re-defining the scope and impact of diplomatic partnerships.

Bruno is a Mexican and French national, who has been trained in international affairs, public policy, conflict resolution, and political communication in Mexico City, Paris, and Cambridge. A former Mexican governmental official, he has worked with partners in Washington D.C., London, Geneva, Stockholm, and Vienna.
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Chapter 1: United States–Mexico Water and Energy Negotiations

Colorado River Sunset, Glen Canyon

Source: Flickr - Creative Commons – By Photographer Romain Guy
1.1 Introduction and Research Strategy

My interest is in conflicts over the allocation of natural resources. I focus on long-term water, energy, and environmental disputes between the United States and Mexico. As a former Mexican governmental official, I have seen the difficulties that surround and impede these negotiations. My doctoral studies at MIT are aimed at figuring out ways to handle these interactions more effectively.

This dissertation explores two landmark negotiations between the United States and Mexico. The first involves the conflict over the management of the shared hydrocarbon reservoirs in the Gulf of Mexico. The second analyzes the dispute over the management of the shared waters of the Colorado River. For over seventy years, pursuing unilateral development, the U.S. and Mexico alternated between deadlock and confrontation. However, the two countries were able to buck this trend in 2012, reaching two significant agreements. For the first time, the two sides have established a binational framework through which to co-develop and jointly manage these transboundary natural resources, as partners.

My research tries to answer the question of how the negotiators shaped these agreements, and in what ways they contributed to the resolution of these long-standing disputes. In this dissertation, I attempt to ascertain whether the manner in which countries conduct transboundary resource management negotiations alters the prospects for finding agreement. Such factors could include:

- How they frame the dispute
- Who they send as representatives
- What preparatory work they do
- What principles they use to structure the negotiation process
- How they estimate their interests and those of the other side
- What ground rules they follow at the table
- How they respond to unpredictable circumstances
• What criteria they rely on to create and distribute value
• How they insulate agreement against spoilers
• How they structure follow through

The dissertation hypothesizes that a critical factor in breaking the cycle of disputes and reaching agreement was that both sides were able to shift their focus from solely allocating costs to also allocating benefits. The two case studies explore to what extent the two countries reinterpreted the broader political and economic circumstances surrounding the shared water and energy resources, and how they may have been influenced in part by drastic disruptions, including an earthquake and severe drought in the Colorado River, as well as plummeting productivity and declining energy revenues in the Gulf of Mexico. The case chapters investigate how and to what degree the countries’ alternatives were modified, if stakeholders were drawn to the negotiations with revised mandates, whether new back table coalitions evolved, and if this led to a reframing of beneficial trades that may not have been obvious earlier. Changes in political leadership, especially in regard to the interpretation of and response to transboundary challenges, may have served as additional enabling factors making a new outcome possible.

In order to present the most complete picture of each case, the dissertation pieces together detailed accounts of how both agreements were negotiated, through the eyes of both sides. After conducting extensive background research on the geographic and economic background, as well as the political, environmental, and legal context underpinning the two cases (Appendices A and B), the first phase of inquiry into assessing the players involved in the negotiations consisted of compiling a list of the parties through research of publicly available sources. Upon reaching out to this initial list, the people with whom I spoke provided me with additional contacts. With each successive round of interviews, the list of stakeholders grew. This allowed me to piece together the web of negotiators with greater and greater clarity.
In all, I conducted four successive rounds of stakeholder assessments during fall 2013, spring 2014, fall 2014, and spring 2015. Through that process I have been fortunate to interview every one of the chief negotiators who had decision-making authority at the negotiating table, and more than 90% of the people directly involved in negotiating each of the 2012 bilateral agreements. Over 70 leaders in the U.S. and Mexico from the public, private, and non-governmental sectors, at the federal, state, and local levels, have generously shared their insights and experiences. A full list of the negotiators I interviewed can be found in Appendix C.

While the conversations I had with the interviewees flowed according to the topics in which they were most involved, I made sure to touch upon a series of themes related to negotiation, leadership, collaborative decision-making, and political communication. I did this by structuring the interviews around a core set of 25 conversation points. The detailed list of example questions is provided in Appendix D. On average, each interview lasted over 60 minutes, and was conducted one-on-one, with negotiators working in the Southwestern U.S., Northwestern Mexico, the Gulf of Mexico, Washington D.C., and Mexico City.

In analyzing these two case studies, they may present a number of ideas regarding better ways to handle transboundary resource management disputes between the United States and Mexico. By focusing on the negotiation process and the tension between creating and claiming value in water management, environmental restoration, and offshore energy development, the dissertation attempts to draw prescriptive negotiation and leadership advice that may be useful in other international resource management disputes, particularly between developing and developed countries. The research examines whether and how stakeholders might be able to get beyond hard-bargaining tactics and avoid the ultimatums that accompany the presumption that there are not enough resources to go around, and that one side must win and the other must inevitably lose.
1.2. Theoretical and Practical Underpinnings

In this dissertation, I examine whether the effort and willingness on both sides to create value and take account of the interests on the other side contributed to the success of the negotiations. Other factors, such as the broader political and economic context, the leadership decisions, and internal pressures from important constituencies, may also have been at play. With a particular focus on how negotiation outcomes may be impacted by a shift from defining conflicts in terms of who should make sacrifices to allocating benefits instead, the dissertation enlists insights from four perspectives of scholarship in exploring the two cases:

- Public dispute resolution1, 2, 3, 4, 5
- Adaptive leadership6, 7, 8, 9
- Collaborative decision-making10, 11, 12, 13
- Political communication14, 15, 16, 17

The two cases can be used to test several key insights presented in the recently published Water Diplomacy Framework (WDF), which while focusing on public dispute resolution related to water, may also apply to energy and other environmental conflicts.18 The WDF claims that resource management decisions are often shaped by complex interactions among multiple stakeholders with conflicting interests and values. When these decisions involve the allocation of natural resources, they tend to occur within interconnected domains (i.e. natural, social, and

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1 Susskind, 2014.
3 Lax and Sebenius 2006
4 Arrow, Mnookin, Ross, Tversky, and Wilson, 1995.
7 Kellerman, 2008.
8 Bowles, 2005.
14 Ganz, 2011.
15 Nobles, 2008.
17 Amsterdam and Bruner, 2002.
18 Islam and Susskind, 2013.
political), as well as at multiple scales (i.e. spatial, temporal, disciplinary, jurisdictional, and institutional). It is these features, presumably, that ultimately determine the quantity, quality, and use of water and energy.

These interconnected domains and scales must, according to the WDF, be taken into account whenever resource management decisions are made or negotiated, in order to address the ambiguity, nonlinearity, and feedback loops involved. This framework suggests that decision-makers with resource management responsibilities can better handle all of these interconnections by taking three steps. First, they must envision water, energy, and environmental systems as open. This means they should expect and accept persistent boundary crossing between domains, scales, and levels. Second, they ought to conceive of complex resource management problems as highly sensitive to small perturbations. This requires working with alternative scenarios that capture fluid and unpredictable effects. Third, they should consider the possibility that the same actions in a particular place and time will not have the same results in another context. The WDF argues that emphasizing these three features of resource management enables decision-makers to deliver more effective agreements. According to this perspective, natural resource negotiations require flexibility and a great deal of improvisation.

Discussions about resource management disputes tend to rely on static assumptions about the stakeholders’ aspirations, interests, relationships, power, knowledge, and alternatives. These assumptions provide a general overview of the features that are critical to conflict resolution, but do not capture the highly dynamic and interactive nature that defines these features in practice. This dissertation examines whether, given the large degree of uncertainty and complexity that characterizes transboundary water, energy, and environmental resources; stakeholders can enhance their management decisions by presuming that their negotiation strategies will need to evolve in adaptive response to the ever-changing contexts.

By drawing concurrently upon the scholarship related to dispute resolution, adaptive leadership, collaborative decision-making, and political communication, the dissertation seeks to explore a set of insights about how to build and reach more
robust agreements between political, industry, and civic stakeholders. The aim is to determine if it is possible to lay out some critical steps with which to aid effective problem-solving, leading to more satisfying agreements (i.e. working in the interest of all the stakeholders, and fostering learning and adaptation). Can agreements be reached more efficiently (i.e. optimizing the use of time and resources, improving the ways in which value is created and distributed)? Can they be completed in an amicable manner (i.e. strengthening relationships of trust, promoting long-term commitments, and making future interactions easier)?

The conventional wisdom tends to see negotiation and dispute resolution through the lens of zero-sum, win-lose interactions. It frames these interactions as the process of arguing and bargaining to induce the other side to do what you want, when you want, and the way you want, by imposing your concerns through the use of threats, bluffs, delays, manipulation, disruption, deceit, belligerence, and even force. These actions may breed opposition, instability, and retaliation, thus undermining trust and credibility between the parties and with the public-at-large. Some would argue that this is not surprising, as stakeholders can rarely be convinced to support agreements that are not in their best interest and for which they feel overpowered, resentful, contemptuous, regretful, or desperate.19, 20, 21

Such situations are frequently encountered in transboundary resource management disputes. Though these counter-productive negotiation tactics may regularly lead to wasteful and sub-optimal outcomes, they remain the standard practice in a wide range of conflicts. This may explain why many public disputes persist in a hopeless deadlock, even when there might be a wide number of solutions available that would benefit the parties involved.22, 23, 24

The mutual gains approach to negotiation, related to principled negotiation and integrative bargaining, is built on an entirely different premise. Concerned with the rate of public disputes that lead to sustained confrontation and backlash, it

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19 Mandell, 1999.
23 Susskind and Field, 1997.
fundamentally questions the assumption that to achieve one’s own interests in a negotiation, the other side must get little if nothing of what they want. Based on experimental findings and real-world cases from around the globe, the mutual gains approach holds that the best strategy to satisfy one’s interests in a negotiation is to find an effective way to meet the interests of the other side. The purpose of this approach is to transform supposedly zero-sum problems into opportunities for mutual gains by fostering a negotiation process through which the stakeholders can better frame, understand, anticipate, and respond to each others’ interests, working together to resolve their dispute.25, 26, 27, 28

The process of mutual gains negotiation generally involves bringing together those concerned and affected by the potential outcome of the conflict, the stakeholders, so that they can develop trust in one another. This is accomplished by engaging in joint fact-finding, drawing upon diverse tactics and tools to make their way into the trading zone, a space in which they can explore how their interests differ, upon the foundation of their aspirations, values, and alternatives. Once in the trading zone, by suspending criticism and inventing without committing, the stakeholders may be able to work collaboratively to increase the total value available to everyone by imagining “what if?” scenarios, discussing trade-offs, and testing options for mutual gains.29, 30, 31, 32

This approach holds that after crafting and evaluating different packages that meet their core interests and optimizing the value on the table, the stakeholders can return to their back tables to propose concrete solutions, protecting and advancing their constituencies’ concerns and needs. In turn, it is argued, without extensive compromise or concession, by flexibly managing the tensions between cooperating to create value and competing to distribute value, each side can claim more value

26 Mnookin and Ross, 1995.
29 Susskind, 2014.
31 Fisher, Kopelman, Schneider, 1996.
than would have been the case in the absence of a negotiated agreement, making a deal that effectively and durably improves the outcome for everyone involved.\textsuperscript{33, 34, 35, 36}

In this dissertation I examine whether reconsidering transboundary water, energy, and environmental conflicts on the basis of the mutual gains approach to negotiation, as opposed to zero-sum bargaining, provides a more robust framework with which to be mindful about the potential for improved outcomes in the public arena. The mutual gains approach is said to foster fairer interactions, by providing opportunities for a wide array of stakeholders to openly voice concerns and priorities, as well as shaping both decisions and implementation. Likewise, proponents claim that the mutual gains approach creates wiser decisions, which withstand technical scrutiny and independent analysis by producing reasonable insights given the information available. This style of negotiation is argued to also produce more stable agreements through realistic engagements, including provisions for renegotiation in light of changing circumstances, fostering relationships of reciprocity. Finally, it is said to enable more efficient results by enhancing side-by-side problem-solving, addressing underlying interests, and conveying a sense of ownership by the stakeholders over the collaboratively chosen solutions.\textsuperscript{37, 38}

The mutual gains approach to dispute resolution does not dismiss the disparities in relative power that may exist between the stakeholders, nor the diverse spatial, temporal, disciplinary, jurisdictional, and institutional scales at play. The traditional approach to conflict may assume that quick and sharp battle lines must be drawn, that confrontation must be endlessly prolonged in the streets, the media, the courts, and in the case of transboundary disputes, through unilateral moves and diplomatic sanctions. On the other hand, the mutual gains framework argues instead that the parties in a dispute can constructively shape several factors

\textsuperscript{33} Wheeler, 2013.  
\textsuperscript{34} Subramanian, 2010.  
\textsuperscript{35} Mnookin, Peppet, Tulumello 2004.  
\textsuperscript{36} Bazerman and Neale, 1995.  
\textsuperscript{37} Susskind and Cruikshank, 2006.  
\textsuperscript{38} Susskind, Fuller, Ferenz, Fairman 2003.
critical to conflict resolution, in spite of the disparities between the parties.\textsuperscript{39, 40, 41, 42} Such factors include their communications, interests, options, legitimacy, relationships, coalitions, commitments, and alternatives.

Stakeholders are said to be able to improve how they prepare, perform, and adapt to new information or circumstances before, during, and after the negotiations. This could potentially be done by reshaping how they manage their \textit{communications}; by choosing open authentic, and precise deliberations rather than limited, secretive, and adversarial exchanges. Another area for improvement could lie in how parties impart their \textit{interests}; rather than clinging to extreme demands, ignoring the needs of the other side, and conceding stubbornly, they might have more success by listening and learning from one another, speaking with reference to principles, precedents, and values.

Stakeholders may also find value in assessing \textit{options}, by being receptive to new evidence and interpretations that increase the value available to everyone, as opposed to resigning to a fixed-pie mentality in which mutual gains are impossible. By fostering fairness and a sense of trust, through criteria selected by and persuasive to all the parties involved, rather than fighting to define who is right and who is wrong, the negotiators might build greater \textit{legitimacy}.

\textit{Relationships} could be managed by creating partnerships that enhance joint fact-finding and cooperation rather than through tense interactions filled with distrust or ruled by deference to partisan experts. Building \textit{coalitions} by effectively sequencing and linking information and interests may enable better outcomes than disregarding tactics about disclosure, prevention, and contingency.

Stakeholders might also be served well by handling \textit{commitments} with well-drafted and realistic trades that are responsive to monitoring and feedback, instead of unclear, unworkable, and regrettable concessions. Lastly, \textit{alternatives} might be thoughtfully considered such that the parties agree to the terms only when all sides

\textsuperscript{39} Podziba, 2012.
\textsuperscript{40} Fisher and Shapiro, 2006.
\textsuperscript{41} Stone, Patton, Heen, 2000.
\textsuperscript{42} Arrow, 1995.
have been guaranteed better results than if they had walked away, rather than accepting a deal whose outcome is worse than no deal at all.

Conflict is present in virtually all interactions in the public arena; however, it might be used as the springboard to create value, not only through reaching an agreement, but also through the process and terms of the agreement. Opportunities for non-zero-sum agreements, which could in turn facilitate more robust partnerships between political, business, scientific, civic, and non-profit stakeholders, may then be more stable and scalable than conventional wisdom suggests. By seeking mutually advantageous trades rather than overpowering, accommodating, or compromising, a mutual gains approach to negotiation posits that stakeholders can step back, be mindful of the stakes, and work toward durable and agile solutions that respect identities, further interests, and reconcile values.

Therefore, a critical argument that I will test in analyzing the two case studies is that stakeholders are more likely to better manage transboundary resource disputes when they reconcile the reality of constraints with the possibility of choices, effectively finding ways to shift their focus from allocating costs to allocating benefits. Since stakeholders ideally would not only find the means to share water, energy, and environmental resources, but also ensure their efficient, equitable, and sustainable use, they may find use in strategies that enhance their capacity to manage the evolving and interconnected challenges they face. In this endeavor, to rely on the insights of the adaptive leadership approach, centered on the potential for individuals to foster constructive change in any organizational setting, may prove helpful.43,44 These insights offer a set of clues that could assist stakeholders in better discerning, evaluating, and acting upon their interests in transboundary disputes.

Leadership, as a conflict resolution tool, may be of limited use if restricted to the frameworks that conceive of it as the exercise of authority and influence. The conventional wisdom is that leadership is about crafting a vision, establishing incentives, defining punishments, and getting people to follow. Such frameworks are

43 Bowles, 2005.
44 Heifetz and Linsky, 2002.
relatively less concerned with the substance of the problems leaders and stakeholders face, and are focused more on predicting the means by which individuals in positions of authority can secure and retain power through a hierarchical leader-follower dynamic.\textsuperscript{45,46,47} Accordingly, the aforementioned frameworks do not focus on problem-solving strategies, and have little to say about rewarding leaders who provide appropriate answers and thoughtful solutions to public disputes.

Along a contrasting line of theory, advocates for the practice of adaptive leadership offer a more nuanced discussion of the role of leadership.\textsuperscript{48, 49, 50, 51} They would suggest that resource management problems in transboundary disputes are more difficult to resolve when individuals in positions of authority do not empower the stakeholders to carefully question their ideas, concerns, and relationships. For however counterintuitive the task may seem to most (i.e. accustomed to accepting their goals and behaviors as self-evident), the ability to effectively critique, rank, and update one’s interests may be beneficial in engaging with complex water, energy, and environmental systems.

The stakeholders in public disputes often accept a series of situations as inherent to the practice of leadership, though they may actually reflect a misuse of its role, scope, and potential. These situations, it is argued, include 1) the inability to contribute on a consistent basis to a common goal; 2) the refusal to seek and adapt to new evidence; 3) the failure to use available information to anticipate events and their consequences; 4) the absence of independent thought and reflective learning; 5) the lack of scrutiny to put the responsibility on those who need to make the change; 6) the incapacity to remain engaged while simultaneously stepping back to

\textsuperscript{45} Derue, Nahrang, Wellman, Humphrey, 2011.
\textsuperscript{46} Sheingate, 2003.
\textsuperscript{47} Miroff, 2003.
\textsuperscript{48} Heifetz, Linsky, Grashow, 2009.
\textsuperscript{49} Williams, 2005.
\textsuperscript{50} Kellerman, 2004.
\textsuperscript{51} Fisher and Sharp, 1999.
get perspective; and 7) the lack of skill to turn a conflict into an opportunity to innovate.\textsuperscript{52, 53, 54, 55}

It is said that the fact that these characteristics tend to go unquestioned in the exercise of leadership often infuses stakeholder interactions with a large degree of anger, mistrust, and hostility. This then severely hampers the possibilities of resolving conflict, for without engaging with competing frames of reference, the parties to a dispute are unlikely to scrutinize features of their environment, remaining at the mercy of their blind spots, unprepared for what they do not know, and unable to address the deficiencies in their judgment. Poor leadership in both process and outcome is thus, argued to be the result of relying on the wrong interpretations, skills, strategies, and procedures.\textsuperscript{56, 57, 58, 59}

In this sense, adaptive leadership would call for stakeholders to engage with new ideas that challenge their traditional insights, in order to face changing circumstances and respond effectively to the uncertainty that characterizes the ebb and flow of natural resources. However, some would posit that it is not uncommon for parties to prove risk-averse, overestimating the likelihood of losses, underestimating the potential for gains, resisting any substantial change, and pushing back as their known references are disturbed. Such distress and resistance is said to partly explain the propensity to avoid serious action, reject valuable feedback, place the burden on the other side, and wait to be rescued.\textsuperscript{60, 61, 62}

The theory of adaptive leadership would presume that none of these tendencies support the effective resolution of transboundary disputes. It not only tries to dislodge these aversions but also encourages mindfulness about common

\textsuperscript{52} Kahneman, 2011.
\textsuperscript{53} Bazerman and Watkins, 2008.
\textsuperscript{54} Kellerman, 2004.
\textsuperscript{55} Heifetz, 1998.
\textsuperscript{56} Samuels, 2003.
\textsuperscript{57} Forester, 1999.
\textsuperscript{58} Kingdon, 1995.
\textsuperscript{59} Baumgartner and Jones, 1991.
\textsuperscript{60} Krasner, 2009.
\textsuperscript{61} Kellerman, 2008.
\textsuperscript{62} Heifetz and Linsky, 2002.
biases in the stakeholders’ judgment. These biases include 1) plunging into a challenge without thinking about how and what information to gather first; 2) making insufficient adjustments from past references, even after these references are proven false or no longer relevant; 3) disproportionately focusing attention on data that confirms one’s assumptions without seeking evidence to the contrary; 4) giving more weight to short-term considerations than medium and long-term concerns; 5) evaluating solutions on the basis of past results without acknowledging new circumstances; and 6) making decisions that account for one potential outcome instead of preparing for multiple scenarios.63, 64, 65

By claiming to empower stakeholders to be more attentive to the aversions and biases that undermine their capacity to better evaluate their interests, adaptive leadership supports the seizing of opportunities in order to review long-standing goals and behaviors. With encouragement to question their interpretations and strategies, parties are said to better engage with critical feedback and string together a more accurate picture of the problems they face. This means that the stakeholders might jointly constitute and redefine the exercise of leadership to foster conflict resolution, enhancing a shared sense of purpose in the allocation and management of transboundary natural resources.

These leadership steps may offer a foundation from which to build more effective partnerships. According to best practices in the field of collaborative decision-making, partnerships should be understood not as an end but as a means to build capacity, broaden influence, and strengthen measurable progress toward mutually agreed-upon goals. By relying on expert and local knowledge through joint research and fact-finding, the stakeholders can presumably address a wider array of public values, legal interpretations, scientific insights, and political priorities.66, 67, 68

64 Bazerman and Moore, 2002.
67 Innes and Booher, 1999.
68 Freeman, 1997.
Along this line of thought, the purpose of collaboration is to enhance interpersonal and institutional linkages, rendering conflict resolution more informed and actively owned by the relevant stakeholders. When, as in most cases, clear solutions are not evident, but there are, rather, various alternatives benefitting different parties in different forms, more robust decisions could be made on the basis of relationships of trust. In turn, by drawing upon an enhanced level of stakeholder coordination and exchange, government officials might be able to work with insights that better anticipate and respond to the needs of the communities they serve.69, 70, 71

To foster and sustain smart decision-making in transboundary disputes, government officials may be served by enhancing a sense of negotiated rule-making that builds on trial-and-error, confidence building, and benefit-sharing. This implies that government officials must overcome two conventional assumptions. The first of these is that business, scientific, civic, and non-profit stakeholders have no role in devising and implementing solutions, and are instead restricted to lobbying agency decisions and challenging them in court. The second holds that government officials have to take the relative power between the stakeholders as they find it, at most seeking compromise in response to outside pressure.72, 73, 74

Collaborative decision-making, however, actively seeks an effective interaction between public accountability, expert knowledge, and active participation, to leverage the skills of diverse stakeholders to resolve disputes. High-quality outputs in the form of more flexible guidelines, studies, standards, and projects are said to derive from mutual understanding, shared problem frames, agreed-upon baselines, and technically informed scenarios.75, 76, 77

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69 Quick and Feldman, 2014.  
70 Mandarano, 2008.  
72 Klein, 2009.  
73 Briggs, 2008.  
74 Sebenius, 1990.  
75 Corburn, 2005.  
77 Wondolleck and Yaffee, 2000.
Robust stakeholder engagement, mindful of the relationship between expert insights and issues of representation, transparency, and legitimacy, is argued to be critical to work against the conventional practice that opposes experts on each side accusing the other of misinterpreting the facts. This may severely undermine any negotiation, having a particularly negative impact on those in need of robust technical underpinnings, as is the case with natural resource management disputes. A collaborative practice of learning and acting together, which emphasizes the application of knowledge as interconnected, should provide a better structure through which to overcome deadlock.\textsuperscript{78, 79, 80, 81}

Effective partnerships with clear lines of responsibility may indeed assist in effective problem-solving. Such collaboration could include sharing data in which all parties can have confidence, allowing the parties to identify points of resistance, drawing upon a larger set of linkages, and working through multiple scenarios. A skillful combination of cooperation and adaptation might empower the stakeholders to think harder about their options, seek a wider range of solutions, build more stable agreements, and move toward implementable actions. This type of collaboration could be better suited to producing legitimate, creative, and resilient decisions that are in turn more responsive to the contingency, ambiguity, and variability that characterize open water, energy, and environmental systems.

In the process of studying the two Mexico-U.S. negotiations, it is also important to be mindful of how people are said to be wired to understand situations and make sense of events. The conventional notion that solely in reason we find progress, truth, and justice is deep and enduring. It is accompanied by the assumption that emotions degrade reason, distorting it through impulse and desire. Brain and cognitive science finds, however, that reason works under the initiative and guidance of emotions, which in turn help to shape decision-making.\textsuperscript{82, 83, 84}

\textsuperscript{78} Young, 2008.
\textsuperscript{79} Hordijk and Amman, 2007.
\textsuperscript{80} Susskind, Jain, and Martyniuk, 2001.
\textsuperscript{81} Steinberg, 2001.
\textsuperscript{82} Klein, 2009.
\textsuperscript{83} Westen, 2007.
\textsuperscript{84} Brader, 2006.
Our emotions use far more sensory and somatosensory information than could ever be managed by any other conscious mental process. Emotions store and convey significant information about the state of the world and the state of our own resources than is ever available by reason alone. This means that emotions may know more and know faster. They are said to influence what we focus on and what we remember, thus underlying our imagination, reflection, and judgment.  

Emotions may, therefore, be at the center of our stories. Every single one of the narratives we tell and hear in order to explain the world is filtered by two pathways in our limbic system: the dopamine circuit for positive emotions (happiness, satisfaction), and the norepinephrine circuit for negative emotions (anxiety, anger). Our brains bind emotions to particular markers in every story, with consequences in our behavior relative to them. We approach ideas, people, and situations that trigger positive emotions and avoid those that do the opposite.  

This is why it is critical to question, discuss, and be aware of the stories that underpin the ways in which people approach a dispute, as they may contribute in shaping their attempts to understand the situations at stake. The narrative in a dispute, both from the stakeholders and in the media, often emphasizes the rift between the parties by highlighting perceived grievances and injustices, without including insights and examples contrary to these perceptions. Crafting more balanced stories may serve to provide a better sense of solidarity and efficacy about where the parties are coming from, the reasoning behind their actions, and what they can achieve by moving forward.

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85 Iyengar, 2010.
86 Lakoff, 2008.
87 Marcus, 2002.
88 Ganz, 2011.
90 Polichak and Gerrig, 2002.
91 Ansell and Leeson, 2010.
92 Kearney, 2006.
93 Crawford, 2006.
To recognize the power of narrative requires being mindful of language and terminology. Stakeholders are said to be psychologically and politically wired to reject burden sharing. They may be more likely to interpret it as having purely negative impacts on their prospects. When natural resource management disputes emphasize the sacrifices rather than the opportunities at stake, solely the costs instead of the benefits, the stakeholders might reject the message and prolong their behavior, however risky or counterproductive this may be. Instead, the narrative could focus on empowering the parties to seize the gains that may clearly leave them better off.95, 96, 97, 98

The narratives used in resource management disputes might focus not on how the stakeholders can ever get along, but rather on how they can thrive in collaboration with each other, acknowledging the mistakes of the past and figuring out, together, how to move ahead constructively. Simple, short, meaningful, and memorable stories are claimed to foster more flexible strategies that move them forward with purpose. These narratives could be more sensitive to the intensity with which the parties relate to different values, ostensibly rendering their interests visible and supporting them to work together to redefine how they allocate rights, responsibilities, and benefits. This is considered to be a critical step to facilitate reconciliation, foster creativity, and enhance change.99, 100, 101

These insights suggest that the parties could look at the narratives surrounding water, energy, and environmental disputes, and ask ‘what place is there for us in this language, in this legal text, in this political space, in this story?’ ‘What voices does it allow to be heard, what relations does it establish among us?’ To look at resource management disputes in this way might direct attention to the limits that the media context and public stories place on the stakeholders’ capacity to improve their communities. Perhaps, it would focus attention on the ways in

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95 Hoffman, 2012.
100 Nobles, 2008.
101 Amsterdam and Bruner, 2002.
which they can fight against those limitations and broaden their scope of action, by empowering new interpretations, tapping new sources of resilience, and creating new meaning. A better sense of practical wisdom might emerge when stakeholders set out to shape compelling stories that resonate with them and empower them to constructively resolve their disputes.

In the following chapters, I present two recent transboundary negotiation cases between Mexico and the United States, through which to further examine the aforementioned themes. Chapter 2 focuses on the Gulf of Mexico negotiations. Chapter 3 centers on the Colorado River negotiations. In Chapter 4, I analyze how the experiences and outcomes of these negotiations relate to the theoretical and practical underpinnings discussed in this introductory chapter. Following the lessons learned from the cross-comparative case analysis, and with the aim of assisting future transboundary water, energy, and environmental resource negotiations, I also offer prescriptive advice about what the U.S. and Mexico could do moving forward, in order to build dispute resolution and negotiation capacity.
Chapter 2: Gulf of Mexico Negotiations

International maritime boundary between the United States and Mexico in the Gulf of Mexico

Source: American Society of International Law
2.0 Chapter Overview

The story of the 2012 Transboundary Hydrocarbons Agreement between the United States and Mexico presents a useful case through which to analyze various themes and strategies related to negotiation, leadership, and collaborative decision-making. This chapter begins with an outline of the sections in the case, followed by a discussion of the scope of the agreement in section 2.1. More details as to the geographic and economic context of the case; a political, environmental, and legal timeline; as well as illustrations can be found in Appendix A.

Section 2.2 of this chapter explores how Mexico was able to get the U.S. to the negotiation table. Due to changing political and resource-availability contexts on both sides of the border, along with the strategic engagement of industry stakeholders, Mexico was finally able to convince the U.S. of the need to create a framework through which to manage transboundary hydrocarbon reservoirs. In section 2.3, I examine how the U.S. federal agencies, through the thoughtful leadership of key individuals, were able to bring the necessary people to the their own side of the table through both formal and informal processes.

Section 2.4 demonstrates how creatively finding ways to share sensitive information, without giving up confidential components, was important for building trust between the two countries. In section 2.5, I describe Mexico’s in depth analysis of international examples of transboundary hydrocarbon reservoir agreements as a preparatory step in defining its alternatives for the negotiation process. Through the innovative suggestion of one principal U.S. negotiator to set up work group sessions, section 2.6 recounts the critical switch from an adversarial approach to one of mutual gains.

In section 2.7, I recount how the work group process, along with Mexico’s consultation with a U.S.-based law firm, aided in determining the zone of possible agreement. Section 2.8 explains how Mexico, through the strategic management of communications with the public, was able to combat the long-held narrative of skepticism that the U.S. could not be trusted and would inevitably seek to undermine Mexican interests in the energy sector.
Especially in light of the Macondo Oil Spill of 2010, section 2.9 describes the involvement of the environmental NGOs and how the U.S. negotiators were able to successfully convince the NGOs that having a binational agreement would be preferable to no agreement. Particularly, given that it would entail fewer, more strategically placed wells, an agreement would be preferable as compared to the status quo of unilateral development.

In section 2.10, I examine the involvement of the private U.S. oil industry in the binational negotiations. The focus is on how the parties were able to devise an incentive mechanism, unlike any other in the world, to manage potential conflicts between state-owned and private companies, and encourage the co-development of the reservoirs. Finally, section 2.11 underscores the criticality of building relationships of mutual trust, through the work group meetings and continued formal and informal interactions, to the ultimate success of the Gulf of Mexico negotiations.
2.1 Summary and Scope of Agreement

The United States – Mexico Transboundary Hydrocarbons Agreement was signed by the two countries on February 20, 2012 at the G-20 Meeting held in Los Cabos, Baja California. The landmark agreement marks the first significant offshore energy partnership in the history of relations between the two countries. As the first such agreement for either government regarding the management of transboundary hydrocarbons anywhere in the world, it re-defines the norms and practices that had shaped energy investment, exploration, and production between the two countries for the past 70 years. The deal resolves a 40-year-long dispute over maritime claims and removes a 10-year-long moratorium on oil and gas drilling 1.4 miles within a section of their maritime boundary in the Gulf of Mexico, called the Western Gap.

The binational agreement is structured to incentivize U.S. international energy companies (IOCs) and Petróleos Mexicanos (PEMEX), Mexico’s national oil company (NOC), to jointly explore, discover, and produce from offshore transboundary hydrocarbons reservoirs straddling the two countries’ 550 nautical-mile-long maritime boundary in the Gulf of Mexico. The agreement encompasses the statutory 3 nautical miles on each side, establishing a 6 nautical-mile-wide band along the entire maritime boundary that separates the two countries. This is equal to an area of 3 million acres that the U.S. Department of Interior estimates contains at least 175 million barrels of oil and 300 billion cubic feet of natural gas. In addition, the agreement quintuples the scope of the area, extending to parts of the territorial sea and continental shelf, by creating the legal and market framework to form partnerships within 15 nautical miles on either side, establishing a 30 nautical-mile-wide zone that stretches the length of the maritime boundary. This area is similar in size to the state of West Virginia.

Through the Transboundary Hydrocarbons Agreement, the U.S. recognizes

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Mexico’s ownership of the oil and gas resources on its side of the continental shelf, a right originally vested to Mexico through United Nations Convention on the Law of the Sea, to which the U.S. is not a party. Simultaneously, through the agreement, Mexico overhauls 70 years of practice in its oil and gas sector, dating from the government’s nationalization of the oil industry in 1938. The agreement creates a binational framework that, for the first time, provides IOCs with the right to bid for and develop hydrocarbon reservoirs in partnership with PEMEX. Prior to this deal, the NOC had been the sole entity with the right to conduct these activities on Mexico’s side.

The agreement sets up a multi-step, market-oriented process to encourage private parties to jointly explore, identify, and produce from transboundary offshore energy reserves through voluntary unitization. In the case of hydrocarbon reservoirs owned by two or more separate interests, unitization implies a commitment to co-develop the energy resources in order to:

- Minimize the number of wells drilled and infrastructure built (i.e. platforms, pipelines, etc.)
- Allocate costs and risks between multiple parties, rendering projects more feasible from an economic standpoint
- Promote strategic partnerships where proprietary data and technology is shared
- Maximize the recovery rates and reduce physical, financial, and environmental waste

Having such commercial relationship opportunities built into the agreement is unprecedented for the U.S. and Mexico energy sectors. In stark contrast to the approach of the past 70 years, the agreement further examines a broad agenda of interlocking issues regarding collaboration in the exploration, discovery, and development of ocean-based energy resources. This includes joint scientific and geological consultations, the notification of exploration and discovery data, and the potential sharing of facilities and infrastructure including drilling vessels, floating production systems, storage units, seafloor well heads, platforms, intra-field pipelines, and logging, repair, and intervention equipment.
By including this degree of cooperation, the agreement aims to decrease costs by avoiding duplication, and to allow the stakeholders in the two countries to do more with less at each step of the energy production cycle. In a departure from any other transboundary hydrocarbon agreement in the world, it empowers title-holders, the IOCs and NOC, to form partnerships before a transboundary reservoir is even identified. From exploration to production, the title-holders are empowered to appoint a single operator to optimize discovery and extraction. To ensure equitable development, single continuous deposits of hydrocarbons, trapped by a structural feature extending across the delimitation line in the maritime boundary, are identified as transboundary only once pressure registered on wells on both sides of the maritime boundary is linked. Since deep-water wells in the Gulf of Mexico cost at least $100 million USD, political interference based on speculation is ruled out.

By means of a bidding process, where multiple entities can compete to offer the most compelling development plan, a single operator is selected. The parties to the unit agreement can then submit for joint governmental approval by U.S. and Mexican authorities. Safeguarding the two countries’ sovereign natural resource interests, the unit agreement must allocate rights, liabilities, and responsibilities between the private parties. Once royalties and taxes are determined according to the each government’s regulatory directives, the parties can begin exploration, extraction, commercialization, and revenue-sharing.

The Transboundary Hydrocarbon Agreement further establishes dispute resolution mechanisms that go from consultation, to referred mediation, to expert determination. A permanent joint commission composed of a representative from each country, in coordination with their respective Executive agencies, is tasked with fostering joint working groups to directly address issues of contention that may arise regarding each unitization agreement. The purpose is to ensure the energy stakeholders take cooperative measures and strive for consensus in the interpretation and implementation of their partnerships.

In terms of a brief timeline of the negotiations that led to the signing of the Transboundary Hydrocarbons Agreement, the diplomatic talks began in earnest during the first two years of the Obama Administration’s first term. By May 2010,
through a Joint Statement at the White House at the conclusion of a State Visit, U.S. President Barack Obama and Mexican President Felipe Calderón recognized the “close link between economic development and competitiveness in the region,” and underscored the need to increase the “reliability of the countries’ energy infrastructure.” On the heels of the Macondo Oil Spill, they expressed their commitment to seek “a safer, more efficient, and more equitable bilateral energy framework,” that in turn ensures a “higher degree of safety and environmental oversight” in the exploration, extraction, and production of oil and gas through offshore facilities.

A month after the Joint Statement, the two countries announced their intention to negotiate an agreement to govern the disposition and regulation of hydrocarbon reservoirs crossing their maritime boundaries in the shallow and deep-waters of the Gulf of Mexico. As highlighted in Appendix A: The Gulf of Mexico Case Background, offshore energy issues had been a source of contention for decades, with each country trying to unilaterally shape their claim regarding the oil and gas resources in the shared ocean-basin. The formal negotiations were launched in the winter of 2010-2011, with focus during the spring on conducting binational work group sessions on different thematic areas related to offshore energy development.

On the Mexican side, the Foreign Ministry led the negotiations given that the issue at stake was national natural resources. This leadership was conducted in close partnership with the Office for Hydrocarbons and the Office for International Affairs at the Ministry of Energy. The negotiators received strong advisory support from PEMEX’s Legal Affairs, Exploration and Production, and Upstream Business Units, as well as the National Hydrocarbons Commission. On the U.S. side, the State Department led the negotiations, with support from the Department of Interior’s Minerals Management Service, which during the course of the negotiations was

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105 Ibid.
reorganized into, among other entities, the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement.

The two countries’ negotiators started to work in earnest on a text agreement during the second half of 2011. The negotiators reached an agreement in less than six months, by the end of that year, which was a fairly quick resolution by binational negotiation standards. In February 2012, U.S. Secretary of State Hillary Clinton and U.S. Secretary of the Interior Ken Salazar joined Mexican President Felipe Calderón and Mexican Minister of Foreign Relations Patricia Espinoza, to sign the agreement in Los Cabos, Baja California, at the G-20 Summit.

At the signing ceremony, Secretary Clinton remarked that it was a “great pleasure to sign this groundbreaking agreement,” following through on the leadership of President Obama and President Calderón “to improve energy security for both countries and shift to “more environmentally appropriate means of extracting fossil fuels.” Secretary Clinton underscored that by promoting the “safe, efficient, and equitable exploration and production of transboundary reservoirs,” the two countries are actively establishing a cooperative framework to “prevent and resolve disputes,” creating new opportunities that allow, for the first time, “American energy companies to collaborate with their Mexican counterparts.” Calling “this agreement a win-win, that benefits the U.S. and Mexico alike,” Secretary Clinton highlighted that the agreement is “further proof of how Mexico and the United States come together to solve shared challenges.”

Both countries have already enacted the agreement and are currently developing the regulatory framework. The Mexican Congress ratified the Transboundary Hydrocarbons Agreement in April 2012, and implemented a series of related constitutional reforms in December 2013. The U.S. Congress introduced legislation to auction leases and enhance oil and gas pipeline infrastructure in the Gulf of Mexico beginning in June 2012, and ratified the agreement in December 2013 through the Bipartisan Budget Act.

107 Ibid.
108 Ibid.
2.2 Getting the Other Side to the Table

In the year 2000, through the Treaty for the Delimitation of the Western Gap, the U.S. and Mexico established a ten-year moratorium on the exploration of, and production from, potential hydrocarbon reservoirs in the Western Gap, a zone near the continental shelf maritime boundary. The moratorium’s aim was to provide the countries with the time to reach an agreement about the most effective, efficient, and fair mechanism to manage those potential reservoirs. This was no small task, given that their oil and gas industry frameworks were on opposite ends of the spectrum, with a market-based, lease system for exploration and production by private companies on the U.S. side, and a state-owned national oil company with monopoly over the resources on the Mexican side.

During the first five years of the moratorium, in binational discussions as well as meetings at the United Nations where both countries had to engage in periodic consultations about the rules that should govern the extended continental shelf, it became clear that the U.S. had little interest in discussing the topic of the Western Gap, and even less in potential transboundary reservoirs straddling the maritime boundary along the Gulf between the two countries. Multiple U.S. agencies argued that since it was not evident that any transboundary reservoirs existed, there was no point in defining a legal framework regarding how to manage them. Mexico, on the other hand, maintained that the two countries needed to define such a framework beforehand, as a preventive measure.

While the two countries remained at odds over if and how to proceed on transboundary reservoirs, Mexico was being impacted by a stark downturn in its domestic oil production. For decades, the country had relied heavily on the Cantarell

Note: All the interviews are listed in Appendix C, outlining the interviewees’ current positions. The footnotes indicate their professional appointment during the time of the negotiations.

oil field off the coast of Campeche, in the Yucatán Peninsula. This was a massive structure, by far the largest in the nation and one of the largest in the world, which reached a peak production of 2.1 million barrels per day in the early 2000s. This oil field, with a very low production cost, accounted for more than half of Mexico’s total crude output. However, production had been declining substantially since 2004, increasing Mexico’s need to develop new fields. By 2008, Cantarell was producing half a million barrels per day fewer than in the early 2000s, a roughly 25% decrease, which was an extremely worrying shift for the Mexican government.112

As it slowly became evident that the decline was irreversible, Mexico needed to find new sources of oil and gas, as a third of the revenue that finances total public spending in the country comes from taxes on the NOC, PEMEX.113 Would PEMEX have the capability to explore the whole country, both offshore and onshore, by itself? Would PEMEX have the experience and resources to try to move forward with the more technically challenging exploration, appraisal, and development of deep-water resources in the Gulf of Mexico all on its own? The answers to those questions pointed to the need to create a new framework, both at PEMEX and in the overall domestic energy sector, so that the NOC could build the sort of international partnerships that had been out of the question for decades.

As the Obama Administration began its first term (2008-2012), Mexico’s President, Felipe Calderón (2006-2012), who had been Mexico’s Energy Secretary in the early 2000s, decided to raise the topic of transboundary reservoirs with the White House. He already had before, at the twilight of the Bush Administration, but was then met with a tepid response. Calderón was mindful of the changing circumstances in Mexico’s oil production, of the fact there was no regulatory framework governing the exploration and development of potential transboundary reservoirs, and concerned about the conflicts that could ensue.114

113 Seelke, Villareal, Ratner, and Brown. 2015.
Meanwhile, Chevron was drilling 10 miles away from the maritime boundary in the Trident and Hammerhead fields, as well as in the neighboring Great White, Tobago, and Silver Tip fields along with Royal Dutch Shell. At that same time, PEMEX had estimates that the Perdido Fold Belt formation on the Mexican side of the maritime boundary, 25 miles south of U.S. waters, near the alluvial of the Rio Grande in the Gulf of Mexico, held 350 million barrels of oil in proved, probable, and possible reserves. Perdido’s geology heavily influences the western part of the southern Alaminos Canyon area, where the IOCs had already heavily invested on the U.S. side. In light of this, President Calderón summarizes the challenge at hand:

> Because the energy resources at stake are substantial, both countries needed to look at how to address two interrelated elements. First, the political aspect, the concern that the country that begins extraction unilaterally on one side may end up draining resources from the other side due to the unexpected vagaries of reservoir pressure. Second, and more important, that in order to efficiently exploit these oil fields, you need to inject natural gas and carbon dioxide at different locations, and we cannot do that working just on one side of the border.

When President Obama and Secretary of State Clinton took office, they were receptive to Calderón’s arguments and demonstrated an increased commitment to discuss this issue. For many years previous to this, however, the conditions, and thus the impetus, on the U.S. side, to move forward on binational negotiations had been lacking. First, the seismic data they relied on had not been sufficient to presume the existence of any transboundary reservoir. Second, U.S. officials were uninterested in pursuing an agreement, as they were worried that engaging in negotiations with Mexico would set a negative precedent that could affect disputed areas in other parts of the world.

This started to change, however, as the IOCs’ leasing and drilling activity got closer to the maritime boundary in the Gulf. The U.S. began to recognize that private industry was hesitant about acting directly along the border because of the potential

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dispute it would cause with Mexico. Renee Orr, Chief at the Office of Strategic Resources at the U.S. Bureau of Ocean Energy Management, describes this shift being based on “a glimmer of hope of partnerships down the road with Mexico. It did not make sense to muddy the waters. The near-term gain was not meaningful enough as compared to the potential long-term gain.” The newly appointed U.S. Ambassador to Mexico, Carlos Pascual, was entrusted to further explore this issue:

The first time I began to think about the topic was on my first flight to Mexico coming here as Ambassador in August 2009. I was flying in Air Force One with President Barack Obama and James Steinberg, Assistant Secretary of State. Jim asked me to take a look at this issue of a transboundary agreement that had come up in discussions before. We wanted to look at it carefully again. That weekend was the North American Leaders’ Summit in Guadalajara, Mexico, and a number of meetings took place. I met there with Mexico’s Energy Secretary, Georgina Kessel, where we briefly discussed this topic. I then met with her again three weeks later in Mexico City. One of the things she conveyed was that Mexico was looking to implement reforms that would allow international participation in the energy sector. One area that could offer promise to both sides, in terms of political acceptability, was to engage in negotiations about transboundary reservoirs. The core component was to provide an opening for cooperation on hydrocarbons that had not been possible in the past.

Ambassador Pascual reported these insights back to James Steinberg, Assistant Secretary of State, who thought this was an interesting opportunity. Steinberg conveyed he would talk with his colleagues in Washington to see what could be done to advance the process. Soon thereafter, Pascual visited Washington to speak with U.S. State Department colleagues and further explain what he thought were the important factors in pursuing the issue.

In turn, the U.S. Embassy personnel in Mexico City conducted a wide stakeholder consultation process with Mexican officials and international energy companies. The aim was to better understand the interests and concerns that could

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shape the potential binational negotiation process. These consultations, on many occasions hosted at the Ambassador’s house, were open-ended, small and informal dinners, in which an array of IOC and NOC representatives from across the globe described industry priorities and practices. The purpose of this outreach was to gain a better understanding of what the negotiations would entail.\textsuperscript{120}

Throughout all of 2010, Ambassador Pascual remained engaged with the political players on the Mexican side, including key members in the Senate and the Lower House, reporting back to his colleagues in Washington D.C. that the political context in Mexico remained favorable for a binational effort. Mexican officials noticed this increased interest on the part of the U.S. authorities and understood it as a political gesture to: 1) define the rules of the maritime boundary; 2) enhance hydrocarbons exploration and production; 3) and support Mexico’s domestic energy reform efforts.\textsuperscript{121} Luis Macías, the Manager for New Business Ventures for Exploration and Production at PEMEX, recounts this shift:

Prior to the Obama Administration, we often encountered U.S. officials who suggested that Mexico did not have the will or the capacity to address the issue of transboundary hydrocarbon reservoirs. When the Obama Administration came to office, we noticed a change and the willingness to shape mutual gains by working together.\textsuperscript{122}

Simultaneously, on the domestic side, the U.S. had become increasingly concerned about strengthening its energy security by relying less on specific oil-rich counties with whom diplomatic relationships were geopolitically complex.\textsuperscript{123} This context encouraged the U.S. to strengthen its energy relations with Mexico. As Guillermo Zúñiga, Director for Petroleum Operations at Mexico’s Ministry of Energy recalls, the Mexican officials realized that the window of opportunity they had been waiting for to move forward was right in front of them:

\textsuperscript{120} Emrich, S. 2015.
\textsuperscript{121} Hernández, J. 2014.
\textsuperscript{122} Macías, Luis. Manager, New Business Ventures for Exploration and Production at PEMEX. Personal conversation. November 12, 2014.
Between government agencies, we had discussed what kind of binational agreement we should seek. One option was to reach a merely declarative agreement, highlighting principles and leaving real negotiations for the future. However, as circumstances evolved, we realized we needed this agreement to be a critical part of our efforts to turn around the country's declining oil production. In the face of this window of opportunity with increased receptivity from the U.S., we thought it was the moment to go all in and try to reach a comprehensive agreement.  

PEMEX wanted better and more solid instruments with which to engage third parties in the private sector, particularly mechanisms that go beyond service contracts. The Mexican Constitution, however, had ruled out production-sharing and profit-sharing instruments since the 1930s and the political context seven decades later indicated that a Constitutional reform was still not feasible. Mexico had, however, enacted a set of regulatory reforms in 2008 that, for the first time, opened the door for the participation of the private sector in the Mexican oil industry.

The 2008 Mexican legislation stated that the production from transboundary reservoirs could be subject to the mandates established in an international treaty. These reforms created an opportunity to bridge the gap between two very different domestic legal frameworks. As Deputy Secretary for Hydrocarbons at Mexico’s Ministry of Energy Mario Budebo points out, it was imperative for the country to find a way to substantially increase deep-water exploration and production. “We needed to do that through international partnerships. This meant going well beyond what had ever been legally and logistically in place on our side of the border.”

However, when the Mexican Ministry of Energy contacted the U.S. Department of the Interior (DOI) Minerals Management Service (MMS) to kick-start the process on a technical level, the response from U.S. officials was once more that

127 Budebo, Mario. Deputy Secretary for Hydrocarbons at Mexico’s Ministry of Energy, Member of the Board of Directors at PEMEX. Personal conversation. January 8, 2015.
they did not see any need to reach an agreement of any kind.128 They conveyed to Mexico that they had no data suggesting that any transboundary reservoirs existed, at least not at the time, and that therefore, there was no urgency to begin negotiations that they imagined would be very complex and demand employee resources they did not have available.129

As a consequence of this response, Mexico’s Energy Ministry decided, as a first step and in coordination with PEMEX, to gather all Mexican seismic data on the maritime boundary, and get the publicly available seismic data about the areas near the maritime boundary on the U.S. side. Once they had that, they cross-referenced it, to highlight continuous formations where the probability of transboundary reservoirs was considerable. Aldo Flores, Director-General for International Affairs at Mexico’s Ministry of Energy, summarizes Mexico’s perspective at that time:

The strategic vision was to first argue, ‘we have a problem here; the other side may not think we do, but we do. Let’s acknowledge it is there. Once we agree there is a problem, let’s sit to discuss what each side thinks would be useful to solve the problem. Once we have a broad understanding, let’s home in on the steps we should take together and solve it.’130

As part of these efforts, Mexico researched, reviewed, and analyzed publicly available official U.S. documents in which the MMS outlined the principles and strategies it was pursuing to ensure the effective stewardship and sustainable management of U.S. natural resources in the Gulf of Mexico. When Mexico contacted the MMS again, having gathered such knowledge, they highlighted the fact that the more the countries worked together to devise a framework to jointly manage shared natural resources, the more efficient and optimal the MMS’ sustainability efforts would become. Leonardo Beltrán, currently the Deputy Secretary for Energy

128 Herrera, J. L. 2015.
Transition and Planning at Mexico’s Ministry of Energy, and at the time the Director for International Negotiations, was responsible for this tactic. As he explains:

We used their own official arguments to make the case that it was not effective to work separately, when instead Mexico and the U.S. could develop medium and long-term strategies to sustainably manage our shared natural resources. Building a flexible binational framework would enable working jointly towards this common sustainable management goal.\textsuperscript{131}

Mexico’s second step was to consult with the companies conducting exploration and production activities on the U.S. side of the Gulf of Mexico, to explore if they saw the need and would be interested in a binational agreement. If so, Mexico hoped, they would be willing to lobby the U.S. Congress in favor of such an agreement.\textsuperscript{132} Exxon, Chevron, BP, and Shell, among others, have offices in Mexico City and are in close contact with PEMEX and the Ministry of Energy as a result of the fact they own gas stations, produce industrial lubricants, and have technological partnerships in the country. The companies expressed to Mexican officials that technological advances in drilling were facilitating their ability to work in deep water and that their only concern regarding working near the maritime boundary was the possibility of having a dispute with Mexico. The IOCs explained that this uncertainty was limiting investment flows.\textsuperscript{133}

The IOCs saw the discrete possibility that the binational negotiations would impact the relationships between industry and government, as well as between energy companies. Hence, they sought to ensure that those interactions could be determined primarily by the stakeholders themselves, removing the threat of confrontation between the countries, but allowing the companies to define the particulars of each transboundary reservoir joint venture.\textsuperscript{134}


\textsuperscript{132} Guaso, Sergio. Vice-President, New Ventures, Upstream Business Unit at PEMEX. Personal conversation. January 22, 2015.

\textsuperscript{133} De la Garza, Xavier Antonio. General Manager for International Legal Affairs at PEMEX. Personal conversation. January 19, 2015.

\textsuperscript{134} Macías, L. 2014.
In turn, after those two steps, with the data gathered by PEMEX and the information gathered from the IOCs, the Mexican officials met again with U.S. representatives. As Budebo explains:

We met to discuss Mexico’s seismic insights and highlight that on the heels of the domestic energy reform, PEMEX would ramp up the efforts to conduct oil activities in deep waters. In turn, the U.S. became more intrigued, understanding that we were committed to moving forward and that unilateral moves on our side of the maritime boundary were not necessarily in their best interest either.\(^{135}\)

Soon thereafter, discussions intensified, until eventually on May 19, 2010, in a White House Summit between Presidents Obama and Calderón, the issue of transboundary reservoirs in the Gulf of Mexico was officially announced as a priority in the bilateral agenda.\(^{136}\) In a joint statement that summarized the Presidents’ discussions about finding new ways to enhance mutual economic development, cooperate against transnational organized crime, protect vulnerable communities, and meet future energy needs, they expressed their commitment “to ensure energy security in North America and to the safe, efficient and equitable exploitation of transboundary reservoirs with the highest degree of safety and environmental standards, toward advancing that shared commitment.”\(^{137}\)

This was a significant announcement for the binational energy sector. It was further solidified a month later on June 23, 2010, when the U.S. State Department issued a joint statement by the United States and Mexico, outlining a mutual intention to negotiate an agreement governing the disposition and regulation of hydrocarbon reservoirs that cross their international maritime border in the Gulf of Mexico. In the joint statement, the two countries stated that “although no entity had yet discovered a trans-boundary reservoir, they deemed it important to have a bilateral regulatory regime in place should such a discovery be made in the future.”\(^{138}\)

This echoed Mexico’s original argument and signaled that the mandate on the U.S. side had been redefined.

\(^{135}\) Budebo, M. 2015.  
\(^{136}\) Calderón, F. 2013.  
In the interim, both governments agreed to extend the moratorium on drilling and exploitation in the Western Gap. The moratorium, which was set to expire in January 2011, as per the 2000 Western Gap Treaty, was extended until January 2014 without prejudice to any further extension. In the announcement, the two countries indicated that any agreement resulting from their transboundary reservoir negotiations would include the Western Gap and take precedence over their joint decision to extend the moratorium in that area.

These developments underscored a level of intent to reach a mutually beneficial agreement that had not been present ever before.\textsuperscript{139} Michael Taylor, the Desk Officer in charge of Mexican Affairs at the U.S. Department of State, summarizes the impact of this political mandate, coming from the leaders of the two countries:

> When our two presidents issued a very public statement indicating that they wanted this agreement, it really helped to defuse much of the potentially serious opposition that either side could bring to the table. Had it not been the case, maybe we would have had more difficult discussions. In this instance, where the political leadership had established the goal and it was our job to live up to that goal, that really put people in the same kind of cooperative mindset. We knew we had to produce something that worked for both sides.\textsuperscript{140}

Soon thereafter, as part of the efforts to foster a broad political consensus, Secretary of the Interior, Ken Salazar, and Special Envoy for International Energy Affairs at the U.S. State Department, David Goldwyn, visited Mexican officials in the fall of 2010. In January 2011, Secretary Clinton came to visit Mexico as well. One of her meetings with the Mexican Minister of Foreign Affairs, Patricia Espinoza, was specifically on transboundary reservoirs.\textsuperscript{141} By then, a strong political agreement to launch the negotiations was set.


\textsuperscript{141} Pascual, C. 2015.
2.3 Getting Your Own Side to the Table

For years, from the perspective of U.S. officials, the Mexican government had requested an agreement to unitize transboundary reservoirs and co-manage energy development for two main reasons. First, Mexico believed there were transboundary oil reservoirs in the Gulf of Mexico, and they wanted to take advantage of these available resources. Second, they wanted to address their concern that U.S. operators with wells close to the maritime border could drain reservoirs on the Mexican side.

The U.S., for its part, had not been interested in having these negotiations for three reasons. First, DOI did not believe there were any transboundary reservoirs, so there was no sense of urgency. The second reason was that DOI had long adhered to the rule of capture, which was essentially first-come, first-served, as long as the location of the well itself was within the jurisdictional boundary. So, from DOI’s bureaucratic point of view, which was to maximize the value of U.S. acreage for the U.S. Treasury, there was no motivation to have a transboundary agreement. Third, the DOI’s perspective was that the ‘drainage’ argument was unfounded because the nature of the geology in the Gulf of Mexico, at least on the U.S. side of the Gulf, is such that the reservoirs tend to be narrow and quite deep, and the formations do not allow for much lateral oil movement. Therefore, DOI did not think there was any communication between oil fields on the U.S. side that they had licensed and oil fields on the Mexican side, should Mexico choose to operate them.

The push to engage in binational negotiations from the U.S. side, thus, would not come from the Department of Interior. Instead, it would emerge from the Department of State (DOS), through the initiative of David L. Goldwyn, the Special Envoy and Coordinator for International Energy Affairs, the highest-ranking official on energy issues at DOS, reporting directly to the Secretary of State, Hillary Clinton. As he explains, “when I got to the State Department in 2009, the topic of transboundary reservoirs looked to me to be one of two or three issues which could
dramatically improve U.S. energy security.” At the time, the belief in the U.S. was that the U.S. would continue to be dependent on energy imports, so ensuring a major Canadian supplier and Mexican supplier would give the U.S. physical security as well as market security. As Goldwyn describes, the aim was to encourage Mexico’s reform efforts to open up their energy sector to foreign investment:

The way to do that was to help the Mexicans help themselves to build the public confidence that this could happen for their own benefit. From my point of view, it did not matter a great deal whether there was or there was not a transboundary reservoir. By supporting an agreement and negotiating it, hoping frankly that maybe someone would find a transboundary reservoir, the possibility for joint development would emerge. This would show the Mexican population that you could introduce foreign technology and capital and that the Mexican government and their citizens would profit.

Typically, in this kind of a negotiation, the Department of Interior would have been the lead because 90% of the substance at stake is firmly within the purview and jurisdiction of DOI, such as how to identify acreage, determining the notice to leaseholders, the unitization of fields, and the regulations that would apply. However, in this case, DOI did not have the bandwidth. Michael Bromwich, Director of the Bureau of Ocean Energy Management and appointed by President Obama to lead the reorganization of the Minerals Management Service into three separate agencies, explains that at the time, the people who were responsible for the Gulf of Mexico office at DOI had their hands full with this organizational change.

The Minerals Management Service became three different entities: the Office of Natural Resources Revenue (ONRR), in charge of collecting royalties; the Bureau of Ocean Energy Management (BOEM), responsible for managing the development of offshore resources; and the Bureau of Safety and Environmental Enforcement (BSEE), to enforce safety and environmental regulations. In general terms, what the

143 Ibid.
U.S. government was trying to do was to completely separate the money collection from the day-to-day facility inspection.\textsuperscript{145}

As a result of the MMS reorganization, the transboundary negotiation process had to be driven instead by the State Department, though not without significant hurdles. The trepidation to start lengthy and involved negotiations that were thought to likely lead nowhere was a sentiment shared at various U.S. agencies. The State Department’s Legal Advisor’s Office was initially tepid on engaging in negotiations because Mexico had attempted a number of times before to engage the U.S. on the issue of transboundary reservoirs, but each time attention on the topic would die down with no concrete results. Moreover, the prior negotiations with Mexico to delimitate the Western Gap had been very challenging, and it seemed like a substantial amount of work to undertake while focusing on global climate negotiations. As Goldwyn recalls, “this was not something top of the agenda; too many were asking, ‘do we really need this?’”\textsuperscript{146}

These sentiments are summarized by Kevin Karl, currently Senior Adviser to the Regional Director of the Gulf of Mexico Outer Continental Shelf Region at the U.S. Bureau of Safety and Environmental Enforcement, and at the time of the negotiations, Regional Supervisor at the Office of Production and Development in the Gulf of Mexico Region for the U.S. Minerals Management Service. He explains, “the first time I went to Mexico to discuss a transboundary reservoir was in 2004. There would be a push, and then it would die off. There would be another push, and then it would die down again. And the years would pass by.”\textsuperscript{147}

In this context, having an energy-security advocate in the State Department would prove critical to get people to move from entrenched positions and build a consensus about the benefits of launching binational negotiations. In order to sustain this new approach, Goldwyn led efforts on two fronts, one informal and the other formal. First, he made sure he had Secretary Clinton’s support:

\textsuperscript{146} Goldwyn, D. 2015.
\textsuperscript{147} Karl, K. 2015.
When I first came in on the job, I used the many opportunities in the Department to focus on this, to express my priorities to Secretary Clinton, to convey it was on my top three of issues, as a way of communicating and getting buy-in. In my first month in the job I had a presentation with the Secretary’s staff describing basically, ‘this is how I see my job, this is where I think the key drivers of the energy world are, and these are the issues.’ Then every so-often you have reviews, where you outline what are the priorities for the next six months. At the same time I worked with colleagues, Carlos Pascual, U.S. Ambassador to Mexico, Arturo Valenzuela, Assistant Secretary for Western Hemisphere at the State Department, DOI’s Deputy Assistant Secretary Ned Farquar, and Dan Restrepo, the Senior Director for Western Hemisphere Affairs at the White House, all of whom understood the critical role that energy sector plays in financing Mexico’s development. I would just talk to them and explain, ‘I am going to try to do this, this is important, can I have your support.’148

The formal process involves Circular 175 Authority, which requires that in order to enter into formal negotiations with another country, the Secretary of State must approve an official memo. It also involves getting clearance from all of the other agencies concerned. Ultimately, the Circular 175 Authority is what allows the parties involved to move forward. The groundwork to get this approval requires several steps: educating multiple partners, having ongoing conversations, persuading people who are uncertain to at least hear what you are proposing, explaining the history and what is at stake, and then finally asking for a formal meeting. As Goldwyn explains, Secretary Clinton was extremely supportive in understanding the issue, being willing to weigh in to push it forward, and providing the space and resources to advocate for it:

The White House was also very receptive; so I got them to call the meeting. We were going to need an Assistant Secretary level meeting to do this. Once the meeting date is set, you talk to the parties that are coming to the meeting about which position you are going to take. You explain what it is that you are going to try to accomplish through the meeting, so that they can lubricate the process and make sure that the outcome is approved. Then you take that outcome and you say, ‘we got agreement to go forward, now let’s move the memorandum and advance the process.’ So, it is a lot of informal communication and

listening to the others about what they are worried about, so that you present a package that they can approve.\textsuperscript{149}

In this way, the State Department took the strategic lead on both the informal and formal steps, bringing DOI’s BOEM and BSEE along, somewhat begrudgingly though cooperatively and effectively under Bromwich’s leadership. A person of high credibility, Bromwich had been an Inspector General, was an experienced corporate lawyer, and as a political appointee, he was able to conceive of the broader strategic benefit of a negotiation with Mexico over transboundary reservoirs. Bromwich understood that, “if Mexico were to open its oil and gas sector to outside private enterprise, the U.S. private industry would be in a favorable position to reap the gains from offering the kind of commercial experience and technical expertise that Mexico had yet to develop, given its limited offshore exploration and nearly nonexistent deep-water production.”\textsuperscript{150} As Michael Taylor, Desk Officer on Mexico at the U.S. Department of State, further explains:

\begin{quote}
The U.S.’s underlying interest was to ultimately gain better access to the Mexican energy sector. That is a very sensitive sector in Mexico. It had been for decades after the nationalization in the 1930s. However, there had been signals from the Mexican government, certainly when President Calderón came into office, that Mexico realized that PEMEX needed an infusion of fresh capital from overseas, because a lot of their primary reserves, particularly Cantarell, were near the end of their production cycle. If Mexico was to continue generating the source of revenue it had been generating from energy sources, it had to do things differently. So, the door they wanted to open first, as a test, was how do you manage the reservoirs straddling the maritime boundary. ‘Let’s see how it goes,’ I think that was their attitude. If it went well, I think both sides knew, or hoped, that it would lead to further activities in the future.\textsuperscript{151}
\end{quote}

With the proper political motivations in place, the White House was ready to announce the launch of the negotiations in a binational summit between President Obama and President Calderón, scheduled for May 2010 in Washington, D.C. This summit announcement was postponed, however, as that April, the catastrophic

\begin{footnotes}
\item[149] Goldwyn, D. 2015.
\item[150] Bromwich, M. 2015.
\item[151] Taylor, M. 2015.
\end{footnotes}
Macondo oil spill occurred. Remarkably, rather than unraveling the agreement to begin negotiations, the countries were able to postpone the launch for a while, holding off on sharing developments with the public about it until things settled down.

A few months post-Macondo, the two countries took another look and agreed that the motives to pursue a transboundary agreement remained. On the U.S. side, there was a foreign policy reason to help Mexico shore up its declining oil revenues, as this would enable greater economic stability, and hence have critical effects on border security, immigration, and trade. Environmental safety was another impetus, as the agreement represented an opportunity to require that any development in the transboundary space adhere to clearly defined safety standards. The U.S. had an energy security objective as well because, in the event that the countries did find a transboundary reservoir, this would ensure a politically stable source of oil.

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152 Morningstar, R. 2015.
2.4 Building Trust by Sharing Information

The subject matter of the negotiations, the exploration and exploitation of transboundary hydrocarbon reservoirs, involved a high degree of technical intricacy. Throughout the process, the sequence in which seismic data would be shared between the parties was critical. From Mexico’s perspective, PEMEX had first to convey a degree of certainty about the plausibility of transboundary reservoirs to the Mexican government agencies.\textsuperscript{154} Then it was necessary to forge a partnership with the U.S. energy industry to confirm whether the IOCs believed the existence of transboundary reservoirs to be conceivable, as well as if it would be in their commercial interests to explore and produce from them.\textsuperscript{155}

After that, together in a coalition, Mexico and the IOCs could approach the U.S. government about defining a binational framework. Without the U.S. industry lobbying the U.S. Congress, arguing that it was in the commercial interest of both sides to launch negotiations, Mexican authorities did not believe the two countries could reach an agreement.\textsuperscript{156} From PEMEX’s point of view, the best antidote against the decades-old arguments by U.S. officials that PEMEX was not willing and able to explore and produce in deep water was to have U.S. energy companies lobbying Congress with information to the contrary, highlighting the business opportunities at stake.\textsuperscript{157}

Mexico’s first challenge, therefore, was to persuade U.S. officials that the management of transboundary reservoirs was an issue that needed to be addressed, and that it was in their best interest to sit at the negotiating table as soon as possible. In this endeavor, the work of PEMEX’s technical team was instrumental. PEMEX needed to convey that along with the political and economic reasons to pursue offshore energy development, there was also a geological basis for pursuing the issue and that they had the seismic data to prove it.

\textsuperscript{154} Ceballos, Elizabeth and Fernando Rosenzweig. Legal Counsels at PEMEX. Personal conversation. January 19, 2015.
\textsuperscript{155} Guaso, S. 2015.
\textsuperscript{156} Zúñiga, G. 2015.
\textsuperscript{157} Macías, L. 2014.
However, given Mexico’s Constitutional framework and the historic sensitivity of Mexican public opinion regarding oil resources, Mexican officials also needed to deal with U.S. concerns about Mexico’s political commitment and ability to see this process through. The cost of engaging in such a process, just for it to be curtailed suddenly by the vagaries of the Mexican domestic political landscape, was enough to make the U.S. officials question engaging in the negotiations. As Aldo Flores, Director-General for International Affairs at Mexico’s Ministry of Energy, explains, Mexico needed to make a compelling case about its credible commitment:

The U.S. could argue that it has not interfered with the Mexican oil industry for decades. And in turn, ask, ‘you are inviting us to be a part of this new process, and we want to know if you actually mean it, if you have the mandate, political clout, and credibility to see this through, because if it fails, we are going to be accused of intervening in Mexico.’

This implicit doubt hovered over the process. Hence, Mexico needed to persuade the U.S. officials that the context of the Mexican oil industry was changing and that the political mandate was for that process to continue. As described by Ambassador Arturo Dager, Chief Legal Adviser for the Ministry of Foreign Affairs, and Head of the Mexican negotiating team:

One of our critical tasks was to explain to the U.S. officials that what we were working on together was absolutely new for Mexico, had never been tried before, and that to take such a step was not easy at all, but that we were completely committed to forging a new path. Perhaps, had our delegation been led by people with a traditional sense of Mexican history, the results would have been different. But we were convinced that we could protect and enhance Constitutional principles while substantively innovating.

To convince several U.S. officials of this was no easy task, because it made no sense for them to negotiate about something that, in their view, did not exist. Furthermore, they were wary about setting an international precedent that did not

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158 De la Garza, X. A. 2015.
159 Flores, A. 2014.
reflect the rule of capture, the status quo.¹⁶¹ The U.S. believed that there was no geological proof of transboundary reservoirs, and if they ever turned out to exist, negotiating still would not be necessary, as under the rule of capture, unless you drill a well, no resource can be claimed.

The challenge for Mexico, then, was to make the case that because potentially shared natural resources were at stake, Mexican law, not only U.S. law, must be considered. The Mexican argument was that Mexico’s legislation did not have any provision recognizing the rule of capture, and that if each side chose to follow their own legislation unilaterally, they would be heading into a political conflict they could clearly avoid. Flores summarizes the situation:

Our argument was that the moment the two countries found a transboundary reservoir, if they did not have a solid framework in place, then the likelihood of a very serious conflict would increase exponentially. We did not want to find ourselves in the same sort of bind that had historically, several decades ago, in the 1930s, led to the revocation of private property rights and the establishment of Mexico’s Constitutional principles, indicating oil belonged solely to the Nation. We needed to define a transboundary framework beforehand. Mexico wanted to proactively prevent a crisis. We needed to have a binational framework in place in accordance with the Mexican Constitution and supported by public opinion to uphold the principles of the Constitution.¹⁶²

One significant hurdle to achieve this was the degree of mistrust between the two countries, given that each side had differing information as to the physical characteristics on the other side of the maritime boundary. On the Mexican side, PEMEX held the geological data and nobody else had access to it, whereas on the U.S. side, the data was dispersed between myriad private companies. In both countries, the information was proprietary and confidential, which meant an asymmetry was inevitable. When PEMEX met with DOI officials, they were told that the U.S. government did not have access or the authority to share the IOCs’ seismic data.¹⁶³ PEMEX officials felt it was unfair under these circumstances for the U.S. government

¹⁶¹ Macías, L. 2014.
¹⁶² Flores, A. 2014.
¹⁶³ Budebo, M. 2015.
to ask for Mexican data when Mexico would not receive information from the U.S. government in return.

In light of these circumstances, as Leydi Barceló, Deputy Director for International Negotiations at Mexico’s Ministry of Energy explains, figuring out how to reach an agreement about the amount of information to share, “when there were so many different degrees of information, with several critical details at stake, was an extremely nuanced task.”164 To decide what and how to share some of the information the two countries had, in a way that would protect the natural resources at stake, while discussing what Mexico believed were transboundary fields, to move the process along, it was necessary for both sides to take a step back and rethink their circumstances. They needed to realize they were not negotiating a precise exploration and production agreement, but instead defining the framework by which the operators would then try to identify and manage such reservoirs. According to Leonardo Beltrán, the Director for International Negotiations at Mexico’s Ministry of Energy, it was necessary to foster a more flexible and constructive mindset:

The critical challenge was to reach a common understanding about the sequence at stake: that both countries needed to first define the space where the partnerships between the IOCs and PEMEX would be conducted, and then do the exploration to assess the split of resources, not the other way around.165

Therefore, since the two countries wanted to negotiate an agreement that ensured best practice and the efficient development of the energy resources, figuring out an effective way to share meaningful information was a necessary step.166 To this effect, the international team at the Ministry of Energy had spent several years reiterating this critical need in side-talks and informal conversations whenever they visited Washington, D.C. or met with U.S. officials in multi-lateral events, building the relationships and confidence to push the process forward.

164 Barceló, L. 2014.
165 Beltrán, L. 2014.
166 Zúñiga, G. 2015.
Eventually, the breakthrough came when Mexico suggested that each country share meaningful seismic information in a presentation format, though without sharing detailed documents that could be taken away from the venue, such that the other side could get a general sense of the information that formed the basis for the hosting country’s assumptions, without any confidential information leaking out.167

Mexico took the first step in this direction and held a meeting in a state-of-the-art 3D visualization center owned by PEMEX in Villahermosa, Tabasco. The U.S. officials had never before been invited to see Mexican seismic data to this degree and in such a setting. As Sigrid Emrich, Deputy Economic Counselor at the U.S. Embassy recalls:

It was transformative because it was the first time the Mexicans were presenting seismic data to which we had never had access before. It showed us how serious Mexico was about moving forward with this process. Our interactions with PEMEX had never been as open as what happened in that meeting: it put our relationship on a whole other level. We could relate quite well with the Ministry of Energy officials, but for us, interactions with PEMEX, as an NOC, were always in a uniquely different category. It was extremely helpful to get to know our colleagues in PEMEX in a different way and have such an open conversation. Our impression was that the Mexican government was trying to signal the beginning of a new era with concrete actions.168

Thus, the presentation was significant, beyond substantive considerations, in terms of building trust between the two countries. As David Madero, Director-General for Exploration and Production of Hydrocarbons at Mexico’s Ministry of Energy, explains, “being transparent about our intentions and presenting the seismic data we had, especially as the latter is not common in the oil industry, helped trigger an enhanced sense of commitment and receptiveness from the U.S.”169 This was indeed the case, as David Goldwyn, Special Envoy for International Energy Affairs at the U.S. State Department corroborates, “that was a great move on Mexico’s part, as a confidence-building measure. It is unclear whether the Department of Interior folks

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168 Emrich, S. 2015.
169 Madero, D. 2015.
were persuaded of the existence of transboundary reservoirs, but at least they could see there was a rationale to Mexico’s request.”

The U.S. then reciprocated by hosting Mexican officials for presentations in New Orleans, Louisiana. Kevin Karl, Regional Supervisor for the Office of Production and Development of the Gulf of Mexico Region at the U.S. Minerals Management Service, recalls that this visit further allowed the two countries to clarify the outcome they were looking for:

The Mexican officials came, and for two days, we presented in-depth how the unitization process works on our side in the Gulf of Mexico. We explained how we do it and why we do it. That process of information-sharing then became the foundation of the agreement. The Mexicans liked what we proposed. There was a lot of back and forth but our interests were the same. We wanted to protect our rights as governments and we wanted to ensure the efficient exploration and development and production of the resource. That was the basic premise of what we were doing and we all agreed.

Following the information-sharing presentations, officials at the DOI’s MMS started to signal that they were more willing to go along with the political mandate to see this binational agreement through. They began to argue that while the original impetus behind the negotiations was to continue to foster positive relations between Mexico and the U.S., the situation also presented an opportunity to potentially enhance U.S. energy security and bury once and for all the ‘drainage’ argument that had been used for so long to muddle the binational interactions.

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170 Goldwyn, D. 2015.
172 Karl, K. 2015.
173 Bromwich, M. 2015.
2.5 Analyzing Precedents to Define a Roadmap

Though U.S. government officials at the highest levels were eager to engage in constructive talks, some hesitance from working-level officials remained. In light of this, the Mexican authorities decided to write a draft proposal agreement, with the aim of triggering a more concrete response from the U.S. To write the draft, in accordance with the Constitution, Mexico created a working group led by the Ministry of Energy and the Ministry of Foreign Affairs. Following instructions from President Calderón, the group discussed some of the key issues that should underpin the potential agreement. These topics included the structure of the fiscal regime, whether there would be a binational body to oversee activities, and if the two countries should harmonize legal and environmental standards.175

Through this work group process, the Energy Ministry consulted with the Mexican Senate, where leading Senators, Francisco Labastida (PRI), Rosario Green (PRI), and Rubén Camarillo (PAN), were instrumental in joining forces between different political parties. The cooperation between the National Action Party (PAN), who controlled the Executive Branch, and the Institutional Revolutionary Party (PRI), who controlled Congress, remained steady throughout the process, and was instrumental in building domestic support.176

Meanwhile, representatives on the left of the political spectrum, who normally would have been against this kind of interaction with the U.S., particularly as it pertains to the oil industry, proved instead to be supportive of launching binational negotiations. Their support was in part based on a concern about the potential drainage of Mexican oil resources by U.S. companies working near the maritime boundary, which elicited a sense of nationalism and the belief that Mexican reservoirs should be protected by the establishment of a binational framework, under international law.177

The Executive Branch did not, however, share the full draft agreement proposal with the Mexican Senate. Officials at the Ministry of Energy were advised that such a move would trigger a never-ending discussion. Key senators

175 Zúñiga, G. 2015.
176 Budebo, M. 2015.
177 Madero, D. 2015.
recommended this approach, as Mario Budebo, Deputy Secretary for Hydrocarbons at the Ministry of Energy, recounts that they expressed to him, “describe the major items and the principles underpinning the draft, but do not go into the details; you drive the negotiations, we are here to support and comment; let the Executive lead the charge.”\textsuperscript{178} This flexible mandate was critically important, and instrumental in facilitating the efforts of the Mexican negotiators.

In the process of preparing the draft, Mexican officials reviewed more than 15 transboundary hydrocarbon agreements from across the globe, in order to assess the best practice. According to Elizabeth Ceballos and Fernando Rosenzweig, Legal Counsels at PEMEX’s International Legal Affairs Office, the treaties reviewed included, among others, the 1965 United Kingdom-Norway Agreement, 1965 United Kingdom-Netherlands Framework Agreement, 1971 United Kingdom-Denmark Delimitation Treaty, 2002 Timor Sea Treaty between East Timor and Australia, 2007 Trinidad and Tobago-Venezuela Framework Agreement, and 2011 Russia-Norway Delimitation Treaty.\textsuperscript{179} The people who analyzed these agreements concluded that unitization partnerships would be the best option to move forward.\textsuperscript{180}

In their research efforts, Mexican authorities met with experts from several countries to discuss and learn how to adapt their insights to the circumstances in the Gulf of Mexico.\textsuperscript{181} This process gave the Mexican authorities a sense that in spite of the inevitable asymmetry between the U.S. and Mexico, they could build an effective binational framework. As Guillermo Zúñiga, the Legal Director for Petroleum Operations at the Ministry of Energy, explains, “if East Timor could reach a workable hydrocarbons agreement with Australia, securing a fair share of the benefits, there was no reason for Mexico not to achieve the same with the U.S.”\textsuperscript{182}

However, the challenge was to strike a balance in framing the negotiations through the draft, between the opening signaled by the 2008 domestic energy reform and the inevitably restrictive Constitutional framework that tied oil with

\textsuperscript{178} Budebo, M. 2015.
\textsuperscript{179} Ceballos, E. and F. Rosenzweig. 2015.
\textsuperscript{180} Cárdenas, D. 2015.
\textsuperscript{181} Flores, A. 2014.
\textsuperscript{182} Zúñiga, G. 2015.
nationalism in Mexico.183 As Manuel Uribe Aviña, Minister for Legal Affairs at the Mexican Embassy in Washington, D.C. summarizes, the domestic political context in Mexico regarding oil “had a double effect: it made apparent to both countries the space in which we could try to find a sweet spot, but equally limited our flexibility.”184

Mexico’s task was to propose a framework for transboundary hydrocarbon reservoirs that would simultaneously protect and develop the natural resources near the maritime border, prevent unilateral development on the U.S. side, spur reform for the domestic energy sector, and provide PEMEX with a legal, financial, and technological template through which to effectively collaborate with IOCs in the Gulf of Mexico.185 Leonardo Beltrán, Director for International Negotiations at Mexico’s Ministry of Energy, describes the country’s overarching aim:

This was part of a conscious effort to reshape the narrative around the Mexican energy sector by taking a first step to announce to an international audience that a new era of investment and collaboration with international stakeholders was about to begin. This was important on a substantive level and from a strategic perspective.186

Once ready, the Mexican officials presented the draft to President Calderón, highlighted a dozen key items, and outlined what they thought would be the best outcome and what they imagined the U.S. response was likely to be.187 With the President’s approval, Mexico sent the draft to the United States. The U.S. received the draft and analyzed it for several months without issuing a response. When they finally did respond, in late 2010, they put the draft aside and proposed instead that before the two countries reviewed the document, they engage in a series of binational workshops to develop a deeper understanding of how each country operated in the Gulf of Mexico.188

185 Dager, A. 2015.
188 Budebo, M. 2015.
2.6 Switching From an Adversarial to a Mutual-Gains Mindset

For many years, one of the reasons the U.S. and Mexico had not pursued a comprehensive negotiation was their stark difference of opinion regarding the legal principles that should regulate transboundary reservoirs. The U.S. had long argued that the underlying international law should be based on the rule of capture and it should not be compromised in any agreement. Mexico, on the other hand, which does not have the same level of technology and capital investment for pursuing wells in deep-water, where most of the likely transboundary prospects lie, had always insisted on cooperative development, wherein one side cannot develop unilaterally and co-decision is required to develop the oil resource. The latter is the basis for most transboundary agreements around the world.

The U.S. developed its energy business according to the rule of capture, an old English legal concept dictating that if a wild herd of animals comes onto one’s property, the landowner has the right to take the animals; being that they belong to no one, whoever happens to capture them on his land, becomes the proprietor of the animals. In the late 1800s, the U.S. equated oil to a wild herd of animals, and the rule of capture stuck. For example, in the U.S., with a reservoir crossing nine parcels, each parcel owner who drills down owns the oil extracted, even if it comes from a reservoir connected to a contiguous parcel they do not own.

However, in practice, both onshore and offshore, if the same owner has all nine parcels, drilling on each of the parcels simultaneously will likely prove counterproductive, leaving oil underground given how the geology works. Additionally, having nine wells is far more expensive than one or two strategically placed ones. If it makes more sense for one owner to carefully select where to drill, this same strategy also makes more sense in the case of multiple owners. Hence, the emergence of the industry practice of unitization, which enables any number of parcel owners to jointly manage a reservoir and divide up the extracted resources

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189 Orr, R. 2015.
190 Cárdenas, D. 2015.
amongst themselves, sharing the upfront costs and risks.\textsuperscript{192} The practice of unitization, however, is voluntary in the U.S., not mandated by any government authority, as is the case in other places around the world.\textsuperscript{193}

Given the differing positions regarding the rule of capture and cooperative development, and the previous failed attempts to overcome this divide, how could the countries break this long-lasting deadlock? As confirmed by the negotiators from both countries, a critical factor proved to be the decision to take a completely new approach to the negotiation process.\textsuperscript{194} David Sullivan, the lawyer leading the negotiations for the U.S., was responsible for proposing a transformational move, switching the negotiators’ mindsets from adversarial to cooperative, and allowing them to create value before engaging in value distribution.

To understand how Sullivan was able to accomplish this switch, it helps to understand his background. A mechanical engineer, Sullivan began his career in the oil industry after graduating from university, working for a couple of years at Schlumberger, where he generated well logs, the well data that determines where the oil is, in developing countries, including India. He therefore had firsthand experience determining the properties of geological formations, evaluating whether oil could be extracted, and generating mapping systems in order to figure out how to manage a reservoir as a whole.\textsuperscript{195}

Sullivan then got a master’s in public policy followed by a law degree, after which he began a career with the U.S. government, where he earned a reputation as a tremendously astute attorney, involved in multiple international negotiations. His background, covering many areas of expertise, was uniquely suited to this case, and as David Goldwyn, Special Envoy for International Energy Affairs at the U.S. State Department, stresses, “once assigned to this mission, he took it upon himself to encourage each side to collaboratively frame the negotiations and render them

\textsuperscript{192} Guaso, S. 2015.
\textsuperscript{193} Couvillion, J. Keith. Deepwater Land Manager at Chevron, and Chairman of the Outer Continental Shelf Advisory Board. Personal conversation. March 4, 2015.
\textsuperscript{195} Sullivan, D. 2015.
mutually beneficial.” Sullivan explains how he first became involved with the negotiation process:

I came in to the State Department after working at the National Security Council at the White House, and assumed control of the Office of Oceans, International Environmental and Scientific Affairs. Mexico had recently approached the Obama Administration. President Calderón had spoken to him, and reiterated the desire to negotiate on this issue. I talked to my former colleagues at the White House and the notion there was that we needed something positive in the bilateral agenda. ‘There is a lot that we ask of Mexico, here is something in fact we could pursue that is a big plus for Mexico.’ In international relations, you try to satisfy each other’s requests to be able to satisfy your own. I knew there were long-term skeptics in the legal offices in multiple U.S. government agencies, convinced ‘there is no point in doing this,’ but I very much pushed to argue we should give it a try.

In turn, U.S. officials had a meeting at the White House where the State Department, the Department of Interior, and the Department of Energy, all met together to define whether to pursue Mexico’s request to begin negotiations. After the State Department, represented by David Goldwyn on the policy side and David Sullivan on the legal side, pushed very hard to move forward, the group agreed. Hence, the State Department was assigned to lead the negotiations.

Mexico had sent in a draft text agreement that was based on multiple transboundary hydrocarbon international treaties. Insights from these agreements had been adapted for the Gulf of Mexico context, according to Mexico’s interests. During the spring of 2010, the New Orleans office of the U.S. DOI conducted an in-depth analysis of the Mexican draft, producing a 100-page report, outlining various objections paragraph by paragraph. Though structurally sound, the Mexican draft was not a feasible blueprint from the U.S. perspective.

The draft did not work for many reasons, including the fact that it proposed a government-consent based structure to green light production, for which, as a
political matter, the U.S. would not sign up. The U.S. also considered the draft problematic from an economic development perspective, as it would entail the U.S. compelling private companies to enter into partnership arrangements that the companies may not want to enter for commercial reasons.²⁰¹

The result of this, the U.S. government authorities feared, would be to shut down the market. As Mark Hanan, the Chief of the Development and Unitization Office for the Gulf of Mexico Region at the U.S. Bureau of Safety and Environmental Enforcement, explains, "this would limit the possibility of development along the boundary and essentially freeze hydrocarbon development on both sides."²⁰² Sullivan further describes the dilemma:

> Our conclusion was, 'okay, we need to be very realistic. If we follow this draft, and it becomes the framework, it will not work because the U.S. government does not drill, we only put conditions on the lease, and allow companies to go do it. So, if these conditions are such that companies deem them not workable as a business matter, we could sign up to an agreement with Mexico, but all it will do is freeze up the possibility of any development along the maritime boundary.' So the draft to us was a non-starter. We did not share that first draft with the U.S. industry, because had we done so, they would have come to Capitol Hill and to the White House to shut down negotiations before they even began.²⁰³

As the U.S. was analyzing the Mexican draft and determining that it would require fundamental alterations, the Macondo oil spill occurred in April 2010. The catastrophic event eliminated the political feasibility of announcing the launch of the binational negotiations, which had been scheduled for the Presidential Summit between Obama and Calderón in the White House in May. It also halted the technical preparations on the U.S. side. Government officials from DOI and DOS had to focus all of their efforts on a whole host of issues related to the oil spill response, in the midst of the reorganization of the Minerals Management Service.²⁰⁴

²⁰¹ Orr, R. 2015.
²⁰² Hanan, M. 2015
²⁰³ Sullivan, D. 2015.
²⁰⁴ Bromwich, M. 2015.
Mexico, however, remained politically engaged and contacted the U.S. again in November of 2010. Within a matter of two weeks, a full Mexican team would arrive to the Mexican Embassy in Washington, D.C. for the official launch of the negotiations. David Goldwyn and Carlos Pascual, the U.S. Ambassador to Mexico, among others, agreed to this start because the political will was ready, though much ahead of the substantive preparations. Sullivan explains the bind in which he and his team found themselves:

I was charged with going to the first binational negotiating session, and there was no way we could work off the Mexican draft. The night before, I sat with the DOI colleagues, and we explored our options. I could look at Mexico’s draft and know the problems it would trigger with BOEM and the IOCs. ‘We don’t have any way to walk them off of the draft, but we can’t start a negotiation from the draft because we are going to tear it apart. And what we really need to do is to avoid what we have done for the past 20 years, which is to be at odds with these guys.’

The U.S. negotiators understood that domestic conditions in Mexico had changed as a result of the 2008 energy reform, indicating that an international treaty establishing joint investment in hydrocarbon reservoirs straddling the maritime boundary was a real possibility. The U.S. knew that through these negotiations, the two countries could lift the moratorium and open more acreage for deep-water development. There was a strong incentive to reach an agreement, but it still required talking to a wide array of stakeholders: government, industry, environment, law, and policy experts, to research the problem in depth, figure out what had to be done and what spaces had to be filled in, and come up with a solution to meet industry and environmental concerns. As Sullivan highlights, the U.S. had not done the requisite preparatory work:

If the business side did not kill the draft, the environmental NGOs would. So we had our needle to thread on our side. We had not conducted any discussions with industry. We had not discussed with NGOs. We had not surveyed other actors in U.S. agencies to see what

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205 Sullivan, D. 2015.
206 Karl, K. 2015.
207 Taylor, M. 2015.
their views were. We had not had time to do enough homework and had no draft of what we would do. Normally in negotiations, we would have opened with a counter-draft, or comments on the current draft, to describe our starting points and goalposts. We had done none of that. So, in order to buy us time and to build a more collaborative environment, I proposed on the fly: ‘let’s not negotiate from the text, let’s have working group sessions so that we can all get very smart about this technical challenge. Let’s divide the substance of the agreement on thematic areas, and let’s meet every month and talk about these thematic areas, so that we do this in a collaborative way among good colleagues and friends rather than through hard-bargaining, fighting over an apple on the table.208

The Mexican counterparts were surprised by the U.S. proposal to hold these workshops. They knew that the political mandate was to reach an agreement before the Calderón Administration finished its term in office. With just a few months left, how could the two countries devote time to working group meetings? Was the U.S. relying on a delay tactic? Shouldn’t they begin negotiations as soon as possible? Mexican officials hesitated, but accepted the U.S. invitation to visit Washington, D.C. Subsequently, the negotiators met monthly, for two to three days at a time, over the next five months, for sessions at which everybody could share their own expertise on myriad issues.209

The thinking on the U.S. side was that Mexico was probably going to have to trade certain things in a binational agreement that would be very hard for them to do as a domestic political matter, and get Senate ratification, and the only way Mexico could do that is if they had a good understanding of the constraints on the U.S. side.210 The same applied to the U.S., given the challenges of going through Congress, with all the stakeholders this would involve, and the conundrums of approving any international agreement proposed by President Obama. As Sullivan describes:

Each of us had tremendously difficult domestic problems to solve. However, if we could work together and have a common understanding of that before we began negotiations, then not to be

208 Sullivan, D. 2015.
210 Hanan, M. 2015.
explicit about it, but instead of fighting for items, we could start trading away, and say, ‘I understand now how you approach this problem, how your domestic constituency thinks about this problem, and I understand on this particular provision why you can’t agree to what we propose on our side. I can give you this, and it will help you get approval, because I am keeping my eye on the long-term prize, which is to have an agreement that gets ratified by both domestic sides and gets done.’

By starting the formal binational interactions with the workshops, the negotiation process had been fundamentally altered: the two sides did not need to focus right away on the Mexican draft, article by article, as would have originally been the case, but rather collaboratively explored the energy sector models with which they came to the table. Issue by issue, they began to develop a deeper understanding about the market, environmental, and worker-safety provisions at stake, as well as how these were intertwined. As Michael Taylor, the Desk Officer for Mexico at the U.S. State Department, explains:

The simple mechanics of sitting together were very important. Mexico was looking at managing energy resources in a different way. There was a lot of information that the U.S. needed to provide as it pertains to a strictly commercial perspective, as opposed to a more sovereign, state centered approach of mobilizing energy resources. Everything we discussed centered on principles, information sharing, questions and answers. We spent a lot of time in that phase before addressing the text of the agreement.

This improvised and unplanned stage of the negotiations was very useful, because it allowed each side to explain how they did things and where they wanted to go without competing with one another. Such trust building and knowledge sharing was necessary. Renee Orr, the Chief at the Office of Strategic Resources at the U.S. Bureau of Ocean Energy Management, summarizes the impact of the working groups:

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211 Sullivan, D. 2015.
212 Karl, K. 2015.
213 De la Garza, X. A. 2015.
214 Taylor, M. 2015.
The most important reason we were able to negotiate an agreement as quickly and as comprehensive as we did was that we started with quite a bit of informal discussions before we began the negotiations. We had a number of meetings and exchanges where we just talked about how we do things in each country and why, so that the two parties could fully understand what the programs, laws, restrictions, regulations, and political realities were. Afterwards, when we did sit down to begin formal negotiations there was a full understanding of where we could go and where we could not go. In turn, we did not spend any time chasing after or going in a direction that the other was not going to be able to follow. We were able to think about how to make the agreement work on all different levels and for the different constituencies involved.215

For example, in Mexico’s originally proposed draft, if the countries were not entirely certain about the existence of a transboundary reservoir, they had to either agree or not agree, and if one did not agree, they would go to arbitration. From the perspective of the U.S. negotiators and the U.S. industry, this would hinder investment and development. As Michael Taylor explains:

The two countries had a slightly different organizing concept at the beginning of the negotiations. We wanted to unlock the resources, whereas Mexico, perhaps wary of U.S. unilateral action, wanted to make sure it could block the unequal development of the resources. On the U.S. side, we had to gradually show that we were going to put the processes in place so that the two sides effectively come together, that they co-develop, and that the question is how. Some Mexican officials started out thinking, ‘we have to make sure that there is no development that we cannot veto.’ We moved off from that position once Mexico became more comfortable with our approach.216

The U.S. negotiators proposed instead that the two countries would either agree or not that a reservoir is transboundary, and if not, then it would go to expert determination rather than arbitration. This mechanism would not undermine Mexico’s overarching aim of co-development, but instead of arbitration, would actually meet the interests of the U.S. stakeholders. As Sullivan explains:

The key was that, in order to bring something into the binational agreement, there needed to be an economic reason to do so. You could

216 Taylor, M. 2015.
not assert, based on speculative data, ‘we just think this reservoir is transboundary,’ and then you freeze it. We proposed a significant change, that there be well data from the U.S. side and from the Mexican side, in order to go to the experts to discuss whether something is transboundary. Each side needs to drill a well. In deep-water, a well costs between $100-200 million. So, this provision does not allow for speculative assertions that something is transboundary; it requires real investment, a well drilled on your side to be able to say, ‘I think this is a transboundary reservoir.’ So, if Mexico drills a well on their side, and the U.S. argues, ‘we think that reservoir is transboundary,’ Mexico can say, ‘yes we agree with you,’ or ‘no, we do not agree with you, not from our data, we think it is not transboundary, if you think it is, go drill a well.’

Essentially, the two countries set up a price tag to go to expert determination, because a well would be needed on both sides in order to be able to go to a dispute resolution mechanism to determine if the reservoir in question is transboundary. Only reservoirs for which the two countries are willing to make a financial investment go into the binational agreement; neither side can use the agreement for political reasons, or as a defensive measure to freeze out the other side. Michael Stewart, Desk Officer for International Energy and Commodity Policy at the U.S. Department of State, summarizes:

> What we wanted to avoid, contrary to all the other agreements in the world that mandate that both sides have to unitize before they can exploit the reservoir, is to make sure that no side could hold-up exploitation on the other side on the basis of speculation.

Hence, there are two layers to the solution the two countries devised. The first one is that the two countries expect that economic logic will reign, that oil companies will negotiate with each other and form unitization partnerships whenever they find a transboundary reservoir, thus optimizing efficiency and profit. This is what IOCs already do in the Gulf of Mexico away from the maritime boundary, without a regulatory mandate, because it makes financial sense. In the rare case in which

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these incentives are not enough for the energy companies, then both countries can protect their oil by drilling wells, then going to expert determination. The agreement, therefore, encourages the parties towards unitization agreements, Mexico’s objective, without the danger of political considerations hindering the industry’s decision-making, the U.S.’s concern.\textsuperscript{219} As Mark Hanan explains:

\begin{quote}
The big issue was how to protect every drop of oil under Mexico’s sovereign rights in the context of the U.S. rule of capture. In order to do so, we needed to rely on voluntary unitization. We had to create a system of incentives that would significantly encourage voluntary unitization. It was a breakthrough neither side could envision right at the beginning.\textsuperscript{220}
\end{quote}

This is a critical provision in the binational agreement that differs significantly from the original draft, and from any other transboundary agreement in the world. It effectively finds a way to meet the strategic interests of Mexico and the U.S., bridging the divide between contrasting market and legal perspectives. It does so through a mechanism neither team of negotiators could imagine before the working group collaboration. Through that process, the negotiators were able to better understand the other side’s interests, move away from positions, and create more value. By rethinking their initial approach to the challenge of identifying and producing from transboundary reservoirs, they found a way to mutually satisfy their fundamental aims, and reach agreement.

\textsuperscript{219} Morningstar, R. 2015.
\textsuperscript{220} Hanan, M. 2015.
2.7 Finding the Zone of Possible Agreement

After five months of monthly work group meetings during the first half of 2011, the negotiators were able to explore options and test trades that would have been very hard to figure out beforehand. Following the work group sessions, the negotiators on both sides had a better understanding about the key legal directives, fiscal instruments, technical aspects, and commercial incentives that shape industry performance and investment on either side of the maritime boundary.

Across the negotiating table, there were two clear reference points: there was no conflict as it pertains to the maritime boundary, which had been determined in previous negotiations, and neither side had yet identified a transboundary reservoir. The fact that the two countries were discussing how to deal with transboundary reservoirs in the abstract, without any explicit reservoir at stake to tilt the outcome in one direction or the other, made the negotiation process easier. Neither side could try to take advantage of the other, given that any clause would be applied mutually. This helped to balance some of the inevitable political and economic asymmetries between the U.S. and Mexico. As summarized jovially by Luis Macías, Manager for New Exploration and Production Ventures at PEMEX, “if you are dividing a cake, it’s your birthday, and they tell you, ‘you cut the pieces, but your sister chooses first,’ you’ll carefully make sure to cut two pieces of the same size!”

Prior to the formal negotiations, PEMEX had already held workshops with industry stakeholders in the Gulf of Mexico including Exxon, Chevron, Shell, and BP, in which the parties simulated the potential partnership process between operators, should they discover transboundary reservoirs. As explained in section 2.4 Building Trust by Sharing Information, PEMEX had also hosted technical sessions for U.S. officials without industry representatives. There, PEMEX’s exploration and production staff presented their interpretation of the most recent geological information about potential structures on Mexico’s side of the maritime border, and became better acquainted with U.S. industry standards and practices regarding issues such as financing, contracting, and accounting. Xavier Antonio de la

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221 Hernández, J. 2014.
222 Macías, L. 2014.
223 Guaso, S. 2015.
Garza, General Manager for International Legal Affairs at PEMEX, describes that from Mexico’s standpoint, developing a plan for the exploration and production of transboundary reservoirs “hinged first on assessing international best practices, then finding a way to fit those practices into the domestic legal framework, which still forbid risk, incentive, and production-sharing contracts.”

In the effort to find the right fit and better understand the boundaries of the space where an agreement could be reached, the Mexican negotiators hired a U.S. law firm for consulting purposes. They did so following the advice of Leonardo Beltrán, the Director for International Negotiations at the Ministry of Energy, who in previous international travels for other engagements, had built a relationship with U.S. attorneys whose expertise Mexico could trust to better understand an array of industry directives according to U.S. law.

Strategically, this move was extremely useful. From the law firm, the Mexican negotiators had an expert opinion from a neutral third party with whom to consider options when U.S. officials explained to Mexico that certain avenues could not be pursued under U.S. law. The firm would analyze each scenario and explain which ideas that had been rejected by the U.S. in fact could not be explored from a legal standpoint, and, on the other hand, for which ideas little was known but nonetheless viable legal precedents suggested that they were worthwhile to pursue. Moreover, the consulting attorneys confirmed that the binational agreement would serve to cement unfamiliar legal strategies with further legal standing.

Having a deeper sense of what was feasible according to U.S. law provided guidance to some of Mexico’s counter-proposals and enhanced the negotiators’ flexibility. For example, one of the challenges was deciding whether the two countries should pursue a treaty or an agreement. The Mexican Senate initially requested a treaty, in order for it to have Constitutional bearing in Mexico. However, it later became clear that a Congressional-Executive Agreement on the U.S. side, between the Executive and the two houses of Congress, would have the same legal effects in terms of Mexico’s domestic legislation. This Congressional-Executive

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224 De la Garza, X. A. 2015.
226 Budebo, M. 2015.
Agreement option, in turn, would enable skipping critical hurdles in the U.S., requiring 50% of the votes in both Houses instead of Senate ratification by two thirds of the votes, which would have threatened to put the agreement in limbo, as is the case with many international treaties in the United States.228

Another issue for Mexican negotiators concerned the leases that had already been issued by the U.S. to IOCs for production near the maritime boundary. Mexico was not particularly apprehensive of leases where production was already taking place, since it was fairly sure that such reservoirs were not transboundary. The negotiators focused their attention instead on seven identifiable leases that had yet to start production, that Mexico estimated could plausibly include a transboundary reservoir.229 The U.S. conveyed to Mexican officials that such leases could not be included within the binational framework the two countries would negotiate, until their terms were up for renewal on the U.S. side many years down the line. The two countries were at odds on this issue until the U.S. offered, creatively, to have DOI and BOEM sit with the private companies to encourage them to voluntarily adhere to the binational framework.230 This tactic was ultimately successful, and served the interests of all involved.

One more topic of negotiation related to the fact that Mexico had originally argued that the agreement should apply to the entire maritime boundary in the Gulf of Mexico. However, some waters in the Gulf of Mexico are under the jurisdiction of Texas, not U.S. federal authorities. It became apparent that addressing the Texas waters would considerably delay the negotiations, as would including the Eastern Gap, where jurisdiction is shared with Cuba.231 Mexico and the U.S. resolved to leave those waters out of the agreement for the time being, while including a line indicating that when discussion with other Gulf of Mexico stakeholders becomes feasible in the future, the current binational agreement is to serve as the template.232

228 Sullivan, D. 2015.
229 Budebo, M. 2015.
230 Herrera, J. L. 2015.
231 Morningstar, R. 2014.
2.8 Overcoming Preconceptions by Defining a New Narrative

Behind the table, one of the critical tasks the Mexican negotiators faced was to work against the preconceptions that stood in the way of reaching agreement, not the least of which was the traditional narrative of mistrust in the United States.\textsuperscript{233} The negotiators faced the perennial domestic perception that American interests would inevitably trump Mexico. As Aldo Flores, Director-General for International Affairs at Mexico’s Ministry of Energy explains, it was not considered a matter of if Mexico would come up short, but instead “that the only mystery was how much of Mexico’s natural resources were going to be lost in the process.”\textsuperscript{234}

Ambassador Arturo Dager, Chief Legal Adviser at Mexico’s Ministry of Foreign Affairs and the head of the Mexican negotiating team, further explains the challenge:

Given the binational history in the Mexican energy sector, if you were told that you had to negotiate a hydrocarbon agreement with the U.S., it was natural to think it was mission impossible. This was a heavy burden. We needed to remain undeterred by what was said by colleagues outside of the negotiations, who scoffed at the chances of ever reaching a fair agreement. Their argument was that a beneficial deal could not happen between two completely different legal, fiscal, and energy frameworks, and between two countries with such different degrees of social and economic development. Simply put, however, that was not our mindset, nor the mindset from the President’s Office.\textsuperscript{235}

To fight against this skepticism in negotiating with the U.S., the Mexican negotiators had to first make a compelling case that, while technically possible, the decades-old fear about the ‘drainage effect’ was extremely unlikely to occur. The negotiators had to convince domestic constituents that from a geological standpoint it was a remote possibility, and that from a commercial standpoint, it would not be in the interest of any IOC to jeopardize its reputation, especially where such large investments required in deep water energy production are concerned, if the possibility existed of

\textsuperscript{233} Madero, D. 2015.
\textsuperscript{234} Flores, A. 2014.
\textsuperscript{235} Dager, A. 2015.
triggering a conflict with Mexico by draining Mexican natural resources. As Flores points out, “no board of directors of any company would risk such litigation and such a dispute.” David Sullivan, Assistant Legal Adviser for Oceans, International Environmental and Scientific Affairs at the U.S. State Department, confirms this assessment:

No IOC wanted to be the one to go drill into a transboundary reservoir, and drain Mexican oil, because if you are Shell, and you do that, you will never work in Mexico again. The IOCs did not establish offices in Mexico City for many years for nothing. They wanted a framework where industry would be unlocked and have the possibility to develop together.

The Mexican negotiators also had to be careful in dealing with public opinion. The aim was to minimize the opportunities for people, guided by political interests, who would accuse the officials of betraying their country, whatever the circumstance. This explains why the two countries agreed to keep joint declarations to a minimum. In the rare occasions when press releases were developed, they were only released once both sides agreed to their content.

Simultaneously, PEMEX conducted a media campaign that, without mentioning the binational negotiations, did stress it was necessary for the national oil company to find adequate mechanisms to associate with other energy companies in order to better undertake the risks that deep water offshore exploration entails. The message was simple: PEMEX stood to gain substantially if it was able to rely on better infrastructure, foreign investment, and international partnerships.

Slowly, the negotiators laid the foundation for a new narrative regarding the energy sector. This narrative hinged upon a choice, the choice to continue living in the strict memory of the 1930s and the fears of the 1970s, or to proactively figure out how to meet the country’s current challenges head-on. The latter option better fit the circumstances and strategic opportunities the country needed to seize, and eventually, won out.

238 Sullivan, D. 2015.
239 Herrera, J. L. 2015.
240 De la Garza, X.A. 2015; Ceballos, E. 2015; Rosenzweig F. 2015.
2.9 Involving Concerned Stakeholders Preemptively

The U.S. negotiators had the mandate from the White House to create a framework that would produce offshore energy from the transboundary region, and to do so in a safe and efficient way. If the negotiators came up with an agreement that was not actionable, and counterproductively served to freeze development in the whole maritime boundary, it would be a waste since the energy industry would not support it. Development would need to be mindful, however, of the key interests of all the stakeholders groups; environmental organizations would need to be considered along with the energy companies.241

The assumption on the U.S. side was that everyone in the environmental community would be hostile to the notion of a binational agreement on transboundary hydrocarbon reservoirs. As David Sullivan, the Assistant Legal Adviser for Oceans, International Environmental, and Scientific Affairs at the U.S. State Department explains, however, the alternative of unilateral deep-water exploration by Mexico was less appealing:

We had just had the Macondo oil spill. There were massive environmental objections that you would assume ensue after the largest oil spill in U.S. history, an uncontrolled well blowing oil for two months in the Gulf of Mexico, causing catastrophic environmental damage. And the U.S. federal government response is ‘we are going to open up substantial new acreage for drilling in deep-water with Mexico that does not have a deep-water capacity yet.’ How do you sell that? How do you have that accepted by the U.S. Congress, with a Senate majority by the Democratic Party? So, our notion, and I spent a lot of time talking to the U.S. environmental NGOs, we all did, was basically to convey the facts. First, ‘it is going to happen, Mexico is going to move into deep-water.’ Second, ‘Mexico does not have the capacities we do, if we do this collaboratively with Mexico, all the better.’242

In order to discuss with the environmental stakeholders how to shape an agreement they could live with, the U.S. negotiators conducted extensive and preemptive outreach. The Department of the Interior and the State Department developed a fact

241 Bromwich, M. 2015.
sheet on the negotiations, which they then sent to as many different NGOs as could possibly have an interest in the subject. As Michael Stewart, Desk Officer for International Energy and Commodity Policy at the U.S. Department of State, summarizes:

It was an open invitation to all the environmental NGOs. We invited anyone who wanted to come and sit in, and we would just describe where we are in the negotiations. They could ask questions and raise concerns. There was not a lot of contentious exchange. It was instead about keeping each other in the loop from the get-go.243

The consultations, very technical in nature, were helpful. The briefings allowed U.S. negotiators to build an understanding with the NGOs and work against potential spoilers looking to derail the process. Michael Taylor, the Desk Officer in charge of Mexican Affairs at the U.S. Department of State, highlights why:

There was the concern of whether, by engaging in information sharing, we were somehow arming someone with the information to mount their opposition, but that turned out not to be the case. The point was to make sure that we were moving in the right direction, and the way we achieve that is by checking in with the stakeholders. If they know what we are doing and like what we are doing, then we will not have any spoiler problems.244

One of the critical arguments the U.S. negotiating team relied on to bring the environmental NGOs on board was to highlight the lower risks of co-development through unitization, as compared to the alternative. The binational agreement would reduce the number of wells built. If and when the two countries find a transboundary reservoir, would it be preferable that they drill 10 wells or 2 wells? If one deep-water well is 1 times x in terms of risk factor, why would anyone risk 10x, when they can have instead a binational framework where the two countries are encouraged to unitize, lowering the number of wells and thus risk?

The first two steps related with the environmental NGOs were to make the case for enhanced expertise in deep-water exploration and production, coupled with the lowered risks involved in drilling through binational collaboration. Then, after

243 Stewart, M. 2015.
244 Taylor, M. 2015.
highlighting those two benefits instead of the costs, the U.S. officials crafted a third benefit. With their domestic constituencies in mind, such as the Sierra Club and the Natural Defense Resource Council, they designed a unique joint inspection regime.

The regime indicates that Mexican inspectors can come with U.S. inspectors to oversee any activity on the U.S. side of the maritime boundary and vice versa. In order to protect the sovereignty of each party, neither country gets to control what happens on the other side of the maritime border. Mexican inspectors cannot tell the U.S. ‘you need to do this, this, and that,’ nor can U.S. inspectors tell Mexico what to do. There is no joint supranational legal structure. Each side keeps control of their inspection laws and is able to enforce them.245

However, as matter of an international legal obligation, if a Mexican inspector is on the U.S. side and the U.S. inspector is not enforcing the directives in the U.S. law, and the Mexican inspector sees that there is a significant safety threat to health, life, or the environment, he or she can compel the U.S. side inspector to shut down operations on the rig to safeguard against that risk. As David Sullivan describes:

This has never been done anywhere else in the world. The Mexican inspectors are not enforcing any law they have control over, but they are exercising an international obligation under which the U.S. has to respect their view to enforce our own U.S. law to shut down risky activity if Mexico determines, while under our jurisdiction, that we are not properly carrying out. This gets reported right away to what is called the Executive Agency, composed by the Department of Interior in Washington and the Ministry of Energy in Mexico City. There is a four-hour period where they can uphold or overturn that order.246

Therefore, just in case there is too much of a close collaboration between inspectors and companies, the two countries established a safeguard against the inspectors choosing to turn a blind eye. They devised an alert system where by anything that gets flagged, immediately goes back to capitals. The capitals then talk to each other and figure out what to do, on a case-by-case basis. Thus, the inspection regime is done in such a way as to not compromise national law, yet enforced under

245 Morningstar, R. 2014.
246 Sullivan, D. 2015.
international law. In this way, the two countries circumvent any issues of sovereignty, while providing an additional safety check to avert risks to life, serious personal injury, or damage to the environment.

In turn, even though the two countries open more acreage for oil and gas in the Gulf of Mexico, which is logically not a positive development according to the environmental community, the binational agreement is better than allowing inevitable development without such an agreement in place. Compared to unilateral development, which would occur under the rule of capture, the binational agreement lowers risks by enhancing the technology in place, incentivizing the development of fewer but strategically placed wells through unitization, and improving safety enforcement through the joint inspection regime. As David Sullivan explains:

We asked the NGOs, ‘do you still want to oppose the binational agreement, or do you want to take these environmental benefits and come along with it?’ The environmental organizations conveyed, ‘we see the point, it sounds good, we obviously cannot advocate for passage of this agreement, particularly post-Macondo, but we are not going to stand in the way either.’

Therefore, some of the key concerns of an important stakeholder group that could have stood in staunch opposition to the agreement were met, not by forcing an outcome upon them, but instead by involving them in shaping the substance of the provisions that most concerned them. As a result, as Michael Bromwich, the Director of the Bureau of Ocean Energy Management recalls, “the environmental organizations, which were very active in the wake of the Macondo oil spill, were not visible and did not advocate against the binational negotiations.”

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249 Bromwich, M. 2015.
2.10 Building in Incentives Rather than Requirements

The absence of a transboundary framework agreement on exploration and production along the maritime boundary had created uncertainty over the previous two decades, not only for the two governments, but also for the U.S. private sector. Even under the U.S.-based rule of capture, Mexico could threaten the IOCs with litigation in an international court if Mexican oil resources were deemed to be in danger of being drained by drilling conducted on the U.S. side of a transboundary reservoir. Unlike their predecessors in the 1980s and early 1990s, who were hesitant about discussing any binational solution that did not hinge on the rule of capture, this time around the U.S. private sector was more supportive of exploring a binational agreement. As Renee Orr, Chief at the Office of Strategic Resources at the U.S. Bureau of Ocean Energy Management explains:

The conversations around rule of capture were difficult. The rule of capture was the fundamental tenet of U.S. authority to develop the resources in the near term. It was our walk-away point. However, it was not at all Mexico’s view about how activity should be undertaken along the maritime boundary. Evidently, that was why we were at the table. Furthermore, from an ultimate resource development perspective, the rule of capture did not make sense to us either. You need more certainty to undertake the significant financial investments to develop the resources. You need that certainty on both sides.\(^{250}\)

In particular, the IOCs would be supportive if the agreement removed the possibility of a binational confrontation, as they were hoping and preparing for the day in which Mexico’s entire offshore domestic energy sector would open to foreign investment. As David Goldwyn, the Special Envoy for International Energy Affairs at the U.S. State Department, summarizes, the IOCs “took a long-term view of the relations with Mexico, and one potential transboundary field was not worth spoiling what they hoped someday would be a future relationship.”\(^{251}\)

As discussions about launching transboundary negotiations gained steam, from the perspective of the U.S. government, a critical task became to keep

\(^{250}\) Orr, R. 2015.
\(^{251}\) Goldwyn, D. 2015.
representatives of the U.S. oil and gas industry informed about the parameters underpinning the binational negotiations. Aiming to ensure that any agreement would be economically and commercially beneficial, the U.S. invited industry representatives to several workshops where they could outline their needs and concerns to U.S. officials. As Michael Taylor, the Desk Officer in charge of Mexican Affairs at the U.S. Department of State, describes:

There are other topics where you do not need as much commercial input as we needed in this case. We needed to be confident that the agreement we produced would unlock the resources but it was also important to get a sense from industry about the stakes. We really wanted to hear from the private sector, 'if we accomplish this, on a scale from 1 to 10, how happy are you going to be?' And the answer was pretty high, because they had an interest in getting to the Mexican energy sector, and if this was a step toward achieving that goal, then they were very enthusiastic. Furthermore, they had a lot of the technical expertise. The U.S. government could bring the legal and regulatory expertise, but 'how do you prove a reservoir, what sort of well structure do you need to have,' that had to come from the private sector, because that is their business. So we had to make sure that as the text came together, their practice fit in that legal structure.\textsuperscript{252}

In these consultations, the oil and gas industry expressed their support for the negotiations, but did not want an agreement obliging them to work with any party on Mexico's side. Rather, they wanted the freedom to conduct business with whomever they would choose. They wanted partnerships to be determined between market participants, not the two governments. As David Goldwyn highlights, "it was clear we were going to need a permissive agreement rather than a mandatory agreement when that came to play."\textsuperscript{253} This meant, for example, that the U.S. oil and gas industry saw that there could be an advantage to making the U.S. sub-sea energy infrastructure available to Mexico, so that oil produced on the Mexican side could be put into a pipeline to refineries in the U.S. However, they did not want to be obliged to do anything, but instead wanted the ability to decide on a case-by-case basis, operator to operator.

\textsuperscript{252} Taylor, M. 2015.
\textsuperscript{253} Goldwyn, D. 2015.
As the binational process evolved, the U.S. made a suggestion to Mexico’s Foreign Ministry to actually have an observer from the U.S. oil and gas industry sitting in on the latter part of the negotiations. Rather than simply consulting outside of the negotiations, the industry representative could act as an advisor, answering questions from both countries as to how various topics would be addressed by international oil companies. This would be equivalent to the participation of PEMEX, Mexico’s NOC, which had been present at the negotiating table from the get-go in an advisory role. Mexico agreed to this request. As Michael Bromwich, the Director of the Bureau of Ocean Energy Management summarizes, “if the agreement did not make offshore exploration in the region attractive to the private sector, then we were all wasting our time.”

DOI, through the Directorate of BOEM, reached out to a committee in the U.S. called the Outer Continental Shelf (OCS) Advisory Board. This group, consisting of 25 different companies active in the Gulf of Mexico, is the most important consortium of outer continental shelf operators, super majors, and small investment banks, representing a thorough cross-section of the energy industry. Through these conversations, U.S. officials learned that “there was consensus by the largest publicly traded oil and gas companies in the world as to Keith Couvillion as the person they agreed was the most knowledgeable about the relevant issues, and whom they trusted to represent their views fairly and completely.”

J. Keith Couvillion is the Deep Water Land Manager for Chevron, currently on the OCS Advisory Board, and formerly chairman of the OCS. He was recommended by the OCS board, selected by the U.S. State Department, and agreed to by the Mexican Foreign Ministry. With more than 35 years of experience working offshore in the northern part of the Gulf of Mexico, in all the facets of the upstream portion of the business (exploration, appraisal, and production operations), he was asked to share industry views on the features of the offshore regulatory framework, the operating procedures that companies pursue through joint ventures, and the

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254 Stewart, M. 2015.
255 Bromwich, M. 2015.
256 Ibid.
structure of third party investments. Mr. Couvillion recalls one of his first impressions as he came into the negotiation process:

As an outsider looking in, being the only non-government employee in the room on either side, it was very interesting to see the concerns of the countries. There was a reluctance to agree too quickly on all aspects of the discussion. On one side, the U.S. arguing ‘we think this is a good thing, the President of the United States has directed us to work with the Mexicans, it has been a concern for a long time.’ On the other side, the Mexicans arguing ‘we need to reach an agreement, we understand we have little experience, and we do not want to be taken advantage of.’

Keith Couvillion was well acquainted with government officials and understood the stakes on both sides. As Kevin Karl, Senior Adviser to the Regional Director for the Gulf of Mexico Outer Continental Shelf Region at the U.S. Bureau of Safety and Environmental Enforcement, explains, “we know Keith pretty well down here in Louisiana, he is very good at what he does, and understands the politics. Having him as an industry observer helped us get the feedback we needed to shape something that would work.”

In addition to his prominent role in the U.S. offshore energy industry, Couvillion had spent significant time in Mexico City over the preceding decade. As part of Mexico’s efforts to build and develop a regulatory structure to manage offshore development in consultation with industry, Couvillion had been working with the Mexican government at various levels, discussing what Chevron does in deep-water, how the company operates around the world, and the regulations they subscribe to in the United States. As he summarizes:

The U.S. has spent more than 60 years developing a code of regulations. There is more oil and gas offshore activity that has happened in the northern part of the Gulf of Mexico than any place on the planet. The last time I checked, over 55% of all offshore activity in the world is still in the northern part of the Gulf of Mexico. Most of the offshore oil and gas activities started here. The Chevrons, BPs, and Exxons of the world, we took what we learned in the Gulf of Mexico and took it to the North Sea, Australia, West Africa, Brazil. So the

257 Couvillion, K. 2015.
258 Karl, K. 2015.
message to Mexico has been: leverage what has happened on the U.S. side. This includes the Environmental Protection Agency, the Clean Water Act, and the Coast Guard. Learn from these entities, adapt and create your own version that works for you.259

In addition to the regulatory insights Couvillion could offer, Mexico’s government, through PEMEX, was also interested in the investment, commercial, and technological aspects of the partnerships that could ensue with the major oil and gas companies operating in the Gulf of Mexico. To the extent that the IOCs and the Mexican NOC could share the costs and risks involved in deep-water exploration, it became more likely that Mexico would succeed with discoveries and production, meaning greater tax earnings and increased public spending.

Couvillion’s technical and commercial expertise was highly regarded. This helped the two governments to bridge certain divides as he effectively conveyed, ‘you are both sovereign governments, you do what you want, but this is how industry will react to this.’260 The PEMEX representatives could understand from where he was coming, particularly Luis Macías, the Manager for New Business Ventures in Exploration and Production, who had previously worked for Exxon, and understood very well the dynamics on both sides. Couvillion described what he would do as the Gulf manager for Chevron, and explained there would probably not be much difference between him and his counterparts in the Gulf of Mexico.

For example, one of the instances in which the involvement of industry representatives proved very useful to both countries related to how parties should share sensitive information, once an agreement was in place. Ambassador Richard Morningstar, Special Envoy for Eurasian Energy Affairs at the U.S. State Department, describes the challenge:

An issue Mexico felt very strongly about at the beginning of the negotiations was the mutual release of confidential information. On the U.S. side, we felt we could not force companies to release confidential information. In this sense, Mr. Couvillion was very helpful because he explained that even though the companies could not release absolutely everything, they did understand that if they wanted

259 Couvillion, K. 2015.
to have a definition of a transboundary reservoir, they would have to release seismic information, and since the definition of a reservoir has to be done country to country, inevitably that information would have to be shared, for the benefit of everyone’s certainty.\textsuperscript{261}

Hence, by working with PEMEX and the U.S. companies, a more nuanced understanding developed between the two countries about how to effectively share information in order to identify transboundary reservoirs. There were, however, some concerns on the U.S. side about whether these partnerships could really happen and how would they unfold. As Bromwich describes:

\begin{quote}
I think there was a legitimate fear because PEMEX, as a state-owned company that at the time had a monopoly on Mexico’s oil and gas for seven decades, that they may want rules incompatible with the kind of incentives the private companies would need. Particularly to want to devote the resources to drilling in the area that was the subject of the transboundary negotiations.\textsuperscript{262}
\end{quote}

At the crux of this concern, was how both sides would reach an agreement on dividing the benefits from co-developing the reservoirs. Deep-water activities are high-risk and high-reward. Until drilling occurs, the parties cannot be certain about the amount of oil that can be extracted. IOCs spend significant sums of money, factoring in the challenges of engineering, worker safety, and environmental considerations, but on occasions have nothing to show for it. For offshore activities to ensue, private investors seek the most profitable ratios between risk and reward. If the risk is too high and the reward is too low, the IOCs will not bid for a lease. Therefore, one of the major issues that had to be discussed between the two countries was that split between risk and reward, and whether it should be defined within the binational agreement or rather determined on a case-by-case basis between the IOCs and PEMEX. The twist, as Couvillion describes, was that industry from both sides of the border did not necessarily come to the table with the same view:

\begin{quote}
\end{quote}

\textsuperscript{261} Morningstar, R. 2015.
\textsuperscript{262} Browmich, M. 2015.
I would have informal conversations with people at PEMEX, and ask, ‘are you guys negotiating for PEMEX or negotiating for the government?’ Because PEMEX’s view should be very similar to Chevron’s view. We needed to make sure we were aligned, and tell the government negotiators in our countries, ‘hey, you have to remember, you are protecting the interest of the country, we are talking about our ability to work between each other, share capital, risks and benefits, and meet our contract obligations.’ Understanding these differing interests was extremely important and not crystal clear from the beginning. PEMEX, they want to be independent, but they can’t, they are a national oil company.263

This issue is further related to tax rates. On the U.S. side, if an IOC is going to sign a lease for an offshore property because it estimates that there is some oil and gas potential on that property, it pays the U.S. government for the exclusive right to take on the risk of exploration and development. When the IOC effectively makes a discovery and begins producing commercial hydrocarbons, on average, the oil company receives around 75% of the revenue from the hydrocarbons produced from that field, whereas the U.S. government gets about 25% of the revenue. In exchange for taking on 100% of the risk of exploration, the oil company receives the overwhelming majority of the benefit. The precise taxation rates can vary widely, depending on the terms of each contract.264

In this sense, the consideration of the risk and reward ratios that would be established in licenses, production sharing, and profit sharing contracts between stakeholders, highlighted a starkly different picture on the Mexican side. At the time of the negotiations, the rates at which PEMEX was taxed ranked as the highest of any oil company in the world, amounting to 60% of the NOCs revenue. This was significantly higher than other oil companies with high tax rates such as Norway’s Statoil (50%), France’s Total (45%), and Royal Dutch Shell (37%); and it was more than double what Chevron and Exxon had been charged by the U.S. government (28%) in the same period.265

263 Couvillion, K. 2015.
264 Ibid.
The regulations for drilling added another layer of uncertainty for the potential partnerships along the maritime boundary. Once obtained, a lease on the U.S. side gives the company the exclusive right to request permission to drill in a geographic area. The U.S. government must still grant this authorization. Over the last 60 years, the U.S. has constructed a regulatory framework that basically indicates to the industry that ‘with some certainty, if you submit the paperwork, along with additional requirements, you’ll be granted permission to drill, develop, and commercialize with the lease we just sold you.’ As explained by Couvillion, Mexico was then, and still is, in the midst of creating this regulatory framework, thus could not offer that level of predictability to the IOCs:

Here is where the rubber hits the road. You will not see this in the agreement because it is not there. You will see it ultimately when a transboundary resource is identified and a unitization partnership is formed. What happened was, and this was a suggestion I had made to both parties, but Mexico ultimately rejected it, the U.S. kind of supported it. The argument was that if there is a transboundary unit agreement, with a geographic area with acreage on both sides, with different licenses by different entities, I had suggested that within the unit, adopt the regulatory framework of either one of the two countries, I don’t care which one, just adopt one, so that the rules within the boundaries of the unit will be the same. But the Mexicans rejected that concept. They said that their regulatory framework was just being developed, that they did not know what it was going to look like at the time, but that they would in future, so they could not agree on one or the other.266

Thus, the framework that resulted from the negotiations is such that when operators request approval for unitization in the future, both countries have the ability to review the proposal and request any changes or additions prior to granting their approvals. This is where the risk and reward ratios, and the specifics of the regulatory framework, will be determined. The U.S. and Mexico found a way to foster a framework that pushes the operators on both sides to combine acreage, so that the companies minimize the number of wells and enhance recovery rates, which encourages the co-exploration and co-development of resources straddling

266 Couvillion, K. 2015.
the maritime boundary. The way in which certain costs and benefits are to be allocated between the stakeholders, however, still needs to be negotiated on a case-by-case basis.

The negotiators also had to decide how to include a certain degree of flexibility and reassessment in the agreement, in order to cope with the vastly different legal and market conditions from which they come from. One of these thematic areas was redetermination; when the parties discover a reservoir, they have limited knowledge of how much oil there is, what the reservoir properties are, and how much can be extracted. As production begins, the developer may in fact find that there is much more or much less recoverable oil than originally thought. This can create several conundrums.

For example, say there is a joint venture in a geographical area with a reservoir 15,000 feet under the sea floor, straddling the maritime boundary. Some percentage of that reservoir is under U.S. jurisdiction, and some is on the Mexican side. So what is the breakdown? Is it 60/40, 50/50, or 90/10? Until drilling begins, no one can know for sure. ExxonMobil on the U.S. side and PEMEX on the Mexican side could agree that the most likely split is 45/55, and sign a contract where they will share the costs 45/55, to drill and develop together. Once they begin to drill, however, it may turn out that 40% of the resources are on the U.S. side and 60% on the Mexican side. What should they do then?

In that circumstance, for the Mexican government it was important not to be locked down to the initial 45/55 split; rather, Mexico wanted the ability to conduct periodic redeterminations to ensure that the resource allocation remained correct over time.\textsuperscript{267} The IOCs countered that a redetermination process with potentially frequent recurrence would not be commercially feasible because of multiple factors: 1) the actual split of the reservoir; 2) the split of the investment cost; and 3) the split of the revenue.\textsuperscript{268}

The IOCs asked, ‘if the parties were to do a redetermination, to which factors would it apply and how? Is it assessed retroactively, going back to first production?\textsuperscript{267 Budebo, M. 2015.} \textsuperscript{268 Sullivan, D. 2015.}
Or, is it prospective, from the redetermination date forward? Is there a cost-equalization? The same question applies to equity. If the parties have worked for five years with a 45/55 split and now, after a redetermination in the sixth year, the correct split is determined to be 40/60, are the companies to go back to year one and do an equalization of cost, or start instead from year six onward? Adding another layer of complexity, even in the face of the same data, the operators can easily have different interpretations about the technically correct split. From Couvillion’s perspective, “the reality of drilling and extraction is that very often only when production has finished, would it be possible to have a precise breakdown of ownership, be it 48/52 or 35/65.”

Given these complex variables, any redetermination process would cause considerable tension between the parties, but if redetermination were to take place every two years, as Mexico had suggested, the IOCs indicated this would severely hinder investment prospects, as the original split is what they rely on to get funding from capital markets. Mark Hanan, the Chief of the Development and Unitization Section for the Gulf of Mexico Region at the U.S. Bureau of Safety and Environmental Enforcement, explains the dilemma:

Industry is looking for an environment, political and regulatory, that gives them some certainty that if they follow a protocol, they will be able to make a set of economic decisions. If they feel they cannot make a decision because there is not enough certainty, they will not put their profitability at risk. I think the negotiators on both sides understood that. We are dealing with an industry that is very conscious about not having retroactive conditions that hinder their profits. Now, the industry also wanted to be able to book reserves on Mexico’s side. That was a concern of theirs, but not a deal-breaker for us. We have seen what the companies have done in other parts of the world, where they cannot book reserves and they are still able to come out with agreements where operators make a profit. So, we had to balance these dynamics. We are not industry’s best friends, we are very cautious about what they are going to say, and Mexico was the same way. Fortunately, we had Mr. Couvillion, who is a straight shooter.

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269 Couvillion, K. 2015.
270 Hanan, M. 2015.
Therefore, the negotiators had to work together to imagine a framework that simultaneously worked for the energy and government stakeholders without tilting the balance to one side. In turn, the negotiators decided that redetermination would occur as it pertains to each transboundary reservoir, but that the private parties will determine the frequency in their partnership agreement.

Aside from the risk-reward split and the frequency of redetermination, the two countries also had to plan for instances to resolve their disputes regarding the existence of transboundary reservoirs, the allocation of production, and the redetermination of voluntary and compulsory allocations. Mexico wanted to utilize international, binding arbitration to settle potential disputes. This was not something that would be supported by the U.S. Congress or U.S. industry, as their preference is not to use binding arbitration as a first option. The IOCs prefer to settle out of court and lock-down their equities. However, the Mexican Congress would not support the absence of a binding mechanism to hold U.S. interests accountable.  

The solution to this challenge was to build a three-tiered dispute resolution process, closely mirroring several joint operating contracts in the U.S. portion of the Gulf of Mexico but with an added twist to satisfy government priorities.

The three-tiered process works in the following way: in a contract between two or more operators, if a conflict arises and no solution can be found between the parties, they escalate the matter to the senior management level. The first step is to see if the vice presidents can work out the dispute. If they fail to do so, the second step is mediation, where the parties will sit down and attempt to resolve their differences with the help of a third party neutral. Failing to reach a resolution at step two, the process moves on to arbitration, where each side selects an arbitrator, and these two select a colleague to be the third arbitrator. Then, similarly to a trial, each side presents evidence and witnesses, and the three arbitrators make a decision, which is not binding. Nonetheless, the binational agreement gives each country the

271 Uribe, V. M. 2015.
authority to halt production if they do not approve of a company’s operations in light of an unresolved dispute.\textsuperscript{272}

This process allows the two governments to maintain oversight over any disputes without having binding arbitration. This dynamic creates a significant financial incentive for the IOCs and NOC to resolve their conflicts in one of the three stages of the dispute resolution process. Otherwise, if they do not reach an agreement, either of the two governments can step in to stop production. The financial losses resulting from being required to halt production, when hundreds of millions of dollars are at stake, are significant. This is the incentive that should drive the parties to reach an agreement even without binding arbitration.

By defining the split between risk and reward on a case-by-case basis, allowing operators to define the number of redeterminations, and relying on a multi-tiered resolution process, the two countries found the room to satisfy their underlying interests and move beyond their seemingly irreconcilable positions. The negotiators were able to create value by finding a way to incentivize desired outcomes without requiring them. As Ambassador Richard Morningstar, who led the U.S. negotiating team and reported directly to Secretary of State Hilary Clinton, explains, “within the constraints each side had, we tried to go as far as we could. It is a pretty unique agreement. There is simply nowhere else in the world with anything quite like this one.”\textsuperscript{273}

\textsuperscript{272} Sullivan, D. 2015.
\textsuperscript{273} Morningstar, R. 2015.
2.11 Creating Better Outcomes through Relationships of Trust

Through the working group sessions, and then through the negotiating sessions, the participants built critical capacity. Initially, some U.S. technical officials did not fully understand the strategic and political components of the bilateral relationship.\textsuperscript{274} On Mexico’s side, the Ministry of Energy had domestic reform on their minds, whereas the Ministry of Foreign Affairs knew the international law but neither could be as savvy about the intricacies of reservoir management as PEMEX, and none could conceive of every incentive driving the considerations of the IOCs.\textsuperscript{275}

As confirmed by every single official I interviewed in both countries, by working together, the negotiating teams were able to reach a degree of understand and appreciation for one another, and the interests they were representing, that had a powerful effect on the final outcome. Mark Hanan, Chief of the Development and Unitization Section for the Gulf of Mexico Region at the U.S. Bureau of Safety and Environmental Enforcement, describes that these interactions allowed the negotiators "to develop a good kind of camaraderie where you truly get to respect the other side. That atmosphere was very important. The Mexican representatives, they knew what they were doing, they were hard workers, and it showed."\textsuperscript{276} This sentiment is echoed by José Luis Herrera, Deputy General Manager for International Legal Affairs at PEMEX, who similarly describes that Mexico "deeply valued the efforts of the U.S. negotiators, who created a real space where we could discuss at length and in good-faith."\textsuperscript{277}

This mutual-gains approach to the negotiations was not a given from the outset. Before the working group sessions, some had to fight against those who argued that it was better to kill the negotiations from the beginning, due to the prevailing assumption that the process would be very time consuming and probably ineffective.\textsuperscript{278} Others had to make a case against those proposing the two sides should just get away with composing a couple of pages of principles without

\textsuperscript{274} Stewart, M. 2015.
\textsuperscript{275} Macías, L. 2014.
\textsuperscript{276} Hanan, M. 2015.
\textsuperscript{277} Herrera, J. L. 2015.
\textsuperscript{278} Goldwyn, D. 2015.
needing to agree to anything substantive in practice. Neither side could envision the impact of the structure of the negotiation process itself. David Sullivan, Assistant Legal Adviser for Oceans, International Environmental, and Scientific Affairs at the U.S. State Department, recounts the transformative effect of the mutual-gains approach:

At the end of the negotiations, the Mexican counterparts told me, ‘when you first proposed the work group sessions, we though it was crazy and awful, and it would be a disaster because we only had a year to do this, and if we did not start negotiating right away, we would not have enough time. But, we were remarkably surprised that it made the negotiations so much easier because we did not need to fight over words or fight over concepts. In fact we went to school together for five months, educating each other about our common problems, we had lunches together, we hung out, got to joke with each other, to get to know each other’s personalities, realize what made us tick, and by the time we came down to talk about how to divide up these difficult issues, we were colleagues, not adversaries.’

Working in a more collaborative, non-contentious environment, structured by the insights of an array of policy, industry, legal, and geological experts, allowed the negotiators to move more quickly and effectively. The two sides could emphasize direct communication, suspend criticism, brainstorm without committing, and think through the implications of multiple solutions. Ambassador Arturo Dager, Chief Legal Adviser at Mexico’s Ministry of Foreign Affairs, and head of the Mexican delegation, explains that this allowed them “to be proactive and build a more complete narrative about the challenge at hand and about what we could do together to solve it.” With that mindset, came the ability to find mutual gains. As Sullivan notes:

I would say that this negotiation, more than any other I have ever participated in, benefitted from collegiality. There is the hard-bargaining guy that will bang the table to force the other side to reevaluate its position and whether it is willing to throw everything

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under the bus and walk away from a negotiation. You find many negotiators that do that as a standard course. It is never effective. I have found in my time negotiating international agreements that the most productive way to get to a good solution is to be able to have your opposite side understand that you are coming at it as a common problem. You are not there representing a national interest, trying to take away as much as you can in a zero sum game.²⁸⁴

This enhanced level of trust was on display, for example, in one of the key hurdles to reaching an agreement: how to enhance voluntary unitization without a binding mandate.²⁸⁵ The solution required significant flexibility as well as counter-intuitive thinking. The binational agreement indicates that if after all the incentives to the contrary, the energy companies still refuse to unitize, they can go ahead and unilaterally produce from a transboundary reservoir. The companies can do so, based on the estimated percentage of oil resources on their side of the maritime boundary, according to the seismic data available. At first glance, such a provision seems controversial to say the least. Both sides know that the accuracy of seismic estimates before drilling is not infallible. To produce unilaterally is likely to ruin optimal extraction from the reservoir while the side that begins production first inevitably damages the interests of the non-producing party. This is the worst possible outcome from a geological, business, and political standpoint. It has binational conflict written all over it. There is a surprising logic to it, however, as Sullivan explains:

Anybody who looks at the agreement in a vacuum would say, ‘why would they do this? This is unlike any other transboundary agreement in the world. Every other transboundary resource agreement in the world prevents this either by requiring that all parties consent to the development of a resource or take the case to binding arbitration. The U.S. and Mexico do neither. This is crazy.’ And yet, we structured the ability to resort to unilateral production with a clear purpose in mind, to get through the political conundrums we faced on both sides.²⁸⁶

²⁸⁴ Sullivan, D. 2015.
²⁸⁵ Herrera, J. L. 2015.
²⁸⁶ Sullivan, D. 2015.
The process is as follows. The energy companies can bank on the minimum percentage that they will get if they decide to go after a reservoir on their own.\textsuperscript{287} They can estimate the percentage on their side of the maritime boundary, monetize it, and take it to the financial markets. They can therefore invest, drill, produce, and move ahead on their own. In the U.S. Congress, when they read the agreement, they can argue that through the agreement, no precedent against the rule of capture is set. This is politically crucial and explains their support. Whereas, as a practical matter, the companies know that they will form voluntary units, because when they engage in binational efforts, they will reach a significantly more profitable outcome from a business standpoint.\textsuperscript{288}

Mexico needed to have that security that not a single drop of Mexican oil would go to the United States. If the companies do not unitize, someone’s oil could go to the other side. This is the conflict and the ensuing litigation that no IOC will risk, on top of the fact that unilateral production from one side of the maritime boundary minimizes recovery rates and is less profitable. Hence, the two countries achieve unitization, which is what Mexico required, yet without a binding mandate, which is what the U.S. needed. In turn, both sides have an agreement that is politically feasible and implementable for the two energy industries to co-develop transboundary reservoirs.\textsuperscript{289} This is a solution that hinges on the ability of the negotiators to think through the implications of their provisions from multiple angles, derived in part from a large degree of trust in one another. As Sullivan notes:

There is a lot of this in the agreement, as it relates to balancing the practical effects of the words on paper that does not really align with how the agreement is described as a political matter. These solutions, that encourage the stakeholders to invest and to produce in the maritime boundary region, we were able to find them, even though they are hard to devise, because across the table we were very cooperative. Nobody on our side or on Mexico’s side believed that there was anything other than an honest approach to the problem. We informed all our discussions on the basis of ‘how are we going to get this through our domestic political process?’ This allowed us to do

\textsuperscript{287} Hanan, M. 2015.
\textsuperscript{288} Budebo, M. 2015.
\textsuperscript{289} Couvillion, K. 2015; Bromwich, M. 2015; Macías, L. 2014; Guaso, S. 2015.
things contrary to arm-wrestling the other side, and instead focus on trying to achieve a workable result.290

The people leading the negotiations were also adept at dealing with negative practices by outliers on their negotiating teams. As Leonardo Beltrán, Director for International Negotiations at Mexico’s Ministry of Energy explains, speaking of Ambassadors Hernández and Dager, “we had people helming the negotiations with a very keen sense of balance in terms of advancing the national interest and not being held back by unproductive preconceptions.”291 At tense moments, they were ready to call for a break, take their representatives aside, make the case that this negotiation process was following a different approach from traditional posturing, and protect the collaborative negotiation process.292 They were mindful to prevent posturing from undermining the process. This worked on both sides, as Sullivan describes:

There were some on our side who wanted to pound on the table, people on the Mexican side too, very much with that negative attitude. And when those people would show up in the negotiations, we sat there, let them pound, let them vent, let them go with the traditional posturing approach. Then we would break, go to side-talks, and the people on both sides would explain, ‘we will get through this, we have built a very good dynamic here, this is not part of what we are doing, that person is speaking in such a tone because he is very close to that political official, that is why he is here, it does not matter though, no need to cave on anything, just divert the river, satisfy his ego to make him feel that he accomplished his mission, and then move on, we will deal with this domestically and make sure this does not wreck future sessions.’ Now, who does that? In no negotiation I have ever been a part of, the two sides build the kind of relationship that they are willing to take aside some of their key political persons for the sake of achieving a common objective. That is what we achieved as a group. It was unique. Had it not been for the personality and choices of the people we worked with, we would not have been able to go beyond these hurdles.293

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290 Sullivan, D. 2015.
293 Sullivan, D. 2015.
The negotiators also knew how to use humor to deal with unpredictable circumstances, defusing tensions. As Dager recounts:

We were at the State Department, negotiating, and both sides were tired and stubborn, so we called for a break. During the break, I began to walk through the hallways, calling on my cell phone, and without noticing I crossed a floor line where if you do not have your nametag, what happens, as it did to me since I left it in the negotiating room, is that a policeman kindly walks you to the exit. The U.S. delegation immediately tried to convince the policeman that we were working together, but the policeman was having none of that, I had broken the nametag rules! So I waited for a while as I registered at the front desk again, and then was allowed to come back in. When both sides sat together, you could hear a pin drop. I then told Ambassador Morningstar, 'you do not have to arrest me, we can find an agreement,' and we had a great laugh. I promised too, that next month, in Mexico, if someone were to be arrested, I would not be behind it!294

As such, the relationships built through the binational work group sessions and the formal negotiation process allowed the negotiators to build upon the expertise on the other side without hesitation, analyze the issues from different angles without suspicion, and test alternatives without pressure, focusing their efforts and ideas on figuring out what was feasible. This rapport facilitated the creation of value, as Sullivan summarizes:

The nature of the negotiation changed from 'how can I get out of this with the biggest piece of the pie,' to rather 'how can we both together, collaboratively, work to figure out exactly that sweet spot.' So that the agreement is in just the right spot so that when Mexico takes it home, people will look at it and say 'you have achieved something great here, the Americans gave you all of these items, which is fantastic, and we only had to give away this small piece, that is good.' And on the U.S. we could say, 'look how the Mexicans agreed to all of these items, and we only gave up this much in return, we came out ahead.' Then each of us has a good story to tell when we take the agreement home.295

This combination of effective ground rules, shared expertise, and balanced temperaments, with representatives engaged in a constructive interaction, formed a critical component of the negotiation's success.

Chapter 3: Colorado River Negotiations

The Colorado River Basin

Source: U.S. Bureau of Reclamation
3.0 Chapter Overview

Much like the Colorado River waters themselves, the story of the negotiations that led to the binational agreement, presents many twists and turns. The diverse hurdles, strategies, and decisions that shaped the negotiation process, offer a valuable case through which to explore various elements and strategies related to negotiation, collaborative-decision-making, and leadership. After beginning with an outline of the topics covered by the sections in the case, this chapter continues with a discussion of the scope of the agreement in section 3.1. More details as to the geographic and economic context of the case; a political, environmental, and legal timeline; as well as illustrations can be found in Appendix B.

Section 3.2 describes how, in the context of drought, after a severe diplomatic confrontation and ensuing lawsuit in which both parties ended up worse off than before, leaders on both sides of the border set out to frame a new mandate. With this new approach, the two countries sought to redefine their relations on the Colorado River, and begin negotiations from a constructive, mutual gains mindset. In section 3.3, I highlight how a crisis, the devastating 2010 earthquake in Mexico’s Mexicali Valley, weakened the alternatives of several domestic constituencies in Mexico who were opposed to a cooperative process with the U.S. In turn, I discuss how the negotiators seized this critical window of opportunity to move the negotiations forward.

Section 3.4 details how the traditional diplomatic protocol was broken to allow the seven U.S. states, which own the rights to the Colorado River water, to be appropriately represented at the negotiating table. Involved as co-sovereigns with the U.S. and Mexican federal authorities, the contributions of the Basin states were critical to shape an implementable agreement. In section 3.5, I describe how the two countries, after months of deadlock, were able to overcome a pattern of mistrust, by inviting Mexican negotiators to tour the water infrastructure in the U.S. The visits along the Colorado River Basin led to a more collaborative understanding of the parties’ motivations and concerns.
Section 3.6 presents how, by establishing a work group to jointly share data and test modeling tools, the U.S. and Mexico built a common reference framework, unlike ever before, which enabled Mexico to better evaluate the forecasts and scenarios that underpin operations on the U.S. side of the River. This, in turn, allowed both countries to start exploring mutually beneficial proposals that otherwise would not have been considered. In section 3.7, I recount how, as the U.S. negotiators developed a better grasp of Mexico’s back-table context, and vice versa, each side was able help the other craft an agreement that would represent a win for its constituents back home.

Section 3.8 tells the story of how the environmental stakeholders, a unified group of NGOs from both sides of the border, were able to redefine their relationship with the U.S. Basin states, build a coalition with Mexico’s federal government, and add their voices to the binational negotiation process. The following section, 3.9, describes how, once at the negotiating table, the environmental NGOs aided in the process of the negotiations, as well as its outcome, by adding significant value well beyond the environmental aspects of the agreement.

Section 3.10, highlights how the negotiators were able to work collaboratively to successfully reach agreement, while blocking the efforts of various spoilers who wished to derail the negotiations. This was achieved by utilizing political power, building relationships of trust across the negotiating table, and strategically managing communications with the press. In section 3.11, I underscore the importance of facilitative leadership, as the key players on each side read the negotiation proceedings in real time to improvise, reassess, caucus, and clarify with each other in small informal settings, to refocus and redefine their delegation’s strategies. Finally, section 3.12 explains how the negotiating parties used points of tentative agreement in order to maintain momentum, creatively propose options without committing, evaluate multiple packages, and move toward consensus, to the ultimate success of the negotiation process.
3.1 Summary and Scope of Agreement

On November 20, 2012 the U.S. and Mexico signed Minute 319, their most significant agreement regarding the allocation and management of the shared waters of the Colorado River since the 1944 United States-Mexico Water Treaty. The Water Treaty allocated the flows of the Colorado River between the two countries, providing annually 15 million acre-feet to the U.S. and 1.5 million acre-feet to Mexico. For the first time in 70 years, the two sides have agreed on a mutual set of criteria to adjust these flows in response to conditions of drought and over-allocation of the water resource (for further reference, see images 4-6 in the illustrations section of Appendix B). Likewise, unheard of until this point, the two countries have agreed to a set of joint operational measures and cooperative projects to improve conservation, storage, and restoration along the Basin. These measures and projects are built around the principle that both countries should partner and share responsibility in managing the river resource. Also for the first time, the landmark agreement incorporates to the diplomatic binational framework the direct participation of non-federal actors, including state representatives, water agencies, and non-governmental organizations, in the management of the water resource.

The Minute encompasses a series of steps that the U.S. and Mexico have agreed to undertake during a 5-year pilot period, which ends on December 31, 2017. The pilot period is intended to be a test of the framework, and to become the foundation for a longer-term agreement. The measures and projects include: 1) rules for the reduction of water deliveries to Mexico during shortage conditions; 2) rules for the increase of water deliveries to Mexico during surplus conditions; 3) guidelines for the multi-year storage of Mexico’s water in U.S. reservoirs; 4) the delivery of pulse and base flows to support ecosystem restoration efforts in the Colorado River Delta; and 5) joint conservation projects to improve irrigation infrastructure and trade water savings.

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In terms of reservoir management provisions, the Minute brings Mexico into the fold with previously agreed-upon strategies between the seven U.S. Colorado River Basin states, on how to coordinate reservoir storage and allocate water surplus and shortage. These strategies were negotiated in 2001 and 2007, respectively, between the Upper Basin states (Colorado, New Mexico, Utah, Wyoming) and the Lower Basin states (Arizona, California, Nevada), in collaboration with the Department of Interior’s U.S. Bureau of Reclamation. In keeping with a commitment to partnership, the two countries have agreed to adapt these strategies to a binational framework, to share in both the benefits and costs of reservoir storage. Following this principle, when one country is in shortage, the other will also be in shortage, and when one country has access to surplus water, so will the other.

The reference point is Lake Mead on the Nevada-Arizona border, the primary reservoir in the Lower Basin, and the largest reservoir in the continental U.S. Under the agreement, during low reservoir storage conditions, water deliveries to Mexico will be progressively decreased, in a range of 50,000 – 125,000 acre-feet, when the surface level of Lake Mead drops below 1,075 feet above mean sea level. This range in reduced deliveries is between 3.3% and 8.3% of Mexico’s annual 1.5 million acre-feet Colorado River water allocation under normal reservoir conditions. More specifically, if Lake Mead’s surface level is at or below 1,075 feet, annual U.S. water deliveries to Mexico will be reduced by 50,000 acre-feet. When Lake Mead’s surface level is at or below 1,025 feet, annual deliveries will be reduced by 125,000 acre-feet. This means that in the worst-case scenario, Mexico will receive at least 1.375 million acre-feet of Colorado River water on an annual basis during shortage conditions.

During high reservoir storage conditions, water deliveries to Mexico will be progressively increased, in a range of 40,000 – 200,000 acre-feet, when the surface level of Lake Mead rises above 1,145 feet or when flood control releases are required. The increased deliveries run from 2.7% to 13.3% of Mexico’s annual 1.5 million acre-feet. Therefore, during surplus conditions, in the best-case scenario, Mexico can receive up to 1.7 million acre-feet of Colorado River water annually.
By jointly establishing a set of flexible shortage and surplus criteria, the two countries are responding to current drought conditions, and adapting to future climate change scenarios. When the 1944 Water Treaty was signed, the annual average Colorado River flows were estimated to be 16.5 million acre-feet. Current average annual flows are below 14.4 million acre-feet. Moreover, studies carried out by stakeholders on both sides of the border concur that climate change could further reduce Colorado River flows by at least 10% in the next 50 years.298, 299, 300

In this context, the Minute is a significant breakthrough for both countries, fostering the adaptive management of a critical natural resource. The Colorado River Basin, extending for 250,000 miles, currently provides 5 trillion gallons of water to 40 million people in southwest U.S. and northwest Mexico, on an annual basis. More water is exported from the Colorado River Basin than from any other basin in the world, irrigating some of the most productive agricultural regions on the planet, including the Imperial Valley in California and the Mexicali Valley in Baja California. The river’s flows are controlled by an extensive system of dams, reservoirs, and aqueducts built over the last 100 years, with a reservoir capacity of over 60 million acre-feet, up to four times the Colorado’s annual flows.

However, the practice of engaging in unilateral infrastructure projects and short-term policy fixes, built upon the doctrine of sovereign appropriations (first in time, first in right), had undermined trust between the two countries for decades. Instead of collaborating on fundamental planning from the headwaters in the Rockies to the Colorado’s mouth in the Sea of Cortez, the two sides had imperiled a variety of wetlands, wildlife migration routes, riparian habitats, and aquifers to fragmented legal and political jurisdictions, endangering rural and urban settlements across the border.

The new agreement is remarkable precisely because it establishes, for the first time, the foundation to conceive of the transboundary Basin as a cohesive entity. For example, the best strategy to foster long-term water supply in a river

298 Vano, 2014.
299 Fulp, 2014.
300 López, 2012.
basin crossing two countries is to store most of the water in the reservoirs located upstream in the river basin, where the water-bearing sediments are the deepest. When countries do not trust one another, however, downstream stakeholders rely on fixed inter-basin transfers to their own water infrastructure, in spite of how vulnerable their reservoirs may be. Unheard of up until this point in the binational relationship, the Minute creates a mechanism by which the downstream riparian (Mexico), can decide to defer a percentage of the annual water deliveries owed to them by the upstream riparian (U.S.), to conserve and store these deliveries upstream.

This water deferment, called Intentionally Created Mexican Allocation (ICMA), allows Mexico to store up to 250,000 acre-feet of its annual Colorado River allocation at Lake Mead every year, under any reservoir conditions, free of charge. Mexico can choose to deliver up to 200,000 acre-feet of this stored water on any subsequent year, mindful that maximum deliveries are set to 1.7 million acre-feet each year. The Minute requires that 2% of the stored water volumes be set aside for the creation and delivery of environmental flows, with additional saline water to be devoted for ecosystem restoration in the Colorado River Delta.

Mexico will be able to use this storage to offset delivery reductions during future shortage conditions. This is critically important for Mexico to be prepared to mitigate shortage impacts, as the country lacks domestic storage capacity to save water on a rolling basis. Moreover, by deferring the delivery of its water allotment, Mexico will have more time to repair its damaged irrigation infrastructure in the Mexicali Valley, which was crippled by a 7.2 magnitude earthquake on April 2010, as the negotiations were ongoing. The damage to water treatment facilities, canals, levees, and dams was estimated at $300 million dollars.\footnote{Luege, 2014} By safely storing a portion of its water at Lake Mead, which otherwise would be lost due to a lack of infrastructure capacity, Mexico will be able to save it for future needs.

This unprecedented level of trust between the upstream and downstream riparian has benefits for U.S. stakeholders too. The water that Mexico stores in Lake Mead will decrease salinity levels and increase surface levels, saving the U.S.
National Park Service more than $5 million dollars in annual upkeep costs. Lake Mead is also the source of 90% percent of Las Vegas’ drinking water. More predictable and higher reservoir levels will facilitate water management by the Southern Nevada Water Authority (SNWA), helping to reduce the frequency of shortage declarations, and providing the SNWA with more time to build an estimated $800 million intake pipe in light of the decreased average surface levels at Lake Mead.

For environmental restoration purposes, Minute 319 establishes the delivery of 158,000 acre-feet of water to the Colorado River Delta, divided between a pulse flow and several base flows, financed by a three-way commitment between the U.S., Mexico, and several Non-Governmental Organizations (NGOs). The two federal governments are responsible for the delivery of 105,000 acre-feet of water to the Delta’s ecosystem in the form of a pulse flow. The water is derived from part of the water allocation that Mexico stored on Lake Mead to face the aftermath of the 2010 earthquake, and is complemented by joint savings from water conservation measures, as a result of the binational agreement.

The pulse flow was designed to mimic spring runoffs, to benefit the germination and survival of native trees throughout the Delta, and has already been delivered. From March 2014 to May 2014, the flow hydrograph was timed to coincide with the peak of native cottonwood seed release in the riparian corridor, and concluded prior to the time that the non-native invasive tamarisk seed release began. The aim is to contribute to the efforts to revive riparian habitats, wetlands, marshes, and estuaries across the Delta, since more than 90% of the original habitat where the Colorado River flows into the Gulf of Baja California has been lost in the last fifty years.

The Minute also establishes the delivery of a total of 53,000 acre-feet of water divided in several annual base flows, intended to benefit the native vegetation and wildlife restored by the pulse flow. These base flows are financed by a binational coalition of NGOs, through the Colorado River Delta Water Trust, which has been purchasing and leasing idle domestic water rights in Mexico for environmental purposes since 2008. The Minute also provides $3 million in funding
for on-the-ground restoration activities in the Delta, through a contribution by the U.S. Fish and Wildlife Service and the non-profit organization, National Fish and Wildlife Foundation. Restoration efforts, on the heels of the base flows, are ongoing at various locations across the riparian corridor, complemented by significant funding from non-profit sources, in light of the success of the binational pulse flow.

During the duration of the Minute, through the end of 2017, a team of binational experts, recruited from U.S. and Mexican universities, NGOs, and federal agencies, has been tasked with the joint monitoring and reporting of the ecological and hydrological results of the pulse and base flows. Their responsibility is to track surface water, groundwater, and water quality conditions; evaluate the response of flora and fauna; and improve the understanding of the Delta ecosystem; in order to propose the next plan for future environmental flows.

The Minute also fosters a collaborative framework for joint U.S.-Mexico investment in pilot projects to improve water conservation on Mexico’s side. The U.S. is providing $21 million, of which $10 million is being disbursed by urban water agencies in the Lower Basin states of Arizona, California, and Nevada. These funds are meant to speed up the process to complete the concrete lining of several unlined parts of the Mexicali Valley irrigation infrastructure. In return, the urban agencies secure water from a one-time installment, whereas Mexico is entitled to all remaining water savings generated by the conservation efforts. The Central Arizona Water Conservation District and the Southern Nevada Water Authority each receive 23,750 acre-feet of water in exchange for $2.5 million each; the Metropolitan Water District of Southern California receives 47,500 acre-feet in exchange for $5 million dollars. The other $11 million is provided by an agreement between the U.S. Bureau of Reclamation and other funding entities, to share in the benefits of these water conservation efforts in Mexico. The resulting water savings will finance the entire U.S. federal government contribution to the pulse flow, and make an additional 124,000 acre-feet available to the U.S. as a result of a binational water exchange.

The Minute also fosters cooperation between the San Diego County Water Authority and Mexico’s federal and state water agencies, to coordinate the necessary permitting, pipeline, and environmental infrastructure to create new
water for the two countries. By relying on the Pacific Ocean as a drought-proof local supply and seizing on economies of scale, the U.S. and Mexico are working together to jointly finance and build a binational seawater desalination plant in Rosarito, Baja California. They are also exploring plans to build a large-scale desalination plant near the Sea of Cortez. As with every other step established in the Minute, both countries will monitor and review the effects of their decisions for the next five years and negotiate how to improve upon them by the time the Minute’s pilot period ends in 2017.

The negotiations that led to Minute 319 began in late 2007, after the U.S. Colorado River Basin states reached a domestic agreement to equalize reservoir storage in times of shortage. When the binational conversations began, the relationship between the two countries was tense. Both sides were up against a history of continual water disputes. Moreover, the two parties had recently engaged in a confrontation regarding the lining of the All-American Canal with concrete on the U.S. side, and the ensuing reduced seepage to Mexican aquifers. On the heels of this conflict, following the initiative of top officials at the U.S. Department of Interior and Mexico’s Ministry of Foreign Affairs, the two sides began to meet informally, to discuss how to start from scratch and work more collaboratively on the Colorado River.

That conversation assumed that binational cooperation regarding reservoir operations, water storage, water conservation, and environmental restoration was indeed possible, and required, in the face of severe drought. The framework was then brought together in late 2008, under the umbrella of the International Boundary and Water Commission (IBWC). Both the U.S. and Mexican Sections of the IBWC were entrusted to facilitate a diplomatic process, in close partnership with the U.S. Bureau of Reclamation and Mexico’s National Water Commission (CONAGUA). Leaders selected by the seven U.S. Colorado River Basin states, representing the major urban water agencies and irrigation districts along the Upper and Lower Basins, were directly involved as well. Program managers from environmental non-governmental organizations (NGOs) provided both countries with strong advisory support.
The discussions continued between the U.S. and Mexico over the ensuing three years. During the negotiations, the two countries’ delegations established work groups, as needed, to help everyone develop a better understanding of the needs and preferences of the other side, and then bring proposals back to the larger group and their constituencies. Negotiations intensified in the summer of 2010, in response to the Mexicali earthquake, which crippled Mexico’s irrigation infrastructure in the region. The negotiations kept the same pace in 2011 and 2012, with monthly binational meetings lasting generally three days each, at alternating locations across the border. An agreement was reached in the fall of 2012.

At the signing ceremony in Coronado, California, the U.S. Secretary of the Interior Ken Salazar described the Minute as a historical milestone that points to the “end of the water wars” in which drought pits one side against another, with the two countries now “choosing collaboration over conflict, consensus over discord.” 302 Michael Connor, at the time Commissioner of the U.S. Bureau of Reclamation, and currently the U.S. Deputy Secretary of the Interior, noted “this deal is the crowning achievement in an unprecedented three years of cooperation on the natural resources that we share and are critical to our wellbeing.” 303 Connor further notes that the agreement demonstrates that the U.S. and Mexico are “more than just neighbors, we are now partners from here and into the future,” with both countries “in sync to share in the strategies and solutions to the resource challenges that will only increase with time.” 304

Mexico’s IBWC Commissioner, Roberto Salmón, concurred, highlighting that the binational agreement was “built on relationships of trust,” and established the foundation for “future negotiations in order to guarantee sustainability in the

304 Ibid.
Reflecting two years later after the agreement’s implementation, Mexico’s Ambassador to the U.S., Arturo Sarukhán, described to me the negotiation’s outcome as “the culmination of the efforts to break the preconceptions that have hindered the countries’ collaboration in the past,” showing that the two countries “can engage together on the real practice of Basin-wide thinking.”

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3.2 From Litigation to Cooperation

Binational controversies around the All-American Canal have a long history. Until the 1930s, the farmland of the Imperial Valley received its Colorado River water through the Alamo Canal, which had been built by the U.S. on Mexico’s side of the border, supplying water for farmers in both countries. Mexico charged a minimal fee for this service, but the U.S. decided to build the All-American Canal so as not to depend on Mexico, and indirectly, to claim dominance over the river. The All-American Canal was built over dunes, flowing south-southwest, such that the seepage replenishes aquifers on Mexico’s side. From the 1940s to the 1960s, the Mexicali Valley developed on the basis of pumping groundwater from these aquifers. The Mexican farmers have continued to rely on the aquifers in the ensuing decades, and the seepage is also responsible for sustaining the nearby Andrade wetlands.307

In the early 2000s, California had to pursue water conservation strategies, including paying farmers not to grow crops and lining irrigation ditches in the Imperial Valley.308 The reason is that each state in the Lower Basin is entitled to an annual allocation of Colorado River water. California’s allocation is 4.4 million acre-feet, Arizona’s 2.8 million acre-feet, and Nevada’s 300,000 acre-feet. However, California’s annual use had been more than its allotted 4.4 million-acre feet for decades. Before Arizona and Nevada fully developed to use all of their water allocation, California took 5.2 million acre-feet every single year from 1950 to 2002. That usage was legal, part of the Law of the River, but when Nevada and Arizona developed to the point of needing to use all of their entitled water in 2003, California had to find a way cut back their use to 4.4 million acre-feet. As part of these efforts, California decided to line the All-American Canal with concrete to conserve the water that otherwise would be lost to seepage.309

Note: All the interviews are listed in Appendix C, outlining the interviewees’ current positions. The footnotes indicate their professional appointment during the time of the negotiations.

Mexico was not consulted in the process that led to the decision to line the canal. Once announced, they were informed through the appropriate diplomatic means by California and U.S. federal officials. In light of the imminent lining of the All-American Canal, the two sections of the IBWC held several meetings in order to explore binational measures to mitigate the impacts it would have on aquifer replenishment.\textsuperscript{310} However, the Imperial Irrigation District (IID), which operates the All-American Canal, took a hardline and advocated that it was not the responsibility of the U.S. to mitigate any cross-border effects. The U.S. federal government, however, disagreed with this notion.\textsuperscript{311} So did the other irrigation districts in California, Palo Verde and Coachella, along with the urban water agencies. These actors are all too aware that people tend to be elected to IID’s board by opposing cooperative solutions both at home and abroad, at all costs and in all situations.\textsuperscript{312,313,314, 315} In the words of John Keys, Commissioner of the U.S. Bureau of Reclamation in the early 2000s, reflecting on IID’s approach to Colorado River issues, “the District’s right to use Colorado River water has long been recognized; however, wasting water and preventing others from using it is not.”\textsuperscript{316}

As a result of this failure to cooperate, both the U.S. federal government and California representatives discounted this confrontational stance from IID as par for the course, and moved on.\textsuperscript{317} In their conversations with Mexican officials, they discussed mitigation measures to deal with the effects of reduced seepage to the aquifers that serve the Mexicali Valley. These measures included the possibility of building turnouts on the All-American Canal, from which Mexico could wield water

\textsuperscript{310} Luévano, José de Jesús. Secretary of the Mexican Section of the International Boundary and Water Commission. Personal conversation. October 24, 2014.
\textsuperscript{311} Zimmerman, G. 2015.
\textsuperscript{317} Hasencamp, W. 2015.
to the city of Tijuana, and investing in conservation projects in the Mexicali Valley so that Mexico could try to recover the water they feared they would lose.318

However, as the diplomatic process was ongoing, a binational coalition of farming, irrigation, and environmental interests, in the context of IID’s confrontational stance, with support from the governor of Baja California, lobbied federal officials in Mexico City to instead bring a lawsuit in the United States on account of the potential for harmful cross-boundary effects of the lining on the aquifers, among other environmental, health, and safety impacts. The lawsuit was a controversial course of action because stakeholders and officials on both sides of the IBWC thought they had some good, interesting mitigation proposals on the table. Mexico’s Ministry of Foreign Affairs, nonetheless, chose to file the lawsuit in 2005 to block the lining of the All-American Canal, rather than continue through the diplomatic avenue.319

The case was taken to a United States federal district court in the Ninth Circuit. On account of the argument that the final environmental impact assessment had not been properly conducted, and that the National Environmental Policy Act had been violated, the plaintiffs brought claims against the Department of the Interior and several regional and local entities. The Court of Appeals dismissed the claims because, among other reasons, responsibilities for cross-boundary effects are hard to account for under current legislation. This ruling effectively foreclosed further legal challenges and insulated the lining project from judicial review.320

The binational legal confrontation had negative results for all involved; the parties had to pay high legal fees, the All-American Canal lining was severely delayed and became more expensive, and no measures to address the lost seepage were established.321 As Peter Silva, Assistant Administrator of the Office of Water at the U.S. Environmental Protection Agency, explains:

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320 Hinojosa, O. 2014.
The frustration was that we supposedly had this process at the IBWC, but it did not matter because other people went through their own channels and did something different with their own political interests. It was very frustrating to lose control over an issue that we all thought was under ongoing good-faith negotiations. In the aftermath, the silver lining of that whole confrontation was, and I recall talking in depth with my friend, the late IBWC Mexican Commissioner Herrera, ‘we do not want to go through that again.’

In December 2006, a couple of months before Arturo Sarukhán began his appointment as the Mexican Ambassador to the United States for Mexico’s new Administration, headed by President Felipe Calderón, the U.S. Congress passed bipartisan legislation to complete the lining of the All-American Canal. Understanding the circumstances and anticipating the effects that the lining would have on water stakeholders, Ambassador Sarukhán, building upon the Calderón Administration’s commitment to forge a more collaborative relationship with the U.S., made the decision to propose a binational dialogue that would shape “a new paradigm, providing both countries with a clean slate to find effective solutions to jointly manage shared hydrological resources.”

To jump-start this process, Ambassador Sarukhán took the initiative and led the efforts to establish a dialogue with U.S. Secretary of the Interior, Dirk Kempthorne, conveying the need to jointly address the social, economic, and political impacts that the lining would have on the border communities. In these efforts, Ambassador Sarukhán argued, “the two countries had to move forward instead of endlessly discussing the past, doing away with the inertia of conflict that has often undermined binational cooperation.”

In the ensuing months, Ambassador Sarukhán and Secretary Kempthorne collaborated to shape a joint declaration. Announced in the summer of 2007, it stated that the two countries were committed to beginning a new episode in the binational relationship. The aim was to “seek synergies and engage in confidence building measures, with a shared vision of the future to responsibly meet the broad

322 Silva, P. 2014.
323 Sarukhán, A. 2015.
325 Sarukhán, A. 2015.
array of needs of the Colorado River Basin stakeholders.\textsuperscript{326} The message was a significant reset in the binational relationship and provided a much-needed impetus to get past the previous confrontations. As Sally Spener, Foreign Affairs Secretary of the U.S. Section of the IBWC, explains:

\begin{quote}
The joint declaration by Secretary of the Interior Dirk Kempthorne and Mexican Ambassador Arturo Sarukhán was a key turning point. The All-American Canal conflict was very disruptive to the work we wanted to do. Their message basically lay down that the two countries wanted to collaborate. So, we came out of a decade of conflict and litigation, and said, 'we are going to try something different: we are going to commit to cooperation.'\textsuperscript{327}
\end{quote}

To set the stage for this new paradigm, both Ambassador Sarukhán and Secretary Kempthorne met multiple times in Washington, D.C., “building a high degree of trust with one another, working to understand the best way in which they could reach a mutual agreement about a framework that would empower both countries to look at things radically differently.”\textsuperscript{328} On the basis of what would become a solid personal relationship, the two leaders studied the concerns and priorities of their domestic agencies, and then set out to convince those on the fence about the need to follow a new set of mandates.\textsuperscript{329} As Ambassador Sarukhán explains:

\begin{quote}
This effort underscored our conviction that the two countries needed to reimagine the terms of reference of the binational dialogue, choosing between either remaining accomplices to failure, or becoming partners for success.\textsuperscript{330}
\end{quote}

Conscious of the need to break the old narrative through concrete actions, in these efforts, Ambassador Sarukhán argues, Mexico was “very fortunate that Secretary Kempthorne, and then Secretary Salazar, both chose to trust the proposal to redefine our binational narrative in good-faith, and put their weight behind our

\begin{flushright}
\textsuperscript{328} Sarukhán, A. 2015.
\textsuperscript{329} Uribe, V. 2015.
\textsuperscript{330} Sarukhán, A. 2015.
\end{flushright}
efforts.” Michael Connor, currently the U.S. Deputy Secretary of the Interior, who at the time had recently become the Commissioner of the U.S. Bureau of Reclamation, underscores the significance of the mandate from Secretary Salazar to change the relationship between the U.S. and Mexico in the Colorado River Basin:

There is no doubt that in the Bureau of Reclamation everybody knew that this was my highest priority. Partly because it was my own priority and partly because I knew my own boss, Secretary of the Interior Ken Salazar, wanted me to invest whatever time and effort was necessary to get an agreement with Mexico. The same thing could be said on the Mexican side. Ambassador Sarukhán certainly knew how strongly he wanted a different relationship with the U.S., and he was relying on his contacts in the Mexican Cabinet to achieve this.

The steadfast support by the DOI and the Mexican Embassy in Washington, in coordination with the White House and the Office of the Presidency in Mexico City, permeated to the U.S. Bureau of Reclamation, Mexico’s CONAGUA, and the two sections of the IBWC. The high-level political commitment on both sides was clear: to explore how the two countries could turn the page on the conflict that characterized the All-American Canal controversy. The purpose was to see if the two countries could build, together, a mutually beneficial deal that would improve the management of the Colorado River in the face of drought and reduced flows. As President Calderón notes:

The challenge was to find a way to see our problems and their elements as interconnected. On both sides, we continue to have a very negative tendency to see our problems as constrained and contained in silos. We really have a chance to find meaningful solutions and generate mutual gains when we change our mindset.

331 Ibid.
3.3 Turning Crisis into Opportunity

On Easter Sunday, April 4, 2010, a 7.2 magnitude earthquake struck about 30 miles southeast of the city of Mexicali, near the border separating Baja California from California. The most severe earthquake to occur in the Salton Though since 1892, it was felt by 20 million people throughout the Western United States and Northwestern Mexico. Most of the earthquake’s damage occurred in the border cities of Mexicali and Calexico, where four people were killed, over 100 were injured, and more than 30,000 families had to be relocated. The earthquake crippled irrigation infrastructure in the surrounding rural areas. On the U.S. side, significant damage to water storage and irrigation facilities occurred in Imperial County, located on the border between Mexico and Arizona, with an estimated repair cost of $90 million. On the Mexican side, 200 miles of irrigation canals were destroyed, with an estimated repair time of five years and a cost of $200 million, affecting 450,000 acres of farmland and leaving 30,000 acres without water.337, 338, 339, 340

The earthquake fundamentally impacted the course of the binational negotiations. Up until that point, farming interests and political players in the Mexicali Valley had continuously opposed and hindered the dialogue with the U.S. In this context, from a political standpoint, Mexican negotiators had been heavily constrained in their ability to explore trades between the two countries. As Óscar Ibáñez, the Chief of Staff for the Director-General of CONAGUA, explains:

An earthquake that significantly cripples the infrastructure of an entire irrigation district is going to change the political priorities of the stakeholders involved. People at CONAGUA were suddenly free to explore how to improve the current infrastructure, as well as the operating rules, whereas without the earthquake, for political reasons, the irrigation districts would not have been touched.341

When stakeholders are used to behaving within the confines of long-held parameters, crises are sometimes critical to break the inertia and provide the parties with an opportunity to rethink what is at stake. The infrastructure damage in the Mexicali Valley altered the calculations and priorities of various Mexican domestic actors. The farming interests in particular, who own the rights to more than 92% of the water consumed in the State of Baja California, had to consider collaborating much more with the federal government than they had been accustomed to doing.342

All of a sudden the farmers had no infrastructure and no water. They needed the government’s support to resolve these dire conditions, since the bulk of the financing for restoration would need to come from CONAGUA. In light of this, they could not risk politicizing the situation with confrontational protests, as might have otherwise been the case under normal circumstances.343 The earthquake, therefore, impacted the domestic context in Mexico, which, in turn, influenced Mexico’s degree of flexibility in negotiating with the U.S.

Following the rules set out in the 1944 Treaty, the U.S. would be required to deliver the annual 1.5 million acre-feet of Colorado River water to Mexico by December 2010. Mexico, however, no longer had the infrastructure to be able to use the water.344 The two countries had to make a decision as to whether or not to defer delivery. The only way around the Treaty delivery requirements would be for the Treaty partners to agree to account for that water as if it had been delivered, and put in place a new approach.345 It soon became apparent that using reservoirs in the U.S. to store Mexican water, which had previously been proposed as a mechanism to deal with the ongoing drought, would need to be considered seriously.346 As Mexico’s President, Felipe Calderón, summarizes:

343 Ibáñez, O. 2015.
344 Luévano, J. 2014.
345 Connor, M. 2015.
We no longer had anywhere to store the water coming from the Colorado River. If we did nothing, we would not be able to use the water. It forced everyone to look at our domestic circumstances and at the situation with the United States in a completely different way as compared to the past.\(^{347}\)

Up until the earthquake drastically altered Mexico’s vantage point, entertaining the idea of storing its own water in U.S. reservoirs had been out of the question for political reasons.\(^{348}\) However if Mexico did not change that stance, it would face the fact that it would receive its annual Colorado River water allocation, but given the damaged infrastructure, would be unable to provide it to the irrigation districts. As a consequence, a significant part of the water would be lost to the sea.\(^{349}\) At that precise moment, a window of opportunity to enact change presented itself. As the Mexican Ambassador to the U.S., Arturo Sarukhán notes, “in public policy, countries must never waste a crisis.”\(^{350}\)

The binational negotiations had been moving at a very slow pace before the earthquake, and the two countries remained significantly at odds after the tragedy. However, after one more difficult binational meeting in August 2010, three months after the earthquake, the two sides began to rethink their approach. As Michael Connor, the U.S. Commissioner of the Bureau of Reclamation, describes:

> After that difficult meeting, fortunately for this binational process, we had the right people, with the technical expertise in operating the river, asking in side-discussions, ‘why don’t we start looking at an agreement to deal with Mexico’s immediate issue, which is how to not lose the value of water and repair its infrastructure?’ So circumstances, and good strategic thinking, allowed us to reset and move forward. We realized that we really needed some success among ourselves, to trust each other, and to give us a little bit of momentum. So all the three commissioners, Drusina, Salmón, and I agreed, ‘let’s focus on building a deal that will have real value for Mexico and that will simultaneously demonstrate Mexico’s agreement to structure water deferment within the framework of how the U.S. operates the Colorado River.’\(^{351}\)

\(^{347}\) Calderón, F. 2013.

\(^{348}\) Muñoz, E. 2015.


\(^{350}\) Sarukhán, A. 2015.

\(^{351}\) Connor, M. 2015.
That is what the two countries set out to do before December, during three months of intense, time-consuming discussions. They aimed to enhance trust between the key players by determining effective emergency measures. As Ibáñez explains:

At the center of these efforts was how to find the best mechanism to repair and improve the infrastructure on the Mexican side. Almost everything else was connected to this issue in one way or another, since only if Mexico earned enough flexibility to deal with the water allocations for the farmers in the Mexicali Valley, could both countries work more effectively toward other issues.\textsuperscript{352}

This significant change in circumstances and the collaboration that ensued fostered a new sense of trust between the binational actors.\textsuperscript{353} The two countries had discussed water storage many times before, but had never had a shared impetus to implement it successfully.\textsuperscript{354} The two sides agreed that Mexico would not take the full allotment of 1.5 million acre-feet while its infrastructure was being repaired, but would instead set up a system resembling a bank account in Lake Mead, from which Mexico would be able to take out the water in later years. As John Entsminger, the Deputy General Manager of the Southern Nevada Water Authority, summarizes:

I don’t know if without the Easter Earthquake, we get to Minute 319. We were doing some things, we were evolving a bit, but at a very slow pace, and then a sudden change occurred. A catalyst from nowhere, and it accelerated everything we did.\textsuperscript{355}

Responding to the earthquake made it easier for Mexico and the U.S. to discuss how to break the inertia of the previous operating rules. The practical experience in dealing with the earthquake showed the value of turning water that would have otherwise been delivered and used, into a future asset that could be negotiated. With this, a completely new episode in the binational relationship had begun.

\textsuperscript{352} Ibáñez, O. 2015.
\textsuperscript{354} Ostler, Don. Executive Director and Secretary of the Upper Colorado River Commission. Personal conversation. October 2, 2014.
3.4 No Negotiation without Representation

On the U.S. side of the Colorado River, the water is owned by the states, whereas on Mexico’s side, the federal government owns the water. Following the Supremacy Clause, which vests the U.S. federal government with the exclusive right to conduct international negotiations, the U.S. State Department (DOS) has always followed a diplomatic protocol that does not directly involve the Colorado River Basin states in binational water negotiations with Mexico. This had always created a challenging situation, with the Basin states highly apprehensive of the DOS.356 This time, however, the states were adamant from the outset that without their direct involvement in the binational negotiation process, no agreement with Mexico would be enforceable. They argued that they should be treated as co-sovereigns and must have a seat at the negotiating table.357 As John Entsminger, Senior Deputy General Manager of the Southern Nevada Water Authority, explains:

The states are the entitlement holders. We have the water. We have the facilities. We have the contracts. So, you can make declarations of intent, you can propose celebratory minutes, but if you want to make things happen, to get down on the ground, in order to use and store water from our reservoirs, you have to have our sign-off.358

On the heels of the 2007 Guidelines negotiations, the Basin states were no longer willing to relinquish control over how the U.S. federal government would negotiate their Colorado River water supply with Mexico.359 Moreover, the states argued, many of the elements that the U.S. could offer, or Mexico could request in a potential agreement, were things the U.S. federal government did not have the authority to provide. Involving the Basin states in the formal negotiation process, however, required convincing the Legal Office of the U.S. State Department to break the long-standing protocol of country-to-country relations.360

357 Kwon, K. 2014.
358 Entsminger, J. 2014.
360 Mulroy, P. 2014.
Officials within the DOS held different views on the Basin states’ involvement in the negotiations. On the one hand, the U.S. Section of the IBWC was not against the presence of the states at the negotiating table. Though it implied a complete departure from the diplomatic protocol to which they had been accustomed since the 1950s, they agreed that it would render the decisions made through the negotiation process more easily implementable. As Carlos Peña, Principal Engineer of the U.S. Section of the IBWC describes:

We knew that whatever deal we would sign with Mexico had to be previously approved by the states. There was no point in seeking agreement with Mexico without first making sure we knew and protected the states’ priorities. You did not want to find yourself proposing something that would be against the states’ interests, triggering a situation where they would go and complain with their Senators and Congressmen, because then the negotiations would have been dead right there.

However, outside of the IBWC, a number of State Department officials actively campaigned against the idea of conducting the binational process with any alteration to the standard diplomatic protocols. They opposed the notion that having sign-off from the states on an international agreement should be required. From the Basin states’ perspective, this opposition made no sense given the complex structure of water rights and regulations for the Colorado River. As Jennifer Gimbel, Director of the Colorado Water Conservation Board of the State of Colorado, notes:

Several officials at the State Department simply did not understand U.S. water law. If we followed their protocols, nothing was going to get done. It took a partnership between the Basin states and the Department of Interior to convince them otherwise. Getting to that point took an enormous amount of behind the scenes work.

To get the State Department to change its stance, which it eventually did, the Basin states counted on the support of the Department of Interior, through the U.S. Bureau

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361 Spener, S. 2015.
of Reclamation, which is deeply acquainted with, and in charge of, much of the day-to-day Colorado River operations in the American Southwest. The leaders at the Bureau of Reclamation believed that the states’ presence would significantly and favorably impact the binational negotiations, both in substance and process.364

First, it would allow both federal governments to develop a vastly superior and more nuanced understanding of interests and concerns from the perspective of the water holders on the U.S. side of the Basin. Second, everyone involved in the negotiations would be able to communicate directly, enabling better, quicker, and more reliable feedback on the proposals being discussed at the negotiating table, instead of shuttling back and forth endlessly.365 As Lorri Gray-Lee, Director of the Lower Colorado Region at the U.S. Bureau of Reclamation, explains:

This was a matter of ownership. From the states’ perspective, ‘you, U.S. federal government officials, are negotiating with another country about our asset, our water, and we want to be at the table.’ So, at DOI, we sought to facilitate an arrangement with Mexico, where at first, we could have one or two state individuals sitting in the room, not at the table, not talking, but at least sitting in the room. Because what I had learned in the past is that we would go into negotiations with Mexico, with only federal government representatives, and when I would go back to report with the states, and give them a blow by blow, there was always a bit of concern, sort of ‘what is she not telling us,’ regardless of our good relationship. The state representatives would come at any point and let me know ‘it is not that we do not trust you Lorri, it is just that we have responsibilities.’ So, by having one or two state representatives sitting in the room while we negotiated with Mexico, then when Reclamation came back to debrief with the state interests, they could jump-in and share their take and experience on what we had done. And immediately we could just sense the trust between the group grow so much, because one of their own was telling them the story.366

Once there was agreement about the states’ participation on the U.S. side, the U.S. federal government approached Mexican federal officials about the need for non-federal U.S. actors to be active participants in the binational negotiations. This was

364 Connor, M. 2015.
365 Fulp, T. 2014.
initially disruptive for the Mexican officials, who had been accustomed to negotiating with their U.S. federal counterparts. Wary of considering the possibility of the states sitting at the table, Mexico insisted that the negotiations should be between the two sections of the IBWC, with support from appointed experts from the federal agencies, CONAGUA, and the U.S. Bureau Reclamation. The Mexican officials argued that the U.S. federal government should figure out a mandate from the Basin states, then come and meet with Mexico. As Charles Cullom, Manager of the Colorado River Programs of the Central Arizona Water Project, recalls:

I have colleagues in Mexico who were calling me to ask, ‘why do the states want to get in the room? Why don’t you let your federal government run the negotiations?’ Well, because the states have the water rights and the contracts. And quite frankly, we want to observe how the Upper Basin states drive their issues which might be counter to the Lower Basin, how California might drive negotiations that might be adverse to Arizona, and so on. So we all need to be in the room to watch each other and watch the federal government.

In this context, the U.S. Bureau of Reclamation and the U.S. section of the IBWC spent considerable time and effort to convince Mexican negotiators that the U.S. federal government would not be able to get anything done without the direct participation of the states. Several Mexican officials, however, were still on the fence. This changed when the catastrophic Easter Earthquake of April 2010 hit the Mexicali Valley. In the disaster’s aftermath, in the process of defining binational emergency measures, the Mexican authorities realized that the involvement of the U.S. Basin states was critical to determine quick, efficient, and implementable actions. As Karen Kwon, First Assistant Attorney General for the State of Colorado, explains:

367 Rascón, A. 2015.
370 Hinojosa, O. 2014.
371 Ibáéz, O. 2015.
Mexico saw that when the two countries need to have something done, and have it fast, as to face the aftermath of the earthquake, to have the states in the room, a few of us, even if only as advisors, to help negotiate the emergency measures, was useful. This was problematic for Mexico because they did not feel that they needed to have state representatives on their side of the room. So we had a very limited number of state people, one or two from the Upper Basin, and one for each three of the Lower Basin states. And as we worked on the emergency measures, we all became familiar with each other and realized we could trust one another and negotiate together.372

Although diplomatic protocol requires an equal number of representatives on each side, the Mexican representatives eventually went to their senior leaders and asked for approval to try something different, for an exception to the protocol. They made the case that to foster effective problem solving in the binational negotiations, it would be best to allow observers from the Basin states.373 Antonio Rascón, Principal Engineer of the Mexican section of the IBWC, describes this shift:

Traditionally, we have always conducted binational negotiations between federal representatives, exchanging notes between the two sections of the IBWC, and relying on the expertise of the Bureau of Reclamation and CONAGUA. For these negotiations, it became apparent early in the process that every critical issue would need to be vetted by the U.S. states and that their presence at the negotiating table would enhance and speed up the process. At the same time, we did not want to be overwhelmed by the number of representatives on the U.S. side; we wanted to keep some semblance of symmetry. So at first the state representatives sat outside the room, to be consulted if needed. As trust was built, they came inside the room. And eventually, they sat at the table.374

Including the states in the negotiation process immediately enhanced the communication dynamics between the U.S. federal government and the seven Colorado River Basin states. It was a significant turn in the binational negotiations, to the benefit of both Mexico and the U.S. As Robert Snow, the Chief Attorney for the Solicitor’s Office of the U.S. Department of Interior, explains:

373 Luévano, J. 2014.
374 Rascón, A. 2015.
For example, before the states were allowed to be in the room, in meeting X, the U.S. would make a proposal, and Mexico might say ‘no’ to that particular request. And so we would go back to the states and say, ‘we tried really hard, we presented X, and Mexico said that they could not do it for this and that reason.’ And the states would kind of scratch their heads, they would not be hostile, but they would wonder, ‘did you really try hard enough, did you really do a good enough job to explain that issue, did you really tell them how important it is to us? How could they say no!’ But then, when we secured Mexico’s permission to have state observers, we would go into negotiations, propose Y, and Mexico would say ‘no.’ So, we would go back to the states and explain, and they would start scratching their heads, until the state representative would intervene and say, ‘Lorri [Gray-Lee] did a wonderful job, she took a crack at it really hard, she tried her best, and it is just not going to fly. You need to listen to her when she says that it’s not going to work.’ And all of sudden the states’ mindset moved from disappointment with our inability to achieve X or Y, into problem-solving and say, ‘okay, if it is never going to fly, what if we did it this way, what if we did it that way, and what if we packaged it with this other benefit for Mexico.’ This gave us a way to move past the internal dynamics and focus on the substance.

This acknowledgement of the role of the U.S. Basin states along with the IBWC, the Bureau of Reclamation, and CONAGUA in the binational management of the Colorado River was a critical breakthrough. As Entsminger notes, “once all sides figured that they would all have to act as co-sovereigns, instead of a hierarchy or pecking order, that really paved the way forward.” With a more appropriate structure to incorporate the diverse interests of the Basins states in a binational setting, the two countries were able to turn their attention to negotiating an actionable agreement. As Gray-Lee summarizes:

The key is to have an agreement that everyone can buy into. There are so many holes for that marble to go through, everyone has a reject button, so you need to find a way to involve everyone to make sure you can address those holes. It is not about if an answer sounds right. If it is not ‘their answer,’ you will not get to the end goal.

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375 Entsminger, J. 2014.
3.5 Seeing is Believing

The 1944 Binational Water Treaty includes a provision that specifies the U.S.’s right, under conditions of ‘extraordinary drought,’ to unilaterally reduce the annual amount of Colorado River water to be delivered to Mexico. The Treaty does not include, however, the following critical specifications: 1) the definition of ‘extraordinary drought,’ 2) which are the criteria that trigger shortage, 3) the volume of the shortage, and 4) how the reduction will be implemented. These uncertainties needed to be addressed, and unless the U.S. chose to unilaterally enforce a mechanism and engage in a direct conflict with Mexico, the countries would need to decide together how to handle them. Reaching an understanding, however, would not be easy because the two countries were not approaching the drought from the same vantage point. In this sense, it is critical to understand the domestic circumstances on the heels of which the U.S. negotiators approached Mexico.

On the U.S. side, the period from 2000 to 2007 was the driest eight-year period in more than 100 years of historical records on the Colorado River. From the fall of 1999 through the fall of 2007, reservoir levels in the Colorado River system decreased drastically, from 55.8 million acre-feet (94% of capacity) to 32.1 million acre-feet (54% of capacity). The declining reservoir levels and diminished runoffs forced the Upper and Lower Basin states to consider determining, for the first time ever, specific guidelines to coordinate the operations of Lake Powell and Lake Mead, in order to deal proactively with looming shortages in the present and near future. As Karen Kwon, First Assistant Attorney General for the State of Colorado, explains:

Going to litigation was an option, but the threat of nine justices from the East Coast figuring out what to do with the Colorado River supply, after what undoubtedly would be a very protracted litigation, terrified everybody. We could not know what the outcome would be.

378 Tyrrell, P. 2015.
The Upper and Lower Basin states engaged in negotiations for three years, starting in 2004, with the mission to "move away from litigation, be proactive, avoid crises, maximize the gains, and reduce the losses."\textsuperscript{380} In December 2007, a Record of Decision was issued to officially adopt the Interim Guidelines for the Coordinated Operation of Lake Mead and Powell, which extend through 2026.

Following the states’ consensus, operational rules to better manage the Colorado River water in the context of drought, were set including: 1) three shortage conditions (light, heavy, extreme), depending on the reservoir levels at Lake Mead, which trigger corresponding reductions in the amount of water available to the Lower Basin states of Arizona and Nevada, and in extreme conditions, California; 2) the fully coordinated operation of Lake Mead and Lake Powell, to minimize shortages in the Lower Basin and avoid water use curtailments in the Upper Basin; 3) an Intentionally Created Surplus (ICS) mechanism to provide for the creation, accounting, storage, and deferred delivery of conserved water in Lake Mead; and 4) limited surplus availability, in select high reservoir conditions, for use by the Lower Basin states.\textsuperscript{381}

Therefore, after decades without a coordinated framework with which to deal with drought, the Basin states had reached consensus that, moving forward, it was better to voluntarily take earlier, smaller shortages to manage the Basins’ water, rather than experience very large and painful shortages later on.\textsuperscript{382} This strategy, tied to reservoir levels, would reduce the frequency of shortages by helping store more water and keeping reservoir levels higher.\textsuperscript{383} When the U.S. states were defining this approach, they included forecasts of shortages for Mexico in their modeling.\textsuperscript{384} As John Entsminger, Senior Deputy General Manager of the Southern Nevada Water Authority, explains:

\textsuperscript{380} Kowalski, T. 2014.
\textsuperscript{382} Hasencamp, W. 2015.
\textsuperscript{383} Zimmerman, G. 2015.
\textsuperscript{384} Kwon, K. 2014.
During the domestic negotiations, we sent a cover letter to the Secretary of the Interior outlining the states’ proposal, 90% of which became the 2007 Guidelines. In that cover letter to Secretary Kempthorne, we said, ‘it is going to be politically impossible for the states to take shortages and have the U.S. federal government simultaneously deliver the full Treaty water allocation to Mexico. So, we want to get the Guidelines done, and once they are done, we would like to begin negotiations with Mexico on two things: we want to agree with them on shortages and we want to agree with them on storage.’

Hence, over the years, the Colorado River Basin states had developed a process for discussing the problems posed by drought, assessing probabilities of different scenarios. They had compared, for example, what would happen if they did nothing or implemented plan A, B, or C; and what approximate shortages they would face, and with what frequency. Mexico, however, had not developed that level of expertise at all, because it had not been invited to be part of such analysis. As Don Ostler, Executive Director and Secretary of the Upper Colorado River Commission, notes:

Historically, Mexico had not been involved in the discussions about general Colorado River Basin issues. They were not partners but rather customers, with whom the U.S. had a contract for a certain amount of water, and we just delivered it. So there was no real involvement from Mexico in understanding the future problems. We were not working together as a group.

In light of this, a critical hurdle to start the binational negotiations was to work against the assumption by some U.S. stakeholders that Mexico, seen as a customer, would simply support an agreement that established the 2007 Guidelines into a binational context. Mexico, it was thought, should automatically agree to reservoir levels as the criterion for determining shortage allocations. These assumptions were problematic, as Sally Spener, Foreign Affairs Secretary of the U.S. Section of the IBWC explains:

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385 Entsminger, J. 2014.
386 Ostler, D. 2014.
There sometimes is really a lack of true understanding and appreciation that Mexico is a sovereign nation. We may think that this is the greatest idea in the world, and that it would be in the best interest of both the U.S. and Mexico, but at the end of the day, Mexico is a sovereign nation. Things are not going to happen unless Mexico agrees that it is in their best interest. What the U.S. may think is in the best interest of both, that may simply not be the view in Mexico. In terms of preconceptions, that is something we had to deal with. We would be told, ‘why don’t you just make them do this.’ Well, ‘because we can’t tell them to do anything, Mexico is a sovereign nation!’

Especially in the context of the lack of shared expertise and the historic mistrust between the two countries, starting off with the assumption that Mexico would agree with what the stakeholders in the U.S. had previously said Mexico had to agree to was unhelpful. As Charles Cullom, Manager of the Colorado River Programs of the Central Arizona Water Project, notes, “speaking in hyperbole, as you might expect, Mexico found that a little bit patronizing. Because Mexico did not have to accept shortages the way the U.S. defines them.”

Once the negotiations between the two sides began, Mexico argued that the countries should focus on defining the 1944 Treaty’s term, ‘extraordinary drought.’ The U.S. negotiators explained that they did not consider it feasible to define ‘extraordinary drought’ in such a diverse and expansive Basin. They reiterated that the two countries should choose to use reservoir levels as the indicator to determine when shortage would need to be implemented. The Mexican negotiators responded that they would prefer to have shortages tied to one of the well-documented drought indices in the scientific literature, rather than to reservoir levels. The U.S. negotiators replied that drought indicators work well on a year-to-year basis but are not as effective for multi-year cases in which there is ample capacity to store water.

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387 Spener, S. 2015.
388 Cullom, C. 2015.
389 Rascón, A. 2015.
The Colorado River system is known around the world precisely because it can store over four times its average annual inflow. The stakeholders make it through periods of drought without shortage for most users, as they have over the last years, because they can carry over storage from abundant years to use during dry years. So, the U.S. negotiators offered the example that one year may see drought in Wyoming, heavy snow in Utah, no rainfall in southern Colorado, and floods in northern Colorado; and no matter how much you analyze precipitation, snow pack, moisture content of the soil, and stream gages, the most accurate and integrated compilation of all those different metrics is the reservoir levels.392

This is the reason why, the U.S. insisted, the operation of Lake Powell and Lake Mead is determined on the basis of existing and projected reservoir operations. These operations change depending on how full or empty the reservoirs are, and if the U.S. had found better criteria with which to manage the water, they would likely be using them.393

Mexican negotiators, however, were skeptical of the use of reservoir levels as the trigger for shortage because they did not trust that reservoir elevations were solely indicative of hydrological conditions. The Mexican officials insisted on measures that could be observed and validated from a neutral party perspective.394 Eventually, the U.S. negotiators comprehended Mexico’s concerns, and realized that to break this impasse both sides would need to build trust through shared experience and understanding.

With this aim, the two countries established a work group to study metrics that might give Mexican negotiators more comfort as to the overall hydrology of the Basin. The seven U.S. states had already gone through the data in negotiating the domestic 2007 Guidelines, and were unable to find a better indicator than the reservoir levels. In repeating this process with Mexico, once again the metrics showed very little correlation to any other marker that could satisfy both sides. As Patrick Tyrrell, Head of the State Engineer’s Office of Wyoming, notes:

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393 Ibid.
394 Rascón, A. 2015.
It increasingly became apparent that the only meaningful indicator is in the reservoir levels. It was sort of a process of attrition. At some point, we did not have anything else we could try. I think Mexico started to consider ‘maybe we can go forward with the reservoirs as the shortage trigger, because nothing else seems to be working.’

Mexican negotiators understood that the reservoir levels are a summary of the hydrological and operational variables in the Basin, but still feared that the levels could be manipulated by political decisions. Mexico’s worry was that, through one mechanism or the other, the levels at the reservoirs would change artificially. The two countries were stuck in a deadlock until the U.S. redefined its strategy to effectively assuage Mexico’s concern. As Carlos Peña, Principal Engineer of the U.S. Section of the IBWC, explains:

We invited the Mexican officials on a tour around the Basin, and we went from Hoover Dam all the way to the Rockies, visiting different reservoirs. Then we gathered with the Mexican officials, and step-by-step, chronologically, we described the different regulations and Supreme Court decisions that shape our operations. They were rolling their eyes, after multiple four-hour presentations, conveying ‘why did you make the Law of the River so complicated?’ Yet, at the same time, those explanations were critical to convey the realities of the Basin, and to explain that the seven U.S. states do not trust each other. On a personal level, people understand one another, but each state is watching each other. So, we do not need water cops because we have a built-in system where if one state is taking more water than it should, its neighboring state is going to find out, and is going to go to report it to the Department of Interior.

The U.S. negotiators realized that the Mexican stakeholders responded well to the opportunity not only to hear how the U.S. operates the Colorado River Basin, but also to visit and see how it works in practice. So the U.S. proposed more tours, inviting the Mexican Section IBWC Commissioner and his technical staff, to a variety of different reservoirs. The aim was to show how the hydrological and environmental data is collected in those reservoirs, how the U.S. monitors the flows,

395 Tyrrell, P. 2015.
396 Hinojosa, O. 2014.
397 Peña, C. 2014.
and how that information is transmitted to a centralized location. Then, the U.S. Bureau of Reclamation offered detailed explanations of how they define shortage, and how Lake Powell and Lake Mead interact with such an assessment. Slowly, step-by-step, these efforts had a transformative effect, as Edward Drusina, Commissioner of the U.S. Section of the IBWC, describes:

These tours had a lot to do with the fact that we had beaten up these topics so much, going over and over, for more than a year, and neither country really seeing a way through. So we proposed to tour the watershed and the reservoirs, as a way to try to inform the Mexican negotiators of how we manage the Basin. This allowed them to see and take into consideration what we were saying, and look at it from our perspective; to understand our scientific approach and capital investment to monitor the Basin, including the agreements that we have established between the states and the federal government. It was our opportunity to demonstrate our thoroughness in evaluating the watershed, and to show to Mexico that we are not trying to hide something and that everything is out in the open.

Supported by these visits, the trust and understanding across the border that had been missing for many years, and the absence of which had repeatedly hindered the ability to collaboratively improve conditions in the Basin, started to develop. For decades, both sides had known very well what the 1944 Treaty said, but neither side knew much about what those terms meant in practice for the other side. As Peter Culp, Chief Attorney at the Sonoran Institute, explains:

Much of the border relationship is built around a mirage that each side has constructed about the other side, about what their values and interests really are. When you bring people together across the border you find that the challenges on each side are not as different as you think they are, there are a myriad of issues that need to be understood and addressed together. You recognize that in the face of important disparities in terms of power and resources, there needs to be a partnership to build trust and understanding.

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398 Silva, P. 2014.
The tours to look at canals, dams, reservoirs, and irrigation districts, allowed the negotiators to get together, talk through issues, and truly see how water is managed on the other side of the border. The result was an increase in the level of trust between the parties, built upon a greater technical understanding of the system, and a more accurate take on the different roles water resources play in both countries.
3.6 Sharing Tools for Better Understanding

One of the challenges in a river system such as the Colorado, where the major infrastructure is located upstream, is that the downstream neighbor, Mexico, has little ability to directly influence the operations that ultimately impact the way in which water is delivered. This situation creates an imbalance of influence, as the actions of one country directly impact the other, but such is not the case the other way around. This challenge is further compounded when the parties rely on a different set of tools to evaluate the conditions in the Basin.

In Mexico, both the IBWC and CONAGUA manage deliveries and operations in the Mexicali Valley on the basis of the Water Evaluation and Planning System (WEAP) model. This model incorporates surface water delivery, demand infiltration, and groundwater utilization, but is not as robust on reservoir operations since Mexico has no significant storage facilities. The U.S. relies on the Colorado River Simulation System (CRSS) model to operate the ten major reservoirs managed by the Bureau of Reclamation. All of the state and federal stakeholders have fluency in CRSS, the data it analyzes, its products, and how this information influences reservoir operations, which is what drives risk in the Colorado River system.

Since Mexico relies on WEAP, and thus cannot account accurately for Colorado River Basin reservoir operations, Mexican negotiators had considerable trouble evaluating U.S. data and trusting U.S. policy proposals at the beginning of the negotiations. This posed a significant hurdle, because in the Basin, swings in hydrology, which can go from unregulated inflows of 24 million acre-feet in one year to less than 4 million acre-feet a couple years later, can only be fully gauged within the context of reservoir storage that can accommodate up to 60 million acre-feet. Mexican officials needed to find a way to be on an equal technical footing with their U.S. counterparts to evaluate the reservoirs’ data and operations, so that both sides could confidently discuss policy options.

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402 De la Parra, C. 2014.
403 Cullom, C. 2015.
404 Bernal, F. 2015.
405 Cullom, C. 2015.
In consequence, the two countries decided to establish a work group composed of binational experts, with the aim of building trust and a technical understanding between the two sides.\textsuperscript{406} As Lorri Gray-Lee, Director of the Lower Colorado Region at the U.S. Bureau of Reclamation, explains:

The U.S. stakeholders had been talking about dealing with shortage for years. That was not the case for Mexico on the Colorado. So their negotiators had to take a lot of information in and get comfortable much faster. In coordination with the IBWC, Reclamation shared modeling tools so that Mexico would not have to create everything from scratch, so that they could understand what and how we were managing the River, and then shape their own perspective.\textsuperscript{407}

The binational work group spent 18 months testing modeling tools, with a focus on CRSS. In that process, the two sides were able to progressively track current and future hydrologic and climatic conditions in the Basin from a common framework. Trust was enhanced, as Mexican officials were able to develop a more accurate and nuanced understanding of U.S. reservoir operations. As Adriana Reséndez, Technical Director of the Colorado River Program of the IBWC’s Mexican Section, describes:

The work group process allowed us to understand the modeling that determines the U.S. decisions in a way Mexico had never understood before. It was an enormous change. We started from zero, everything about it was new; we had to process all the new information, test and run the CRSS, and then adapt it to evaluate scenarios that directly apply to us. Progressively, we were able to develop a more nuanced sense of the magnitude and impact of the reservoirs, as they interact with the hydrology of the Basin. With the appropriate tools to gauge operations over the entire Basin, it became clearer what to seek under a binational framework.\textsuperscript{408}

Reaching this shared understanding in regard to the modeling, however, was not without hurdles. The Upper Basin states originally came into the negotiations with a projection, that they had been using for over a decade, of what their future water use would be. As the negotiations unfolded, in the middle of a work group meeting,

\textsuperscript{406} Rascón, A. 2015.
\textsuperscript{407} Gray-Lee, L. 2014.
they asked the Bureau of Reclamation to update their water usage schedule. In either schedule they would come to use their full allocation according to the Law of the River, but in the updated schedule this takes place sooner. When the parties ran that update in the model, it increased the probabilities of projected shortages for the Lower Basin states and for Mexico. As Jennifer Pitt, Director of the Colorado River Project at the Environmental Defense Fund, explains:

That became a real flashpoint, because coming into the process Mexico was not accustomed to using these modeling tools. So, in the context of discussing reservoir operations, the U.S. came in and said to Mexico, ‘we want to give you a modeling update.’ Mexico looked at it, and their first reaction was, ‘you are showing us a greater probability of shortages, what are you doing? You are cooking the system on us!’ The Mexican delegation literally stopped the meeting for an hour. There was some intense conversation in Spanish, which some of the U.S. stakeholders could not understand because we all do not have bilingual skills as they do; it happened right in front of us. At some point, somebody from the State of California decided that the best thing we could do to defuse the tension is to have an afternoon snack, and went to the hotel and asked for cookies and coffee. So, as the Mexican delegation was thinking about walking out, the cookies came in, and more so on the Mexican side than the U.S. side, their sense of hospitality is, ‘if somebody offers you something, you do not refuse it,’ so they stayed, and that helped us get through the rest of the conversation.409

To be sitting at a negotiating table, being asked to consider entering into a voluntary shortage agreement, and having the shortage projections set in front of you actually look worse, suggested that the parties did not necessarily think through all the scenarios of how Mexican officials might react to being shown the modeling update.410 Once the situation was defused, the Mexican negotiators were better able to understand that the modeling update was not meant to trick them. They realized that had the U.S. been trying to trick Mexico, they would have done the opposite; they would have made it seem as though shortages were less likely to occur in the future, so as to garner agreement.411

410 López, M. 2014.
By empowering Mexico’s technical staff to master CRSS as a reliable tool to test upstream operations, Mexican officials were better able to evaluate how different measures being discussed at the negotiating table could impact the Colorado River Basin, the Mexicali Valley, and the Delta. Together, the two sides could precisely replicate the different reservoir operations scenarios that could result from the proposed agreement. This made it easier to shed preconceptions about why the other side was taking a certain position and actually understand the underlying interests at play. This was a critically helpful strategy, as Patricia Mulroy, General Manager of the Southern Nevada Water Authority, explains:

You need to get the technical people in the room and have them speak a common language and understand where the other side is coming from. You need to get the talking heads out of the room, get them out of dodge! You have to create a space, a safe space, where conversations can be had on the nitty-gritty. So that we attribute the same meaning to the same words and have the same understanding of the same concepts. Whether there are language issues, cultural issues, legal issues, it has worked among the seven states in earlier processes, and it worked internationally with Mexico. Let those who do not have political ambitions, let them have their very technical, very nuanced conversations in their own language, to set the stage. Unless you do that, nothing else moves. Great rhetoric is not going to do it.

Moreover, neither delegation needed to define the right policy to operate the reservoirs right away, but instead both countries were able to jointly test, ‘if you operate the reservoirs in X manner, it will produce Y results, and if you operate the reservoirs in Z way, it will produce W results.’ Through that process, the two sides were able to reevaluate natural resource management strategies from a shared technical framework, which increased trust between the two groups of negotiators. As José Gutiérrez, Deputy General Manager of Binational Projects at Mexico’s National Water Commission, summarizes:

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413 Reséndez, A. 2015.
414 Rascón, A. 2015.
The work group on hydrology, I must confess, became a big family. Great camaraderie developed between us all. Getting to have a deep understanding of how the Colorado River Basin is managed and operated on the U.S. side was magnificent. It allowed us to explore a wide array of issues and to realize that whatever deal we reached, it could really be a win-win package.416

3.7 Putting Yourself in Their Shoes

In the aftermath of the Easter Earthquake, Mexico’s Treasury Ministry, which tends to sway discussions in Mexican politics, was especially concerned with finding mechanisms to finance the repair of the damaged infrastructure in the Mexicali Valley.\textsuperscript{417} The Ministry argued that Mexico should sell water to the U.S. in exchange for investment in Mexico’s crippled irrigation infrastructure, as a crucial component of the binational agreement.\textsuperscript{418} However, the U.S. estimates about the reference price at which they would be willing to even consider buying some of the Colorado River water that Mexico could no longer use as a result of the earthquake, were well below the market rates that Mexico’s Treasury Ministry had envisioned.\textsuperscript{419}

In turn, the Mexican negotiators explained to their back table that the financial resources that could be obtained in water trades were well below the Treasury’s forecasts. They made the case that Mexico should focus instead, not only on rebuilding its infrastructure, but on improving conservation measures and enhancing environmental restoration, for reaching a broader agreement in scope would then open the door for more opportunities further down the line. As Óscar Ibáñez, Chief of Staff for the Director-General of CONAGUA, recalls:

\begin{quote}
The facts underscored that the negotiation could not solely hinge on sharing in shortages and engaging in a swap of water. It was necessary to seize the window of opportunity to bring other issues to the table to shape a better package for Mexico. Repairing the infrastructure we already had before the earthquake was not changing the status quo.\textsuperscript{420}
\end{quote}

Considerable information about the hydrological conditions in the Colorado River Basin is publicly available, so the Mexican officials knew coming into the negotiations that the probability of shortages would only increase in the near future. They were aware that the U.S. had started to evaluate mechanisms to provide the

\textsuperscript{417} Ibáñez, O. 2015.
\textsuperscript{418} Calderón, F. 2013.
\textsuperscript{419} De la Parra, C. 2014.
\textsuperscript{420} Ibáñez, O. 2015.
seven Basin states with multiple alternatives to effectively face a future with reduced flows. The U.S. has an extensive research program that has highlighted conventional and unconventional approaches to increasing water availability in the future, such as tapping important aquifers in Wyoming and Utah, building desalting plants, paying water users to reduce consumption, and even bringing icebergs from the Arctic.\footnote{López, Mario. General Manager of Binational Projects at Mexico’s National Water Commission. Personal conversation. December 1, 2014.} The argument by the Mexican negotiators was that the binational agreement, from Mexico’s perspective, had to go beyond determining shortage triggers and financing infrastructure repairs, and focus as well on increasing the overall availability of water on Mexico’s side.\footnote{Rascón, A. 2015.}

So, as a first step, the Mexican officials conveyed to the U.S. negotiators that the country needed to share in surpluses, from an equity and political standpoint.\footnote{Salmón, R. 2014.} Surplus sharing was not part of the U.S.’s initial proposal in the negotiations. José Gutiérrez, Deputy General Manager of Binational Projects at Mexico’s National Water Commission, describes the situation:

Mexico could not voluntarily share in shortages without the support of an agreement that involved benefits in a wider set of issues. Otherwise, a ‘revolution’ would occur on our side and no political actor would support any binational agreement. We needed to be able to show to our constituents that we were sharing in shortages but that in order to prevent that from happening as much as we could, we were going to jointly engage in projects to conserve and create new water resources. It was critical to be able to speak to the farmers and truthfully say, ‘we tried all these different options, this is what we were able to get, this is what we could not get, and moving forward these are the new conditions.’ We know, in the context of drought, and future climate change, that the probability of shortage is much larger than the probability of surplus, we clearly know that, but it is important to have a framework that encompasses different scenarios.\footnote{Gutiérrez, J. 2015.}
The request to share in surplus management and dispersal with Mexico was a hard adjustment for the U.S. negotiators to make.\textsuperscript{425} The way surplus works on the U.S. side is that the water agencies in the Lower Basin states of California, Nevada, and Arizona can take more than their regular annual water allocations, in select circumstances when reservoir levels at Lake Mead are high.\textsuperscript{426} However, the Upper Basin states dispute the notion that there should exist any surplus in the Colorado River Basin in the first place. So, the idea of extending that provision to Mexico, heretofore unprecedented, was tremendously difficult to overcome.\textsuperscript{427}

In order to do so, the U.S. negotiators had to find ways to look at Mexico’s request by putting themselves in Mexico’s shoes, so as to see it from Mexico’s point of view. This helped them to evaluate whether to adjust their proposal. As Edward Drusina, U.S. Commissioner of the IBWC explains:

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We would go to the sessions with our own intended outcome of what we were hoping to get, but we would listen, and then try to place ourselves in their shoes. It was hard for some people on our side, very hard. So we would have to caucus, and give those individuals an opportunity to express their opinion. Then normally someone would say, ‘don’t you think Mexico is taking this into consideration because they have X or Y to deal with?’ And yes, from their perspective, ‘if we are talking about shortage, why are we not talking about surplus?’ Water is such a sensitive political issue. It can become a nightmare the moment there is even the slightest impression you are giving away water. \textsuperscript{428}
\end{quote}

In this receptive dynamic, the Mexican negotiators were able to explain to the U.S. delegation the things that simply could not be proposed to the back tables in Mexico.\textsuperscript{429} In this collaborative approach to negotiation, it was critical that both sides clearly and honestly articulate the items that were definitively off the table. The parties recognized that they could not negotiate from a zero-sum, win-lose perspective.\textsuperscript{430} They would have to approach it as a win-win, and find the trades

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\textsuperscript{425} Ostler, D. 2014.  \\
\textsuperscript{426} Peña, C. 2014.  \\
\textsuperscript{427} Kwon, K. 2014.  \\
\textsuperscript{428} Drusina, E. 2015.  \\
\textsuperscript{429} Ibáñez, O. 2014.  \\
\textsuperscript{430} De la Parra, C. 2014.
\end{flushright}
that worked for both sides.\textsuperscript{431} As John Entsminger, Senior Deputy General Manager of the Southern Nevada Water Authority, explains:

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To allow Mexico to have surplus was one of the hardest things. The only way we figured it out was not having the U.S. be the one that grants surplus to Mexico, but instead having the three Lower Basin contractors, Metropolitan Water District of Southern California, Southern Nevada Water Authority, and Central Arizona Project, give a part of our own surplus. That let the Upper Basin say, ‘okay, the total amount of surplus between the Lower Basin and Mexico is not changing, it is just being divided differently.’ And ‘the U.S. states are not setting any precedent because the contractors are the ones sharing in surplus.’\textsuperscript{432}
\end{quote

The three water agencies were willing to share in surplus because a binational agreement would provide them with the ability to fund water conservation projects in Mexico, from which they could then share in water savings.\textsuperscript{433} There is significant potential in those projects, both in terms of the magnitude of water that can be saved and the lower costs at which it can be done, to the benefit of U.S. water users.\textsuperscript{434} There are also benefits to be seized from increasing reservoir levels at Lake Mead by storing Mexico's water allocation there, which likely enhances the probability of surplus occurring in the first place. None of which would be possible without a binational agreement in place.\textsuperscript{435} As Carlos Peña, Principal Engineer at the U.S. Section of the IBWC, notes:

\begin{quote}
We were quite conscious that we had to seize a window of opportunity to reach a package deal. Each stakeholder, there were issues where you’d realize, ‘well, that part of the deal is a little bit rough on the edges, I don't necessarily like that piece much; but that other piece, that looks great for me.’ The fact it was a whole package, that is what allowed us to move forward, balancing what people could live with, with what people truly needed.\textsuperscript{436}
\end{quote

\begin{footnotes}
\item[431] Fulp, T. 2014.
\item[432] Entsminger, J. 2014.
\item[433] López, M. 2014.
\item[434] Hasencamp, W. 2015.
\item[435] Zimmerman, G. 2015.
\item[436] Peña, C. 2014.
\end{footnotes}
Seizing trades through the differences in infrastructure development and price of doing business helps both sides augment the water supply in ways they could not do on their own.\textsuperscript{437} For example, cheaper conservation projects in Mexico can yield better water savings for both sides. If the U.S. jointly funds them, it gets access to more water at a lower cost for its ratepayers, whereas Mexico also gets more water at a lower cost than if it fully funded the projects on its own.\textsuperscript{438}

Focusing on how to create more benefits, by seizing on the fact that costs and benefits are distributed differently across the two countries, while being mindful of how carefully planned trades can allow the two sides to meet their interests more effectively, is in stark contrast to the deadlock that had previously characterized the binational interactions.

This practice allowed the negotiators to evaluate with fresh eyes, issues that had been unresolved. It became more apparent to Mexican officials that there were significant benefits to using the reservoir levels as the trigger measure, not only for shortage but particularly for surplus.\textsuperscript{439} Otherwise, for example, if the two countries were to choose a precipitation index to determine shortage for Mexico, then in practice, at a time when the reservoir levels at Lake Mead are high, but it is a dry run-off year in the Basin, Mexico would be taking shortage while the Lower Basin states would receive surplus. If each country had a different set of indicators, the countries would be out-of-sync and in constant conflict, in turn creating tremendous political pressure.\textsuperscript{440} As Terrance Fulp, Deputy Regional Director of the Lower Colorado Region at the U.S. Bureau of Reclamation, notes:

\begin{quote}
That conclusion took us months to reach. For equity purposes, when one country is in shortage, taking reductions, both countries should. The flipside is, when one country is getting additional water, both countries should. That really helped us when it came to finding those triggers, as it pertains to the elevation levels in the reservoirs, because such an arrangement made sense, was equitable, and the countries could really sell the concept to their stakeholders: ‘we are really sharing in these efforts.’\textsuperscript{441}
\end{quote}

\textsuperscript{437} Ostler, D. 2014.
\textsuperscript{438} Cullom, C. 2015.
\textsuperscript{439} Rascón, A. 2015.
\textsuperscript{440} Entsminger, J. 2014.
\textsuperscript{441} Fulp, T. 2014.
The two sides had to make sure to find that sweet spot where they could find a relative balance of benefits for both countries. Ultimately, no matter how solid the deal at the negotiating table, the negotiators would need to sell the deal to the decision-makers and constituents, and they needed to be able to make sure that the agreement would be perceived as being to their own benefit.\textsuperscript{442} As Michael Connor, then Commissioner of the U.S. Bureau of Reclamation, explains:

It took a while to understand what Mexico needed strategically in the big picture, how the deal had to be structured so that they could go back to their constituents and on the merits, show, ‘this is a good deal and it does not undermine our interests.’ We needed to have shortages shared. They needed, if they were going to do that, they needed to be able to say, ‘we have a framework to avoid shortages. We agreed to the concept of shortages, but there are mechanisms here so that we can manage it, that we can create water and that will offset these shortages.’ So we both had to understand the needs of the key constituencies and how the agreement is going to represent victory for all those folks in the best possible way. I cannot think of anything more important than through open, candid dialogue getting to that framework as early on as possible. When we achieved that, that is when we could start to see how the senior officials could talk of the agreement in a way that captures everybody’s key interests, outlining ‘this is an agreement that reflects binational benefits on as much an equal footing as you can get.’\textsuperscript{443}

From that perspective, it became easier to understand where the other side was coming from, the values and concerns that were driving the arguments they were making in the negotiations. Recognizing that these values and concerns are legitimate, the two sides could think about how to better address them, and come to find an approach that would be supported and viewed as a step forward on both sides.\textsuperscript{444} This was a significant change in the binational relationship. As Entsminger summarizes:

\textsuperscript{443} Connor, M. 2015.
\textsuperscript{444} Culp, P. 2014.
And the thing is, the small binational team, we probably spent 14,000 hours together, entire days at a time, grinding through, going backwards, going sideways, getting mad, getting back together, and at some point, we started to like each other. We were in a three-day negotiation down in San Diego, and I had to fly home to Las Vegas to run a board meeting. So, I am in San Diego for the first day meeting, fly back home in the afternoon. I wake up, run the morning meeting, and take a flight back to San Diego. I land, and walk back into the binational negotiating room at about noon, and the whole side of the Mexican table, they start clapping, celebrating, and I say to myself, ‘I love these guys.’ In that environment, getting to know the priorities of your partners, as if they were your own, that is why we had been successful domestically in negotiating the 2007 Guidelines; I can argue Colorado’s position, I can argue California’s position; I can argue Arizona’s position. But before we did Minute 319, I could not argue Mexico’s position. Now I can.445

445 Entsminger, J. 2014.
3.8 Bringing More Issues to the Table

During the past two decades, through a combination of trial-and-error, public outreach, coalition building, and adaptive leadership, the environmental NGOs have significantly transformed the way they engage with the issues surrounding the Colorado River. The process began in the late 1990s, when the Colorado River Delta, which had been declared dead in the scientific literature a decade earlier, had a small rebirth. Following unexpected floods, native cottonwoods and willows suddenly began sprouting. This underscored that the ecosystem was more resilient than it had been given credit for. As Taylor Hawes, Director of the Colorado River Program at the Nature Conservancy explains, “that was the startling realization that even though the Delta looked like a barren landscape, with a little bit of water, it could be radically revitalized.”

As a result of this discovery, research universities and environmental organizations on both sides of the border began to take inventory of the marshes and wetlands in the region. Step-by-step, environmental experts began to envision a restoration strategy based on pulse and base flows, mirroring the way in which rivers in this arid region work. At the time, however, nobody knew how to make this happen from a political and legal standpoint. It quickly became clear that receiving water for environmental restoration from any involved government entity would be quite difficult because all the water rights in the Colorado River Basin had long ago been allocated.

Therefore, the NGOs’ first efforts centered on identifying water sources for sale, wastewater from municipalities, and farming water sitting idle. This led to the creation of the Colorado River Water Trust, a binational effort led by Pronatura and the Sonoran Institute, among other partners, to create an environmental water bank. Their next step was to secure small federal land concessions to monitor and simulate base flows in a few pilot restoration sites in the Delta. These restoration efforts were successful.

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447 Hinojosa, O. 2014.
Yet, the NGOs knew they would need access to public infrastructure, such as reservoirs and dams, if they ever were going to be successful in creating a pulse flow that would have an impact over the whole Delta. This meant that they needed to build relationships with public officials on both sides of the border, to create a rapport and understanding about its potential benefits.\footnote{Luken, Gastón. President of Pronatura - Sea of Cortez. Personal conversation. November 18, 2014.} This was no easy task in either country.

On the U.S. side, the NGOs had not had a positive relationship with the states, urban water agencies, and irrigation districts for a long time. They had been stuck, with little success, working under the paradigm of environmental activism that relies on lawsuits to trigger environmental action. Confrontations about water rights had been costly, difficult, brewed mistrust, and achieved little in the way of results.\footnote{Benemelis, P. 2014.} In light of this, gradually, a small group of NGOs realized that they needed to try to move away from the adversarial stance of pursuing litigation. Instead, they would promote conversations about how to address environmental challenges collaboratively, working within rather than against the extensive body of Compact laws and Supreme Court decrees that make up the Law of the River. This new approach, they concluded, would be a better way to reach implementable solutions.\footnote{Culp, P. 2014.}

In these efforts, in the early and mid 2000s, the NGOs produced several publications describing their restoration aims, outlining actionable proposals.\footnote{Sonoran Institute, et al. \textit{Conservation Priorities in the Colorado River Delta: Mexico and the United States}. 2004.} In their publications, the NGOs underscored that there was a consensus in the environmental community, based on years of research and workshops, about what could be done to restore ecosystems for the benefit of the border communities, beyond the priorities of environmental interests.\footnote{Environmental Defense, et al. \textit{Conservation Before Shortage: Proposal for Colorado River Operations}. 2006.}  

\footnote{Hinojosa, O. 2014.}
The Department of Interior’s Bureau of Reclamation welcomed these recommendations and considered them an important piece to the puzzle of how to enhance sustainability in the Colorado River Basin. Subsequently, during the second term of the George W. Bush Administration, as the Upper and Lower Basin states negotiated what would become the 2007 Interim Guidelines, the NGOs restated their recommendations to high-ranking officials from the DOI, including official written communications with Secretary of the Interior Dirk Kempthorne. By the time the Obama Administration came to office, the perception about the NGOs was beginning to change. The NGOs were often in the room during U.S. federal-state interactions, more so than a decade ago.

To understand this move toward a more collaborative dynamic between government officials and environmental advocates, it is also necessary to look at how the NGOs became more involved on Mexico’s side. The bureaucratic organization of public agencies often results in the independent consideration of issues that, in practice, are inevitably connected and would be better managed in a cohesive manner. This had long been the case in Mexico, where water management and environmental restoration had been dealt with separately for decades. As Osvel Hinojosa, Director of the Water and Wetlands Program at Pronatura, explains, in the late 1990s, when the Mexican NGOs attempted to meet with CONAGUA about water for environmental restoration, “it was almost impossible to find an official willing to talk to them.”

The first significant step towards overcoming this hurdle was a federal legislation reform in 2004. During President Vicente Fox’s Administration, CONAGUA was entrusted, for the first time ever, with the legal responsibility of protecting the environment as part of its water management mandate. This reform encouraged officials to work within a broader framework, mindful of environmental

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455 Snow, R. 2014.
457 Connor, M. 2015.
458 Ibáñez, O. 2015.
459 De La Parra, C. 2014.
But finding ways to prompt domestic government agencies, as well as water users, to look at things differently was no easy task. The bureaucratic tendency to move very slowly usually hinders change, however beneficial it may be, and such was the case in Mexico. So, the vast majority of the CONAGUA staff remained focused on balancing the needs of the agricultural irrigation districts and municipal water agencies.

When President Felipe Calderón came to office (2006-2012), his Administration provided greater emphasis on the environmental interests on account of three different factors. The first factor was the background of the people he appointed to lead CONAGUA and the IBWC. Prior to being appointed Director-General of CONAGUA, José Luis Luege had been Mexico’s Attorney General for the Environment and Secretary of the Environment and Natural Resources in the Fox Administration. Because of this experience, he was familiar with the issue of restoration in the Colorado River Delta. Luege understood the priorities of the NGOs acting in the region, as he had collaborated with them to protect endangered species in the Sea of Cortez. Through these involvements, he had built a relationship with Pronatura, along with additional NGO partners in Mexico and the U.S. The Commissioner of Mexico’s IBWC section, Roberto Salmón, had also previously worked with Luege.

The second factor was that during this period of time, both countries had recently endured the aftermath of the All-American Canal conflict, with the ensuing acrimony and significant financial losses from the litigation process. As a result of the severe conditions of drought that the Colorado River Basin had been experiencing since the turn of the century, domestic stakeholders started to consider options to change the status quo that would perhaps otherwise not have been explored. It is in this context that the NGOs found a more receptive audience to...
their message that moving away from the zero-sum mindset would be critical to the successful and sustainable management of the Basin’s water resources.464

The third factor was that after the 2007 Guidelines were negotiated, when the U.S. approached Mexico about voluntarily sharing in Colorado River shortages, Mexican officials found themselves in a bind. If they refused to accept the shortages, they would risk unilateral water restriction from their upstream neighbor. However, if they were to say yes to the shortages, it would spell political suicide domestically.465 In this scenario, recognizing the lack of alternatives, Mexico’s federal government started to realize that including the interests of the NGOs could infuse much-needed flexibility into the binational negotiations.466

Arguing in favor of environmental restoration offered the opportunity to make the case for a principle of fairness that went beyond domestic interests. It gave an international dimension to the negotiations that surpassed the binational context, as the Upper Gulf of California and the Colorado River Delta had been designated a Biosphere Reserve by UNESCO. As Roberto Salmón, Mexico’s IBWC Commissioner explains:

> Including an environmental aspect in our proposal was critical. It provided us with legitimacy to discuss issues beyond the two traditional items, water for the cities and water for agriculture. By involving environmental restoration as a third element, we were bringing to the table an element that inevitably has no borders. This would in turn broaden the discussion about water management. And by requesting an environmental component, from a governmental perspective, the NGOs’ proposals would be considered more thoroughly, which rendered their input more effective.467

In turn, Mexican officials articulated very early on in the negotiations that they valued working toward restoring the Delta.468 This was rather perplexing for many U.S. states, which were coming to these negotiations to talk about shortage in the

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464 Hinojosa, O. 2014.
466 De la Parra, C. 2014.
467 Salmón, R. 2014.
468 Ibáñez, Ó. 2015.
context of reduced water supplies.\textsuperscript{469} Their concern was that an additional consumptive use, though for environmental purposes, could only hinder the efforts to fight the drought, putting an additional demand on the system.\textsuperscript{470} Mexico countered that if the two countries enhanced conservation efforts, there would be enough flows to protect and enhance the environment, which in turn would benefit everyone, as it would increase aquifer replenishment.\textsuperscript{471}

The seven states, however, did not want to suggest there was a duty to provide Mexico with water for environmental purposes. They did not want to set any precedent along those lines.\textsuperscript{472} Moreover, they were highly suspicious of Mexico’s request because they believed it was a ruse, an effort to secure water that would in fact be diverted for agricultural purposes.\textsuperscript{473} They were concerned because the Mexican agencies did not have a track record of protecting the environment. As Patrick Tyrrell, Head of the State Engineer’s Office in Wyoming, describes:

\begin{quote}
We needed to trust them on the fact that environmental flows would not be snatched and then be directed to irrigation. The reason for that is that area around Mexicali is a breadbasket for Mexico. It would be a great temptation if water comes down the border for environmental purposes, to be grabbed for irrigation. So our preconception was that the water would never be used but for irrigation.\textsuperscript{474}
\end{quote}

To assuage these concerns, the Mexican officials invited U.S. stakeholders on field trips to visit environmental restoration sites across the Delta in the Mexicali Valley. They put together a binational field trip, rented a bus, and toured the Mexicali Valley. The U.S. visitors could see firsthand what the irrigation system looks like, and what opportunities for water conservation were available in Mexico. Seeing this in person was incredibly helpful. Charles Cullom, Manager of the Colorado River Programs of the Central Arizona Water Project, describes the impact of these visits:

\begin{quote}
Initially, Mexico was saying two things that seemed to be in conflict. One was, ‘we have growing water needs in our border communities
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\textsuperscript{469} Kowalski, T. 2014.
\textsuperscript{470} Benemelis, P. 2014.
\textsuperscript{471} De la Parra, C. 2014.
\textsuperscript{472} Kwon, K. 2014.
\textsuperscript{473} Mulroy, P. 2014.
\textsuperscript{474} Tyrrell, P. 2015.
and our irrigation districts, so we need more water.’ The other was, ‘water for the environment is an important issue, so we need environmental flows.’ From our perspective, it could feel like Mexico was talking about environmental flows because it could leverage more water for human health and safety. So, it took some teaching from Mexico to show us that indeed environmental protection was a priority, that it was following an amendment to their Constitution, and responding to the priorities of the Administration of President Calderón. The Mexican negotiators highlighted the institutional framework that would support the pulse flow, and conducted several tours for us, to show us their investments in restoration projects across the Colorado River Delta, using human wastewater and supporting kids to plant cottonwoods in the summer.475

As a result of these visits, more of the states’ negotiators began to consider the possibility that they could pursue voluntary shortage with Mexico, and at the same time find effective solutions that included environmental restoration.476 Inevitably, this meant fighting certain preconceptions on their own side, such as the suspicion among the Upper Basin stakeholders that the request for environmental flows was a plot by the Lower Basin and the NGOs to send Upper Basin water downstream. Jennifer Gimbel, Director of the Colorado Water Conservation Board of the State of Colorado, explains how the U.S. negotiators worked against this notion:

We approached top water leaders, governors, board members that were knowledgeable about the law and about policy, and we worked very hard with them. We got initial reactions: ‘there is no way we are going to talk to Mexico, no way we are going to do this pulse flow, we are in a drought!’ So we had to bring them along through a step-by-step effort. You let them vent. You let them overreact. You bring them back. You talk to them. You make them consider things. Then we brought in specialists from Reclamation, stakeholders from other states, to try to explain the process, try to convey instead why this would help protect our interests. Through these behind the scenes conversations, we slowly gained, not a willingness to move forward but an ‘okay, we’ll give it a try.’ That is all we needed, a 'let's just see if we can get there.’477

475 Cullom, C. 2015.
476 Benemelis, P. 2014.
In fact, the Lower Basin states were supportive of involving the NGOs, not because of a hidden agenda, but because the NGOs were proposing that Mexico should be able to store the water for environmental purposes in Lake Mead.\textsuperscript{478} Keeping reservoir levels higher meant a lower probability of shortage and higher probability of surplus, which was in the interest of Arizona, California, and Nevada.\textsuperscript{479} As Karen Kwon, First Attorney General for the State of Colorado explains:

The water users with senior rights over the Colorado River headwaters came in saying, ‘no, no way we are devoting water for environmental purposes!’ It was not until we were able to peel back, to discover what our barriers were and what we would be able to accomplish, that we moved forward. It took a big effort to communicate to them that if we do not solve the problems of the Lower Basin and in Mexico, and choose to proactively be a part of the solutions to the problems they are experiencing, once problems erupt, and we engage in the risk of litigation, it is uncertain what will come out of it all, even if we have senior water rights. So you need a lot of publicizing to convey this and then you need negotiators on the other side, willing to make a good-faith effort to understand the obstacles, political and legal, that you face, instead of ignoring and arguing, ‘this is what we need and we don’t care.’ If you go into negotiations with the latter attitude, it is not going to work. A win-lose strategy in transboundary discussions is never going to be effective.\textsuperscript{480}

For this reason, prior to the negotiation process, the NGOs remained committed to openly debriefing with different constituencies about the proposals they would be bringing to the negotiating table, if involved.\textsuperscript{481} An attitude of ‘this is what I want, and I will not budge,’ was absent because they knew that, given the complexity of the system, that strategy would not work. As Carlos Peña, Principal Engineer of the IBWC, notes:

The environmental stakeholders would come up to us, and say, ‘this is what we would like to see, what do you think about it?’ They did not come up and say, ‘we want the pulse flow, no matter what!’ So the
discussions would include our technical experts discussing, ‘well, your idea is great, but here is a problem, and this is an issue.’ This openness helped us all out, because people were coming in with the mindset that the goal was to build a negotiation process that worked for everyone.\footnote{Peña, C. 2014.}

Once the U.S. states’ negotiators convincingly explained to their back tables, and to one another, that environmental restoration was a real desire on both sides of the border, something Mexico needed and for which it had a policy and institutional framework, it was then easier for both countries to agree and say ‘yes, let’s work on this and find a binational environmental solution.’\footnote{Entsminger, J. 2014.}
3.9 Adding Value in Process and Product

The NGOs came into the binational negotiations convinced that the way they could achieve meaningful environmental results would be by gleaning an accurate picture of what the other stakeholders in the Basin needed. They believed that they could promote significant change by effectively understanding the interests of the other stakeholders, and in turn, intertwining such interests with their own.484 As Jennifer Pitt, Director of the Colorado River Project at the Environmental Defense Fund, explains:

We knew what our bottom line was, pretty simple, getting environmental flows on the Delta. We understood we could not get that in isolation, that the people in charge of managing reservoirs and dams would only do it in the context of a package that would address a number of needs for agricultural and municipal water users. Environmental issues do not find their way to the top of the agenda of agency commissioners. In order for them to really focus on restoring the Delta, it would need to be considered within a broader context of issues. So we knew that we had to figure out how to best reach our goals through the map of needs the other stakeholders had. 485

The NGOs knew that the successful restoration of the Colorado River Delta would need to occur under the umbrella of a binational agreement, from a political and operational standpoint. Informed by witnessing years of conflict, the NGOs surmised that such an agreement could only occur if the binational relationship between the two governments evolved into a partnership around water management, with a broader mandate, fostering more trust and a deeper understanding.486

To accomplish this task, the NGOs reaffirmed their argument that it was necessary to address multiple factors concurrently, so that all the stakeholders knew that making progress on one issue would not preclude progress on another. Their idea was that everything should be contingent on everything else, providing the negotiators with a safe space to consider all the issues and to look at multiple packages. As Peter Culp, Chief Attorney at the Sonoran Institute, describes:

484 De la Parra, 2014.
486 Hinojosa, O. 2014.
It’s difficult to get to comprehensive solutions of complex issues unless you have a strong sense of conflicting interests and priorities, as well as the opportunities to bridge and trade across them. You need to connect all the different important issues. You cannot talk about potential shortage conditions without addressing reservoirs for surplus conditions. It is very difficult to make an argument for binational infrastructure investment without talking about binational water exchanges. You will not be able to devote water for environmental restoration unless it happens under the umbrella of actions that address multiple issues simultaneously.\(^\text{487}\)

During the negotiations, the two countries formed various work groups to discuss the criteria by which to define and improve binational measures regarding drought and shortages; hydrology and operations; water conservation; new water sources; and environmental restoration.\(^\text{488}\) The NGOs were involved in all five working groups, though there were occasions during the process in which only federal and state stakeholders were permitted to remain in the room.\(^\text{489}\) The aim of involving the NGOs was to have them contribute to the full suite of proposals and help shape a better package that every stakeholder could go home and show as a win for their constituents.\(^\text{490}\)

In achieving that goal, the NGOs played several roles beyond their substantive expertise in environmental issues, which included, among others: 1) proactively securing funding to co-finance the restoration efforts; 2) functioning as informal channels of information for government officials to send signals to the other side in ways that were not necessarily possible in the formal sessions; and 3) helping to resolve misunderstandings in the formal negotiating sessions.

Though not explicitly articulated from the beginning of the negotiations, the NGOs understood that a private commitment to help finance the purchase of water rights for environmental flows, in addition to government support, would be more convincing. This financial commitment would be seen as the NGOs proposing a solution, not requesting others to solve the problem. By shouldering an equal

\(^{487}\) Culp, P. 2014.  
\(^{488}\) Luévano, J. 2014.  
\(^{489}\) Hinojosa, O. 2014.  
\(^{490}\) Hawes, T. 2014.
financial burden, 33% each, they would be joining as a third partner, along with the federal governments of Mexico and the U.S., in the environmental restoration efforts.\textsuperscript{491}

There had been a recent precedent for this. In the context of drought, the U.S. Colorado River Basin states had wanted to operate a desalting plant in Yuma, in order to increase the water supply rather than having infrastructure sitting idle.\textsuperscript{492} This would diminish water inflows to Mexico, however, where the wetland of Santa Clara lies. Since the desalting plant had almost never been operated, the water had been regularly discharged down, short of the Upper Gulf, feeding that wetland, a protected area within a larger Biosphere Reserve. After constructive dialogue, the two countries acknowledged the concerns on both sides, and resolved in April 2010, that Mexico, the U.S., and the NGOs via the Colorado River Delta Water Trust would each contribute a third of the water that was required to maintain the wetland during the pilot test run of the desalting plant.\textsuperscript{493}

This decision to share responsibility was viewed as a precedent for Minute 319. This time, however, the NGOs went a step further by proactively coming to the negotiating table with significant financial resources, even before a deal was signed. As Taylor Hawes, Director of the Colorado River Program at the Nature Conservancy, explains:

\begin{quote}
The Nature Conservancy got a loan from the Packard Foundation, under a confidentiality agreement, for $1.3 million, so that we could be ready to buy water rights the moment a binational deal would be struck. It was a clear sign that we were ready to hit the ground running, that we were putting our money where our mouth is, to make sure that we could meet our responsibility on the environmental part of the agreement. That pushed both countries to move forward; Mexico was already much on board, and it helped the U.S. authorities to realize, ‘well if the environmental community can find money to support this agreement, I’m sure we can on our own.’\textsuperscript{494}
\end{quote}

\textsuperscript{491} Luken, G. 2014.  
\textsuperscript{492} Benemelis, P. 2014.  
\textsuperscript{493} Fulp, T. 2014.  
\textsuperscript{494} Hawes, T. 2014.
Being able to make that financial commitment early on and show constructive
engagement boded well for the NGOs. The fact the Packard Foundation, which had
previously provided loans to the Nature Conservancy, did not have to conduct the
financial clearance that would otherwise be required with a new organization, was
also important. The loan was an investment program; it was an advance on the
amount of money the NGOs thought they would be able to fundraise. The NGOs were
certain that with a signed binational agreement in hand, they could go to funders
and make a compelling case to help support the Colorado River Water Trust. In fact,
that has turned out to be quite true. They set themselves a goal of raising $10
million by 2017, and in late 2014 they were already at $9.5 million.495

This was a bold move, for when the negotiations were ongoing, even though
the NGOs had insider information that a binational agreement was a possibility, it
would have still been very hard to make the case to receive financial backing from a
funder with whom they did not have a previous relationship. Even the Packard
Foundation was initially uneasy about giving the NGOs the money outright, but
Peter Culp, Chief Attorney at the Sonoran Institute, made the convincing argument
that if the NGOs could put money on the table, it would enhance their credibility in
the negotiations.496

The NGOs contributed to devising solutions to another significant hurdle in
the negotiations, namely easing the mistrust between the two countries. The NGOs
had a unique perspective on this because they had been advocating collaboratively
across the border for many years. From their perspective, the NGO representatives
could see that while no government agency was acting deceitfully from either
country, the officials did come up against areas of misunderstanding frequently.497
The NGOs understood that they would not achieve their environmental aims until
the two countries were able to move beyond arms-length interactions and
unilateralism.498

495 Pitt, J. 2014.
496 Ibid.
497 Hinojosa, O. 2014.
498 De la Parra, C. 2014.
In that process of exchanging perspectives, the NGOs demonstrated that they could be trusted by the states and the federal agencies, particularly where information that should not cross the border was concerned.\textsuperscript{499} As Pitt explains, the people directly representing environmental interests were absolutely sure of each other as environmental colleagues, as well as patriots:

\begin{quote}
We had a very clear common goal. We talked about this as a group. That our Mexican colleagues would be included in a Mexican domestic conversation, or we would be included in a U.S. domestic conversation, where we felt we were given information we could not share with each other, and respected that. We did not move it, to the point that we became for both sides agents to relay information back and forth outside of the formal process. It was a form of citizen diplomacy, definitely a unique situation to be in.\textsuperscript{500}
\end{quote}

In consequence, at multiple times during the negotiations, when government officials did not feel they had a direct way to communicate with their counterparts on the other side, they would rely on the NGOs as a conduit, to send informal messages in both directions.\textsuperscript{501} As Peña, explains, one recurrent strategy to overcome a technical or political impasse was to talk to the U.S. NGOs, who in turn would talk to the Mexican NGOs, who would then speak with the Mexican officials, and vice versa:

\begin{quote}
This worked as shuttle diplomacy, where people could float ideas, suggesting, ‘well if you agree to that, I believe the other side will agree on this, particularly if you put this concept on the table.’ The NGOs helped a lot in that sense, particularly because government and state representatives always have people to report to. But with the NGOs, if you are dealing with a program manager, this person does not have a boss, there is nobody else to go to, so the person speaks with authority, and that enhances trust. The NGOs knew that if this agreement were not to be made, the pulse flow would fall apart. They had a vested interest in making sure a binational deal went ahead, and also knew that the agreement had to work in practice.\textsuperscript{502}
\end{quote}

\begin{thebibliography}{9}
\bibitem{499} Kwon, K. 2014.
\bibitem{500} Pitt, J. 2014.
\bibitem{501} Entsminger, J. 2014.
\bibitem{502} Peña, C. 2014.
\end{thebibliography}
The NGOs also contributed in resolving critical misunderstandings in the formal negotiating sessions. In early 2012, the two countries had reached a point at which people had been talking a long time about the different elements that should be included in the agreement, but it was not really clear what a feasible package would look like. So the mutual decision was made to have each country prepare a version of what they thought the elements of an agreement should look like. The U.S. prepared one draft proposal and sent it to Mexico and Mexico prepared another draft proposal and sent it to the U.S. Those two drafts, according to the translation, made it seem like there was very little room for agreement. The U.S. had put something on the table and it was clearly critical for them. Mexico seemed to be responding ‘no’ without hesitation. The documents seemed to suggest there was nothing more to be discussed. However, as Taylor Hawes recalls:

What salvaged things was that Peter Culp, who was in close coordination with NGO partners in Mexico, and had had previous back channel conversations on the issue, detected the fact the translation was not accurate. He could clearly see that the translation from Spanish to English, which had been made by a U.S. agency following diplomatic protocol, had omitted many of the reasons why Mexico was proposing what it was proposing. This made it seem like each side was talking past each other. In the Spanish version, however, Mexico went on at length describing why they were asking for some things and why they were refusing others, which in any negotiation is critical to know. But that was not present in the translated text.

The U.S. delegation was ready to walk away from the table on the basis of the poorly translated document. But the NGOs were able to remedy the situation. They explained the translation errors and omissions, informing the sides that they were not in disagreement with each other to the extent they thought. In fact, the two proposals were using different language to describe related elements and it appeared as though some of the important messages that each side was sending warranted further discussion. In turn, the NGOs were able to convince the U.S.

503 Salmón, R. 2014.
504 López, M. 2014.
505 Mulroy, P. 2014.
506 Hawes, T. 2014.
507 De la Parra, 2014.
delegation that they needed to ask for another translation. Once the U.S. stakeholders got a new, complete translation, they agreed to continue the negotiations with Mexico. As Peter Culp describes:

The problem was to understand the relationships that people on each side saw between the different elements. We were trying to get the countries to finally move away from positional bargaining, where each side picks a number and you try to meet at the middle. Instead, what we were proposing to do is to form a partnership, allocating benefits and burdens, in an equitable fashion. So, if you want to have a shortage provision in the agreement, what are the other elements that have to be part of it in order for the shortage agreement to look good to the other side? If you want to have an environmental component, what other elements are needed to make the agreement work? The same applies to binational investment. So, using the two drafts to tease out how each side understood the relationships between those elements, we actually got to a much better conversation about what a final package could really look like. Because essentially the two sides were speaking a different language, literally and figuratively, where they were telling very different stories about the agreement based on the priorities and cultural understanding each side had. Once we moved past an arms-length-exchange of drafts and got to interpretation, ‘okay, this is what they are trying to say, and vice versa,’ it made all the difference.508

Fostering relationships of trust, the NGOs contributed to the efforts on both sides to sustain a commitment to see the binational negotiations through to the end.509 They were critical in breaking impasses at different points in time, enabling both sides to move forward.510 They were also able to engage in high-level political dialogue and help devise implementable solutions.511 As such the NGOs were key in emphasizing the benefits at stake and that, on balance, more was to be gained that lost in working together.512 As Gastón Luken, President of Pronatura, summarizes:

The process took on a life of its own, and hinged on inspiration and a lot of perspiration. The same way in which you plant a seed and then patiently care for it until it blossoms.513

508 Culp, P. 2014.
509 Drusina, E. 2015.
511 Salmón, R. 2014.
513 Luken, G. 2014.
3.10 Dealing with Spoilers

During the binational negotiation process, various simultaneous negotiations were taking place. In addition to the negotiation table with the federal governments of the U.S. and Mexico on either side, the Basin states were also negotiating with the U.S. government separately. That process had its tense moments as well, which threatened to derail the negotiations between the two countries.\footnote{Zimmerman, G. 2015.} As discussed in section 3.4, the U.S. section of the IBWC fairly quickly supported the idea that the Basin states should be a part of the binational negotiations.\footnote{Peña, C. 2014.} From the outset however, several officials at the Legal Office of the U.S. State Department in Washington D.C opposed the states’ request to participate as co-sovereigns.\footnote{Tyrrell, P. 2015.} They resisted the states’ involvement, in spite of the fact that their federal government colleagues at the DOI’s Bureau of Reclamation were in full support, having outlined the reasons why including the states would be to everyone’s benefit.\footnote{Gray-Lee, L. 2014.}

From a legal standpoint, the DOS officials argued that in 99\% percent of cases, the exclusive jurisdiction of negotiating treaties with other governments is conferred upon the U.S. federal government, and the Department of State in particular. That was true in this case. However, in practice, the elements that Mexico needed to have in the binational agreement in order to satisfy the interests of their own back table, such as water storage in the aftermath of the earthquake, access to surplus, and coordinated reservoir operations to release the environmental pulse flow, were all items that the U.S. State Department did not have the authority to offer.\footnote{Kwon, K. 2014.} The federal agency does not own the water rights, so they needed the Basin states to agree to the requests from Mexico. They also needed the Metropolitan Water District of Southern California, the Southern Nevada Water Authority, and the Central Arizona Project, among other water agencies, to be on board with the Minute’s measures.\footnote{Cullom, C. 2015.}
Nevertheless, throughout the negotiation process, DOS officials were reluctant to support the many adjustments that the two countries made to the diplomatic protocol by involving the Basin states. More importantly, DOS officials were against approving a domestic memorandum of understanding acknowledging that the Basin states must sign-off before the United States could sign the binational agreement, and that the federal government would need the consent of the Basin states before it could extend or amend Minute 319 in the future. This arrangement was in a stark contrast from the traditional diplomatic protocol. When the text agreement between the two countries was finalized in late 2012, the Basin states and the U.S. State Department had yet to get on the same page. As John Entsminger, Senior Deputy General Manager of the Southern Nevada Water Authority, describes:

That was the single most difficult issue in the waning days of the binational negotiations. Everyone looks back as if the Minute was a foregone conclusion, but there were many days in which it looked like it was not going to happen. We were in the last meeting, in a very small room, Commissioner Connor, Commissioner Drusina, Bob Snow, Jerry Zimmerman, the State Department representative, and I. We are all reviewing the binational text agreement and our own domestic documents. The DOS representative is still refusing to agree to the sign-off clause between the states and the federal government. And in the room upstairs, we can hear the Mexican representatives are already celebrating, they are taking pictures. So, finally, I told him, ‘if we walk out of here without you saying yes to the clause, you are going to have to go upstairs and tell the Mexicans that the deal is off, and I am going to call my boss [Pat Mulroy], I have her on speed dial, and before you get back from upstairs, my boss will have called Senator Reid, and Senator Reid will call former Senators Salazar and Clinton, and the dead cat is lying at your door.’

In turn, the DOS official, also under pressure from the DOI, finally acquiesced. This was not, however, the first time during the negotiations that the Basin states were able to successfully flex their political muscle and “remind officials at the Legal Office of the State Department that there are three branches of government.” At the very beginning of the binational process, the negotiation representatives from

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520 Benemelis, P. 2014.
521 Entsminger, J. 2014.
522 Ibid.
the Basin states flew to Washington D.C. and walked into the office of high-ranking officials across the U.S. federal government, in order to vigorously complain about the lack of cooperation from the DOS. They did so armed with a signed letter from the Senators of Arizona, California, Colorado, New Mexico, Nevada, Utah, and Wyoming.523 This sent a very clear message that the states were quite serious about securing their direct involvement in the process, from beginning to end. As Patricia Mulroy, General Manager of the Southern Nevada Water Authority, recalls:

They have the final pen. So, if officials at the State Department were going to get creative at the end, to try to slip something in on us in the final draft, all it would have taken was for our fourteen senators to declare that the binational agreement with Mexico would require the full vote of the U.S. Senate as opposed to a Minute. Big difference. We can do it. We had proved it previously. The party lines fall away, and they are a block! Which is really scary for the Executive. Even more when one is the Senate majority leader [Harry Reid - (D)NV]. And another one [John Barrasso - (R)WY] is the Chairman of the Subcommittee [on Economic, Energy and Environmental Policy] that makes the decision at the Committee on Foreign Relations on whether a full vote will be required. So life gets pretty interesting! This went a long way in checking federal mischief.524

The political power of the Basin states, through the U.S. Congress, also played a critical role in insulating the binational process from outsiders not directly involved in the negotiations, without a real stake in the outcome but with relative power to try to tilt the results in another direction for their own purposes. Such was the case with several players on the Rio Grande.

The 1944 Water Treaty that allocates the Colorado River waters between the U.S. and Mexico simultaneously allocates a part of the shared waters of the Rio Grande. The Rio Grande case is extremely complex and a full discussion of its context is outside of the scope of this dissertation. However, a look at the history of the Rio Grande, the conflicts, and current challenges, is available in Appendix B. In summary, over the last two decades, the tensions and confrontations have been significant between the state of Texas on one side, and Mexico on the other. In the

523 Mulroy, P. 2014.
524 Ibid.
context of drought, Mexico has significantly delayed its water deliveries to the U.S., as allowed by Treaty guidelines. The delays have created disputes, as farming, irrigation, and political leaders in Texas have argued that drought or no drought, Mexico should deliver the full allotment. The allocation itself, which entitles Texans to 50% of the annual flows even though only 30% of the river is on their side, does not make things easier.\textsuperscript{525}

So, for political and economic reasons, during the Colorado River negotiation process and afterwards, there were a number of bills introduced by Texas’ Congressional delegation seeking to link the Rio Grande with any potential agreement on the Colorado River.\textsuperscript{526,527,528} Given the stark contrast between the operating rules, conditions, and challenges of the Colorado and Rio Grande Rivers, permitting such a linkage would effectively kill any prospect of success in the Colorado River between the U.S. and Mexico. The seven Colorado River Basin states, however, would not allow that to happen, and they made sure to enlist their Congressional delegations to block Texas’ efforts. As Mulroy notes:

There was a skunk that was standing outside the room that bled into this. In the 1944 Treaty the Rio Grande and the Colorado River are both linked. We, in the Colorado River Basin have always been worried that a solution in the Rio Grande gets tied into a solution in the Colorado River. You put it into the context of the Rio Grande, and all the acrimony between the Texans and Mexico. We almost had that acrimony spill over to our negotiations. But we kept that at bay. And that is where the power of seven states, to go over and speak with 14 U.S. senators cannot be underestimated.\textsuperscript{529}

The political power of the seven Basin states was useful not only to block domestic spoilers, but also to deter spoilers on Mexico’s side of the table. Particularly at the beginning of the negotiations, Mexican officials at the Mexican Section of the IBWC

\textsuperscript{525} Carter, Seelke, and Shedd, 2015.
\textsuperscript{529} Mulroy, P. 2014
and at CONAGUA were in a complex political situation because they are also responsible for overseeing the dynamics of the Rio Grande. In broad terms, Texans would say that the states of Chihuahua and Tamaulipas are manipulating the Rio Grande reservoirs, that they are deliberately not allowing water into Texas. The states in Mexico would say that the Texans are trying to take advantage of the disparities in economic and political power between the two countries, and that in the context of drought, Mexico’s federal government is doing the best it can. To make matters worse, the river is over-allocated and mismanaged, during normal conditions, on both sides.530

In this context, at the beginning of the Colorado River process, some Mexican officials were asking themselves, ‘when the U.S. Colorado River stakeholders are talking about shortage, do we really believe that this is a real shortage, or are they simply manipulating the reservoirs in the Upper Basin in order to create an illusion of shortage, to force a different outcome in the Rio Grande?’531 Not until the Mexican officials realized that they actually shared interests with the Colorado River Basin states, and that the last thing either side wants is to go into shortage, did Mexican officials relax about engaging in negotiations. Knowing that the Basin states would go all the way to the U.S. Congress to prevent a linkage between the Colorado River and the Rio Grande was extremely important.532 As Entsminger highlights:

The fact is in Texas they have two senators. We have fourteen. So we can do things through the Legislative Branch that even our Executive Branch, IBWC and Interior, could not get done. That is another example of the value of being involved as co-sovereigns in this binational negotiation process.533

The efforts of the Basin states to prevent the linkage of the negotiations of the two Rivers provided the Mexican negotiators with more maneuvering room.534 It helped to work against a narrative of mistrust that runs deeply in Mexican politics, where

531 De la Parra, C. 2014.
532 Luévano, J. 2014.
533 Entsminger, J. 2014.
534 Ibáñez, O. 2015.
many feel that in order to protect national interests, one must be anti-U.S., and if one is not decidedly against the U.S., one cannot be trusted.535 As Roberto Salmón, Commissioner of the Mexican Section of the IBWC, notes:

There continues to be in Mexico a sizeable subset of stakeholders who have an odd sense of patriotism, with a heavy historical burden that solely considers the U.S. under the lens that since the U.S. took away half of Mexico’s territory through war [in the 1860s], and incidentally most of the Colorado River, ‘whatever water we share with them, whatever water we store, the U.S. will eventually find a way to keep it for themselves, because it is in their nature.’ It is very difficult to face any binational process with such a mindset. We made a good effort to make sure that did not permeate our negotiations, but it is certainly something we had to struggle with as it pertains to some domestic constituencies.536

In this narrative, people living near the U.S.-Mexico border tend to be viewed apprehensively as well. This is because it is assumed that whenever they achieve local benefits, it must signal that they have sold out Mexico’s national interest or have been deceived by the U.S. As Carlos de La Parra, Environmental Consultant for the Mexican Section of the IBWC, explains:

This is a lose-lose proposition for border stakeholders because any solution we reach is automatically questioned. It is very tiresome to have to explain that living on the border and finding solutions for both sides does not make us any less Mexican. Quite to the contrary, we actually choose to stay in Mexico. For example, at one point in the negotiations, there were high-ranking Mexican officials to whom I had to describe our progress and they sternly suggested that if the U.S. was offering storage, ‘it was because they were going to use it for energy generation.’ This made no sense but they would not believe me. So I had to go back and ask the Bureau of Reclamation for data to convince our very own officials in Mexico City that Mexico’s stored water would only increase levels in Lake Mead by some inches. Quite a conclusive sign to show the storage had no connection with hydroelectricity!537

This example highlights the extent to which certain irrigation district managers and federal officials in Mexico City refused to change their preconceptions and were

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535 Hinojosa, O. 2014.
536 Salmón, R. 2014.
537 De La Parra, C. 2014.
dead-set against any agreement, seeking to oppose it no matter how beneficial it could be.\textsuperscript{538} However, as discussed in section 3.1, the fact that the leaders at the Ministry of Foreign Affairs and at CONAGUA were decidedly in favor of reaching an agreement under a cooperative framework with the U.S., went a long way in providing the binational negotiation process with the political momentum to move forward.\textsuperscript{539}

Moreover, in light of the terrible results from the confrontational route pursued during the All-American Canal controversy (section 3.1) and in the aftermath of the earthquake (section 3.2), these spoilers were no longer in a situation to mount a serious political opposition. They were in dire need of assistance from the Mexican federal government to figure out a way to save the water that would be lost as a result of the earthquake’s destruction of their irrigation infrastructure.\textsuperscript{540}

Another critical way in which the negotiations were shielded from spoilers was by ensuring a very careful approach to shaping the public communications throughout the binational process. As discussed in section 3.7, the Mexican negotiators came into the negotiations with an interest in securing joint investment to finance conservation projects and improve the irrigation infrastructure in the Mexicali Valley.\textsuperscript{541} One of the measures to this end, on which the two countries agreed and interests on both sides were served, is that the U.S. is to invest in the improvement of Mexico’s irrigation infrastructure such that Mexico conserves more water and is able to store some of it at Lake Mead, and in return, the U.S. receives a part of the conserved water.\textsuperscript{542}

However, both sides knew that reporting on this measure in the media was unlikely to provide the necessary nuanced explanation. Both sides had to manage the politics of their back tables, and were apprehensive about how the negotiations would be portrayed in the news. On the Mexican side, the negotiators needed to

\textsuperscript{538} Gutiérrez, J. 2015.
\textsuperscript{539} López, M. 2014.
\textsuperscript{540} Muñoz, E. 2015.
\textsuperscript{541} Ostler, D. 2014.
\textsuperscript{542} Silva, P. 2014.
carefully prevent any conserved water exchange be described, inaccurately, as selling water, in light of the political narrative of mistrust of the U.S. On the U.S. side, it was difficult to explain to domestic water users how they would benefit from investments related to water conservation in Mexico, instead of investments in the U.S., without understanding the full context of the international negotiations under which those investments were being decided. Moreover, at the very time when the two sides were trying to forge a binational partnership around managing the Colorado River, the front-page news coverage was heavily focused on immigration and border security legislation controversies. The negotiators on both sides of the border had to find the right way to frame the Colorado River issues, and the right time to communicate their progress. As Peter Culp, Chief Attorney for the Sonoran Institute, notes:

In many, many cases we were very concerned that reporting about the binational conversation going on would set us back by alienating one side or the other. So, having the ability to ensure a safe space and ensure that our conversations would remain confidential was very important. It would have been very difficult for either side to put on the table some of the key elements that triggered the agreement if they had to do so publicly from the beginning. It is impossible to take those kinds of risks or commitments if you are going to be reading about them in the newspapers the next morning. It was only possible to agree to them once you had a package, and you could explain. Once everything was in place, and where each side could tell a story about why it was that it was the right thing to make these agreements, even if it included things to which you were opposed in the past. You could not talk about those things publicly until you were ready.

Because the level of nuance that is generally communicated in public media tends to be quite low, the two countries agreed to a process whereby they carefully constructed and reviewed press releases, giving both sides an opportunity to determine what and how information would be disseminated. They were extremely disciplined and communicated as little as possible to the public, so as not

543 Calderón, F. 2013.
544 Cullom, C. 2015.
545 Culp, P. 2014.
546 Benemelis, P. 2014.
to jeopardize their progress. This strategy was used in both countries and extended beyond the negotiations, to include the roll out of the measures associated with Minute 319 as well as their implementation.

Mindful that news travels quickly between the two countries, the Basin states had to be very cautious about how news about the binational agreement would break in the U.S., for fear of how Mexican spoilers could respond. On the U.S. side, the urban water agencies have different rules about how they must communicate final decisions, such as a binational agreement, to their boards of directors. In the Lower Basin states of Arizona and California, they are able to announce their decisions and the agreement details in closed meetings. Nevada, on the other hand, has stringent sunshine laws that require information to be made publicly available.

Attentive of how the announcement of Minute 319 could be painted in the U.S. press, the negotiators at the Southern Nevada Water Authority had to take the binational agreement to their board of directors, and essentially express to them, ‘do not ask us a thing about it. If you have a question, I will talk to you one-on-one behind closed doors.’ If not handled in this careful manner, misinterpreted details of the agreement could show up in the local papers instantly, and then quickly make their way to Mexico. As Patricia Mulroy, General Manager of the Southern Nevada Water Authority, describes:

So, when we were about to host our board meeting, I sat down with the editor of the Review Journal, and with the editor of the Las Vegas Sun, and the heads of the TV stations, and said: ‘here is what you cannot say, here are the phrases that you cannot use because it will kill it on the Mexican side.’ So the story is under control, they have been calling back and forth; I know what the story is going to say. And I wake up at three o’clock in the morning, I will never forget this, it is two days before the meeting, I know the story is going to break the day of the board meeting, and all of a sudden it dawns on me, that someone else writes the headline. And the headline could be a killer. Six thirty in the morning I call the editor of the Review Journal, and I said, Bob, ‘I have never done this, but we have to control that headline, I want to control what that headline says before it shows up in paper, and they worked with me.’ And we controlled it to the last inch, because this sunshine law made the Mexican negotiators so

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547 Ortiz-Mena, A. 2015.
uncomfortable, because California could do it under attorney-client confidentiality; Arizona did it in a closed meeting of the board; not us, we had to do it wide out in the open. I got a lot of grey hair and lost a lot of sleep over that one. Fortunately, the members of the press understood the importance of the narrative for the public. This town better than probably most others gets how absolutely integral water is to its economic success. So they had a lot of confidence in us, and we had to cash in those chips for Minute 319.548

This degree of caution was exercised equally on Mexico’s side. The day of the release of the environmental pulse flow, more than 15 months after the binational agreement had been implemented, media outlets from the communities around the Delta were paying considerable attention, in order to celebrate the environmental milestone.549

There was no national media presence, however, because the IBWC and the NGOs had decided that such coverage would risk bringing the news to Mexico City. They did not want the good results to get tangled with political interests for whom the Delta of the Colorado River is not a priority. This was a deliberate effort on their part. As Gastón Luken Aguilar, the President of Pronatura Sea of Cortez Office, explains:

The Pronatura office in Mexico City wanted to convey the environmental meaning of the pulse flow and we had to fight hard and convince them not to do so. People have a large degree of skepticism and suspicion about what authorities announce, and media outlets will often charge a fee for announcing anything. So, why risk getting involved in controversy? Why waste money in such efforts? Instead, communicate your success to the foundations and non-profits, with the aim to highlight concrete results, and engage them to support your future efforts. This is effective communication; the purpose must be to increase your ability to move quickly and effectively, remaining independent from political swings. Communicate succinctly, and only with people to whom the results are meaningful. Do not empower an enemy to come out of the woods.550

548 Mulroy, P. 2014.
549 Pitt, J. 2014.
As such, by flexing political muscle, forming relationships of trust across the table, and being strategic and disciplined in interactions with the press, the negotiators on both sides of the border were able to work as a unit and better insulate their negotiations and agreement against spoilers.
3.11 Leading through Ingenuity

In the U.S., the many Colorado River actors have a fairly similar view of the long-term challenge in the Colorado River Basin: that maintaining current practices without adaptation to changing conditions, will undermine the sustainability of the river.551 These actors, in coordination with officials at the Bureau of Reclamation, include state officials, urban agencies, and environmental organizations, all of which are in constant dialogue at many levels and have solid relationships.552 Reclamation, therefore, had a well-informed understanding of what could make a binational agreement work from the U.S. perspective.553 As Michael Connor, currently the U.S. Deputy Secretary of the Interior, who during the negotiations was Commissioner of the Bureau of Reclamation, explains:

Our initial perspective was 'how do we take the next step from the 2007 Guidelines, how do we move forward to increase certainty, how do we address our relationship with Mexico, and how do we avoid conflict?' What is very interesting is that, over time, there are aspects where everyone changed their initial perspectives. Reclamation did, the states did, the NGOs did, and Mexico did, through the intense dialogue that we had, reaching a better understanding of what the other side needed. It is a process that I think is structured, but it has some fluidity to it. From the federal government perspective, we had to be advocates for the whole deal. Sometimes I would feel, reading the context and the situation that I would need to be an advocate for the states with Mexico, or an advocate for the NGOs respective to the states, or an advocate for Mexico itself. I remember specific instances, calls, and meetings. In practice, there were several principles that we were trying to achieve as a federal government, but beyond that, we were functioning as facilitators, working in favor of an agreement that would be good policy and a good structure to deal with long-term challenges.554

The IBWC had been responsible for the facilitative role on a binational level in the past, while the Department of Interior, and Reclamation in particular, had been

552 Fulp, T. 2014.
554 Connor, M. 2015.
performing this role more recently, on a domestic level, from the Clinton Administration through the Bush Administration. This created an opportunity for the leaders and senior staff of these agencies to continue and expand this role as part-advocate and part-neutral, in order to incorporate and empower as many stakeholders as they could, in the search for an agreement that would meet the core interests of the diverse array of actors in the Basin. As Terrance Fulp, Deputy Regional Director of the Lower Colorado Region at Reclamation, notes:

You have to recognize people understand an issue at different points in time. You need to recognize that, be aware, and not jump ahead of them. Because if you do, they feel left behind, they will dig in, and they will actually believe that where you are headed is wrong. It happened on both sides, and we needed the skill to recognize it and in real-time, not going where you want to go, not pushing it, because you cannot force it, you have to back-off, and let it evolve, try a different approach, different examples, different language; there are all sorts of ways around it. And in these situations, it certainly helps to have practice. Some people don’t have it, I have had people on my team that are brought in to these kind of negotiations, and you try to teach them, you try to help them, and for various reasons they either just don’t want to do it or cannot do it. So, fundamentally, you want people willing and with the instinct to listen carefully, process quickly, and react appropriately. It is some combination of innate learning and practice over time.

In this sense, the senior leadership at Reclamation and both sections of the IBWC, had to be committed to finding ways to look at the issues being discussed at the negotiation table from as many different angles as possible. Leading their own delegations under the premise that the more all parties understood each other’s concerns, the more likely the two sides could define implementable action steps, they persevered in figuring out how to speak the ‘other side’s language.’ These efforts did not go unnoticed among the stakeholders, and set a constructive tone. As Lorri Gray-Lee, Director of the Lower Colorado Region at Reclamation, highlights:

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555 Ibid.
556 Snow, R. 2014.
557 Fulp, T. 2014.
558 Rascón, A. 2015.
559 Luévano, J. 2014.
You need leaders willing to take a risk. And that risk is recognizing that they do not know what they do not know. The three commissioners were willing to do things like go on tours, sit down with technical folks, and listen to briefings, not because they had to but because they wanted to understand where everybody was coming from. That willingness to recognize they do not know everything, that humbleness, was very valuable.\textsuperscript{560}

There were multiple ways in which this commitment to facilitative leadership took shape, playing out in several guidelines that structured the negotiation process. One of these was related to caucuses. Since people tend to interpret things differently, when a controversial theme would come up, the negotiators had to make sure to huddle to discuss the diverse interpretations of what was being put on the table.\textsuperscript{561} The parties abided by a series of unwritten rules: 1) no country delegation could initiate more than three caucuses in a day, 2) there was a time limit for each caucus, and 3) whichever party called for a caucus would be the one that had to leave the negotiating room.\textsuperscript{562} As Sally Spener, Foreign Affairs Secretary of the U.S. Section of the IBWC, explains:

\begin{quote}
The water rights framework in the U.S. is very different from Mexico. If you deal with CONAGUA, you deal with the people that have the water. In the U.S., you have seven Basin states with a different water rights framework, each with competing interests between the Upper and the Lower Basin. We all had to be very cognizant of these issues. One way we dealt with this is that we had caucuses. An issue would arise, and we would look at each other, and think, ‘well, that is interesting, would California agree to this? Will Colorado? How does it affect Arizona?’ So we would tell Mexico, ‘we need a caucus.’ We would break, hash it out with our domestic stakeholders, and come back to the room with a response. That was a consistent and very helpful way of operating during the negotiations.\textsuperscript{563}
\end{quote}

The issues at stake were incredibly complex, so sometimes people would lose sight of the forest for the trees. They could get bogged down with particular details, so the chief negotiators would rely on caucuses to get through those instances and remind

\textsuperscript{560} Gray-Lee, L. 2014.
\textsuperscript{561} Drusina, E. 2015.
\textsuperscript{562} Peña, C. 2014.
\textsuperscript{563} Spener, S. 2015.
their delegations of the big picture, of the overall aims that they were trying to accomplish.\textsuperscript{564} On most occasions, the negotiators would come back from a caucus with a clearer understanding of which aspects were workable and which might need revisions. As Roberto Salmón, Commissioner of the Mexican Section of the IBWC explains:

> At the core is how you conduct the process. You need openness, you need to listen to every proposal carefully; even if you immediately realize it is not something you agree with, take the time to analyze it, to weigh its different elements, and then come back with a counter proposal. This offers the other side two things: the respect they deserve for their efforts, and an opportunity to receive in exchange an offer that may even be better than what they proposed.\textsuperscript{565}

The path toward greater understanding was facilitated not only through caucuses but also through side-talks. On several occasions, in the formal sessions, a delegation would make a proposal or argue in favor of a concept, which puzzled the other side.\textsuperscript{566} There were times when, even after careful reflection, the arguments from one side would remain incomprehensible to the other.\textsuperscript{567} In those moments, it was critical to have an informal conversation, at a reception, café, or over dinner, to try to understand the why behind these arguments. Only if people understood the reasons, they could try to unpack some of the seemingly insurmountable impasses.\textsuperscript{568}

People generally interact differently in informal settings as opposed to formal ones. In private, they may be willing to discuss trading items that they might not be able to propose in public. This is because, in the formal setting, either the stakeholders cannot have such a nuanced conversation, or the politics that each side must manage do not allow for such a proposal. Therefore, having the ability to ensure a safe space for open dialogue was very important.\textsuperscript{569} It would have been very difficult for either side to put some of the key elements that led to agreement

\textsuperscript{564} Connor, M. 2015.
\textsuperscript{565} Salmón, R. 2014.
\textsuperscript{566} Hasencamp, W. 2015.
\textsuperscript{567} Zimmerman, G. 2015.
\textsuperscript{568} López, M. 2014.
\textsuperscript{569} Mulroy, P. 2014.
on the table in a public manner from the outset.\textsuperscript{570} As Peter Culp, Chief Attorney at the Sonoran Institute, notes:

You need people to be able to engage in side-talks and talk informally with one another in between sessions. Because then, in the formal sessions, instead of focusing on the points of disagreement, both sides can come back and come up with a script where, ‘you guys say this, then the other side will say that, and then we can work through it.’\textsuperscript{571}

During the negotiations, this was particularly useful on occasions when a delegation would make a proposal or argue in favor of a concept that proved to be so contrary to the other side’s concerns or mindset, that it prompted members of the other side to consider ending the negotiations entirely.\textsuperscript{572} At these moments, the senior leaders would have to seek their counterparts, talk outside, and figure out a way to reframe the mandate or issue at stake.\textsuperscript{573}

For example, the IBWC meeting procedures are strict in their formal protocol. The two IBWC sections chair the meetings and speak in their respective languages. When the discussions would turn to hydrology and complex technical aspects of river management, this process could be quite slow, requiring a lot of diligence and patience.\textsuperscript{574} Even though the two sides would work diligently to make sure that they were expressing themselves clearly, in order to get the main points across in an easy-to-follow format, some points did get lost in translation, especially with the delay in the interpretation.\textsuperscript{575} This could lead to potentially serious disagreements.

Such was the case when the two countries were trying to define the terms of reference for the negotiations, all the way back when they were laying the groundwork for comprehensive binational discussions. During a meeting in Mexicali, people on both sides seemed to be talking past each other, and at one point, the translation from Spanish to English was spoken through the headphones,

\textsuperscript{570} Drusina, E. 2015.
\textsuperscript{571} Culp, P. 2014.
\textsuperscript{572} Gimbel, J. 2014.
\textsuperscript{573} Peña, C. 2014.
\textsuperscript{574} Luévano, J. 2014.
\textsuperscript{575} McCloskey, J. 2014.
roughly conveying ‘Mexico does not like the U.S. principles.’ That seemed to be the last straw. As Commissioner Connor and Commissioner Salmón recall:

Connor: Everyone in the U.S. delegation was stunned, both the federal and state representatives. We start to ask ourselves, ‘what are we doing here if we cannot even agree on the high-level principles we are trying to achieve?’ People are ready to go home and call the whole negotiations off.576

Salmón: I am reading the faces of our American counterparts, and their reactions are of surprise and disappointment. I do not understand why. So we adjourn, and one of our NGO colleagues tells me that ‘the U.S. is puzzled about Mexico’s change in stance.’ I am puzzled too! ‘What do they mean?’ My colleague explains that the U.S. understood ‘we had always said X, and now we were saying Y.’577

Connor: So, the commissioners, we go to a little café in Mexicali, and on our side, we start explaining, ‘we are not going to get much traction in these discussions if Mexico does not accept these fundamental principles, which we thought were pretty mundane and fair.’ And Commissioner Salmón says, ‘what? We did not say that at all.’ ‘Really? Because that was the translation.’578

Salmón: This is when we confirmed that the translator was probably tired and certainly omitting critical information. I did not wear the translation headphones, so I could not know that the translation was not effective. I assumed it was. So we had to sit, with a beer in hand, and go all over the morning conversation, to resolve the misunderstanding.579

Connor: So we had a long conversation, and over drinks, in a casual atmosphere, at the end of the evening, we were laughing about it. We then reported back to the states that ‘okay, it was a translation problem.’ And if we had not thought about having an informal discussion in a very small group, I do not think we would have been able to continue the binational negotiations. It was looking very bleak. And from that point on, we knew, if we get to a severe disagreement, we have an outlet, an informal discussion.580

577 Salmón, R. 2014.
578 Connor, M. 2015.
579 Salmón, R. 2014.
Salmón: Subsequently, for many parts of the negotiation process, and most certainly in the end, we made sure that all the critical negotiating sessions were carried out in English. Such an effort on our part was deeply appreciated by the U.S.\textsuperscript{581}

Connor: Personalities matter. My first reaction to Commissioner Salmón was, ‘this a very engaging, very bright and candid colleague, this is a person you like to have these discussions with.’ And of course there were moments in the negotiations where we would meet for a side-talk, and ‘yes, it turns out that was not a translation problem, there was a strong negative reaction to something we proposed!’\textsuperscript{582}

In consequence, these informal side-talks became a necessary and integral part of the success of the binational negotiations. As another tool in the facilitation efforts, they allowed each side to get a sense of whether its points were being effectively communicated across the table, building trust and resolving misunderstandings, while also providing an opportunity for leaders to jump in, tweak, and adapt their delegation’s focus when necessary, for the ultimate success of the negotiation process.\textsuperscript{583}

\textsuperscript{581} Salmón, R. 2014.
\textsuperscript{582} Connor, M. 2015.
\textsuperscript{583} McCloskey, J. 2014.
3.12 Testing the Ways to Agreement

Throughout the negotiations, the two sides worked from general accords on the various issues at stake, and then focused on the details and connections between these issues.\textsuperscript{584} When the two delegations reached a broad agreement, they would call it a ‘point of tentative agreement’ (POTA). They documented the POTAs at each meeting, which in turn provided them with clear points of departure for proceeding meetings, fostered momentum, and helped to move the negotiations forward.\textsuperscript{585}

For example, as discussed in previous sections, Mexico came to the table willing to negotiate shortages, but requesting to do so based upon a drought indicator that could be observed by a neutral party, and making sure that they could also share in surpluses.\textsuperscript{586} The U.S. believed there was no better drought indicator than the elevation levels at Lake Mead, and did not agree that Mexico should receive any surplus.\textsuperscript{587}

The two delegations were in a deadlock until they redefined their approach to the situation. They reached a broad agreement that they wanted to deal with shortage sharing, and simultaneously, to deal with surplus sharing, because from a political standpoint, this would be the only feasible avenue to pursue.\textsuperscript{588} This particular POTA may appear simple in retrospect, but it was not obvious to all the parties, on either side.\textsuperscript{589} As John Entsminger, Senior Deputy General Manager of the Southern Nevada Water Authority, explains:

This goes back a bit further than the controversy of the lining of the All-American Canal. It goes to the 1999 Surplus Guidelines, of having surpluses available for the Lower River Basin states, and not allowing Mexico to participate. From Mexico’s perspective, the U.S. had strung together a number of snubs. So, undoing that historic animosity and getting to the point of tentative agreement, where we are equal both for shortages and surpluses, that was huge.\textsuperscript{590}

\textsuperscript{584} Rascón, A. 2015.
\textsuperscript{585} Luévano, J. 2014.
\textsuperscript{586} De la Parra, C. 2014.
\textsuperscript{587} Kowalski, K. 2014.
\textsuperscript{588} Mulroy, P. 2014.
\textsuperscript{589} Gutiérrez, J. 2015.
\textsuperscript{590} Entsminger, J. 2014.
Using this POTA as the starting point, both countries were able to then discuss the specifics. If they were to share in shortages, when would they be applicable to Mexico and under which conditions? If they have high reservoir conditions, how much water is Mexico to access and what do the Basin states need to do to enable this?\(^{591}\) The POTA made it easier not to lose sight of the principles that should underpin the measures the two sides should agree to. In turn, it became clearer that reservoir levels, as the trigger indicator for shortage and surplus, would best meet both sides’ core interests.\(^{592}\)

The use of points of tentative agreement also played a critical role in allowing stakeholders to know that when a topic was discussed, it was not the last time they would be able to review or talk about that item.\(^{593}\) Stakeholders would walk away from meetings with a sense that an agreement had been reached on X, Y, and Z subjects, but with the clear understanding that they were giving each other the opportunity to change their opinions, after digesting the POTAs in the following days and weeks following the meeting.\(^{594}\) As Carlos Peña, Principal Engineer of the U.S. Section of the IBWC, notes:

> We wanted to make sure that we were highlighting when we had agreed upon something, but not stop there, and instead recognize ‘let’s put it aside, and as we discuss these other issues, we may go back and have to tweak that.’ We also knew that any discussions we had, we would all need to go back and check with our principals, to make sure that they were okay, even when if we had a sense they would. This worked equally for both sides.\(^{595}\)

On some issues, after careful and sustained deliberation, the parties might agree on 90% but disagree on 10%. So, the negotiators would put those issues on hold, note them as POTAs, and move on to the next issue. They knew that by analyzing other items, they could discover insights, trades, or circumstances that would allow them

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\(^{591}\) Spener, S. 2015.
\(^{592}\) Fulp, T. 2014.
\(^{593}\) Pitt, J. 2014.
\(^{594}\) Drusina, E. 2015.
\(^{595}\) Peña, C. 2014.
to go back and bridge the gap on that 10% disagreement. As Roberto Salmón, Commissioner of the Mexican Section of the IBWC, explains:

It helps a lot to begin by searching for optimal solutions, without hindering the brainstorming process by political and diplomatic considerations that inevitably will later need to be discussed. The reliance on points of tentative agreement was critical because it took a legal and emotional burden away from everyone involved, that otherwise would prevent you from thinking outside the box. You need to be able to discuss ideas without the fear that by discussing them, you are committing to them. The fact that what you say is not binding, creates the space to explore a wider array of issues, and allows you to revisit them at different points in time. When people can speak freely, they become more creative.596

During the negotiations, the two sides shared the notion that opportunities for progress would need to be based upon fair and equitable contributions.597 They surmised that there would need to be agreement on the operations of the reservoirs. There should be investment in infrastructure. An environmental component was also necessary. It was important to make sure that these three pillars were crafted in relative balance. Within this framework, the focus was on creating value first, before identifying the criteria with which to divide it.598

The POTAs, therefore, played a significant role in this sense, as they facilitated the negotiators’ efforts to identify the most promising projects from a basin perspective.599 This was a stark break from past practices. As José de Jesús Luévano, Secretary of Mexico’s Section of the IBWC, describes:

From the get-go, we asked all technical work groups to focus their efforts on identifying all possible solutions and suspending criticism, not judging proposals from the perspective of one country or the other. The mandate was that in the search for solutions, the driver should be what works best for the Basin as a whole. ‘Do not worry about who will pay for it, who will benefit the most.’ This was done with the understanding that once the wide array of options was on the

596 Salmón, R. 2014.
598 Snow, R. 2014.
599 Hinojosa, O. 2014.
table, then the two countries would engage in diplomatic and political considerations. For our past experience was that if you have work groups in which each delegation is solely focused on their own interests, it is very hard to move forward.\textsuperscript{600}

In addition, the POTAs were essential for both sides to avoid being trapped for too long by impasses that undermine momentum, where frustration grows and where people may seriously consider leaving the negotiations altogether.\textsuperscript{601} As Robert Snow, the Chief Attorney for the Solicitor’s Office of the U.S. Department of Interior during the binational negotiations, describes:

Everything is linked with everything. You do not have a deal until you have a deal on everything. Those points of tentative agreement tend to build up, and generate momentum. So, capturing them, as many times as possible, is critical to show that you are making progress.\textsuperscript{602}

The use of POTAs allowed the negotiators to evaluate the stakes from different angles, and incorporate new lessons as they moved through the different rounds of the negotiations.\textsuperscript{603} This helped the parties to enlarge their thinking. In turn, a higher degree of flexibility and improvisation to explore mutually beneficial trades arose, allowing them to shape better packages for everyone involved.\textsuperscript{604} As Karen Kwon, First Assistant Attorney General for the State of Colorado, explains:

A common saying through our negotiations was, ‘it is all part of a package, and unless we get a package, that element is not going to come through.’ For example, our initial negotiating stance, on occasions, was, ‘that does not need to be a part of the package,’ but Mexico was adamant, ‘no, no, it does, we are not doing shortage sharing unless we do surplus, unless we do environmental flows, and infrastructure investment.’ So we would answer, ‘well, we are not doing those unless we get some water compensation.’ We have a more robust agreement as a result of that process.\textsuperscript{605}

\textsuperscript{600} Luévano, J. 2014.
\textsuperscript{601} Gutiérrez, J. 2015.
\textsuperscript{602} Snow, R. 2014.
\textsuperscript{603} Drusina, E. 2015.
\textsuperscript{604} Ostler, D. 2014.
\textsuperscript{605} Kwon, K. 2014.
By relying on points of tentative agreement, the stakeholders were able to break down complex water problems into manageable pieces. This made it easier to invent without committing. It allowed the parties to evaluate a wider array of options that directly exploited the differences in interests between the two delegations. This facilitated the creation of value, by allowing the negotiators to bundle options into multiple packages and test these different packages with their constituencies, until it became clear that the benefits of reaching a binational agreement outweighed the costs. This, in turn, was critical for both countries to be able to come to consensus.
Chapter 4: Developing Negotiation Capacity

Colorado River, Grand Canyon

Source: Journeys in Light – Photographer: Steve Carver
4.0 Chapter Overview

This dissertation explores two negotiations that led to landmark agreements between the United States and Mexico. Chapter 2 focused on the conflict over the exploration and development of transboundary hydrocarbon reservoirs in the Gulf of Mexico. Chapter 3 analyzed the dispute over the management of the shared water resources of the Colorado River. For more than seven decades, the U.S. and Mexico found themselves pursuing unilateral action on a regular basis. This led to a succession of binational confrontations up until 2012, when both countries fundamentally altered course and were able to reach significant agreements. In turn, the two sides have committed to co-develop and jointly manage these transboundary natural resources. As of 2015, three years after their signings, both agreements have been effectively implemented.

In section 4.1 of this final chapter, I analyze how the evidence from the two cases relates to the four realms of scholarship outlined in Chapter 1: public dispute resolution, adaptive leadership, political communication, and collaborative decision-making. I test whether experiences from either or both of the cases substantiate a number of the propositions suggested by each of these four lines of thought.

Given the evidence presented in the transboundary negotiation cases, a number of lessons are outlined in section 4.2. This prescriptive advice is intended primarily for public sector leaders working to resolve energy, water, and environmental resource management conflicts. The principles and strategies may prove useful, however, in other sectors and contexts as well. The suggested steps flow in approximate chronological order, from well before a negotiation is initiated to follow up measures after an agreement has been implemented.

The final section, 4.3, proposes next steps to build capacity in Mexico for transboundary conflict resolution. The continuation of this dissertation could include the development of a conflict resolution training program, with introductory and specialized components, based on real-world cases. The trainings; at the
intersection of public dispute resolution, adaptive leadership, collaborative
decision-making, and political communication; would utilize customized role-play
simulations, aiming for participants to develop insights in a learn-by-doing
approach. The training program could form the basis for establishing a negotiation
center at a Mexican research institution, so as to provide a venue for government
officials, community stakeholders, industry representatives, and students to learn
and practice the skills related to this collaborative approach to dispute resolution.
4.1 Analysis Theoretical Propositions

The purpose of this dissertation effort has been to explore how the negotiators on both sides shaped these two landmark agreements, and in what ways they contributed to the resolution of these long-standing binational disputes. The evidence from both cases suggests that the modes in which countries conduct transboundary resource management negotiations alter the prospects for finding agreement.

In this sense, it is useful to comparatively examine the strategies and decisions that the negotiators made in the Gulf of Mexico and in the Colorado River cases, in light of the four perspectives of scholarship discussed in Chapter 1. These four areas of insight; public disputes resolution, adaptive leadership, collaborative-decision-making, and political communication; while intersecting in many ways, are often discussed separately from one another. However, it is helpful to explore the evidence from the two cases through the lens of several propositions from these four literatures, as this can contribute to the development of a number of useful practices that can assist in the resolution of transboundary energy, water, and environmental disputes.
Public Dispute Resolution

1. Breeding Confrontation

Critics to the zero-sum approach to public dispute resolution suggest that approaching conflicts through the lens of win-lose interactions only breeds more opposition and instability. They argue that this mindset undermines trust between the parties and credibility with the public-at-large, prolongs disputes, wastes everyone’s resources, and leads to sub-optimal outcomes.\(^{606, 607, 608, 609, 610, 611, 612}\)

For over seventy years, the U.S. and Mexico regularly framed their conflicts regarding the shared natural resources in the Gulf of Mexico and the Colorado River from a zero-sum perspective. When confrontations erupted, they often pursued unilateral action, under a fixed-pie mentality. This is described in detail in the respective timeline sections of Appendices A and B, which provide overviews of the long histories of conflict preceding the two negotiations. Short examples of these conflicts are highlighted below.

In the Gulf of Mexico, the two sides could not agree on how to cooperatively explore and develop hydrocarbon reservoirs across their maritime boundary. Rather than pooling investment, seizing economies of scale, and sharing infrastructure and expertise, they clashed with one another under a win-lose mentality. The U.S. held to the rule of capture, pursuing unilateral offshore energy development, whereas Mexico stuck to strict constitutional rulings, forbidding any meaningful energy partnerships between the international oil companies (IOCs) and Mexico’s national oil company (NOC).

\(^{606}\) Bordone, Rogers, Sander, and McEwen, 2013.
\(^{607}\) Podziba, 2012.
\(^{609}\) Mandell, 1999.
\(^{610}\) Wheeler, 1999.
\(^{611}\) Susskind and Field, 1997.
\(^{612}\) Fisher, Kopelman, and Schneider, 1996.
Caught in between the rule of capture, on one side, and the threat of litigation following the Constitutional rulings on the other, the transboundary reservoirs were locked behind a development moratorium well into the 2010s. This effectively froze any commercial activity related to the hydrocarbon deposits, whereas in other parts of the world, in spite of comparable political and economic disparities, more than 30 countries had reached agreements to co-develop similar offshore energy resources since the 1950s.

In the Colorado River, the two sides clashed equally under a zero-sum, upstream versus downstream riparian approach. For decades, in spite of the existence of the IBWC as the forum to search for binational solutions, the two sides could not agree on how to coordinate the River Basin operations beyond allocating water deliveries on an annual basis. Lacking a more cooperative framework, neither side was able to effectively address several unintended cross-boundary effects, resulting from the unilateral development of infrastructure and over-allocation of the water resources.

This led, among other problems, to spikes in salinity levels, disruptions in agricultural productivity, hazardous waste dumping, aquifer depletion, and the weakening of several ecosystems, including the virtual disappearance of the Colorado River Delta. Along with the binational conflicts, the seven Basin States on the U.S. side, also from a zero-sum mindset, incurred considerable costs in litigation with each other, while simultaneously fighting with environmental organizations. This pattern of confrontation between stakeholders in the Basin, on both sides of the border, continued well into the 2000s, as exemplified by the All-American Canal conflict, and its extensive associated costs.

The evidence from both cases underscores that, in both the Gulf of Mexico and the Colorado River, under a win-lose mindset and stuck at repeated impasses, both sides spent considerable effort arguing to induce the other to do what they wanted, when they wanted, with little success. Under the threat of litigation or squarely in the courts, they ended worse-off, prolonging disputes, wasting resources, and producing sub-optimal outcomes.
2. Bringing More Issues To the Table

Proponents of the mutual gains approach to public disputes argue that by broadening the scope of issues at stake, and the angles from which they are considered, the parties can discover linkages that had not previously been apparent, and are thus able to consider new and mutually beneficial trades. In turn, by trading across these differences, the parties can create more value and satisfy their interests more effectively.\textsuperscript{613, 614, 615, 616, 617, 618}

In both of the transboundary negotiation cases explored in this dissertation, new issues were brought to the table, which then enabled more extensive value creation and fruitful trades. These elements are discussed in detail, respectively, in Chapter 2, in sections 2.2, 2.3, 2.4, and 2.7; and in Chapter 3, in sections 3.2, 3.3, 3.7, and 3.8. Brief examples are highlighted below.

In the Gulf of Mexico case, the U.S. Department of Interior (DOI) was at first not convinced that negotiating with Mexico would prove beneficial, on account of the fact that it could jeopardize the rule of capture and require staff resources beyond their capacity during the reorganization of the Minerals Management Service. However, after a careful back table dialogue led by high-ranking officials at the U.S. State Department (DOS), officials at the DOI became more conscious that coming to an agreement with Mexico on how to co-develop transboundary hydrocarbon reservoirs would have numerous ancillary advantages beyond the immediate issues at hand.

The U.S. foresaw that such an agreement could: 1) provide the private U.S. oil industry with a way to break into Mexico’s hydrocarbons sector, 2) improve U.S. energy security by co-developing reservoirs in conjunction with Mexico rather than relying on oil imports from more geopolitically risky nations, and 3) have positive

\textsuperscript{613} Susskind, 2014.  
\textsuperscript{614} Wheeler, 2013.  
\textsuperscript{615} Subramanian, 2010.  
\textsuperscript{616} Lax and Sebenius, 2006.  
\textsuperscript{617} Mnookin, Peppet, and Tulumello 2004.  
\textsuperscript{618} Fisher, Ury, and Patton, 1991.
impacts on other issues of concern between the two countries, such as immigration, trade, and security, by increasing Mexico’s overall economic stability.

In the Colorado River negotiations, various issues were brought to the table that had not been included previously. While the U.S. Colorado River Basin states had wanted to entice Mexico to share in water shortages, in exchange for water storage in U.S. reservoirs, Mexico could only be convinced to reach agreement by also sharing in surpluses. Mexico also requested including binational measures that would increase water availability on its own side of the border (i.e. building desalination plants, improving irrigation infrastructure, and restoring the Colorado River Delta).

These were issues that the U.S. basin states had not entertained before and to which they were initially opposed. As the negotiations evolved, however, they realized that agreeing to share in surpluses with Mexico would allow the U.S. to secure the elevation levels at Lake Mead as the indicator to trigger shortage conditions in the Basin. Moreover, by investing in conservation efforts in Mexico, seizing on the economies of scale, the U.S. would bring more water to the Lower Basin agencies at a lower cost. And, by including the matter of environmental restoration in the binational discussions, both sides would benefit from the involvement of the NGO representatives, with their decades of expertise understanding aquifer replenishment, ecosystem resilience, and water availability cycles from a comparative perspective.

*The evidence from both the Gulf of Mexico and Colorado River cases highlights that bringing more issues to the table provided stakeholders on both sides with the opportunity to see new and more nuanced connections between several potential measures. This allowed them to shape better trades across their differences. In turn, the negotiators were able to reach more fruitful outcomes for all involved.*
3. Embracing Flexibility

The Water Diplomacy Framework argues that upon negotiating complex resource management decisions, in order to address the uncertainty, nonlinearity, and feedback loops involved, decision-makers should: 1) expect persistent boundary crossing between domains (i.e. natural, social, and political) and scales (i.e. spatial, temporal, disciplinary, and jurisdictional), 2) conceive of problems as highly sensitive to perturbations, and 3) account for the possibility that the same actions in a particular place and time will not have the same results in another context.619

Episodes highlighting the open, uncertain, and unique character of natural resource networks are discussed at length across all sections in Chapters 2 and 3. Specifically interesting examples can be found in sections 2.4, 2.5, 2.6, 2.7, and 2.10, as well as in sections 3.2, 3.3, 3.4, 3.5, 3.8, and 3.10. Very brief examples follow.

Both negotiations present instances of persistent boundary crossings between domains and scales. In the Gulf of Mexico case, we see that the multidisciplinary education and experience (i.e. undergraduate engineering degree, professional expertise managing well logs in offshore oil field exploration, conducting diplomatic relations for the U.S. State Department) of one of the key U.S. negotiators, David Sullivan, enabled him to grasp the complexity of what would be required to find an agreement that was both technically feasible and politically implementable. This understanding inspired Sullivan to propose a series of binational workshops in which the two countries could evaluate and learn about the many intricate issues at stake, instead of negotiating right away from a ‘draft, counter-draft’ practice.

In the Colorado River case, the two sides had to come to grips with the realization that the jurisdictional entities responsible for the management and ownership of the water were quite distinct between the two countries. Whereas in Mexico, the federal government both owns and operates its share of the Colorado River water, in the U.S., the seven Basin states own the water and share

management responsibilities with the U.S. Bureau of Reclamation. These differences had significant political implications, including the fact that if the two sides wanted to reach an actionable agreement, given the myriad issues at stake, they would need to break standard diplomatic protocol of nation-to-nation negotiations by including representatives from the U.S. Basin states.

We also see examples of how sensitive both conflicts have been to perturbations. In the Gulf of Mexico case, the Macondo Oil Spill of 2010, along with the simultaneous reorganization of the DOI’s Mineral Management Service, served to delay the negotiations. The U.S. delegation, in the midst of managing these two disruptions, was unable to prepare a counter-draft in response to Mexico’s draft agreement proposal. With the Mexican delegation in Washington D.C., ready to begin the negotiations, this time-bind was the other principal reason for Sullivan to suggest that the countries participate in what would prove to be highly productive collaborative workshops.

In the Colorado River, California had been using more water than its annual allocation since the 1950s, as allowed by the Law of the River, since the other Lower Basin states were not using their full water allocation. However, in the early 2000s when Nevada and Arizona came to require the use of their full water allotments, California was forced to quickly devise ways to conserve water and make due with its lower legal allocation. In a domino-like effect, this led California to propose the lining of the All-American Canal with concrete, so as to prevent seepage. This would conserve water for California, but would limit the replenishment of Mexican aquifers, on which the farmers in the Mexicali Valley depend. Thus, the parties ended up in a contentious litigation, with damaged relationships and significant loss of time and money.

Finally, each case also demonstrates the need for flexibility in handling natural resources, as the same action will have different impacts according to the shifting circumstances. In the Gulf of Mexico case, forbidding cooperation with IOCs and placing a moratorium on the development of transboundary oil exploration did not necessarily pose a significant problem in the context of Mexico’s highly productive onshore and shallow-water fields. However, once production from these
wells was in sharp decline, Mexico was left with the need to find new sources of revenue, most of which were located offshore, in deep-water fields for which it needed access to a level of investment, risk-sharing practices, and technological expertise that would only be possible through a binational partnership, and the removal of the moratorium.

In the Colorado River case, the 1944 U.S.-Mexico Water Treaty’s clause allowing the U.S. to unilaterally reduce water deliveries to Mexico in conditions of ‘extraordinary drought,’ without defining the term, its associated volume, or triggers, was permissible to both countries at a time when no immediate risk of drought loomed. Once the two countries faced severe drought as a reality, which was only predicted to worsen, the lack of specificity regarding how and when to define ‘extraordinary drought’ in the Treaty led to an urgent need to find a solution. In the context of over-allocated water resources, increasing demand, and reduced flows, figuring out how to resolve the impasse and avoid costly confrontation became critical.

The evidence in these case studies underscore that effective natural resource negotiations require flexibility and a great deal of improvisation in order to adapt to an ever changing world. The examples from both cases provide evidence in support of the tenets of the Water Diplomacy Framework.
Adaptive Leadership

4. Detecting Judgment Hurdles

Scholars of decision-making argue that people and organizations are regularly subject to several harmful biases in judgment. They make the case that addressing these patterns is crucial for conducting effective problem-solving efforts. These biases include: 1) plunging into disputes without having a shared framework to determine how and what information to gather; 2) making insufficient adjustments from past references, even after these references are no longer relevant; 3) disproportionately focusing attention on data that confirms one’s assumptions without seeking evidence to the contrary; 4) giving more weight to short-term considerations without linking to medium and long-term concerns; and 5) making decisions that account for only one potential outcome, and therefore not preparing for multiple scenarios.\(^{620, 621, 622, 623, 624, 625}\)

In the energy resources case, several of these biases preceded the binational negotiations, as discussed from different angles in sections 2.2, 2.3, and 2.4, 2.6, and 2.8 of Chapter 2. In sum, the two sides spent many decades without a shared framework with which to evaluate and decide whether transboundary reservoirs existed in the first place. Seismic information, which is necessary to determine the exact location and scale of the hydrocarbon deposits, was proprietary on both sides. Without mechanisms to share data between the two countries, and without cooperation between the IOCs and NOC, neither side could have a full picture of the reservoir realities on either side of the maritime boundary.

The U.S. claimed that the existence of the reservoirs was doubtful. More importantly, they posited that even if cross-boundary reservoirs were one day to be found, given the narrow geological formations in the region, extracting activities on

\(^{620}\) Stone and Heen, 2014.
\(^{621}\) Gino, 2013.
\(^{622}\) Akerlof and Shiller, 2009.
\(^{623}\) Bazerman and Watkins, 2008.
\(^{624}\) Kahneman and Tversky, 2000.
\(^{625}\) Raiffa, 1995.
their own side of the maritime boundary would not result in the drainage of hydrocarbon reserves on the other side. Mexico was convinced to the contrary on both accounts. They argued that the existence of cross-boundary reservoirs was highly likely, and that the U.S. did not recognize these facts precisely because the IOCs aimed to drain the shared reservoirs. In this context, neither side looked for mechanisms to disconfirm their long-held assumptions, many of which were based on outdated references, derived from decades-old political posturing.

In the Colorado River water resources case, short-term considerations had continuously been given primacy over medium-term and long-term concerns, with parties adhering to the first-in-time, first-in-right doctrine. Moreover, neither country had agreed to a structure through which to prepare for scenarios that had not been drafted into the 1944 Water Treaty, allocating the waters between the two nations. Making matters worse, as discussed in the timeline section of Appendix B, several studies suggested that the period that was used as the reference to determine the average flows of the river (1900s-1920s), thus dividing the waters between the Upper and Lower Basin states and subsequently between the U.S. and Mexico, was characterized by abnormally high rainfall. As the 2010s began, as outlined in sections 3.2, 3.3, 3.4, and 3.6 of Chapter 3, the two countries had yet to develop a coordinated set of binational measures to respond to severe drought and the looming effects of climate change.

Based on evidence from the two cases, in both the Gulf of Mexico and the Colorado River cases, the two countries spent decades mired in disputes: 1) without having a shared framework to assess the full picture of the extent of their problems in the first place; 2) stuck on past references, even after these references clearly needed to be updated; 3) fixed on defending their assumptions without seeking evidence to the contrary; 4) placing too much weight on short-term considerations in spite of the long-term risks; and 5) not accounting for multiple scenarios, many of which were pressing and deserved careful consideration. In light of this, I argue that these judgment biases were not only prevalent but also compounded under a zero-sum frame of mind. This hindered the effective resolution of both transboundary disputes, until, precisely through these landmark negotiations, each one of these biases was finally overcome.
5. Breaking the Deadlock

Scholars of adaptive leadership argue that parties to a dispute will prove risk-averse, overestimating the likelihood of losses and underestimating the potential for gains. Such distress and resistance is said to narrow the possibilities for mutually-beneficial agreements. 626, 627, 628, 629, 630

At various stages prior to and during the two negotiation processes, parties on both sides succumbed to the common trap of overestimating the potential losses and underestimating possible gains. Episodes presenting these hurdles are discussed in depth in Appendices A and B, sections 2.2, 2.3, 2.5, 2.8, and 2.10 in Chapter 2, as well as in sections 3.3, 3.4, 3.5, 3.7, and 3.8, in Chapter 3. Some brief highlights are outlined below.

In the Gulf of Mexico case, the relatively weaker side originally proposed to negotiate a binational agreement from a defensive perspective, with the aim of blocking the U.S. from unilaterally draining the shared reservoirs. In this frame, based on a fear of loss, Mexico was unable to convince the U.S. to come to the negotiating table, as the U.S. saw nothing to gain by engaging in binational negotiations in which they were presumed to be deceptive from the outset.

The U.S., for its part, simultaneously overestimated the potential losses that could result by moving away from the rule of capture legal framework and establishing instead a transboundary framework with Mexico. The U.S. feared that such a shift would set a precedent, thus undermining their position in other international negotiations, and would subject the scope of action of its private IOCs to a complex web of binational politics with Mexico. However, creating a framework to foster co-development through unitization partnerships, as it pertains to cross-boundary hydrocarbon fields, has long been the international best practice to

627 Kellerman, 2008.
629 Fisher and Shapiro, 2006.
630 Stone, Patton, and Heen, 2000.
effectively and efficiently produce oil resources. Unitization partnerships better allocate operating risks between the parties and increase output from the field, thus resulting in higher revenues for all involved.

Mexico’s concerns about being deceived by the U.S., fears founded on a difficult binational history between the two countries, arose in the Colorado River case as well. Mexico originally overestimated the potential dangers involved in agreeing to store its water in the U.S. reservoirs. Many of the country’s back table groups argued that the U.S. must have ulterior motives for offering to store Mexico’s water, such as hydroelectricity generation for example, and that the U.S. would inevitably take advantage of Mexico. Once the earthquake forced Mexico to reconsider its hesitancy towards storing water in the U.S., it found that such fears had been unfounded. In fact, Mexico discovered that it had underestimated the benefits of such a situation. Storing its water in the U.S. enabled Mexico to prepare for times of drought by securing reliable water storage in the upstream U.S. reservoirs, at no charge and without the need to expend the large sums to construct reservoirs on the Mexican side of the border.

On the U.S. side, the Upper Basin states were extremely hesitant about collaborating with the environmental NGOs. Based on a history of confrontation and litigation throughout the American Southwest, the states overestimated the costs of such a partnership. Especially in times of drought, the states worried that allocating water for environmental purposes would be politically infeasible. As the negotiations unfolded, however, they realized that the NGOs, through their decades of binational expertise and relationships, brought great value to the process. More specifically, the NGOs helped to resolve misunderstanding between the parties, and functioned as informal channels of information through which government officials could send messages across the border, in ways that were not necessarily possible in the formal sessions.

The evidence in both cases underscores that when the parties were able to move past the disproportionate exaggeration of potential losses, as well as the underestimation of benefits, they were able to progress toward mutually advantageous outcomes.
6. Facilitating Renewed Perspectives

Adaptive leadership scholars suggest that individuals in positions of authority should facilitate processes that empower stakeholders to carefully question their own assumptions and relationships. This process to spur negotiators to critique, reprioritize, and update their interests in light of renewed perspectives, is critical in dealing with complex problems.631, 632, 633, 634, 635, 636

The process by which stakeholders in the two countries reviewed their assumptions and their interests, spurred by key individuals, is discussed throughout both case chapters. Significant moments are presented in Chapter 2, sections 2.3, 2.4, 2.6, 2.7, 2.9, and 2.10; and in Chapter 3, sections 3.2, 3.3, 3.4, 3.5, 3.9, 3.10, and 3.11. Very brief examples are highlighted here.

In the Gulf of Mexico case, David Goldwyn, the highest-ranking official for international energy affairs at the U.S. State Department, was critical in facilitating a fruitful process to change preconceptions within the U.S. back table. He did so by carefully structuring discussions and meetings between government officials at the White House, the DOS, and the DOI, to slowly change assumptions about what negotiating with Mexico would entail. Gaining full support from Secretary of State Hilary Clinton, Goldwyn was able to help shape a broad mandate for the U.S. team, a mandate that sought to create an agreement based on mutual gains, in stark contrast to the narrow view that had characterized the adherence to the rule of capture. Later, empowered with this mandate, David Sullivan was able to propose the binational workshops, which allowed representatives from both countries to fundamentally critique and update their interests, as they gained a better understanding of the other side’s political, legal, and commercial constraints.

634 Heifetz and Linsky, 2002.
635 Forester, 1999.
On Mexico’s side, the decision by the leaders at the Ministry of Energy and PEMEX, to invite U.S. officials to PEMEX’s Villa Hermosa state-of-the-art 3D visualization room, was a game-changer. There, Mexican experts presented proprietary seismic data that the U.S. representatives had not ever seen previously. This gesture encouraged the U.S. negotiators to reassess some of their assumptions, in light the newly presented data. And, most importantly, this gesture functioned as a critical signal of Mexico’s willingness to approach the complex problems at stake in the binational negotiations with transparency. This data presentation served as a confidence-building measure, fostering a new sense of trust and laying the building blocks for a more collegial relationship between the two sides.

In the Colorado River case, throughout the negotiations, the U.S. Bureau of Reclamation took on a facilitative role, advocating on behalf of the interests of different stakeholders at different points in time, to allow parties to redefine their assumptions and relationships. For example, Michael Connor, the Commissioner of the U.S. Bureau of Reclamation, in collaboration with his colleagues at the DOI, was part of the effort to convince the Upper Basin states, on behalf of NGOs, that the proposed water for environmental restoration purposes was not a ploy by the Lower Basin states to get more water for their own purposes, nor would Mexico divert environmental restoration water for its irrigation needs.

Conversely, Connor argued on behalf of the Basin states, encouraging the DOS officials to revisit their opposition to having the Basin states participate as co-sovereigns in the binational negotiation process. He argued that, although not in line with diplomatic protocol, the only way to an actionable agreement would be through the direct involvement and approval of the Basin states, as they were the ones who own and co-manage the Colorado River waters with the U.S. DOI.

Similar efforts occurred on the Mexican side. The work by Roberto Salmón, the Commissioner of the Mexican Section of the IBWC, in collaboration with his colleagues at the IBWC and at the Office of the Director General of the National Water Commission (CONAGUA), was essential to spur several domestic stakeholders to reprioritize some of their interests. For example, several members of the Ministry of the Treasury and of CONAGUA were convinced that the binational
negotiations should primarily focus around acquiring as much U.S. investment as possible, in order to repair the crippled infrastructure left in the wake of the Easter Earthquake in Mexicali. However, Commissioner Salmón and his colleagues were mindful that the Mexican Treasury estimates about the financial resources that the U.S. stakeholders would make available for such investments were markedly off.

Therefore, instead of requesting this support outright, they made the case to look at the potential binational agreement as the way to jump-start collaboration on other fronts, from environmental restoration to water conservation measures to building desalination plants, as a way to start dealing with the complexity of the challenges at stake and to reap more benefits further down the line. Specifically, they succeeded in increasing water availability on Mexico’s side, beyond what the infrastructure repairs could have achieved on their own.

The two cases present ample evidence to support the tenant of adaptive leadership that highlights the importance of having leaders encourage stakeholders to reassess their presumptions and relationships in the face of new information and interactions with the other side. This commitment to facilitative leadership, behind the scenes and across the table, helped to set a tone through which both countries were able to learn from one another and redefine their interests, to their mutual advantage, in light of the complexity of the challenges in the Gulf of Mexico and in the Colorado River.
Collaborative Decision-Making

7. Working from a Shared Baseline

Collaborative decision-making scholars argue that high-quality outputs; in the form of more flexible guidelines, standards, and policies; are derived from mutual understanding, shared problem frames, agreed-upon baselines, and technically informed scenarios. 637, 638, 639, 640, 641

Once the negotiators in both cases shared mutually agreed-upon frames of reference, they were then able to produce agreements that suited each side's interests while incorporating the flexibility necessary to respond to changing circumstances. Multiple examples are examined at length in sections 2.6, 2.7, and 2.10 of Chapter 2; and sections 3.5, 3.6, 3.7, and 3.9 of Chapter 3. Very brief examples follow.

In the Gulf of Mexico, the two sides needed to devise a framework to resolve potential dispute scenarios regarding the existence of transboundary reservoirs, the division of production responsibilities, and the redetermination of voluntary and compulsory allocations. Given that PEMEX is a state-owned company and the IOCs are private entities, the countries were challenged to make their initial dispute resolution perspectives compatible. They were significantly at odds about what type of framework would effectively deter potentially serious conflicts between hydrocarbon developers on either side of the maritime boundary.

On one side, fearful of the disparities in relative political and economic power, Mexico requested the inclusion of a binding international arbitration clause to settle potential disputes, as part of the binational agreement. The U.S. was opposed to this, as both the U.S. Congress and the IOCs requested not to use binding

arbitration, and instead settle out of court. In this context, the prospects of reaching an understanding appeared bleak, until the two countries started to work side-by-side, to get at the underlying interests of each country, pertaining to the purposes of the dispute resolution framework itself.

By working together, they discovered that Mexico's main concern was to have a mechanism in place that would ensure that the IOCs not explore the transboundary reservoirs unilaterally; and that the U.S. concern was to make sure that commercial activity in the maritime boundary was not frozen as a result of protracted binational disputes in the hands of international arbitrators. Upon this realization, they concluded that the best path would be to include a series of incentives into the agreement, which would simultaneously ensure co-development and obviate the need for binding arbitration.

From this agreed-upon baseline, they built a three-tiered dispute resolution process (senior-management level dialogue, mediation, non-binding arbitration), that closely mirrors the joint operating contracts the IOCs are used to, but involves a clause whereby, if the IOCs and NOC do not reach an agreement, either of the two governments can step in to stop production. The significant financial losses that would result from being required to halt production, when hundreds of millions of dollars are at stake, provide a more than adequate incentive, driving the parties to reach an agreement without binding arbitration.

Reaching this creative understanding was possible by combining the expertise both as an oil engineer and as a lawyer, of David Sullivan, the head of the U.S. negotiating team, and through the involvement of a highly regarded industry observer on the U.S. side, Keith Couvillion, the Deepwater Land Manager of Chevron, representing the IOCs. Couvillion had prior relationships with PEMEX and Mexican officials, and was able to explain which types of measures would incentivize the IOCs to act in particular ways and why, while also responding to tentatively proposed measures, understanding the constraints on Mexico’s side.

A shared technical understanding was also required in the Colorado River case. One example is the initial discrepancy in the water management modeling
systems utilized in each country. Mexico had long employed the WEAP modeling system to manage its share of the Colorado River waters. This model suits the conditions in the Mexicali Valley, as it effectively incorporates surface water delivery, demand infiltration, and groundwater utilization. It is not as robust, however, on reservoir operations, since Mexico has no significant storage facilities. The U.S. Basin states and the DOI, however, use the CRSS model, which aids in the management of several large reservoirs, as well as the various dams and canals that underpin operations on the U.S. side. So, by relying on WEAP, Mexico was unable to effectively evaluate how different policy options being discussed in the binational negotiations would affect basin operations on the U.S. side, and in turn water deliveries to Mexico.

Only by working together for more than a year in a binational work group, during which time Mexico’s technical experts were able to master the use of the CRSS model, were the two sides then able to engage in serious policy discussions about the different alternatives at stake, from a hydrological, operational, and environmental standpoint. Through this process, which was also aided by in-person visits to major infrastructure sites along the Colorado River Basin, a mutual understanding arose about the nuances of the drought scenarios with which the U.S. Basin states had been working. The two sides also identified how the Basin states’ insights could be incorporated into binational measures in such a way as to provide Mexico with confidence that the upstream reservoir operating measures would be subject to a mutually beneficial set of checks and balances for the downstream riparian.

In light of the evidence from the two cases, the shared problem frames, agreed-upon baselines, and technically informed scenarios that resulted from a collaborative decision-making process, produced higher quality outputs in the form of more flexible policy guidelines. These found their way into the binational agreements, enabling the creation of mutually beneficial solutions.
8. Trusting Each Other

Scholars argue that the practice of collaborative decision-making enhances interpersonal and institutional linkages, rendering conflict resolution better informed by the relevant stakeholders. When, as in most cases, clear solutions are not evident, but there are, rather, various alternatives benefitting different parties in different forms, more robust decisions are made on the basis of relationships of trust. 642, 643, 644, 645, 646

In each of the two cases, building relationships of trust through collaboration was a critical component to shaping an effective negotiation process. Several instances outlining these efforts can be found in Chapter 2, sections 2.5, 2.6, 2.8, and 2.11; and in Chapter 3, in sections 3.3, 3.5, 3.6, 3.7, and 3.11. Some brief highlights are outlined below.

In the Gulf of Mexico, the leaders of the negotiating teams from the U.S. and Mexico, David Sullivan and Arturo Dager, were able to develop a deep sense of trust in one another. Regularly engaging in side-talks, at various points in the process, they depended on each other to protect the collaborative spirit of the negotiations and to ensure their ultimate success. For example, on occasion a politically well-connected figure would come to the binational negotiating table, and without recurring involvement beyond a couple of sessions, would display a dissonant, hard-bargaining approach. This happened on both sides and created unnecessary tensions.

During the breaks between the morning and afternoon meetings, the leader on the side of this errant interloper would ask the other, through private conversations, not to pay mind to this behavior, to simply let the person rant and move on. Whereas the confrontational hard-bargaining approach could have

642 Quick and Feldman, 2014.
643 Mandarano, 2008.
646 Steinberg, 2001.
otherwise put the negotiations in jeopardy by weakening the links that were being formed across the different agencies represented at the table, this strong foundation of trust enabled the two leaders to protect the process, and inform their delegations not to become angered or derailed by such displays of aggressive tactics.

The negotiators in the Colorado River case built relationships of trust with each other in a number of ways. One manner in which this was accomplished was by inviting the other side on tours of relevant infrastructure and natural areas. Mexico, for example, did not initially trust that the surface elevation levels at Lake Mead should be the trigger for shortage conditions, as they feared these levels would be artificially manipulated. Instead, they wanted a hydrological index that could be observed by a neutral third party. However, the U.S. Basin states and the U.S. Bureau of Reclamation, after years of research and negotiations amongst each other, knew that the elevation levels were indeed the best measure to gauge conditions in such a large and diverse river basin.

At odds for more than year, arguing back and forth in work groups, the U.S. Section of the IBWC proposed to break the impasse by carrying out extensive tours for their Mexican colleagues of the U.S. infrastructure and data collection centers in different states. Through these visits, the U.S. demonstrated to Mexican officials that the system of water management relying on elevation levels was highly objective, and was crafted in such a way so as to have checks and balances in place that would prevent any one state from manipulating the levels without the other states finding out. Seeing how the reservoirs function in practice was invaluable in building the necessary trust that eventually led Mexico to agree to use the elevation levels in Lake Mead as the primary indicator of shortage and surplus.

These dynamics also worked the other way around. Mexican officials at the IBWC invited U.S. representatives on tours of the Mexicali Valley and Colorado River Delta, to assuage their concerns regarding Mexico’s requests for environmental flows in times of drought. The U.S. negotiators were able to see that the Mexican federal government was indeed dedicated to environmental restoration projects across the Delta, such that the water sent to Mexico with that purpose would not be
diverted for agricultural uses. They also saw the state of the infrastructure and recognized the abundant opportunities for conservation projects. These tours enabled the two sides to form bonds, empathize with their counterparts, and figure out ways to agree upon mutually beneficial solutions.

The evidence from each of the two cases supports the claim that the practice of collaborative decision-making enhances interpersonal and institutional linkages. Fostering relationships of trust, the negotiators were able to make informed decisions between multiple alternatives, and craft more stable agreements that serve to benefit both sides.
9. Involving the Right People

Scholars of collaborative decision-making argue that to foster and sustain the intelligent resolution of public disputes, government officials must overcome the assumption that stakeholders have no role in devising and implementing solutions beyond lobbying and challenging them in court. 647, 648, 649, 650, 651, 652

In each of the transboundary negotiations, the involvement of stakeholders who had not been included in previous efforts was a significant turning point in resolving the disputes. This is discussed in depth in sections 2.6, 2.7, 2.8, and 2.10 of Chapter 2, and in sections 3.3, 3.4, 3.8, 3.9, and 3.10 of Chapter 3. Short examples are highlighted below.

In the Gulf of Mexico case, the U.S. negotiators received a mandate from the White House to create a framework that would produce offshore energy from the transboundary region, and to do so in a safe and efficient way. The assumption on the U.S. side, however, was that everyone in the environmental community would be hostile to the notion of a binational agreement on transboundary hydrocarbon reservoirs. In light of the catastrophic Macondo Oil Spill, and with a Democratic Party majority in the Senate, it was hard to imagine why the environmental interests would ever allow new acreage for offshore drilling in deep-water to be opened for development.

Under these circumstances, instead of waiting for the NGOs to lobby or litigate against a potential agreement, the U.S. negotiating team conducted an extensive outreach campaign from the outset, to consult with the NGOs and figure out solutions. The challenge was clear: the cornerstone of Mexico’s public financing lies in oil revenues. Due to plummeting productivity in their current fields, Mexico was inevitably going to move into deep-water exploration and production on their

647 Klein, 2009.
649 Corburn, 2005.
650 Najam, 2005.
651 Bäckstrand, 2005.
652 Freeman, 1997.
side of the maritime boundary. The U.S. had two options: to continue to abide by unilateral development under the rule of capture, or to figure out a framework to co-develop the reservoirs with Mexico.

The latter strategy, through unitization partnerships, would decrease the number of wells built and would improve the technology that is put in place. Moreover, in the process of consulting with the NGOs, the U.S. negotiators devised an inspection regime, which ultimately formed part of the agreement and is unique to this binational accord, in which inspectors from either side can call attention to situations in which they believe authorities on the other side are turning a blind eye. This occurs in such a way as to not compromise national law, yet enforced under international law. Through this mechanism, the two countries circumvent any issues of sovereignty, while providing an additional safety check to lower risks to life, serious personal injury, or damage to the environment. With this package in place, the environmental organizations expressed that, while they obviously would not advocate for passage of the agreement, neither would they step in to oppose it.

In the Colorado River case, traditionally, only federal government officials were to negotiate binational water issues. After much convincing on the part of the seven Basin states and the DOI, the DOS and Mexican authorities finally permitted U.S. state representatives into the process. This occurred in confidence-building stages: first these new stakeholders were in an adjoining room ready for consultation, then they were permitted to be in the negotiating room as observers though not at the table, and ultimately they were seated at the table. As the Basin states own the Colorado River water on the U.S. side, their contribution was fundamental in devising the content of the agreement, as well as ensuring its successful implementation and follow up monitoring.

The involvement of the Basin states proved to be critical on a numerous occasions. For example, in the aftermath of the Easter Earthquake that crippled Mexico’s irrigation infrastructure in the Mexicali Valley, the presence of the Basin states was critical to quickly devise the emergency measures that allowed Mexico to store its Colorado River water in Lake Mead; water that otherwise would have been lost.
Another example is that by allowing the Basin states to participate as co-sovereigns in the negotiations, the Lower Basin water agencies, such as the Southern Nevada Water Authority, the Central Arizona Project, and Metropolitan Water District of Southern California, were able to explain firsthand the ways in which their interests differ from those of the Upper Basin states. The water agencies in the Lower Basin are much more interested in joint-investments in conservation projects and desalination plants on Mexico’s side of the border, in order to facilitate water savings and exchanges, seizing on the opportunity costs to bring more water to their ratepayers.

Last but not least, the leadership of critical state representatives, such as Pat Mulroy and John Entsminger, flexing the seven basin states’ political muscle, through the combined might of their 14 Senators, was fundamental to block the spoiling efforts by interests in Texas that could have detailed the Colorado River negotiations by linking them to the troubled Rio Grande disputes.

Extensive evidence from each of the natural resource cases supports the argument that breaking standard protocol and ensuring meaningful stakeholder engagement was of significant benefit to both negotiation processes. It removed the threat of litigation from opposing parties, was critical to block potential spoilers, and vastly improved ownership and implementation of the agreements’ measures.
Political Communication

10. Changing the Narrative

Long-held narratives emphasizing conflict and mistrust often hinder the resolution of disputes. Scholars of political communication argue that integrating more balanced perspectives into the public discourse is critical to enabling the first steps towards reconciliation and remedy.653, 654, 655, 656, 657, 658

For both the Gulf of Mexico and Colorado River cases, shifting the narrative of mistrust to one of collaboration was foundational to creating mutually favorable agreements. A detailed discussion of the events explaining this level mistrust is outlined in Appendices A and B. How the parties were able to move away from that stance is discussed across the two case Chapters, and in particular in sections 2.2, 2.4, 2.6, 2.8 and 2.11 of Chapter 2; and in sections 3.2, 3.4, 3.7, 3.9 and 3.12 of Chapter 3. A quick set of examples follows.

In the Gulf of Mexico, and specifically across Mexico’s energy sector, the narrative had long centered on a deeply held mistrust of the U.S. There was a widespread preconception that not only would the U.S. and its private industry find a way to drain oil belonging to Mexico out of the transboundary reservoirs, but that if a cooperative agreement were ever reached, it would inevitably be tilted in favor of the U.S. The Mexican negotiating team, however, seized upon this ‘mission impossible’ and believed that negotiating a fair agreement to benefit of the social and economic development of both countries was feasible.

The mistrust across the table also ran in the other direction. Several members of the U.S. private industry and U.S. government had long considered the rule of capture to be their best line of defense to not become entangled in the complex web of politics that tends to underpin the operating decisions of PEMEX, as

653 Ganz, 2010.
655 Kearney, 2006.
656 Amsterdam and Bruner, 2002.
658 Scott, 1990.
a state-owned company. So, they were hesitant about supporting any collaborative process with Mexico, delaying and curtailing interactions.

However, through extensive informal conversations that began in the last two years of the George W. Bush Administration and intensified during the first two years of the Obama Administration, the two sides were able to reach an accord to make a concerted effort to move forward in a new, constructive, and collaborative binational process. This dialogue took place between high-ranking officials at the U.S. Department of State, the U.S. Department of Interior, Mexico's Ministry of Energy, Ministry of Foreign Affairs, as well as the IOCs and PEMEX.

This shift to a new process was later cemented by the Executive Offices of both countries, with Presidents Obama and Calderón announcing that the two sides were exploring how to build a safer, more efficient, and more equitable bilateral energy framework, at the conclusion of a Binational Summit in Washington D.C. Soon thereafter, the two countries announced the formal launch of the negotiations through another joint public statement, which clearly defined the new mandate from both Presidents: to find a way to safely and effectively develop the shared reservoirs across the maritime boundary. The negotiators themselves noted the importance of this high-level public encouragement in carrying them through the negotiations. It signaled that the public narrative was shifting from viewing each other as threatening to undermine national sovereignty, to seeing each other as critical energy partners to enhance their mutual economic vitality.

Similar examples about significantly changing the narrative can be noted in the Colorado River case. The Mexican Ambassador to the U.S., Arturo Sarukhán, initiated a series of informal discussions with the U.S. Secretary of the Interior Dirk Kempthorne, regarding the need to specifically build a new binational narrative in order to create a collaborative framework through which the two countries would be able to address the many serious challenges of the Colorado River Basin. Following the All-American Canal conflict, the Ambassador argued that the countries could remain accomplices in failure or become partners for success.

Based on the understanding that the two countries were able to reach as a result of this high-level dialogue, which took place over a couple of years, they then
released a set of joint declarations that set the tone for the respective government agencies to engage in a cooperative negotiation process. Officials from both sections of the IBWC, as well as the U.S. Bureau of Reclamation, confirmed the significance of these declarations in starting anew after years of contentious conflict. Under the auspice of this new narrative, the U.S. federal authorities and Basin states were able to conceive working with Mexico, as they never had tried before. Through the negotiation process, they reached a new level of mutual understanding and regard, which is best captured by the fact that both sides now publicly consider Mexico not as a customer to whom they must deliver water, but rather as a partner in managing the Basin.

The evidence from the two cases highlights that the two countries had to supersede a narrative of mistrust, which had long shaped the interactions between them in relation to these transboundary disputes. They had to be more sensitive to the intensity with which different constituencies hold certain values and acknowledge the legitimacy of their interests; then, they had to re-focus their attention not on how the two countries could ever get along, but rather on how they could thrive together. Once an initial agreement on this shared goal had been reached behind the scenes between the two sides, in each case it proved very useful that top leadership from both countries publicly acknowledged the mistakes of the past and announced that they were committed to figuring out, together, how to move ahead constructively. In both cases, therefore, the evidence supports the claim that by bringing new perspectives into the public discourse, the two sides enabled the first steps towards reconciliation and remedy.
11. Guiding Decisions by Emotion

Contrary to conventional wisdom, political communication scholars, building upon brain and cognitive science, argue that reason works under the initiative and guidance of emotions. They make the case that emotions influence what we focus on, thus underlying our imagination, reflection, and judgment. 659, 660, 661, 662, 663, 664

Each of the cases explored in this dissertation provide examples of the importance of the emotional aspect of negotiation. Interesting episodes, told through anecdotes in the words of the negotiators on both sides, are presented across the two case Chapters. Significant examples can be found in Chapter 2, sections 2.2, 2.4, 2.6, 2.10 and 2.11; and in Chapter 3, sections 3.2, 3.5, 3.7, 3.10, and 3.11. Brief examples are summarized below.

In the Gulf of Mexico case, a story of mutual respect unfolds, with negotiators on each side moving away from a narrative of mistrust, and getting to the point of describing their counterparts as trusted colleagues; willing to invest the time to debate the technical underpinnings of the issues at hand; ready to strongly advance their delegation’s interests; and receptive enough to empathize with the core concerns of the other side.

For example, towards the end of the negotiations, the Mexican officials exclaimed to the U.S. representatives that at first they had thought that the U.S. proposal to hold binational workshops, before proceeding to negotiate from a text agreement, was simply a tactic to delay the process. They were able to experience, however, how critically important those monthly workshops proved to be, as they allowed both sides to get to know one another, build trust, and learn together.

659 Ganz, 2011.
661 Boas and Eliam, 2006.
663 Crawford, 2006.
664 Marcus, 2002.
These positive developments facilitated opportunities for the negotiators to consider how they could solve their problems in a collaborative way among good colleagues, rather than through hard-bargaining tactics. This enhanced level of confidence, garnered through the workshops and continued in informal interactions between sessions (i.e. coffee breaks, dinners), was an important aspect enabling an agreement to be reached in a considerably shorter amount of time, as compared to other similar international negotiations. They exclaim that they were no longer second-guessing the motivations or reasoning behind the other side’s proposals as much as they would have in the absence of those shared experiences.

A very similar story from mistrust to mutual respect unfolds in the Colorado River case. Over the course of more than three years, the people involved in these negotiations had repeated opportunities to get to know each other on a personal level, through informal interactions, tours, and work group meetings. There were several episodes in which the negotiators describe how after a coffee break, sharing a walk, or spending time together over dinner, they were willing and able to put themselves in the other side’s shoes, and better consider their constraints and interests.

For example, one of the lead negotiators in Nevada, after being greeted with warm applause by the Mexican delegation, upon returning to a work group session after an absence of less than a day, thought to himself how much he really cared about the people with whom he was negotiating, after having spent days, weeks and months trying to craft binational solutions.

There is also the story of the Commissioner of the U.S. Bureau of Reclamation, in which he recounts that, after meeting in a side-talk early on with the Mexican IBWC Commissioner to resolve a significant miscommunication that threatened to derail the negotiations, he felt that the Mexican leader was a person in whom he could genuinely place his trust. The Mexican officials spoke similarly of their U.S. counterparts, painting a picture of shared respect and admiration.

Finally, having worked together across the border for many years, the environmental NGOs were already accustomed to these types of binational
relationships. Their close ties to colleagues on the other side of the border played a large part in how they contributed to the binational negotiation process, as they took on the role of trusted neutrals to move information from one side of the border to the other, prompting people to reconsider stances and resolve miscommunications.

*The evidence from both cases, as seen through the unfolding of relationships based on congeniality and confidence, supports the notion that emotions influence people’s reflections and judgments. Providing negotiators with opportunities to build these bonds, encourages parties to put themselves in the other side’s shoes, more often and more effectively.*
12. Focusing on the Benefits

Experts of the role of political communication in the public arena, suggest that *when people emphasize the sacrifices rather than the opportunities at stake*, solely the costs instead of the benefits, *the stakeholders tend to reject the message*. They argue that *the political message should focus instead on empowering the parties to seize the gains that will clearly leave them better off.*

The negotiators in both cases were aware that media coverage of the proceedings and agreements was likely to construe the measures in a negative light, rather than focusing on the benefits to both countries. Relevant examples are discussed in Chapter 2, in sections 2.6, 2.8, 2.10 and 2.11; and in Chapter 3, in sections 3.8, 3.9, 3.11 and 3.12. A short set of examples follows.

In the Gulf of Mexico case, the two sides agreed to largely keep the negotiation developments under wraps, apart from the joint announcement by the two Presidents declaring a collaborative mandate. Given the narrative of mistrust of the U.S. in Mexico, the two countries agreed to keep joint declarations to a minimum. In the rare occasions when press releases were developed, they were only sent out once both sides agreed to their content. The aim was to minimize the opportunities for people, guided by political interests, who would try to accuse the Mexican officials of betraying their country, whatever the package of alternatives at stake.

PEMEX, simultaneously, recognized the need to build public awareness of the realities of the declining oil fields, and the need to address this challenge. They devised a media campaign that, without mentioning the ongoing binational negotiations, stressed the fact that many of the country’s landmark shallow offshore oil fields were nearing the end of their cycle. PEMEX conveyed that to make the transition to promising new fields, many of which were to be found in deep-water,

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669 Jarding and Saunders, 2006.
adequate mechanisms through which to associate with international energy companies would be necessary. The message was simple: the country stood to gain substantially if PEMEX were able to rely on better technology, foreign investment, and international partnerships. The increased oil tax revenues would then serve to finance the country's investments in education, public health, and security, areas for which the general public could agree that additional funds were necessary.

In the Colorado River case, the negotiators also had to carefully manage the interactions with the press. The two sides similarly agreed to a joint communication strategy, in which each side would have the opportunity to view and approve the press releases of the other. Both countries were very concerned that media reports misconstruing the binational conversation could set them back by alienating one side or the other.

As news travels quickly, close attention was paid not only to how the local public would respond to articles in the press, but also how stakeholders from the other country could react. Careful notice was given to the phrasing of newspaper headlines and television reports, as described in detail by Patricia Mulroy, the General Manager of the Southern Nevada Water Authority. She recounted her meetings with the heads of the TV stations and newspapers in Las Vegas, with the purpose to deliver a message that would be well received on both sides of the border, and avoid phrases that could complicate matters.

Throughout the negotiations, aware that stakeholders are politically wired to reject burden sharing, the two sides kept briefings about their progress to a minimum. They knew that it would be very difficult for either side to put some of the key elements that eventually enabled the agreement on the table if they had to do so publicly from the beginning. They communicated more openly only when they were sure they had agreed to a winning package, one that would be well received on both sides of the border.

The evidence from both cases underscores that the U.S. and Mexico focused on emphasizing the benefits rather than the costs of the binational negotiations, with simple, brief, and well-timed messages.
4.2 Advice for Transboundary Negotiations

Given the evidence presented in the transboundary negotiation cases, I outline in this section a number of lessons in general chronological order, from before a negotiation begins to after an agreement has been implemented. This prescriptive advice is intended primarily for public sector leaders working to resolve natural resource management conflicts, though the principles and strategies may prove useful in other sectors and contexts as well.

The four different areas of scholarship through which the cases are analyzed in the previous section, 4.1, while overlapping in many ways, are generally viewed as distinct from one another. These areas of insight are: public dispute resolution, adaptive leadership, collaborative decision-making, and political communication. Inspired by integrating these four perspectives, and based on the lessons learned from the cases, I provide below a series of strategies to aid in the preparation, negotiation, and resolution of transboundary resource management disputes.

1. Persuade Them to Negotiate

Upon recognizing a conflict for which negotiation is deemed necessary, the first step entails enticing the other side to come to the negotiating table. The other side may or may not believe that negotiation is needed or in their best interest. Whether coming from a position of greater or lesser relative power, one must make a compelling case as to the benefits to be reaped from initiating negotiations and reaching agreement. In order to impart this to the other side, one would need to employ a combination of the following tactics: 1) present information to which the other side has not previously been privy, 2) build alliances with members of the opposing side’s back table in order to nudge them to the negotiations, and 3) bring more issues to the table beyond the immediately central matters. In these ways, one can demonstrate to the other side that if they choose not to negotiate, they will thus lose a significant opportunity to benefit from a positive outcome, with more repercussions and in more areas, than at first thought.
2. Overcome Past Grievances

Leading up to the negotiations and once they have begun, in many instances the parties must cope with long histories of confrontation. In order to move beyond a difficult past, it is helpful to have top leaders single out the specific former and current practices that have contributed to deadlock. The purpose should be to reach across the table, through informal conversations, to discover if there are ways in which both sides believe that, together, they can take concrete steps to improve their dispute resolution practices, moving beyond past and present failures.

This should entail two approaches, to address the rational as well as the emotional underpinnings of the narrative of mistrust. In order to engage the aspect of reason, one must point to the technical components that have led to an impasse. Leaders should emphasize the costs that have resulted from: 1) a lack of access to the full array of relevant information, 2) a failure to properly map and link issues, and 3) breakdowns as a result of not looking at problems ahead of time and for the right duration. From an emotional standpoint, negotiators should raise awareness about how the preconceptions on both sides have affected what they say and how they interpret what they hear. At least at first, all sides should try to be aware that their conceptions are likely: 1) colored by the arduous shared history, with 2) each side doubting the other’s motivations and trustworthiness, and 3) blaming the other first rather than looking to themselves.

3. Declare the Mandate

Only once an informal decision to work together constructively has been reached between the leaders on both sides, should a formal public announcement to launch the negotiation process be made. The formal announcement should come from the highest authorities possible. Simple and memorable, it should clearly state that the mandate is to foster a collaborative process in order to allow both sides to reap more benefits than either would be capable of achieving on their own. It is very helpful to display the high-level buy-in publicly, such that further down the line, when complications may arise, the negotiators can refer back to the
formal announcement to remind themselves of the need to work things out, for their own benefit.

4. Adapt the Protocol

Building upon the informal consensus and formal announcement to move forward cooperatively, the two sides should develop a comprehensive map of the key stakeholders who, if involved in a formal process, would be eager to contribute to the negotiation proceedings and eventual agreement. Leaders in the public sector should be willing to break standard protocol in order to ensure that the right people are sitting at the table. Whenever such a protocol precludes the ability to engage relevant stakeholder expertise, it should be reassessed and adjusted. Rather than maintaining a relationship based on lobbying and litigation, wasting time and resources for everyone, it is best to instead significantly involve the relevant stakeholders in the negotiation process, so that they can contribute their knowledge and relationships to shape more stable and effective decisions.

The more effective the stakeholder involvement, the clearer communications will be between the various parties and back tables. Depending on the circumstances of the case, it may be best for the stakeholder groups to be consulted informally, participate as observers, or sit at the table. In most cases, all three forms of engagement will be necessary at different stages, with one building upon the next. As a result of an effective engagement, the stakeholders will ask better questions, provide more detailed responses to queries, and have a greater sense of ownership and commitment to the potential agreement.

5. Send the Best Representatives

Another crucial lesson relating to protocol flexibility is to allow the best-suited negotiators for a given case to take the lead, no matter the agency in which they are based. Often, critical expertise or leadership ability lies within an agency that
would not normally manage such negotiations. Be mindful of this possibility and react accordingly. No matter their department affiliation, leaders who genuinely have the expertise and believe in a mutual gains approach should be provided with the opportunity to make the case, build the team, and lead the way. Such forward-thinkers are the most likely to ask the critical question of ‘how can we make this happen?’ while also being willing to spend the time and resources necessary to sustain this collaborative vision. Grant them authority through a broad mandate, so that they have the necessary flexibility to think outside the box, in order to offer, develop, and respond to more nuanced proposals.

6. Broaden Your Perspectives

Once negotiation leaders and teams have been selected, they will need to properly prepare for the upcoming negotiations. Throughout these steps, the preparatory actions should be considered as part of a larger outreach and coalition building effort to develop ties with stakeholders on one’s own side, as well as the other side’s back table. Such preparatory work should include research to understand how others have previously attempted to address similar problems, along with an exploration of the alternatives to the negotiated agreement for both sides. Additionally, it can be helpful to recruit subject matter consultants who may illuminate blind spots along the way.

7. Get on the Same Page

Upon beginning the negotiations, the first order of business should be to build a process through which the parties can work side-by-side, teasing apart the complex web of interconnected issues at hand. It is usually best to avoid beginning the negotiations with a ‘draft-counter draft’ strategy. Attempting to negotiate details too early in the process, before having more in depth knowledge of the other side and their concerns, makes the negotiations more difficult as the participants become more prone to posturing.
Rather, it is more effective for the negotiators on both sides to first work and learn together, to develop a more comprehensive understanding of how things function on the other side (i.e. markets, operating rules, political context). This is not to say that research into these areas is not necessary in the preparatory stage – it is – however, the aim in working collaboratively is to gain intimate knowledge as to how these issues impact the other side in practice, as well as to figure out how the other side values and ranks distinct items. It is also to one’s advantage that the other side understands how these factors influence one’s own interests and constraints, for this provides clarity to everyone regarding the items that are crucial in shaping an actionable agreement.

Particular practices that effectively foster a better mutual understanding include thematic workshops and workgroups, and in person tours of sites of interest (i.e. infrastructure, facilities, natural areas). These types of activities create a safe space in which negotiators can: 1) share sensitive information to get a better grasp of the challenges at hand, 2) create opportunities for one-on-one or small group interactions in between scheduled events, enabling participants to speak without the restrictions of the formal process, and 3) lay the foundations for continued relationships, which may even become friendships.

8. Highlight the Benefits

Once the negotiators have fostered a common understanding and built trust, they can be proactive and move more easily into the value creation stage. When discussing the components of a potential deal, it is best to generate as many feasible options for consideration as possible, so as to enable trades across differences. This can be done when you work with points of tentative agreement, which empower negotiators to suspend criticism, invent without committing, and revisit issues at different stages and from varying angles.

In many cases, it is helpful to work with proposals in a two-stage process. First, the negotiators should be able to produce options from a shared
knowledge base (i.e. data, terminology, modeling tools), so as to assure that all sides consider these diverse options to be technically sound ways to address the underlying problems. Next, bundle these options into different packages, in order to test them with the back tables that will judge them according to various considerations (i.e. political, diplomatic, economic, environmental). Shape the packages around incentives rather than requirements, thus maintaining the stakeholders’ focus on the benefits to be seized.

9. Lead Thoughtfully

In addition to finding ways for the sides to learn and invent alternatives together, thoughtful leadership is critical to successful negotiation processes. Foster leadership practices that defuse tensions, build trust, and widen viewpoints. These practices include finding a way to facilitate caucuses on a regular basis and engage in side talks. Caucuses provide the chance to integrate the various interpretations of the proceedings thus far, and enable the negotiators to regroup and adapt strategies in response to changing information. Side talks allow leaders to clarify miscommunications, break impasses, and take a step back so as keep sight of the big picture.

10. Seize the Day

When unpredictable circumstances arise during a negotiation process, for which the sides are unprepared, leaders should embrace the opportunity to rethink current practice. Under times of upheaval, the other side may be more receptive to proposals to devise new processes, or at least amend them, creating an opening to pursue solutions that may not have been feasible before. In a changing context, the sides should emphasize working together to test confidence-building measures and foster momentum that can eventually lead to better relationships and a more robust agreement.

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11. Communicate Strategically

In order to **protect the negotiation process and potential agreement from those who would aim to spoil it**, negotiators should be particularly strategic concerning interactions with the press and the public. Both sides should **commit to a joint communication strategy**, including each side’s prior review and approval of the other’s press releases and announcements. As negotiators may be able to discuss options privately that cannot be considered publicly, at least not until a comprehensive package is in place, one must be careful to **keep the progress and details of the negotiations under wraps**. Assurance of confidentiality in the negotiation process is a critical aspect of the aforementioned phase of inventing without committing, in order to provide negotiators with a secure environment in which to gather as many options as possible for consideration.

Once an accord is reached, **be equally mindful of how the agreement is presented to your back table and to the other side’s constituents**. In order to foster a sustained commitment and stability, work together to make sure that the communications provided to the stakeholders on both sides highlight that they are coming out ahead. **Focus on the trades across differences that would not be possible if working separately**. Target outreach to the communities that have a stake, are specifically going to see improvements, and whose continued involvement will benefit all parties moving forward. **Communicate in ways that resonate on an emotional level**. From the headlines to the fine print, **empower the other side to return home with a winning story**.

12. Follow Through for Success

Just as the negotiation process and the contents of agreement itself must be carefully crafted, so too must the means for follow through. This structure should **include a dispute resolution framework to take account of multiple possible scenarios**. With such a framework in place before any conflict arises, both sides may be assured that they **have recourse and a fair forum in which to settle disputes**. The follow up framework should also **put incentives in place to**
encourage the parties to take action and work collaboratively before a crisis erupts. By ensuring that adequate measures are built into the framework from the outset, contentious conflicts can largely be avoided.

Given the high degree of uncertainty in natural resource management negotiations, flexibility to address changing circumstances should underpin the composition of the agreement. The accord should enable both sides to monitor the progress of the agreement’s measures, and adjust and fine-tune them accordingly. One useful strategy that provides opportunity for monitoring and reassessment is to test out a new course of action with a pilot period. Such a trial can be used to garner support, as this approach eases fears of the unknown by securing an end date from the outset. Once the pilot is underway, stakeholders can experience its impacts first hand. When the pilot results in more benefits than costs, the stakeholders will become advocates for a longer-term agreement.
4.3 Next Steps

After laying out some theoretical and practical prescriptions to assist and enhance transboundary natural resource management negotiations in the two previous sections, the focus here will be to conclude by envisioning, in broad terms, how these ideas might be effectively discussed, practiced, and disseminated in a country like Mexico. The aim would be to bring together various disciplines in order to build capacity at the intersection of public dispute resolution, adaptive leadership, collaborative decision-making, and political communication. Expanding the pool of individuals and organizations that are proponents of a mutual gains approach to negotiation, through the lens of these four areas of insights, could assist energy, water, and environmental stakeholders to achieve better outcomes, on behalf of their interests at home and abroad. Such capacity building efforts would focus on offering negotiation tools and training to government officials, industry representatives, environmental advocates, and community stakeholders.

Tailored Trainings

In order to put into practice the insights discussed in section 4.1 and the steps outlined in section 4.2, a strategy towards this goal would be the development of distinct negotiation training modules. These would be combined and customized according to specific, real-world energy, water, and environmental disputes. Such modules, based upon the theory and practice of mutual gains negotiation, and the areas of scholarship upon which this dissertation is based, could be developed in collaboration with an Advisory Group composed by government officials, civil society stakeholders, and faculty from multiple universities and disciplines (i.e. law, public policy, political science, international relations, environmental science, urban and regional planning).
The executive training modules would be divided into two different types of sessions. First, an opening session would be crafted to serve as a general introduction to the theory and practice of mutual gains negotiation. Second, more specialized training modules would be added and combined with the introductory module to form a cohesive and custom-designed program. In the specialized sessions, a series of issues would be highlighted, such as different ways to think about how to foster adaptive leadership, enhance collaborative decision-making, and frame political communication. The specialized training modules could focus on various specific energy, water, and environmental challenges that Mexico’s federal and state governing bodies are currently involved in negotiating. These sessions could encompass the examination of the many reforms Mexico faces in implementing transboundary and international agreements, as they collaborate with industry and corporate interests, as well as technical experts and civil society stakeholders.

One key component of this training would center on role-play simulations. These simulations would be written as teaching materials based on the evidence of the two cases studied in the dissertation, allowing participants to gain valuable insights in a learning-by-doing approach. The role-play simulations would raise questions about, and allow participants to begin to test, different ways of managing issues during a negotiation, such as sequencing the issues discussed, building offensive and blocking coalitions, engaging in joint fact-finding, and exploring the tensions between value creation and value distribution, among many others.

These materials would be linked with other existing role-play simulations, many of which I have worked with firsthand as part of the teaching team of executive and graduate negotiation training sessions at MIT and the Program on Negotiation at Harvard Law School. The materials and role-play simulations could focus on developing negotiation strategies and skills for specific priorities in Mexico, with an emphasis on transboundary challenges, such as:
As the training modules and accompanying materials are crafted, they would need to be tested and then presented at the most senior organizational levels. By piloting the trainings, they would be made more effective, based on lessons learned and feedback from the participants.

Underpinned by multi-party role-play simulations, initial components that would form the basis of the opening sessions were first tested in partnership with Mexico’s Ministry of Energy in March 2015. This executive one-day negotiation training session, involving 45 high-ranking officials from Mexico’s Ministry of Energy, Ministry of Foreign Affairs, and Ministry of the Environment and Natural Resources, was held in Mexico City. This workshop drew upon the lessons from this dissertation on U.S.-Mexico transboundary negotiations, as well as insights from resource management negotiations in other parts of the world. The response of the participants was highly encouraging. Senior government officials emphasized the need to build capacity in order to assist in the negotiations shaping the regulation and implementation of significant reforms in the energy and environmental sectors.

**Negotiation Center**

The tailored training modules and accompanying role-play simulations could form a first step towards the establishment of a permanent negotiation center at a research institution in Mexico. From such a negotiation center, regular training sessions could be given to government officials, community groups, industry leaders, and
students. The primary aim of such a center would be to continue to build capacity for mutual gains negotiation in Mexico, contributing to both research and practice in the field. The teachings of the center would provide tools and role-play simulations to enhance understanding and implementation of the 12 prescriptive steps outlined in section 4.2:

1. Persuade them to negotiate
2. Overcome past grievances
3. Declare the mandate
4. Adapt the protocol
5. Send the best representatives
6. Broaden your perspectives
7. Get on the same page
8. Highlight the benefits
9. Lead thoughtfully
10. Seize the day
11. Communicate strategically
12. Follow through for success

In addition to these workshops, the center would provide specialized negotiation consulting services for people and organizations facing resource management challenges. The overarching mission of the center would be to strengthen Mexico’s efforts in sustainable resource management, at home and abroad.

The principles and advice outlined in this dissertation, along with the potential continued work to create customized trainings, could lend themselves not only to transboundary natural resource disputes, but also to additional areas of importance to Mexico. The country is well positioned for continued economic development, with increasing trade throughout the region and beyond. Given Mexico’s role in North America, the Caribbean, and Latin America, and its affiliation with the Asia-Pacific Economic Cooperation (APEC) and the Group of Twenty (G-20), the teachings of mutual gains negotiation could be valuable beyond the immediate
topics of energy, water, and environmental conflicts discussed here. In a country with significant social and economic disparities to address, one meaningful contribution could include devising ways to empower stakeholders to contribute to fairer and wiser decisions in the negotiation and allocation of the country's resources.
Appendix A: The Gulf of Mexico Case Background

Tugboats over the Alaminos Canyon – Offshore Texas – Gulf of Mexico

Source: Photopin – Creative Commons – Shell

Deepwater Horizon Oil Spill – Macondo Prospect – Gulf of Mexico

Source: Photopin – Creative Commons – Deepwater Horizon Response
Geographic and Economic Background

The Gulf of Mexico is a roughly oval ocean-basin covering 615,000 miles. It is 810 nautical miles wide, with more than half formed by shallow continental shelf waters, and filled with sedimentary rock. It is bounded in the north by 1,680 miles of U.S. coastline from the states of Florida, Alabama, Mississippi, Louisiana, and Texas. In the south, it is bounded by 1,750 miles of Mexican coastline from the states of Tamaulipas, Veracruz, Tabasco, Campeche, Yucatan, and Quintana Roo. The Gulf of Mexico narrowly connects to the Atlantic Ocean, through the Florida straits between the U.S. and Cuba. It also connects to the Caribbean Sea, through the Yucatan Channel between Mexico and Cuba.

The U.S. and Mexico are important partners in energy trade and the Gulf of Mexico plays a vital role as a source of extraction. In the U.S., the responsibility for managing ocean energy resources falls within the U.S. Department of State and the U.S. Department of Interior’s Bureau of Ocean Energy Management (BOEM). The BOEM manages more than 8,000 offshore active leases through five-year outer continental shelf oil and gas programs, with 90% of the leases located in the Gulf of Mexico. The region accounts roughly for 25% (over 3 million barrels a day) of total U.S. domestic oil production (12.3 million barrels a day), and 15% of total U.S. domestic gas production. These offshore energy projects generate, on average, $7 billion dollars in annual public revenue.

Mexico is one of the 10 largest oil producers in the world, generating an average of 2.9 million barrels per day of total liquid oil, with over 85% coming from crude oil; earnings from the oil industry account for over 30% of total government revenues. Oil production in Mexico declined by 25% between 1995 and 2010, but has begun to stabilize. Over 75% of Mexico’s annual oil production occurs offshore, northeast and southwest to the Bay of Campeche in the Gulf of Mexico, through the Cantarell, Ku-Maloob-Zaap, Abkatun-Pol-Chuc, and Samaria-Luna centers and their satellite fields. The U.S. attracts over 70% of Mexico’s annual oil exports due to the proximity and the specific capacity of the U.S. Gulf Coast refineries to process heavier crude streams, which constitutes most of Mexico’s output. In 2014, Mexico exported 1.2 million barrels of oil per day to the U.S, third behind Canada and Saudi Arabia, to contribute to the U.S. consumption of 19 million barrels of oil per day.
Political, Legal, and Environmental Timeline

1819
The United States and the Spanish Monarchy sign the *Transcontinental Treaty*, setting the boundaries between the U.S. and the Viceroyalty of New Spain (Mexico). The boundary is the Sabine River north from the Gulf of Mexico to the 32nd parallel north, then due north to the Red River, west along the Red River to the 100th meridian west, due north to the Arkansas River, west to its headwaters, north to the 42nd parallel north, and west along that parallel to the Pacific Ocean. The Treaty settles the boundary disputes lingering from the Louisiana Purchase. (For further reference, see image 1 in the illustrations section).

1821
Spain and Mexico sign the *Treaty of Córdoba*, ending the Mexican War of Independence.

1828
The U.S. and Mexico sign the *Treaty of Limits*, confirming the borders between the two countries, as established by the *Transcontinental Treaty*. The U.S. keeps Florida, Louisiana, and Oregon; Mexico keeps Texas, New Mexico, and California.

1836
Seizing on conflicts about property taxes, tariffs, and the abolition of slavery, legal and illegal settlers, led by Stephen Austin and Sam Houston, start a secession movement in Texas. The Mexican forces fight against the revolt and are defeated when Mexico’s de facto dictator, Santa Anna, is captured at the battle of San Jacinto. As a prisoner, in exchange for his life and without constitutional authority, he signs the *Treaty of Velasco*, recognizing Texas’ independence and setting the boundary at the Rio Grande. This is 150 miles further south than the traditional border at the Nueces River. Mexico does not recognize nor ratify the Treaty.

1844
In the context of an increasing struggle pitting Northern states versus Southern states, James K. Polk narrowly defeats Henry Clay for the U.S. Presidency. Texas is soon incorporated as the 28th state into the Union, on the heels of a doctrine of territorial expansion and manifest destiny. The annexation violates the *Treaty of Limits*.

1846-1848
Conflict erupts over the contested territory at the Nueces Strip. War between the two countries ensues. The U.S. conducts campaigns over the Mexican territory in the Pacific Coast, Northeast, Northwest, and the Gulf of Mexico. The war ends with the capture of Mexico City. As a consequence of military
defeat, through the Treaty of Guadalupe Hidalgo, Mexico cedes 850,000 square miles of territory to the U.S. This includes the present-day states of Arizona, California, Colorado, New Mexico, Nevada, and Utah, and most of Kansas, Oklahoma, and Wyoming. In consideration of the territories acquired (550,000,000 acres), Mexico is paid 5 cents per acre ($15 million dollars in total). The market price at the time was $1.25 dollars per acre ($500 million dollars). (For further reference, see image 2 in the illustrations section).

1854
The two countries sign the Treaty of Mesilla. For the purposes of building a potential transcontinental railroad, a 30,000 square-mile tract of land south of the Gila River and west of the Rio Grande, is purchased by the U.S. from Mexico, for $10,000 dollars. The international land boundary between the two countries is set. Overall, it will remain the same from the mid-nineteenth century to this day. It extends for nearly 2,000 miles, consisting of two types of limits. A natural boundary formed by the Rio Grande that runs 1,250 miles from El Paso (Texas) to the Gulf of Mexico; and an artificial boundary of 700 miles defined by coordinates of latitude and longitude in New Mexico, Arizona, and California. (For further reference, see image 3 in the illustrations section).

1900s
Maritime boundaries constitute acts of states, as subjects to international law. Accordingly, maritime limits are usually defined by agreements between contracting states, before the international community. Mexico moves from an original territorial sea of 3 nautical miles (1902) to a territorial sea of 6 nautical miles (1906). The U.S. acquiesces, and keeps a 3 nautical miles territorial sea, established since 1776 and historically associated with the range of cannons.

1917
On the heels of the Mexican Revolution, the new political Constitution of Mexico establishes that all resources in the country’s subsoil and seabed are owned by the State. However, the preceding contracts with international oil and gas companies, leasing Mexican hydrocarbons reservoirs since 1876, are recognized under law.

1938-1945
Seizing on civil and political unrest, highlighted by oil workers strikes, Mexico becomes the first country in the world to expropriate all hydrocarbons resources and facilities previously owned by international companies. A presidential decree is issued to create a single national entity, Petróleos Mexicanos (Pemex), providing Mexico with the exclusive right over exploration, extraction, refining, and commercialization of hydrocarbons. In response, the Standard Oil Company and Royal Dutch Shell
demand compensation both for their investments and for the full amount of reserves still underground. Mexico offers to compensate for the loss of facilities but not for the value of the reserves. The private companies boycott Mexico to prevent the acquiring of the machinery and chemicals necessary for refining petroleum, and the U.S., Dutch, and British government establish an embargo on Mexican oil exports. As World War II unfolds, wary of the impact of Mexico selling its oil production to Germany and Italy, the parties settle. U.S. President Franklin D. Roosevelt recognizes Mexico’s right to expropriate the hydrocarbons resources, in exchange for a compensation package to the private companies, centered on selling them oil production below market prices.

1950s

On the heels of the Santiago Declaration by Chile, Ecuador, and Peru, a number of developing countries begin to make maritime claims to extend to 200 nautical miles the sovereign control of resources off their coasts. Major maritime countries, including the U.S., oppose these claims as an intrusion on the freedom of the high seas.

1969

Through a Presidential decree, Mexico establishes a 12-nautical mile belt along its littoral. This is later ratified by Article 3 of the United Nations Convention on the Law of the Sea (UNCLOS) to which Mexico is a party but the U.S. is not.

1970

The two countries explore how to resolve the cumulative impact of natural phenomena such as floods, changes of course, and formations of islands, that are altering the directions of the Colorado River and the Rio Grande, with associated social and diplomatic disruptions on the international land border. In the process of finding practical solutions for the transboundary rivers (resulting in the Treaty to Resolve the Pending Boundary Differences and Maintain the Rio Grande and the Colorado River as the International Boundary), the IBWC is tasked with defining the maritime boundaries between the two countries, starting at the center of the mouth of the Rio Grande in the Gulf of Mexico, and at the western most point of the mainland boundary in the Pacific Ocean. Both countries agree to establish the maritime boundaries on the basis of a series of straight lines following the principle of equidistance as provided by the United Nations Geneva Convention on the Territorial Sea and the Contiguous Zone (1958), to which both the U.S. and Mexico are parties. Both countries up to 12 nautical miles off their respective coasts recognize these maritime boundaries.

1973

Addressing global claims over the waters, submarine areas, seabed, ocean floor, and subsoil of the continental shelves, the United Nations Convention
on the Law of the Sea (UNCLOS) creates the exclusive economic zone, composed of 200 nautical miles, with legal implications to the continental shelf and the international seabed area.

1976

On the heels of the Fishery Conservation Management Act and the ongoing UNCLOS negotiations, the United States and Mexico begin negotiations to delimit the continental shelf in the Gulf of Mexico and the Pacific Ocean. The purpose is to settle the overlapping claims of jurisdiction resulting from the potential establishment of 200 nautical-miles exclusive economic zones, potentially supplanting the 12 nautical-miles boundaries. The U.S. Department of State and Mexico’s Ministry of Foreign Affairs negotiate throughout the spring into fall without success. The two countries exchange diplomatic notes to further recognize the 12 nautical-mile maritime boundaries and acknowledge the need for more technical work to decide how to delimit the continental shelves.

1978

The two countries sign the *Treaty on Maritime Boundaries between the United States of America and Mexico*. The maritime boundaries established have three segments. (1) In the Western Gulf of Mexico, the maritime boundary extends eastward from the international land boundary separating Texas from Mexico, up to a point 200 nautical miles off the coasts of the two countries. (2) In the Eastern Gulf of Mexico, the maritime boundary begins at the western most point at which the 200 nautical miles zones off the coasts of Louisiana and Yucatan overlap, then extends to the eastern most point in which these zones continue to overlap. (3) In the Pacific Ocean, the maritime boundary extends westward from the international land boundary separating California from Mexico, up to a point 200 nautical miles off the coasts of the two countries.

At the time, the international community involved in the UNCLOS negotiations has not agreed yet on a definition of the outer edge of the continental margin, and neither do the two countries. In the Gulf of Mexico, this means that the maritime boundaries are formed by two separate and interrupted lines, leaving two undefined gaps, colloquially known as doughnuts, in the areas in which the coasts of the two countries opposite each other are more than 400 nautical miles apart. The undefined reach of waters is 130 nautical miles in length. (For further reference, see image 4 in the illustrations section).

The binational *Treaty* provides in article 2 that “neither country shall claim or exercise for any purpose sovereign rights or jurisdiction over the waters, seabed, and subsoil on the other country’s side of the maritime boundary.” The phrase alludes to the fact that the maritime boundaries may bisect transboundary hydrocarbons reservoirs. Both parties explicitly add this language to avoid any possibility to attempt to extract oil or natural gas from the other side, particularly conscious of the undefined gaps.
1979

The PEMEX Ixtoc oil well in the Bay of Campeche, 60 miles from the shore, collapses as a pressure buildup sparks an explosion. At a rate between 10,000 to 30,000 barrels a day, crude oil spills from the semi-submersible drilling rig into the Gulf of Mexico. During ten months, 140 million gallons of oil are dispersed into the ocean-basin, rendering it the largest oil spill in the world, impacting estuaries, lagoons, bays and coasts across the ocean-basin. The Ixtoc Spill remains to this day the third largest oil spill behind the Deepwater Horizon Spill (200 million gallons) and the Gulf War Spill (240 million gallons).

1980

The Treaty on Maritime Boundaries between the United States of America and Mexico is reported favorably by the U.S. Senate Foreign Relations Committee in August, but is withdrawn from consideration on the Senate floor in September, on the heels of strong objections against it by business, advocacy, and political groups. The Senate testimony by the President of the Geological Society of America indicates that “recommending ratification of the treaty is recommending the needles giving away of 1 million acres of the most-promising undrilled seaward petroleum territory to which the U.S. has rightful claim.” The Treaty is not ratified by the U.S. In response, Mexican officials voice their concerns over the possibility that U.S. companies will use submarine horizontal drilling to extract Mexican hydrocarbons from the U.S. side. They call it the “Suck-Up (Straw) Effect.” The image lingers in Mexican politics for the next three decades.

1990-1994

The U.S. seeks negotiations to settle one of the two undefined gaps, the one known as the Western Gap (i.e. the Eastern Gap is not addressed since it requires a three-party negotiation with Cuba), but Mexico refuses to negotiate on the basis that the 1978 Treaty needs to be ratified first by the U.S. Senate.

1997-1998

Mexican officials learn that the U.S. Department of Interior is auctioning submarine tracts in the continental shelf of the Western Gap, in an area that would correspond to the U.S. if the maritime boundaries gaps are assigned on the principle of equidistance. Pursuant to customary international law, Mexico sends a diplomatic note to the U.S. arguing that it objects to any attempt to acquire submarine areas by unilateral possession and that it will not recognize the adjudication of licenses for the exploration and exploitation of hydrocarbons resources by private companies. In turn, the U.S. oil sector successfully lobbies the U.S. Senate to ratify the 1978 Treaty twenty years later. Advocates note the untapped reserves of crude oil and natural gas along the 200 nautical mile boundary, and highlight the technology that will
allow U.S. companies to extract and produce from these reservoirs. (For further reference, see image 5 in the illustrations section).

2000

The Treaty on the Delimitation of the Continental Shelf in the Western Gulf of Mexico is signed between the two countries. It defines the limits within which each party may exercise its sovereign rights over the Western Gap. The total area comprises 5,000 square nautical miles (i.e. the area amounts to 6,600 square land miles, equal to 75% of the size of the state of New Jersey). The U.S. receives 38% of the total area (1,900 nautical miles) and Mexico receives 62% of the total area (3,100 miles). The decision follows the principle of equidistance from their respective 200 nautical miles exclusive economic zones. (For further reference, see image 6 and 7 in the illustrations section).

Through Articles IV and V, both countries define a series of cooperative measures to: explore the possible existence of transboundary hydrocarbons reservoirs; facilitate requests from the other party to authorize geological and geophysical studies; notify each other about the discovery of any reservoir; and solve any dispute by negotiation or other peaceful means that may be agreed upon by the parties. The definition of these oil and gas reservoirs, their boundaries, and the manner in which the resources contained may be allocated remain pending matters. The treaty establishes, however, a ten-year moratorium on hydrocarbons drilling, lauded in Mexico as a diplomatic triumph to prevent unilateral extraction by the U.S.

2001-2010

The U.S. begins to lease 9 square miles hydrocarbons blocks in the Western Gap. Research in the Alaminos Canyon, the Sigbee Deep, Lakach, and the Perdido Fold Belt, near the maritime border in the Gulf of Mexico, carried out by U.S. and Mexican stakeholders, further suggests the existence of large transboundary hydrocarbons reservoirs. (For further reference, see image 8 and image 9 in the illustrations section).

2010

High-pressure methane gas from the well expands into a driller, igniting an explosion that engulfs the Deepwater Horizon oil rig operating in the Macondo prospect in the Mississippi Canyon in the Gulf of Mexico. More than 200 million gallons of crude oil, 62,000 barrels per day, are pumped into the Gulf of Mexico for over 80 days, making it the largest oil spill in U.S. history, and second largest ever in the world. 68,000 square miles of ocean are affected, as well as the coastline in Texas, Louisiana, Mississippi, Alabama, and Florida. British Petroleum is responsible for $40 billion USD in fines, cleanup costs, and settlements, including charges for obstruction of justice and negligence in safety tests. (For further reference, see image 10 in the illustrations section).
Building upon and going beyond a first series of reforms in 2008, addressing the need to update key federal statutes regarding PEMEX in order to face the challenges of extracting resources from deep-ocean transboundary reservoirs, Mexico enacts the largest constitutional energy reform in decades. For the previous 75 years, only service contracts were allowed between PEMEX and international companies; contracts allocating shares or profits derived from hydrocarbon resources were not allowed. However, through the constitutional reforms, for the first time since 1938, a provision is created to allow international investors to enter in license, production-sharing, and profit sharing contracts with PEMEX, to explore, extract, and produce oil and gas resources. PEMEX remains state-owned but is granted more budgetary and administrative autonomy, and will need to compete for bids with other firms on new projects. The reforms expand the regulatory and oversight powers of the Ministry of Energy, the National Hydrocarbons Commission, and create a National Agency of Industrial Safety and Environmental Protection.
Illustrations

Image 1

Transcontinental Treaty
Boundaries between the U.S. and the Viceroyalty of New Spain

Source: Atlas Porrúa - The University of Texas.
War between the U.S. and Mexico
Disputed Area between the Nueces River and the Rio Grande

Source: The University of Minnesota
Treaty of Mesilla:
The Land Boundary between the Two Countries is Established

Source: National Institute of Political Studies (INEP) - Mexico
Maritime Boundaries & Extended Continental Shelf

**U.S. Extended Continental Shelf in Gulf of Mexico**

The Gulf of Mexico contains two areas of submerged continental shelf that extend beyond the 200-nautical-mile exclusive economic zones (EEZ) of Mexico and the United States—the “western gap” and the “eastern gap.” The U.S. and Mexico signed a treaty in June 2000 that divides the area of extended continental shelf within the “western gap” between the two nations.

Treaty on Maritime Boundaries between the United States of America and Mexico

Sources: Congressional Research Service and International Boundaries Research Unit
Image 6

Offshore Oil and Gas Lease Blocks within U.S. Exclusive Economic Zone

Source: Oregon State University
Active Onshore and Offshore Oil and Gas Wells in the Gulf of Mexico

Source: Congressional Research Service and IHS
Active Hydrocarbons Leases on the U.S. Side of the Western Gap

Potential Transboundary Geological Structures in the Maritime Boundary

Source: PEMEX
Image 10

Oil Rigs on the U.S. side of the Gulf of Mexico – Deepwater Horizon Spill

Appendix B: The Colorado River Case Background

Colorado Plateau – 130,000 square-miles drained by the Colorado River – AZ, CO, NM, UT

Source: Photopin – Creative Commons – Wolfgang Staudt

Lake Powell - Colorado River Reservoir - Utah and Arizona

Source: Photopin – Creative Commons – Wolfgang Staudt
**Geographic and Economic Background**

The 1,450-mile Colorado River is the largest of the southwestern United States and northwestern Mexico. The River and its tributaries are managed by an extensive system of dams, reservoirs, and canals, which furnish irrigation and water supply to 40 million people inside and outside the watershed, 97% of which is in the U.S. The River begins in the Poudre Pass in the southern Rocky Mountains of Colorado, two miles above sea level. After carving its way through the alpine Western Slope, it flows southwest, gaining strength from small tributaries and emerging into the Grand Valley, a major farming and ranching region.

Most of the Upper River consists of a swift whitewater stream ranging from 200 to 500 feet wide, which then arches northwest to cut across the deep gorges of bare rock and the narrow canyons of the Colorado Plateau, an expansive area of 130,000 miles of high-desert between the Four Corners of Colorado, Utah, Arizona, and New Mexico. The Colorado River continues through Ruby Canyon and Arches National Park, heading southwest to form rapids at Cataract Canyon and flowing through the folds known for the erosion-sculpted Navajo sandstones.

The Colorado River then reaches northern Arizona, where the Glen Canyon Dam forms Lake Powell, the second-largest man-made reservoir in the U.S, with a storage capacity of 27 million acre-feet, a critical provider of water and electricity for the region. It continues its path to Lees Ferry, where the flows are measured for apportionment between the Upper Basin states (Colorado, New Mexico, Utah, and Wyoming), the Lower Basin states (Arizona, California, and Nevada), and Mexico (Baja California and Sonora).

Downstream, known for pools that reach 110 feet in depth, the River swings west into Granite Gorge in the Grand Canyon, where it exposes some of the oldest rocks on Earth, dating as far back as 2 billion years. At the lower end, the River widens into Lake Mead, the largest man-made reservoir in the U.S., with a storage capacity of 28 million acre-feet, formed by the Hoover Dam on the border of Arizona and Nevada, southeast of metropolitan Las Vegas.
After leaving the Black Canyon, the River broadens into a waterway ranging from 500 to 1,000 feet wide through the Lower Colorado River Valley, one of the most densely populated areas along the River. Here, many diversions draw from the River to provide water to distant regions including the Salt River Valley in Arizona and the cities of Southern California. The last diversion occurs at Imperial Dam, where over 90% of the River’s flow is moved into the All-American Canal to irrigate California’s Imperial Valley, the most productive winter agricultural region in the U.S.

Past Yuma, Arizona, at the Morelos Dam, the remaining flow is diverted to Mexico, to irrigate the Mexicali Valley, among the country’s most fertile agricultural lands. Passing entirely into Mexico, as a trickle, it defines the border between the Mexican states of Baja California and Sonora, later joined by the Hardy River to form the Colorado River Delta, an alluvial floodplain covering 3,000 square miles, shaping an estuary before emptying into the Gulf of Baja California.
Political, Environmental, and Legal Timeline

1848
The *Treaty of Guadalupe Hidalgo* sets the territorial boundary between the U.S. and Mexico. It upholds each country's right to navigation on the Rio Grande and the Colorado River, but makes no mention of how to divide water resources between the two sides. Along the boundary's riparian reach the Rio Grande is fed and renewed by numerous tributaries. In its overland stretch, in addition to the Colorado River, the boundary bisects hundreds of arroyos, washes, and ephemeral streams. A dozen of perennial streams cross the Chihuahuan and Sonoran deserts, the lower Colorado River Valley, and the California coastal range.

1880s
Diversions in the Rio Grande headwaters diminish downstream flows. Drought accentuates water scarcity and aggravates local tensions. Mexico argues that the U.S. is violating the navigation clauses of the *Treaty of Guadalupe Hidalgo*. The U.S. argues that on the basis of its absolute municipal sovereignty in international law and as an upper riparian, it has no obligation to consider the impacts of its water uses on Mexico.

1890
The two countries establish the International Boundary Commission (IBC) to determine the location of the U.S.-Mexico international boundary when the meandering rivers between both countries transfer tracts of land from one bank of the river to the other.

1896
The IBC attributes the problem of local water scarcity to upstream diversions in the U.S. side and supports Mexico's claim of wrongful deprivation. The IBC calls for the construction of an international dam upstream of El Paso. The purpose is to secure legal and equitable rights between the two countries, with the impounded waters to be divided equally between the two sides. The U.S. Department of State supports the IBC ruling.

1897-1903
The Rio Grande Dam and Irrigation Company opposes the IBC ruling. It pursues the case through the courts, to build instead a dam 125 miles upstream, at Elephant Butte (New Mexico). The claim is eventually struck down by the courts. However, by then, in coordination with New Mexico officials and the U.S. Department of Interior, the company secures congressional funds to build the dam. Mexico protests, but the U.S. denies it has any obligation to its downstream neighbor under international law.
1906
The two countries sign the *U.S.-Mexico Convention* dividing the waters of the upper Rio Grande. Mexico acquiesces to an arrangement on which the U.S. claims 94% of an annual average flow of nearly 1 million acre-feet. Mexico is allocated 60,000 acre-feet based on maximum known uses by Mexican settlers in the Juárez Valley. During conditions of drought, the U.S. is allowed to unilaterally reduce the amount delivered and is not required to repay or compensate for any reduction. The *Convention* is seen to this day as a high-water mark of sovereign unilateralism.

1907-1920
The California Development Company and the Colorado River Land Company coordinate with U.S. interests owning 80% of land and water rights on the Mexican side of the border, to support the use of an overflow channel of the Colorado River located in Mexico, the Alamo Canal, to irrigate U.S. agriculture in the Imperial Valley. At the time, the Imperial Valley consumes 50% of total Colorado River flows. Mexican authorities are shadow agents in these arrangements, facilitated instead by a private company, the Sociedad de Irrigación y Terrenos de Baja California.

1910-1920
Struggling with high water prices and inadequate supply, anxious settlers, users, and developers demand public water works and binational accords on the use of the Lower Rio Grande and the Colorado River. The Mexican Revolution lasts the entire decade, limiting Mexico’s contribution to sending troops to protect U.S. irrigation works on the Mexican side of the Colorado River.

1922
The U.S. proceeds unilaterally to develop the Colorado River water resources. The seven U.S. states in the Colorado River Basin, without any Mexican input, establish the *Colorado River Compact*. It defines a border at Lees Ferry (Arizona), between the Upper Basin (Colorado, New Mexico, Utah, and Wyoming) and the Lower Basin (Arizona, California, and Nevada). Both basins are to be managed separately by the U.S. Bureau of Reclamation. (For further reference, see *image 1* in the illustrations section). On the basis of an estimate indicating that the river’s average flow is 16.5 million acre-feet, both basins are allocated over 7.5 million acre-feet respectively (i.e. an acre-foot is about 326,000 gallons of water, enough to cover an acre of land with one foot of water). Decades later, studies would show that when the Compact was signed, the period used as the basis for average flow of the river (1905-1922) was characterized by abnormal periods of high rainfall.
1928
The U.S. establishes the Boulder Canyon Act. This leads to the construction of the Hoover Dam on the border between Arizona and Nevada, impounding Lake Mead, creating the largest U.S reservoir by volume. The project becomes a critical provider of irrigation water and hydroelectric power to the region. On the Rio Grande, Mexico moves to develop the Rio Conchos and other tributaries, without U.S. input.

1930s
Respectively concerned with the unilateral developments in the Rio Grande and the Colorado River, both countries try to negotiate how to divide the waters, with no success. The U.S. continues to assert its universal right and rule as the upstream riparian. Mexico argues that the U.S. is following an entirely different principle in the Boundary Waters Treaty between the U.S. and Great Britain (1909), regarding the Milk River, which originates in Canada. That treaty upholds that any diversion in one country that injures a party in the other country entitles the injured party to sue.

1939-1942
The U.S. unilaterally builds the All-American Canal (AAC), an 82-mile canal paralleling the border with Mexico. The purpose is to end U.S. dependence on Mexico's Alamo Canal, and to bolster California’s claim to a larger share of Colorado River water. All major parties on the lower Colorado River understand that water seeps to the Colorado River aquifer, and that seepage follows both canals, with critical impacts on the amount of groundwater available to border communities. The AAC becomes the largest irrigation canal in the world, and the only source of water for intensive agriculture over 630,000 acres in the dry Imperial and Coachella Valleys.

1942-1943
Once more, the U.S. and Mexico engage in negotiations to discuss how to divide the waters of the Colorado River and of the Rio Grande. They consider normal expectations of availability and conditions of scarcity. The two sides discuss how to distribute the costs of the necessary works to implement a potential agreement. Both countries abandon the claim of absolute territorial sovereignty and acknowledge the international practice of reciprocal sovereignty. They try to settle their dispute on the basis of equitable apportionment, a principle that the U.S. Supreme Court has long upheld in domestic interstate river disputes.

1944
The two countries sign the Treaty between the U.S. and Mexico on the Utilization of Waters of the Colorado and Tijuana Rivers, and of the Rio Grande. Also known as the Water Treaty, it apportions the waters through Mexican concessions on the middle-lower Rio Grande in exchange for U.S. concessions on the Colorado River. For the Colorado River basin, the U.S. is to provide
Mexico with 1.5 million acre-feet of water annually. For the Rio Grande basin, the U.S. is to receive all the flows from the Rio Grande tributaries in the United States. Mexico is to receive two-thirds of the flows that feed into the Rio Grande from the six major tributaries on Mexico’s side (Conchos, San Diego, San Rodrigo, Escondido, Salado, and Vacas). The U.S. is to receive one-third of flows from the Mexican tributaries. Mexico’s water delivery must average at least 350,000 acre-feet on average per year, measured in five-year cycles. (For further reference, see images 1 and 2 in the illustrations section).

Through the Treaty, the functions and jurisdiction of the former IBC are expanded to include the allocation and transfer of water from one country to the other. An international body, the International Boundary Water Commission (IBWC), is created to resolve disputes arising from the execution of the treaty, and to perform technical studies on flood control, hydroelectric generation, reservoirs operation, and the development of infrastructure such as dams and channels. The agency is to be headed by two Commissioners, who must be engineers, one from the U.S (residing in El Paso, Texas) and one from Mexico (residing in Ciudad Juárez, Chihuahua). The agreements between the Commissioners are recorded in “Minutes,” akin to bilateral agreements, approved by the U.S. Department of State and Mexico’s Ministry of Foreign Affairs. The Minutes are legally enforceable and essentially amend the Water Treaty. The executive branch of the federal government in both countries has the authority to approve or disapprove the proposed Minutes arising from the treaty. If either government disapproves of a Minute, the matter is removed from IBWC control, and the two countries must negotiate the issue through other means.

In many ways, the Water Treaty is the first time the two countries recognize the need to address the political, economic, social, and management asymmetries that had characterized the border region since the mid-nineteenth century. It proposes cooperation instead of confrontation, and establishes a hierarchy of uses for the water: (1) domestic and municipal uses; (2) agriculture and stock-raising; (3) electric power; (4) other industrial uses; (5) navigation; (6) fishing and hunting; (7) any other beneficial uses which may be determined by the IBWC. However, besides proposing to subsidize the development of binational sanitation and sewage facilities, the Water Treaty does not include provisions to resolve a number of transboundary water problems highlighted at the time, principal among them water quality, aquifers, environmental impacts, and the division of water from non-tributary rivers and streams crossing the border.

1950s

By securing the water rights of each country, the Water Treaty triggers a surge of water development on both sides of the border. U.S. and Mexican irrigation districts spread along the lower Colorado River and the Rio Grande.
1961
The Wellton-Mohawk irrigation district in southwestern Arizona, acting to reduce saline groundwater accumulation in district soils, in coordination with the U.S. Bureau of Reclamation, conducts a pumping program to discharge brackish water via the Gila River to the Colorado River. The discharges occur at a point below Laguna Dam, the last U.S. reservoir on the Colorado River. The result is an immediate increase in the salinity of Mexican treaty water and a drop in the agricultural productivity of the Mexicali Valley. The decision to dump brackish water into Mexico’s treaty allotment and to count it as covering 75% of Mexico’s entitlement causes uproar. The U.S. responds by indicating that Articles 10 and 11 of the Water Treaty specify that the waters that the United States are to deliver to Mexico shall be made up of the waters of the Colorado River “whatever their origin, from any and all sources.”

1961-1963
Contentious diplomacy ensues. U.S. officials argue that the Water Treaty has been fairly and mutually agreed on, that the agreement cannot possibly be read to disallow return flows, and that it provides a license to meet the Mexican quota with all available flows to the Colorado River. Mexico argues that the phrase “whatever their origin, and from any and all sources,” cannot imply patently unusable water, that the assumption is that the treaty will ensure sufficient water quality, and that in the spirit of the agreement, under international law, the purpose is to provide water that effectively sustains irrigated agriculture and domestic uses. Mexico’s President declares that the salinity issue is the greatest diplomatic conflict confronting the two countries.

1964
The sharp deterioration of agriculture in the Mexicali Valley leads to louder protests, attracting regional and national press. The production of cotton diminishes dramatically, with yields less than half as it once was. Mexico decides not to use the waters from the Wellton-Mohawk district and to dispose of them into the ocean. U.S. diplomats, led by Secretary of State Henry Kissinger and Attorney General Herbert Brownwell, recognize the weakness of the U.S. position and try to work a solution. They face strong opposition within their own country by the congressional delegations and officials from the Colorado River basin states, and by the Bureau of Reclamation. These interests oppose any agreement that would only benefit Mexico, and demand federally funded salinity control programs and desalination plants on the U.S. side.

1965
The IBWC and the U.S. Department of State, concerned with the consequences should Mexico pursue the case through the international courts, try to find a way around their back table conundrum by signing Minute 218. They propose an interim five-year solution, by which the U.S. agrees to build, at its own expense, a bypass drain below the Morelos Dam (Mexico’s diversion dam for Colorado River water). The objective is to prevent further contamination of Mexican treaty waters.

1966-1972
Despite the new bypass drain, which diverts the worst of the brine from the Colorado River, the salinity from upstream return flows continues to undermine Mexican agriculture. Mexico’s President places a salinity deal at the top of his binational agenda and hints at taking the question to the international courts on the basis of equity in downstream obligations. A review of U.S. internal interagency correspondence indicates that most officials consider that to argue that there is no assumption about irrigation water quality standards in the Water Treaty is untenable. The U.S. Department of State chief legal advisor, in a confidential memorandum, highlights that based on the discussions that shaped the treaty negotiations, if a substantial part of the water delivered to Mexico is of unusable quality, under international law Mexico will win the case to terminate and withdraw from the Water Treaty.

1973
The U.S. Department of State successfully convinces Mexico not to take the case to the international courts while mounting enough pressure for U.S. internal interests to acquiesce to an equitable solution. The Bureau of Reclamation cooperates, worried about the domestic implications of the National Environmental Policy Act (1969), as nongovernmental organizations threaten to sue the Bureau for the pollution of a national waterway. In this context, the two countries sign Minute 242, through which the U.S. commits to deliver to Mexico water of equivalent quality to that impounded at Imperial Dam, the lowest U.S. storage dam on the Colorado River, and to build an extended bypass drain for the Wellton-Mohawk brine. Simultaneously, for the first time, the two countries try to address groundwater issues, though with little success, limiting pumping on the San Luis Mesa, and establishing a binational consultation mechanism in advance of any domestic action that may affect groundwater use on the other side of the border.

1977-1978
At locations like Nogales and Tijuana, sewage contamination plagues Mexican communities, undermining the sanitation of the urban settlements at the border with spillage threatening U.S. cities. The issue worsens as spillage from copper tailing ponds at Cananea (Sonora), enters the San Pedro River.
east of Arizona’s Huachuca Mountains, polluting the irrigation water of farms and ranches along Sierra Vista and the Gila River. U.S. Department of State officials believe the matter falls under the scope of the IBWC, but the U.S. Commissioner is hesitant about venturing into issues related to environmental regulation. U.S. activists respond by asking the Environmental Protection Agency (EPA) to get involved. The problem is discussed in a Presidential Summit between the two countries, resulting on a formal promise by Mexico to deal with San Pedro through the first-ever joint memorandum between EPA and its Mexican counterpart. The IBWC quickly moves to amplify its jurisdiction, through Minute 261, to incorporate border sanitation conditions that affect the use of all waters crossing the international boundary. This marks the first time the IBWC achieves partial jurisdiction over transboundary flows.

1983

The two countries sign the *U.S.-Mexico Border Cooperation Agreement*, also known as *La Paz Agreement*, broadening the IBWC’s administrative responsibilities to include ecological concerns regarding water pollution. The *Agreement* proposes an emerging perspective that sees water as embedded in watersheds and ecosystems, in a broader spatial frame, with natural and social impacts through chosen use, quantity, and quality. For the first time, states, municipalities, and nongovernmental entities are granted official standing, but this does not offer, however, more than a forum to voice concerns in binational deliberations.

1990-1994

Commercial and investment interests shape the negotiations on the North American Free Trade Agreement (NAFTA). Concerned with border prospects of increased water demand, rights transfers, and pollution, a series of institutions are established through the Integrated Border Environmental Plan (IBEP). The Border Environment Cooperation Commission (BECC), the North American Development Bank (NADB), and the Commission for Environmental Cooperation (CEC) are tasked to support the IBWC’s water planning efforts, by addressing issues of economic development, public health, administrative decentralization, local capacity building, and public participation in policy design and implementation.

1994-2000s

The NAFTA institutions try to enhance public relations and citizen outreach, promoting joint participatory mechanisms between environmental agencies in the two countries, and fostering regional and watershed advisory bodies. Whereas IBWC projects are funded by government subsidies, local communities must shoulder the operation and maintenance costs of BECC-NADB projects. The objective is to achieve a gradual transition into projects financed by user fees and other revenues, providing local communities with
more control over whether a project remains functional over its life cycle. The BECC certifies proposed water infrastructure on the basis of sustainable development criteria such as local and regional resource conservation plans and ecosystems-based planning, but since the NADB is restricted to lend at-market rates, the demand for NADB’s funds remains low. Most of the progress comes from an emphasis in public health, not the legal system of apportionment and rights, nor the market. Severe social and environmental disruptions remain. However, some control over setting the terms of the debate is yielded to local government, non-governmental organizations, and citizens.

1997-2005

Under conditions of severe drought (1993-2004), on the southeastern Rio Grande, Mexico fails to deliver the full amount of water to the U.S. in two consecutive five-year cycles (1992-2002). Mexico had fully met its deliveries to the U.S. without exception since the Water Treaty (1944), but this had been accomplished through wet weather flows rather than purposeful planning. Mexico’s Rio Conchos is the most significant tributary to the southeastern Rio Grande basin, originally providing 70% of the flow, whereas U.S. tributaries provide 30%. The two countries are allotted 50% of the middle-and-lower basins’ water. Significant irrigation infrastructure developed by Mexico in the early 1990s, coupled with an increase in transnational manufacturing facilities, the failure to develop adequate conservation plans, and inadequate agriculture insurance programs, reduce the Conchos’ contribution. Tensions over the water debt rise between both countries and within the states, with parties in Texas calling for retaliation on the Colorado River Basin, to no avail, as Mexico accumulates a debt of over 1.5 million acre-feet for the two cycles. The conflict is eventually resolved through Presidential intervention, a series of IBWC Minutes, and investments in water efficiency including buybacks in water rights, culminating with a clearing of the debt in 2005, under hurricane-induced wet conditions. Studies show, however, that the Rio Grande basin is heavily over-allocated on both sides of the border, that the five-year cycle complicates forecasts on water storage and management plans, and that urban population growth, economic development, and drought are likely to trigger further conflict in the coming years.

2000s

Prior to expansion of the basin’s water consumption, the Colorado River Delta covered 10,000 miles in the U.S. and Mexico. A large part on the Mexican side contains woodlands and desert areas, is home to many endangered species, and is designated as a United Nations Biosphere Reserve and Ramsar Wetland. Environmental interests on both sides of the border argue that insufficient water flowing into the Delta has decimated 90% of the wetlands. They suggest that increased annual flows, accompanied by larger
pulses of water every four years, would restore them. Water users concerned about the potential of reduced allocations oppose their arguments.

2001-2003

Conservation concerns in California draw attention to the desirability of recapturing an estimated 80,000 acre-foot of seepage lost to Mexico from the All-American Canal, by lining the AAC with concrete. The U.S. Bureau of Reclamation brokers a conservation agreement between the seven Colorado River Basin states. Among the mitigation actions, in order to bring California into compliance with the Law of the River, the lining project of the All-American Canal is further approved. The Imperial Irrigation District agrees to transfer water to other Southern California users provided the AAC is lined to recapture the water seeping to Mexico. The U.S. Congress passes legislation funding the canal’s lining. The environmental impact assessment is done with minimal consultation with Mexico, without consultation with users in the Mexicali Valley who rely on this seepage through drainage and pumps, and without evaluating transboundary biota and ecological resources affected by lining the canal.

2004-2009

A coalition of U.S. and Mexican business and non-profit representatives sue the U.S. Department of Interior in U.S. Federal Court in Las Vegas (Nevada). They point to administrative irregularities in the original environmental impact assessment about the AAC lining, a violation of U.S. environmental standards as it pertains to seepage’s effects on the nearby Andrade Mesa Wetlands, and disregard for Mexico’s high reliance on groundwater in the Mexicali Valley. The unusual binational lawsuit, supported by Mexico’s President, Vicente Fox, is rendered moot, however, when a rider in the Tax Relief and Health Care Act of 2006, demands the immediate conclusion of the lining. The lining is successfully finished in 2009.

2005-2010

At a 22-mile stretch where the Colorado River runs at a virtual trickle downstream of the Morelos Dam, unchecked non-native plant growth complicates the landscape, rendering a staging ground for unauthorized crossings and for the criminal gangs that prey on migrants. Regional environmentalists, in partnership with the U.S. Border Patrol, Mexican NGO ProNatura, and the Yuma Crossing National Heritage Corporation, begin a reclamation effort to clear non-native species from the riverbed, plant native grasses and cottonwoods, and enhance public safety in the overrun area. Through a grant by the U.S. Bureau of Reclamation, they secure the funds to irrigate a section called Hunter’s Hole, in an effort to recreate the ecological conditions for sustainable-species growth.
2011-2014
Under conditions of drought, with heavier impacts on the U.S. side, Mexico accumulates a water debt of roughly 290,000 acre-feet during the first three years of the current five-year cycle (2010-2015) of water deliveries in the Rio Grande. As tensions escalate between state officials, the two countries engage in bilateral negotiations to seek a solution. (For further reference, see image 3 in the illustrations section).
Illustrations

Image 1

The Colorado River Upper and Lower Basin

Source: U.S. Department of Interior, Bureau of Reclamation
The Rio Grande Basin

Source: Shuttle Radar Topography Mission
Image 3

Evolution of North American Drought Conditions (2010-2013)

Source: North American Drought Monitor Maps
State of the Water System (1999-2014)

Unregulated Inflow into Lake Powell
Powell-Mead Storage and Percent Capacity

Source: U.S. Department of Interior, Bureau of Reclamation (Courtesy of Dr. Terrance Fulp)
Lake Mead End of Month Elevation (1937-2014)

Prior to 1999, Lake Mead was last at elevation 1,083.57 feet in April 1956.

In August 2014, Mead was at its lowest elevation of 1,080.19 feet since it was first filled in the 1930s.

During the 1950s drought, Mead reached a low of 1,083.23 feet in April 1956.

Source: U.S. Department of Interior, Bureau of Reclamation (Courtesy of Dr. Terrance Fulp)
Image 6

Projected Future Colorado River Basin Water Supply and Demand

Source: U.S. Department of Interior, Bureau of Reclamation (Courtesy of Dr. Terrance Fulp)
Appendix C: List of Interviewees

The interviews were scheduled with the parties that directly negotiated the agreements between the U.S. and Mexico. The process provided the opportunity to have a conversation and learn from the people responsible for the decisions made at the negotiating table, both on a political level, and on a substantive level. The interview with each negotiator lasted on average 60 minutes. I am in deep gratitude to the negotiators of the many agencies and organizations involved, who were generous with their time and inspiring with their expertise.

More than 70 interviewees are listed below in the following format:

Country
Organization
Name
Date of interview
Current position/Position during the negotiations
Gulf of Mexico Negotiations - Transboundary Hydrocarbons Agreement

United States of America

U.S. Department of State

1. The Honorable David L. Goldwyn
   January 12, 2015

   Currently:
   President
   Goldwyn Global Strategies, International Energy Advisors
   Senior Fellow
   Energy Security Initiative, Brookings Institution

   During the negotiations:
   Special Envoy and Coordinator for International Energy Affairs (2009-2011)
   U.S. Department of State

2. Ambassador Richard Morningstar
   December 11, 2014

   Currently:
   Head
   Energy Initiative, Atlantic Council

   During the negotiations:
   Special Envoy for Eurasian Energy (2009-2012)
   U.S. Department of State

3. David Sullivan
   January 15, 2015

   Currently:
   Assistant Legal Adviser
   European and Eurasian Affairs
   U.S. Department of State

   During the negotiations:
   Assistant Legal Adviser
   Oceans, International Environmental and Scientific Affairs
   U.S. Department of State
4. Michael P. Stewart  
   February 18, 2015  
   
   Currently:  
   Economic Counselor  
   U.S. Embassy, Romania  
   
   During the Negotiations:  
   Desk Officer  
   International Energy and Commodity Policy  
   U.S. Department of State  

5. Michael P. Taylor  
   March 13, 2015  
   
   Currently:  
   Economic Counselor  
   U.S. Embassy, Honduras  
   
   During the Negotiations:  
   Desk Officer  
   Mexico  
   U.S. Department of State
6. Ambassador Carlos Pascual  
   January 28, 2015

   During the negotiations:
   Special Envoy and Coordinator for International Energy Affairs (2011-2012)
   U.S. Department of State
   U.S. Ambassador to Mexico (2009-2011)

7. Sigrid Emrich  
   January 23, 2015

   Currently:
   Deputy Director
   Office of Central European Affairs
   U.S. Department of State

   During the negotiations:
   Deputy Economic Counselor (2008-2010)
   U.S. Embassy
U.S. Department of Interior

Bureau of Ocean Energy Management

8. The Honorable Michael R. Bromwich
   March 3, 2015

   Currently:
   Founder, Managing Principal
   The Bromwich Group

   During the negotiations:
   Director, Head of the Agency (2010-2011)
   U.S. Bureau of Ocean Energy Management, Regulation, and Enforcement

9. Renee Orr
   March 12, 2015

   Currently and during the negotiations:
   Chief
   Office of Strategic Resources
   Bureau of Ocean Energy Management
10. Kevin Karl  
   February 12, 2015

Currently:
Senior Adviser to the Regional Director
Gulf of Mexico Outer Continental Shelf Region
U.S. Bureau of Safety and Environmental Enforcement

During the negotiations:
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Office of Production and Development Gulf of Mexico Region,
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11. Mark Hanan  
   March 10, 2015

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Chief
Development and Unitization Section
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12. J. Keith Couvillion
March 4, 2015

Currently and during the negotiations:
Deepwater Land Manager
Exploration and Production Business Unit
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Mexico

Office of the Presidency

1. The Honorable Felipe Calderón Hinojosa
   December 2, 2013
   President of Mexico (2006-2012)

Ministry of Foreign Affairs

2. Ambassador Arturo Dager Gómez
   February 19, 2015
   Currently:
   Director General of Legal Affairs
   Mexican Federal Government Trade and Investment Strategy
   ProMéxico
   During the negotiations:
   Head of Delegation (2011-2012)
   Chief Legal Adviser
   Ministry of Foreign Affairs

3. Ambassador Joel Hernández García
   October 28, 2014
   Currently:
   President
   Commission Overseeing all the Members of the Mexican Foreign Service
   Ministry of Foreign Affairs
   During the negotiations:
   Head of Delegation (2008-2011)
   Chief Legal Adviser
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Mexican Embassy, Washington D.C.

4. Lic. Víctor Manuel Uribe Aviña  
   January 14, 2015

   Currently and during the negotiations:  
   Minister, Legal Affairs  
   Mexican Embassy, Washington D.C.

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   January 12, 2015

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   Mexican Embassy, Washington D.C.
Ministry of Energy

Office of the Deputy Secretary for Hydrocarbons

6. Dr. Mario Gabriel Budebo
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   Currently:
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   Mexico Infrastructure Partners

   During the negotiations:
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   Ministry of Energy
   Board of Directors (2006-2012)
   PEMEX

7. Dr. David Madero Suárez
   January 9, 2015

   Currently:
   Head
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   During the negotiations:
   Director General (2007-2011)
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8. Mtro. Guillermo Zúñiga Martínez
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   Currently:
   Commissioner
   Energy Regulatory Commission

   During the negotiations:
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Legal Affairs Unit

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   Currently:
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   National Banking and Securities Commission

   During the negotiations:
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10. Lic. Viviana María Santiago López
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    Currently:
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    Preventive Operations
    National Banking and Securities Commission

    During the negotiations:
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    Legal Affairs Unit
    Ministry of Energy
Ministry of Energy

Office for International Affairs

11. Mtro. Leonardo Beltrán
   December 22, 2014

Currently:
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Ministry of Energy

During the negotiations:
Director of International Negotiations
Ministry of Energy

12. Dr. Aldo Flores Quiroga
   December 17, 2014

Currently:
Secretary General
International Energy Forum

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Ministry of Energy

13. Lic. Leydi Barceló
   December 22, 2014

Currently:
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Office for Energy Planning and Technological Development
Ministry of Energy

During the negotiations:
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Ministry of Energy
14. Dr. Luis Macías Chapa
   November 12, 2014

   Currently:
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   Exploration and Production
   PEMEX

   During the negotiations:
   Business Manager
   New Exploration and Production Ventures
   PEMEX

15. Lic. Sergio Guaso
   January 22, 2015

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   New Ventures, Upstream Business Unit
   PEMEX

16. Lic. Xavier Antonio de la Garza
   January 19, 2015

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   International Legal Affairs
   PEMEX

17. Lic. José Luis Herrera Vaca
   January 9, 2015

   Currently:
   Senior Associate
   Hogan Lovells BSTL

   During the negotiations:
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   PEMEX
18. Lic. Elizabeth Ceballos  
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   Currently:  
   Legal Counsel  
   International Legal Affairs Office  
   PEMEX  

   During the negotiations:  
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   Director General’s Office  
   PEMEX  

19. Lic. Fernando Rosenzweig  
   January 19, 2015  

   Currently and during the negotiations:  
   Senior Legal Specialist  
   International Legal Affairs  
   PEMEX  

20. Lic. Daniel Artemio Cárdenas  
   January 19, 2015  

   Currently and during the negotiations:  
   Senior Legal Specialist  
   Exploration and Production  
   PEMEX
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United States of America

U.S. Department of Interior

1. The Honorable Michael L. Connor  
   January 14, 2015
   
   Currently:
   Deputy Secretary of the Interior (2014-Present)  
   U.S. Department of Interior
   
   During the negotiations:
   Commissioner (2009-2014)  
   U.S. Bureau of Reclamation

2. Robert Snow  
   November 17, 2014
   
   Currently and during the negotiations:
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   U.S. Department of Interior

3. Lorri Gray-Lee  
   November 17, 2014
   
   Currently:
   Regional Director (2011-Present)  
   Pacific-Northwest  
   U.S. Bureau of Reclamation
   
   During the negotiations:
   Regional Director (2007-2011)  
   Lower Colorado Region  
   U.S. Bureau of Reclamation
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   November 6, 2014

   **Currently:**  
   Regional Director (2011-Present)  
   Lower Colorado Region  
   U.S. Bureau of Reclamation

   **During the negotiations:**  
   Deputy Regional Director (2008-2011)  
   Lower Colorado Region  
   U.S. Bureau of Reclamation

5. Jennifer McCloskey  
   October 30, 2014

   **Currently and during the negotiations:**  
   Deputy Regional Director, Lower Colorado Region  
   U.S. Bureau of Reclamation (2011-Present)
6. The Honorable Edward Drusina  
   February 4, 2015

   **Currently and during the negotiations:**
   Commissioner (2009-Present)
   International Boundary and Water Commission, U.S. Section

7. Sally E. Spener  
   January 9, 2015

   **Currently and during the negotiations:**
   Foreign Affairs Secretary
   International Boundary and Water Commission, U.S. Section

   December 11, 2014

   **Currently and during the negotiations:**
   Principal Engineer, Operations Department
   International Boundary and Water Commission, U.S. Section

9. Alfredo J. Riera  
   November 6 and December 15, 2014

   **During the negotiations:**
   Acting Commissioner
10. Peter Silva  
   November 25, 2014

**During the negotiations:**
Assistant Administrator (2009-2011)  
Office of Water, Environmental Protection Agency  
**Prior to the negotiations:**
Worked for decades for Metropolitan Water District of Southern California
Lower Colorado River Basin States

Nevada

11. Patricia Mulroy
   December 12, 2014

   Currently:
   Senior Fellow for Climate Adaptation and Environmental Policy
   Brookings Mountain West

   During the negotiations:
   General Manager (1993 - Retired in 2014)
   Southern Nevada Water Authority
   Former President of the Metropolitan U.S. Association of Metropolitan Water Agencies

12. John Entsminger
   December 12, 2014

   Currently:
   General Manager (2014-Present)
   Southern Nevada Water Authority and Las Vegas Valley Water District

   During the negotiations:
   Senior Deputy General Manager and Director for Environmental and Water Resource Law, Southern Nevada Water Authority

Arizona

13. Perri Benemelis
   October 27, 2014

   Currently and during the negotiations:
   Manager, Colorado River Section (2005-Present)
   Arizona Department of Water Resources

14. Chuck Cullom
   January 26, 2015

   Currently and during the negotiations:
   Manager, Colorado River Programs
   Central Arizona Water Project
California

15. Gerald R. Zimmerman
   January 21, 2015

   During the negotiations:
   Appointed by the Governor of California
   Executive Director, Colorado River Board of California

16. William Hasencamp
   January 9, 2015

   Currently and during the negotiations:
   Manager, Colorado River Resources (2003-Present)
   Metropolitan Water District of Southern California
Upper Colorado River Basin States

Representing Utah, Wyoming and New Mexico

17. Don Ostler  
   October 2, 2014

   Currently and during the negotiations:  
   Executive Director and Secretary  
   Upper Colorado River Commission

18. Patrick Tyrrell  
   January 5, 2015

   Currently and during the negotiations:  
   State Engineer  
   Wyoming State Engineer’s Office, Wyoming

Colorado

19. Jennifer Gimbel  
   December 19, 2014

   Currently:  
   Deputy Commissioner  
   External and Intergovernmental Affairs, U.S. Bureau of Reclamation

   During the negotiations:  
   Director (2008-2013)  
   Colorado Water Conservation Board, State of Colorado

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   November 21, 2014

   Currently and during the negotiations:  
   First Assistant Attorney General (2006-Present)  
   State of Colorado

21. Ted Kowalski  
   November 26, 2014

   Currently and during the negotiations:  
   Chief Intestate and Federal Section (2004-Present)  
   Colorado Water Conservation Board
Environmental Stakeholders

Environmental Defense Fund

22. Jennifer Pitt  
   November 7, 2014

Currently and during the negotiations:  
   Director (1999-Present)  
   Colorado River Project

The Nature Conservancy

23. Taylor Hawes  
   October 15 and 16, 2014

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   Director (2008-Present)  
   Colorado River Program

Sonoran Institute

24. Peter Culp  
   November 10, 2014

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   December 2, 2013

   During the negotiations:
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2. Ambassador Arturo Sarukhán
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   During the negotiations:
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3. Lic. Víctor Manuel Uribe Aviña
   February 10, 2015

   Currently and during the negotiations:
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4. Dr. Antonio Ortiz-Mena López Negrete
   January 12, 2015

   Currently and during the negotiations:
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International Boundary and Water Commission, Mexican Section

6. Lic. José de Jesús Luévano Grano  
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Currently and during the negotiations: 
Secretary  
International Boundary and Water Commission, Mexican Section

7. Ing. Luis Antonio Rascón Mendoza  
January 20, 2015  
Currently and during the negotiations: 
Principal Engineer  
International Boundary and Water Commission, Mexican Section

8. Ing. Francisco Alberto Bernal Rodríguez  
January 9, 2015  
Currently and during the negotiations: 
Regional Director, Mexicali - Baja California State Office, 
International Boundary and Water Commission, Mexican Section

9. Ing. Adriana Beatriz Reséndez Maldonado  
January 28, 2015  
Currently and during the negotiations: 
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International Boundary and Water Commission, Mexican Section
10. Ing. Mario López Pérez  
December 1, 2014

Currently and during the negotiations:  
General Manager  
Binational Projects, National Water Commission

11. Dr. Oscar Ibáñez  
January 30, 2015

During the negotiations:  
Chief of Staff for the Director General  
National Water Commission

12. Ing. José Dolores Gutiérrez Ramírez  
January 30, 2015

Currently and during the negotiations:  
Deputy General Manager  
Binational Projects, National Water Commission

13. Ing. Efraín Muñoz  
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During the negotiations:  
Director General  
Baja California Water Commission
Environmental Stakeholders

Pronatura

14. Dr. Osvel Hinojosa Huerta
   October 13, 2014

   Currently and during the negotiations:
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   Water and Wetlands Program

15. Dr. Carlos Alfonso De La Parra Rentería
   November 20, 2014

   Currently and during the negotiations:
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   Professor, Colegio de la Frontera Norte, Urban Studies and Environment

16. Gastón Luken Aguilar
    November 18, 2014

   Currently and during the negotiations:
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   Pronatura, Sea of Cortez
   Former CEO General Electric - Mexico
Appendix D: Conversation Topics for Interviews

During March and April 2014, I had the opportunity to attend faculty roundtables held at the Harvard Business School in preparation for the Great Negotiator Award by the Program on Negotiation at Harvard Law School. Led by Professor James K. Sebenius (Gordon Donaldson Professor of Business Administration, Harvard Business School; Director Harvard Negotiation Project) and Alex Green (Research Associate, Harvard Business School), the roundtables were very interesting, with discussions focused on how to best structure a conversation with Singaporean Ambassador, Tommy Koh, and learn from his illustrious negotiating career.

The roundtables were shaped by the insights of several attending negotiation experts. These included Professor Michael Wheeler (MBA Class of 1952 Professor of Management Practice, Harvard Business School), Professor Robert Mnookin (Samuel Williston Professor of Law, Harvard Law School; Chair, Program on Negotiation Executive Committee), and Professor Daniel Shapiro (Assistant Professor in Psychology, Harvard Medical School; Director, Harvard International Negotiation Program), among many other faculty and executive committee members affiliated with the inter-university Program on Negotiation.

With the guidance of Professor Lawrence E. Susskind (Ford Professor of Urban and Environmental Planning, MIT; Vice-Chair, Program on Negotiation), and mentorship on the heels of the dissertation colloquium of Professor Melissa Nobles (Arthur and Ruth Sloan Professor of Political Science and Department Head, Massachusetts Institute of Technology), and Professor Steven Jarding (Lecturer in Public Policy, Shorenstein Center on Media, Politics, and Public Policy, Harvard Kennedy School of Government), the teachings from the roundtables helped to shape the list of conversation topics I used as a template for the discussions with the negotiators responsible for the Colorado River and Gulf of Mexico agreements. Below are examples of the questions that underpinned the conversations with the negotiators.
1. Could you very briefly contextualize the origins of the negotiations, the main issues it faced, and the key challenges?

2. Were you seeking a comprehensive agreement from the get-go, or did you opt for an incremental approach in which each stage builds on the previous one?

3. Resource management stakeholders can vary widely in their priorities and expertise. How important was the sequence in which you approached and focused your efforts on different stakeholders during the negotiations? That is, who first, who next, and why?

4. How about the sequence in which you dealt with issues? Some argue that you “deal with the easy issues first to establish that you can make progress and to build momentum.” Others argue instead that you “deal with the hard issues first so everything else is easy and you don’t end up with a deal-breaker at the very end.” Your experience?

5. During the negotiations, did a group of core stakeholders take the lead? If so, was it helpful? What impact do you think this had on the negotiation process?

6. Did some of your interests evolve over time through your interactions with other stakeholders? Was this a function of acquiring more information, developing trust in one another, responding to new circumstances?

7. At some point, were the negotiations divided into working groups charged with handling different issues? If so, did the parties try to foster linkage across these issues or to keep them separate? Were trades ever made across these working groups?

8. With how many and what kind of scenarios did you work with?

9. How important were prior and concurrent domestic developments to the evolution and results of the transboundary negotiations?

10. What were your alternatives to a negotiated agreement?

11. To what extent and how often did you improvise during the negotiations?

12. Did the stakeholders on the other side of the table, or even on your own side, hold particular preconceptions that you found hard to overcome? If so, how did you turn this around?
13. Apart from the “across-the-table” challenges, significant barriers to reaching a successful agreement tend to involve each side’s “behind-the-table” issues. What did you do to address these challenges on your side? To what extent and how did you try to help the other stakeholders with challenges from their own constituents?

14. How did you or your negotiation team define a policy on what to say to the press? How can the handling of the media help or hurt a negotiation?

15. Briefly describe one of the most challenging moments during the negotiations. How did you and the other stakeholders handle it?

16. How did you deal with the challenge of numbers, balancing the role of involving a broader set of stakeholders with a concern for political sensibility and efficiency? Can the two be reconciled?

17. Was there a nightmare scenario, a coalition that could have derailed a fair agreement? What steps did you take to forestall the formation of a blocking entity? How did you identify potential allies?

18. How important were specific personalities during the negotiations? Were there leadership tactics that you would particularly highlight (or consider instead that needed to be improved upon)?

19. What did you find the most difficult in bringing these negotiations to closure?

20. Did the parties agree on a follow-through mechanism? If so, how did you choose the monitoring references, metrics, and experts?

21. This agreement is unprecedented in its scope and impact for the binational resource management sector. What is most important moving forward?

22. Reflecting back, is there anything that could have been done better that was at least arguably within the limits of political possibility?

23. Are there distinctive characteristics of negotiating between the United States and Mexico that call for a different approach to negotiation than might be the case with other countries? If so, what are they?

24. What would you suggest or highlight as an interesting strategy or decision to explore further in my conversations with your colleagues and counterparts?

25. If you were advising stakeholders on future transboundary negotiations, what specific steps would you urge them to take to maximize the chances of reaching a mutually beneficial outcome?
Bibliography

Negotiation, Mediation, and Dispute Resolution


**Leadership and Judgment**


Collaborative Decision-Making


Political Communication


Transboundary Energy Resources: Gulf of Mexico


Transboundary Water Resources: Colorado River


