

# Transforming the Riparian Border Disputes Between Nicaragua and Costa Rica Through Environmental Peace-building: A Vision for Transboundary Collaboration in Central America



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## **ABSTRACT**

By linking natural resource degradation and conflict, environmental security scholars have begun to raise the political profile of environmental conservation in dispute-prone settings around the world. Linking conservation and conflict resolution, on the other hand, is a less common approach in the field of environmental security. In a world dominated by the nation state paradigm and questions of territoriality, the approach of environmental peace building uses environmental cooperation as a catalyst for political peace building between adversarial nations (Ali 2007, 1). While not without challenges, this conflict resolution strategy has proven effective in various parts of the world. Indeed, the common question that threads these cases together is how ecological and social factors play an instrumental role in the resolution of a territorial conflict between two nations. This undergraduate thesis uses the case study of the shared San Juan River Basin between Nicaragua and Costa Rica to investigate the ways in which cooperation over shared riparian ecosystems might catalyze political cooperation between two adversarial sovereignties. It also considers the possibilities for shared sovereignty over a disputed zone in question. By doing so, this thesis has the power to shed light on other disputes related to sovereignty and transboundary water management.

The dreams of the once-proposed Si-A-Paz International Peace Park between Costa Rica and Nicaragua seem far off in a time where the impacts of two major diplomatic disputes continue to polarize ministerial actors and tear at the fragile transboundary fabric. The goal of this thesis, then, is to put forth a vision for transboundary collaboration in this time of troubled bilateral relations. This thesis does this firstly by analyzing different perspectives on two interrelated dispute situations and then reframing them as catalysts for future cooperation, and secondly by identifying the current environmental and peace-supporting efforts that could strengthen this future cooperation. The end product, then, are a potential transboundary collaborations opportunities that the relevant actors may consider. These proposed opportunities have the power to both answer questions of sovereignty and strengthen the environmental peace-building process for actors at multiple levels of society.

### **Keywords**

Costa Rica, Nicaragua, Transboundary collaboration, Environmental Peace-Building, Border Regions, Environmental Conflict Resolution

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## INTRODUCTION

This undergraduate thesis addresses the following research question: “how can cooperation over a shared riparian ecosystems trigger improved relations between two neighboring sovereignties?” To answer this broad question, I chose the lower San Juan River Basin between Costa Rica and Nicaragua as an example case study. This is an interesting case because despite the numerous ministerial and civil society efforts to cooperatively conserve the San Juan River basin ecosystems, embroiled territorial and development disputes continue to threaten the fragile socioecological fabric of the border region. By applying an environmental peace-building framework to the San Juan River case, and by proposing future scenarios for transboundary collaboration at different levels of society, this project sheds light on how cooperative efforts over a shared river resource can catalyze peaceful relations between two neighboring sovereignties.

The lower portion of the San Juan River Basin stretches from the southeastern corner of Lake Nicaragua to the Caribbean Sea. Figure 1 depicts the San Juan River Basin at large.



Figure 1: the Binational San Juan River Basin (Source: Procuencia 2004)

The lower San Juan River Basin encompasses the part of the border area between the southeastern corner of Lake Nicaragua, the San Juan River, and the tributaries that let out into the lagoons adjacent to the Caribbean Sea. It is composed of a few key ecosystems, including but not limited to tropical continental and coastal wetland, dry tropical forest, tropical secondary forest, and aquatic and riparian ecosystems (MARENA 2005). Many of these ecosystems traverse the international boundary, a challenge

and an opportunity unique to border ecosystems around the world. The San Juan River flows eastward from Lake Nicaragua toward the Caribbean Sea, and heads northeastward once it reaches the San Juan River Delta. It is at this delta where the Colorado River begins and flows southeastward into the internationally protected Northeast Caribbean Wetlands (NCW) of Costa Rica. See Figure 2 for a visual of this split.

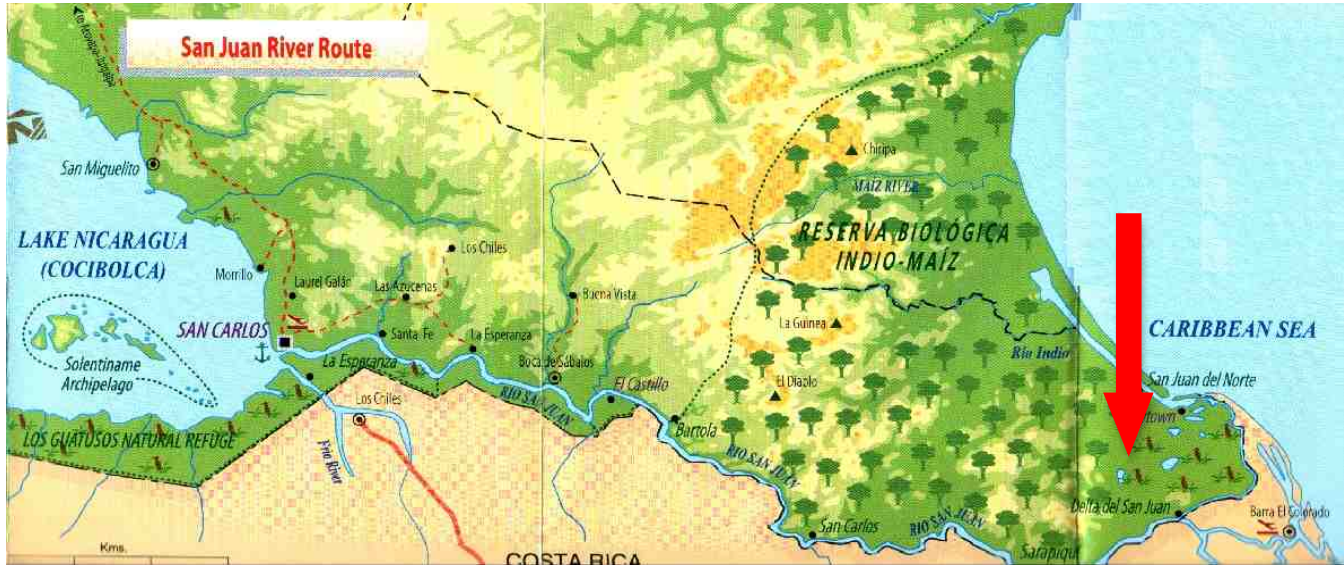


Figure 2: The Lower San Juan River Basin and the San Juan River-Colorado River split at the San Juan Delta (Delta San Juan) (Source: Targina!)

Ecologists, tourists, and interoceanic canal planners alike have long been fascinated by the biological and economic potential that the San Juan River has to offer. The lower basin in particular is known for its rich biological diversity and for the unique cross-border collaboration that has developed amongst actors over the course of the last century.



Figure 3: The San Juan River Marks the Boundary at the Nicaraguan Municipality El Castillo. Instituto Geografía Nacional Art 15-Ley No. 59 de Julio de 1944

This important river is situated entirely within Nicaraguan sovereign territory. Only after a certain point does the right bank act as the international borderline, and this point is the Nicaraguan municipality of El Castillo. See Figure 3 on the previous page for a visual of this unique border delimitation situation. From this point on, the right bank serves as the political boundary between the two sovereignties. The Cañas Jerez Treaty of 1858, which gave full sovereignty over the river to Nicaragua and left the border delineation vague at certain points, was the first effort to demarcate this unique territorial arrangement (Cañas Jerez Treaty 1858).

The territorial dispute between Nicaragua and Costa Rica is a current manifestation of historical tensions over border delimitations that date back to the eighteenth century. Over the course of the last two centuries, the two nations have engaged in four main diplomatic attempts to define a border. These attempts include the original border agreement between Nicaragua and Costa Rica known as the Cañas-Jerez Treaty (1858), the Cleveland Award (1888), and the First and Second Alexander Awards (1897). Nicaragua and Costa Rica first agreed on the San Juan River as a border marker in the Cañas-Jerez Treaty in 1858. Shortly after, however, disagreement between Nicaragua and Costa Rica over said treaty regarding navigational rights and border sovereignty along the river resulted in the intervention of the United States (Central American Court of Justice 1916, 7). This intervention gave birth to the Cleveland Award— an international arbitration attempt to validate the agreements outlined in the 1858 Cañas-Jerez Treaty. Lastly, The Alexander Awards, both forms of international arbitration were instilled in 1897 and were products of engineering work by Civil War army commander and engineer, E.P. Alexander. Alexander’s work sought to use technical means to take into account river flows and floods as factors that would impact the original delineation of the border (United Nations 2007).

The disputed territory currently in question involves a small zone located between the San Juan River and Taura River (a tributary of the San Juan River), and the lagoons adjacent to the Caribbean Sea. The split between the Taura and the San Juan Rivers occurs along San Juan River not long after the Colorado River splits off. Of particular importance to this dispute are factors involving the Nicaraguan military’s attempt to interrupt narco-trafficking activity and the alteration of riparian ecosystems in this zone. Such activity, suspectedly linked to the construction of an interoceanic canal, sparked a slew of renewed concerns regarding sovereignty and border delineation at this area of the border. In reaction to these events in 2010, the Costa Rican government denounced the Nicaraguan government for infringing on its sovereign territorial rights in 2010 (Aguilar-González and Moulaert 2010, 6-7). See Figure 4 for a visual of the dispute zone.

The second issue in question in this dispute case was Nicaragua’s San Juan River dredging program, which has been taking place upstream at the San Juan River Delta. And, while there was no question about sovereignty, there were questions about transboundary environmental impacts. The delta is the point at which the international borderline follows the San Juan River northeastward, leaving Costa Rica small slices of land (known as Isla Calero and Isla Portillo in Costa Rica) north of the southeastward bound Colorado River (See Figure 2). Costa Rica claimed that the dredging program served as an imminent threat to the internationally protected Northeast Caribbean Wetlands. The Organization of American States and the International Court of Justice became involved as key actors that would try to arbitrate the conflict. The conflict heated up when Nicaragua ignored the OAS ruling that favored Costa Rica in the territorial dispute. Soon thereafter, the ICJ became involved. In the application for provisional measures to the International Court of Justice, Costa Rica claimed that Nicaragua was in breach of several international obligations, including the 1958 Cañas-Jerez Treaty, the Cleveland and Alexander Awards, Article VII of the United Nations Charter regarding territorial invasion, and even the Ramsar Convention on International Wetlands (ICJ 2010). It demanded that Nicaragua cease all of its dredging efforts, including those in the dispute zone and in the San Juan River Delta.





Figure 4: The Dispute Zone (Source: Alex Covarrubias and Paniaguas 2011)

The International Court of Justice responded to this application, urging both nations to refrain from sending military troops to the dispute zone (with the exception of Costa Rican ecological assessment specialists) (ICJ 2011). In response, Nicaragua ceased dredging efforts and security intervention actions. The ICJ permitted Nicaragua, however, to continue dredging in the San Juan River Delta, as it claimed that there wasn't enough evidence to suggest any imminent ecological threat (ICJ 2011). This order froze the first territorial issue, and left the second dredging program issue unanswered. Figure 3 depicts the dispute zone.

Just a year after the territorial and dredging dispute, a highway dispute surfaced between Costa Rica and Nicaragua. This rural dirt highway, known as "Ruta 1856", begins at the point where the San Juan River becomes the international boundary, and runs parallel to the river toward the Colorado River. Nicaragua submitted a claim to the International Court of Justice a mere six months after the project was initiated in July of 2011, prompting Costa Rica to conduct an environmental impact assessment and to evaluate the success of the highway project. An environmental assessment carried out by the Costa Rican Environmental Administrative Court and relevant Costa Rican actors held that while the "environmental impacts did not reach the river or Nicaraguan territory", they did impact basin at large (Costa Rican News 2012). The Nicaraguan government, disappointed with the ecological damages wrought on the San Juan River by the highway construction, submitted an official claim to the Central American Court of Justice. The regional body requested that the Costa Rican Ministry of Transportation and Public Works that it cease its construction efforts. Costa Rica, however, ignored the request Costa Rica (Tico Times 2012). The project has also been a source of public fury among the Costa Rican population, primarily for reasons relating to financial mismanagement of the project. To this end, a corruption scandal involving funds mismanagement amongst the members of the Costa Rican Ministry of Transportation and Public Works and the construction company eventually surfaced. As a result, Costa Rican president Laura Chinchilla asked the Minister of Transportation and Public Works to resign (Tico Times 2012).

These seemingly separate situations encompass three interrelated issues: the territorial issue, the Nicaraguan dredging program, and the Costa Rican highway project. Recall that the ICJ put the territorial issue to rest temporarily by defining a no-entrance dispute zone. The dredging program, however, was left up in the air. The highway case has also remained unresolved. On April 23, 2013, however, the two latter issues came full

circle when the ICJ joined the two cases for purposes of “judicial economy” (ICJ 2013). This decision sets up these issues—both relating to transboundary impacts along the San Juan River and Colorado River ecosystems—in a way that merits a juxtaposition analysis.

These disputes, having reached the International Court of Justice for consideration, seemingly receive more international attention than the attempts of Nicaraguan and Costa Rican civil society groups and ministries to collaborate over the conservation and development of lower San Juan River and Colorado River ecosystems. This thesis ultimately frames these disputes as opportunities for the neighboring sovereignties to re-contextualize historical efforts to cooperate over their shared socioecological situation. Indeed, the integrity of the lower San Juan River Basin and border communities depend upon this form of cooperation. To achieve this framework, the project is broken down into four sub-objectives: (1) to understand the fragile ecological and social reality of the shared San Juan River region, and to discuss the different factors that threaten the biocultural diversity of this unique region; (2) to discuss different civil society perspectives on the two current major diplomatic disputes in the San Juan River Basin, and to investigate the historical root causes of these disputes; (3) to investigate the impacts that these diplomatic disputes are having on the fragile socioecological fabric of the border region; (4) and to assess both the unilateral and transboundary cooperative efforts over the lower San Juan River Basin among ministerial and civil society actors, and put forth recommendations for continued and improved collaboration.

## LITERATURE REVIEW

This literature review provides a scholarly foundation for the undergraduate thesis at hand. This thesis will investigate the potential for environmental peace building in the Isla Calero border conflict along the Nicaragua and Costa Rica border. The review is organized thematically into the following sections: border studies, transboundary conservation, environmental security and environmental peace building, international peace parks and collaboration, and international waterways. The sections were carefully chosen to provide an introduction into the deeper analysis that will take place over the course of the thesis research.

### **Border Studies**

There appears to be three central bodies of argument that border study researchers base their claims upon. The first is upon the social versus natural construction of borders; the second is upon the growing versus weakening significance of borders in an increasingly globalized world; and the third is upon the tendency of conflict versus cooperation in border zones. All three argument bodies are pertinent to the thesis research at hand, not only because the geographic location of the dispute, but because they may provide perspective onto how the unequal relationship between ecological and political boundaries may or may not have contributed to the development of the conflict. Conversely, the arguments may provide inspiration for the unequal relationship between ecological and political boundaries as a factor that may motivate cooperation between the two nations that have experienced tense relations.

The first argument body pertains to the social versus natural construction of borders. Simply put, the path of social construction highlights the intentional human delineation of boundaries as a result of historical differences in state sovereignty, culture, populations, religions, etc. Conversely, the path of natural construction would highlight the use of physical features in a landscape as a factor that dictates the delineation of a border (Diener and Hagan 2010). However, from a contemporary political geography point of view, this dichotomy between social and natural constructions of borders is of no help when trying to better understand the unique political, social, and environmental circumstances of borderlands. In fact, many geography researchers agree that

boundaries are a product of human subjugation, contrivance, and negotiation (3). So, even if a political boundary falls along an ecological boundary, it is still the result of purposeful human delineation, leading these scholars to believe that there is no such thing as “natural” or “physically determined boundaries” (Diener and Hagan 2010). Whether or not alignment with physical forms is or has been a more potent factor than anthropogenic determinants in international border delineation processes has been under scholarly scrutiny throughout history (7). The notion that a border can be either delimited as a function of alignment with physical boundaries or as a strategic separation between two nation states with stark, or not so stark, differences in their societies, cultures, politics, and religions, can be traced back to the 1500s (Diener and Hagan 2010).

While a discussion around the European origin of the nation state as a powerful political unit goes beyond the scope of this paper, recognizing the rise of the nation state as a trend that would promote international border delineation and consequently considerations of natural versus social delineation is significant for the purpose of this particular section. Evidence of contradiction and connection runs rampant throughout literature on the history of border delineation considerations. Interestingly enough, there was a time where consensus over alignment with natural forms as the best way to delineate borders triumphed all considerations. Diener and Hagan tell a story of favorability of this particular consideration in sixteenth century Europe, and indicate that alignment with physical features would provide a way to prevent future conflict between the two nation states at hand (Diener and Hagan 7). Alas, Norman G. Pounds highlights the contradiction in this story by pointing to the identification “natural frontiers” as appropriate, peaceful determinants for borders as political tool for expansion during a time where nation states like France and Germany were still wrestling with formation of their respective political borders (Norman G. Pounds 1951 no. 2): “It has not been uncommon for states that just cast envious eyes on the lands of their neighbors to appeal to a higher law in justification of their claims. The idea of “natural frontiers” has at some time or in some way been employed politically by many nation-states and forms an interesting complement to the no less significant idea of “living space” (Normal G. Pounds 147).

During the same time period, the discourse of “natural” expanded beyond that of the alignment with physical features. In this regard, borders would follow “natural forms” if and only if the nationalist sentiments and political aspirations prescribed them to (Diener and Hagan 7). Such evidence is motivation for geographers to rely less and less on the notion of natural borders as determinants of political borders. Consensus continued to form throughout into the twentieth centuries with geographers such as Richard Harthorne and into the twenty-first century with R.D Dikshit, author of Political Geography: The Spatiality of Politics. Indeed, Dikshit is one of the mentioned majority of geographers who discount the notion of natural borders. He quotes “Physiographic boundaries are those that were drawn to follow to follow some conspicuous feature of the physical landscape. Since these boundaries to follow some natural feature of the physical landscape, they are sometimes wrongly referred to as natural boundaries, as contrasted to the boundaries drawn to follow certain geometrical lines or the division of language or religion,” (R.D. Dikshit 2006, 73).

William Zartman, Jacob Blaustein Professor Emeritus of International Organizations and Conflict Resolution at The John Hopkins University concurs with this strictly artificial, coincidental-nature vision of borders. Zartman claims that a border is a “man-made, political line running through a region”, and that natural features may or may not reinforce this creation of political devise. The latter evokes images of either a “penetrable and uncontrolled” or heavily securitized region where central state powers who exercise their sovereign power to protect the territory past the border zone meet (Zartman 2010, 4-5).

Also pertinent to this discussion is the idea that international bodies, treaties, or even force may play a role in the border delineating process. And, if these factors do play a role, then what considerations are of a heavier weight in decision-making: natural or social? Social considerations may include historical rights, easement of ethical tensions, and the delineating of cultural and economic differences. In their volume States, Nations, and Borders: the Ethics of Making Boundaries, Allen Buchanan and Margaret Moore highlight a certain coercive character of political boundaries. In this text, they mention how “political boundaries are essentially coercive:

their rules are made and enforced within a geographical domain...” (Buchanan and Moore 2003, 2) The passage continues on to compare political boundaries to boundaries constructed by ethical or religious tradition. Whereas the latter type of boundaries are less relevant to the discussion at hand, the difference brings to light how the legal and perhaps coercive characteristic of political boundaries may position itself favorably or unfavorably within the context of two different, juxtaposed populations. Buchanan and Moore’s ideas represent the body of literature that highlights the ethical considerations of boundary delineation.

To sum up the discussion of the social construction of borders, let three main points be highlighted: there is no doubt that many political boundaries are placed along natural boundaries, however, the alignment is not just a coincidence. While it is thought that doing so may prevent conflict, researchers theorize that this alignment has often been strategic and that the ultimate choice is dictated by social, political, ideological considerations (Diener and Hagan 2010, Norman 1951, Dikshit 2006). As such, the dichotomy between natural and artificial boundaries is irrelevant (Diener and Hagan 2010 7).

This debate is pertinent to the case study under investigation because it provides a line of logic for the researcher. *Is it useful to consider the political boundary between the two nations as natural or artificial? Has the potential alignment with political boundary and “natural” features been useful in conflict prevention? Does the static, dynamic nature of a river and riparian zone undermine the notion that a political boundary along this ecological feature would prevent conflict in the first place? What shaped the decision of border delineation in this particular region and what relation is there between the border and the two populations in this modern-day setting? How can ecological and ethical considerations be simultaneously considered in a more soft-approach versus hard law?*

A second debate on the construction of political borders is that on the growing or weakening significance of political borders. On one side, scholars believe that the trends of increased globalization and economic interdependence between states have led to a decreased significance of political borders between states. Diener and Hagan (2010) list a number of scholars that are partial to this image of a borderless world: Kenichi Omae, Richard O’Brien, and Jean-Marie Guéhenno to name a few. These scholars rely on the new globalized economy model as a factor that has led to concept of the nation-state as all but a miniscule actor in the world today. Omae denies the increasing importance of state players and argues instead “what we are witnessing is the cumulative effect of fundamental changes in the currents of economic activity around the globe. So powerful have these currents become that they have carved out entirely new channels for themselves—channels that owe nothing to the lines of demarcation on traditional political maps. Simply put, nation states have already lost their role as meaningful units of participation in the global economy of today’s borderless world,” (Omae 1995, 11).

In his book *The End of the Nation-State* (1995), Guéhenno also considers the declining importance of the state as a function of growing citizen networks and multinational cooperation’s. At the heart of this argument is at the disconnect between traditional political borders of power and the modern economic and democratic borders of power. Diener and Hagan also cluster Peter Taylor and Anssi Paasi as scholars who fend for the reconfiguration of borders by globalizing processes, versus the total elimination of borders. There also exists a scholarly position between the two proposed extremes. In other words, it is not to say that borders and the supposed central states that exercise their sovereign power to control these borders have experienced diminishing or increasing control in a the modern era, but rather that other actors have become increasingly important in the determination of borders and that power may be exercised in a reconfigured manner. Kahler fends the notion of political borders while recognizing the key influence of globalization while admitting that “the persistence of territoriality and the conflict that it inspires run counter to one popular view of the consequences of growing globalization: capital, goods, and populations display increased mobility, and their detachment from territory should reduce the importance of conventional territorial boundaries”. Kahler continues onto to explain that while “globalization has produced changes in territoriality and the function of borders, but it has eliminated neither,” (Miles Kahler 2006, 1). This passage continues on to deny the ideas of a “borderless

world". This claim links Kahler and Walters with scholars such as Diener and Hagan, Buchanan and Moore, and Zartman (15). These scholars compile evidence that borders do matter in an increasingly globalized world. They believe that if the importance of borders is downplayed, then border conflicts around the world will not get the attention that they deserve.

How may the argument of a borderless, globalized world feed back into the very argument *for* an increased significance of borders? Globalization has also allowed for a trend of accountability, in which case factors in border delineation and border dispute arbitration that could never intervened before increased global interdependence and the rise of regional and international bodies came on the scene. Actors whose jurisdictions follow borders greater than the political borders of individual states may intervene in conflict as a result of greater pressure and accountability through globalization. Also, by committing to the membership of certain supranational or international organizations, states begin to become an influence on the reconfiguration of their very own political borders or they may even contribute to the development of new border animosity (Diener and Hagan 2010: 10, Moisiu 2007, 99). Diener also notes a number of different scholars who have researched the impact of supranational organizations on the existing scale of borders, such as David Kaplan and John Hakli, Olive Kessler and Jan Helmig, and Merje Kuus.

Important aspects of third and last debate on the tendency of conflict versus cooperation and conflict in border zones are weaved within other debates of this subsection on border studies. This debate remains highly contentious and polarized, and it seems that if scholars compile a decent amount of relevant case studies, that they can effectively make a case for both sides of the debate. Martin Ira Glassner and Chuck Fehrer reveal an interesting statistic that provides "middle-of-the-road" evidence for border contention versus cooperation. Even today, more than a hundred active border disputes (not counting disputed islands) exist among 194 independent states worldwide. This means that of the roughly 301 contiguous land borders, some 33 percent are sites of contestation (Glassner and Fahrer 2004, 84 and Diener and Hagan 2010, 3) Diener and Hagan also point out the significance of odd border shape as an indicator historic struggle between two nation-states. For these scholars, the odder the shape, greater will be the source of conflict between the nation-states at hand (Diener and Hagan 2010, 3).

The term "transition" also appeared as a theme throughout the review of border literature. A useful image for this term is the multidimensional meeting point where two or more cultures, ethnicities, societies, powers, and nation-states, are in the process of determining a territorial degree of separation or even perhaps unification. These relationships of power are fluid and change over time. Often times, identities play a role in the determination of borders, and as such the delineation of borders as a function of identity patterns can be a recipe for integration or exclusion (Diener and Hagan 2010, 194-195). Contradiction runs rampant throughout this debate, and in such case it is safest to conclude that borderlands are sites for both conflict and cooperation.

It is useful to look at both the stage during which a border conflict develops and the factors that may contribute to the conflict. Did the conflict arise as a result of political border delineation or does it lie within deep, historical ethnic tensions? In the case of the former it would be useful to consider aspects of the first debate presented with the considerations surrounding border delineation. As mentioned, the use of natural borders as reinforcement mechanisms entered into the minds of geographers in the sixteenth centuries. This discounts the role of ecological boundaries as appropriate markers for political borders. Norman identifies natural borders as justification for annexation, which no doubt has had historical implications. However, do regions with aligned ecological and political borders experience less conflict? This is an area of further research. If the border conflict is embedded in deep ethnic tensions, then perhaps it would be useful to draw from insights within Zartman's work on border communities and interpersonal exchanges within border zones to consider the opportunity for cooperation.

Borders are also dynamic zones, filled with rich opportunities for exchange. William Zartman compiles a number of case studies in his book Understanding Life in the Borderlands: Boundaries in Depth and in Motion (2010) that shed light on the fluid, multidimensional dynamic of populations within border zones. This knowledge pertains to a more local scale of border conflicts, but is significant nonetheless in that it highlights the potential for human exchange. Indeed, this debate is filled with evidence that supports both tendencies of conflict versus cooperation in border zones. As Zartman says, “Borders divide and unite, bind the interior and link with the exterior, as barriers and junctions, walls and doors, organs of defense and attack. Frontier areas (borderlands) can be managed as to maximize either of such functions. They can be militarized, as bulwarks against neighbors, or made into areas of peaceful exchange,” (Strassoldo 1989, 393).

As this subsection illustrates, the field of border studies and the scholarly positions within it is filled with contradictions. Some of these contradictions include the significance of borders in an increasingly globalized world and the tendency of conflict versus cooperation in border zones. Most geographic researchers now a days triumph over a consensus around the social construction of borders. And, in need of further research is the potential for conflict easement in different contexts.

### **Transboundary Conservation**

Both Charles Chester and Juliet Fall, in their own respective ways, help us understand how contemporary theory on territoriality and political borders applies to the construction of transboundary-protected areas. Both recognize the complexity of borders. In fact, there are several passages that compose a rather harmonious scholarly interplay between the two authors. For example: “So, in one sense, these international borders are little more than unerringly straight one-dimensional lines that define two-dimensional areas on a map. Yet, on the ground, borders often create severe cultural, political, and biological effects—even where a border reflects something of the land’s true character,” (Chester 2006, 2). Fall goes on to explain that “the critical tradition that considers boundaries as more than simple lines traced along some pre-determined patten is the starting point. The action of “drawing a line” is seen as complex process intimately related to issues of power, identity, and control. Boundaries need addressing critically in all their complexity if the spatial and social processes taking place within protected areas are to be understood. The problematic placing of boundaries, both symbolic and concrete, plays a part in governing the shifting understanding what is Self (inside) and Other (outside) as it reflects on ‘society’ and ‘nature’ being territorialized as distinct ontological domains” (Fall 2005, 4).

As discussed earlier, there are a number of diplomatic and non-diplomatic ways through which borders are constructed. As Chester and Fall and the previously mentioned scholars, point out, the social construction behind political borders is complex, and often have nonsensical relationships with ecological boundaries. And, connected to this relationship is the hotly debated question of whether or not these political borders are actually significant anymore. After all, recent phenomena like globalization and contemporary conservation goals have “known no borders”. Most relative to the realm of transboundary conservation is the question if borders can be “overcome or not” so that conservation goals can be met (Fall 2005, 4). Well, borders are to be “overcome” it must imply that they matter in the first place. Whether or not the delineation of border makes ecological sense or not, borders separate “territories of chance” as Chester calls them, and as such, transboundary conservation plays a role in working to overcome the “political scars of history” that created political boundaries in the first place (Chester 2006, 2 and Goodwin 2001).

### **Environmental Security and Environmental Peace Building**

The line of logic behind environmental peace building began to develop and gain popularity as more and more critics began to undermine the research being done on the linkages between resource scarcity, ecological degradation, and conflict (Ali 2007, 3). These pro-linkage arguments were and continue to highlight the role of environmental factors in conflict development and embroilment, and as such have attempted to push

conservation as a priority on the human security agenda. Linkage research is also supported by post- Cold War discourse on environmental security, and as such makes this body of literature credible. However, the pitfall of these arguments lies in their inability as approaches to address conflicts that, as critics point out, are rooted in non-environmental factors such as ethnic, political, financial and demographic tensions (Ali 2007, 3). As such, the concept of environmental peace building flips the coin around completely, and asks how environmental factors can be useful in catalyzing cooperation between two parties engaged in a conflict that may or may not be rooted in environmental factors to begin with (Ali 2007, 3).

What *is* environmental security? Three key characteristics, as defined by Richard A. Matthew, co-editor of Contested Grounds: Security and Conflict in the New Environmental Politics (1999), have endured decades of debate on the topic. These characteristics include the sustainable exploitation of environmental goods, the equitable and just access to these goods across the globe, and the capacity of institutions to address conflicts rooted in environmental scarcity (Matthew 1999, 13). Matthew outlines the debate on environmental security and highlights two categories of “clustered questions” that academic and policy approaches have strived to answer since the rise of political concern regarding environmental security. The first category of questions that seek to answer the definition of environmental security and the implication of deteriorating environmental quality on violence and conflict, and the second category of questions seeks to address the connection between the military and environmental degradation and the role of peace and justice in the environmental security discourse (Matthew 1999, 9). There are more research questions within each cluster, but for the purpose of this literature review, I will keep a limited scope.

Notable scholars whose work stem from these questions and seek to advance the inclusion of environmental threats in the contemporary definition of security include Jessica Matthews (*Redefining Security 1989*), Homer-Dixon (*Environment, Scarcity, and Violence, 1999*), Michael Klare (*Resource Wars: the New Landscape of Global Conflict 2002*), and Robert Kaplan (“*The Coming Anarchy*” 1994). Identifying the work of these scholars is important because they helped build the cognitive foundation for connections between environmental threats and human welfare, and the basis of resource distribution as a factor in the development of violent conflicts. In his book Peace Parks, Saleem Ali highlights the role of these causalities as ways to accentuate the importance of conservation in high areas of politics such as security (Ali 2007, 3). The environmental causality of conflicts is in many ways a blanket approach that strives to garnish attention for conservation as the “end all be all” for conflict resolution.

In Environmental Peacemaking (2002), the first anthology on environmental-peacemaking (Ali 2007, 3), Ken Conca uses a historical analysis of research on the environment, violence, and insecurity literature to highlight the wide range of stances on the usefulness of environmental security as an approach to address conflict resolution (Conca 2002, 5). Among the stakeholders and projects that support the pro-linkage end of environment-conflict spectrum include studies from the Environmental and Conflict Project of the Swiss Federal Institute of Technology and Swiss Peace Foundation—that indicate a linkage between environmental degradation and conflict catalysis versus direct conflict causation (Conca 2002, 4); the work of the Swiss Peace Foundation in the Horn of Africa and along Nile River basin (Conca 2002, 7); the work of Wenche Hauge and Tanja Ellingsen on the positive effect of the environment on conflict; studies undergone by the University of Toronto; and work of the U.S. Government’s State Failure Task Force (7). Conca’s analysis also reaches to the other end of the linkage spectrum. By doing so, he draws similar conclusions to that of Matthew by covering all ends of the environmental security debate. There are a number of scholars who, at the time of Homer Dixon, Klare, Kaplan, Wenche Hauge and Tanja Ellingsen, that were simultaneously working to sharpen the definition and challenge the validity of the linkage between resource scarcity, degradation and violent conflict within an environmental security context. Scholars at this end of the spectrum include Matthew’s own co-editor Daniel Deudney, Mark A. Levy, Ashok Swain, Geoffrey and Daniel Dabelko, and Conca himself. The scholarly interplay on definitions and implications of linkages has led to the development of an increasingly credible

framework surrounding cooperation catalysis over conflict catalysis as a result of environmental scarcity (Dabelko and Conca 2002).

Such interplay of discourse has allowed the scope of environmental security to broaden, and thus give credibility to those scholars working to bridge the gap between conflict resolution and environmental conservation. Below is a quote taken from the work of Matthew that demonstrates a broadened definition of national environmental security. Take into account that the first five points are linked to the contentious environmental security debate, and that the last is linked to the broadening scope of national environmental security. Matthews explains National Environmental Security as a “focus on (a) greening military training, testing, and fighting activities, (b) using military and intelligence assets to support environmental policy (c) tracking environmental problems that might trigger, generate, or amplify violent conflict, (d) developing anticipatory policies for dealing with environmentally stressed areas, and (e) integrating environmental concerns into conflict resolution processes.” (Matthews 1999, 14).

A further focus on critiques of environmental security discourse and environment—conflict causalities is not meant to provide bias, but rather to understand how the logic behind environmental peace building could begin to take hold in the first place. And to do so, we can focus in on the significant work Conca and Dabelko’s in Environmental Peacebuilding (2002).

Conca inspires scholars to think about the methodological errors of the linkage research that in many ways undermines the theories. He explains one key limitation on research in this field, and that is the sum of poorly developed quantitative studies: “In principle, quantitative studies offer a useful way to test the merits of the common criticisms of environment-conflict research, because they make it possible to test very large numbers of cases and to control for other possible causes of conflict. In practice, the quantitative approach is plagued by problems of data quality, and causal inference. Studies tend to be based on fragmentary and incomplete environmental data that may not be comparable across different societies,” (Conca 2002, 7). Lastly, Conca identifies the polarized, exclusive, and zero-sum nature of environment-conflict causalities as a deep, and serious, pitfall of the environmental security debate (Conca 2002, 3). From this perspective, linking conflict causation to the environment leads not to an effective exit strategy for peace detailed with mechanisms and pathways for future cooperation catalysis, but rather to a “counterproductive, zero-sum logic of national security” (Conca 2002, 4). In other words, *identifying environmental depletion and resource scarcity as the sole cause of conflicts does not effectively prioritize conservation in the security agenda and its exclusivity in causality does not promote in any way a long-term resolution of conflicts* (Conca and Dabelko 2002 and Ali 2007).

Identifying such gaps in the linkage research has allowed researchers, such as Conca and Dabelko under the auspices of the Environmental Change and Security Project at the Woodrow Wilson Center to reframe the question of environmental security (Conca 2002, 3 and Ali 2007, 3). Environmental peace building theory asserts that not all conflicts begin with environmental degradation; conflicts often begin with ethnic, political, and religious differences. Under this premise, environmental cooperation is used as a step by which two adversarial parties may begin to heal those aforementioned differences. Saleem Ali echoes this framework in his edited book, Peace Parks (2007). In essence, environmental peace building theory takes the assertion that environmental degradation and scarcity lead to conflict and reframes it in a way that is constructive to conflict resolution: environmental cooperation leads to peace. This approach promotes adversarial parties to both acknowledge resource depletion, and in turn a “positive aversion to such depletion leads to cooperation” (Ali 2007, 3 and Conca and Dabelko 2002).

Conca and Dabelko (2002) consolidate evidence on environmental issues as a way to unite nations involved in political, ethnic, and religious inspired powerful international organizations such as that of the United Nations Environmental Program and International Union for the Conservation of Nature to take action



(Ali 2007, 3). The United Nations Environment Program (UNEP) publishes environmental assessments with the intention of “strengthen[ing] environmental management capacity in countries affected by conflicts and disasters,” (UNEP 2009). To be able to look beyond the narrow linkage of environment and conflict causalities, the UNEP has collaborated with a number of think tanks, including the Woodrow Wilson International Center for Scholars and the International Institute for Sustainable Development. In 2003, a fruitful collaboration between UNEP’s Division of Early Warning and Assessment and the Environment and Security Project at the Woodrow Wilson International Center resulted in a publication by the name of “Understanding Environment, Conflict, and Cooperation”. As recognized in the introduction of this piece, such a publication was necessitated by the poor understanding between the linkages of environment and conflict and the resultant ineffective policy responses (UNEP 2003, 1). Five years later, collaboration with the Environment and Security Programme of the International Institute for Sustainable Development (IISD) resulted in the formation the Expert Advisory Group on Environment, Conflict, and Peacebuilding (UNEP 2009).

Such collaboration and progress provides evidence for an understanding of and support for this notion of environmental peace building. According to the group’s “flagship” 2009 publication “From Conflict to Peacebuilding: the Role of Natural Resources and the Environment” the group is composed of “think tanks, non-governmental organizations, and senior experts from academic institutions”, that work to “provide independent expertise, develop tools and policy inputs, and identify best practices in using natural resources and the environment in ways that contribute to peace building (UNEP 2009). In fact, Ken Conca and Geoffrey Dabelko are part of this advisory group. But while the establishment of this group has only enhanced the UNEP’s ability to give effective assessments to UN commissions with teeth such as that of the UN Peacebuilding Commission, it has not been as active as the participants would like it to be. The publication mentioned above expounds upon the ways in which natural resources and environmental factors can trigger, sustain, and finance conflicts. It furthermore, recognizes the historical overlooking of natural resources in peace building, and as such desperate need for integration of natural resources considerations in the post-conflict peace building process (UNEP 2009, 23). There are three main ways in which to integrate natural resource and environmental factors into the peace building process: supporting economic recovery, developing sustainable livelihoods, and contributing to dialogue, confidence building, and cooperation. While each consideration is integral in moving forward this notion of environmental peace building, the latter opportunity is most pertinent the scope of this literature review and for the debate outlined above. One UNEP publication further describes the process as “the notion that cooperative efforts to plan and manage shared natural resources can promote communication and interaction between adversaries or potential adversaries, thereby transforming insecurities and establishing mutually recognized rights and expectations,” (UNEP 2009, 24).

The UNEP’s Expert Advisory Group’s more recent work is a cumulative effect of almost a decade worth of literature on the environmental basis for cooperation catalysis. Important scholarly works include that of “Environmental Planning and Cooperative Behavior: Catalyzing Sustainable Consensus” by Saleem Ali and (Ali 2003) and “Environment and Security” also by Ali and Sanjeev Khagram (2006). The former “looks at environmental issues as integral components of a multiple-causality conflict and thereby explores opportunities for using them as a means for fostering and sustaining cooperation” (Ali 2003, 166). Applying game theory and lessons learned from “tragedy of the commons” are useful tools in moving this particular argument along. In his scholarly piece, “Peace Games: Theorizing about Transboundary Conservation”, Raul Lejano explores benefits and limits of game theory as applied to peace parks and cooperation catalysis in an effort to transform disputes over territories into opportunities for peace (Lejano 2007, 41).

The piece by Ali and Khagram (2007) is a collaborative piece that condenses prior scholarly work to outline the conditions of environmental peace building, among other things. Among one of the observations related to environmental peace building is the necessity for confidence building, as discussed previously in the publication of the UNEP’s Expert Advisory group. Ali and Khagram cite Axelrod (1997) and Oye (1984) in an effort to list the conditions that would ensure long-term cooperation in the integration of environmental factors in

peace building initiatives. These terms include “development of a joint information base on common environmental threat, recognition that cooperation is essential to alleviate that threat, a cognitive connection and trust building from initial environmental cooperation, continued interaction over time because of environmental necessity, clarification of misunderstandings and de-escalation of connected conflicts; and increased cooperation and resultant peace building” (Ali and Khagram, Axelrod 1997 and Oye 1984). These conditions are pertinent to our understanding of how environmental factors could realistically and rationally bring together two adversary parties.

### **International Peace Parks and Transboundary Collaboration**

Understanding the scale at which environmental peace building can be applied is extremely pertinent. As mentioned previously, confidence building can be accomplished at local, regional, national, transnational, and international levels (UNEP 2009, 24). Much of the literature on environmental peace building focuses on how this form of cooperation catalysis can be useful in border regions and in the case of territorial disputes. This claim is clear in several sources, including the UNEP’s 2003 and 2009 publications, Ali and Khagram’s 2006 scholarly work, Ali’s 2007 publication of Peace Parks: Conservation and Conflict Resolution, and Ali’s 2011 United Nations University Institute of Advanced Studies “Policy Report on Transboundary Conservation and Peace-building: Lessons from forest biodiversity conservation projects”. Academic circles have clung strong to the successful cases of transboundary conservation and “peace parks” to support the notion of environmental peace-building, and vice versa—promotion for transboundary conservation zones is also supported by empirical evidence on environmental peace-building (Ali 2007, 6). In other words, peace parks and transboundary conservation zones are real-world manifestations of the potential for environmental-peace building. The linkage between the notion of environmental peace building and transboundary conservation zones is obvious in the following pass from Ali’s book: “Our focus is on the formation of conservation zones in which the sharing of physical space can build and sustain peace. Such zones can play an instrumental role in peacemaking or sustaining amity between communities are termed “peace parks”, (Ali 2007, 1). The book compiles various case studies from different regions such as South Africa, Western Africa, Liberia, U.S. and Mexico, U.S. and Canada, Japan and Russia, Pakistan and India, and North and South Korea. Ken Conca and Geoffrey Dabelko compiled scholarly case studies for a few of the same regions five years prior to the publication of Peace Parks: Conservation and Conflict Resolution (Conca and Dabelko 2002). And, like the notion of environmental peace building itself, transboundary conservation zones (or also referred to as transboundary protected areas) also begin to gain accolade on an international scale as early as 1997 when the International Union of Conservation for Nature’s World Commission on Protected dedicated an entire committee to the realm of transboundary conservation. This committee’s original name was the *Transboundary Protected Area Task Force*, and in 2009, it was transformed into the Transboundary Conservation Specialist Group (TCSG) (IUCN 2011). In his book, Dr. Ali indicates that it was first in 2001 that the committee broadened its commitment to include the possibility to peace and cooperation and cites Sandwith, et al as important International Union for the Conservation of Nature stakeholders in moving forward that process (Ali 2007, 7 and Sandwith 2001)<sup>1</sup>. The web page for the TCSPG states the mission as following: “to promote and encourage transboundary conservation for the conservation of nature with associated ecosystem services and cultural values while promoting peace and co-operation through enhancing knowledge and capacity for effective planning and management of transboundary conservation areas,” (IUCN Transboundary website). The year 1997 was also a powerful year in that it marked the creation Dr. Anton Rupert’s Peace Parks Foundation in South Africa (Ali 2007, 7). This foundation, with its

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<sup>1</sup> Ali cites Sandwith, T., C. Shine, L. Hamilton, and D. Sheppard, 2001. *Transboundary Protected Areas for Peace and Cooperation*. Gland, Switzerland: IUCN. And Sandwith, T., C. Shine, L. Hamilton, and D. Shepard, eds. 2001. *Transboundary Protected Areas*. World Commission on Protected Areas (WCPA) Best Practice Protected Area Guidelines Series 7. Gland, Switzerland: IUCN- the World Conservation Union.

focus on regional cooperation played an essential role in giving the developing connection between transboundary conservation and peace building momentum (Ali 2007, 7).

The recent United Nations University Institute of Advanced Studies Policy Report “Transboundary Conservation and Peace-building” (Ali 2011) written by Dr. Saleem Ali draws lessons from six different transboundary forest conservation projects (Borneo-Malaysia and Indonesia, Thailand, Cambodia, and Laos, Kabo-Ndoki Region-Congo, Cameroon and Gabon; and Ecuador and Peru, and Peru and Bolivia) and develops a list of four necessities that will promote a sustainable cooperation between two countries (Ali 2011, 5). Listing these necessities furthers the understanding on the relationship between transboundary conservation and cooperation. They include the need to “demarcate the region for conservation value; resolve micro-conflicts before instituting conservation plan; make livelihood prospects as they relate to migration part of the negotiations; negotiate access and communication during earliest phase of agreement; and seek mediation and diplomatic leverage from “guarantor” countries and Non-governmental organizations,” (Ali 2011, 5).

### **International Waterways**

In recent decades, water as a source of conflict or cooperation has been the center of scholarly and policy debate. The spectrum ranges from violent interstate conflicts generated by water scarcity, allocation, pollution issues to water dispute resolution and collaboration driven by interstate cooperation over water. As Wolf and Hamner indicate in their scholarly piece “Trends in Transboundary Water Disputes and Dispute Resolution” water disputes take hold at a variety of scales, including the tribal, local, regional, national, transnational, and international. Scale is important because more often than not, the level of jurisdiction generally tends to dictate whether or not the water resource will stimulate cooperation or conflict (Wolf and Hamner 2000, 147). The argument of “water wars”, supported by scholars such as Gleich, Remans, Samson and Charrier, Butts, and Homer Dixon that elude to a fearful future of violent conflict generated by freshwater scarcity (Wolf and Hamner 2000, 124-5). Such a list indicates a strong academic backing for the case, and with the embracing of popular media to the argument, this end of the spectrum is powerful in the policy arena (Wolf and Hamner 2000).

At the other end of the spectrum, are a number of scholars, including, but not limited to Wolf, Hamner, Shlomi Dinar, Dokken, Stein, Burton, and Keohane that either draw evidence from (Wolf and Hamner 2000 and Dinar 2010) or conduct empirical studies that support the basis for cooperation over water. Powerful comparisons such as that outlined both in Wolf and Hamner’s piece and Dinar’s piece like that while only “seven minor skirmishes have been waged over international waters...3,600 treaties have been signed over different aspects of international waters—145 in this century alone,” (Wolf and Hamner 2000, 147 and Dinar 2010, 165). Both Dinar and Wolf and Hamner agree that while very few violent conflicts are incited by water, political disputes over international water bodies are in fact prevalent in this day in age (Wolf and Hamner 2000, Lowi 147, Dinar 2010, 165). However, international water regimes have played a significant role in de-escalating these conflicts. Treaties, for examples, have elegantly withstood conflicts and have provided conduits through which two adversary parties can come together (Wolf and Hamner 2000, Lowi 124, Dinar 2010 165; Ali 2008).

Dinar recognizes geography, and in particular international rivers as a contemporary source of political dispute. He claims that “...The imposition of political boundaries on rivers creates different geographic relationships between basin countries, which often provide different incentives for cooperation,” (Dinar 2010, 172). Studies published as early as 1977 by David LeMarquand on the positioning of nation-states along rivers displays a long-standing dedication to the understanding in which ways that common goods can incite cooperation. For example, “successive” rivers (i.e. rivers where there is a clear upstream and downstream riparian) and “contiguous” ones (i.e. rivers where the river forms some part of the border between the two states)

produce different incentives or disincentives for cooperation. When the river is contiguous, there is a significant incentive for cooperation. The incentive to attain such cooperation is to avoid the “tragedy of the commons” (LeMarquand 1977, 9). LeMarquand and Dinar explain the other situation when there is little to no cooperation incentive when “the upstream country uses the rivers water to the detriment of the downstream country,” (Dinar 2010, 72, LeMarquand 1977, 9).

Partha D Gupta, Karl Goran Maler, and Alessandro Vercelli (1997) were also important scholars that helped bring the geographical asymmetry of transnational resources such as rivers to the forefront of conflict and cooperation studies. Durth, Dolksak, and Olstrom are other scholars to whom have played significant roles in furthering the role of common pool resources in the incentive for cooperation (Dinar 2010, 172).

## **Conclusion**

The case study at hand can provide evidence for two important discussions within this literature review: how the local peculiarities of border conflicts play out, how cooperation over a shared socioecological situation can be a trigger broad political peace between adversarial parties, and how cooperation over a contiguous river can help two nations avoid the tragedy of the commons.

## **METHODOLOGY**

### **Introduction: Qualitative Field Research**

To address my research question, I chose to engage in qualitative field research; the causal processes that required analysis had nuances that could not be captured by a broad-brush quantitative study. As part of this research, I followed a case analysis methodology and collected information through fieldwork, active interviews, and document review. Afterward, I undertook data triangulation to verify the issues in terms of their validity. The following sections further explain these methods and data collection options, and provide justification for their use.

### **Case Study**

The case study research method seemed like an appropriate way to tackle my research question—which is broad in scope. According to Susan Soy of the University of Texas, the “case study research excels at bringing us to an understanding on a complex issue or object and can extend experience or add strength to what is already known through previous research” (Soy 1997). My initial case study was the disputed territory case known as Isla Calero/ Harborhead that involves Nicaraguan San Juan River dredging program and an alleged military incursion onto Costa Rican territory in 2010 by Nicaraguan military officials. I adjusted the scope of this case study, however, to include the lower San Juan River Basin in its entirety. I did this so as to provide a geographic context for the second dispute of focus: the controversial Costa Rican highway, “Ruta 1856”. This rural highway runs along the San Juan River, which symbolizes the international border eastward on from El Castillo, Nicaragua. I first recognized the importance of this contentious issue once I arrived to the region and began to interview nine civil society and ministerial contacts for my project. Among the numerous factors that are embroiling the case of the disputed territory, the construction of the highway seems like it is the most polemic at the binational level. And, while there are a number of other contentious development projects to choose from, I chose the two cases that have been recently considered by the International Court of Justice. In fact, the International Court of Justice joined the two separate claims (Costa Rica vs. Nicaragua and Nicaragua vs. Costa Rica)

on April 23, 2013—at the tail end of my thesis writing process. I believe that this action of judicial joining provides an extra measure of justification for my choice of disputes.

## **Data Collection**

### ***Field Research***

I chose to engage in field research so that I could observe the border dispute dynamics and provide interpretation in the tradition of applied anthropology. This field experience was invaluable in that it gave me the space to see and experience the reality of these contentious issues through the perspectives of the involved parties. In April of 2012, I received financial support from the Undergraduate Research Endeavor Competitive Award through the Office of Undergraduate Research at UVM. This grant covered the cost for a field expedition to Costa Rica and Nicaragua between January and March of 2013. The first four weeks were spent living in and around San José, the capital of Costa Rica. This city is not only a ministerial hub of activity, but is also home to a number of civil society organizations involved in environmental conservation and community development in the border region. The insights gained through conversations with different Nicaraguan migrant workers in San José were also invaluable. These people helped me to understand that these disputes are truly between the governments, and not necessarily between Nicaraguans and Costa Rican people. The notes that I took in San José and beyond are an important component of my data collection methodology.

My first interview contact in San José connected me to a sociologist and a hotel owner in San Carlos, a small Nicaraguan port city at the headwaters of the San Juan River. Crossing the border into Nicaragua in mid-February entailed traveling to Los Chiles, Costa Rica; visiting immigration services; and taking a small boat launch up the Río Frío to San Carlos, Nicaragua. I stayed in San Carlos for a total of nine days, during which time I traveled to San Juan de Nicaragua via the San Juan River. The boat trip took approximately nine hours, including the stops that we took at six different military posts. I stayed in San Juan de Nicaragua overnight at a small hotel, where I had the great fortune of speaking with the family of the hotel owner about different development challenges (See Figure 9, page 38). I had initially intended to cross into Costa Rica and visit Barra del Colorado. Most of my Nicaraguan contacts, however, urged me to cross back into Costa Rica via Los Chiles or on the other side of Lake Nicaragua. I did not, however, end up visiting Barra del Colorado. I returned to San Carlos via boat, and spent the next few days traveling up to Managua, Granada, and then back down to San José, Costa Rica via bus. See Figure 5 for an illustration of stops made along the way during the field research.

### ***Active Interviews***

The major adjustment that I made to this particular method involves from whom I would obtain perspectives on the issues from. The initial goal was to obtain and analyze different ministerial perspectives. Most of my interviews ended up being with civil society actors (with the exception of one), however. These actors work with the border communities in a number of capacities. Thus, they were able to shed light on the local impacts of these diplomatic disputes. By highlighting these impacts, however, this thesis articulates what is at stake if the two countries do not cooperate over a shared social and ecological situation.

I conducted active interviews with a total of nine different local contacts. Six of these contacts work for civil society organizations and/or academic/scientific institutions in Costa Rica and Nicaragua. One actor owns a small hotel at the mouth of the San Juan River (Hotel Cabinas Leyko). One contact works with the Nicaraguan Ministry of Environment and Natural Resources. And the last actor does sociology consulting work for the *Frente Sandinista* of Nicaragua. The civil society organizations and institutions

include: Fundación Neotrópica, la Universidad Para la Cooperación Internacional, Apreflofas, la Universidad de Costa Rica, and el Centro Científico Tropical (all Costa Rica-based); Fundación Amigos del Río San Juan, Fundación del Río, and Fundación Esperanza Verde (all Nicaragua-based). I chose to employ the active interview methodology, as introduced by Holstein and Gubrium in *The Active Interview* (1995). The active interview is much like an informal conversation type of interview. The active interview seeks to avoid the goal of the traditional interview, which requires the interviewer to “maximize the flow of information and minimize the distortion...” by treating the interviewee as a storyteller and by respecting their narrative as a “fountain of knowledge in itself” (Holstein and Gubrium 1995, 3). In effort to put contacts at ease and to freely share their perspective, I did not apply one set of questions to all interview contacts. The interview process, then, became the conduit through which to understand the divergent perspectives on the current issues and on the historical roots of said issues.

Part of the interview process required gaining permission from each contact to record the conversation. Eight out of the nine interviews, then, are on the books. At the end of each interview, I inquired each contact if they knew of anyone or any resource that could be of assistance for my research. As such, the interviews really fell into place serendipitously over the course of my six weeks in the region. All interviews were conducted in Spanish. The quotes inserted in this thesis I have translated myself from Spanish to English. The quotes from the contacts do not necessarily represent the opinion of their respective organizations.



Figure 5: Stops Made Along the Way During Field Research and Organizations Spoken to. Source: Whitney O'Brien and Google Maps. Images are from respective websites<sup>2</sup>

### Document Review

Document review was my last method of data collection. I followed the guidance of the World Bank Evaluation Group (2007) regarding this process to “review a variety of existing sources with the

<sup>2</sup> <http://www.ucr.ac.cr/>; <http://www.fundar.org.ni/>; <http://www.apreflofas.or.cr/>; <http://www.neotropica.org/>; <http://www.sinia.net.ni/wsao/oto.php> (2011); <http://www.fundaciondelrio.org/>

intention of collecting independently verifiable data and information”. The major border treaties that I reviewed included the Cañas-Jerez Treaty, Cleveland Award, and the Alexander Awards; the major economic treaty that I reviewed was the Chomorro-Bryan Treaty; and the major international arbitration documents that I reviewed were the claims submitted by Nicaragua and Costa Rica to the International Court of Justice over the territorial and highway disputes and the responsive provisional measures. I also reviewed the Ramsar Technical Mission report on their visit to Costa Rica’s Northeast Caribbean Wetlands, and technical reports given to me by Fundación Neotrópica (Costa Rica) and Fundación del Río (Nicaragua). With respect to the data triangulation methodology, the document review served to fill in some of the gaps in my understanding of the current and historic dispute situation. In addition, I used news sources to capture the general arguments of the two disputes.

### ***Data Triangulation and Analysis***

This method was used to best combine primary and secondary sources, and then to produce original insights on the complex border reality. According to the University of Florida’s Institute of Food and Agricultural Sciences, data triangulation involves using different sources in order to increase the validity of a study. Data triangulation is part of a larger group of triangulation methods, all of which “check and establish validity” a research question through the lens of “multiple perspectives” (Guion et al 2012). I found the claim that any difference discovered amongst the sources ultimately deepens the meaning of knowledge (Patton 2002) to be true with my research. It was necessary to collect information on the historical transboundary collaboration efforts and recent dispute dynamics from both secondary documents and interviews and to piece together how exactly these disputes have impacted firstly the efforts put forth by and the involved actors and secondly the relationships amongst the respective actors. Doing so helped to create a big picture scenario of where the organizations could go from here.

### ***Methodological Limitations***

The two major methodology limitations are linked to the field research and the interview process. Time and funding resources constrained a visit to Barra del Colorado, one of the major communities of interest in this study. Secondly, the interview process only included one ministry contact. The section on diplomatic dispute dynamics and subsequent recommendations for national government intervention, then, are based on the knowledge and perspectives shared by interview contacts. Another limitation linked to the interview process is the language barrier. As the author of this thesis, I am not a certified translator. Rather, I transcribed and translated my interviews with the resources at hand. Many of the interview quotes were translated from Spanish to English, and are as close in original script as I could make possible.

## **DESCRIPTION OF STUDY SITE**

The purpose of this section is two-fold: to give the reader an in-depth look into the ecology, geography, and history of the case study area, including but not limited to the sites that I visited during my field research, and to introduce the institutional and environmental threats that impact the case study area.

This descriptive information provides evidence for a shared social and ecological situation between Costa Rica and Nicaragua. I hold that cooperation over such a socioecological situation can help the Costa Rican and Nicaraguan governments to transform their polemic political relationship. This affirmation, then, provides a foundation for the creation of an international peace park in the future.

Figure 6 depicts a map of the important border communities discussed in the subsequent analysis. Indeed, the geographical and ecological characteristics in the lower basin study area are influenced by trends and threats that occur outside of said basin. This description, however, only focuses on the lower

basin. Furthermore, this description provides a background to the reader on what context the organizations and institutions working in the border region are working within. Methodologically, it takes the Literature Review a step further by incorporating the secondary documents that were retrieved over the course of field research and interviews. There are two cases—the Historical Cooperation and Narcotrafficking section—where information obtained from a particular interview helps to fill in knowledge gaps.

For ease of understanding, this section is broken down into four categories: Biodiversity and Transboundary Environmental Issues, Protected Area Regime and Environmental Treaties, Historical Transboundary Collaboration, Narcotrafficking: the Security Challenge, Historical Economic Cooperation, and International River.

### **Biodiversity and Transboundary Environmental Issues**

Among the factors that contribute to the fragility of the lower San Juan River Basin is the sheer diversity of species and ecosystems. This subsection assesses this diversity, and is organized by ecosystem type: Wetlands and Riparian Ecosystems, Dry Tropical Forests and Secondary Growth Forests.

#### ***Wetlands and Wetland-Associated Ecosystems***

Between the extensive area coverage and the contribution of fundamental ecosystem services, the wetlands and wetland-associated ecosystems play a fundamental role in the ecological maintenance of the lower San Juan River Basin. This reality necessitates their inclusion in this assessment of lower basin ecosystem types. For ease of understanding, this section is divided into wetland-associated ecosystems and wetlands.

#### ***Wetlands***

Wetlands can be found at the two extremities of the lower San Juan River Basin along the southern shores of Lake Nicaragua and in northeast Costa Rica, a geographic reality that necessitates the conservation of all of the ecosystems between these two points. These two sites are distinguished by a number of ecological and climatic factors. One of the biggest differences is how well drained these wetlands are. Dictated by the merging of particular biogeographic regions, the southeastern Nicaraguan wetlands are better drained than those of northeastern Costa Rica (MARENA 2003, 76-77). This ecosystem type influences the hydraulic and climate conditions of the border region through the ecosystem services that they offer. Among these important ecosystem services include, groundwater recharge, water purification, and flood control (Aguilar-Gonzalez and Moulaert 2011, 11-12). Sediment that originates in Lake Nicaragua and flows down the San Juan River ends up in this network of wetlands, lagoons, and woody and herbaceous bogs in northeastern Costa Rica. This network is separated from Caribbean Sea by a thin sand bar (Ramsar 2011, 11). Thus, one of the principle functions of these Caribbean wetland ecosystems is to retain these sediments.

These border ecosystems are also home to many different bird, reptile, turtle, and mammal species—some local while others migratory. Geography influences the distribution of these species between the two main wetlands sites. For example, turtles are present in both the southeastern section of Lake Nicaragua and the northeastern Costa Rica. Both the wetlands around Lake Nicaragua and the beaches of northeast Costa Rica provide a source of refuge and nutrients for breeding turtles (RAMSAR 2011, 11 and MARENA 2003, 78). Some birds are characteristic of the southeast Nicaraguan wetlands, while others of northwestern Costa Rica. Characteristic birds of the border wetlands include Great egrets, Neotropic commorants, Water turkeys, and hawks. A pit stop for migratory birds like the Jabiru stork and the Wood stork, the wetlands are of great importance for biological corridor initiatives in the greater Mesoamerica



region (MARENA 2003, 77). The American crocodile and Caymen are in danger of extinction. Their presence is threatened by the overharvesting for the sale of their skins and eggs (MARENA 2003, 78 and Procuenca San Juan 2004, 165).



Figure 6: Important Border Communities along the San Juan River. Source: Asamblea Nacional de la República.

### Wetland-Associated Ecosystems

The first of the four ecosystem types within this category— riparian forests— are of special interest to biological corridors in the border region. Riparian forests can be found on the southeastern shores of Lake Nicaragua, along the riparian zone of the San Juan River, and in northeastern Costa Rica. In doing so, they connect the two extremities of the lower San Juan River Basin. This ecosystem type also serves as a transition zone between the thick dry tropical forests and the marine-coastal ecosystems of the lower San Juan River Basin (MARENA 2003, 79-80). This flooded ecosystem type provides an important refuge for these species, especially during the dry season (Procuenca 166 and MARENA 2003, 79-80). According to the “Management Plan for the San Juan River Wildlife Refuge”, biological corridor planners are especially interested in the unique niches that occur in the riparian forests (MARENA 2005, 42). These niches are influenced by the inundated ground space and the interaction of local and migratory species that depend upon the ecosystem services offered. Among these species are lizards, aquatic birds, and monkeys (MARENA 2005, 42). The current conservation challenges make have made for a fragmented state of

conservation. Indeed, some areas of riparian forest are better conserved than others (MARENA 2003 and 2005).

The second ecosystem type associated with the wetland, the *Yollilal* stand, plays a key role in the regulation and maintenance of the border region trophic pyramid (MARENA 2005, 41). These stands consist of naturally occurring *Raffia* palm plantations (MARENA 2005), and are prevalent along the shores and in the wetland network of southeastern Lake Nicaragua and northeastern Costa Rica. Like riparian forests, *Yollilal* stands are inundated much of the year. This ecosystem is home to a rich diversity of vegetative species, which according to the SJR Wildlife Refuge Management Plan, play an instrumental role in maintenance of the regional trophic pyramid (MARENA 2005, 41).

Aquatic play an important role in nurturing and transporting species that migrate between Lake Nicaragua and the lagoons adjacent to the Caribbean Sea. The ecosystems that exist throughout the aquatic network within the lower San Juan River basin are exceptionally diverse (MARENA 2003). This network spans from the shores of Lake Nicaragua, the San Juan River all the way into northeast Costa Rica (MARENA 2003, 74). The vegetative species found along the shores of these aquatic ecosystems serve as reproductive refuges for a diversity of aquatic species. These species include the shrimp, the tropical gar, the Atlantic tarpon, the Bull shark, the manatee, Snook fish, and lobsters. A second function of the aquatic network is the transportation of nutrients. The aforementioned species depend especially upon this phenomenon (MARENA 2005, 41). Many of these species make a journey from Lake Nicaragua down to the San Juan River Delta, where they either follow the Colorado River to the Caribbean Sea or the terminal branch of San Juan River to the San Juan de Nicaragua and Harborhead Lagoons. For example, manatees depend on the regional aquatic network to migrate between northeastern Costa Rica and the lagoons of the central basin area (Procuencia San Juan 2004, 165). Snook and snapper fish species also use the aquatic networks as migratory routes to make it to the Barra del Colorado area in northeastern Costa Rica. These particular fish species are of great economic interest for the recreational fishing sector. The border communities along the San Juan and Colorado Rivers also depend upon these species as food sources (Procuencia San Juan 2004, 166).

Mangroves are the last wetland-associated ecosystem type. They are prevalent in and around the Caribbean lagoons and wetlands. Shrimp and Crustaceans are especially dependent upon this productive ecosystem type. These species depend upon mangroves as a source of refuge and alimentation over the course of their life cycle (MARENA 2005, 40).

### ***Dry Tropical Forests***

Dry tropical forests cover a vast majority of the lower San Juan River basin, and must be considered when evaluating the state of conservation of the border region. The most notably thick stretches of dry tropical forest are found along the southern shore of Lake Nicaragua, the central portion of the basin on both sides of the border, and in the southeast corner of Nicaragua. Preliminary studies have indicated that these biologically diverse ecosystem types are home to thirty mammal species, fifty reptile species, 300 bird species, 100 insect species, and 100 amphibian species (MARENA 2003, 74 and Amigos de la Tierra 1999). Many of these plant and animal species are endemic to the area, making conservation an urgent priority for long-term development strategies. The lowland dry tropical forest is home the great green macaw, an endangered bird species that has been the subject of long-standing transboundary conservation initiatives between Costa Rica and Nicaragua (Procuencia San Juan 2004, 165 and MARENA 2005, 42). They are considered a flagship species and are especially prevalent in the central basin area. As such, habitat connectivity has been a principal objective for migratory bird conservation workers alike. The dry tropical forests are also home to jaguars, giant anteaters, white-picked peccarys, and the Baird's tapir (MARENA 2003, 74).

### ***Secondary Growth Forest and Anthropogenic Pressures***

The secondary growth forest has some important ecosystem functions that influence the ecological integrity of the border region which include, but are not limited to, carbon storage and fixation, groundwater purification and supply. It stretches from the eastern shore of Lake Nicaragua, along the San Juan River into the central basin area. Some of the common animal species include cane toads, Central American agoutis, squirrels, rabbits, the Great-tailed Grackle, and the Groove-billed Ani (MARENA 2003, 83). A large portion of the secondary growth forest in this area is regenerating from historical stresses from the agricultural and gaming sector, as well as from the timber industry (especially intensive in southeastern Nicaragua). Nicaragua's conflict in 1980, however, caused the extractive industries to abandon its logging activities and caused locals to flee from their farms— letting nature run its course toward succession (MARENA 2003, 84). Such a reality influences the current ecological composition of these forests. This ecosystem type also coincides with some of the densest human settlements in the border area. And, while some areas are still considered abandoned landscapes, others have been put to use once again for agricultural use. These zones continue to feel the anthropogenic pressure that comes with the contamination of the agrochemicals used for crop production (in both Nicaragua and Costa Rica). Many of these agrochemicals navigate through the watershed and contaminate the especially susceptible aquatic ecosystems of the San Juan River and wetlands. While some of these agriculture activities were and continue to be commercial-based, others are community-based. As such, agroforestry is a key priority for conservation and developer workers who seek to preserve the cultural heritage and empower self-sustaining agrarian communities in the San Juan River basin (MARENA 2003, 84).

### **Protected Area Regime and Environmental Treaties**

The protected area framework in place to protect the border region ecosystems is extensive. This framework encompasses a network of protected areas that are recognized at the national and international levels. Each sub-section presents information on the management and jurisdiction details of a select few protected area, based on their proximity to the case study area. Many of these protected areas are relevant to the few transboundary collaboration efforts, such as historical Si-A-Paz International Peace Park proposal and the current El Castillo-San Juan-La Selva Binational Biological Corridor proposal. Figure 6 below depicts some of these prominent protected areas. By no means is this an exhaustive list of the relevant protected areas.

#### ***Nationally Recognized Protected Areas***

In Costa Rica, there are two key established national protected areas in the border region: Barra del Colorado Wildlife Refuge and the Caño Negro Wildlife Refuge. Both protected areas are considered Category IV of the International Union for the Conservation of Nature's zonification categories, which is "Habitat/Species Management Area". The Barra del Colorado Wildlife Refuge, is located within the larger *Tortuguero* Conservation area in Costa Rica's northeast province, Limón. Established in 1984, this protected area boasts the second largest area out of all Costa Rica's protected refuges (Pacific Wind Trades 2012). The refuge has seven important objectives, the first four being of primary significance, and the second being of secondary importance: "conserving exemplary north Caribbean ecosystems; protecting ecosystems of great interest, particularly aquatic ecosystem; protect plentiful, endangered, and endemic flora and fauna species; protect landscapes; conserve genetic and hydrologic resources and preserve the integrity of evolutionary processes; provide scientific, educational, and recreational opportunities, ensure the sustainable management of natural resources that are essential for the socio-economic development of

northeastern Costa Rica” (MINAET 2012, 149). As of 2009, approximately two-thirds of the refuge was considered a “sustainable, special, and public use” zone, while the last third remained strictly protected (MINAET 2012, 151). The Caño Negro Wildlife Refuge is located in the central portion of the border region in Costa Rica’s Alajuela province. Part of the larger Arenal Huetar Norte Conservation Area, this refuge was also established in 1984. This refuge does not have a formally recognized management plan.

Upon creating this refuge, however, the government specified a few key conservation and socioeconomic objectives. They include, but are not limited to: “the recovery and maintenance of the vital ecological processes that sustain and regulate the Caño Negro and regional wetlands; protect wildlife species, and in particular birds; promote the development of communities within and around the protected area by finding alternative and sustainable methods of resource extraction,” (Centro de Investigación Ambiental). This protected area been the subject of conflict between the Costa Rican government and local communities regarding use of wetland resources and local development.

In Nicaragua, there are two relevant protected areas within the area of study: the Indio Maíz Biological Reserve and the San Juan River Wildlife Refuge. A third important protected area is Los Guatuzos Wildlife Refuge along the southern shores of Lake Nicaragua. This area will not be discussed, however.

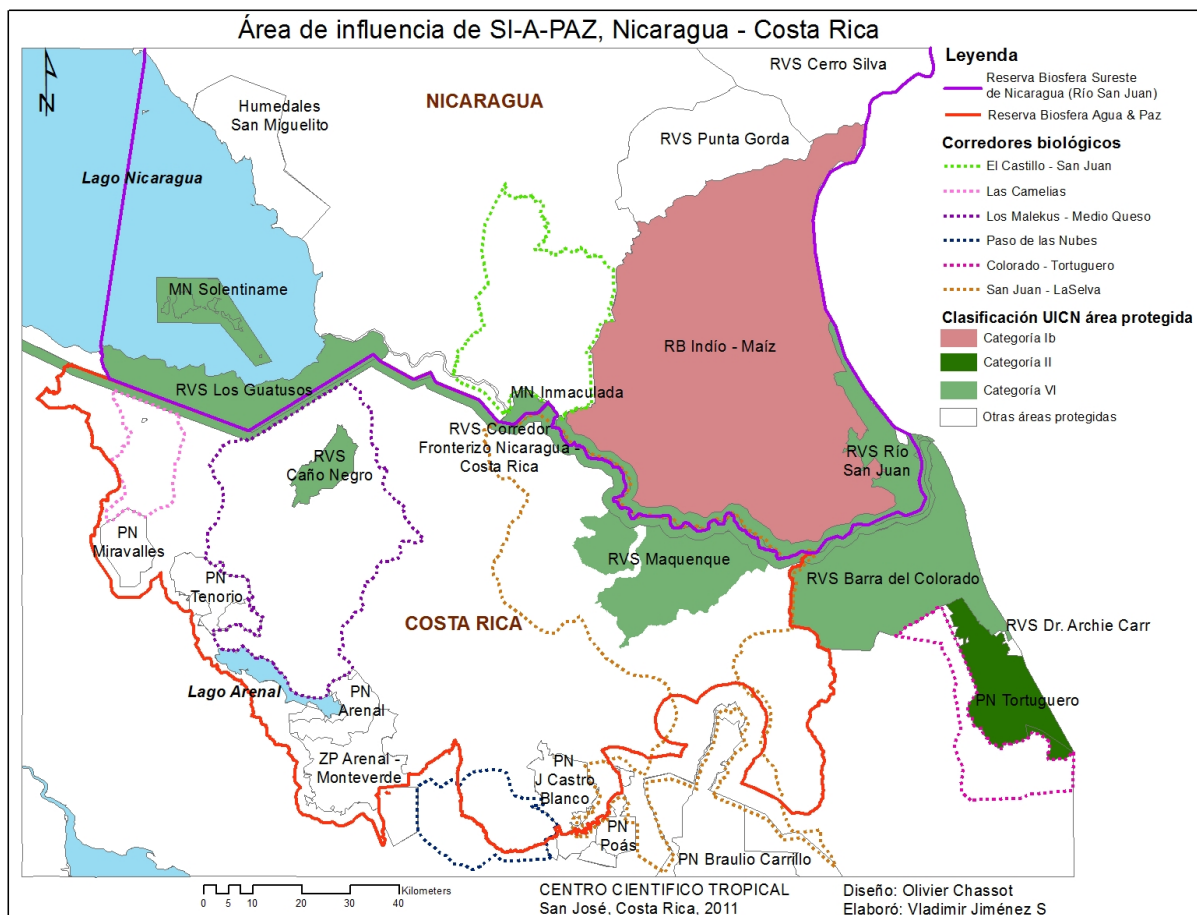


Figure 7: Protected Areas Relevant to Historical Si-A-Paz Peace Park Proposal. Source: Olivier Chassot & Vladimir Jiménez (2011)

The Indio Maíz Biological Reserve is by far the most strictly protected conservation area in the border region. This reserve straddles Nicaragua's two southeastern-most departments: the San Juan River department and the South Atlantic Autonomous Region. There are only four permitted activities in this strictly protected biological reserve: ecotourism, environmental education, scientific study, and monitoring (against illegal resource exploitation) (Galeano, FUNDAR y Alianza Para las Áreas Protegidas, 3). The San Juan River Wildlife Refuge follows the southern border of the Indio Maíz Biological Reserve. It is a relatively narrow strip that starts near El Castillo, Nicaragua and then wraps around Nicaragua's extreme southeastern corner before continuing up the Atlantic coast. According to the refuge's management plan, there are four key objectives: to "conserve and manage the terrestrial and aquatic species and communities of national, regional, and international interest; conserve and manage the habitats of threatened, endangered, nearly-extinct, rare, and endemic wildlife; conserve the historical and esthetic values of the land; and increase the opportunities for scientific study, recreation, and education" (MARENA 2005, 62). Categorizing the area as a "wildlife refuge" rather than a "biological reserve" seemed logical given the presence of human settlements along the San Juan River. The zonification, thus, supports a balance between natural resource conservation and socio-economic development. Activities permitted in the refuge include scientific study, environmental education, touristic visitation, the rational exploitation of natural resources and infrastructural development. The latter excludes commercial activities such as "energy exploration, timber extraction, and mining" (MARENA 2005, 61).

### ***Internationally Recognized Protected Areas***

The two major international environmental regimes that have clout in the border area are the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the Convention on Wetlands of International Importance (Ramsar). Firstly, there are two UNESCO Biosphere Reserves. UNESCO Biosphere Reserves are "model regions where innovative economic and social strategies are demonstrated of how mankind may use natural resources in a sustainable way, and, at the same time, conserve precious habitats," (German Commission for UNESCO 2011, 8). As such, these sites are a mix of cultural and natural landscapes that really exhibit the human potential for sustainable development. Costa Rica's Agua y Paz Biosphere Reserve is located in the central border region, and has been in existence since 2007 (Escape Villas Costa Rica 2011). This area straddles three provinces—Heredia, Alajuela, and Guanacaste—and encompasses eight national parks (including el Caño Negro). The San Juan River UNESCO site mirrors the Agua y Paz site on the Nicaraguan side of the border. The site, originally named the Southeast Biosphere Reserve, was declared in 1999. It encompasses seven total protected areas (MARENA 2003).

The Ramsar Convention, a regime that seeks to inspire international cooperation over wetlands of shared importance, protects two important wetland sites in the border region. Ramsar has been in force in Nicaragua since 1979, and accounts for the international protection of nine major wetland sites. The relevant sites relevant to this study include the San Juan River Wildlife Refuge, Los Guatuzos Wildlife Refuge, and the San Miguelito Wetland Systems. The Ramsar Convention came into force in Costa Rica in 1992. There are currently twelve Ramsar sites within Costa Rica, with the most relevant being the Northeast Caribbean Wetlands (NCW) and the Caño Negro Wildlife Refuge of Costa Rica.

### **Historical Transboundary Collaboration**

In the midst of armed conflicts in Central America in the 1970's and 1980's, a movement dedicated to peace building and natural resource conservation began to take flight. One such pacifist initiative was a transboundary collaboration initiative between Costa Rica and Nicaragua, known as the *Sistema Integrada de Áreas Protegidas para la Paz* (Si-A-Paz). While the first meeting between the visionaries of the time took place in 1974, the project was not made official until 1988 (Chassot and Monge 2011, 18). It was

during this year when the armed conflicts along the Nicaragua-Costa Rica border were put to an end. This meeting was organized by visionaries, which according to Chassot and Monge (2011), included Gerardo Budowski, Antonio Ruiz, Jaime Incer, Manuel Ramirez, and Mario Boza. Si-A-Paz would be a “binational project dedicated to the strengthening of protected area and transboundary conservation management between Costa Rica and Nicaragua” (Chassot and Monge 18). The project would also promote the principles of any international peace park—“the conservation and sustainable development of the border zone through creating an integrative system of protected areas and promoting peace” (Chassot and Monge 2011, 18).

The work of the binational committee was also strengthened with the presence and participation of representatives from technical groups and from multiple sectors from each country (Chassot and Monge 2011, 18). In doing so, the Si-A-Paz project would give the space for the neighbors “to articulate and coordinate territorial and sectorial objectives as well as development objectives for the San Juan River basin region” (Chassot and Monge 2011)<sup>3</sup>. Despite the collaborative effort to implement Si-A-Paz, the project did not take off as hoped (Chassot and Monge 2011, 19)<sup>4</sup>. Si-A-Paz, did, however, create a binational context within which other projects relating to transboundary conservation and sustainable development could thrive. One such example is Procuenca, the *Proyecto de Desarrollo Sostenible de la Cuenca del Río San Juan*. The Mesoamerican Biological Corridor, the United Nations Development Program, and the Foundation for Peace and Democracy took up this project, which was successful in “developing a conceptual framework for collaboration between relevant local and national government bodies and public and private sector organizations” (Chassot and Monge 2011, 19). The Organization of American states helped to finance this project at the end of the 1990’s.

Since 2002, Centro Científico Tropical (Costa Rica) and Fundación del Río (Nicaragua), have used the collaborative framework to organize the “Binational Campaign for the Great Green Macaw”, an initiative linked to the proposal for a binational biological corridor (El Castillo-San Juan-La Selva Biological Corridor) (Chassot and Monge 2011, and Chassot et al). According to Chassot and Monge (2011), this corridor initiative has potential to strengthen the protected area management framework, ensure biological connectivity between the politically divided ecosystems and develop community-based projects that improve the standard of living of the border communities (Chassot and Monge 2011, 19). Figure 7 illustrates this proposed binational biological corridor. Notice its proximity to the dispute zone.

### **Narco trafficking: the Security Challenge**

The 2010 territorial dispute brought attention to Nicaragua’s apparent security imperative to combat narco trafficking in San Juan de Nicaragua. At this point, San Juan de Nicaragua was a home base for “Los Tarsanes”, a group of narco traffickers of international acclaim that facilitated the trade of drugs from Colombia to the United States (Sociology Consultant Contact, 2013). San Juan de Nicaragua is a stopping point of special interest given its strategic location along the Caribbean drug trade route. The members of this narco trafficking group have a double national identity—“tica nica”. Once the government detected the presence of the group of narco traffickers in San Juan de Nicaragua, it sent troops to the area to put a stop to the activity and catch the group (Hotel Cabinas Leyko Contact, 2013). The security and police forces also sought to prevent the “Tarsanes” from establishing and developing a legal base along the narco trafficking route (Sociology Consultant Contact, 2013). Recognizing narco trafficking as an impediment to local development, the government removed vegetation to improve security. Narco trafficking is also viewed as a barrier to development in Barra del Colorado, a neighboring community (Universidad de Costa Rica Contact 2013).

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<sup>3</sup> Chassot cite Irena y Mirenem 1991

<sup>4</sup> Chassot and Monge cite Ramirez et al 1992, Centro Alexander von Humboldt, 1994

## **Historical Economic Cooperation**

The border delimitation decisions have, in many ways, pushed the two neighboring sovereignties to try and cooperate over issues of navigation and river use. As discussed, the first bilateral territorial agreement between Nicaragua and Costa Rica is the Cañas-Jerez Treaty of 1858. Since this point, the international border has followed an imaginary line south of Lake Nicaragua, along the San Juan River, all the way to the Caribbean Sea. Nicaragua has sovereignty over both sides of the river from Lake Nicaragua through the central portion of the San Juan River basin, where then the sovereignty is transferred to Costa Rica on the right bank of the river. While the treaty gave the total sovereignty over San Juan River to Nicaragua, Costa Rica has historically been able to navigate the river for commercial purposes. The Cleveland Award of 1888 provided further clarification for shared river use logistics. At this point, it became crystal clear that Costa Rica could only navigate the river for commercial purposes and only if it was unarmed. The award also required that Nicaragua confer with Costa Rica should it take up the construction of an interoceanic canal. This clause was important, given the various attempts to construct an interoceanic canal along the San Juan River.

History indicates that the contention sparked by the prospective development of an interoceanic canal along the San Juan River has been balanced out by international economic cooperation over this important river way. For example, during the dawning of the California Gold Rush, the San Juan River was used as a strategic passageway for Americans in search of gold in California. Merchandise ships would also make use of the river. The journey of these merchandisers would begin in New Orleans, and would continue to San Juan de Nicaragua, San Carlos, San Juan del Sur, then up to San Francisco, California (Hotel Cabinas Leyko Contact 2013). Cornelius Vanderbilt owned the transit line along the San Juan River at this time, which followed the future proposal of an interoceanic canal (Britannica Encyclopedia). The traffic statistics vary during this time, and include 2,000 passengers per month and 20,800 in 1853 alone (Procuencia 2004). These statistics illustrate the once-heavy commercial dependency on this river. It is important to remember that this no longer remains the case. The two factors that put an end to the heavy commercial use of the San Juan River include the construction of the U.S. Continental railway and the earthquake in 1863 that caused sedimentation and navigation obstacles (Procuencia 2004). An interview with a contact from Hotel Cabinas Leyko in San Carlos, Nicaragua, helped to fill in some of the knowledge gaps on the history of the San Juan River. In his words "...at this point, Costa Rica did have an exit to the sea. Limón did not exist. So, to get to the sea, you had to go up through the mountains...and so it was easiest to leave through Boca San Carlos and Sarapiquí," (Hotel Cabinas Leyko Contact 2013). He continued to explain that the Tico coffee and banana merchants made this journey up the Sarapiquí and San Carlos Rivers, and would then continue down to the Caribbean Sea by way of San Juan de Nicaragua or Barra del Colorado of Costa Rica. To this end, the Cañas-Jerez Treaty of 1858 respected Costa Rica's vested commercial interest in the San Juan River by giving it the freedom to freely navigate it for commercial purposes. This legal instrument provided grounds for economic cooperation between the two countries.

When Costa Rica built Limón, an important port city on the Caribbean coast, and the means to get there, the context for Costa Rica's use of the river lost relevance (Hotel Cabinas Leyko Contact, 2013). In effect, the port city of San Juan de Nicaragua was abandoned toward the end of the nineteenth century. Nicaragua later gave a concession to a French company to begin the initial labor for the interoceanic canal along the San Juan River. They constructed a railway between the San Juan de Nicaragua Bay and the San Juan River Delta. The project failed even before the company completed the first section of the canal, however. The two central factors that disrupted this first of ten total historical attempts to build the interoceanic canal were: financial failures and malaria (Procuencia 2004). The French company ultimately backed out. With the support of the United States government, the company moved south to the Panamá-

Costa Rica border where it would plan, finance, and complete the Panamá Canal by 1914. The Chomorro-Bryan Treaty between Nicaragua and United States prevented Nicaragua from constructing another interoceanic canal.

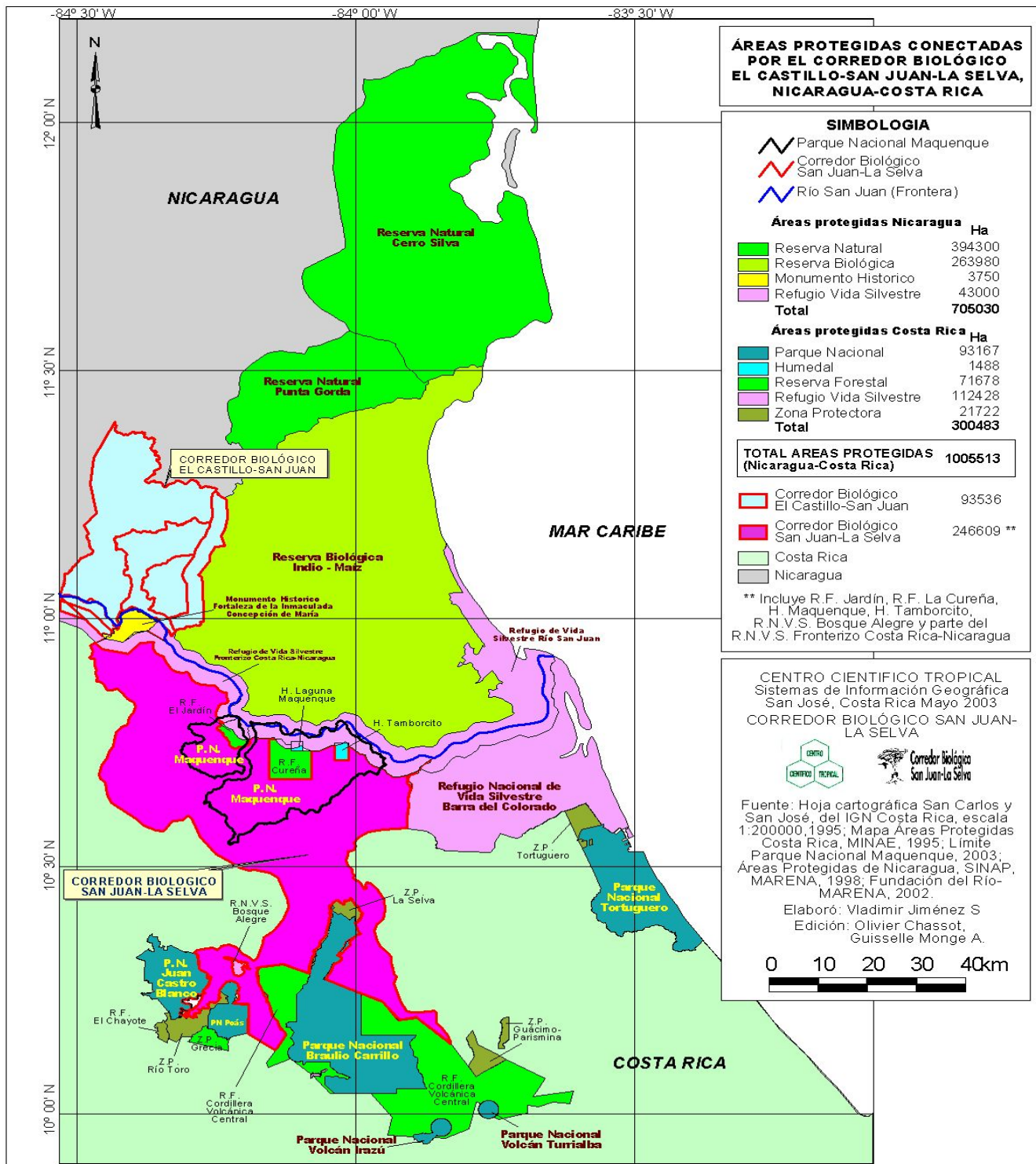


Figure 8: Protected Areas Relevant to Current Proposal for a Binational Biological Corridor. Source: Jiménez, V., Chassot, O., & Monge, G. (2003). *Áreas Protegidas Conectadas Por El Corredor Biológico El Castillo-San Juan-La Selva, Nicaragua-Costa Rica*.



The historical difficulty of drawing an international boundary line around the San Juan River tributary network is one of the driving factors behind the current territorial dispute. The Cleveland Award came into force in 1888 and provided further clarification for the riparian boundary line. In question was the San Juan River Delta area. This award dictated that the San Juan River would serve as the international boundary, rather than the Colorado River. And given the shared problem of sedimentation at the time, the award suggested the “joint responsibility” over the (navigation-based) improvement of the San Juan River (Boeglin 2013). The implications for this decision crept up in 2009 when in the International Court of Justice case on navigational rights of the San Juan River, Nicaragua demanded navigational rights down the Colorado River. Nine years after the Cleveland Award came into force, the two countries formed a “mixed demarcation commission” and invited U.S. engineer E.P. Alexander to make the final decision on murky demarcations in the Lake Nicaragua and Caribbean sections of the international border (Boeglin 2013). The first award cleared up the dispute in the Caribbean zone. Nicaragua’s argument that if they had full sovereignty of the San Juan River, this should include all of the San Juan River tributaries (the Taura, San Juan, and Colorado Rivers) (Boeglin 2013). The arbitrators, however, did not see much point in including the Taura River and the Colorado River within Nicaragua’s jurisdiction because they were of no use for commerce— further evidence that the border demarcation decisions were based on economic criteria. Thus, the first Alexander Award dictated that the international borderline would follow the shores of the Laguna Harbor Head until reaching the San Juan River (United Nations 2007).

The Costa Rican government sponsored a dredging project along the Colorado River in the 1940’s. According to Nicaragua, the dredging project is responsible for the diversion of 80% of the San Juan River water flows into the Colorado River and the problem of sedimentation in the final leg of the San Juan River. Costa Rican sources indicate that sedimentation pre-dates the dredging project and can be traced back to mid nineteenth century via satellite photography and historical accounts (Boeglin 2013 and Neotrópica Contact, 2013).

The San Juan River waterway is now only privy to tourism and light commercial activity. The boat tour taken during the field research experience brings tourists and locals along the San Juan River and stops at the important port municipalities, which include San Carlos, Sábalos, Bartola, El Castillo, San Juan de Nicaragua (Nicaragua), Boca San Carlos, and Sarapiquí (Costa Rica). Other important port municipalities include Los Chiles, Puerto Viejo, and Barra del Colorado (Costa Rica) (Procuenca 2004). The Procuenca website (2004) confirms that water-based transportation facilitates small-scale trade along the San Juan River into Lake Nicaragua and across the pacific region (cite). Otherwise, the San Juan River does not support cargo ships, as the owner of Hotel Cabinas Leyko shared with me.

Over the course of the last two centuries, the San Juan River and Colorado Rivers have been both a source of cooperation and conflict. The natural history of the San Juan River Delta is under contentions and divided by a discussion on sovereignty.

### **An International River?**

Even the categorization of the San Juan River as an international river is up for debate. Such debate is the basis of numerous cases between Costa Rica and Nicaragua in the Court of International Justice. The Costa Rican government claims that the San Juan River is an international river, which is why it seeks shared navigational rights (as granted in previous treaties). The Nicaraguan government, on the other hand, holds that “the river is a national river with an international component” (Boeglin 2013). The diverging opinions, thus, make the management of the San Juan River far more difficult than any other international river (Boeglin 2013). One undisputed fact, however, is that the international boundary line is drawn right down the middle of the river and tributary network, a complicated situation in itself.

## **RESULTS**

The Results section consists of three parts: *The Fragility of the Border Region: a Shared Situation*, *An Analysis of Divergent Dispute Perspectives: a Polarized Situation*, and *Environmental and Peace-Building Efforts in the Border Region*. This section builds on the foundation provided by the previous section, and employs the data triangulation method to produce nuanced insights on the potential for cooperation amongst involved parties.

### **Fragility of the Border Region: a Shared Situation**

One of the biggest take home messages obtained through the field research and interview process was that the two diplomatic disputes at hand manifest themselves more in the capitals of these neighboring sovereignties than they do in the border area. Given this reality, it is important to note that these disputes tell us more about the relationship between the two governments than they tell us about that amongst the Costa Rican and Nicaraguan border communities. By evaluating the existing knowledge and adding original reflections on the socioecological reality of the border, this thesis provides a justification for cooperation over a shared situation between the two governments. Recall from the Literature Review that a peace park is an international concept applied to a local framework—local meaning the authentic involvement of border communities. This section, thus, reviews some of the nuances on the regional dynamic—all of which are important for transboundary collaboration considerations.

#### ***The Socioecological Reality***

During the interview process, each interview contact shared insight into what life is like for the members of the border communities. After speaking with these contacts, and stopping at the small communities myself during my expedition down the San Juan River, I gathered that the natural and human communities present here exhibit unique social-ecological characteristics. It would appear that despite being divided by a political boundary and possessing split national identities, there is more that unites these communities than that divides them. Some of these commonalities, per conversation with multiple contacts based in Costa Rica and Nicaragua, include the existence of a transboundary social identity, a system of socioeconomic exchange through a plastic border, and a set of unique socioecological challenges. It would also seem that these characteristics contribute to the challenging border security, development, and conservation situation of the border region.

The shared social situation at the border reflects a larger trend of border communities around the world. As such, this section provides further evidence for Zartman's research on the impact of border conflicts on the interdependent border communities, as discussed in the Literature Review.

#### ***A Transboundary Social Identity***

The transboundary social identity, in essence, explains why the Costa Rican and Nicaraguan border communities may relate more to each other than they do to the two political territories within which they exist. There are a few important historical events that explain the existence of the current transboundary social identity and the migration dynamic between Nicaragua and Costa Rica. For example, the landmark event that shaped the current transboundary social identity was the conflict in Nicaragua in the 1980's (Universidad para la Cooperación Internacional contact and Hotel Cabinas Leyko contact 2013). The contact from Hotel Cabinas Leyko indicated, however, that there was a great deal of cross-border movement prior to this conflict. He shared how when San Juan de Nicaragua became abandoned in the late 1800's, the *Rama* indigenous peoples of Nicaragua (of Afrocaribbean descent) "moved between their home base in Bluffing on the Mosquito Coast of Nicaragua down through San Juan de Nicaragua and into Barra del Colorado, Costa Rica," (See Figure 2 on the next page). Thus, these communities consisted of families

on both sides of the border. At this time, cross-border communication and movement was easy. In his words, "...they had familial relations without borders" (FUNDAR Contact 2013). Both Nicaragua and Costa Rica began to place military posts along the border prior to Nicaragua's conflict: The Nicaraguan government placed one patrolman at San Juan de Nicaragua, the San Juan River Delta, and El Castillo and Costa Rica placed patrolmen at Boca San Carlos, the Colorado River, and the San Juan River Delta. Conditions at this time, however, were so lax that the military officials hardly asked for immigration papers (Hotel Cabinas Leyko contact 2013).

The border situation, however, got tenser at the dawning of the Nicaraguan *contrarrevolucion*. In the words of the contact from Hotel Cabinas Leyko, "in 1980, that was the contra war, Costa Rica began to make a highway along the river bank...the United States government—that was helping the contrarrevolucion in Nicaragua— financially supported Costa Rica with a number of activities to combat communism. So, the Costa Rican government with the United States government invested a great amount of money in the improvement of the northern border zone. So, they made schools, hospitals, roads, airports, because this zone was abandoned by Costa Rica and continues to be" (2013). When the Nicaraguans fled southward toward Costa Rica, they were greeted with relatively well-equipped Costa Rican communities. From the same conversation, I learned that Nicaraguans migrated from Rivas, Granada, and Tostales, and passed through San Carlos, a community at the mouth of the San Juan River. These same migrants populated northern Costa Rican municipalities such Los Chiles, San Carlos, and Upala. They also traveled down the San Juan and Sarapiquí Rivers into Barra del Colorado and Limón. Many of these migrants still live in these municipalities today (Hotel Cabinas Leyko 2013) (See Figure 2). An interview with a professor of tourism at the Universidad de Costa Rica and director of a food security project in Barra del Colorado (2013) confirmed that the "majority of the seniors in Barra del Colorado are Nicaraguan migrants".



Figure 2: The Lower San Juan River Basin and the San Juan River-Colorado River split at the San Juan Delta (Delta San Juan) (Source: Targina!)

Familial relations, thus, were characteristic of the border region during this time of extensive southward migration and of expansive transboundary family settlement. During this time of periled flight during the *contrarrevolución*, the community of San Juan de Nicaragua disappeared all together (FUNDAR

Contact 2013). As mentioned previously, the cross-border familial relations in this region existed prior to the civil war. In this sense, the community members of San Juan de Nicaragua were able to find refuge with their family members in Barra del Colorado and in Limón once forced to flee southeastern Nicaragua during the conflict. An interview with a Professor at the Universidad de Cooperación Internacional (2013)—who coincidentally helped plan the re-establishment of San Juan de Nicaragua—confirmed that San Juan de Nicaragua was re-populated a decade later in 1990 once peaceful relations resumed in Nicaragua. In the words of the FUNDAR contact (2013), “those families returning to San Juan de Nicaragua left behind family in Costa Rica, and there is [still] a tight relationship between them”. The community members sought out a new location for the historical San Juan de Nicaragua settlement—“beginning with the first houses, the [the community members] decided for their own reasons that they did not want to go to live where the historical town [of San Juan de Nicaragua] was, but rather leave the historical town there as a memory of the war that they themselves had” (FUNDAR Contact 2013). In 1990, there were fifteen houses, and fifteen families that returned after the peace processes (FUNDAR contact 2013).

San Juan de Nicaragua is a great example of this transboundary family dynamic and social interdependence in general because, as the representative from FUNDAR shared, “that close relationship is there because the town is so far away from San Carlos, the capital of the San Juan River department in Nicaragua, and even farther away from Managua,” (FUNDAR Contact 2013). It would seem, then, that this geographic isolation makes the regional and border identity more salient for the community members than the national identities.

The Costa Rican government has a policy that gives Costa Rican nationality to anyone born within the Costa Rican territory. This policy has made it so that the children of these Nicaraguan migrants were Costa Rican, rather than Nicaraguan nationals (Hotel Cabinas Leyko Contact 2013 and Conversation with Nicaraguan Immigrant). The second and third generation Nicaraguans in northern Costa Rica may not even have a Costa Rican cell phone, immigration documentation, or property registration, because again the northern communities were not much of a concern to the Costa Rican government (Hotel Cabinas Leyko Contact 2013).

### *Plasticity of the Border: Socioeconomic Interdependence*

The interview and secondary source review processes indicate that both the Costa Rican and Nicaraguan governments have historically paid little attention to these border communities. There is this sense of isolation and neglect has led to the development of a local-based economy and a unique system of socioeconomic exchange between these border communities (Centro Científico Tropical Contact 2013). In the words of the Centro Científico Tropical contact, “there has been little investment on behalf of the governments in basic sanitary services and infrastructure (i.e. electricity and water)”. The lack of basic services and infrastructure, thus, has added a layer of informal cross-border traffic. It has done this by requiring the Nicaraguans (specifically in San Juan de Nicaragua) to cross into Costa Rica to obtain certain services. A trip to San Juan de Nicaragua on February 17, 2013 gleaned similar insights on this interesting social dependency. One community member in San Juan de Nicaragua shared of his experience getting transported across the border lagoons to get his appendix operated on in the hospital of Alajuela, Costa Rica. San Juan de Nicaragua community members often times obtain telephone and education services as well as groceries in Costa Rica out of convenience as well (Centro Científico Tropical Contact and FUNDAR Contact 2013).

The San Juan River and associated river ways are sites of important local commercial exchange (Centro Científico Tropical Contact 2013). A trip down the San Juan River to San Juan de Nicaragua with the FUNDAR contact gleaned a similar insight. During this trip, she explained how Costa Ricans used to

purchase lobsters and fish catches from the Nicaraguans of San Juan de Nicaragua using the Costa Rican currency (colones). In exchange, the Nicaraguans purchased gasoline from the Costa Rican side. The Procuena website confirms that much of this trade has occurred in Puerto Viejo, a port Sarapiquí (central border area) (Procuena San Juan).

### *Socioecological Challenges*

The communities at the border also happen to be buffer communities at the edges of some of the region's most important conservation areas, the biggest consequence of which is stunted economic development. Conversations with the professor of tourism at the University of Costa Rica and the various contacts involved in community development in San Juan de Nicaragua gleaned insight on the shared socioecological situations between Barra del Colorado and San Juan de Nicaragua. These current situations, in essence, exemplify a lack of harmony between environmental conservation, cultural heritage preservation, and socioeconomic development. Barra del Colorado is a community tucked away inside of the Barra del Colorado Wildlife Refuge, a protected area sandwiched between the Nicaraguan border and Tortuguero National Park (See Figure 2 on page 32). Two important development challenges in Barra del Colorado include commercial resource overexploitation and the restricted use of important resources under protected area jurisdiction (Universidad de Costa Rica Contact 2013). An interview with a professor of tourism at the Universidad de Costa Rica confirmed that this community has historically depended upon the fishing industry as a source of both livelihoods and food supply. The contamination from agrochemicals, an unsustainable fish yield, and restrictions placed on fish catches by the protected area jurisdiction, led to the ultimate demise of this economic dependency (Universidad de Costa Rica Contact 2013). As explained in the Description of the Study Site section, the agrochemicals seep into the rivers of the lower basin, which carry them into the fragile wetland and aquatic ecosystems of Barra del Colorado. Commercial overexploitation came into play once recreational fishermen from around the world discovered Barra del Colorado's economic potential. In the words of the Universidad de Costa Rica contact (2013), "Barra del Colorado used to be one of the world's premier sports fishing destinations...and little by little, the resource died out and the fishermen lost their jobs and hotels closed," (Universidad de Costa Rica Contact 2013). The decline of this species hastened when fishermen began to use fishing nets— "the use of commercial fishing nets has also led to the loss of important marine species because when the nets are collected, only a small portion is commercial fish and the rest are deceased marine species," (Universidad de Costa Rica Contact 2013). He went to explain how this resource overexploitation and a loss of local agricultural knowledge, has led to serious community food security issues; even the local farmers market is comprised of agricultural products that are actually imported rather than grown locally! He shared that there was a point, however, "when local fishermen were asking to put a ban, or to prohibit fishing for a time," and this was done with the purpose of giving them time and space to reach a sustainable population count.

While restrictions placed on community use of natural resources in Barra del Colorado has helped the fish populations to recover, they have been a source of antagonism between protected area officials and community members. The protected area officials function under Costa Rica's Ministry of Environment, Energy, and Telecommunications (MINAET). The mistrust on behalf of the community members stems from the tendency of the government and protected area officials to not only interrupt the fishing industry activities, but also to restrict the community's use of resources within the protected area (Universidad de Costa Rica Contact 2013). This mistrust is one barrier for civil society and ministry teams that approach the community members with theoretical and economic resources ideas on how to resolve the different development challenges.

The decimation of the fish population also has also had fragile cultural and social implications. A loss of livelihood, for examples, has resulted in a lack of hope and a lack of opportunity for youth. The Universidad de Costa Rica contact speculated how this lack of opportunity may be connected to the persisting presence of narcotrafficking in the area.

During the field trip down the San Juan River to San Juan de Nicaragua, the FUNDAR contact painted a similar picture of resource exploitation in San Juan de Nicaragua. This settlement has a similar history of a single resource-dependent local economy. In the case of this Caribbean community, it was the lobster. The lobster species was once harvested for local trade between Nicaragua and Costa Rica (FUNDAR contact 2013). There came a point, like the commercial fish of Barra del Colorado, the rate of harvesting exceeded that of the natural reproduction cycle and the supply literally ran out. This community also turned to tourism as an alternative means to develop economically. Conversations with a few different community members in San Juan de Nicaragua revealed a sad reality that the tourism industry has been declining for the last ten years in San Juan de Nicaragua (despite the construction of the Greytown airport). They shared that many tourists just pass through San Juan de Nicaragua in search of Bluffing, a coastal city in the mid-Atlantic region of Nicaragua. Tourists are attracted to Bluffing for its beaches. Figure 8 is a photo of the San Juan de Nicaragua lagoons taken from the municipality's small port.



Figure 8: San Juan de Nicaragua, Buffer Community on the Edge of the Indio Maíz Biological Reserve. Photography by Whitney O'Brien

The content within these sections demonstrates an existing shared socioecological situation for Nicaragua and Costa Rica and provides justification for future collaboration at the civil society and ministerial levels.

### **An Analysis of Divergent Dispute Perspectives: a Polarized Situation**

The subsequent analysis attempts to unravel the complexity of the two disputes between Nicaragua and Costa Rica by highlighting the local impacts of these disputes and by mapping divergent perspectives.

#### ***The Territorial Dispute***

Each interview contact explained this particular dispute through the lens of their respective Costa Rican and Nicaraguan experiences. For example, the Costa Rican contacts accepted the term “Isla Calero” during the interviews, while the Nicaraguan contacts did not. The latter group of contacts referred to “Calero” as a term coined by the Costa Ricans. The name of lagoon adjacent to this slice of land also differs depending on the source of a map documents. In Costa Rica, this lagoon is referred to Laguna Los Portillos, whereas in Nicaragua it is referred to as Laguna Harborhead.

Below are the key points that were explained in the Introduction section, all of which are important to remember over the course of this dispute analysis.

- The two issues that the Costa Rican government has taken with the Nicaraguan government over the course of this particular dispute include (ICJ 2010):
  - A direct impact on Costa Rica’s ecology and sovereignty through the alleged Nicaraguan-sponsored deforestation and dredging activity, sedimentation dumping, and military incursion at the disputed zone site (See Figure 4).
  - An indirect impact on Costa Rica’s Northeast Caribbean Wetlands through the implementation of San Juan River dredging program at the San Juan River Delta and the headwaters of Costa Rica’s Colorado River.
- The issues above are outlined in an official claim and a request for provisional measure submitted by the Costa Rican to the ICJ in 2010. The ICJ responded soon after, prompting two important events (ICJ 2011):
  - Neither country could send officials into the disputed zone (unless they were Costa Rican organizations assessing ecological damage). This prompted the Nicaraguan government and military to stop their actions in the disputed area. It also halted the territorial dispute until a resolution was decided upon (still pending).
  - The ICJ permitted the Nicaraguan government to continue its San Juan River dredging program. This issue remains unresolved.

#### ***Salient Issues and Diverging Perspectives: Costa Rica***

According to the Costa Rican perspective, the 2010 dispute had two major political and ecological implications for Costa Rica. In the words of a contact from Fundación Neotrópica, “the rivers [in this zone] are not wide nor direct.” During the interview, she took a map and traced the bends of the river with her finger, and then drew imaginary lines to demonstrate how the dredging project would cut a direct passage through the winding rivers. In her words, “...opening these canals with direct passage facilitates transportation”. It seemed that the motivation behind Nicaragua’s dredging program was linked to

transportation facilitation, according to the Costa Rican perspective. Despite this recognition, however, there are still concerns in Costa Rica on the ecological and territorial implications for the dredging activity in the dispute zone. One such concern is the potential for an increased flow and force of the San Juan River to change the structure of the [Portillos] lagoon (Fundación Neotrópica Contact 2013). This increased flow would also have the potential to break the sand bar that separates this lagoon and the Caribbean Sea. If this were to happen, the San Juan River sediments would flow into the Caribbean Sea, continue southward, and impact the Costa Rican marine ecosystems (Fundación Neotrópica Contact 2013). Costa Rican ecologists and morphological scientists take special issue with the impact that this phenomenon could have on coral habitat and also on beach habitat. Turtles use the latter habitat as a place to reproduce. And, as discussed in the Introduction, one of Costa Rica’s main strategy for resolving this dispute was to recruit international scientific bodies to help investigate the ecological damage strewn upon the disputed zone. The Costa Rican concerns were confirmed with UNOSAT’s findings (UNOSAT 2010), when “they used a series of points where sediments [had been] deposited and where there were changes since the last time they took photos, and determined that there were significant changes,” (Fundación Neotrópica 2013).

With the way that the dredging activity was carried out around the disputed zone, there could have been major sovereignty implications for Costa Rica. This of course, is already a well-known argument from the Costa Rican side. The Alexander Awards indicate that the right hand margin of the San Juan River belongs to Costa Rica. By cutting a canal through the small piece of land that precedes the lagoon and manipulating the river flow, the Nicaraguan government would be changing the international boundary line. The red line in Figure 4 represents where the deforestation and military activity was taking place in 2010.



Figure 4: The Dispute Zone. Source: Alex Covarrubias and Paniaguas 2011

*Salient Issues and Diverging Perspectives: Nicaragua*



From the Nicaraguan perspective, the activity of the Nicaraguan government in 2010 was justified. During the interview process, the Nicaraguan contacts (affiliated with both civil society organizations, private business, and ministries) provided a background on the ecological, economic, security and territorial motivations behind the San Juan River dredging project, the deforestation activity, and the military intervention in 2010. They also explained the problem of the Ramsar Technical Mission's unilateral visit to Costa Rica in 2010. This section elaborates on these two nuances.

The first nuance, as explained by contacts from la Fundación del Río and FUNDAR, was the ecological motivation behind the Nicaraguan dredging project and the seeming support of the environmental and scientific community in Nicaragua for said dredging project. The government, with the technical help of NGOs and scientific institutions, conducted an environment impact assessment for said project. A conversation with the MARENA representative in Nicaragua (2013) confirmed that by law the government must conduct these kinds of environmental impact assessments on major infrastructure projects. And, given this compliance of the Nicaraguan government, "the project had the support of the Nicaraguan environmental NGO community" (FUNDAR Contact 2013). According to the interviews with FUNDAR and Fundación del Río, the ecological motivation behind Nicaragua's 2010 dredging project consisted of recovering the longitudinal pathway of important migratory and endemic fish species between Lake Nicaragua and the Caribbean Sea via the San Juan River.

From the Nicaraguan perspective, the Costa Rican dredging project of the 1940's is seen as the principle cause of sedimentation in the terminal branch of the San Juan River (FUNDAR Contact and Fundación del Río Contact 2013). Thus, this new modest dredging project would help to recover the sediment-filled terminal branch of the San Juan River. The FUNDAR contact (2013) also shared how the dredging project came out of great necessity for the population of San Juan de Nicaragua, since the sedimentation of that last leg of the San Juan River had become so problematic for transportation (FUNDAR Contact 2013).

Nicaragua argues that the dynamic shifts in the disputed zone probed by natural and fluvial processes have had led to a shift in the international boundary (Fundación del Río Contact, FUNDAR Contact, Hotel Cabinas Leyko Contact 2013\*). This ecological dynamism, then, impacts the terms of the original treaty that awarded Costa Rica the right margin of the San Juan River. Given this dynamism and the claim that the delta has also moved as an effect of natural and anthropogenic intervention, Nicaragua has sought to re-claim what "historically belonged to them" (Nicaraguan Contacts\* 2013).

The second nuance from the Nicaraguan perspective is related to the process that the Ramsar Technical Mission took in visiting Costa Rica's Northern Caribbean Wetlands in 2010. An interview with a contact from Fundación del Río and the review of a document published by the Grupo Ad-Hoc de Observación Ambiental and the Asamblea Nacional de la República de Nicaragua (2011) confirmed that the Nicaraguan government refuted this initial Ramsar report, and requested that the Ramsar Technical Mission conduct a technical assessment at the Nicaraguan Ramsar sites with Nicaraguan officials. In essence, the Nicaraguan government and environmental NGO community took issue with Ramsar Technical Mission's "partial and unilateral" process in Costa Rica (Fundación del Río Contact 2013). A second contact from the Fundación del Río explained how the ideal situation for Nicaragua, thus, "would have been for the technical commission to visit the site with groups from both countries to hear both perspectives". The Ramsar Technical Mission website indicates that she has since returned to the region to visit the San Juan River Wildlife Refuge wetlands with Nicaraguan officials, and that the visit took place in March of 2011 (Ramsar 2013). The report has yet to be published.

*Shared Impacts of the Territorial Dispute on the Border Region*

A field trip down the San Juan River gleaned insight into the impacts that this dispute has had on the local communities of the border region. For example, the presence of troops on both the Nicaraguan side and the Costa Rican side can be seen from a boat at the San Juan River Delta. Conversations with contacts from Hotel Cabinas Leyko, FUNDAR, el Centro Científico Tropical, and Universidad de Costa Rica and a community members in San Juan de Nicaragua yielded further evidence of the impact of military presence on the transboundary social fabric. This fabric is the same one that has been in place for decades and even centuries now.

And, while the two countries have not sent troops directly to the dispute zone (as directed by the ICJ), they have sent troops to opposite ends of the zone in an effort to protect each of their national sovereign territories. The two communities adjacent to the dispute zone are San Juan de Nicaragua (Nicaragua) and Barra del Colorado (Costa Rica). As the contact from the Universidad de Costa Rica explained, Barra del Colorado does not depend directly upon the dispute zone for food or other natural resources. This dispute zone, however, is important for transboundary economic and social exchange. There has also been a great deal of both of both informal and illegal movement in this area of the border in the past. The community members in San Juan de Nicaragua explained that with the presence of troops, cross-border movement is now nearly impossible in this zone. In this case, the population of San Juan de Nicaragua has definitely taken a hit, given its dependence upon the social services offered by Costa Rica. Managua took note of this impact, though, and began to send food and gasoline, and also built the Greytown airport (San Juan de Nicaragua Community Members 2013). Given this attention, it would appear that this dispute has brought attention to the historically abandoned communities.

An interview with the contact from Centro Científico Tropical shed light on the tightened border security dynamics. According to him, troops and border control are especially vigilant about collecting immigration information now along the San Juan River and Sarapiquí Rivers. The presence of troops and difficult passage even impacts the ability for transboundary families to see each other in the zone (FUNDAR Contact 2013). In her words, “now with the conflict, the controls are more strict. The relations worsened—between the authorities, not the people of course. Because the people are another thing. Independently from what goes on between the governments, family is family. They don’t stop seeing each other, or feeling that affection”. A conversation with a Nicaraguan immigrant in San José, Costa Rica confirmed that this was that this dispute was more of a diplomatic dispute than a conflict between Costa Rican and Nicaraguan people. The contacts of Fundación Neotrópica and FUNDAR (2013) speculated how the polarized situation between government has the potential to polarize native Costa Ricans and the thousands of Nicaraguan migrant workers in Costa Rica.

### ***The Highway Dispute***

#### *Salient Issues and Diverging Perspectives: Costa Rica*

The three important nuances linked to the highway dispute are the state imperative for the highway, subsequent lack of planning, and public fury over governmental corruption. The highway, or locally referred to as “la trocha”, is a rural, dirt highway that runs parallel to the San Juan River on Costa Rican turf. In essence, the bilateral contention over the highway stems from the rapid and poor planning of the highway construction and the consequential socioecological damages that have taken place on the banks of the San Juan River. See Figure 9 for a photo of the highway construction.



*Figure 9: the “Ruta 1856” Runs Parallel to the San Juan River. Photography by Whitney O’Brien*

This project, considered a national necessity and planned out of an emergency executive order, was initiated around the time of the dispute with Nicaragua. Construction efforts, however, have recently resumed (Fundación Neotrópica Contact 2013). The process taken by the Costa Rican Ministry of Public Works and Transportation on this project was swift and ended up involving corruption (Fundación Neotrópica Contact and Universidad de Costa Rica Contact 2013). Much of the funds allocated have been lost due to financial mismanagement and political corruption.

Interestingly enough, the discourse surrounding the motivation behind the project has changed from securing the border and facilitating the movement of Costa Rican forces, to incorporating and improving the quality of life for isolated border communities (Fundación Neotrópica Contact 2013). In the words of the contact from Fundación Neotrópica, the Costa Rican government’s concern was that “people here move via the river, and if there were problems with Nicaragua over the river, then the communication with these communities could have been cut off—something that did not happen” (2013). Furthermore, improved roads would lead to an improved quality of life and would facilitate transportation to necessary services like the hospital. Indeed, the project has made heads turn once again toward the border (Fundación Neotrópica Contact 2013). A conversation with the representative from Fundación Neotrópica shed light on the context of infrastructural projects in general in the area. She explained how the various infrastructure projects (i.e. the proposed electric dam “El Brito, the idea of an interoceanic canal, the bridge in Nicaragua”) have caused “polemical decisions on whether they should or should not happen.” The construction of the highway, like the dredging project and territorial dispute, seems like it is influenced by this historical polarized development dynamic—one that has caused the “movement of infrastructure, people, and police forces in within a short time” (Fundación Neotrópica Contact 2013).

Costa Rican civil society organizations, such as Fundación Neotrópica and el Centro Científico Tropical, recognize the environmental problematic of the highway situation. In the words of the contact from Fundación Neotrópica, “near the highway are important areas of conservation like to North Caribbean Wetlands, the Indio Maíz Biological Reserve, Mixed Refuge Romelia (to the west)...so there are a series of conservation objectives that are important.”

## *Salient Issues and Diverging Perspectives: Nicaragua*

The Nicaraguan concerns on the highway include increased sedimentation, water contamination, species extinction, and increased illegal activity. Information on these concerns was obtained through interviews with Nicaraguan contacts. While the subject of the Costa Rican highway “Ruta 1856” came up in conversations with both Nicaraguan and Costa Rican contacts, the Nicaraguan contacts were most passionate about this topic. This could have to do with the geographic proximity of these interviews to the disputed highway and consequential impacts (San Carlos, Nicaragua). Conversations with Nicaraguan contacts shed light on the social and ecological concerns held by Nicaragua at large. Both these conversations and a boat ride down the San Juan River helped to shape a richer understanding on the origins of this dispute. While the dispute dynamics originate and play out between the two capitals, the impacts are felt locally. On the boat ride down the San Juan River in February of 2013, the FUNDAR contact pointed to the boat captain and his peer as they discussed the terrible navigation conditions. She shook her head as she explained how the sedimentation caused by the construction of the dirt highway along the right bank of the San Juan River has impeded local navigation, especially during the dry season. Her concerns reflect those of some locals, Nicaraguan civil society actors, and the Nicaraguan government.

A conversation with a very passionate MARENA representative confirmed that while the project is taking place on Costa Rican territory, there is great concern that its impacts are breaching a number of bilateral, regional, and international agreements relating to the territorial and ecological wellbeing of Nicaragua. The removal of trees along the riverbank has threatened some of the functional ecosystem services that the riparian trees provide. Tree roots also play a role in stabilizing the sediments along the riverbank, and without them, the threat of landslides also increases. Sedimentation has drastically increased along the course of the river as a result of tree removal. The latter damage has hastened the evaporation processes along the riverbanks as well (MARENA Contact 2013). The aggregate effect of sedimentation in the San Juan River has caused certain parts of the river to be filled with sand. The boat ride down the San Juan River provided a means by which I could feel this impediment to navigation. The boat launch slowed and swerved to avoid these sand bars.

The contact from MARENA (2013) continued on and told me of the shared concern with environmental NGOs on the loss of endangered and endemic aquatic species habitat and the disruption of the aquatic food chain. Tubes from the highway construction release wastewater into the river, one source that threatens the migratory fish species. She explained that there are often cases, too, where members of the sparse population that live around the construction may take the tarp material for their own use. “When the tarps are removed, then the chance of landslides increase, putting the houses and population in danger,” she explained (MARENA Contact 2013). When asked why border vigilance has not put a stop to this, she explained that it is not constant or consistent enough to prevent this from happening.

The last concern shared in the interview with the MARENA contact (2013) was the potential implications for increased illegal activity. In a zone where migration is already plenty, there is great concern that the highway will contribute to an “increase in robbery, thief, human abuse, and child prostitution”.

## **Environmental, Economic, and Peace-Supporting Efforts in the Border Region**

The purpose of this section is to outline the current efforts being put forth by the contact organizations at both the civil society and ministerial levels. More specifically, this section frames these efforts as building blocks for future transboundary collaboration opportunities. The factor that ties these institutions and organizations together is their effort to improve the socioecological situation at the border

region and to make a difference for the communities within this area. This section is divided into Costa Rican efforts, Nicaraguan efforts, and Transboundary Efforts. While the focus is on efforts being put forth by the organizations whose contacts participated in the interview process, there is mention of additional efforts (so long as these contacts mentioned these additional efforts).

### *Costa Rican Efforts*

This section encompasses the efforts put forth by three San José, Costa Rica-based organizations: la Fundación Neotrópica, el Centro Científico Tropical, Apreflofas, and la Universidad de Costa Rica. Information on these efforts was obtained through interviews with contacts from organizations and background research. A contact Universidad para la Cooperación Internacional also shed light on the economic collaboration that occurs amongst cross-border parties from the public and private sectors.

#### *Misión Humedales Vida Para Todos: Mission Wetland Life For All*

A conversation with the contact from Fundación Neotrópica provided information on a collaboratively organized environmental campaign. This campaign, led by a number of Costa Rican-based civil society organizations and academic institutions, came into fruition in 2011—shortly after Costa Rica took notice of the damage being done on the Northern Caribbean Wetlands. In her words, “René Castro, Costa Rica’s Minister of Foreign Affairs requested that these organizations educate the public on the ecological impacts of the issue, while the Ministry focused on the political implications”, she explained. Under this premise, the campaign organizers made a concerted effort to make the campaign truly about the wetlands, rather than pointing fingers at Nicaragua for the damages inflicted upon the NCW. This was especially important for the organizers, given the extensive presence of Nicaraguan immigrants in Costa Rica. The organizers realized from the start that pointing fingers at Nicaragua would only further polarize the conflict and divide the nation’s population, thus prompting the ecological focus rather than political (Fundación Neotrópica Contact 2013). The environmental NGOs involved were la Fundación Neotrópica (whose focus is on ecological economics and community-based resource management), Apreflofas (whose focus is on flora and fauna), and Pretoma (whose focus is on coastal turtle population). These NGOs also partnered with student organizations from the University of Costa Rica and the Technology University of Costa Rica (Fundación Neotrópica Contact 2013). Rocío, a Costa Rican actress involved in environmental activism, also became a face for the campaign. The campaign, called *Misión Humedales Para la Vida*, was kicked off in the beginning of 2011 with a concert in San José. This cause brought together 3,000 people in the area (Fundación Neotrópica Contact 2013).

The campaign used education and information to raise public awareness on the importance of the Northeast Caribbean Wetland ecosystems, and on the importance of protecting them. There had been initial interest in working to create a collaborative environmental campaign on the damaged wetlands with Nicaraguan environmental NGOs and universities. In the words of the contact from the Fundación Neotrópica, “prior to this dispute, there was contact between these Costa Rican and Nicaraguan organizations”. This communication was founded upon a common concern over the shared ecosystems on the border. The shared concern had to do with the sandbar in the lagoon breaking and the sedimentation spilling over into the Caribbean marine ecosystem and impacting turtle nesting and coral habitat (Fundación Neotrópica Contact 2013). When the Costa Rican NGOs went to contact the Nicaraguan organizations for the purposes of the campaign around the time of the dispute, they got a poor response rate. Thus, they proceeded to sponsor the Costa Rica-based environmental campaign on the North Caribbean Wetlands on a unilateral basis.

In addition to organizing this collaborative campaign, Fundación Neotrópica has also led an effort to value the ecosystem service losses in the Northern Caribbean Wetlands of Costa Rica. This document,

published in 2011, is called “a Summary of Actual and Potential Environmental Service Losses Due to the Current Ecological Conflict in the Portillos/Calero Island Region in the Caribe Noreste Wetland in Northeastern Costa Rica”.

Apreflofas (Asociación Preservacionista de Flora y Fauna) is an NGO dedicated to scientific study and protected area advocacy. In addition to helping organize the previously mentioned environmental campaign, Apreflofas has been involved in scientific study, action research, and more recently politics (Apreflofas Contact 2013). During the interview process, the Apreflofas contact (2013) was proud to share the organization’s role in advocacy for a recently passed environmental law passed in Costa Rica. “We recently achieved an important change in the law of conservation for wildlife conservation led by a citizens’ initiative,” he explained. Prior to engaging in advocacy and research, this NGO participated in activism that led to denouncing the destruction going on in the national parks. Their approach has since shifted to advocacy, research, and education.

### *Universidad de Costa Rica*

La Universidad de Costa Rica has been sponsoring a tourism project in the Barra del Colorado community called “Dinamizando la Población”, or “Dynamizing the Population”. A Conversation with the primary investigator of this project, who is also a professor of tourism at the university and affiliated with Apreflofas, explained how that when the university team first arrived to the site, they were greeted with cynicism on behalf of the community population. The team, then, shifted their initial focus from rural tourism development to food security. Apparently, there is a lot of money and resources that have been invested in this community in the past and too few results (Universidad de Costa Rica Contact 2013). The project involves workshops. According to my contact, these workshops offer advice on traditional agriculture methods used by Costa Rican indigenous communities; seek to bring together community members; and to implant a sense of self-empowerment and self-sufficiency. The university has developed a partnership with an indigenous couple that helps to lead the workshops. This couple leads singing circles that embrace an indigenous dialect *bri bri* (Universidad de Costa Rica Contact 2013). Workshop attendance has skyrocketed. Apparently, only nine community members attended the first workshop while upward towards “forty have attended the most recent workshops” (Universidad de Costa Rica Contact 2013). In this regard, the project seems like it is meeting the community needs, and has begun to heal the recent mistrust of community members toward development projects.

### *Nicaraguan Efforts*

Five interviews took place over the course of a nine-day stay in San Carlos, Nicaragua. A contact from the Nicaraguan Ministry of Environment and Natural Resources (MARENA) explained the governmental efforts, while la Fundación Amigos del Río San Juan; and Fundación del Río explained certain civil society and environmental NGO efforts. The contact Hotel Cabinas Leyko provided a perspective based on his experience as a local business in a municipality facing serious development challenges. Lastly, a sociology consultant for the Sandinista government of Nicaragua explained the community development efforts being put forth by the government.

### *MARENA*

This ministry, which has a base in San Carlos, Nicaragua, organizes efforts along the San Juan River that combine principles of environmental education and national pride. It is currently implementing an environmental education campaign in schools. The objective of this campaign is to educate young Nicaraguan students in schools on the impacts that the highway is having on the San Juan River flora and fauna (MARENA Contact 2013). The ministry is also responsible for organizing the Sandinista

government's sleep away camp for young Sandinista male youth at Harborhead Lagoon. More specifically, MARENA is responsible for organizing and implementing the camp programs. The camp has a focus on environmental education, reforestation action, and national sovereignty defense. It is located strategically where the question of sovereignty is most salient between the two countries—the dispute zone. The young men spend a night in San Carlos before traveling down the San Juan River to Harborhead. MARENA feels it important that the youth see the unique flora and fauna that the river ecosystem has to offer, and also that they see impacts that the highway is causing on a resource that is over national importance (the San Juan River). While at the campsite, the youth work on reforestation projects. According to one international news source, the youth camp has been a source of contention with the Costa Rican government (Rogers 2012). The government feels that this action is breaking the provisional measures of the ICJ ruling in 2011 that Nicaragua refrain from doing anything that might aggravate the current situation. Nicaragua makes a similar argument about the Costa Rican highway. Despite the seemingly polemic nature of this effort, the organizing party views it as a way to instill environmental stewardship and national pride over the San Juan River resource.

MARENA is also responsible for organizing the government's campaign: “Vivir limpio, vivir sano, vivir bonito, vivir bien” (Live clean, live healthy, live beautifully, live well). According to the MARENA contact, there is a lack of an environmental culture among the Nicaraguan population at large. So, the purpose of this campaign is to raise environmental awareness amongst the communities of the San Juan River.

#### *Grupo Ad-Hoc de Observación Ambiental*

A Nicaraguan-based collaboration between Fundación del Río, the Humboldt Center, the Center for the Investigation of Aquatic Resources, and the National Autonomous University of Nicaragua came into fruition around the time of the 2010 dispute. Information on this collaboration was obtained during a conversation with a contact from la Fundación del Río, a Nicaraguan NGO based in San Carlos, Nicaragua. The document review process indicated that the name of this collaboration is el *Grupo Ad-Hoc de Observación Ambiental*. The Fundación del Río contact explained that the group has conducted three important studies related to the Nicaraguan dredging program, the Costa Rican highway, and on the Ramsar Technical Mission to the Northeastern Caribbean Wetlands of Costa Rica. With the case of the Costa Rican highway, “the investigation consisted of two objectives: evaluate the vulnerability of the environmental impacts caused by the highway in the lower part of the basin, and assess the fulfillment of the applicable national, regional, and international ecological laws” (Fundación del Río Contact 2013). He further explained that as a part of these three studies, the group used “scientific information on the impacts, the damages, and the perception that there was in the zone” to produce conclusions and articulate recommendations for the two governments. The group suggested that the two governments hold a dialogue at a high (ministerial) level, and that they reactivate the binational commissions (Fundación del Río Contact 2013).

#### *FUNDAR: Fundación Amigos del Río San Juan*

The second environmental NGO contacted in San Carlos was Fundación de Amigos del Río San Juan—or FUNDAR for short. The contact from FUNDAR provided information on the current and past efforts that this organization has made along side San Juan River communities. For example, the organization is currently working on a project with the indigenous groups—*las ramas mezquitos y los criollos*— in San Juan de Nicaragua. In the words of the FUNDAR contact (2013), “these two groups have their own system of territorial and administrative organization in the south Atlantic region of Nicaragua. Their southeastern-most territory is linked to the Indio Maíz Biological Reserve.” San Juan de Nicaragua is a buffer community of a massive biological reserve. FUNDAR is working with these groups in an effort to

conserve their traditional culture. She continued to explain how “the traditional indigenous culture revolves around taking care of nature, and for example, asking a tree for permission before cutting it down”. With this premise, FUNDAR has developed a rural tourism development project that strives to rescue and preserve this traditional culture. More specifically, the project strives to “generate capacities for these people to offer touristic services while conserving”. FUNDAR also developed and implemented a participatory “nature pride” campaign with buffer communities on the edge the Indio Maíz Biological Reserve. The organization requested that these communities choose a species to conserve that they would identify with: “the community members began to choose, and first came up with the great green macaw” (FUNDAR Contact 2013). The community members decided not to go with this bird species, however, because while it does have habitat in the Indio Maíz communities, it also flies southward across the border into Costa Rica. So, it is not a species that solely belongs to Nicaragua. My contact informed me that instead, they chose the *Pavón*, or horned guan, a species of bird that lives in the forest along with the community (FUNDAR Contact 2013).

### *Hotel Cabinas Leyko*

Hotel Cabinas Leyko is a small family-run hotel in San Carlos. In addition to contributing to the local San Carlos economy, this business has been partnering with a local environmental NGO to promote protected area visitation and ecotourism in the area. The hotel, in conjunction with Fundación Reserva Esperanza Verde, offers tours on the Nicaraguan archipelago Soletiname, el Castillo, and San Juan de Nicaragua (Hotel Cabinas Leyko Contact 2013). The Fundación Esperanza Verde website indicates that this NGO is charged with managing the Reserva Esperanza Verde, a protected area in the wetlands within Los Guatuzos Wildlife Refuge (southern shore of Lake Nicaragua) (FUNDAVERDE 2008). On the tours, visitors get the opportunity to expand their knowledge on the local history and culture of the San Juan River. The tour guides do this by educating the visitors about local art and poetry. The ecotourism activities are interactive; tourists have the opportunity to bird watch and to catch or purchase river shrimp in collaboration with local fisherman (Hotel Cabinas Leyko Contact 2013). Hotel Cabinas Leyko and Fundación Esperanza Verde support also scientific studies conducted by universities within the protected areas and has supported groups of visiting university students, such as one from North Carolina’s Warren Wilson College.

### *Frente Sandinista of Nicaragua*

According to a sociology consultant for the Sandinista government based in San Carlos, the National government has been implementing a model for the development of the San Juan River communities. It is doing this by reaching out to these rural communities and by forming alliances with municipalities and local governments (Sociology Consultant Contact 2013). The model recognizes the inextricable link between economic wellbeing and natural resource conservation. The model’s strategy, then, is to link efforts that “combat poverty, improve the quality of life, protect the environment, and conserve natural resources of ecological and socio-economic importance” (Sociology Consultant Contact 2013).

Brightly colored bumper stickers that read: “Río San Juan, Conócelo, es Nuestro” (San Juan River, Get to Know it, It is Ours) are plastered all over the place in San Carlos. The Sociology Consultant explained that for the past three years, the Nicaraguan government has also been promoting tourism in the San Juan River area. It seems like the initiative is trying to motivate Nicaraguans to become familiar with this resource that of national importance. This initiative may or may not be directly tied to the aftermath of the territorial and dredging dispute. Either way, it is interesting that both came about at the same time.



## *Transboundary Efforts*

### *Environmental Collaboration*

This section builds on the contextual information presented in the “Description of the Study Site” by incorporating the insights gained from conversations with contacts from el Centro Científico Tropical (Costa Rica) and Fundación del Río (Nicaragua). The scope of this project covers only the transboundary environmental collaboration efforts put forth by these two civil society organizations and institutions.

The Centro Científico Tropical is a scientific institution that works directly with two of Costa Rica’s northern-most municipalities—Sarapiquí and San Carlos—on projects surrounding community development, land planning, environmental education, and protected area management (Centro Científico Contact 2013). He explained how the organization focuses on these domestic actions with “transboundary conservation always in mind”. The organization also played an instrumental role in the creation of the Agua-y-Paz UNESCO biosphere site and continues to collaborate with the Nicaraguan NGO Fundación del Río over a project known as the “Día Binacional de la Lapa Verde” or the “Binational Day of the Great Green Macaw”, which is as my contact from the CCT (2013) puts it, the “current strongest manifestation of what was once Si-A-Paz”. The creation of the binational committees for the proposed Si-A-Paz project happened “with the help of the IUCN, Conservation International, the Costa Rican and Nicaraguan governments at the chancellery level, and the environmental ministries of both countries, a binational commission was created to focus specifically on this subject matter. A number of actions were planned around the creation of new protected areas and the strengthening of a shared management framework. This project advanced in different areas, but in the end did not prosper or was not fully implemented” (Centro Científico Contact 2013). The binational commissions that came out of the Si-A-Paz project no longer function (Fundación del Río Contact 2013). In 2002, a binational commission was created and taken on by “municipalities, NGOs, communities, government agencies”. This group focuses on “connectivity conservation or biological corridors”, and is linked to the proposed El Castillo-San Juan-La Selva binational biological corridor. MARENA and Apreflofas are also involved with this commission (Chassot et al no date). MARENA, however, made no mention of this commission. The same was the case for the contact from Apreflofas. He also expressed dismay over the lack of communication between Apreflofas and Fundación del Río.

In addition to the binational biological corridor proposal and “Binational Day of the Great Green Macaw”, the current manifestation of the Si-A-Paz project consists of the “the idea is that some day we can unite the UNESCO Biosphere Reserves (Agua y Paz y Río San Juan) and have a Transboundary Biosphere Reserve. This is the idea that we are recovering from the Si-A-Paz process from thirty years ago. That is the final goal, to have an integrated management of that territory because they have similar ecosystems and similar necessities, shared between the two countries... despite the socioeconomic, political, and cultural differences that there are between them” (Centro Científico Contact 2013).

The contact from the Centro Científico Tropical appeared optimistic when asked about the diplomatic disputes. He did, however, name a few challenges that these binational initiatives have faced in a time of deteriorating political relations. These challenges include the necessity for Nicaraguan children and families to obtain official permission to enter into Costa Rica (or vice versa) for purposes of the Binational Day of the Great Green Macaw festivities, and the hesitation of ministry officials to attend binational corridor commission meetings.

## *Economic Collaboration*

A conversation with a contact from the Universidad Para la Cooperación Internacional shed light on the transboundary economic collaboration that occurs between the public and private sector. He explained how this exchange is especially potent in the lower basin area. The primary objective of private sector economic collaboration is “the development of tourism industry-related infrastructure, the joint construction of regional highways, and the export of citrus and other agricultural products” (Universidad Para la Cooperación Internacional Contact 2013). He directed me to a project known as *Proyecto Mesoamerica: el Proyecto de Integración y Desarrollo Regional Mesoamericano*. This regional initiative, which apparently involves public-private partnerships, encourages the public and private sectors to join forces in the development of cooperative and regional infrastructure projects (Proyecto Mesoamerica 2012). The countries participating in this cross-border and regional project include Colombia, Panamá, Costa Rica, Nicaragua, Honduras, El Salvador, México, Belize, and the Dominican Republic. The project seeks to plan cooperative and integrative projects that resolve “regional issues of energy, telecommunications, transportation, international market integration and commercial competitiveness, health, environment and sustainable development, natural hazard risk management, and housing” (Proyecto Mesoamerica 2012).

It would seem that the actors taking part in transboundary economic collaboration are addressing significant development necessities for Costa Rica and Nicaragua. As I learned from my interview with Fundación Neotrópica, conservation initiatives and infrastructure projects are often at odds with each other. Given this reality, and that of the fragile socioecological dynamic in the border region, I think that it is important to integrate community participation with these development projects and to include these economic actors in future transboundary conservation discussion.

## **Conclusion**

The efforts described in this section display an extraordinary level of resiliency, given their persistence throughout the tense diplomatic situation. If these efforts can survive these disputes in an isolated manner (and in a collaborative manner for the case of the last section), it would seem that together, their synergies could help to trigger peace between the two neighboring nations.

## **DISCUSSION**

The purpose of this section is two-fold: to explore the transboundary collaboration potential amongst the organizations and institutions whose efforts are outlined in the previous section and to discuss the possibilities for state-based collaboration.

The current transboundary efforts, including the proposal for a binational biological corridor and the “Binational Day of the Great Green Macaw” provide a powerful foundation for the revival of the Si-A-Paz project in an era of diplomatic disputes. As discussed in the Literature Review, international peace parks require the collaborative management of two or more adjacent and well-functioning protected areas for the purposes of catalyzing peaceful relations between neighboring sovereignties. The adjacent protected areas—while not without management challenges—are well established and in place along the Nicaraguan and Costa Rican border. The political will for a peace park is not there, however. Nor is the post-dispute era collaboration framework for organizations and institutions that do environmental and development work within and around these relevant adjacent protected areas. In an effort to fill these voids, I seek to enrich the current transboundary actions with future potential collaboration opportunities. Furthermore,

these collaboration opportunities strengthen the peace building process at both the civil society and ministerial levels. With regards to the latter jurisdiction, it is important to extend this framework to the national level. This is the case because both the Costa Rican and Nicaraguan governments share mutual concerns over issues of territory, security, and conservation in the border region. And in a time of tightened border security, this peace park could help heal the wounds, which have manifested over the course of time both in the capitals and in the border area.

### **Transboundary Collaboration Potential**

This section seeks to explore the plausible ways by which the organizations and institutions mentioned in the Results section can better synchronize their conservation and development efforts within the border area. In the survey of all the environmental and peace-supporting efforts at the border, only two are transboundary. These efforts include the Binational Day of the Great Green Macaw and the creation of the Binational Commission for the proposed El Castillo-San Juan-La Selva Biological Corridor. These two efforts have persisted despite the deteriorating relations between the two national governments. Consequently, these efforts are an exemplary way by which parties can collaborate across borders to manage a shared resource (as explained in the Literature Review). Furthermore, it demonstrates how environmental cooperation can persist in the face of territorial disputes.

To properly map out the actual and potential relationships between the different organizations and institutions, I grouped the contact organizations and institutions by the nature of their efforts. Figure 11 illustrates this grouping process. This Collaboration Potential Framework illustrates the four common effort themes (organized into rows): Environmental Education; Community Capacity Building and Protected Area Research/Advocacy; Environmental Impact Assessment and Ecosystem Valuation; and Ecotourism and Community Development. The organizations and institutions that based in Costa Rica are grouped in the left column, whereas those based in Nicaragua are based in the right column. The space between these columns is left for collaboration opportunities. The inspiration for these collaboration opportunities grew out of a process that required categorizing these efforts and marrying them for the purpose of joint management.

The red arrows symbolize efforts already in underway, while the red dashed lines represent potential collaboration opportunities. Each organization and institution has taken a multitude of approaches to address the conservation and development challenges at the border area. This framework illustrates just that by inserting a single organization into multiple categories if necessary (i.e. environmental education and community development). The sheer number and diversity of efforts did make it a challenge to articulate a few uniting categories. For the loftier categories, such as Community-Based Conservation, Capacity-Building, and Protected Area Advocacy, the listed institutions may be involved with only two-thirds of efforts in the title of the category. These efforts are overlapping and interrelating as well, which adds a layer of complexity. I will clarify who does what in the subsequent sections on each category.

#### *Environmental Education Campaigns*

The Environmental Education category involves el Centro Científico Tropical, la Fundación Neotrópica, Apreflofas, MARENA, FUNDAR, and Fundación del Río. The efforts in this category encompass the three separate environmental campaigns (the *Misión Humedales Vida Para Todos* campaign geared toward the Northeast Caribbean Wetlands, MARENA's environmental educational campaign geared toward the fragile San Juan River ecosystems, and FUNDAR's participatory campaign geared toward el *pavón*); a binational activity on the conservation of the Great Green Macaw; and a Nicaraguan youth camp. Together, these organizations have a plethora of educational materials on the border region ecosystems and experience working with different age groups from different backgrounds. For this

category, I have put forth two recommendations—a transboundary environmental educational campaign and a transboundary youth camp.

A transboundary environmental educational campaign would encompass an effort to produce educational material on migratory species in addition to the Great Green Macaw. The “Binational Day of the Great Green Macaw” represents a successful environmental education campaign that is already taking place. The two organizing organizations have extensive experience working with the border communities. This also goes for FUNDAR. Using democratic methods, members of FUNDAR helped to raise awareness on a species that community members in a buffer zone felt that they identified with. Their skill set could enrich the campaign development process, especially as it applies to the initiatives taking place in the border region.

While the *Misión* campaign is not as active as it once was in 2011, the organizers may consider applying their knowledge and the educational tools to this future transboundary campaign. These tools relate to the Costa Rica’s Northeast Caribbean Wetlands and to important border zone migratory species (i.e. turtles and manatees) (as discussed in the Results section). These species depend upon the ecological integrity and connectivity between Nicaragua’s San Juan River and Costa Rica’s Northeast Caribbean Wetlands of Costa Rica—a reality that could unite the organizations in this category. Lastly, MARENA has experience with educating the public, and specifically youth, on the fragility of the lower San Juan River Basin.

The factor that unites all of these institutions is an attempt to raise public awareness on these species. Some of these campaigns are, however, linked to particular dispute impacts. And while these disputes have created new impacts on the ecology of the region, they are also drastically aggravating historical anthropogenic pressures. Rather than focusing on the dispute impact, then, the campaigns could focus on the big picture of all of the threats in a shared basin. A transboundary campaign could also focus on building pride over a shared basin and shared species.

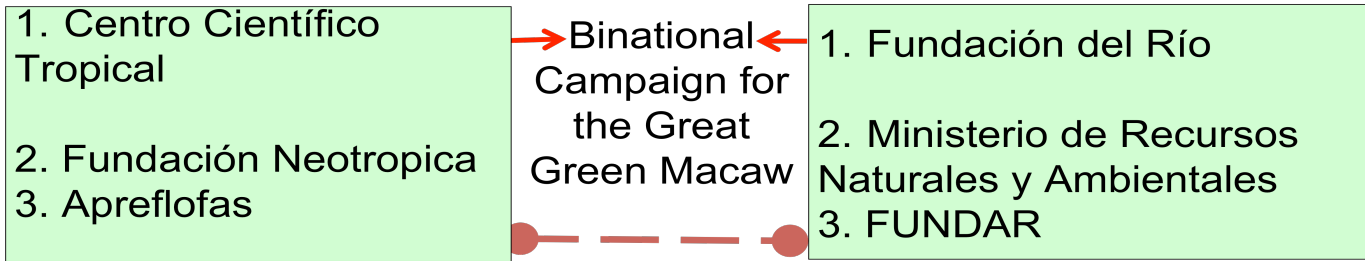
The two major limitations to these collaboration opportunities are the dynamics amongst the organizations and the chronology of their efforts as they relate to the disputes. For example, when the Costa Rican organizations reached out to the Nicaraguan organizations in 2011 for purposes of designing a joint environmental campaign, the Nicaraguan organizations did not respond. After speaking with a few of these Nicaraguan organizations and understanding their support for the Nicaraguan dredging project, it makes sense that this collaboration could not take hold in 2011. It is also important to recognize that the *Misión* campaign focuses on the ecological harm being done to the wetlands. The MARENA campaign has a similar focus, just within a different geographic context. And, while these campaigns emerged out of two different infrastructure project and dredging dispute contexts and have two different geographic focuses, they have shed light on the impacts that can occur within the interconnected ecosystems. The intervention of these complex nuances of course makes it difficult to predict whether or not a collaboration opportunity like this could take hold. This is especially true at a time of political uncertainty over the disputes. Thus, I cannot stress enough how important it is for a joint campaign to be a measure of positive reinforcement and a catalyst for environmental cooperation rather than party polarization.

Secondly, this category gives way to an opportunity for a transboundary youth camp. While the current Nicaraguan youth camp (sponsored by MARENA) is founded upon the principles of environmental education and national sovereignty defense, a transboundary youth camp could be founded upon the principles of cross-cultural communication and environmental cooperation.

# Collaboration Potential

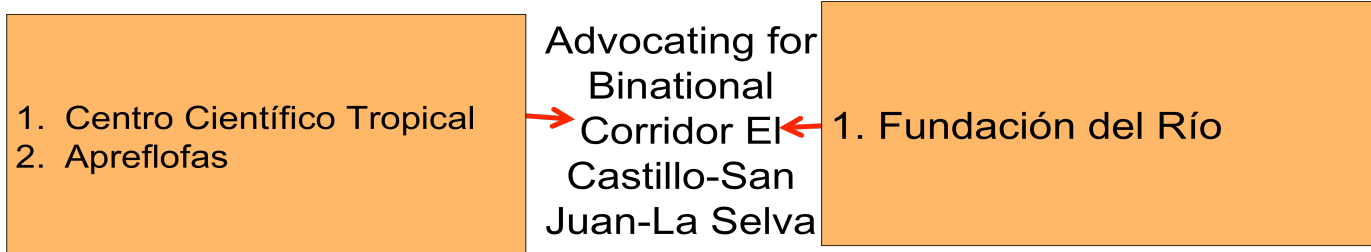
Costa Rica    **Transboundary**    Nicaragua

## Environmental Education Campaigns



*Transboundary Youth Camp and Campaign*

## Community Capacity Building and Protected Area Research/Advocacy



## Environmental Impact Assessment & Ecosystem Service Valuation



## Ecotourism and Community Development



### Key

Existing Efforts=Red Arrow  
Potential Efforts=Red Dashed Line

Figure 11: Transboundary Collaboration Opportunities

As discussed in the Results Section, it would appear that the cultural difference between youth in the border area is less stark than that between Costa Rican and Nicaraguan in the capitals due to existence of the transboundary social identity. Indeed, youth in both Costa Rican and Nicaraguan urban areas of both would be invited to participate, as they already do with the MARENA youth camp. This opportunity builds upon this leverage point, and also gives an opportunity for urban youth to build those skills that they may miss out on otherwise.

Together, the camp and collaborative campaign could help to raise a generation of peace builders in the border area. And, since the San Juan River is already an important symbol of national identity for the Nicaraguans, the camp could be a great opportunity for Costa Rica to instill pride over the shared basin amongst youth. Furthermore, it could be an opportunity for these two countries to foster a culture environmental cooperation at the civil society level.

### *Community Capacity Building and Protected Area Research and Advocacy*

This category involves el Centro Científico Tropical, Apreflofas, Fundación del Río, and FUNDAR. Together, their efforts add up to include the joint promotion of a binational biological corridor and binational committee for said corridor, and in the case of CCT community conservation capacity-building workshops alongside protected area buffer communities in the border region. These workshops are linked to the “Binational Day of the Great Green Macaw” in that they give communities and municipalities tools to conserve flagship species like the Great Green Macaw (CCT Contact 2013). Furthermore, these organizations recognize that in order for a protected area to function properly, the buffer communities must be a part of the planning and management process.

Apreflofas plays an important role in this category with its research and advocacy work for conservation laws in Costa Rica. According to a secondary source from 2004, Apreflofas was initially involved with the binational corridor proposal. As discussed in the Results section, the contact from Apreflofas said that he had not had any contact with Fundación del Río for quite a while, however. Nor did he make mention of this binational effort. So, it is not completely clear whether Apreflofas is still involved in this era of diplomatic disputes. If indeed the organization is not involved, it may consider re-joining when they feel the time is right. Their efforts are too valuable to not be connected to a larger transboundary protected area initiative.

### *Environmental Impact Assessment and Ecosystem Valuation*

This category encompasses the efforts of the Fundación Neotrópica to evaluate the ecosystem service losses in Costa Rica’s NCW, and MARENA and el Grupo Ad Hoc de Observación Ambiental (including Fundación del Río) to evaluate the ecological damage done on the lower San Juan River Basin. And, while I did not speak directly to a RAMSAR Technical Mission or a UNOSAT contact, their reports play an important role in evaluating the current ecological impacts in the border region. Out of all these assessment efforts—conducted after the initial Nicaraguan dredging project, the alleged territorial incursion, and the construction of the Costa Rican highway “Ruta 1856”—there is not was conducted in a transboundary manner. This is unfortunate, given that all of those who conducted these assessments are ultimately concerned about the same interrelated ecosystems. Even with the legitimate intervention of international scientific bodies, it would seem that these assessments are divided by sovereignty and further deepen the territorial divide down the San Juan River basin, rather than heal it. Furthermore, many of these assessments have ended up been used as evidence in the International Court of Justice: with the government of Costa Rica’s claim against that of Nicaragua for the territorial incursion and dredging program, and for the government of Nicaragua’s claim against that of Costa Rica on the construction of the highway.

As discussed in the Description of the Study Site, there is no existing transboundary environmental impact assessment. As such, the involved organizations and institutions may consider developing one of these for the San Juan River Basin. The assessment should take into account that the Nicaraguan dredging project and the Costa Rican highway project are not only incurring new ecological damages, but are exacerbating existing transboundary impacts. The collaboration amongst these mentioned organizations makes for a great transboundary match, seeing that one group focuses on an upstream ecosystem, and the other focuses on a downstream ecosystem. The assessment process is also enriched when the different specialties available, such as ecological economics and environmental impact assessments, are combined. And with their intimate familiarity of these border region ecosystems, these organizations could inspire collaboration at the ministerial level over the current and future infrastructure disputes.

### *Ecotourism and Community Development*

This category encompasses a food security project in Barra del Colorado by the Universidad de Costa Rica, the community development project in San Juan de Nicaragua led by FUNDAR, and the ecotourism efforts in San Carlos led by Hotel Cabinas Leyko and FUNDAVERDE. And, while the interview process for this project did not include a conversation with the Sandinista government of Nicaragua, integrating their community development model (as discussed by one of their sociology consultants) could certainly enrich the transboundary collaboration potential. The transboundary tourism circuit would begin in the San Carlos (Nicaragua)/Los Chiles (Costa Rica) area and would lead tourists via boat down the river, stopping at both Costa Rican and Nicaraguan border communities along the way. It would then circulate the once disputed zone, but now shared peace zone (as designed in the next section), at the mouth of the San Juan River. In doing so, the tourists would visit San Juan de Nicaragua and then Barra del Colorado. As demonstrated in the Results Section, San Juan de Nicaragua and Barra del Colorado have faced similar development challenges. As such, this shared peace zone could be a hub for shared ecotourism activities. And by shared, I mean that both sovereignties would benefit from this joint effort—further contributing to the peace-building process. Tourists could be boated around the zone and stay with locals in these communities to experience life through the eyes of these interdependent communities. Furthermore, tourists, volunteers, and visiting student groups could participate in the service learning experiences with the Universidad de Costa Rica project in Barra del Colorado and the FUNDAR project with the indigenous groups in San Juan de Nicaragua. The transboundary tourism effort leverages the historical cooperation between these communities. It also seeks to directly benefit these communities and provide alternative livelihoods and opportunities for youth. Generating these opportunities, especially given the threat of narcotrafficking.

While seemingly far off in San Carlos, Hotel Cabinas Leyko could partner with hotels in Barra del Colorado and San Juan de Nicaragua. After discussing issues of economic development in the border communities with the owner of Hotel Cabinas Leyko, it seems like public and private investment could be best put towards empowering local hotel businesses—the administrators of which are intimately familiar with the socioeconomic and cultural dynamics of the border region. The owner of Hotel Cabinas Leyko also said that he had connections with hotel owners in San Juan de Nicaragua. So, there is a foundation for collaboration—it just needs to expand to Barra del Colorado. The hotels in these communities have a lot to learn from each other. Furthermore, FUNDAR could provide their valuable insight into community-based development along the planning and implementation process.

## **Sovereignty and Two-State Considerations**

### ***A Shared Peace Zone: a Shared Sovereignty Arrangement for the Disputed Zone***

As the two national governments remain pitted against each other and wait for an international arbitration process that could take up to five years, the border ecosystems continue to suffer. During the interview process for this project, a few different organization contacts explained why exactly the process is taking so long. According to them, the ICJ uses a process, which they refer to as “la decision salamónica”. This concept basically means that the court will review the evidence and the relevant legal frameworks and will reward the disputed territory to its “rightful owner”. One related example of this process is the recent maritime territory dispute between Nicaragua and Colombia. The ICJ ended up ruling in favor of Nicaragua. Nicaragua became, for lack of better words, the winner, and Colombia (who later rejected the resolution) became the loser. A situation like this, where one nation feels as though it has lost, is not exactly favorable for peace-building conditions to occur. Since the decision around the disputed area will not be made for a few years, and there is no guarantee that it will trigger improved relations between the two neighboring sovereignties, the time is ripe to investigate the possibilities for shared sovereignty over the disputed zone.

From the San Juan River Delta to the Caribbean Sea is an especially contentious area of the border region, given the complex and divergent views of territorial and geographical alignment. It is for this exact reason that it deserves special attention in future considerations. As demonstrated in the Results section, even the history of the geology, geography, and political ownership over the San Juan River Delta and the Harborhead/Portillo and Calero is under binational contention. Whether or not the Colorado River diverts the San Juan Rivers flow, or truly begins at the San Juan River Delta, these rivers and their associated tributaries are part of a united riparian network. Indeed, it is in the interest of the two countries to look forward, rather than look back and to reclaim what used to be. Both nations rely upon ecologically and economically viable San Juan and Colorado River ecosystems. And, despite the various attempts to divide the river and tributary resources equitably, the fact remains that the international boundary line lies right in the middle of a tributary network. The earlier discussions on the dispute nuances demonstrate that the border delimitation decisions have mainly been based on bilateral and international navigation-based interests. Therefore, it may be helpful to shift the conversation and decision-making criteria to ecological resilience of the river and its tributaries and also towards environmental cooperation over these transboundary riparian ecosystems. In conclusion, this sort of riparian cooperation has the power to heal and overcome the sovereignty paradigm that dominates the San Juan River disputes, as it does for transboundary river basins around the world.

### ***The Dispute Paradox***

One source of contention worth mentioning is the interoceanic canal. After listening to the different oral narratives on the history of the San Juan River and reading various historical accounts, it seems to me that Nicaragua aches for a missed economic development opportunity. Moving forward, the two countries may consider coming to terms with the historical nostalgia over the interoceanic canal and the difficult transportation at the terminal branch of the San Juan River. The claims that the current San Juan River dredging project is linked to an interoceanic canal is more of a claim that the Costa Rican perspective holds, rather than a shared piece of evidence. There are economic, security, and apparent ecological necessities that motivate the Nicaraguan government to undertake this program—just as there are social and security necessities that motivate the Costa Rican government to construct the highway.

Caught in the crossfire of these recent diplomatic disputes are the border communities. Interestingly enough, though, it is the development of these same communities that is motivating both the Costa Rican



and Nicaraguan governments to invest in these contentious infrastructure projects. There is a certain parallel between these disputes and an interesting paradox with the two diplomatic disputes when put in juxtapose. With the case of the dredging project, it is clear that besides trying to recover a river canal altered by natural and anthropogenic causes, Nicaragua was trying to improve the navigation and development situations for San Juan de Nicaragua. For the highway project, it is clear that besides trying to protect its border, Costa Rica was trying to provide improved accessibility to, and consequentially improve the quality of life for its isolated border communities. It would seem, then, that these two countries have a similar motive to improve the quality of life for the border communities that lie within their respective territories. What has ended up happening, though, is that these projects have revived historical diplomatic disagreements, triggered the deterioration of bilateral relations, and begun to impact a fragile transboundary social identity.

With this being said, there are a few steps that the governments can take to improve a shared socioecological situation. Besides the idea of a shared peace zone, the national governments could cooperatively combat narcotrafficking, jointly manage the development of megaprojects, and support the proposed transboundary efforts outlined in the Collaborative Potential Framework. These suggestions are outlined in the following section.

### *Uniting Considerations and Participation Considerations*

One mutual challenge for Costa Rica and Nicaragua in the communities around the dispute zone is narcotrafficking. These communities are of course San Juan de Nicaragua and Barra del Colorado. As discussed in the Results Section, this problem was one of the motivating factors behind the intervention of the Nicaraguan military in the dispute zone. Being a factor linked to the diplomatic dispute, the issue of narcotrafficking was mentioned far more in the interviews with Nicaraguan contacts than with Costa Rican contacts. The contact from the University of Costa Rica involved with the food security project did, however, frame narcotrafficking as an activity youth may participate in due to lack of alternative opportunities. So while the Costa Rican government is also combating narcotrafficking in the same area in other ways, its efforts are not necessarily linked to ecological destruction like they were for the Nicaraguan government in 2010. It would seem then that narcotrafficking is a serious obstacle to both national security and regional development goals for the two countries. In addition to supporting the opportunities for youth created through the transboundary tourism circuit, the national governments may consider creating a joint monitoring commission for narcotrafficking activity. Given the potential for transboundary ecotourism initiatives, from which both countries could benefit, the two national governments may consider brainstorming ways by which to combat narcotrafficking without destroying tree stands.

The national governments could also participate with the transboundary impact assessments. They play important role in promoting these megaprojects and have the power to develop partnerships with private sector organizations that have funding resources. The fragile social and ecological state of the border region necessitates any project to be carefully and collaboratively planned. This planning process, should be based off of the proposed transboundary impact assessment and should be driven by a genuine social responsibility to the local communities.

### **Limitations to Study**

The three major limitations to my study include the limited knowledge on local actors, the time constraint placed on the document review process, and the exclusion of a discussion on certain protected areas other dispute situations. While I do feel like I got to know each interview contact pretty well, I had only a limited time with each one of them. I imagine that this time constraint made it so that they only

shared certain aspects of their perspective. I also imagine that the timing of my visit played a role in the level of optimism amongst the organizations contacts.

The second major limitation for is related to the timing constraints for the document review process. Each organization contact ended up passing on a number of key documents, a trend that ended up enhancing my data triangulation process. There was simply not enough time for the thorough translation that would have needed to occur for every single document.

The last factor in this section relates to the limited analysis and discussion on other important protected areas and development dispute situations. While there are several established protected areas in the border region, there are also a few proposed protected areas (i.e Parque Nacional Maquenque) that could not be discussed due to time constraints on the project. The Boundary Corridor in Costa Rica is another protected area that could have been discussed, but was not due to the same reasons. With regards to the former situation, there have been additional disputes that have played out in the border region. They include the hydroelectric dam “El Brito” and the mining dispute in northern Costa Rica. Framing the two diplomatic disputes within the context of these other disputes could have enriched the discussion on the continuous polarization of ministerial actors. These disputes, then, do not fit within the scope of this thesis.

## **CONCLUSION**

The lower San Juan River Basin—a watershed that encompasses the border region between Nicaragua and Costa Rica—has been home to both diplomatic disputes and transboundary cooperation efforts alike. This project investigates the impacts that the territorial and highway disputes have on the fragile socioecological fabric of the border region in order to demonstrate what is at stake for these neighboring sovereignties. While the disputes have manifested themselves in the capital, they have left footprints in the border area that seem to have interrupted the ecological, social, and economic interdependence and connectivity of the border region. The disputes have also led to a deterioration of bilateral relations.

Luckily, this trend hasn’t been potent enough to destroy all collaborative activities. In fact, these disputes have impacted the lower San Juan River Basin in such a way that could prompt these two neighboring sovereignties to begin cooperating once again. The persisting collaborative activities are the current manifestation of a historical proposal for an international peace park and include a binational celebration over the Great Green Macaw and the proposal for a binational biological corridor. These efforts could be further strengthened if the two sovereignties and relevant civil society actors applied a shared sovereignty framework to the disputed zone (Calero or Harborhead); organize a transboundary tourism circuit, transboundary environmental education campaign, and transboundary youth camp around the disputed zone; and then also coordinate a transboundary impact assessment for the lower San Juan River Basin in its entirety.

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