

Ecological Restoration and Tourism Development as Agents of Bordering:

A Case Study of the U.S.-Mexico Border

by

Connor Clark

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Graduate Supervisory Committee:

Gyan Nyaupane, Chair
Dallen Timothy
Megha Budruk
Irasema Coronado

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ABSTRACT

Contrary to common thought at the end of the 20th century, the forces of globalization over the last several decades have contributed to more rigid rather than more permeable international borders as countries have enacted strict immigration and travel policies. This growing rigidity of international borders has paradoxically occurred as international tourism steadily grew up until the COVID-19 pandemic and conservationists adopted a landscape-scale approach to conserving and restoring ecosystems, often across international borders. Considering this paradox, this dissertation research examined the interactions between tourism development, ecological restoration, and bordering processes by utilizing bordering and stakeholder theories; core-periphery, cross-border tourism, and border frameworks; political ecology; and polycentric governance and cross-border collaboration literature. Together, these conceptualizations were used to assess stakeholder attitudes towards tourism development and ecological restoration, compare resource governance characteristics of private protected areas, and analyze shared appreciation for natural and cultural heritage at the U.S.-Mexico border. To collect data, the researcher utilized in-depth interviews, photo-elicitation interviews, focus groups, secondary data analysis, and observations to engage key tourism and conservation stakeholders from the region, such as tourism businesses, tourists, state and federal agencies, conservation nonprofits, ranchers, and residents

The findings of this research revealed a political ecology of a border landscape that included social and environmental injustices and unequal stakeholder partnerships in tourism and ecological restoration initiatives. Unequal partnerships were also found in cross-border resource governance systems, largely due to the U.S. government's border

wall construction actions, and the necessity for government leadership in establishing vertical and horizontal linkages in polycentric governance structures was evident. The results also demonstrated how a shared appreciation for natural and cultural heritage contributes to debordering despite the rebordering actions of border security and strict travel policies. This study contributes to tourism literature by highlighting the need for tourism and ecological restoration initiatives to consider social and environmental justice issues, develop stronger cross-border linkages with governments and resource users, and foster cross-border collaboration and integration. This consideration of social and environmental justice issues involves sharing benefits of tourism and restoration, restoring and preserving resources that stakeholders value, and facilitating access to resources.

DEDICATION

This dissertation is dedicated to my wife, children, parents, and deceased grandfathers who offered their constant support and encouragement during this four-year journey. I am so grateful for my incredible wife Neysla who gave me countless rides to and from campus, told me that I was good enough, and put up with four years of living on a shoestring budget. I am grateful for my daughter Genesis who gave me joy every day during this pursuit, and for my newly arrived son Connor who added to this joy. I also want to thank my mom and dad, Marilyn and Warren Clark, who provided so much emotional support and encouragement during this journey. Lastly, I am grateful for my deceased grandfathers Norman Clark and Edward Parker who earned doctoral degrees while they were alive and whose spirits undoubtedly pushed me through the greatest challenges of this journey.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER	
1 INTRODUCTION	1
2 STAKEHOLDER ATTITUDES TOWARDS ECOLOGICAL RESTORATION AND TOURISM DEVELOPMENT: A CROSS-BORDER APPROACH	9
Chapter 2 Introduction	9
Chapter 2 Literature Review	10
Chapter 2 Methods	21
Chapter 2 Results	30
Chapter 2 Discussion	43
Chapter 2 Conclusion	49
3 UNDERSTANDING MECHANISMS FOR CROSS-BORDER GOVERNANCE OF TOURISM AND NATURAL RESOURCES: A CASE STUDY OF THE U.S.-MEXICO BORDER	52
Chapter 3 Introduction	52
Chapter 3 Literature Review	53
Chapter 3 Methods	66
Chapter 3 Results	73
Chapter 3 Discussion	90
Chapter 3 Conclusion	98

CHAPTER	Page
4 IDENTIFYING APPRECIATION FOR SHARED HERITAGE AND INTEGRATION AT THE U.S.-MEXICO BORDER: A PHOTO- ELICITATION APPROACH	101
Chapater 4 Introduction	101
Chapter 4 Literature Review.....	103
Chapter 4 Methods.....	114
Chapter 4 Results	122
Chapter 4 Discussion	140
Chapter 4 Conclusion.....	145
5 CONCLUSION	148
REFERENCES	157
APPENDIX	
A IRB APPROVAL LETTER	179
B INTERVIEW PROTOCOL (ENGLISH).....	182
C INTERVIEW PROTOCOL (SPANISH)	184
D FOCUS GROUP PROTOCOL (ENGLISH)	186
E FOCUS GROUP PROTOCOL (SPANISH)	188
F PHOTO-ELICITATION INTERVIEW PROTOCOL (ENGLISH).....	190
G PHOTO-ELICITATION INTERVIEW PROTOCOL (SPANISH).....	192
BIOGRAPHICAL SKETCH.....	194

LIST OF TABLES

Table	Page
1. Characters of Private-led Governance Entities in the Sky Island Borderlands ...	80
2. Focal Point of Participant Photos by Category and Subcategory	122

LIST OF FIGURES

Figure	Page
1. Protected Areas in the Sky Island Borderlands.....	23
2. Erosion on an Overgrazed Ranch in Sonora, México.....	35
3. Stakeholder Ties to Socioecological Landscapes	36
4. Expanding Social and Ecological Mobility Along Borders.....	44
5. Map of Protected Areas in the Sky Island Borderlands and Selected Cases.....	67
6. Malpai Borderlands Group Working Area in Relation to Cuenca Los Ojos.....	75
7. Cross-border Governance at Multiple Scales.....	97
8. Sky Island Borderlands Region and its Protected Areas	116
9. Armed Cartel Members Seen on a Trail Camera on a Sonoran Sky Island	124
10. Black Bear Passing by Exact Location One Hour Later.....	125
11. A Mining Corporation's Fortified Water Wells in Cananea, Sonora, Mexico.	125
12. Crosses Left at the Border Wall by Family Members of Deceased Migrants..	126
13. College Student Taking Picture of the 30-Foot Border Wall at CLO	128
14. Border Wall and Construction Staging Area Seen From Nearby Mountain ...	129
15. College Students and Artists from a Binational Nonprofit Painting a Mural...	131
16. Field School Participants Crossing the Cajón Bonito at CLO.....	132
17. Violet-crowned Hummingbird	133
18. Rare Ocelot in the Huachuca Mountains of Arizona	134
19. Group of Cyclists at a Conservation Property in Arizona	135
20. Tumacácori National Historic Park.....	137
21. Sonoran Rancher Showing Visitors Native Plants and their Uses	137

CHAPTER 1

INTRODUCTION

Despite common perceptions among scholars that globalization would lead towards a more borderless world, international boundaries all around the globe have become more militarized and difficult to cross in the 21st century (Judkins, 2007). In fact, dozens of physical barriers have been built or expanded along international borders since the 9/11 terrorist attacks to secure national boundaries and restrict immigration, usually from developing countries (Vallet & Charles-Philippe, 2012). In addition to building physical border walls or barriers and implementing strict immigration policies, countries all over the world have restricted human mobility through their tourist visa policies that limit who can enter a country's borders (Timothy, 2001). Together, each of these tactics result in less permeable borders that disproportionately impact immigrants and refugees from developing countries and marginalize those who successfully cross international borders (Bauder, 2015; Beaumier, 2015). In contrast to this trend of increasing restrictions on human mobility across borders, international travel steadily grew for well over half a century until the COVID-19 pandemic caused major disruptions (Gössling et al., 2021) that continue to be present at the time of this dissertation being written. Just after international tourism peaked in 2019 at 1.5 billion tourist arrivals, the number of international tourists plummeted to 400 million in 2020 after countries around the world closed their borders to combat the spread of COVID-19, and only a modest increase of 415 million was reported in 2021 (UNWTO, 2022). While international tourism may take many more months or even years to recover to its pre-COVID levels, its continuance in the face of increasing border securitization presents a dichotomy that merits further study.

This dichotomy illustrates how on the one hand more people had been traveling to other countries than ever before prior to the COVID-19 outbreak, while on the other hand borders have become more restrictive for marginalized populations (Bauder, 2015). This selective mobility for certain populations illustrates a social injustice that needs to be remedied for tourism systems to be more equitable.

As international travel slowly recovers from COVID-19 disruptions, another international movement is gaining traction that frequently requires cross-border collaboration and connectivity: landscape-scale conservation and ecological restoration (Chester, 2015). The underpinnings of landscape-scale conservation and ecological restoration are that resilient ecosystems require large and intact landscapes to fully function, especially with the threats of climate change, even if it requires restoring damaged or missing elements of an ecosystem (Bauduin et al., 2018). Due to the human-caused damage to the environment, remaining biodiversity and undeveloped natural areas continue to shrink and become more fragmented (Burger, 2000), which is especially harmful to large mammal species that require vast landscapes that facilitate migration behaviors (Mattsson et al., 2020). Thus, when attempting to protect and restore large landscapes, conservationists must frequently collaborate across municipal, county, state or provincial, and national boundaries (Chester, 2015). Working across borders to carry out landscape-scale environmental protection often requires ecological restoration, an effort that often entails restoring damaged ecosystems through various practices, such as reseeded native plants, reintroducing wildlife, or restoring water flow in arid environments (Anderson et al., 2019; GNEB, 2014). As these practices are vital for

restoring ecosystem services, many see ecological restoration as necessary for reversing the damage caused by climate change and human development (Harris et al., 2006).

Ecological restoration practices seek to ecologically connect large landscapes together for the benefit of wildlife and other ecological processes by reducing the level of human-caused barriers to ecological connectivity, such as fences, highways, extractive industries, and even border walls (Villarreal et al., 2019). As the landscape-scale conservation and ecological restoration movement gains momentum, the opportunities for tourism to develop alongside this movement grows as well (Clark & Nyaupane, 2020). In fact, ambitious projects such as the 30x30 initiative or the half earth project call for governments and communities to set aside large portions of the earth's land and water surface for conservation, which is partly achieved through designating new protected parks that attract tourism (Butler, 2000). Conversely, these ambitious conservation goals can also be pursued by protecting land without designating them as parks, but these conservation lands may still nonetheless increase access to natural areas and facilitate tourism and recreation (Clark & Nyaupane, 2020). Further, the linkages between cross-border tourism and landscape-scale ecological restoration and their interactions with international borders is understudied (Mayer et al., 2019). As such, this study seeks to address this knowledge gap by examining these recovering and growing trends of international tourism and landscape-scale ecological restoration to develop a greater understanding of their social, political, economic, and environmental influences on international borders.

Prior to the last several decades, scholarly writings focusing on international borders provided a descriptive and non-theoretical view of borders, referring to them as

static political decisions made throughout history based of the outcomes of wars, conquest, or international agreements (Newman, 2006a; Newman 2006b; Newman & Paasi, 1998). In recent decades, however, much of the vast academic literature discussing border-related topics and issues have greatly expanded on this descriptive outlook on borders and have taken an enormously more broadened approach in understanding the many different types of borders that exist and the process by which these borders are created and change over time (Gao et al., 2019; Martinez, 1994, Newman, 2006b). For example, border scholars demonstrate how borders not only exist along the territorial limits of sovereign nations but all throughout our communities based on race, class, other social factors (Newman, 2006b). Moreover, the very notion of border making, or ‘bordering’ as it has come to be known in border research (Herzog & Sohn, 2017), as a continual process that can be influenced by many social and political factors (Deleixhe et al., 2019) highlights an important area of research for scholars to examine the impact that tourism development and ecological restoration have on borderlands and bordering processes. Currently, there is a dearth of research that examines the impact of tourism development and ecological restoration on international borders (Sinthumule, 2020), illustrating an important contribution of this study.

Another important contribution of this study is its focus on cross-border resource governance and its impact on cross-border destinations. As cross-border destinations rely on their natural and tourism resources for their success, as all tourist destinations do, the question of how to properly govern these resources has crucial implications for tourism (Blanco, 2011). For example, natural resources such as mountains, forests, and beaches are part of a destination’s tourism product and thus need proper governance and care in

order to maintain its attractiveness for visitors (Blanco, 2011). In a cross-border context, resource governance faces challenges as tourism stakeholders have unequal power when it comes to influencing policies and business practices in their favor (Adams et al., 2019; Stoffelen et al., 2017). Further, decades of research shows that complex governing structures, known as polycentric governance, are superior to the simplistic, one-size-fits-all governance approaches that are commonly found throughout the world (Nyaupane et al., 2021). For example, these monocentric approaches may involve a federal government as the sole entity managing a national park, which have many vital resources for tourism, while polycentric governance systems involve multiple players and decision makers who together manage resources across a socio-ecological system (McGinnis & Ostrom, 2012; Ostrom, 2010). This polycentric approach is shown to have more sustainable outcomes (Ostrom, 2010); thus, the complex nature of governing resources across borders is more fitting with the aims of polycentric governance. Moreover, the mechanisms that facilitate multi scalar natural and tourism resource governance are not well understood by scholars (Bixler, 2014; Blasco et al., 2014), and this study seeks to address this knowledge void. As such, cross-border resource governance is another important piece of research examining how bordering processes are impacted by tourism development and ecological restoration.

This question of how ecological restoration and tourism development are intertwined in the bordering process provided the rationale for this study. The purpose of this study was to decipher how both tourism development and ecological restoration operate as agents of bordering, debordering, and rebordering by using the region of southeastern Arizona, southwestern New Mexico, northeastern Sonora, and northwestern

Chihuahua as a case study. This region is known as the Sky Island borderlands, a name it receives from the forested mountain chains that rise above the desert like islands (López-Hoffman & Quijada-Mascareñas, 2012). This region is also known for its high biodiversity and the rare, endangered, or threatened wildlife that are sometimes detected here, such as jaguar, ocelot, and many bird species that attract birding tourists (López-Hoffman & Quijada-Mascareñas, 2012; Smith, 2017; Villarreal et al., 2019). With its location at the U.S.-Mexico border, the Sky Island borderlands' cultural landscape is as unique as its natural landscape (Piekielek, 2009b), considering the multitude of territorial claims and cultural influences it has had over several centuries (St. John, 2012). Taking into account these unique natural and political features of the Sky Island borderlands, the objective of this study was to illuminate the relationship between tourism development, ecological restoration, and bordering by examining stakeholders' perspectives, analyzing resource governance structures and their effectiveness in preserving resources and livelihoods, and identifying shared values and appreciation for the border region's common natural and cultural heritage. To contribute to tourism literature regarding each of these topics, this study utilized the theory of bordering, border frameworks, political ecology, stakeholder theory, polycentric governance literature, cross-border collaboration literature, core-periphery frameworks, and cross-border tourism frameworks. Data for these studies were collected using a multi-method approach, including in-depth interviews, photo elicitation interviews, personal observations, secondary data, and focus group discussions.

Gaining a deeper understanding of tourism development and ecological restoration's impacts on bordering can be facilitated through innovative research methods

that obtain rich data. One such method is photo-elicitation, a method of research that uses photographs to elicit rich data from study participants (Harper, 2002). The qualitative data obtained through photo-elicitation interviews add depth to this study; it provides intimate, first-hand accounts from people who share their perspective through photos (Samuels, 2012). Scholars remark on how this innovative method has remarkable potential for understanding historical and cultural landscapes (Seymour & Summerlin, 2017), which matches with the objectives of this study. Furthermore, to the researcher's knowledge, there is no study that uses photo elicitation to examine shared appreciation for natural and cultural heritage in a borderland region, demonstrating yet another contribution of this study.

The contributions of this study to tourism literature are significant considering how the entire U.S.-Mexico border region is described by many as one that is imperiled, where border patrol activities that attempt to control illegal border crossings and drug and human trafficking are militarized to the point that highly biodiverse ecosystems, communities, and nations are divided and damaged in the process (Meierotto, 2014). Although many perceive the U.S.-Mexico border to be imperiled, millions of people legally cross this border daily for work and leisure and billions of dollars' worth of goods are traded between these two nations annually (Mendoza & Dupeyron, 2020; Office of the United States Trade Representative, n.d.). Lamentably, a negative image of the region still persists in many peoples' minds, and this negative image hurts its tourism industry (Woosnam et al., 2015). Some of this negative image comes from the historic presence of illegal activities and violence or vice industries that have attracted tourists, such as gambling, prostitution, and alcohol (Martinez, 2006; Timothy, 2006a; Timothy et al.,

2016). Another factor leading to the region's negative image is the heavy media attention the area gets on its local issues with drug cartels, illegal immigration, and border security efforts (Herzog, 1990). As such, this study will also discuss how the Sky Island borderlands can utilize its unique cultural and natural resources to rebrand itself as an attractive and premier tourist destination that is worthy of being visited by anyone who loves to travel. Owing to the many social, political, economic, and environmental challenges present in the Sky Island borderlands, the current situation in which the region finds itself reveals as many opportunities as it does challenges for creating ties between these two countries that transcend the razor wire, steel-framed barrier, and border patrol forces that divides them.

The following chapters in this dissertation contribute to the overall objective of this research by utilizing a variety of methodological approaches and theoretical frameworks. In the first study, I engaged tourism and conservation stakeholders and sought their perspectives towards tourism development and ecological restoration. In the second study, I compared different forms of private-led polycentric governance structures that operate in the study area to generate a greater understanding of the mechanisms that facilitate cross-border resource governance. Lastly, in the third study I analyzed stakeholders' photos of the what they love, want to change, and think tourists would enjoy about the Sky Island borderlands to assess how appreciation for natural and cultural heritage foster cross-border tourism and collaboration. Together, these separate studies help fill current gaps in understanding regarding the role of tourism development and ecological restoration in the bordering process.

CHAPTER 2

STAKEHOLDER ATTITUDES TOWARDS ECOLOGICAL RESTORATION AND TOURISM DEVELOPMENT: A CROSS-BORDER APPROACH

Introduction

More than ever before, international borders are being increasingly fortified, nations and communities have unequal access to economic opportunities, and the natural environment continues to be destroyed (Lybecker et al., 2018). To remedy some of these problems, scholars suggest that tourism provides opportunities for development and improving perceptions towards neighboring countries (Prokkola, 2010; Stoffelen et al., 2017).

Likewise, ecological restoration is seen as a key action for repairing damaged ecosystems (Suding et al., 2015). Scholars also claim that there are exemplary cases in parts of the world where efforts to restore landscapes by creating new protected areas are stimulating tourism economies and creating more robust ecosystems (see Pettersson & Carvalho, 2021). Whether such exemplary cases have application for diverse communities and geopolitical contexts around the world, such as on either side of an international border, is understudied (Mayer et al., 2019). Thus, research that engages local stakeholders and assesses their attitudes towards tourism development and ecological restoration is needed in regions where such efforts are taking place. Moreover, borderland regions are already geographically and economically peripheral (Martínez, 1994) and are thus wrought with inequality and uneven power structures (Saarinen et al., 2017). This social-ecological context provides an opportunity for researchers to investigate how tourism development and ecological restoration might benefit communities, ecosystems, and access to economic opportunities for diverse stakeholder groups.

Given this gap in knowledge and the uneven development in peripheral regions, this study draws from stakeholder, tourism development, social and environmental justice, and political ecology frameworks and theories to assess the social and ecological dimensions of tourism development and ecological restoration in a border landscape. Further, the current inquiry uses a case study approach to better understand stakeholder attitudes towards tourism development and ecological restoration along a section of the U.S.-Mexico border, a region of rampant inequality where communities face disproportionate levels of poverty, pollution, and access to healthcare (Ganster & Lorey, 2016; Wilder et al., 2013) and ecosystems face destruction from border security infrastructure, extraction industries, and urbanization (Martínez, 2016; Meierotto, 2014). Considering the focus of this study and the theoretical constructs it uses, the following section seeks to provide further context by reviewing literature on the topics of ecological restoration, tourism development, social and environmental justice, and political ecology.

Literature Review

Ecological Restoration

Ecological restoration is the practice of restoring ecological processes that have been disturbed, damaged, or destroyed, usually by human activities (Clewell & Aronson, 2013; Suding et al., 2015). These practices include actions such as reseeded native plants, restoring the water flow of a de-watered river, and restoring extirpated wildlife species (Anderson et al., 2019; GNEB, 2014), which many scientists see as a necessary to combat biodiversity loss and climate change (Harris et al., 2006; Pettersson & Carvalho, 2021). Further, ecological restoration that emphasizes restoring ecosystem services provide an

opportunity to reconnect communities with nature and simultaneously justify the need for restoring damages caused by human development (Hainz-Renetzeder et al., 2015). One of the major damages caused by human development is the fragmentation of large landscapes that have historically been used by wildlife as migratory routes (Mattsson et al., 2020). When ecological restoration efforts are expanded to a landscape scale, such efforts not only have the potential to restore wildlife migration pathways (Mattsson et al., 2020) but can also lead to the creation of new protected areas (PAs) such as national parks, whose designation naturally attracts tourism (Butler, 2000). While the linkages between tourism development and ecological restoration are more apparent when a new national park is designated (see Pettersson & Carvalho, 2021), more study of the linkages between tourism and ecological restoration in protected areas in a cross-border context is needed as few studies have addressed these topics in conjunction (for examples, see Ramutsindela & Noe, 2015; Sinthumule, 2020). Moreover, landscape-scale ecological restoration is complex given the likelihood of needing to coordinate efforts across municipal, regional, state, tribal, or national boundaries (Chester, 2015).

Restoring ecological processes along international borders is often met by many barriers that can prevent such efforts from being successful (Fall, 2011; Ferriera, 2011; Ramutsindela & Noe, 2015). Among these barriers are national-level policies that reduce the power of local communities to collaborate in cross-border conservation efforts (Timothy, 2006). In southern Africa, for example, cross-border ecological restoration and conservation efforts have led to the creation of transboundary protected areas (TBPAs), which have been touted as a win-win for conservation and local economic development (Andersson, Dzingirai, et al., 2013). TBPAs have even been suggested as a possibly

remedy to the social and political issues stemming from the colonial period when European powers drew international borders without regard to ethnic and cultural borders (Ramutsindela & Noe, 2015). Unfortunately, TBPA's have resulted in some communities being separated from their historic homelands and having vastly unequal access to the financial benefits of tourism (Ferreira, 2011). To address ethical and legal considerations that might arise in ecological restoration efforts, Landres et al. (2020) developed a framework that considers the legal environment, Indigenous values, cumulative impacts of such efforts on surrounding communities, and the input of local stakeholders for the area in question. The emphasis on seeking stakeholder input is crucial for all forms of ecological restoration activities, especially when projects extend across borders.

Beyond the establishment of TBPA's, binational efforts to restore ecological processes across international borders include initiatives to restore de-watered rivers. One clear example of this type of binational collaboration includes the actions brought on by the International Boundary and Water Commission, an international body created by the United States and Mexico that governs transboundary water affairs and commits to restoring the Colorado River Delta (Ojeda-Revah & Brown, 2012). These efforts to restore water flow to the Colorado River Delta restores habitat for wildlife in a river ecosystem under significant stress from increasing regional water demands (Wilder et al., 2013). Crucial to initiating this restoration commitment was the increased involvement of environmental nonprofits that began forming in the 1990s and who became important stakeholders in the region (Gerlak, 2015). This large-scale ecological restoration endeavor demonstrates the possibilities that exist for restoring ecosystems and improving cross-border collaborations between nations. Ecological restoration along international

borders can result in substantial environmental, health, social, and economic benefits as improved air, soils, and watersheds can lead to more social cohesion, increased real estate values, and improved recreational experiences (see GNEB, 2014). This list of benefits has important implications for community stakeholders and the development of tourism in border regions.

Tourism and Conservation Stakeholders

According to the tenets of stakeholder theory, a stakeholder is any individual or group who has a stake in an organization or initiative or can be impacted by the organization or initiative's actions (Knox & Gruar, 2007; Mitchell et al., 1997). Given how tourism development and ecological restoration actions can impact numerous stakeholders in both positive and negative ways, numerous studies demonstrate the critical value of involving all stakeholder groups who could potentially be impacted by such actions (Byrd, 2007; Clark & Nyaupane, 2020; Jamal & Stronza, 2009). When development initiatives bring tourism and ecological restoration efforts together, research shows that such projects are often viewed by local stakeholders in a very mixed fashion as the diversity of opinions widely vary on these issues (Clark & Nyaupane, 2020; Pellis, 2019; Poudel et al., 2016). These mixed attitudes are on display in certain geographies where private entities such as a wealthy individual or a nonprofit take ecological restoration and tourism development initiatives into their own hands by creating new protected areas. In some cases, the actions of private individuals or organizations to restore landscapes and create protected areas are perceived by some as a form of land grabbing that does not take local communities, livelihoods, or biodiversity into account (Busscher et al., 2018; Clark &

Nyaupane, 2020). Moreover, when such efforts try to gain local support for their continued viability, proponents should not set unrealistically high expectations for nature-based tourism's economic contributions, as excitement quickly turns into disenchantment when expectations are not met (Lilieholm & Romney, 2000).

Beyond the issues of disenchantment and unmet expectations, the actions of private or nongovernmental entities can be problematic for local stakeholders as these organizations do not need to abide by the same restrictions as federal institutions and may possibly pose a threat to local communities if certain actions are taken without local input (Adams et al., 2019; King & Wilcox, 2008). Given these possible negative impacts from tourism development or ecological restoration efforts on local livelihoods, destinations need to be managed in such a way that maximizes the benefits of these efforts for local communities (Goodwin, 2000). To promote such benefits, one income-generating idea put forth by scholars that would likely not stimulate overcrowding is to encourage specialized tours that highlight an area's archeology, bird populations, culture, history, or geology comprised of tourists and volunteers sensitive to these issues (Lilieholm & Romney, 2000). Such people-centered approaches are just as important for protected parks, whose management decisions need to consider local communities and livelihoods to succeed (Nepal, 2000). These types of approaches can also directly benefit the environment. For example, the introduction of ecotourism to Mexico's Monarch Reserve brought financial benefits to local landowners, who in turn stopped logging the butterfly's critical habitat (Forbes, 2006).

Tourism development in a cross-border context highlights unique challenges and opportunities for stakeholders. Among the challenges for developing tourism in border

regions are a lack of proper skills and financial capital among local communities and tourism entrepreneurs (Stoffelen & Vanneste, 2017), intercultural and communication differences, and the significant workload required of administrators, meaning that substantial benefits are needed to be worth the effort (Mayer et al., 2019). In addition, tourism stakeholders in border regions hold unequal power, which complicates equitable distribution of tourism benefits as the more powerful stakeholders try to shape tourism systems in their favor (Stoffelen et al., 2017). While these cross-border obstacles can hinder regional tourism development in borderlands, even former conflicted borders have been able to provide tourism development opportunities, such as the Iron Curtain Cycling Trail along the Germany-Czech Republic border (Stoffelen & Vanneste, 2017).

According to Prokkola (2010), favorable supranational policies and local involvement leads to higher border permeability, which in turn invites more tourism investment and opportunities for sustainable tourism development and binational cooperation.

In border areas being considered as candidates for TBPA's, it is especially important that local stakeholders are involved from the onset of discussions, treated as equal partners and not as intruders, and appropriately compensated for the damages they may incur from wildlife (Sinthumule, 2020). Due to a lack of academic understanding about stakeholder attitudes towards tourism development in conjunction with ecological restoration efforts, especially in a cross-border environment where cultural, social, and political factors might have an influence over such attitudes, more study is needed. Furthermore, as landscape-scale ecological restoration often involves creating new protected areas, this study also fills the knowledge void on cross-border tourism in protected areas (Mayer et al., 2019). Given the importance of addressing stakeholder

needs and issues in the context of tourism development and ecological restoration, research must also consider the topics of social and environmental justice.

Social and Environmental Justice

Ever since the rise of mass consumption following WWII and the Civil Rights movement of the 1960's, the term 'social justice' has been used to look at issues of fairness and morality as they relate to marginalized communities (Bankston, 2010; Odoudom & Bassey, 2018). Using this lens to analyze outcomes and conditions for different segments of society, scholars found that poorer communities and communities of color often took on added environmental risks in terms of their exposure to pollutants and toxins, presenting the notion of environmental injustice (Schlosberg, 2013). This connection between social and environmental justice must be made to strengthen the effectiveness of community action advocacy (Hillman, 2002). One injustice found along international borders is the preferred mobility for goods, capital, and information over human beings (Bauder, 2015). More specific to tourism destinations along international borders, borderland areas often reflect power imbalances among stakeholders where tourist servicing industries can be promoted at the expense of local workers whose needs are secondary to those of tourists (Adams et al., 2019). According to Gaskin (1984), a party has power over another party when it can exert its influence and change the behavior of the other. In a tourism context, power imbalances among stakeholders are problematic because more powerful stakeholders often push tourism development in their favor while failing to understand the needs of local residents (Adams et al., 2019; Stoffelen et al., 2017). These issues are crucial for researchers to understand in border regions where

unequal levels of poverty, water security, suitable housing, health outcomes, urban planning, and other socioeconomic inequalities often exist (Ganster & Lorey, 2016; Wilder et al., 2013). Moreover, free trade arrangements and climate change can both partially explain such scenarios, as these have caused migration towards wealthier countries whose immigration laws often exclude and marginalize immigrants (Beaumier, 2015; Johnson, 2011). It is within this migration phenomenon where Staudt and Coronado (2002) claim that the ultimate human rights abuse occurs: the loss of human life among migrants who succumb to the extreme elements during their undocumented crossing.

Both social and environmental injustices can also be seen in parts of the world where the traditional conservation model of restricting access to resources within protected areas is implemented and local communities are not included in conservation and do not receive financial benefits from nature-based tourism (Andersson, Garine-Wichatitsky, et al., 2013). In southern Africa, promoters of TBPA's have touted their potential to provide economic development for local communities, restore wildlife and habitat, and attract funding from international organizations; however, they frequently hide the perspectives of local communities that might not agree with this assertion (Andersson, Dzingirai, et al., 2013). As a further injustice, local communities are shown to have less border crossing privileges than the foreign tourists, effectively being overpowered by stakeholders who favor conservation and commercial enterprise over locals' wellbeing (Sinthumule, 2020). Given this reality, promoters of TBPA's need to accept that some communities may not wish to participate in such an endeavor, which may limit the success of some international plans (Whane & Suich, 2009). Further, as

Low and Gleeson (2002) point out, whenever sustainable development initiatives involve conflicts of interest, such situations demand just solutions that also address environmental injustices, as a failure to do so removes the sustainability component of sustainable development. As such, looking at environmental and social justice issues through the lens of political ecology can be helpful as it challenges the status quo through its analysis of the politics of resource management in a socio-ecological system (Fisher, 2015; Ranganathan & Balazs, 2015).

Political Ecology

Given the abundant social and environmental justice issues present in socio-ecological systems around the world where tourism takes places (Büscher, 2021; Rainer, 2018), using a political ecology lens for this study is useful as it helps unpack the relationship between political, economic, and environmental issues and changes (Mkono et al., 2021). This lens is especially useful in a cross-border context that is rife with inequalities when it comes to resource management. According to Robbins (2012), political ecology is an urgent argument to examine the political forces in environmental management, access, and transformation policies along with their winners and losers, hidden costs, and power relations that produce different social and environmental outcomes. Political ecology is also viewed as a theoretical framework which posits that all ecological practices and environments must be historically contextualized to understand the place-based and multi-scalar perspectives on ecological change, along with their deep linkages to a range of social relations (Mostafanezhad et al, 2015). In other words, political ecology critically engages with the politics of resource management in a historical context across a socio-

ecological system, and this can occur in either an urban or rural environment (Fisher, 2015). For example, Egge and Ajibade (2021) used a political ecology lens to examine social and racial inequalities surrounding water shortages in a majority Latino community in California. Interestingly, non-human actors can also be important actors in political ecology. For example, the U.S. border patrol's proposal to install stadium lighting at its border with Mexico received heavy public outcry because it was feared to have an impact on the habitat and behavior of two small cat species, the ocelot and jaguarundi (Sundberg, 2011).

Given the importance of natural resources for tourism, some scholars are surprised that the political ecology lens is not used more often in tourism literature (Duffy, 2016; Rainer, 2018). This lack of political ecology in tourism research is especially surprising due to the abundant examples of natural resource inequities, including the overuse of vital freshwater resources at the expense of locals (Stonich, 1998), the displacement of communities for coastal tourism developments (Mostafanezhad et al, 2015), or the increase in land prices and overall cost of living in areas adjacent to where private developers have purchased land to build high-end resorts (Rainer, 2018). Similarly, the cost of living increases in areas where land is converted into private wildlife reserves; the lack of high-paying jobs provided by these reserves forces marginalized residents to relocate outside their community (Büscher, 2021). Büscher (2021) applies a political ecology lens to understand wildlife extinction and the increase of private reserves and concludes that private reserves benefit from wildlife extinction and lead to spatial, social, and political inequality. In contrast, Knowles (2019) argues that sustainability outcomes can be achieved when certain tourism niches are developed

using a political ecology lens rather than focusing on the operational sustainability of tourism. In essence, using a political ecology framework can be a useful tool for examining stakeholder views towards tourism development and ecological restoration across a landscape.

Study Purpose

The purpose of this study is to develop a conceptual framework for understanding stakeholder attitudes towards tourism development and ecological restoration through the lens of political ecology that accounts for the unique needs of diverse stakeholder groups with asymmetrical power relations. The objective of this study is to examine and understand these stakeholder attitudes in the Sky Islands borderlands region of southeastern Arizona, southwestern New Mexico, northeastern Sonora, and northwestern Chihuahua by employing a case study design. Moreover, the guiding research questions for this study include the following:

1. How do different stakeholder groups, such as ranchers, nonprofits, local residents, tourism businesses, tourists, and state and federal agencies feel about efforts to ecologically restore the landscape and develop tourism throughout the region?
2. How do power imbalances among stakeholders affect the desired outcomes of these efforts?
3. What linkages exist between sustainable cross-border tourism and ecological restoration?
4. How can the benefits of tourism development and ecological restoration be distributed more equitably in this region?

Methods

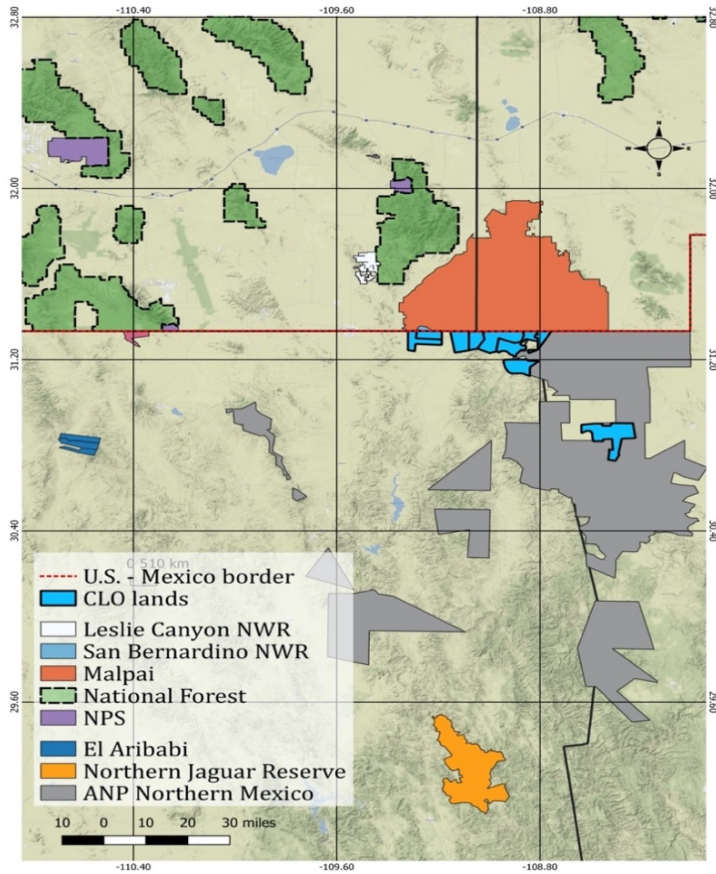
Study Area

The study area coincided with the high-altitude forest ecosystem known as the Sky Islands, which spans across southeastern Arizona, extreme southwestern New Mexico, northeastern Sonora, and northwestern Chihuahua. Much of the higher elevation forests on the U.S. side of the border are part of Coronado National Forest, which is one of the most biologically diverse temperate forests in the world (López-Hoffman & Quijada-Mascareñas, 2012). This area is also known for its world-class birding and wildlife viewing, although more cross-border collaboration will be essential for maintaining and restoring habitat connectivity across this ecosystem (Villarreal et al., 2019). Land ownership across this landscape consists of private and communal ranches and farms, public lands, protected areas, and rural communities. This area is the ancestral homeland of various Indigenous groups such as the Yaqui, Tohono O’odham, and the Apache nations, who during settler colonial expansion utilized the U.S.-Mexico border as a survival strategy to evade capture by both U.S. and Mexican militaries (Schulze, 2018; Wilder et al., 2013). The study area was selected due to the landscape-scale ecological restoration activities occurring within the region and the abundance of social and ecological justice issues related to the border wall and border security infrastructure. Cuenca Los Ojos (CLO), a nonprofit operating in the region that is protecting and restoring cattle ranches in Sonora and Chihuahua, is a notable example of landscape-scale ecological restoration in the Sky Islands.

There are many protected areas in the study area that provide important tourist attractions and focal areas for ecological restoration work (Figure 1). In the U.S., these

include Fort Bowie National Historic Site, Chiricahua National Monument, Coronado National Memorial, private ranches within the Malpai Borderlands Group, and San Bernardino National Wildlife Refuge. In Mexico, protected areas include Ajos-Bavispe National Forest Reserve and Wildlife Refuge, Janos Biosphere Reserve in Mexico, and CLO's acquired properties. Within the study area, protected areas function quite differently between Mexico and the U.S. In Mexico, many of the protected areas consist of private and communal land and thus require community-government partnerships to manage (Quadri-Barba, 2020; Salazar & Spalding, 2006). For example, 2,600 people live within the Janos Biosphere reserve where ranching is the main economic activity, although severe drought from climate change has degraded the land and caused many of the younger generation to leave the area to seek employment elsewhere (List et al., 2010).

Figure 1. Protected Areas in the Sky Island borderlands



Source: Cuenca Los Ojos (2022)

The twin border cities of Douglas, Arizona and Agua Prieta, Sonora are important for cross-border trade and travel and provide many of the essential services for the surrounding landscape where CLO works. CLO is not only engaged in conserving landscapes and rural livelihoods in northern Sonora and Chihuahua but is also actively working to restore ecological processes on their properties (GNEB, 2014). For example, to restore waterflow and vegetation in an area experiencing a decades-long drought and where surface and ground water has been over utilized, CLO has intervened with a low-tech method of stacking rocks in stream beds, which slows down the flow of water,

prevents rapid evaporation, and increases vegetation cover despite the harsh conditions (GNEB, 2014). Additionally, CLO has reintroduced certain wildlife species into their project area, such as Coues deer and Gould's turkeys, and has planted five acres of penstemon to benefit hummingbirds (Wildlife Reintroduction, 2020). Coues deer also play a profitable role in tourism development in Sonora, where hunters will pay between \$3,500-4,500 to harvest one (Rosas-Rosas & Valdez, 2010). The efforts to enable more robust wildlife populations in this region is best symbolized by the jaguar, whose struggle to reestablish itself in the U.S. through diminishing wildlife corridors illustrates not only the ecological potential but also the enormous political threats and obstacles that wild species face in the borderlands (King & Wilcox, 2008).

Social injustices and inequities at the U.S.-Mexico abound and are often connected to immigration policy and border patrol measures. For example, many Latin American immigrants do not have health insurance due to the undocumented status, leading to clear health disparities in the border region (Ortega et al., 2015; Rosales et al., 2016). Further, current border policies and enforcement activities funnel illegal border crossings into remote areas, pushing migrants into dangerous environments where many die from exposure in the attempt to pursue a better life in the U.S. (Slack et al., 2018). Even for immigrants who successfully cross into the U.S. and establish themselves, their access to essential services such as healthcare is highly unequal (Minghui et al., 2016), and reports of abuse and health stresses caused by border patrol agents exist, although much goes unreported due to fear of retaliation (Rosales et al., 2016). Moreover, the forces of globalization have also resulted in significant urban sprawl and industrialization on the Mexico side of the border (Mumme, 2014), which has had both devastating health

(Muñoz-Melendez et al., 2012) and environmental (Hackenberg & Alvarez, 2001) consequences. Importantly, Pezzoli et al. (2014) suggest that ecological restoration can be carried out in urban areas along the border by taking a bioregional/watershed approach, and this can increase the positive impacts of restored soils, air and watersheds, and provide crucial socio-economic and health benefits.

Much of the environmental injustices at the U.S.-Mexico border are related to water governance and local hydrology. For example, in 2008 after the border fence was built between Nogales, Arizona and Nogales, Sonora without regard to local hydrological conditions, floodwaters impounded on the Sonora side of the border, causing millions of pesos worth of damage and killing two people (Wilder et al., 2013). As another example, the construction of the All-American Canal in California diverts Colorado River water to San Diego and prevents this water from seeping into Mexican soils as badly needed ground water for their agricultural and urban usage (Wilder et al., 2013). Local Indigenous communities such as the Tohono O'odham also face environmental injustices. For example, recent border wall construction pumped excessive amounts of ground water and nearly depleted all of the surface water around Quitobaquito springs, a sacred site to this community and home to two endangered species (Main, 2020). These examples illustrate how environmental justice issues occur on both sides of the border and disproportionate impact marginalized communities (Ranganathan & Balazs, 2015). Moreover, the issues related to the 30-foot-tall steel and concrete barrier constructed by the Trump administration cannot be understated. This barrier cuts through the border landscape and damages vegetation, sacred sights, and wildlife habitat, (Main, 2020). This destruction is considered legal because of the Real ID Act, which allows the government

to waive dozens of environmental laws (Fisher, 2014). The new border barrier also goes through much of the study area, including the San Bernardino Wildlife Refuge where endangered species and wetlands are now being further threatened (Tory, 2020).

The researcher has significant experience living in Mexico and other Latin American countries for work and study purposes, providing him with a foundational understanding of the language and culture of this region. Although cultural competence is important for conducting research among diverse populations, scholars find that the notion of cultural humility is a more suitable goal for researcher reflexivity and positionality and entails possessing traits and actions of openness, self-awareness, holding one's ego at bay, supportive interactions, and self-reflection and critique (de la Garza, 2019; Foronda, 2016). Given the goals of cultural humility, the researcher utilized local partners in Sonora to help collect data from local communities. Conducting a reflexive exercise on the implications of different social positions and perspectives has crucial importance for power relations with study participants and the goals of social and environmental justice (Chambers & Buzinde, 2015; Wallerstein, 1999). A further assessment of the researcher positionality highlights his dual insider and outsider status among study participants, both of which have their advantages and disadvantages for collecting data from study participants (Lofland et al., 2006).

Data Collection and Analysis

This research utilized a case study design that was underpinned by a constructivist world view. This constructivist world view posits that as individuals seek understanding of the world, they develop their own subjective meanings of their life experiences, leading to

multiple and complex understandings of reality that are negotiated in social and historical contexts (Creswell & Creswell, 2018). Thus, it becomes the responsibility of the researcher to understand these complex social constructions of reality through open-ended questions and intense listening (Creswell & Creswell, 2018). The case study design is well suited for this study as it helps obtain in-depth and extensive knowledge about complex social phenomena, thus fitting with the constructivist paradigm where multiple realities exist (Creswell & Creswell, 2018; Meyer, 2001; Yin, 2018). As case study research relies on extensive inquiry using multiple data collection methods (Creswell, 2007), data were collected through multiple methods to ensure reliability of data (Bernard et al., 2017) and included focus group meetings, in-depth interviews, observations, and secondary data analysis. The secondary data analysis entailed reading legal documents, conference proceedings, news articles, and organization's websites and watching videos. Johnston (2017) claims that secondary data analysis is an underutilized research method given the amount of publicly available data.

Due to the COVID-19 pandemic, focus group meetings were conducted remotely through Zoom for the safety and wellbeing of the researcher and participants. In-depth interviews, on the other hand, were either conducted in-person while following public health protocols or through a virtual platform. Remote interviews provided the advantage of removing public health concerns surrounding COVID-19 and allowing cross-border communication during a long period of border closure between the U.S. and Mexico. However, in-person communication was necessary to interview certain stakeholders who did not have reliable internet access or technology capabilities, or who would have been very difficult to identify through remote methods.

Study participants represented various key stakeholder groups in the study area, such as tourists, cattle ranchers, state and federal agencies, conservation nonprofits, local residents, and local tourism and hospitality businesses. These stakeholder groups are crucial for nature-based tourism destinations and would likely be impacted by landscape-scale ecological restoration and tourism development efforts in some fashion. A purposive sampling strategy (Bernard et al., 2017) was used to contact key individuals from stakeholder groups and invite them to participate in in-depth interviews and focus group meetings. This strategy entailed calling or emailing specific organizations or individuals from various stakeholder groups whom the researcher knew to be working in the region and inviting them to participate in the study. During the in-depth interviews and focus group meetings, participants were asked to share their feelings, insights, and attitudes towards ecological restoration and tourism development efforts in the region, power imbalances that might be impacting outcomes of these efforts, linkages between ecological restoration and tourism, and their perspective on what key issues most need to be considered for the benefits of such efforts to be distributed equitably. Two ninety-minute focus groups were also held to gather insights from ranchers, nonprofits, state and federal agencies, and tourism businesses. One focus group was held in English and was attended by 8 participants, while the other was held in Spanish and was attended by 14 participants. With the participants' permission, both focus group meetings were audio and video recorded, and observations were kept in hand-written notes. During the focus group meetings, participants were asked to share their perspectives towards tourism development and ecological restoration initiatives, how these initiatives impacted their communities, what kinds of tourism activities could be facilitated through ecological

restoration, and how can the benefits of tourism and ecological restoration be best distributed throughout communities. As many of the interview and focus group participants had extensive networks of knowledgeable individuals from different stakeholder groups in the region, a snowball sampling method was also used to recruit participants and contact additional key informants with an in-depth knowledge of the issues this study focused on.

Most tourists were contacted in person during their trip to the study area through a convenience sampling method given the difficulty of identifying people who have recently visited an area. Tourists in the U.S. were contacted during their visit to Cave Creek Canyon within the Coronado National Forest while they were relaxing in designated camping and resting areas. The tourists were asked specific questions about what drew them to visit the area, their awareness of other attractions in the region, and their interest in volunteer opportunities associated with local ecological restoration efforts. Tourists in Mexico, on the other hand, were purposefully contacted with the aid of CLO due to the lack of developed tourist attractions in the area where tourists could be reliably contacted. CLO provided the contact information of several individuals who had recently visited their property during an education program for college students from Mexico. These individuals were then recruited to participate in the study shortly after their visit. Each interview was recorded with participants' permission. Additional study participants included several young adults engaging in ecological restoration work with an Arizona nonprofit who participated in unstructured and unrecorded in-person interviews. During these unstructured and unrecorded interviews, the researcher kept hand-written notes to record responses. The researcher's observations during interviews

were also be kept in hand-written notes help identify common themes, issues, and concepts. To ensure that the objectives of this study were met and that responses to the guiding research questions reached saturation (Charmaz, 2006), 67 participants representing the various stakeholder groups were recruited. Each stakeholder group served as the unit of analysis for this case study in the Sky Island borderlands.

To analyze the collected data, the interviews and focus group recordings were transcribed and coded with the aid of Maxqda software. Spanish recordings were first translated into English by the researcher and with the occasional assistance of his native Spanish-speaking colleagues before the transcription and coding process. The coding process consisted of several steps, beginning with an open coding of the data to form categories, followed by axial coding and selective coding to refine the categories into more concrete themes (Creswell, 2007; Creswell & Creswell, 2018). Personal observations from field visits and secondary data analysis were also integrated into the analytical process as major themes were identified. These integrated data were used to help further refine and make comparisons of the major themes and categories identified during the coding process. To ensure validity of the analysis, the researcher engaged in member checking to ensure participants found agreement with the analysis (Bernard et al., 2017). The identified themes resulting from the coding process were used to form a detailed descriptions of the case study that will be presented in the results section.

Results

Data from interviews, focus group meetings, observations, and secondary analysis yielded several underlying themes that demonstrate diverse stakeholder perspectives

towards tourism development and ecological restoration in the Sky Island borderlands. These perspectives help analysts to understand the political ecology of the area and the power relations between stakeholders. Important for understanding the social dynamics between stakeholders is how the participants represented the diversity of the area in terms of their ethnicity, national origin, and immigration status. Using guidance from the research questions and existing literature, the four themes that emerged from the data analysis included political ecology of border landscapes; linkages between tourism and ecological restoration; stakeholder and national divisions; and unequal stakeholder partnerships.

Political Ecology of Border Landscapes

Stakeholder views towards tourism development and ecological restoration help to understand the political ecology of the Sky Island borderlands. Due to the historical, cultural, and economic connections to the land and its resources, stakeholders reiterated the importance of protecting and restoring vital resources. One example obtained through secondary analysis revealed how the actions of the U.S. government to construct a border wall weakened Indigenous People's connection to their homeland and resources. As much of the study area is the ancestral homeland of the Tohono O'odham Nation, members of the nation have taken actions to protect the saguaro cactus, which they regard as sacred. Sadly, during the Trump administration's wall construction efforts, many saguaro cacti were destroyed, and efforts to translocate living saguaros to other areas were not very successful. In response, the San Xavier District Council of the Tohono O'odham Nation drafted a resolution to grant the saguaro cactus personhood and protect

it from further destruction (Eiler et al., 2021). While this resolution cannot shield all saguaro cacti from future threats, state and federal agencies are paying closer attention to Indigenous People's sacred relationship with their homelands. Federally designated protected areas on Indigenous homelands have also played a role in weakening Indigenous People's relationship to resources, which represents an obligation for protected areas to recognize Indigenous People's connection to these lands. An employee from the National Park Service acknowledged the responsibility that the park service has in allowing the Tohono O'odham access to resources within park boundaries, such as saguaro cactus fruit that has been used for religious purposes for centuries. The park service employee further elaborated on how the park educates visitors about the Tohono O'odham's connection with the land:

Our park is on the traditional lands of the Tohono O'odham, and so you know that's something that we take pretty seriously. If you... come to the park and you go to like the [theater] and watch the video on the west side in the visitor center, it's really all about kind of the Native American heritage of the land and the relationship between the saguaro and the Tohono O'odham people. So that's a really important relationship for us.

The acknowledgement of stakeholders' traditional, historical, and cultural connections to the land is extremely important for tourism development and ecological restoration projects. However, political actions, such as immigration policies, may sometimes interfere with these projects. For example, border wall construction in 2020 and 2021 also destroyed portions of protected areas, some of which are managed by the U.S. National Park service. One participant from a conservation nonprofit lamented this destruction: "It's really a travesty that they can go through a National Park Service property, a place of such cultural, natural history, historical significance, and blast away

the whole foot of the Huachuca mountains on Montezuma Peak.” As another example, the U.S. government waived scores of laws to build the border wall, often in remote areas where local communities found it unnecessary and harmful to wildlife. Even for many local ranchers who have lived on the border for generations and have first-hand experience with some of the dangers of illegal drug trafficking, the border wall was not seen as an effective solution. During one interview with a ranch family living on the border, family members expressed their fears that if they did not allow the government to build across their private property then they would lose access to their ground water supply through imminent domain. This concern for wildlife and water supplies reflects additional economic and emotional connections that people have with the landscapes and ecosystems within the Sky Islands. In terms of local wildlife, the most notable species that influence the political ecology of the Sky Island borderlands are tropical cat species, the jaguar and ocelot, which historically lived throughout the study area in greater numbers but are still today present in Mexico and sometimes detected in the U.S. Conservation stakeholders were quick to point out the advantage of focusing conservation and restoration efforts on charismatic species like the jaguar, as one stakeholder from a conservation nonprofit in Mexico explained:

I feel like jaguars elicit some sort of stirring in people's hearts. Like, I've learned that over years in talking, giving presentations to all manner of people from all backgrounds...everybody appreciates jaguars. And that's included in Mexico...jaguars have a big place, maybe not in Sonora as much but as in central Mexico but, a big place in the culture.

This quote illustrates how important cultural connections are to achieving conservation goals of protecting and restoring certain species. From a socio-economic perspective, some stakeholders rely on the land and its resources for their livelihoods, and

the climate trends and pace of development is a major concern for them. Climate change and exurban development also reduce the tourism appeal of the area as open spaces disappear and extreme heat dries up water sources for the wildlife that tourists enjoy seeing. For local ranchers, climate change is an existential threat as the lack of precipitation and extreme summer heat have led to the direst categorization of droughts throughout the region: extraordinary droughts. One rancher expressed their views of the current circumstances:

Well, right here we're interested in carrying on the ranching. I mean..., we're in a terrible drought right now. It's tough. And we're praying for a good monsoon season because...that's about our main concern here is stay in business. Because it's gonna be a little tough. Yeah, it sure is.

While climate change is perhaps the most threatening and uncertain force on the landscape, the actions of powerful stakeholders also impact the land and its available water supply for other stakeholders. An example in the U.S. is the large pecan farming corporations that are attracted to Arizona's lack of ground water regulation and can afford digging deep wells to access the water table. As a result of intense corporate exploitation, the water table has dropped, leaving some residents without water as they can't afford to dig deeper wells. In Mexico, the inequities between stakeholders are even more drastic. Large mining companies in Sonora, for example, take excessive amounts of water to sustain their extractive businesses, creating drier surface conditions that force many ranchers to overgraze parched grasslands just to provide for their families. As a result of this overgrazing, a host of other problems arise, such as erosion and land denudation, threatening the future viability of ranching in Sonora (Figure 2). Historically, conservationists have viewed ranchers as the source of environmental issues in the region

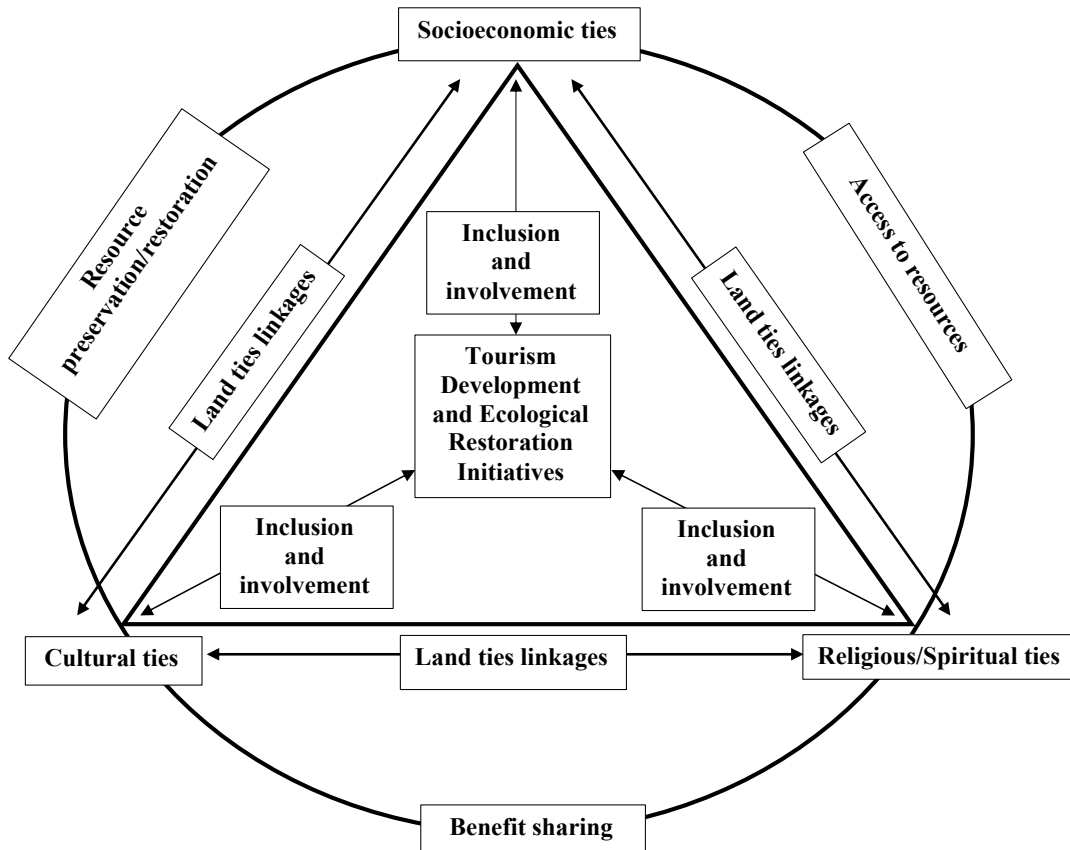
without giving thought to the larger environmental justice issues as play from more powerful stakeholders.

Figure 2. Erosion on an overgrazed ranch in Sonora, México



As revealed by the above quotes and examples, the cultural and natural resources of the region have major significance to different stakeholder groups due to their cultural, religious and spiritual, and socioeconomic ties, which often overlap with each other. Understanding these connections are critical for tourism development and ecological restoration efforts to be more just and equitable. As summarized in Figure 3, tourism development and ecological restoration initiatives also need to ensure that the benefits of these efforts are shared, resources are preserved or even restored, and access to resources by appropriate stakeholders are facilitated. Connections were also made between ecological restoration, local culture, and tourism development opportunities during interviews and focus group meetings.

Figure 3. Stakeholder ties to socioecological landscapes



Linkages between tourism and ecological restoration

The data provide ample support for tourism development efforts in the region and recognize the linkages between tourism and ecological restoration. The common attitude shared by stakeholders was that the current level of tourism development was far from its full potential, but participants recognized that political, social, and environmental inequalities created challenges for tourism. During the focus group meetings, participants offered suggestions for increasing tourism opportunities in the region, such as designing routes through Sonora’s mountain towns and private preserves where ecological restoration efforts are under way, combining cultural attractions and experiences with

nature-based experiences, and catering to niche groups of tourists who would be willing to pay substantial fees to have unique wildlife and cultural experiences. Regarding the opportunities for tourism development stemming from restoration efforts, one participant from a U.S. nonprofit suggested:

I mean, this is the future of tourism, especially because we can't continue to have extractive tourism like Disneyland and all of that, all of that type of stuff. So it's really cool that, hopefully, this is the future where we start connecting more to the land and doing things to preserve it, because it's so beautiful. It's worth it.

Participants also discussed how restoring wildlife could make the area more appealing to visitors. While many participants acknowledged the slim chances that any tourist would ever see a jaguar while visiting the area, they suggested that tourists would still get excited about visiting an area where wildlife restoration was occurring. One tourism business owner in Arizona stated:

Birders go to the Grand Canyon to see the Grand Canyon, but guess what? That's secondary. Seeing the Grand Canyon is secondary to seeing a free soaring condor because they've been reintroduced. So don't you think that if jaguars are reintroduced that people would hope to see one?

While different stakeholder groups were enthusiastic about the potential for tourism to expand in the region, they could not ignore some of the present challenges that have so far been major impediments to tourism. A major challenge for many Mexican nationals wanting to travel to the U.S. is the vastly unequal and strict immigration laws that restrict poorer people from being able to obtain a tourist visa. The political landscape along the entire U.S.-Mexico border creates inequitable flows of travel between the two countries, and this would likely continue if efforts to create a transboundary protected area are successful. Beyond the legal challenges for international travel in the region, concerns about safety are difficult obstacles for tourism development efforts in the region

to overcome as intense media coverage of cartel violence has tarnished the destination image. The image problems are especially present in Mexico, which local stakeholders both understand and lament. For example, some ranchers and conservationists from Sonora openly shared experiences of their dangerous encounters with drug cartels while working in the backcountry or along remote highways. Still, many participants feel that these threats are blown out of proportion by the U.S. media and do not reflect the reality on the ground. One tourism business owner in Arizona who takes hunting clients to Sonora recalled a conversation with one of his Mexican employees:

So, I had a guy ask me a while back, one guy that works for me, he said, "...let me ask you a question. Your kids, when they go to a high school, they have to go through a metal detector before they enter school?" And I said, "yeah, some of them". He said "why?" I said, "well, to make sure they don't have any weapons, guns or knives, or anything on them". He looks at me and goes, "really? And you guys are afraid of Mexico?"

This exchange conveys the perception of many stakeholder groups in Mexico who feel that U.S. nationals have an irrational fear of their country, especially when considering some of the gun violence that is all too common in the U.S. Besides the safety issues, stakeholders in Mexico frequently brought up how a lack of infrastructure makes it difficult to accommodate tourists, despite the bounteous cultural and natural resources. One rancher in Chihuahua stated, "I have a Facebook page where we show the pictures of wildlife that we have on the ranch, and people regularly ask me if we give tours or if we would allow people to visit. But because of the lack of infrastructure, we haven't done this." The lack of infrastructure often referred to the lack of tourist accommodations, which limits tourism development in Mexico and reflects the financial

resource inequalities between the countries. The economic inequality on either side of the international border is but one of the ways in which the border has divided stakeholders.

Stakeholder and national divisions

Border militarization activities, most notably the construction of a border wall, not only divides the U.S. and Mexico physically and politically, but also cuts off wildlife corridors and landscape connectivity. Participants representing local residents, nonprofits, tourists, ranchers, and tourism businesses from both sides of the border were united in their opposition to the wall for the social, political, and environmental division it creates, and many were very aware of the harmful impacts it has on wildlife connectivity. The need to increase social (i.e. international travel for humans) and ecological (i.e. wildlife corridors) mobility along borders is portrayed in Figure 4. However, wall construction activities have also created inter- and intra- stakeholder group divisions, which have negative implications for tourism development and ecological restoration collaborations. While some ranchers in the U.S. were in favor of the wall, others were bitterly opposed to it for a variety of reasons, such as their concern for wildlife and their own quality of life. For conservationists, their opposition to the border wall puts them at odds with government entities and is a loud reminder that U.S. border policies need to change:

I think that's the phase we need to enter, the era of restoration. ... I think that we reached an apex during the Trump administration with the building of walls. It was the exact wrong thing to do. So many resources were misdirected, so much damage was done, and it's never once addressed any of the systemic problems, issues associated with illegal immigration and essentially the disparity between economies. It's been the most, I don't know, the most basic type of caveman approach to the problem.

Even border ranchers in southern Arizona whose lives have been impacted by drug trafficking and immigration activities on their properties in one way or another expressed opposition to the wall. One notable event in this region was the killing of rancher by a suspected drug trafficker, whose death fueled the politically charged rhetoric leading up to the passing of the controversial anti-immigration bill, SB 1070. In the wake of intense political polarization during the Trump administration, U.S. ranchers in the Sky Islands shared how even their tight-knit communities have experienced rifts as attitudes towards the wall have drastically varied and have resulted in bad feelings among group members. For some Mexican nationals living or traveling in the US, the current border policies and public attitudes towards illegal immigration create anxiety and discomfort. A conservationist from Sonora shared an account that occurred while working with a team of Mexican conservationists in Coronado National Memorial in Arizona:

We were about to cross the road to the visitor center to get, you know, to our car. And, you know, we were Mexicans with our ball caps and our backpacks and our plastic bags with our trash and lunch. And we see this big truck, fancy truck with an older white couple and they drove by, and they just looked at us and gasped. And they were like [imitates gasp], and they pointed at us, and they just drove by. And we're like, "okay, fun." ...So as we leave the park and we get on the highway, we get pulled over by a border patrol. And we were like, "damn it! We know who did this!" ...So we start getting our papers and the officer just laughs, and he was like "oh, no you're good. Don't worry about it. We get these calls all the time". So again, nothing happened, but it's situations that are really, really uncomfortable...I'm sure if we were all blonde and blue eyed and coming out of the woods with bags and backpacks, we wouldn't have gotten the border patrol called on us.

This example of being mistaken as a group of undocumented immigrants while working on a binational conservation project perhaps not only reflects the discrimination Mexican nationals face in the U.S. but also the fear that U.S. tourists have while traveling

to protected areas along the border. These types of experiences may also be hampering Mexican tourists from traveling to the U.S. out of fear of discrimination. These social dynamics between different stakeholder groups speak to the need for equal partnerships in binational planning for tourism development and ecological restoration initiatives.

Unequal stakeholder partnerships

The theme of unequal stakeholder partnerships points to some participants' recognition that all stakeholders in the region should be valued to achieve tourism and restoration goals, even though this has not always been done. This was certainly the case with conservationists who have been at odds with private landowners, especially in Mexico where most of the valuable wildlife habitat is located on private land. One conservationist from Mexico advised during an interview and in a focus group: "We can't be the biologists or ecologists from 20 or 30 years ago when we said the cattle ranchers were [like] the bad guys from the movie. Cattle ranchers can be allies because they are those who manage this landscape."

This conservationist recognized that cattle ranchers should be seen as valuable partners and not adversaries for accomplishing conservation and ecological restoration objectives given their dominant presence on the landscape. Another participant from a nonprofit operating in Sonora similarly remarked during an interview and during a focus group meeting how important it is to see conservation through the perspective of ranchers whose profitability can be jeopardized by predators such as jaguars or pumas:

Understanding the needs and the concerns of livestock raisers who have been a major opponent of predators is crucial. And having sympathetic—being

sympathetic—with their needs and understanding that, you know, there are certain situations that make it really difficult for livestock raisers to continue working.

From a tourism perspective, including local stakeholders in tourism development efforts, tourism experiences, and tourism marketing is just as vital. During a focus group meeting, one participant from Mexico's federal agency charged with managing protected areas, La Comisión Nacional de Áreas Naturales Protegidas (CONANP), commented on how tourism agencies in the U.S. only market shopping experiences to Mexican tourists bound for Arizona and do little to encourage them to visit one of the state's many natural protected areas. Conversely, a tourist in Sonora shared how inappropriate it would be for private and federal protected areas in Mexico to favor marketing to U.S. travelers while many Sonorans are not even aware that these places exist. Further, one college student from Sonora even suggested that tourists should try to understand the lives of local people when they travel to a certain area:

You can go to one place and do whatever you want to do there, but you're not living the full experience if you don't consider the people and how they live. You know, it's dumb to go to some paradise beach, let's say, if you don't look to the surroundings and to the people who grown there and that develop there and evolve there. So, if you're not able to do that, to consider the people, well, you're just partying, you know? You're not living the full experience. That's all. So, I think that any approach of tourism must consider the people and their customs and their livelihoods and how they're living...You must make them part of it.

Findings from interviews and focus groups demonstrate how necessary it is to include every stakeholder group. Not only should they be included in planning and development stages, but they should also be included in tourism marketing and experiences. The unequal partnerships among stakeholder groups reflect power imbalances that must be addressed to achieve more equitable outcomes for tourism development and ecological restoration initiatives. These imbalances are especially

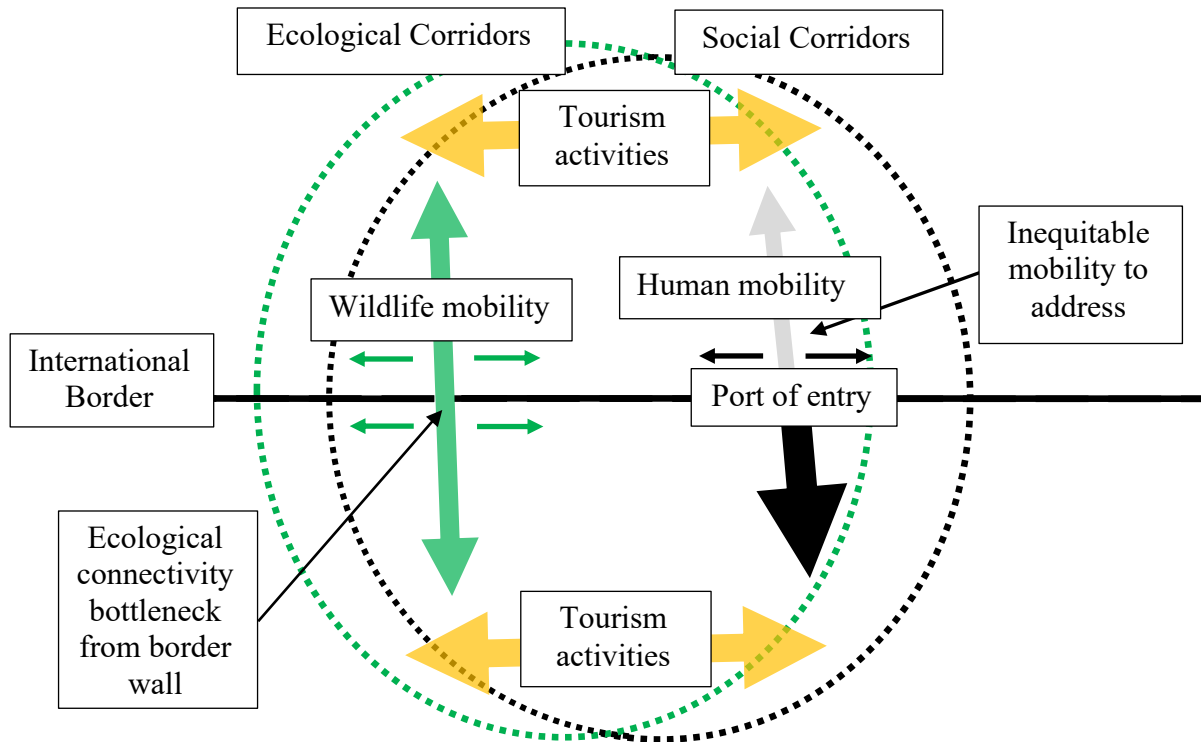
visible between the U.S. government and local communities whose mobility, access to resources, and ability to make decisions regarding their own private property has been impaired by border security actions.

Discussion

The four themes described above provide a snapshot of the current political ecology, social divisions, tourism development and ecological restoration needs, and the unequal stakeholder partnerships within the Sky Island borderlands. While many individuals and stakeholder groups are committed to increasing cross-border collaboration for tourism development and ecological restoration initiatives, there is no single or easy solution for doing so along an increasingly divided and militarized border. Figures 3 and 4 help illustrate the need to include stakeholders in cross-border initiatives and expand social and ecological corridors, but decisions by state and federal politicians create formidable obstacles to these efforts. As shown in Figure 4, south-north mobility is highly unequal due to U.S. immigration and travel policies, and border infrastructure has major consequences for wildlife mobility. These mobility issues impact who can participate in tourism across social-ecological systems in borderlands. Thus, grassroots initiatives and local collaborations at the community level are foundational for starting the process to develop tourism and increase restoration of ecosystems and landscapes in the Sky Islands. For these initiatives to succeed, stakeholders will need to be involved in the entire process and channels of communication must remain open between them (Byrd, 2007; Knox & Gruar, 2007; Mitchel et al., 1997).

Open channels of communication between stakeholders is critical for avoiding the mistake of perpetuating social and environmental injustices that have been present in the region. For Indigenous communities that have inhabited the region for thousands of years, superficial involvement and inclusion in tourism and ecological initiatives will not be sufficient, as these communities belong to sovereign nations with their own systems of government, practices, and traditions. As such, they should not be treated as just another stakeholder group but as an essential partner whose insights are vital for working across a landscape. Further, tourism and ecological restoration initiatives should also consider groups who are marginalized by national politics, such as immigrants (Beaumier, 2015; Johnson, 2011). Significant numbers of immigrants are found in these border communities, and their perspectives are important to consider given previous injustices dealing with U.S. border security policies that have resulted in thousands of deaths as migrants are funneled into remote areas and many perish by heat, thirst, and exhaustion (Slack et al., 2018). These human elements of the Sky Island borderlands should not be ignored when tourism and ecological restoration initiatives interact with local stakeholder groups.

Figure 4. Expanding Social and Ecological Mobility along Borders



As portrayed in Figure 3, stakeholder groups that are in special need of consideration when carrying out tourism development and ecological restoration efforts are those with cultural, socioeconomic, and religious and spiritual ties to the land. Figure 3 further shows how tourism development and ecological restoration initiatives must facilitate the preservation and restoration of resources, access to resources, and benefit sharing for stakeholders. Lastly, this figure illustrates how linkages may exist between the three types of ties for any individual stakeholder group. Indigenous groups like the Tohono O’odham Nation, for example, share cultural, socioeconomic, and spiritual and religious ties to the land, as shown by their sacred regard for the saguaro cactus and its connection to cultural ceremonies. This sacred relationship with the land and its resources is strained by federal policies that block access or destroy resources and illustrates an

important connection between social and environmental justice that can fuel advocacy efforts (Hillman, 2002). Utilizing the stakeholder ties to landscapes model for stakeholder engagement extends the framework proposed by Landres et al. (2020) that calls for ecological restoration initiatives to identify the legal environment, Indigenous values, and cumulative impacts on local communities. Further, project leaders can incorporate the cultural values associated with tourism, recreation, and conservation activities that are often built around appreciation for a landscape (Rainer, 2018). Moreover, understanding the historical context and social connections at multiple levels to a place helps develop a political ecology for the region (Mostafanezhad et al, 2015).

The use of a political ecology framework in this study increases understanding of environmental justice issues surrounding water in the Sky Island borderlands. In both countries, powerful corporations' overuse of water jeopardizes ranchers and residents' abilities to make use of freshwater for their own needs. This type of injustice mimics other instances where marginalized communities' water sources were depleted by more powerful stakeholders (Egge & Ajibade, 2021; Stonich, 1998). The environmental injustices inflicted by tourism must be avoided in future tourism developments given how the use of nature for tourism is closely associated with the political ecology of the Sky Island borderlands. In this region, certain stakeholder groups come out ahead due to the present inequities resulting from the legal environment. This is especially true for U.S. nationals who have exceptionally more mobility than Mexican nationals at the border, mimicking some of the inequities seen in transboundary protected areas in other parts of the world (see Sinthumule, 2020). Endangered species like the jaguar, however, influence environmental protection and restoration as they are widely admired by people, making

them non-human players in the region's political ecology (Sundberg, 2011). As described by one of the participants, the jaguar serves as a central figure in conservation and restoration efforts as people from all nationalities, political persuasions, and economic sectors can at least appreciate its beauty and role in an ecosystem (King & Wilcox, 2008). As additional evidence of the jaguar's role in the political ecology of the region, jaguar paintings, costumes, and figures are often used during political protests against the border wall. In like fashion, the legacy of jaguar detections in the borderlands generate excitement among local communities and visitors and could be a useful symbol for repairing the tarnished destination image and rebranding the region as a premier cross-border destination.

Rebranding a cross-border destination can lead to increased cross-border tourism (Del Río et al., 2017) and ecological restoration efforts, which may have positive impacts for the cooling relations between Mexico and the United States. Likewise, establishing a TBPA can play an important symbolic role that represents binational healing. Plus, TBPA's would enhance the mobility of wildlife through ecological corridors (Andersson, Dzingirai, et al., 2013). Should such an area be designated, community outreach and capacity building workshops for tourism entrepreneurs can help stakeholders receive greater benefits from increased cross-border visitation and restoration work. As demonstrated in Figure 4, ecological corridors can be strengthened across fortified barriers if the U.S. government heeds community input regarding the need to expand ecological corridors that facilitate wildlife corridors. Equally important is including stakeholders in tourism marketing. Possessing knowledge about nature-based opportunities and having access to nature and the positive impacts it produces for our

wellbeing should not be limited to U.S. nationals traveling to either side of the border. Mexican nationals traveling to the Sky Island borderlands should also be encouraged and welcomed to enjoy the entire region. Figure 4 similarly illustrates how inequitable human mobility between the U.S. and Mexico leads imbalanced flows of tourists. To make mobility more equal for Mexican nationals seeking to travel to the U.S., political powers in the U.S. must create favorable border polities, such as expanding tourism and work visa opportunities.

Favorable national and supranational policies are vital for promoting cross-border tourism and ecological restoration endeavors and for creating a more permeable border (Prokkola, 2010; Timothy, 2006). Currently, U.S. border policies and militarization undoubtedly deter collaboration and needed investments that would assist tourism and restoration efforts. Further, the strict border policies disempower the border communities who would otherwise be crucial partners for building up a cross-border destination and restoring ecological connectivity. Worse still, the political climate at the U.S. southern border leads to discrimination of Mexican nationals who legally travel and work in the area, as illustrated by one of the participant's personal accounts. Should these strict policies that discriminate Latin American immigrants and destroy ecosystems be relaxed, the inter- and intra-stakeholder divisions towards the border wall can also be reduced.

At cross-border destinations around the world, power relations between stakeholders have been known to be on unequal footing (Adams et al., 2019; Stoffelen et al., 2017), making it important that tourism development promoters and planners help build capacity among local communities and tourism entrepreneurs. Capacity building efforts should focus on proper skills training and facilitating access to financial capital for

communities and entrepreneurs (Stoffelen & Vanneste, 2017). For non-profits or private individuals that are building private nature reserves and seeking to incorporate sustainable tourism into their model, the need and opportunity for engaging communities and providing training is there. Beyond this, tourism development can be undertaken through a political ecology lens to help drive sustainable outcomes (Knowles, 2019) rather than strictly focusing on operational sustainability. For the Sky Island borderlands, this could translate into tourist activities that do not harm the resilience of the ecosystem and produce tangible benefits for landowners and communities, even if it involves the taking of an animal by a high paying hunting tourist. Further, hunting and photographic tourism could be profitable tourism ventures (Rosas-Rosas & Valdez, 2010) that promote protection and restoration of ecosystems that would provide benefits for future generations.

Conclusion

This paper contributes to tourism literature by developing conceptual frameworks for understanding stakeholder ties to landscapes and mobility issues that result in social and environmental injustices. The results of this study highlight how certain stakeholders have profited immensely from natural resources like minerals and water while others, such as local communities and ranchers, have suffered from their reduced access to natural resources. These power differentials help exhibit the political ecology of the region, the conceptual lens of which can be used to develop sustainable tourism products and experiences (Knowles, 2019). Further, this paper demonstrates stakeholders' favorable views towards protecting and restoring ecosystems and wildlife corridors and

discusses how such actions can provide opportunities for tourism development and rebranding the tarnished destination image here. Equalizing stakeholder partnerships is also shown to be a crucial component of tourism marketing and experiences. One limitation of this study, however, is the lack of international tourist perspectives resulting from border closures or U.S. travel policies that limit Mexican nationals' mobility. As conditions related to the COVID-10 pandemic evolve and borders become more permeable, future research can assess international tourists' perspectives through various analytical methods.

National and supranational laws also play a major role in producing (un)equitable cross-border tourism development and ecological restoration programs (Prokkola, 2010; Timothy, 2006). Currently, border policies strongly favor cross-border commerce over human and ecological mobility (Bauder, 2015), which marginalizes many would-be tourists from Mexico who are denied U.S. tourist visas. Should more favorable border laws and policies exist, the region would very likely see an increase of tourist arrivals along with improved international relations and destination image. Moreover, increased mobility across borders can allow residents to improve their quality of life as their access to important health and human services expands (Manzanares Rivera, 2017). Given these positive benefits for tourism, local communities, and international relations, policy makers should allow for more cross-border mobility of Mexican nationals throughout the U.S.-Mexico border region. Improved relations between the U.S. and Mexico would also bode well for ecological restoration efforts and bids to create a TBPA in this highly biodiverse region. Until such conditions exist, tourism and ecological restoration planners should focus on making incremental gains to bring more visitors to the area and restore

landscapes on either side of the fortified border in the hopes that social and ecological connectivity improves over time through political legislation. These planners should also continue fostering cross-border connections and networks at the community so grassroots tourism and ecological restoration efforts can emerge. These cross-border networks can also include a regional council who oversees the planning and implementation process to ensure that tourism and conservation goals are achieved.

Despite the challenges related to unequal power relations among stakeholders, marginalized communities, and divisions along national and social borders, opportunities abound for building tourism and restoring landscapes in conflicted border areas. Tourism and conservation stakeholders can come together and reach out to their communities to rally support for these causes to share and protect the natural and cultural resources that many people treasure. In so doing, positive momentum can be spread to other border regions that suffer from similar challenges but have much to gain from protecting, restoring, and sharing the beautiful places they love with visitors.

CHAPTER 3

UNDERSTANDING MECHANISMS FOR CROSS-BORDER GOVERNANCE OF TOURISM AND NATURAL RESOURCES: A CASE STUDY OF THE U.S.-MEXICO BORDER

Introduction

The question of how to effectively govern natural resources has received much academic attention for decades (Ostrom, 2010). While more recent scholarship has recognized the advantages of complex governance systems over simplistic systems (Nagendra & Ostrom, 2012; Ostrom, 2010), the advantages of private-led governance systems involving individuals, nonprofits, and corporations has increasingly come into focus (Borrini-Feyerabend & Hill, 2015; Nagendra & Ostrom, 2012). On their own, private-led governance structures are still capable of committing the same errors as government-led, monocentric structures (i.e. how most national parks are run) (Nyaupane et al., 2020). However, private entities' insertion into polycentric systems allows for flexible governing practices that are undeterred by state bureaucracies (Vandenbergh et al., 2019). These private-led, polycentric systems are the focal point of this study. Further, there is a gap in understanding of the mechanisms that facilitate multi-scalar tourism and natural resource governance (Bixler, 2014; Blasco et al., 2014), which this study seeks to address.

Private-led governance can have important impacts on tourism destinations as the attractiveness of a destination and its tourism activities depend on the condition and availability of local resources (Briassoulis, 2002). In borderland regions and cross-border destinations, however, natural and tourism resource governance is complicated by the

multiplicity of nation states and agencies involved (Stoffelen & Vanneste, 2017). This question of how to better govern resources over international borders is at the crux of the current study. While polycentric governance structures are lauded by many, a greater understanding of how resources can be properly governed across borders is still needed. For this reason, this study uses a select portion of the U.S.-Mexico border as a case study due to its highly unique and attractive resources that bode well for tourism and the border militarization that complicates cross-border governance and collaboration.

This study contributes to polycentric governance literature by using a multiple case study approach to highlight the mechanisms that lead to more effective cross-border governance of resources in an under visited region with high tourism potential due to its valuable resources. Given the importance of natural resources for livelihoods and tourism, this study will also analyze resource governance outcomes from several private-led governance structures and discuss their implications for tourism. To provide added context to this study on resource governance across international borders, the following section will review literature on natural and tourism resource governance, cross-border governance and collaboration, and polycentric systems of governance.

Literature Review

Natural and Tourism Resource Governance

Natural resources are crucial for humans. Whether for consumption, livelihoods, or even tourism, natural resources play a critical role for life on earth. The term governance refers to the act of placing rules around the use and management of a resource to achieve a balance between meeting human needs and conservation goals (Borrini-Feyerabend &

Hill, 2015). Around the world, different models of governance have been introduced that account for certain resources and their importance to local communities, cultures, and livelihoods. Historically, governance structures for natural resources involved those that were either state-led or market-led; however, Ostrom (1990) provided many example cases where communities had more successful outcomes than state governments or markets with governing their resources. Even with these cases of successful community-led governance systems, scholars warned against promoting a one-size-fits-all approach as state, private, and even communal approaches vary in their effectiveness in conserving resources and equitably distributing benefits among resource users (Long et al., 2020; Ostrom & Cox, 2010). In protected areas (PAs), the IUNC recognizes four types of governance: government governance, shared governance, private governance, and governance by communities (Borrini-Feyerabend & Hill, 2015; Dudley, 2008). This study is primarily concerned with private governance in PAs, although shared governance plays an important role in cross-border governance (Borrini-Feyerabend & Hill, 2015). Regardless of governance structure, typical resource governance issues found in PAs include incompatible societal goals (i.e. when tourism goals inflict environmental damage), illegal activities within PAs (i.e. logging or poaching), and external threats stemming from land use activities outside of PAs (Dearden, 2000). The characteristics of a resource and the socio-ecological context in which it is found should determine the type of governance approach used (Borrini-Feyerabend & Hill, 2015).

Scholars have characterized resources or goods to fit into one of four groups: public goods, toll goods, private goods, and common pool resources (Ostrom et al, 2006). Each of these resources or goods vary in their level of excludability—the difficulty in

excluding others from using the same resource— and subtractability— meaning that one’s use of the resource diminishes another’s ability to use this same resource (Ostrom et al., 2006). The focal point of governance literature has commonly been on common-pool resources— resources that yield finite flows, have low excludability, and high subtractability (Ostrom et al., 2006; Ostrom, 2008). Hardin (1968) famously coined the term ‘tragedy of the commons’ to describe the scenario in which a group of users rapidly deplete a finite resource in pursuit of their own goals. Other scholars, however, countered Hardin’s assumptions by claiming that people have a natural propensity to cooperate (Vollan & Ostrom, 2010) and do not want to destroy resources upon which their own future depends (Ostrom, 2010). Moreover, the tragedy of the commons can be avoided at the local level without any external interventions from public or private actors when resources are confined within defined boundaries, mechanisms for resolving disputes are in place, and communities have autonomous decision-making powers to create, enforce, and monitor their own rules and exclude outsiders (Ostrom 1990). It must be noted here that this paper examines private actors such as individuals, nonprofits, or corporations who may be working, or have the intention of working, for a global cause such as climate change or extinction prevention and not simply to produce their own private goods. With this understanding of difference types of resources and governance approaches in protected areas, the role of private actors can be better appreciated.

The role of private actors working to govern resources in protected areas out for a global cause is increasingly recognized as conservationists adopt a landscape-scale approach. This landscape-scale conservation approach encourages cooperation and accountability among private actors, which may include individuals, nonprofits, or even

corporations to achieve conservation goals (Borrini-Feyerabend & Hill, 2015). Private led governance is not without its limitations, however. Resource management actions of individuals, corporations, or nonprofits are not always appreciated by local communities (Busscher et al., 2018; Clark & Nyaupane, 2020), and private actors often lack visibility and the level of accountability that public actors are held to (Borrini-Feyerabend & Hill, 2015). When private actors take the lead on conservation initiatives, research shows that natural resource governance and cooperation may undergo major systemic changes, which may lead to an entirely different set of issues concerning equitable governance (Busscher et al., 2018). Notwithstanding, private led conservation efforts in other parts of the globe, notably in southern Africa where private individuals operate game reserves, have shown positive outcomes for both economic growth and wildlife recovery, further challenging the dominance of a state led approach (Child, 2009). Moreover, as many wildlife and plant species are endangered or threatened with extinction, private landowners play key roles in preserving critical resources and wildlife habitat as formal PAs cannot solve these issues alone (Dearden, 2000; Hansen et al., 2018). Thus, private actors should be treated as valuable partners in preserving threatened ecosystems and given incentives for their cooperation (Hansen et al., 2018). The cooperative approaches to governing natural resources has important implications for tourism and the resources this industry relies on.

Although less pronounced than literature on the governance of natural resources, the governance of tourism resources has also received attention from scholars (see Blanco, 2011; Blasco et al., 2014; Briassoulis, 2002; Stoffelen et al., 2017). Briassoulis (2002) suggests that common pool resources in the tourism sector consist of natural,

built, and sociocultural resources that tourists consume, the exploitation of which can severely undermine the sustainability of tourism at a destination. Further, common pool resources, such as a forest, beach, or mountain are part of the tourism product that destinations promote to attract tourists (Blanco, 2011). Hence, a tragedy of common pool resources at a tourism destination results in the tragedy of the tourism product and experience offered by a destination, which Briassoulis (2002) likens to the decline stage in Butler's (1980) TALC model that occurs when a destination loses its appeal to tourists. This scenario presents the crucial importance of properly governing tourism resources, which, as is the case for natural resources, requires complex systems of governance to be effective (Ostrom & Cox, 2010).

Complex governance structures for natural and tourism resources have important implications for land use decisions as they pertain to local communities' sustainable livelihoods. Previous studies show that nature-based tourism greatly fluctuates in terms of its profitability in rural communities near protected areas, suggesting the urgent need to diversify economic activities in these areas so neither traditional agricultural nor nature-based tourism dominate (Cumming et al., 2013; Stone & Nyaupane, 2016). Conversely, marginal agricultural areas may have more room to benefit from the presence of wildlife and their tourism draw as a sustainable land use for preserving local livelihoods, especially in places where the management of wildlife on private property is permitted (Bothma et al., 2009). Similarly, scholars even suggest that sport hunting of wildlife, while controversial, can be one an effective conservation tool in the developing world where agriculture producers are especially vulnerable to fluctuating economies (Rosas-Rosas & Valdez, 2010).

As natural and tourism resources are often located in peripheral regions that are isolated from core population centers (Wachowiak, 2006), complex governance structures add scalar depth between organizations and institutions (Gao et al., 2019; Ramutsindela & Noe, 2015). For this reason, the core-periphery framework can be useful for understanding tourism development in the context of complex governance systems where myriad organizations, communities, and individuals manage resources and are embedded within a much larger network (McGinnis & Ostrom, 2012; Murphy & Andressen, 1988; Salvatore et al., 2018). Furthermore, as border regions are typically peripheral by nature and border residents' marginalized position reduces their ability to advocate on their own behalf (Timothy, 2001), understanding the mechanisms leading to cross-border governance and collaboration can bring benefits to border communities.

Cross-Border Governance and Collaboration

For natural resources to be successfully governed on a transboundary scale, many researchers advocate for binational or even multinational planning, agreements, and structures that assist with resource preservation and monitoring (Graizboard & de la Fuente, 2006; Van Schoik et al., 2006). These binational structures must also enable local communities to carry out their own initiatives and advocate on behalf of their own interests (Singh, 2006). Therefore, the emphasis on binational cooperation is critical because many of the resource management problems in borderlands regions exist on both sides of an international boundary and thus necessitate binational solutions (Staudt & Coronado, 2002; Timothy, 2000). For some stakeholders, the increasing number of transboundary protected areas (TBPAs), is one such solution to binational resource

problems as two or more countries commit to taking part in a system of shared governance where their institutions coordinate across international borders (Borrini-Feyerabend & Hill, 2015). Duffy (2005) claims that in addition to restoring wildlife migration routes and the genetic health of wildlife populations, TBPAs can more effectively protect resources than individual states can. Examples of cross-border natural resource governance can be found in protected areas along the U.S.-Canada border, where Timothy (1999) discusses how three forms of transboundary actions lead to positive outcomes: international treaties, official border concessions, and less formal locally or regionally based agreements. Timothy (1999) warns, however, that failure to collaboratively govern resources across borders may leave them vulnerable to exploitation.

In addition to the risks of exploitation, other limitations of TBPAs include language and cultural barriers, corruption, and participating states' unwillingness or inability to safeguard resources due to a lack of funds, political incentive, or clarity of governing roles (Borrini-Feyerabend & Hill, 2015; Duffy, 2005). According to scholars, the intended outcomes of TBPAs to improve the ecological health of a region, provide economic growth for local communities, and promote peace (King & Wilcox, 2008) have not materialized (Andersson, Garine-Wichatitsky et al., 2013; Duffy, 2006). Moreover, forming TBPAs is a difficult undertaking because having high levels of support and protected lands on both sides of a border are not automatic ingredients for their formation, as seen in the Big Bend region of the U.S. state of Texas and the Mexican states of Chihuahua and Coahuila where border security takes precedence over conservation, and nearly a century of talks about creating a TBPA have yet to materialize

(Brenner & Davis, 2012; Timothy, 2000). This example clearly illustrates several classic obstacles to establishing TBPA's, such as the language differences, strong focus on border security, highly differentiated park management institutions, and vastly unequal access to financial resources (Piekielek, 2009a; Timothy, 2000). Similarly, TBPA's in southern Africa provide additional example of obstacles to successful transboundary governance, such as the lack of communication and power imbalances among stakeholders (Doppelfield, 2016). These examples of obstacles to successfully govern resources across borders highlight the challenges for resource users who depend on transboundary resources.

The governance literature has also given abundant attention to transboundary rivers and landscape-scale conservation. According to Gerlak and Mukhtarov (2016), the discourse on transboundary water governance is focused on the notion of water security and emphasizes the vitality of water for food and energy production and fisheries. In addition, many conservation efforts that focus on landscapes are international in scope and view current protected areas as just one small piece of a much larger landscape that extends across cultures, jurisdictions, states, provinces, and countries (Chester, 2015). As such, TBPA's embody this international scope of natural resource protection, and while they can protect biodiversity and generate tourism revenue (Ferriera, 2011), they can be portrayed as playgrounds for wealthy tourists that are full of fauna and devoid of local people (Fall, 2011). Ignorance of local people or other local stakeholders in governing and managing international tourism spaces and natural resources is a major critique of transboundary governance.

The literature on transboundary tourism resource governance is limited (Blasco et al., 2014). However, existing research reports how a lack of skills and financial capital prevent border communities and tourism entrepreneurs from establishing transboundary governance systems (Stoffelen & Vanneste, 2017). In addition, inequitable power relations are another major impediment for building transboundary tourism governance systems as the more powerful stakeholders can push tourism development decisions in their favor (Adams et al., 2019; Stoffelen et al., 2017). History also plays an important role in transboundary tourism governance because the existing institutions on either side of a border greatly influence the capacity for integrating stakeholders, resources, and activities at local, regional, national, and international scales (Stoffelen & Vanneste, 2017). Further, building trust across boundaries is difficult as power dynamics found in such regions are often asymmetrical; hence, transboundary governance structures that act as a bridge between border communities are vital for communication and resource sharing (Blasco et al., 2014). Moreover, as border regions often share similar histories, cultures, and landscapes, cross-border tourism collaboration can increase borderland destinations' competitiveness and diversify their economies (Livandovschi, 2017; Mayer et al., 2019).

The current issues that impact cross-border tourism and environmental protection illustrate the need for complex governance systems that manage resources across large landscapes. Not only does complex governance help to successfully preserve resources (McGinnis & Ostrom, 2012; Pennington, 2013), but the institutional partnerships between the myriad parties involved at a tourist destination are essential for local economic development (Goodwin, 2000). Further, public-private partnerships are also

necessary for collaborative systems since these optimize available sources and similarly boost the local economy (Del Río et al., 2017). Given the importance of complex governance systems for collaboration across large landscapes, the use of a polycentric system is needed.

Polycentric Systems of Governance

Polycentric governance theory was articulated by Ostrom (2010) who countered the popular claims by previous generations of analyst that resources should be governed solely by either governments or markets. Differing from these simplistic, monocentric government-led or market-led systems, polycentric systems are complex structures where there are many decision centers that often consist of private, communal, or public institutions that can act independently within their own specific jurisdiction under an overarching system of rules (Gelcich, 2014; Long et al., 2018; McGinnis & Ostrom, 2012; Nyaupane et al., 2020; Ostrom, 2010; Pennington, 2013). These scholars claim that for governing systems to truly be polycentric, the diverse institutions contained therein must collaborate functions of rulemaking, monitoring, conflict resolution, and enforcement, and thus operate as individual models nested within a larger model. An additional aim of polycentric systems is the co-production of knowledge that can be used to improve resource management (Gelcich, 2014). For natural resource management, polycentric governance systems, as opposed to monocentric systems where only one entity centrally manages resources (Dudley, 2008), help leverage resources and facilitate communication among various actors at multiple scales, such as governments, nonprofits, the private sector, and individuals (Charnley, 2014; Kelly et al., 2019; Long et al., 2018).

Each of these different types of actors all play a critical role in a polycentric system, even if their role has never been officially assigned (McGinnis & Ostrom, 2012). This conglomeration of actors, roles, and institutions are part of what makes a polycentric system more robust than monocentric systems.

According to scholars, polycentric systems outperform monocentric systems, regardless of whether they are state, private, or communal operations because monocentric systems function as a one-size-fits-all approach that often fails to adapt to local or regional contexts (Ostrom, 2010; Ostrom & Cox, 2010). However, non-state actors such as private landowners, nonprofits, or communities all play a critical role in resource governance (Long et al., 2018; McGinnis & Ostrom, 2012). For example, in the U.S. where most of the habitat for endangered species is on private land beyond the boundaries of a PA, cooperation efforts between nonprofits, governments, and private landowners are essential, and such partnerships have had favorable outcomes (Hansen et al., 2018; Nagendra & Ostrom, 2012). Similarly, Kelly et al. (2019) argue that polycentric systems are better suited for mitigating the growing threat of wildfires than decentralized, local, or hierarchical systems as they allow for management plans that span historically disparate jurisdictions. In essence, polycentric governance provides the framework for understanding cross-scale decision making, adaptive capacity, and resilience across all institutional levels, and the role of such structures should be to institutionalize vertical (between resource users and government) and horizontal (between neighboring resource users) linkages such as networks, markets, and hierarchies of authority (Bixler, 2014). These linkages create polycentric, nested governance models where communal and governmental forces help monitor resources and enforce rules,

which in turn reduce opportunistic behaviors among resource users in a system (Nagendra & Ostrom, 2012; Nyaupane et al., 2020).

Polycentric systems have additional advantages over their monocentric counterparts that cannot always bring effective solutions to multi-scaled social and ecological systems (Bixler, 2014). In theory, polycentric systems are designed to evolve and improve over time by adapting to changing conditions through trial and error and the use of feedback loops between the different parties involved (Andersson & Ostrom, 2008; Borrini-Feyerabend & Hill, 2015; Gelcich, 2014; Lubell & Robbins, 2021). Moreover, the plurality of viewpoints and overlapping roles in polycentric systems create redundant responsibilities and resilience to change (Andersson & Ostrom, 2008; Borrini-Feyerabend & Hill, 2015; Kelly et al., 2019). According to Nyaupane et al. (2020), monocentric systems are not sufficiently adaptive, dynamic, or flexible to effectively govern common-pool resource due to their complex social and ecological characteristics. Further, monocentric systems run the risk of being either overly precise or excessively general, making them ill-fitted to most contexts (Ostrom & Cox, 2010). Hence, as social and ecological systems are complex by nature, overly simplistic governance structures run the risk of failing to preserve resources they are designed to safeguard (Nagendra & Ostrom, 2012). In practice, polycentric governance systems are not a static web of decision centers but an evolving network of fixed and transitory actors who must take each other into account and have methods of conflict resolution to be considered part of a larger system (Carlisle & Gruby, 2019). This larger system is better equipped to adapt to address the specific needs of the local communities (Nyaupane et al., 2020; Ostrom, 1990).

Despite the above examples of polycentric systems' effectiveness, these systems have their limitations and are still subject to fail. For example, resource users may not be willing to incur the costs of organizing and drafting a set of rules around the management and protection of certain resources (Baldwin et al., 2016). Conversely, even if a set of rules is in place and resource users are organized, unequal power relations may drown out marginalized voices, or systems may not succeed in accomplishing their stated goals (Baldwin et al., 2016; Long et al., 2020). According to governance analysts, the key determinant of success in a polycentric system lies in the trusting relationship both horizontally between resource users and vertically between resource users and the varying levels of government (Andersson & Ostrom, 2008; Morin & Richard, 2021; Nagendra & Ostrom, 2012). Accordingly, the current study's purpose and objectives are based on information from the literature on polycentric governance along with the general governance and cross-border collaboration scholarship.

Purpose of Study

The purpose of this study is to understand the mechanisms that permit transboundary governance of natural and tourism resources by linking together the concepts of polycentric governance, cross-border collaboration, and the core-periphery framework. In addition, this study seeks to examine several private led governance systems and their sustainable outcomes for tourism development, existing and potential future livelihoods, and ecosystem health by employing a multiple case study design to compare the institutional arrangements of several private organizations. The guiding research questions for this study include the following:

1. How do different systems of governance simultaneously and effectively protect ecosystems and traditional livelihoods?
2. How can different institutions facilitate the role of tourism in providing additional job opportunities?
3. What institutional weaknesses get in the way of preserving, creating, or restoring ecological processes and sustainable livelihoods at a cross-border scale?
4. How can polycentric systems of governance effectively preserve ecosystems at a landscape-scale?

Methods

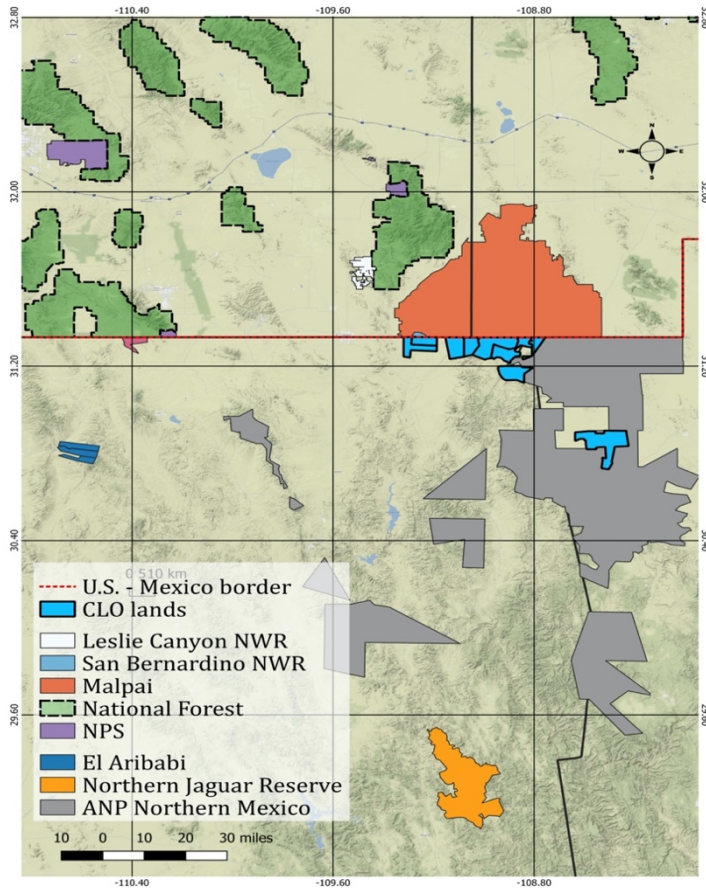
Study Area

The study area for this research was the Sky Island borderlands of southeastern Arizona and far southwestern New Mexico in the U.S., and northeastern Sonora and northwestern Chihuahua in Mexico (Figure 5). The Sky Island borderlands derives its name from the forested mountains that stand above the desert and grassland valleys and is one of the world's most biologically diverse temperate forest regions (López-Hoffman & Quijada-Mascareñas, 2012). Within the study area are several exemplary models of private governance in protected areas, which served as the unit of analysis. Much of the higher elevation forests on the U.S. side of the border are within the Coronado National Forest, and together with protected areas on both sides of the border, this region is home to many endangered species such as jaguar, ocelot, and the Mexican spotted owl (López-Hoffman & Quijada-Mascareñas, 2012; Smith, 2017). An assortment of land ownership and land tenure systems span across this landscape, such as private landowners, communal lands

in Mexico known as ejidos (Perramond, 2008), public land, and protected areas. Because of the mixed land ownership regimes in both countries, there are many stakeholder collaborations to govern resources, mostly involving nonprofits and other private entities (Salazar & Spalding, 2006).

The organizations whose leaders and members were invited to participate in this study represented private-led governance in protected areas: the Malpai Borderlands Group, a nonprofit conservation coalition of ranchers from far southeast Arizona and southwest New Mexico; Rancho El Aribabi, a private, family-owned ranch in northern Sonora; Cuenca los Ojos (CLO), a nonprofit dedicated to conservation and ecological restoration in along Sonora's northeastern border with the U.S.; and the Northern Jaguar Reserve in east-central Sonora. These organizations were selected for this study due to their key role in protecting the Sky Islands, previous involvement in scientific research, and unique system of governance.

Figure 5. Map of protected areas in the Sky Island borderlands and selected cases.



Source: Cuenca Los Ojos (2022).

Land ownership dynamics are vastly different between the U.S. and Mexico. In Mexico, there is very little public land in comparison to the U.S., and federally protected areas, such as biosphere reserves, are almost always designated over private land consisting of private ranches and ejidos where ranching, farming, and other activities still take place (Quadri-Barba et al., 2021). For landowners to protect their private property on their own accord, each country has a unique method for federally recognizing protected private land. In the U.S., landowners can elect to place a conservation easement on their property, which prohibits land from being developed while continuing to allow certain

economic activities such as farming, ranching, or hunting. In Mexico, private landowners can conserve their properties by having it be federally recognized as a designated area for voluntary conservation, or ADVC in the Spanish acronym. However, an interesting facet of Mexico's conservation structure is that certain areas can also be designated as a specified management unit, or UMA in the Spanish acronym, which allows landowners to financially benefit from the sustainable harvest of natural resources, such as wildlife or lumber (Rosas-Rosas & Valdez, 2010). According to Rosas-Rosas and Valdez (2010), white-tail deer hunts in Sonora offered through the UMA program can range from \$3,500-\$4,500, making them a significant source of income for landowners and a powerful incentive for conservation.

From a political standpoint, the U.S.-Mexico border is wrought with intense security measures that complicate bilateral agreements to preserve biodiversity and natural resources; however, the processes brought on by the 1983 La Paz agreement and NAFTA related innovations have increased the capacity for binational governance of the shared ecosystem (Mumme, 2015). Further, binational organizations, such as the Border Environmental Cooperation Commission, the North American Development Bank, and the Commission for Environmental Cooperation, have been created over the past several decades and paved the way for natural resources to be better protected and for stakeholders to be more involved in governing processes (Siwik et al., 2012). The focus on the U.S.-Mexico border provides an interesting avenue to analyze cross-border governance as Mexico's institutions, in comparison to those in the U.S., have not been truly free to structure their own institutions due to coercions from powerful foreign interests they have to consider, such as mining companies (Martinez, 2016).

Research Design and Data Collection

This study used a multiple case study approach (Yin, 2003) to highlight mechanisms leading to effective cross-border governance. This study also employed various data collection methods to ensure reliability of data (Bernard et al., 2017), such as focus group meetings, in-depth interviews, personal observations, and secondary data analysis. Given the research design and methodological approach, I utilized a constructivist world view, which holds that multiple versions of reality can exist as life experiences are derived subjectively (Creswell & Creswell, 2018). I found this approach compatible with case study research as case studies are designed to achieve high levels of understanding of contemporary events and complex social phenomena over which the researcher has little control (Yin, 2018). Due to the unique circumstances related to the COVID-19 pandemic, focus groups were conducted remotely through Zoom for the participants and researcher's safety. The in-depth interviews, on the other hand, were conducted both remotely through Zoom or telephone and in-person while abiding by public health protocols. Observations made during in-depth interviews and focus group meetings were kept in hand-written notes, and the secondary data analysis provided added historical and legal context to resource governance in the study area.

Secondary data analysis played an important role in this study as resource governance and land management issues typically operate in a complex legal environment that must be historically contextualized by country. As such, the secondary data analysis entailed an examination of literature, documents, and organizations' websites detailing current and historic environmental and resource management laws and land tenure regimes in the study area. According to Johnston (2017), secondary data

analysis is an underutilized method of research given the amount of publicly accessible data that exists and the time and financial resource limitations that many researchers face.

Initially, a purposive sampling strategy (Bernard et al., 2017) was used to obtain data from key stakeholder groups, such as land management organizations, private landowners, conservation related nonprofits, tourism business owners, and resource governance experts from both countries through the in-depth interviews and focus group meetings. The researcher also used a snowball sampling strategy to contact additional key informants who possessed crucial knowledge for this study (Bernard et al., 2017). During the in-depth interviews and focus group meetings, participants were asked about how effective their organizations are at conserving resources and livelihoods, how their organization started, why their organization's approach was deemed to be the most appropriate method of governance, and what obstacles and opportunities exist for engaging in cross-border resource governance. Moreover, focus group participants were asked similar questions to those from the interviews, along with their ideas for how cross-border resource governance can be more effectively pursued. The focus group meetings also helped gain further insights from various institutional leaders and members alike regarding cross-border resource governance. Given participants' language needs and abilities in the study area, we held focus group meetings in both English and Spanish. To ensure that the objectives of this qualitative study were met and that responses to the guiding research questions reached saturation (Charmaz, 2006), we recruited 60 participants and formed four cases based around private led governance approaches (Creswell, 2007; Creswell & Creswell, 2018).

In terms of reflexivity and positionality, the researcher has significant experience living in Mexico and other Latin American countries for work and study purposes, providing him with a solid understanding of the language and culture of this region. This cultural competence, while important, does not preclude the need for cultural humility, which calls for openness, self-awareness, being egoless, supportive interactions, and self-reflection and critique on the part of the researcher (de la Garza, 2019; Foronda, 2016). Given the goals of cultural humility, the researcher conducted exercises to position himself within this research and acknowledge the differences of perception and life experiences between himself and the study participants who represented a diverse body of stakeholders. Moreover, the binational nature and demographic makeup of the study area caused the researcher to retain both insider and outsider status among different participant populations, each of which having their advantages and disadvantages (Lofland et al., 2006). Conducting this reflexive exercise while acknowledging the implications of different social positions and perspectives has crucial importance for power relations between study participants and the researcher (Chambers & Buzinde, 2015; Wallerstein, 1999).

Data analysis

The data analysis process was strategically led by the research questions to form a theoretical analysis of the sustainable outcomes facilitated by polycentric governance structures in the cross-border study area (Yin, 2018). The first step of the data analysis process was to group the data into four cases that were each bounded by the system of private led resource governance (Creswell, 2007). The second step of the process was to

transcribe each interview and focus group meeting and to note common themes that emerged. Third, these common themes were further identified through a process of coding with the aid of Maxqda software. The coding process entailed the use of open coding to form categories and axial coding and selective coding to situate the categories within common themes (Creswell, 2007; Creswell & Creswell, 2018). During the coding stage of data analysis, data from observations and secondary analysis were integrated with the interview and focus group data to further identify major themes and make cross case comparisons (Yin, 2003). The core themes of the data were determined and analyzed through guidance from literature on polycentric governance, cross-border collaboration, and the core-periphery framework. In addition, the cases were selected based on several core characteristics: a private or nongovernmental entity was leading resource governance efforts, the governance structure exhibited characteristics of polycentricity, and the governing entity demonstrated involvement with cross-border collaboration. Finally, to compare cases, the researcher analyzed how each entity made governing decisions and interacted with outside collaborators. To ensure data validity, the researcher used member checking to confirm agreement with participants regarding the analysis (Bernard et al., 2017).

Results

The results of the data analysis revealed distinct characteristics of governance for private-led conservation organizations in the Sky Island borderlands, along with several common themes. The results also shed light on the mechanisms that permit cross-border governance in an area with intense border militarization. This section will first describe

the governance structure of each of the four selected cases and then outline the underlying themes that came out of the interviews and focus group meetings.

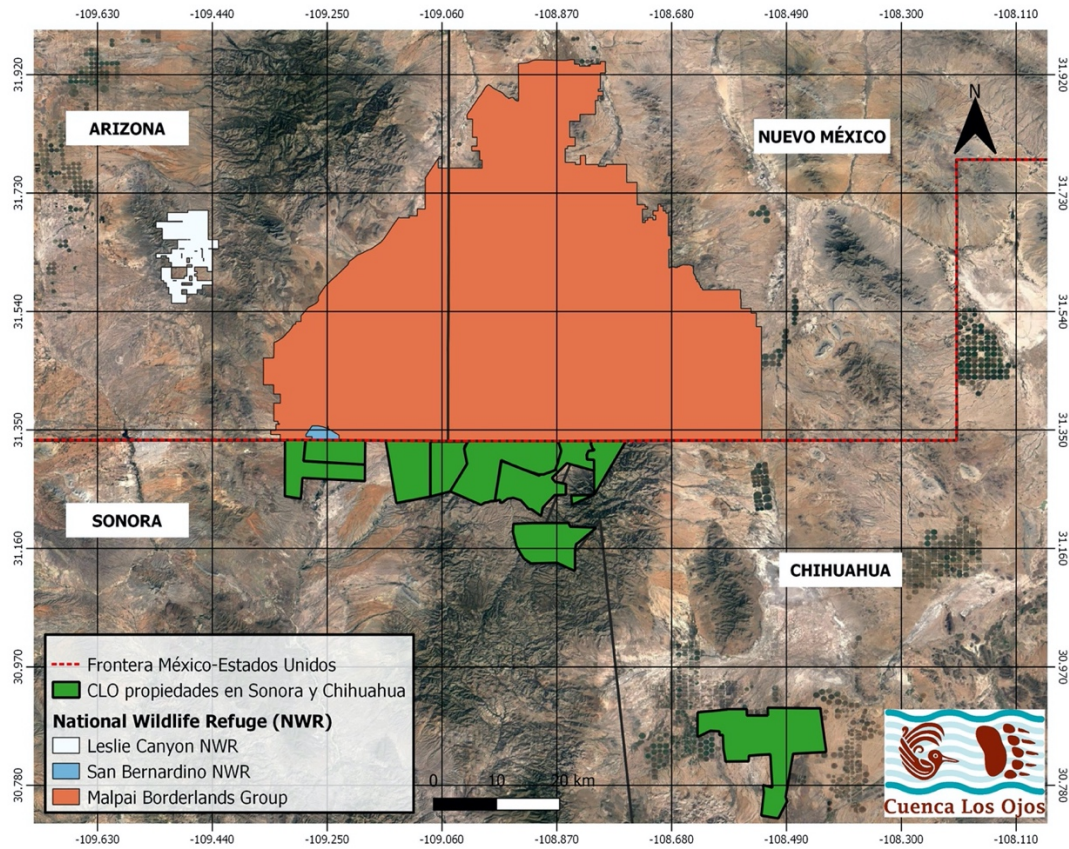
Malpai Borderlands Group

Malpai Borderlands Group (MBG) is a nonprofit organization whose members are a coalition of ranchers from southeast Arizona and southwest New Mexico (Figures 5 & 6). MBG's mission is to preserve their region from exurban development, restore fire as a grassland management tool, and conserve ranching as a viable livelihood (Allen, 2006; Sayre & Knight, 2010). The organization has also collaborated with Arizona and New Mexico wildlife agencies to reintroduce desert bighorn sheep, and they fund scientific research to better understand how to sustainably ranch in an ever-drier climate. MBG formed in the 1990s in response to increasing exurban development and a growing divide between ranchers and environmentalists who opposed ranching on public land. As most ranch operations in the U.S. portion of the study area consist of private land with state and federal grazing leases, MBG exemplifies a private led governance structure with elements of shared governance. Further, because MBG must collaborate with state and federal agencies to set rules and make resource governance decisions, they resemble a nested, polycentric system of governance. For example, to make decisions regarding the health of their rangelands, MBG had to convince Arizona, New Mexico, and U.S. agencies to discontinue their fire suppression policies (Sayre, 2005). However, MBG members can establish rules of governance and make decisions regarding their own private lands; for example, many MBG members have successfully purchased conservation easements that permanently protect much of the private land within their

800,000-acre working area (Sayre, 2005). While the public land is technically not fully protected from mining or other extractive industry threats, the current presence of cattle ranching as the land's primary use has kept other forms of development at bay and allows the region to function much like a biosphere reserve would in Mexico.

To continue achieving their goals, MBG must cooperate with and even pressure many state and federal agencies, such as the Coronado National Forest, Bureau of Land Management, Arizona Game and Fish Department, New Mexico Department of Game and Fish, U.S. Fish and Wildlife Services, and U.S. Customs and Border Patrol (Malpai Borderlands Group, 2021). Through their cooperative efforts, MBG has been able to breach interagency divides and open channels of communication between these various agencies. While certain areas of MBG holds tremendous potential for birding tourism, hunting remains the dominant form of tourism to the area and the decision to participate in tourism is left to the individual ranching families.

Figure 6. Malpai Borderlands Group working area in relation to Cuenca Los Ojos



Source: Cuenca Los Ojos

Rancho El Aribabi

Rancho El Aribabi is a unique example of private governance given that it is led by a single ranch family. Rancho El Aribabi is a working cattle ranch, and the owners worked hard to have the National Commission of Natural Protected Areas (CONANP in the Spanish acronym), Mexico's federal agency that manages protected areas, designate the property as an Area Destined for Voluntary Conservation (ADVC in the Spanish acronym) (Van Devender et al., 2013). Although this conservation status technically comes with a level of financial support from the Mexican government, the support is

extremely limited and cannot be relied on as the current presidential administration slashed its conservation budget. As such, the family relies on horizontal partnerships with conservation nonprofits in the U.S. to support their conservation work. For example, Borderlands Restoration Network, a nonprofit based in Arizona, funded a fencing project designed to keep cattle out of the ranch's riparian area and compensated the family to maintain low stocking rates of cattle to help regenerate wildlife habitat. Between their limited vertical linkages with the Mexican government and horizontal partnerships with nonprofits in the U.S., Rancho El Aribabi is nested within a polycentric structure of governance. This nested form of polycentric governance is exemplified by the rules of resource governance established by the Mexican government, such as how many deer can be harvested by hunters each year. On the other hand, governance decisions that impact the health of riparian ecosystems and grasslands, such as where and how many cattle can graze on the property, can be made between Rancho El Aribabi and their nonprofit partners in the U.S.

Although Rancho El Aribabi finds financial and technical support through its vertical and horizontal linkages, the ranch family still struggles to recuperate the income they forgo from maintaining low stocking rates. Thus, tourism is thus one of the most important alternative sources of income for Rancho El Aribabi. Driving tourism to their ranch, however, is not easy as they must overcome U.S. tourists' anxiety about traveling to the Mexican borderlands, and tourist visitation remains substantially lower than desired. Notwithstanding, the ranch greatly benefits from a small group of U.S. hunters who are willing to pay several thousand U.S. dollars per white-tail coues deer hunt, which is made possible by the ranch's UMA status. While the number of deer that

hunters can harvest is limited under the UMA as part of their management plan, the conservation mission of the ranch further limits how many deer they can offer hunters, leaving them anxious for more tourist groups to come engage in camping, hiking, and world-class birding at the ranch.

Cuenca los Ojos

CLO represents a form of private, nonprofit-led governance that is dedicated to preserving and restoring ecosystems in the Sky Island borderlands. CLO is known for their efforts to restore local hydrology by building thousands of gabions and small rock dams, which slows the flow of water so it can better infiltrate into the soil and replenish underground aquifers (Smith, 2017). CLO also helps neighboring ranchers practice sustainable ranching practices, which they exemplify with their own herd of cattle. Historically, bison grazed on these grasslands, but through a system of rotational grazing, CLO's cattle mimic natural grazing patterns. The nonprofit has been recognized for their substantial support to the scientific community. As a well-endowed nonprofit with over 120,000 acres of land, CLO is a valuable link for wildlife and connectivity in the Sky Island borderlands. To make operational decisions, CLO must have the approval of a technical committee. The technical committee consists of board members, donors, and other scientists, and its purpose is to prohibit any individual CLO employee or donor from being able to make decisions without considering the social and ecological impacts. For example, the technical committee must sign off on any plans for tourism development or other land use decisions to ensure that activities are sustainable and work towards achieving the nonprofit's mission and goals. The technical committee is

ultimately the group setting the rules of resource governance and making both governance and resource management decisions.

Given the diversity of ecosystems and attractive tourism resources on CLO's property, the nonprofit's directors are making a sustainable tourism plan that is designed to integrate tourism into their revenue model. Before it can be implemented, this plan needs approval by the technical committee. One prong of their tourism plan is to become an UMA and allow hunting as a source of revenue. A separate prong of CLO's planned revenue is to allow low-volume, high-end tourism activities on their properties. CLO has ADVC status and seeks to expand their land base through future land purchases. With their federally recognized conservation designation and well-organized hierarchical internal structure, CLO represents a form of private, polycentric governance.

Northern Jaguar Reserve

The Northern Jaguar Reserve is a private PA operated by the nonprofit, Northern Jaguar Project, located in Tucson, Arizona. This nonprofit was founded in 2003 by conservationists from Arizona and Sonora to protect the breeding grounds of the northernmost jaguar population. The Northern Jaguar Reserve currently covers around 58,000 acres, which are strictly dedicated to conservation. Once a ranch property is purchased, the nonprofit's first action is to remove cattle to allow for passive ecological restoration to take place. While not yet an ADVC, the Northern Jaguar Project has begun the process of petitioning the Mexican government for this conservation designation. Despite lacking a federally recognized conservation designation, the Northern Jaguar Project developed an innovative model to assist with jaguar conservation on neighboring

ranches outside of the reserve's boundaries. Known as *Viviendo con Felinos* in Spanish (in English, *Living with Felines*), this collaborative effort entails placing trail cameras on participating ranchers' properties and compensating them for each picture of cat species found in the area: bobcat, ocelot, puma, and jaguar. For ranchers to participate in this program and receive payments for pictures of cats, they must sign a contract with the Northern Jaguar Project and abide by wildlife governance rules set by the nonprofit to safeguard these wildlife species and their habitat. One of these rules involves not hunting or poaching any wildlife. In total, the Northern Jaguar Project impacts about 175,000 acres of jaguar habitat in Sonora through their reserve and their partnerships with neighboring ranchers. These horizontal linkages to neighboring ranchers bring a polycentric approach to their conservation work with many decision centers. Since neither the Northern Jaguar Project nor the *Viviendo con Felinos* ranches have a federally recognized conservation status, they have very limited collaboration with the Mexican government. Regarding tourism, the reserve is very remote and difficult to access, making it challenging to increase visitation. Further, the Northern Jaguar Project intentionally limits visitation to just one or two small groups of donors per year, who are mostly from the U.S., as they do not see tourism as compatible with their strict conservation goals.

Essential Characteristics for Private-led, Polycentric Governance

In Table 1, the polycentric governance characteristics of these four cases are compared.

As shown in the table, the level of interaction between private entities and governments

varies between each case. The remainder of this section will outline several common themes that appeared throughout the data.

Table 1. Characteristics of Private-led Governance Entities in the Sky Island Borderlands

Selected Case	Year Established	Institutional Characteristics	Revenue Source	Primary Goals	Relationship to other Agencies
Malpai Borderlands Group	1994	Nonprofit, rancher community	Donations, ranching, tourism	Preserve ranching and rangeland	Significant collaboration with government agencies
Rancho El Aribabi	2011	Private ranch	Partner financing, ranching, tourism	Protect wildlife habitat, sustainable ranching and tourism	Limited collaboration with government agencies, significant collaboration with U.S. nonprofits
Cuenca Los Ojos	2018	Nonprofit	Donations, ranching, tourism (future revenue source)	Restore and protect landscape	Limited collaboration with federal agencies
Northern Jaguar Reserve	2003	Nonprofit, rancher community	Donations, ranching, limited tourism	Protect cat species and habitat	Limited collaboration with federal agencies, significant collaboration with ranchers

The general themes that emerged from interviews, focus group meetings, observations, and secondary analysis highlighted essential characteristics of polycentric governance through both positive and negative examples. These essential characteristics

included localization of resource governance, establishing vertical and horizontal linkages, equal partnerships in governance, and fortifying the role of governments. Moreover, these themes reveal some of the mechanisms that permit cross-border governance through cooperation between federal and state governments and resource users and between resource users (Figure 7). As shown in Figure 7, resource users in a borderland have two-way flows of collaboration with federal governments, state or provincial governments, nonprofits, and other resource users. Federal governments from adjacent governments can also directly collaborate in shared governance through the creation and maintenance of TBPAs. In practice, many PAs in borderlands are commonly not part of a TBPA but are instead simply located near the border, but they can still collaborate across borders through sharing financial, human, and informational resources. Nonprofits play an important role in cross-border resource governance given their flexibility to operate across international boundaries and the added financial and human resources they offer to PAs and resource users. It is important to note that resource users may also protect land or even designate PAs through their own voluntary conservation efforts, as exhibited in the selected cases, and thus operate as an unofficial TBPA. Lastly, as shown in Figure 7, nonprofits from either side of a border can collaborate across borders, often times with greater ease than governments due to a lack of bureaucratic red tape.

Localization of Resource Governance

To portray the theme of localization of resource governance, participants shared how critical it is to manage resources such as land and wildlife according to social and

ecological conditions of the region where most of the landscape is dedicated to cattle ranching. For example, one rancher from MBG remarked how their organization already helps fulfill the goals behind large landscape-scale conservation initiatives, such as the 30 x 30 initiative which seeks to protect 30% of the U.S. land base by 2030 (Lieberman, 2021):

Sometimes the public— the general public— might not know that organizations like ourselves exist or the work that we've done for almost 30 years now way out ahead of the curve before this [30 x 30] initiative. To think that only state parks and recreation, only wilderness and public lands is the only way to go... limits the ability not only to hear all voices but also it limits the protection of land.

This rancher makes the case that a one-size-fits-all approach to resource governance is not appropriate or effective at the local level. For example, given how MBG already protects around 800,000 acres through private land easements that are connected to public land leases, creating a new national park and excluding resource users would not only be unnecessary but also devastating to ranching livelihoods. In Mexico, adapting to social conditions is even more important as the countryside is almost entirely made up of private land. Due to this land composition, one conservationist in Sonora stated, “that's the importance of protecting areas in Mexico. You must work together with the people. If you don't, you'll have problems. You will have a social problem.” As illustrated in this statement, collaboration with private landowners in Mexico is not only essential for governing resources but also for avoiding conflict.

To avoid conflict, governance decisions and structures need to account for ecological conditions as well. For example, CLO possesses vast natural resources, such as a perennial stream, waterfall, mountain landscape, diverse wildlife, and a hot spring. These natural resources hold immense value for tourism and can be incorporated into a

sustainable source of revenue that helps fund their conservation and restoration work.

However, the technical committee must approve of this land use and find it compatible with their operations. A CLO manager emphasized this point:

We need to be aware that in order for [tourists] to have a good experience, [we have] to have a plan... We could not say or open space on Facebook tomorrow, "we welcome everyone". You need to have the carrying capacity of tourism and need to be aware that you need to have a management [plan] for that.

This need for an approved tourism plan that fits with their property's carrying capacity illustrates the advantages of more complex governance structures in how they adapt to social and ecological conditions (Bixler, 2014). By not allowing any single individual from the nonprofit to carry out development plans on their own, this nonprofit has a built-in system of checks and balances to ensure that operations work well with the social and ecological conditions. This built-in system of checks and balances mimics polycentric governance systems' need for vertical and horizontal linkages at an internal scale.

Establishing Vertical and Horizontal Linkages

Ranchers in Sonora stressed the need for horizontal and vertical linkages with external partners to assist them with governing resources that they depend on. For example, Rancho El Aribabi owners expressed frustration regarding the level of difficulty in receiving financial support from the government. Even though they have ADVC status, they feel that their family operation does not get the same level of support that well-funded nonprofits like CLO have:

Cuenca los Ojos gets a little bit more help because they have more people prepared to do that. They have funds to have different biologist working

there. We don't have that. We are cattle grazers. I'm a rangeland science guy. I don't know how to do paperwork. Again, and ADV Cuenca los Ojos has the resources, has the technical support, the expertise to do that.

This statement points out that increased vertical linkages with the Mexican government would provide more access to resources that are technically available to ADVs, but in the case of Rancho El Aribabi, they lack the technical capacity and time to navigate bureaucratic processes and paperwork. Further, unlike CLO or other well-funded nonprofits who have highly educated professionals working at their organization, they as ranchers do not have the resources or expertise on their own without horizontal linkages to contracted employees or other partners. Given this reality, their horizontal partnerships with nonprofits in the U.S. is vital for their financial security. Other Sonoran ranchers shared similar frustrations regarding a lack of access to resources that vertical or horizontal linkages help provide. For example, Sonoran ranchers felt they were on their own to take care of predators through lethal means since the Mexican government's official compensation program is not effective. This ineffectiveness is also due to the lack of time and knowledge of ranchers to complete the necessary paperwork and the time it takes for a government official to verify that a predation occurred. As shown in the quote below by one of CLO's ranching neighbors, some ranchers would rather eradicate predators on their own:

The cattle are more protected [on my ranch] than the puma. That's why I protect them because no one else will...By killing these pumas, I can protect my cattle, you know? Unfortunately, this goes against some people's values. We shouldn't have to kill them, but if there was money available in the bank that I could access if I showed them proof that one of my cattle was eaten, and if I was given five hundred, six hundred dollars, then I wouldn't kill them. But this doesn't exist now, and it won't ever. It would be great if they paid for the damage done.

While funds for compensating cattle predations are technically available through the Mexican government, the lack of knowhow and amount of government red tape to receive funds makes ranchers feel that no such compensation program even exists. This issue is just one example of how polycentric governance systems may sometimes fail to achieve desired results.

Equal Partnerships in Governance

By examining polycentric governance structures in the region, I found that systemic equal partnerships are essential for resource governance, which was often lacking in the cases. For example, while the built-in feedback loop characteristic of polycentric governance systems allows users and decision makers to have open channels of communication that enable systemic improvements (Andersson & Ostrom, 2008; Borrini-Feyerabend & Hill, 2015), it isn't always effective. Another MBG rancher shared their concerns about federal regulations around endangered jaguars that threaten to end ranching on public land:

What I have a problem with is critical habitat... When they [designate critical habitat], they penalize the people that are on that land making their living from it... Then that'll not only stop grazing—it could stop grazing or stop hunting or stop whatever's going on in the area. That's what people are afraid of. And I wish they would change that a little bit, the critical habitat designation.

While this critical habitat designation exists in parts of the study area, the federal government does allow ranching to continue (U.S. Fish and Wildlife Service, 2014). However, this quote reveals an apparent lack of trust by ranchers regarding that nature of their partnership with government agencies. The lack of communication between users and government agencies only increases this lack of trust. In Mexico, similar concerns

existed about the perceived lack of government support for cattle predations. Once more, this worry stems from the lack of communication and understanding between the government and resource users, leading to illegal lethal actions against large predators. The imperfect feedback loops within a polycentric system allows for misunderstanding and undesirable actions, and this can come from both users and the government. During the Trump administration, the U.S. government's border wall construction along the U.S.'s southwestern border devastated decades of conservation and restoration work by CLO and frustrated MBG members (Sayre & Knight, 2010). While the U.S. government did hold community meetings prior to building the border wall, MBG members' objections were not headed. The communication is even weaker across international borders, as exemplified by a CLO manager:

The wall since then has come in and cut the two countries, Mexico and the United States, right down. Separated them. And it was really cut in half the restoration work we were doing. So it just severed the connections for animals coming across. It severed connections for water flow. It severed connections for cross-pollination. It severed connections for, well, with people. It was a very politically and ecologically dangerous thing to have happen.

The U.S. government's lack of engagement with border communities reflects a major issue in polycentric governance structures when partnerships are unequal, especially when working in a cross-border context. Partnerships may be unequal at the horizontal level as well, as shown by Rancho El Aribabi's dependence on financial assistance from U.S. nonprofits. Ranch owners expressed on multiple occasions how much they depended on U.S. nonprofits for their survival, which illustrates a vulnerable relationship if these nonprofits are no longer able or willing to assist. The Northern Jaguar Reserve's relationship with neighboring ranchers in the *Viviendo con Felinos*

program could also be unequal if ranchers have objections to certain terms of their contracts and the nonprofit refuses to listen these objections. However great the challenges are for governing resources across locally, nationally, and internationally, the opportunity to fortify the leadership role of governments presents many benefits to a polycentric system (Andersson & Ostrom, 2008; Borrini-Feyerabend & Hill, 2015).

Leadership role of Governments

A governments' leadership role is essential for establishing overlapping roles in resource governance. In the Sky Island borderlands, however, the international boundary is not the only jurisdictional border that overlapping roles within polycentric governance structures must navigate given the diverse patchwork of private and federal agencies that establish governing rules in the region. Just within the U.S., there exists a vast array of federal agencies that govern public land and do not have a history of cooperation. After the MBG formed, one of their major challenges was bringing these agencies together to create landscape-scale vision to governing resources across their entire working area. One of the founding members of MBG recalled during their first meeting with multiple agencies in the same room:

You could have heard a pin drop all the way to Kansas because they all had a policy within their agencies that they weren't supposed to go to a meeting and talk to another agency person from another agency. They had these funky rules, and we broke them...and you wouldn't believe the problems they solved.

In this example, the jurisdictional borders that separated federal agencies prevented a more polycentric approach to governing resources until a community-led nonprofit brought them together. While this effort speaks to the success of community-

led governance, international borders still pose a great challenge for border communities. Along the border where MBG and CLO operate, the difficulty of governing resources within a wildlife corridor that has been fragmented by U.S. border security actions is apparent. A manager from CLO shared their aspirations for increasing the movement of wildlife species:

We also need to work with [MBG] and see if– there is not only the Mexican side of the equation. We need to work on a long, larger scale and work together. And for that we need to work in both sides. We are hoping that some time, someday soon we receive the bighorn sheep from them, and we hope that someday we will be able to send jaguars to them.

While it is safe to assume that the militarization actions in the U.S. are hindering wildlife migrations between the two countries, this quote describes the necessity for further collaboration between MBG and CLO to accomplish biodiversity conservation goals. Other participants in the study expressed how collaboration between the two governments could result in positive impacts for Mexico through increased incentives to leverage resources for tourism, as made clear by a Mexican conservationist:

I think there's an opportunity to try to focus resources from both countries, from both governments to try to do something... Maybe it's an opportunity to try to come with some designations, special designations for protection that would in the long term maybe create incentives for communities on the Mexican side to try to develop more tourism alternatives and maybe create additional employment on the Mexican side, and maybe reduce violence.

Creating incentives to leverage resources for tourism and reduce conflict over resources, which has turned violent at times in both countries, is clearly beneficial for communities. South of CLO at the Northern Jaguar Reserve, the *Viviendo con Felinos* model illustrates the effectiveness of incentives where government assistance is lacking.

A manager from the Northern Jaguar Reserved explained the philosophy behind this model:

So the idea that you can photograph— you keep an animal alive— you can photograph it many times, but you can only kill it once. So it's putting an emphasis on living wildlife, building appreciation, and tolerance. It's a flip flop of programs in the U.S. that you might have heard of where ranchers are compensated when a wolf kills their cows. They'll be paid the value of the cow. We thought, "ok, let's pay for the cats instead of the dead cows".

In contrast to government compensation program for livestock depredations, the Viviendo con Felinos model gives landowners incentives for keeping predators alive on the landscape. This model in turn serves as an example of shared governance between the Northern Jaguar Reserve and neighboring ranchers to create a larger landscape for jaguars to safely roam. In exchange for receiving compensation, however, ranchers must agree to not hunt on their properties, which may be preventing them potentially greater financial benefits through hunting tourism.

Discussion

The multiple case study design allows for analysis and comparison of private led polycentric governance systems in the Sky Island borderlands. These cases also helped understand collaboration pathways and mechanisms that permit cross-border governance. As indicated by Ostrom (1990), establishing a set of rules, channels of communication, conflict resolution mechanism, and other arrangements bring about the creation of a governing system, and this can be established across borders between willing parties. Whether by establishing a TBPA (or even a strong sister parks program between two parks that are not adjoined) or through collaboration between resource users on either

side of a border (Figure 7), the results demonstrate how cross-border governance can occur as long as there is trust (Ostrom, 2010). However, border militarization and other actions taken by national governments can create formidable obstacles to cross-border governance. Be that as it may, the cross-case comparison highlights the need for polycentric systems to localize resource governance, establish vertical and horizontal linkages, retain equal partnerships, and fortify the leadership role of governments.

On a social and ecological level, these different structures have systems in place to ensure that resource users and management decisions are carried out appropriately and effectively. The fact that MBG is a community-led effort that collaborates with government agencies makes it substantially more suitable to navigate social conditions of the landscape and avoid the shortcomings of simple monocentric systems (Nagendra & Ostrom, 2012). This cooperation, however, sometimes begins with upward pressure by the community, another feature of polycentric governance (Nagendra & Ostrom, 2012), as was the case with beginning fire management plans despite the agencies' objections (Sayre, 2005). As MBG's primary goals are to prevent exurban development and utilize fire management on their rangelands, their actions to place conservation easements on private land and conduct controlled burns have resulted in a healthier and preserved landscape that has allowed for traditional ranching to continue. In addition, their polycentric approach to fire management only works in their favor as controlled burns reduce the increasing threat of wildfires (Kelly et al., 2019). Further, MBG's goal to preserve open space contributes to larger conservation agendas like the 30 x 30 initiative without resorting to a one-size-fits-all approach, such as creating a national park (Ostrom, 2010). Alternatively, this community-led approach does not guarantee the future

protection of public land where grazing occurs, and any government action to place protections on public land, such as through a national monument or park designation, would likely not be well received by the community who values the continuance of ranching above strict conservation. Thus, the private, community approach to governance offers many benefits for navigating social and ecological conditions.

The nonprofit-led governance approach exemplified by CLO offers social and ecological benefits as well. By having a technical committee in place to review all land use plans and decisions, sustainable activities that conform to social and ecological conditions can be better ensured than can be expected from a simplistic, monocentric governance structure (Bixler, 2014). With plans to open their properties to select tourist activities, CLO's management plan will help tourism develop sustainably within their ecological carrying capacity. In terms of total land area that CLO positively impacts, their limited collaboration with government agencies reduces their impact to their own private land. Contrasting this scope of impact with MBG which collaborates extensively with government agencies, CLO ecological impact covers a much smaller land area. On a social level, CLO has had to adapt operations to improve their relations with neighbors. Until recently, CLO did not allow cattle on their property in response to the legacy of overgrazing in the area, but this action led to mistrust and misunderstanding by the local community. As indicated by local conservationists, working with the community is imperative for avoiding social problems, and similar landscape-scale ecological restoration projects in other parts of North America have been met with intense resistance (see Clark & Nyaupane, 2020). With cattle now back on the landscape in sustainable numbers, their grazing behavior mimics that of native grazers like bison which used to

inhabit the area, and neighbors now feel like the land is being put to productive use. The plans for high-end, low-volume tourism, however, does not bode well for the local community's inclusion. Community research and education projects already conducted by CLO should be expanded to include more visitation from the local community. Doing so would increase horizontal linkages to communities, which is an important characteristic of polycentric governance (Bixler, 2014).

In this paper, I argue that horizontal and vertical linkages characteristic of polycentric systems facilitate access to important resources, such as funding and expertise. In the case of Rancho El Aribabi, horizontal networks with nonprofits in the U.S. are an important source of financial and human resources, as shown by the fencing project to preserve the ranch's riparian area and the compensation for reducing their cattle stocking rates. Institutionalizing horizontal linkages, however, would create a more resilient polycentric system (Bixler, 2014) for Rancho El Aribabi. Their lack of expertise to navigate governmental bureaucracies and paperwork that could provide more financial support along with their continued need for income demonstrate the value of institutionalizing these partnerships on a long-term basis. Traditionally, resource users are considered essential partners in horizontal linkages; yet the results of this study suggest that conservation nonprofits dedicated to partnering with private landowners can be essential partners as well in forming resilient, polycentric systems. Institutional arrangements between private landowners and nonprofits could also be established vertically to create a nested governance structure (Nagendra & Ostrom, 2012; Nyaupane et al., 2020).). Such an arrangement, however, may require landowners forgo some decision-making powers.

Further institutionalizing vertical and horizontal linkages can also assist ranchers with gaining access to depredation compensation. The vertical relation between users and the state is weak in this case, and once again, nonprofits can add resilience to the system by playing an institutionalized role in providing funds themselves or facilitating access to government funds. One example of such an arrangement is how the nonprofit, Defenders of Wildlife, used to compensate ranchers for wolf depredations following wolf reintroductions in Yellowstone National Park and Idaho's national forests in the western U.S. (Dickie, 2018). However, even as horizontal and vertical linkages become institutionalized in a polycentric system, their success is not guaranteed and imperfections will always be present (Andersson & Ostrom, 2008; Baldwin et al., 2016; Long et al., 2020).

The cases of polycentric governance systems in this study revealed weaknesses that are evident in such systems around the world whenever there are unequal partnerships. For example, the feedback loops that are characteristic of polycentric systems are not always fully operational or effective due to power imbalances (Gelcich, 2014; Ostrom, 2010). For MGB members, their concerns about the impacts of critical habitat designation or the construction of a border wall were largely unheeded. While ranching is still currently allowed in critical jaguar habitat areas (U.S. Fish and Wildlife Services, 2014), there is an apparent lack of trust among ranchers that ranching will be permitted in perpetuity, and trust is an essential component of polycentric governance (Morin & Richard, 2021; Ostrom, 2010). As for local opposition to the border wall, the lack of communication between the U.S. government and MBG undermines their conservation efforts and further erodes trust (Sayre & Knight, 2010). The refusal of the

U.S. government to listen to local voices reflects the imbalanced relations between core institutions and peripheral communities who struggle to advocate on their own behalf (Salvatore et al., 2018; Timothy, 2001). On the other side of the wall where CLO has worked for decades to restore land and ecological processes, the wall has utterly devastated their binational focus to keep wildlife corridors open. Further complicating the issue, border militarization in the name of national security gives the U.S. little incentive to collaborate with governments, nonprofits, or resource users and reveals the immense challenge of polycentric governance across national boundaries. Border militarization and the destruction of natural areas for a border wall also damages the attractiveness of tourism resources at a destination (Blanco, 2011), leading to a possible decline in tourism (Butler, 1980). Fortunately, improved communication between the U.S. government and MBG can have positive impacts for CLO across the border and increase the redundancy of governance roles in the region.

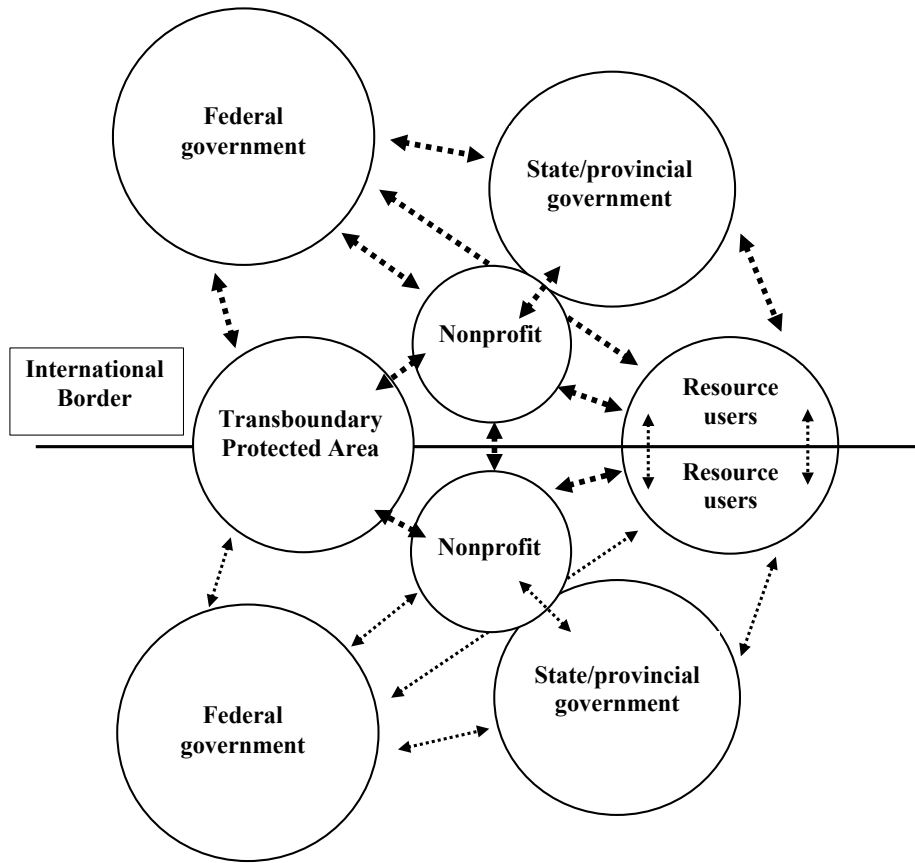
The importance of the leadership role of governments is made clear by each of the cases within this study. For MBG, bringing Arizona, New Mexico, and U.S. agencies together helped accomplish improved governance of resources across their working area and solve problems. This improved governance system included issues related to fire management and wildlife reintroduction across a landscape where these agencies were already working but did not coordinate their efforts. For CLO across the border, improved collaboration with MBG can bring about an improved cross-border polycentric system (Figure 7) and result in more exchange of species and overlapping roles in managing these species and their native habitats. This horizontal collaboration is especially essential due to the U.S. governments lack of leadership in establishing a

cross-border resource governance system. To protect jaguars, pumas, ocelots, and bobcats, the Northern Jaguar Reserve has also helped fill a void left by the Mexican government by using an innovative incentive structure to further encourage overlapping roles in protecting these target species. By rewarding participating ranchers for each picture of a living cat, the area of protection for these species multiplies without diminishing local livelihoods. Further, the incentives offered through their *Viviendo con Felinos* program recognizes private landowners' valuable role in conserving endangered wildlife and their critical habitat (Hansen et al., 2018). The legal framework of this structure, however, removes alternative livelihood options for these ranchers, such as hunting tourism, and depends on perpetual compensation from the donors who fund the program. Improving education and outreach to landowners to share the conservation benefits of their participation can help fortify overlapping roles to protect species in a manner that is not dependent on financial incentives. Lastly, if the two nations come together to establish a TBPA, the resulting shared governance produces supranational policies that can have positive implications for tourism (Prokkola, 2010). However, any TBPA needs to avoid the pitfalls of TBPAs in other parts of the world where tourists have more mobility than local community members (Fall, 2011).

The pitfalls of TBPAs and polycentric governance structures can be further avoided as resource governance is localized, vertical and horizontal linkages are established, equal relationships are in place, and the leadership role of the government is fortified. Figure 7 below illustrates the vertical and horizontal linkages that facilitate cross-border governance and how these linkages can be improved. Whereas the U.S. government more closely collaborates with nonprofits, PAs, and resource users like the

MBG, even though the nature of this partnership is on unequal grounds, the state and federal government in Mexico have a reduced role in supporting the different entities. This reduced role is portrayed by the thinner arrows between the various entities. The arrows between resource users are also thin given how this relationship needs to be strengthened for more effective governance, as illustrated by the shortcomings of MBG and CLO's cross-border collaboration. The major contributions of this study are shown by the highlighting the need to localize resource governance, establish vertical and horizontal linkages, establish equal relationships, and fortify governments' roles governance leadership. As these improvements are made to cross-border polycentric governance systems, natural and tourism resources can be protected and sustainably used in cross-border destinations (Blanco, 2011).

Figure 7. Cross-border governance at multiple scales



Conclusion

This multiple case study contributes to polycentric governance literature by highlighting the mechanisms that permit cross-border governance within polycentric systems. As found in this study, polycentric systems need to adapt to local socio-ecological conditions, establish vertical and horizontal linkages, establish equal partnerships, and fortify the leadership role of the government. Moreover, when these systems are built on a foundation of trust, the ability to communicate, adapt, improve, and learn becomes much more possible (Ostrom, 2010). At the binational scale, the immense challenges of

polycentric governance across international borders can be addressed as the characteristics of polycentric governance are strengthened. When vertical collaboration improves in a nested governance system, existing horizontal linkages across borders can produce benefits for resource governance in a borderland. Alternatively, cross-border governance can be implemented through establishing a binational protected area where states come together to create a system of shared governance (Borrini-Feyerabend & Hill, 2015). Such actions may create added incentives to preserve resources and stimulate economic development through tourism. Conversely, setting up proper governance structures may even increase tourism through the preservation and restoration of landscapes that retain attractive traits for tourists.

For stakeholder groups involved in resource governance in the Sky Island borderlands, cross-border outreach and planning should increase to produce positive outcomes for tourism and conservation. This may entail creating a cross-border regional council that oversees planning and implementation procedures to ensure cross-border governance goals are achieved. The council, however, would need to consider historic power dynamics in the region and include stakeholder groups whose voices have often been absent from such discussions. The actions of committed stakeholders can make up for government inaction to create a transboundary protected area and jointly govern resources through a formal decree.

Some limitations of this study include the challenges presented by a presidential administration change in the U.S. and border closures resulting from the COVID-19 pandemic. These challenges impeded more in-person interactions with participants and more intimate observations of cross-border governance challenges. Future research, on

the other hand, is needed to further examine cross-border governance weaknesses in areas where TBPA's are already established. As shown in previous research, even established TBPA's reveal abundant weaknesses for cross-border governance (Andersson, Garine-Wichatitsky et al., 2013), and these weaknesses should be considered and better understood in future research on cross-border governance. Nonetheless, the cross-border governance framework presented in this study demonstrates a theoretical approach for how cross-border governance can be possible even in the face of border militarization.

CHAPTER 4

IDENTIFYING APPRECIATION FOR SHARED HERITAGE AND INTEGRATION

AT THE U.S.-MEXICO BORDER: A PHOTO-ELICITATION APPROACH

Introduction

For more than two decades, international borders have undergone a process of militarization in the name of national security across the world (Evrard et al., 2020). In response to terrorist attacks, refugee crises, and increased immigration, this trend of militarization and its associated border hardening has progressed throughout the 21st century (Herzog & Sohn, 2017), often culminating in the construction of a physical border wall (Vallet & Charles-Philippe, 2012). Rather than create a borderless world, as many believed, globalization has contributed to the creation of more rigid borders (Judkins, 2007). Even as borders harden around the world, the overlapping histories, cultures, and natural landscapes found in borderlands provide a mutual heritage for people of different nationalities and backgrounds (Timothy, 2014), making it important to understand appreciation for this shared heritage and how it aids tourism development. Though ethnic, linguistic, religious, and cultural backgrounds may differ on either side of international boundaries, the proximity of communities to borders and people's ability to cross borders provides them with a sense of contact or connection with neighboring countries (Timothy, 2001). Further, international tourism and binational collaborative projects increase this level of contact between neighboring countries and begs the question of how border destinations can develop by building on this sense of appreciation for shared heritage in the face of border security.

While previous research has examined the relationship between tourism experiences and heritage (Matteucci, 2013), tourism and heritage awareness (Nyaupane & Timothy, 2010), and tourism and border making processes (Gao et al., 2019), there is a lack of research on how appreciation for natural and cultural heritage connects with cross-border integration and tourism development. In addition, previous research has utilized photo elicitation to examine stakeholder perceptions towards tourism development and social and environmental changes (Nyaupane et al., 2014) and contrast views between domestic and international tourists (Stone & Nyaupane, 2019). To the researcher's knowledge, however, there is no prior research using photo elicitation to examine appreciation for shared heritage and its connection to tourism development in borderland regions. This lack of understanding regarding the connection between appreciation for natural and cultural heritage and border integration through photo elicitation demonstrates the contribution of the current study to tourism literature. Given this gap in understanding, this study uses a photo-elicitation approach to highlight appreciation for heritage in a region undergoing intense militarization and how this appreciation lends support for tourism development and cross-border collaboration. The implications of appreciation for shared heritage in relation to international borders and its connection to tourism development is important for cross-border destinations; as such, the following section will review literature about cross-border tourism and border theories and frameworks.

Literature Review

Conceptualizing International Borders

For centuries, border scholars viewed international boundaries in a nontheoretical manner and did not consider the social construction process of borders (Newman 2006a; Newman 2006b). This social construction of borders typically begins at a micro-scale between institutions and individuals (Bürkner, 2019) and can be applied to most any conceivable type of border, including protected area borders (Piekielek, 2009a). Furthermore, international borders are increasingly viewed as processes detached from a physical dividing line between nations that are linked to the movements of goods, services, people, and resources, sometimes in regions far beyond the actual border (Bates-Eamer & Hallgrímsdóttir, 2020). Closer to the actual physical boundary, however, Timothy (2001) suggests that international borders function as barriers in five different ways: they define the territorial and legal limits of a sovereign nation; they filter the flow of goods through taxes, duties, and laws; they monitor the flow of people through legal and physical barriers; they serve as an ideological barrier when countries prohibit the flow of outside information; and lastly, they function as lines of military defense to prevent terrorist attacks or other nations from extraterritorial claims. Importantly, Bauder (2015) draws attention to how the filtering mechanisms of many borders are highly liberalized towards the flow of goods, information, and capital but highly controlled towards human mobilities, embodying a source of injustice.

To conceptualize international borders, Martinez (1994) proposes a model of four types of borderland interactions: alienated borderlands, coexistent borderlands, interdependent borderlands, and integrated borderlands. To clarify this model, Martinez

uses the U.S.-Mexico border as an example of an interdependent border because it is symbiotically linked through a mutually beneficial economic system, even though economic inequality is highly present. Many scholars use the term “militarization” to describe the extent of security infrastructure put in place and claim that such measures induce pain, death, and trauma for migrants as border policies and enforcement drives informal immigration attempts to remote areas where many die during their journey (Slack et al., 2018; Slack & Whiteford, 2018). These tragic events illustrate international borders’ unequal level of permeability, where in the case of the U.S.-Mexico border, U.S. tourists’ ability to cross south into Mexico is exponentially easier in comparison to what many Mexican tourists face as they try to travel north into the U.S. (Timothy, 2001). Using Martinez’s (1994) typology of borders, Mahapatra (2018) argues that assuming international borders always progress from alienation towards integration is naïve and uses the Kashmir conflict between India and Pakistan to demonstrate how borders undergo constant processes of evolution and involution as fighting escalates and de-escalates over time.

To further conceptualize international borders, Timothy (1999) extends upon Martinez’s (1994) model of borderland interactions by including the concepts of cooperation and collaboration to form a continuum from alienation to co-existence, cooperation, collaboration, and integration. According to Timothy (2001), alienation occurs in the complete absence of positive forms of communications or partnership building, while only minimal cooperation efforts are needed between coexistent borderlands. Cooperation, on the other hand, becomes apparent as two nations make initial efforts to solve mutual problems and later advances to collaboration as relations

and joint efforts become well established (Timothy, 2001). For borderlands to become truly integrated, Timothy argues, both sides of a border need to be functionally coalesced, and each country needs to be comfortable with releasing some degree of sovereignty in exchange for mutual progress.

Progressing along the alienation-integration continuum can be challenging for many borderlands that are found at the social, economic, and political periphery of their nations (Henrikson, 2011; Martinez, 1994; Timothy, 2006b). This peripheral status of border residents often results in their being marginalized, especially in developing countries, which limits their ability to have a voice concerning the future of their own communities (Timothy, 2001). For example, many southern African communities near transboundary protected areas (TBPAs) do not reap any benefits from tourism or conservation, and in some cases may even be displaced to make way for more tourists and wildlife (Andersson, Garine-Wichatitsky et al., 2013). Conversely, Mexico's northern border with the U.S. is in some ways an exception to this trend of marginalization as higher wages in border factories have spurred northward migration from the country's interior and even provide a source of national pride in the level of economic development occurring in the region (Timothy, 2001). Still, Timothy (2001) notes how borderland residents are disadvantaged for three primary reasons: 1. They are distanced from their national capital or regional center, 2. Their most valuable trading partner is foreign rather than domestic, and 3. Certain local authorities they must deal with reside in a foreign country. This marginal status of border residents has critical implications when it comes to border security efforts in recent years and decades that governments have imposed on their citizens living in borderland regions.

The border hardening effect of border security seen at various borders around the world also has a social impact on the border communities who have been living in borderland regions for generations (see Sayre & Knight, 2010 for example). These scholars argue that more research is needed to understand the social effects in addition to the ecological effects of rebordering as cross-border social relations are essential for preserving natural and cultural relationships. This higher level of understanding is particularly important in the face of right-wing, populist narratives promulgated by politicians used to justify border militarization that espouse an endangered “us” and a threatening “them” (Lamour & Varga, 2020). In recent years, terrorist attacks in Paris and Brussels even led western European countries within the Schengen Area to refortify previously opened unguarded borders, revealing the dilemma between security measures to mitigate terrorism and the spatial mobility goals of the Schengen Agreement (Evrard et al., 2020). According to Vallet and Charles-Philippe (2012), border walls fulfil a mostly symbolic role to satisfy domestic political demands, which are prioritized over foreign policy as their effectiveness is questioned; thus, the underlying issues for which the wall serves as social and mental constructs need to be addressed holistically, which is why bordering theory is useful for this study (Wastl-Walter, D. (2011).

Bordering, Debordering, and Rebordering

By the mid-20th century, scholars began to look at borders as more than just static political decisions but as economic and sociocultural phenomena that should be analyzed and not merely described (Newman, 2006a; Newman, 2006b; Newman & Paasi, 1998; Timothy, 2001). This more nuanced approach to understanding borders led researchers to

view borders as social constructs undergoing a constant evolutionary process as social, political, cultural, and economic conditions fluctuate around the world (Herzog & Sohn, 2017). Bordering, debordering, and rebordering are all terms used with bordering theory to refer to the process of border making (Gao et al., 2019). Border literature often casts globalization processes, such as the creation of the EU, World Trade Organizations, the U.S.-Mexico-Canada Agreement (USMCA), and other free trade agreements as agents of debordering, while the militarization of international borders through border security and border walls following the terrorist attacks of September 11, 2001, are often cast as agents of rebordering (Herzog & Sohn, 2017). According to Herzog and Sohn (2017), however, the two dynamics of debordering and rebordering should not be seen as a distinct trend towards either the opening and closing of borders; rather, they should be seen as two forces that constantly interact and co-mingle. It is also important to note that the bordering process occurs not only on political borders but on social, economic, and environmental borders as well (Newman, 2003).

To understand the complex processes of bordering, academic research must be multi-disciplinary to understand the sociocultural, economic, and environmental impacts of this process (Newman, 2003). Further, understanding the history of how borders form is also key for conceptualizing border interactions and phenomena (Payan, 2014). This deep level understanding of international borders that accounts for historical interactions and social, economic, and environmental factors helps illustrate why different international borders are at varying degrees of permeability. For example, the U.S.-Mexico and Greece-Turkey borders have undergone much more rebordering processes in response to undocumented immigration and security issues than countries in the

Schengen Area have (Lybecker et al., 2018). Yet, even for the Schengen Area or European Union communities that straddle international borders, such complex dynamics situate them in between rebordering and debordering processes where borders dually symbolize the state's decreasing role in the EU as well as the dividing lines between countries and communities (Jańczak, 2018). Moreover, although securitization has been prioritized along certain international borders, some scholars believe that border communities can be a force for initiating debordering processes through their own collaborative efforts (Hataley & Leuprecht, 2018).

While scholarly research on the role of tourism in the bordering process is scarce (Gao et al., 2019), some existing research contends that tourism is a rebordering force that motivates central governments to regulate tourism activities and enforce laws, emphasizing the notions of “us” and “them” for tourism stakeholders (Gao et al., 2019; Judkins, 2007). Alternatively, other research finds that tourism development can help break down mental boundaries between nations that might exist (Prokkola, 2010; Stoffelen et al., 2017), and can conversely be facilitated through cross-border cooperation, strengthening a border destination's competitiveness (Timothy, 2001). Cross-border business tourism has also been shown to lead to additional forms of economic trade beyond those involved in the tourism industry as corporations become more familiar with individuals and corporations beyond their borders (Aradhyula & Tronstad, 2003). Certainly, tourism is a powerful force that can potentially alter border landscapes, as Timothy et al. (2014) demonstrate with the example of Andorra and France conducting land exchanges to make room for tourism infrastructure developments. Given the complex environment found in border areas and the propensity

of tourism to involve border crossings, tourism research should consider tourism in the context of the bordering process (Timothy et al., 2016).

Research that evaluates the role of ecological restoration in the bordering process is also scarce (Ramutsindela & Noe, 2015; Sinthumule, 2020). However, these scholars see the creation of transfrontier protected areas, which often rely on ecological restoration to connect existing habitats, as intimately tied to the debordering process as new protected area boundaries are drawn and international boundaries which bisect these conservation areas are softened to provide greater ease of movement for wildlife and tourists. Moreover, some scholars see the debordering process as a catalyst to the formation of future TFPAs and tourism development (Mayer et al., 2019; Timothy, 2000). Concerns over poaching, however, have at times led to rebordering in TFPAs as militaries have been stationed along international borders within these protected areas to secure wildlife resources (Sinthumule, 2020). Border dynamics are also at play when simply looking at protected or conservation area boundaries where ecological restoration initiatives seek to expand conservation area borders into lands previously held by local communities. This of course might lead to agricultural expansion, perhaps even illegally, back into such permeable conservation areas, shifting the boundaries once more between spaces dominated by human use versus those where biodiversity conservation is intended (Andersson, Garine-Wichatitsky et al., 2013). The lack of academic attention to the relationship between ecological restoration and the bordering process highlights the need for future research to fill in this knowledge gap.

Cross-border Tourism

The topic of cross-border tourism has received a growing amount of attention over the past several decades. The notion of a physical border serving as an actual tourist attraction was first explored by Timothy (1995), who noted that international boundaries attracting visitors may be natural, such as waterfalls and national parks, or human-made structures, such as signs, monuments, or physical barriers. Wachowiak (2006) agreed that border destinations have grown in popularity for international tourism and advocates for proper marketing and management to ensure sustainable tourism is practiced in these areas. Border areas are also great case studies for investigating the effects globalization as this is where cultures, politics, and economies collide (Timothy, 2006a). Moreover, researchers have shown how tourism itself is a powerful force that can modify international border landscapes based on the promise of socioeconomic development (Timothy et al., 2014). Border tourism, on the other hand, has historically often been characterized by a shady image brought on by the different forms of vice tourism it attracts, such as prostitution, gambling, and drinking (Sofield, 2006; Timothy, 1995; Timothy, 2006a; Timothy et al., 2016; Wachowiak & Engels, 2006). Because of this long held view towards visiting border areas, tourist areas in borderlands need marketing strategies that target families to help create a more positive image (Wachowiak & Engels, 2006), which is the most important aspect of a tourism attraction from a marketing perspective (Lew, 1987) and would help attract and retain visitors (Del Río et al., 2017).

Cross-border shopping and nature-based tourism may be part of the solution for border areas to improve destination image and drive further tourism developments. For many border residents around the world, cross-border shopping is very popular,

especially when currency exchange rates are favorable, low taxes make products more affordable, a wider selection of products is available, and visiting friends and family can be part of the experience (Timothy, 2001). Moreover, due to the peripheral and culturally diverse nature of many border areas, borderlands can possess attractive natural and cultural landscapes that are ideal for both nature-based and cultural tourism (Timothy, 2006b). Federal policies that take away decision making powers from border communities, however, hurt tourism development and conservation cooperation as local initiatives are more effective than federal initiatives (Timothy, 2006b). Further, tourism landscapes in borderland regions may also be impacted by neighboring nations' socioeconomic, cultural, and political distinctions that can result in noticeably different levels of attractiveness at border destinations, as many claim is the case at Niagara Falls where Canada's portion is observed to be more appealing to tourists (Timothy, 2001). Still, scholars argue that cross-border tourism in protected areas needs more attention in academic research (Mayer et al., 2019), making the contributions of this study important for academic literature. While protected areas are important attractions for tourism in borderlands, they are but one of many different types of attractions that help create a tourism destination regardless of its relation to a borderland.

According to Leiper (1990), tourist attractions are sets of interconnected elements that fit into the larger tourism system. While the larger tourism system consists of a tourist generating region, tourist transit region, and tourist destination region (Leiper, 1979), tourist attractions consist of tourists, nucleus of attractions, and markers that provide essential information to tourists with needs (Leiper, 1990). Lew (1987), on the other hand, describes tourist attractions from three different perspectives: the ideographic

perspective, where attractions are known by name; organizational perspective, where attractions are distinguished by their spatial and temporal characteristics; and cognitive perspective, where attractions are seen in terms of the experiences and activities they offer. Lew (1987) also emphasizes the relation between cultural and natural elements that form tourist attractions. These elements of tourist attractions are useful to consider when evaluating tourism development in a borderland context.

There are several barriers to the development of tourism border regions, which may be real or perceived (Sofield, 2006; Timothy, 2001). Real barriers include crime and war or even strict border policies that make travel impossible for international tourists (Timothy, 2001). Unattractive physical barriers, such as barbed wire fences or border walls can also scare away tourists (Mayer et al., 2019) or diminish their outdoor experience (Piekielek, 2009b), as can other border security measures (Timothy & Tosun, 2003; Timothy et al., 2016). The realities of crime, terrorism, or pandemics heighten tensions between the tourism industry's desire for less regulations and a nation-state's right and responsibility to protect their citizens through border security measures (Paasi, 2011; Sofield, 2006). Examples of perceived barriers include socio-cultural differences, perceptions of safety, political relationships, and economic differences (Mayer et al., 2019; Timothy & Tosun, 2003), which create an "us" and "them" mental device (Sofield, 2006). Interestingly, even in areas where borders are undefended and easy to cross, such as the Schengen Area of Western Europe, mental barriers may still exist and hinder border crossing (Mayer et al., 2019). However, border studies have found that tourism itself can play a role in mitigating perceived or mental barriers to cross-border tourism development collaborations (Prokkola, 2010; Stoffelen et al., 2017). Not only can tourism

play a role in easing such barriers, but the forming of partnerships between various entities, such as park managers, communities, local authorities and institutions, nonprofits, and the private sector can spur localized economic development (Goodwin, 2000), which can have many positive implications for border destinations. Moreover, having an effective destination management strategy in place in border destinations additionally contributes to eroding psychological barriers and helps value the border region, place it in a better market position, and boosts its competitiveness among alternative destinations (Hartman, 2006). In essence, the literature on border conceptualizations, bordering theory, and cross-border tourism display intense contrasts in borderlands and opportunities for increased integration through cross-border tourism. This understanding of border conceptualizations and theories in relation to tourism helps clarify the rationale of this study to examine shared values and appreciation for cultural and natural heritage in a militarized borderland.

Purpose of Study

The purpose of this study is to identify shared values and appreciation for the cultural and natural heritage of the U.S.-Mexico border area to contribute to border theories. This study seeks to identify appreciation for share heritage to understand how cross-border tourism and ecological restoration act as agents of debordering in light of rebordering forces. The objective of this study is to better understand the shared appreciation of cultural and natural heritage and the ways in which cross-border tourism and ecological restoration serve as agents of the bordering process by using a photo elicitation approach. The guiding research questions for this study are the following:

1. What natural, social, political, and cultural features of borderland regions help foster cross-border integration and permeability?
2. What kind of alienating and rebordering effects do border security activities and border policies have on people on either side of an international border?
3. How does appreciation for natural and cultural heritage translate into promotional and opportunities for a tourism destination?
4. How does nationality or stakeholder group affiliation impact appreciation towards heritage?

Methods

This study is driven by a constructivist worldview, which holds that multiple interpretations of reality exist as meaning and life experiences are derived subjectively within different individuals (Creswell & Creswell, 2018). Furthermore, this study utilized a photo-elicitation method to collect data, which involves incorporating photos into the interview process to elicit more emotion, memories, and rich information (Harper, 2002). To ensure a reliability of data (Bernard et al., 2017), in-depth interviews and observations were also used as supplementary methods. Together, these methods were well suited for this study where participants were encouraged to share their multiple views of reality. As the primary data collection method in this study, photo elicitation has the advantage of being able to bridge gaps of perspective between researchers and study participants (Harper, 2002), which is important for cross-cultural research (Samuels, 2012). Harper (2002) further explains how photos used in interviews can be obtained through various methods, such as from the researcher, outside sources, or the participants themselves.

This last method where participants source photos themselves is known as auto-driven photo elicitation (Samuels, 2012). These different approaches to photo elicitation-interviews have their own advantages and disadvantages. For example, by providing photos from tourism promotional materials in Botswana to domestic tourists and asking for their insights, Stone and Nyaupane (2019) were able to exhibit how governments in developing countries perpetuate neolonialism by presenting their country as a vast, empty wilderness devoid of local people. Similarly, Nyaupane et al. (2014) concluded that providing photos to participants in rural Nepal was effective for eliciting local perceptions towards tourism and social and environmental change. Conversely, according to Samuels (2012), auto-driven photo elicitation is an effective tool for bridging the culturally distinct worlds of the researcher and the participants, as this method of data collection allows researchers to look at lived experiences of participants through their own lens. Moreover, scholars allege that auto-driven photo elicitation is more interesting for participants and is well suited for recruiting and establishing rapport between the researcher and participants (Hajradinovic, 2018; Matteucci, 2013; Samuels, 2012).

A purposive sampling strategy (Bernard et al., 2017) was used to recruit participants from targeted populations, such as nonprofit conservation organizations, tourism businesses, tourists, residents, and state and federal agencies. These populations were contacted because of their intimate knowledge of the culture, legal environment, and natural landscape of the study area. Both the photo-elicitation and in-depth interviews were conducted virtually to ensure the comfort and safety of the researcher and participants during a time of COVID-19 uncertainty. To ensure that the objectives of this qualitative study were met and that responses to the guiding research questions

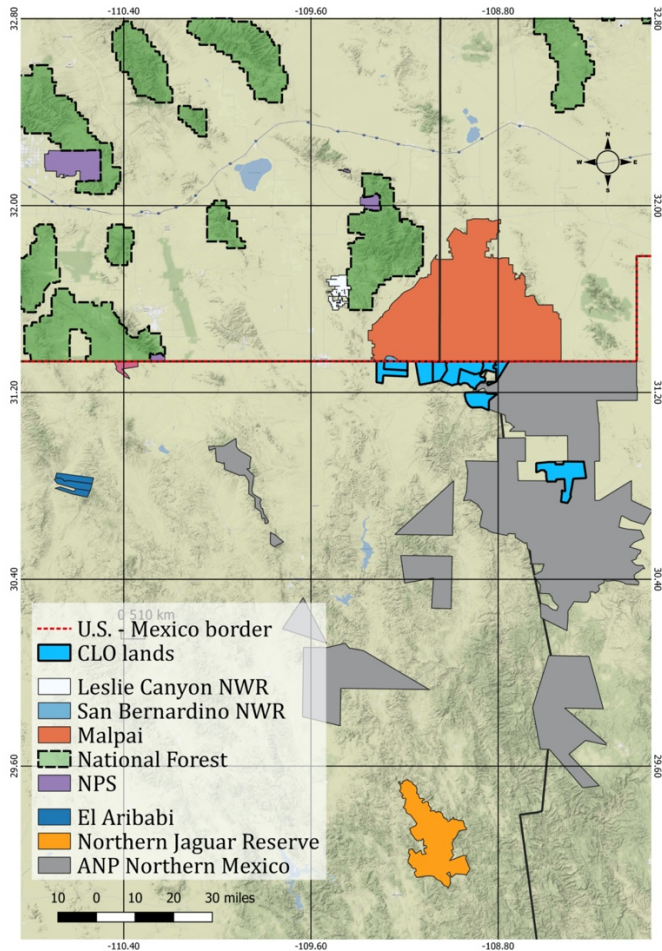
reached saturation, 21 participants were recruited (Charmaz, 2006; Creswell & Creswell, 2018). Among the participants, 10 were primarily based out of Mexico and 11 were primarily based out of the U.S. at the time data were collected. However, many of the participants originated or previously lived on the opposite side of the border from where they lived during the study, have residences in both countries at different times of the year, have dual citizenship, have citizenship in one country and residency in the other, or frequently travel between the two nations for work, family, and leisure. For example, some of the U.S.-based participants were Mexican nationals living in the U.S. for work or were Mexican American and may or may not have had dual citizenship, while some of the Mexico-based participants were U.S. nationals who may or may not have had dual citizenship. Of the 10 Mexico-based participants, three were from conservation nonprofits, two were tourism business owners, three were tourists, and two were local residents. Of the 11 U.S.-based participants, three were from conservation nonprofits, two were tourism business owners, three were local residents, and three were from state and federal conservation agencies.

The first step in the data collection process was to conduct initial in-depth interviews with participants without the use of photographs. During these initial interviews, participants were asked what they loved about the region, what they did not like or would like to change, and what aspects of the region they felt would be most appealing to tourists. They were then instructed to take a series of nine pictures—three pictures that represented what they loved about the region, three pictures that represented what they did not like or wanted to change, and three pictures that represented what they thought would appeal to tourists—and bring them to a follow up photo-elicitation

interview. During the photo-elicitation interviews, participants were asked to show their pictures through a screenshare and explain why they took each picture. The goal of the photo-elicitation interview was to let the participants lead the discussion and to share their own perspectives regarding the region. For both the in-depth and photo-elicitation interviews, participants were asked for their permission to be video or audio recorded.

Data for this study were collected in the Sky Island borderlands region of southeastern Arizona, northeastern Sonora, southwestern New Mexico, and northwestern Chihuahua near the twin border cities of Nogales/Nogales and Douglas/Agua Prieta (Figure 8). As seen in Figure 8, the study area contains many protected areas, including Chiricahua National Monument, Fort Bowie National Historic Site, Coronado National Memorial, and San Bernardino National Wildlife Refuge in Arizona, and Ajos-Bavispe National Forest Reserve and Wildlife Refuge in Sonora, Cuenca Los Ojos (CLO) in Sonora, and Janos Biosphere Reserve in Chihuahua. The Sky Island borderlands derives its name from the forested mountains that stand above the desert valley floors and which draw considerable attention from conservationists due to its high biodiversity (López-Hoffman & Quijada-Mascareñas, 2012). This area is also known for its world-class birding and wildlife viewing, although more cross-border collaboration is essential for maintaining and restoring habitat connectivity across this ecosystem (Villareal et al., 2019). Various nonprofits and private landowners also operate in the study area and even manage extensive amounts of land for conservation. One of these nonprofits is CLO, which owns property in northern Sonora that borders Arizona.

Figure 8. Sky Island Borderlands region and its Protected Areas



Source: Cuenca Los Ojos

In this region, the U.S.-Mexico border has steadily undergone a rebordering process where border demarcation has evolved from widely spaced border markers in the 1890s to barbed wire in the 1940s to Normandy-style vehicle barriers in the 2000s (Sayre & Knight, 2010) to the 30-foot pedestrian wall in 2021. Rural borderland ranchers in this region have described how cross-border relations with their neighbors have already changed with the increased size and scale of border barriers (Tory, 2020). In northern

Mexico, perceived or mental barriers appear to be present for tourists as most tourist areas are located near ports of entry and only attract U.S. tourists for short day trips (Timothy & Tosun, 2003). This area is also the ancestral homeland of various Indigenous groups such as the Yaqui, Tohono O'odham, and the Apache peoples, who during settler colonial expansion utilized the U.S.-Mexico border as a survival strategy to evade capture by Mexican and U.S. militaries (Schulze, 2018; St. John, 2012; Wilder et al., 2013).

Medical tourism and shopping are two forms of tourism that are quite popular in the U.S.-Mexico border region as the high cost of healthcare in the U.S. drives many U.S. nationals to seek low-cost medical services across the border, while product pricing and availability, along with the opportunity to visit family friends, drive many Mexican nationals to shop in the U.S. (Judkins, 2007; Manzanares Rivera, 2017; Su et al., 2014; Timothy, 2001). Timothy (2001) additionally points out socio-economic factors that have led to such high levels of cross-border shopping at the U.S.-Mexico border, namely the rapid population growth at Mexico's northern border due to the hundreds of maquiladoras (factories) that have been established through Mexico's Border Industrialization Program. This scholar notes how this economic development from maquiladora jobs is often seen as a source of pride, making certain aspects of Mexico's northern border a rare exception to the peripheral and marginalized status of border residents seen around the world. These cross-border tourism industries help illustrate the interdependent relationship between these two nations as described by Martinez (1994); however, other scholars have imagined a more integrated U.S.-Mexico border being made possible if socially just governance were to enable equal human rights, wages, and governmental responsibilities (Staudt & Coronado, 2002). This ideal, however, is currently being hampered by border

militarization. Since the year 2000, 2,100 bodies have been recovered in southern Arizona and 6% of them belonged to children under 18 years of age (Martinez et al., 2013). This environment of highly patrolled borders undermines the concept of a “borderless world” that many felt was inevitable through the process of globalization (Judkins, 2007).

While the researcher has gained a foundational understanding of the Spanish language and Latin American culture by living, studying, and working in Mexico and other Latin American countries, this cultural competence is secondary to the need for cultural humility when it comes to reflexivity and positionality. According to scholars, cultural humility entails character traits and actions of openness, self-awareness, being egoless, supportive interactions, and self-reflection and critique (de la Garza, 2019; Foronda, 2016). In the spirit of cultural humility, the researcher acknowledges the abundant differences in perceptions and life experiences that exist between himself and the study participants who represent a diverse body of stakeholders. In that same spirit, the researcher conducted reflexive exercises to consider the implications of there being different perspectives between himself and the study participants and how these differences influence power relations between researchers and participants (Chambers & Buzinde, 2015; Wallerstein, 1999). The researcher further notes his dual insider and outsider status among different study participants, both of which have their advantages and disadvantages for conducting research (Lofland et al., 2006).

Data Analysis

The data analysis process consisted of indirect and direct analysis. According to Collier (2001), indirect analysis in photo-elicitation research refers to the interview content that is elicited through photos. The interview content provides necessary information to contextualize photos, as analyzing photos on their own produces limited findings (Borchert, 1982). The indirect analysis began with transcribing each completed interview and noting common themes. After all the interviews were transcribed, the researcher performed open coding on the interview transcripts through the aid of a Maxqda qualitative software. The coding process consisted of several steps, beginning with open coding to form categories, followed by axial coding and selective coding to situate the categories within a central explanatory concept (Creswell, 2007; Creswell & Creswell, 2018). The selective coding process, in other words, was used to further identify major themes that emerged from the data. Any observational data made by the researcher were also integrated with the interview data to aid in the coding process. Of particular interest during the coding process was to compare responses by participants' nationality and stakeholder group to see if major differences or similarities exist between participants from either side of the border. Member checking was also used to make sure participants find agreement with the analysis (Bernard et al., 2017).

After the indirect analysis, a direct analysis of participants' photos was performed, as photos have an untapped potential for understanding historical and cultural landscapes (Seymour & Summerlin, 2017). The direct analysis entailed several steps as outlined by Collier (2001): 1. Close inspection of each photo to highlight focal point and objects in the image while taking notes, 2. Create an inventory of all photos and form

categories, 3. Conduct a structure analysis to produce detailed notes as guided by research questions, and 4. Search for meaning and significance by laying out photos and returning often to write conclusions. Once an inventory of each photo's content was complete, the photos were organized into categories based on their similarity and with the help of existing literature (Lew, 1987). These data were then integrated into the indirect analysis and the themes were refined accordingly. The main goals of the analytical process were to identify elements of appreciation for the shared natural and cultural heritage in border communities that can be promoted to tourists for their consumption and to pinpoint obstacles to further appreciating this shared heritage.

Results

Data analysis of the auto-driven photo elicitation interviews yielded rich findings and revealed several crucial themes for understanding shared appreciation for the natural and cultural heritage of the Sky Island borderlands. Moreover, the indirect analysis of the photo elicitation interviews provided key insights from stakeholders on the ground, many of whom have lived in the region for generations. Based on the direct analysis of participants' photos, the focal point of these photos fell into one of eight categories: animals, both domestic and wild; mountains; water; plants; culture; sky; the border wall; and environmental degradation (Table 2). These results illustrated how important animals were in representing what participants loved about the region, as these counted for 35% of photos in the "what I love" category. Conversely, only 8.5% of pictures in the "what I want to change" category included animals to show instances of cattle grazing in a conservation area and in a trail camera photo of a black bear using the same trail just one

hour after a pair of drug traffickers to display one of the many threats to wildlife in the region (Figure 10). In the “what I think tourists would enjoy” category, however, images of animals were second only to those showing representations of the local culture, which was clearly shown to be an essential element of the tourist product and experience. For example, 39% of pictures in this category represented the culture of the region through representations of experiences with local food, music, and historic sites.

Further, photos that focused on mountains, water, and plants were significant representations of what participants loved about the region and what they thought tourists would enjoy. Finally, photos of the border wall and environmental damage stemming from border wall construction, mining activities, and litter were salient features of what participants wished they could change about the region, as demonstrated by how these subcategories represented 71% of photos in the “what I want to change” category. While participants were asked to bring nine total photos to represent the three categorizations of photos, some participants ended up bringing unequal numbers of photos for each category and numbers less than or greater than those asked. In other instances, participants pulled photos from the internet to exhibit their perspectives if they did not have their own photo to represent a certain subject. These photos taken from the internet were not analyzed in this study. Further, one participant did not share their photos following the second interview, and another did not show up for a second interview altogether, leaving no photos from them for direct analysis. On the other hand, some participants did not divide their photos according to the given categories, leaving it up to the researcher to deduce their most appropriate allocation.

Table 2. Focal point of participant photos by category and subcategory

Focal point of photo	What I love	What I want to change	What I think tourists would enjoy
Animals	30 (35%)	4 (8.5%)	13 (20.5%)
Mountains	12 (14%)	3 (6.5%)	9 (14%)
Water	14 (16.5%)	1 (2%)	7 (11%)
Plants	14 (16.5%)	0 (0%)	6 (9.5%)
Culture	10 (12%)	5 (11%)	25 (39%)
Sky	5 (6%)	0 (0%)	4 (6.5%)
Border Wall	0 (0%)	12 (26%)	0 (0%)
Environmental Degradation	0 (0%)	21 (45%)	0 (0%)
Total photos	85	46	64

By combining the direct analysis of the photos and an indirect analysis of the photo-elicitation interviews, several salient themes emerged: Alienation by exploitation, separation, and militarization; rebordering a borderland landscape; debordering through restoration, protection, and mobility; and destination development by promoting unique culture and ecology. While the indirect analysis of the photo-elicitation interviews provided rich data to help form the foundations of these themes, the direct analysis of participant's photos helped emphasize certain points. For example, when participants discussed how the borderlands were ecologically identical on either side of the international border, some of their photos of the border wall from high-elevation vantage points helped exhibit how the border wall followed an arbitrary line through an otherwise similar landscape (Figure 14). Conversely, other photos, such as Figure 12 provided a powerful visual basis of how the border is associated with pain, loss, and death. The remainder of this section will elucidate each of these themes and provide examples from the findings.

Alienation by exploitation, separation, militarization, and fear

As a result of border wall construction and increased militarization, the nations of Mexico and the United States have become increasingly alienated from each other. Adding to this alienation is the widespread fear of illegal activities, such as human and drug smuggling. Most of the time this fear was unsubstantiated, but not always. Some of the participants in Mexico described previous encounters where they were held at gun point by drug traffickers where they feared for their lives. While they did not have pictures to share of these incidents for obvious reasons, they sometimes used trail camera images of armed cartel members (Figure 9) or pulled pictures off the internet to describe their experiences and insights. Even the wildlife face alienation considering their vulnerability to poaching by drug cartels or local communities (Figure 10) and through border barriers that separate them from populations on the opposite side of the border. According to some participants, large corporations have been able to extract major resources, such as water and minerals, without being held as accountable as they would be in other regions. In northern Sonora, for example, large mining companies have been accused of taking advantage of reduced law enforcement and even going so far as to building walls around their water wells in response to local protests and attempts by members of the community to ‘take back’ water they felt was being stolen from them. Some participants even suspected that these mining corporations are collaborating with drug cartels, resulting in severe intimidation and quelling further community opposition. These actions add to the alienation experienced in the borderlands as communities are often marginalized by their respective governments. In Figure 11, at least six walled-off water wells belonging to a major mining corporation are visible in a participant’s photo taken through a car window

near Cananea, Sonora. This participant shared how these big companies can exploit water:

...the [Mexican government] agencies in charge of regulating these issues, like how much water this company can use and how much water should remain in the community, they don't have the capacity, they don't have the resources to come over all the way from Mexico City because everything here is centralized. And maybe just it's not possible. It just, it won't happen. So this big, huge company is taking advantage of the communities and the low income and the lack of education and the ignorance and just taking their water.

Figure 9. Armed cartel members seen on a trail camera on a Sonoran sky island



Figure 10. Black bear passing by exact location one hour later



Figure 11. A mining corporation's fortified water wells in Cananea, Sonora, Mexico



Participants also shared how border policies have further divided the U.S. and Mexico and contributed to suffering and even death. As migrants are pushed into remote areas of the borderlands through the U.S.'s border policies, many perish by heat exhaustion, starvation, or violence. In Mexico, family members of those who have perished often place reminders of their loved ones who died while trying to improve their situation (Figure 12). An Hermosillo resident and frequent visitor to Sonora's northern border discussed how:

What this one represents to me is the way that policies at the border have really led not just, you know, poor conditions but actually the loss of life for a lot of people who are pushed into the desert, who are left in really dangerous situations where they're kidnapped, or— you know. So the crosses to me, it was sort of blueprint that represented the real, you know, loss of life that that comes from the policies that have been enacted around the border.

Figure 12. Crosses left at the border wall by family members of deceased migrants



The loss of life and human suffering along the U.S.-Mexico is increasingly exacerbated by the formation of an ever more militarized border, adding to the sense of alienation. While this militarization and its reliance on law enforcement and a border barrier is meant to deter illegal immigration from Mexico to the U.S., some participants felt that it also deters travel from the U.S. to Mexico. A border resident in Arizona shared:

We live like two miles from the border, and what surprised me so much was when I moved here that, you know, I talked to so many people and my first week or a couple days here, I was like hopping across to Mexico because I was like "yes, Mexico!" And you know, I have some biases on that. That's, you know, some of my family heritage and stuff. But, you know, how many people here never have been to Mexico? They've lived here for decades, and they've never stepped across.

In this participant's comment, it becomes evident that the physical separation of the border wall impacts human flows in both directions. Not only does the border infrastructure and policies prevent many migrants or tourists from Mexico from crossing into the U.S., but the militarized border creates an "us" and "them" dichotomy that impacts travel from the U.S. to Mexico as well. Reduced travel only strengthens this dichotomy and promotes alienation.

Rebordering a borderland landscape

The data also revealed how a rebordering is taking place in the study area. To illustrate this point, participants from both countries and across all stakeholder groups talked about the border wall's destruction to the borderland's landscape and ecosystems. The emphasis on the environmental damage by participants from both sides of the border reflects a shared appreciation for the natural resources and ecology of this unique landscape. In the

final days of the Trump administration, many miles of the U.S.-Mexico border underwent a conversion from a Normandy-style vehicle barrier that still allowed most wildlife species to cross to a 30-foot pedestrian wall. This wall construction impacted areas where decades of conservation work to preserve ecological connectivity between the U.S. and Mexico are now undone. At a ranch owned by CLO, the environmental impacts of the wall are particularly visible (Figure 13). After visiting CLO during an educational field course, a Sonoran college student remarked, “You're watching beautiful ecosystems, beautiful rivers and mountains and all of that paisaje— the landscape— and well, it is interrupted because of the wall. It's kind of, I mean it causes you impact when you see it for the first time.”

Figure 13. College student taking picture of the 30-foot border wall at CLO



This remark denotes a sense of sadness or loss at the sight of such a massive obstacle. On the U.S. side, participants similarly shared their concerns about the border wall's destruction to the mountains, rivers, and wildlife corridors. Even the participants employed by state or federal agencies who were restricted on sharing their political stance on the wall could recognize the impacts the wall creates across a large landscape (Figure 14). For example, an employee from an Arizona state agency stated:

...that's the Great Wall of China. That's the 30-foot wall, and I really didn't get a sense of how immense that project was until I stood up at Montezuma pass and saw that line go all the way out to the horizon. Yeah, something was different. That was my first real "eyes on" the border wall. And I'm not taking a position on the wall, one way or the other, but it does fundamentally change the character of the landscape.

Figure 14. Border wall and construction staging area seen from nearby mountain



As illustrated by the quote above and from Figure 14, the sheer size and length of the border wall impacts hundreds of miles of desert landscape, sky island mountains, and riparian habitat. The band of trees in the upper portions of Figure 14 line the San Pedro River, which is now intersected by the border wall. When combined with the social impacts of a militarized border, the scale of environmental damage from border security efforts signals the need for debordering forces in the region.

Debordering through restoration, protection, and mobility

Tourism and conservation stakeholders from both countries also elaborated on the binational efforts that are underway in the region to restore landscapes, protect nature, and drive tourism, each of which exert a debordering force. Various conservation related nonprofits from the U.S. and Mexico discussed their involvement in these binational collaborations. For example, Borderlands Restoration Network, a nonprofit based out of Patagonia, Arizona, works to restore landscapes by empowering young people through providing work, volunteer, and educational opportunities. In the summer of 2021, Borderlands Restoration network held a field school at CLO that allowed college students from Sonora to engage in ecological restoration work and learn about the ecology of the Sky Island borderlands. In addition to spending time in the outdoors at CLO, the field school also gave participating students the opportunity to help paint a mural of native plants in Agua Prieta with another profit that is working to create an art corridor along the U.S.-Mexico border (Figure 15). The ability of nonprofits and individuals to be mobile and cross the border allows for positive interactions and cooperative efforts that bring a debordering effect. Further, the environmental protection and restoration efforts of these

nonprofits help create more tourism opportunities as natural areas of scenic beauty are restored and become more accessible to visitors.

Figure 15. College students and artists from a binational nonprofit painting a mural



The private cattle ranches that are now owned by CLO are excellent examples of how decades of restoration work and expansion through land purchases has created a protected area of significant size in Sonora. This protected area is now able to be visited by invited guests and researchers who often comment on its beauty. After the 2021 field school, an observer remarked how the Cajón Bonito, a perennial creek running through CLO's properties, is a particularly beautiful site (Figure 16):

This one just to me represents the incredible beauty, especially right there right on the border. Water flowing, especially in the desert— and any time we have water flowing it's just such a treat...so the beauty of it and also these places that are being conserved and are being protected for people and for wildlife— just sort of celebrating the beauty of our borderlands here.

Figure 16. Field school participants crossing the Cajón Bonito at CLO



This quote is representative of many other participants' comments regarding the vital importance of flowing water in the desert. The Cajón Bonito has been a lifeline for generations of cattle ranchers in the area from both sides of the border as its continuous flow of water has even persisted through the worst of droughts, such as the extraordinary drought during the time of data collection. Precious water sources such as these not only support life in an arid landscape but also exemplify the unique beauty of the Sky Island borderlands. This unique beauty provides ample opportunities to market the area as a tourism destination.

Destination development by promoting unique culture and ecology

The study findings, particularly the direct analysis of participants' photos, revealed abundant and unique features about the Sky Island borderlands that comprise a tourism

destination. While these unique features offer much to tourism development in this area, the region remains under visited compared to other parts of each state within the Sky Island borderlands. In terms of biodiversity, the region is already world renowned for birding tourism as many of the bird species in the region can be found nowhere else in the United States or Mexico, as is the case for many other wildlife species. For example, bald eagles, river otters, Mexican gray wolves, beavers, and black bears reach the southern extreme of their range in northern Mexico, while white-nosed coati, ocelots, elegant trogon, and jaguars reach their northern limits in the Sky Islands of Arizona and New Mexico. A tourism business owner in Arizona made this comparison:

You can't go to New York City and see the violet-crowned hummingbird (Figure 17). You can't go to Yellowstone National Park and have even the slightest expectation of seeing an ocelot (Figure 18). You can't expect in any place other than one little spot in Texas or part of New Mexico or Arizona to see an elf owl. The uniqueness of the birds that people come to Arizona for, whether it be an elegant trogon or a yellow-bellied fly catcher or a Mexican Jay, or— I could go on with 20, 30, 40, 50 other bird species you can't go to another place to see them. They're unique to the southwest. Not just the Southwest, but southeastern Arizona.

Figure 17. Violet-crowned hummingbird



Figure 18. Rare ocelot in the Huachuca Mountains of Arizona



As mentioned in the above statement, the Sky Island borderlands are unique in that very few other locations in the U.S. share the same attributes. Figures 17 and 18 above demonstrate some of the many participant photos that included wildlife as the focal point. As stated in the quote above, both the violet-crowned hummingbird and ocelot are unique to this area, with extremely sightings of the latter. The uniqueness of the Sky Island borderlands sets it apart from the rest of the U.S. Southwest and northwest Mexico. For this reason, even some conservation nonprofits that own land in the study area and were previously closed to the public decided that certain levels of visitation could not only help promote the importance of protecting the varied ecosystems within the region but also generate a source of income (Figure 19). A property manager for a conservation nonprofit in the U.S. sky islands stated:

I just I don't think you can save what you don't love, and you can't love what you don't know. And so I just need as many people to come out here as possible. And when we do you get them out of here, they are so pumped. They just stand around and I talk, and they listen.

Figure 19. Group of cyclists at a conservation property in Arizona



This participant's experience with allowing tourists to visit their conservation property shows how tourism can be an important tool for spreading awareness about the importance of protecting the sky islands and be a source of revenue at the same time. Only by becoming aware of what's at stake in certain places will people feel the need to engage. Study participants were also very fond of the cultural diversity of the region and believed this trait added to its tourism appeal. Participants shared many images that represented the cultural aspects of the region and shared the sentiment that more people should know about these places. For example, an employee from the U.S. National Park Service stated:

I like the fact that, you know, Tucson was originally a town in the northern, you know, Spanish American colonies and became part of Mexico. And it's part of United States, and we have that, you know, really deep and rich heritage on top of this amazing Native American cultural heritage of this area.

Participants who discussed the area's unique culture often selected historic buildings, events, or food that represented the cultural diversity of the region. Pictures of

Spanish colonial missions, such as Tumacácori National Historic Park in Arizona, represented this diversity as it relates to the Spanish, Mexican, and Indigenous heritage found in the Sky Island borderlands (Figure 20). Other participants discussed the vibrant and living culture of the region and how it has so much to offer tourism. Participants suggested that farmers in Sonora have an opportunity to give tours of their properties and teach about the plants they cultivate, such as agave farmers who produce Bacanora, Sonora's equivalent of tequila. Participants also shared how ranchers and farmers could open their land to tourists and teach tourists about native plants and their use for different foods (Figure 21). A field school participant from Sonora urged tourists to experience the local culture anywhere they visit:

You can go to one place and do whatever you want to do there, but you're not living the full experience if you don't consider the people and how they live. You know, it's dumb to go to some paradise beach, let's say, if you don't look to the surroundings and to the people who grown there and that develop there and evolve there. So, if you're not able to do that, to consider the people, well, you're just partying, you know. You're not living the full experience. That's all. So, I think that any approach of tourism must consider the people and their customs and their livelihoods and how they're living. That kind of thing. You must make them part of it.

Figure 20. Tumacácori National Historic Park



Figure 21. Rancher in Sonora showing visitors native plants and their uses



Discussion

Results from the auto-driven photo elicitation interviews exemplify ample evidence of how border security efforts evoke rebordering and alienating influences while cross-border tourism and ecological restoration foster appreciation for heritage and lead to debordering and integration. From the direct analysis of participants' photos, the parallel appreciation for heritage and concerns about environmental destruction and social divisions in the Sky Island borderlands were present. In terms of appreciation for natural and cultural heritage, participants from both sides of the border and across all stakeholder groups revealed a deep commitment to preserve or even restore their natural and cultural resources that form the nucleus of tourism attractions in the region (Leiper, 1990; Lew, 1987). Conversely, participants from both sides of the border shared their malcontent for increased border wall construction and its rebordering and alienating influence on the social and ecological landscape (Lybecker et al., 2018; Martinez, 1994). Safety concerns were also shared by participants from both sides of the border, demonstrating the presence of mental barriers for traveling to and across the border (Timothy & Tosun, 2003). The difference, however, was that most stakeholders on the U.S. side talked about concerns they haven't personally experienced, whereas some participants in Mexico have come face to face with these dangers. These shared sentiments towards the natural environment, the border wall, and safety, however, demonstrate binational solidarity and opportunities for collaboration that can have a debordering influence (Prokkola, 2010; Stoffelen et al., 2017). Conversely, the proliferation of illegal activities, exploitation, and intense border militarization increase the sense of alienation in the Sky Island borderlands (Martinez, 1994). Given the already marginal status of borderland communities

(Timothy, 2001), large extraction corporations have been able to exploit resources at the expense of local communities. Without larger opposition from local communities, these issues can be left ignored by federal governments far removed from the area. Making matters worse, intimidation of physical violence silences people who would otherwise object. In addition, the desire for the Sky Islands to become better known by the outside world and appreciated by tourists was nearly universal. As such, the results of this study bring to light many of the debordering and rebordering forces at play in the Sky Island borderlands (Herzog and Sohn, 2017).

The findings of this research convey the theoretical contributions of this study to border frameworks and theories. Without question, the militarized border wall and security forces create physical, social, and ecological divisions along the international boundary (Lybecker et al., 2018). Further, areas that once allowed wildlife to cross the border in search of habitat and mates are now cut off by a 30-foot wall, showing further evidence of alienation and debordering (Sinthumule, 2020). This wall construction, of course, not only brings environmental destruction but social and political ramifications as well. On the one hand, increased militarization leads to increased alienation, which perhaps weakens Martinez's classification of the U.S.-Mexico border as one that is interdependent (Martinez, 1994). The possible involution of borderlands on the alienation-integration continuum supports Mahapatra (2018) who claims that borders do not inevitably progress from alienation towards integration. However, extensive cooperation still exists between the U.S. and Mexico in terms of business and trade, which surpasses the minimal requirements to be considered a coexistent border (Timothy, 2001). Further, the border remains permeable for U.S. nationals and Mexican nationals

who are fortunate enough to possess a U.S. tourist visa, in the absence of border closures brought on by the COVID-19 pandemic. The unbalanced issuances of U.S. tourist visas highlight the inequitable permeability of the U.S.-Mexico border (Timothy, 2001).

Inequitable mobility at the U.S.-Mexico border is one of the primary social injustices in the region that not only has negative effects on tourism but on human well-being. For example, the rebordering policies from the last several decades along the U.S.-Mexico border in response to immigration, asylum seekers, and drug trafficking motivates people to illegally cross in remote areas where thousands have perished under the elements (Martinez et al., 2013). Reducing this human suffering would be the greatest achievement of debordering actions in militarized borderlands, and increased tourism and ecological connectivity would be additional positive outcomes.

While the positive impacts of debordering are clear, the literal hardening of an international border through border wall construction illustrates significant rebordering (Herzog & Sohn, 2017). The borderlands landscape that is revered by stakeholders from both countries has been blockaded and permanently scarred through destructive blasting and wall construction in remote wilderness areas. As a result, the wall also cuts off wildlife migrations of species that are admired by citizens of both countries, presenting the clearest sense of rebordering that can occur along an international border (Sinthumule, 2020). Even for government employees who were prohibited from taking a position for or against the wall, they could not deny how much the wall impacts the borderland landscape. The presence of the wall carries a symbol of division to many who see it, and this symbolism especially impacts many Mexican nationals who observe it from the south and see it as a symbol of hate. Conversely, for political constituents in

favor of increased border security, the wall also symbolizes government action to address border security issues (Vallet & Charles-Philippe, 2012), even though its effectiveness is questionable. The politics at play behind the creation of the wall support Lamour and Varga (2020)'s claim regarding right-wing, populist, political narratives that espouse an endangered "us" and a threatening "them". Further, the new wall undermines efforts to collaborate at the binational scale. As suggested by the data, the presence of a border wall not only deters travel from Mexico to the U.S. but from the U.S. to Mexico as the wall creates dichotomy that erects mental barriers to visiting Mexico (Mayer et al., 2019; Timothy & Tosun, 2003). For this reason, grassroots efforts at the local level are needed to promote the area as a friendly destination with much to offer tourists on both sides of the border.

Increased visitation to the region can present a debordering influence on this divided landscape. Cross-border mobility can reduce mental barriers once tourists experience an area for themselves (Prokkola, 2010; Stoffelen et al., 2017). This cross-border mobility not only applies to tourism but also to binational efforts that seek to improve and ecologically restore the borderlands. Binational efforts that have utilized art, sustainable agriculture, ecological restoration, or education in border communities are especially important for increasing cross-border interactions and decreasing alienation. These types of grassroots collaborations demonstrate the debordering influence that border communities can affect (Hataley & Leuprecht, 2018). Moreover, binational projects such as these should increase in the study area and in other conflicted border areas around the world to remind people of their shared humanity. While such activities can produce debordering effects, it is difficult to discern the overall direction of bordering processes

as the influences of debordering and rebordering co-mingle and coexist with each other (Herzog & Sohn, 2017).

The findings from this study also illustrate the many opportunities and potential for tourism activities in the region. For example, the shared appreciation for cultural and natural heritage among stakeholder groups in both countries offers great hope and potential for cross-border collaboration efforts to protect, restore, and promote the Sky Island borderlands as a destination (Hartman, 2006). An improved destination image along with an effective tourism marketing campaign can also be instrumental in driving more tourists to visit the Sky Island borderlands (Lew, 1987; Wachowiak & Engels, 2006). Increased visitation can also lead to increased appreciation for the many natural and cultural resources that are unique to the region. As reflected in the figures and quotes in this study, the cultural and biological diversity of the Sky Islands are appreciated by stakeholders from both countries and present many opportunities for tourism. The abundant opportunities to experience cultures past and present adds to the uniqueness of this area that can drive cross-border tourism and serve as an agent of debordering (Herzog & Sohn, 2017). Moreover, the extraordinarily high biodiversity of the Sky Island borderlands also offers much to tourists and can, along with the unique cultural features, assist with repairing destination image and attracting more tourists (Del Río et al., 2017). For example, charismatic wildlife such as the jaguar or elegant trogon, or the cowboy and vaquero culture could serve symbolic functions to represent the beauty and diversity of the region. Further, as certain conservation and restoration projects on private land open their properties to tourists, they can promote a greater awareness of the important ecosystems and inspire a new generation of advocates. This also speaks to the importance

of involving local communities in tourism development efforts and even in the tourism products themselves. Just as appreciation for the region can increase through visitation, a deep respect and rich experiences can be gained by tourists who learn local knowledge from community members who offer intimate and personal experiences with the land and its inhabitants.

Conclusion

This study makes important theoretical contributions to academic literature by demonstrating how appreciation for shared cultural and natural heritage connect to border frameworks and theories. Specifically, this study illustrates how appreciation for natural and cultural heritage fosters cross-border tourism and collaboration and exerts a notable debordering force. Moreover, while this debordering force comes along with the rebordering and alienating influences of intense border security and inequitable travel policies (Herzog & Sohn, 2017; Timothy, 2001), appreciation for shared heritage persists despite, and perhaps even because of, increased border militarization as communities lament the destruction of places they cherish. These theoretical contributions have abundant implications for border frameworks and theories. On the one hand, increased militarization divides these two nations and creates physical and mental barriers, all of which are attributes of alienation and rebordering (Martinez, 1994; Mayer et al., 2019; Timothy & Tosun, 2003, Herzog & Sohn, 2017). This increased alienation also supports Mahapatra's (2018) claim that borders can digress on the alienation-integration continuum. On the other hand, the value of borderland ecosystems is perhaps increasing as are binational efforts to protect, restore, and share them through tourism as

stakeholders witness harmful border security actions. Binational efforts to create beauty among stark landscapes through art and cooperation offer hope for a more integrated future between the U.S. and Mexico. These efforts exert a debordering influence in the Sky Island borderlands. The sum of these opposing forces is difficult to quantify, making the case for future research to develop scales for measuring perceived degrees of border hardening and softening. On a methodological level, this study confirms Samuel's (2018) claim that auto-driven photo elicitation interviews are useful for yielding rich data and bridging cultural differences between the researcher and participants. In addition, this research demonstrates how auto-driven photo elicitation interviews can bridge cultural differences between participating stakeholders in binational studies.

Regarding the practical implications of this research, the unique and diverse cultural and natural resources offer much to tourism development efforts in this region. The culture and biodiversity can be used as symbols in destination marketing and image reparation that can counter the negative image brought on by border militarization and safety concerns (Del Río et al., 2017; Lew, 1987). As binational efforts to promote sustainable agriculture, tourism, aesthetic beauty, and intact landscape connectivity increase, the debordering effects can be more visible, provided that human mobility is maintained or improved. Beyond improving destination image, an additional practical implication of this study includes the need for tourism stakeholders to facilitate immersive tourism experiences with the unique culture and natural environment of the Sky Island borderlands. In doing so, tourism stakeholders' appreciation for natural and cultural heritage can be felt by tourists, who in turn can help increase tourism through positive word of mouth promotion, further contributing to debordering influences.

However, since COVID-19 has restricted mobility across borders around the world, the threats to binational collaboration could remain despite changes in the political landscape. As such, future research can examine how increased landscape connectivity and tourism across international borders can still exert a rebordering force despite the best intentions to have the opposite effect. Nevertheless, the unique cultural and natural heritage of borderlands ought to be celebrated, protected, and promoted at a greater scale whenever conditions permit.

CHAPTER 5

CONCLUSION

This dissertation makes a multitude of contributions to tourism literature and provides important frameworks for tourism development and ecological restoration initiatives that operate in a cross-border context where stakeholder power relations are not on equal grounds. First, this study expands existing frameworks of stakeholder inclusion for ecological restoration (Landres et al., 2020) and tourism development (Clark & Nyaupane, 2020; Jamal & Stronza, 2009) initiatives by emphasizing the need for preserving and restoring resources, sharing benefits, and facilitating access to resources for stakeholders with historically unequal power relations who have cultural, religious and spiritual, and socioeconomic ties to a landscape. Developing this framework of stakeholder ties to landscapes (Figure 3) was aided by drawing from literature on stakeholder theory, social and environmental justice, tourism development frameworks, and political ecology. Second, this research contributes to tourism research by drawing from literature on polycentric governance, cross-border collaboration, and the core-periphery framework to illustrate how governments, nonprofits, and resource users can expand horizontal and vertical linkages with each other through collaboration and overcoming social, political, and linguistic barriers (Figure 7). The notion of building vertical and horizontal linkages at multiple scales between decision centers is discussed in existing governance literature (Bixler, 2014), but a deeper understanding of the mechanisms that facilitate cross-border governance cross borders was lacking. Third, this research illustrates how shared appreciation fosters cross-border tourism, integration, and

debordering by drawing from literature on border conceptualizations, bordering theory, and cross-border tourism frameworks.

Regarding power imbalances between tourism and conservation stakeholders, this research illustrates how tourism development and ecological restoration initiatives should include and involve any stakeholders with cultural, religious and spiritual, and socioeconomic ties to socioecological landscapes. This stakeholder ties to socioecological landscapes framework helps emphasize the importance of including stakeholders in planning and development initiatives as they may retain all three categories of land ties, as is the case with the Tohono O'odham in the Sky Island borderlands and many other Indigenous communities around the world (Jamal & Stronza, 2009). Furthermore, this framework demonstrates how other stakeholders such as multi-generational ranchers also have important cultural and socioeconomic ties to a region given the importance of rangelands and groundwater to their traditional livelihoods. As discussed in chapter 2, government interventions to increase border security can further threaten rancher livelihoods by using, destroying, or blocking access to these important resources. Finally, the stakeholder ties to landscapes framework is important for showing how even tourists and recreationists can have important cultural ties to a landscape and how the destruction of certain places, such as national park sites in the Sky Island borderlands, is viewed as a tragic loss to people who value a certain landscape.

In addition to using the stakeholder ties to landscapes framework as a guide for tourism development and ecological restoration efforts, this research similarly exemplifies how using a political ecology lens is also useful for identifying social and environmental injustices. As political ecology is concerned with the historical context of

which groups have retained control of resources in a socioecological system (Fisher, 2015), this lens helped identify many injustices in the Sky Island borderlands related to groundwater consumption and destruction to mountainous areas where precious metals can be found. For centuries, this region has attracted mining companies, cattle ranchers, and tree nut farmers who have unsustainably used these resources (Ganster & Lorey, 2016; Jacobson et al., 2018). Moreover, the presence of foreign corporations in Mexico has added to power imbalances wherein Mexican institutions have not been truly free to pursue their own best interests (Martinez, 2016). Beyond identifying social and environmental injustices, the political ecology lens can also be used to develop sustainable tourism activities that are more in harmony with the local socioecological landscape (Knowles, 2019). Furthermore, the political ecology lens can help future tourism development and ecological restoration initiatives avoid the pitfalls of previous initiatives that have did not consider their impacts on local communities and resources (see Büscher, 202; Stonich, 1998). The sustainable tourism activities identified in this study can help increase tourism to this under visited region without overwhelming local communities, infrastructure, and resources.

In addition, this research portrays how cross-border tourism systems must be more equitable for cross-border destinations to have thriving tourism economies. As demonstrated in Figure 4, the vastly unequal mobility for U.S. and Mexican nationals is an issue that needs to be addressed (Bauder, 2015), along with the issue of ecological fragmentation that impedes mobility for wildlife that requires intact landscapes for their survival (Graizboard & de la Fuente, 2006). As social and ecological mobility increases, the tourism activities that occur in a socioecological system can be offered to more

people and have more robust wildlife populations (Mattsson et al, 2020). Increased ecological connectivity and overall ecological health can even contribute to the attractiveness of a tourism destination as it leads to healthier and potentially more visible wildlife and natural spaces that visitors can enjoy (Blasco, 2011). Thus, increasing social and ecological connectivity can be mutually beneficial, provided that proper management systems are in place that ensure tourism visitation does not surpass social and environmental carrying capacity.

This research also makes important contributions to tourism literature regarding the governance of resources in a cross-border context. As shown in Figure 7, multi-scalar and cross-border governance can be facilitated through vertical and horizontal linkages between resource users, nonprofits, and governments (Bixler, 2014). One of the key contributions of this study to resource governance literature is the importance of nonprofits for facilitating the governance of resources across borders. Federal governments often lack the political incentive for collaborating extensively with foreign countries due to domestic political demands (Vallet and Charles-Philippe, 2012), leaving them apathetic to cross-border governance efforts. This need for governments to exert more leadership as an essential characteristic of polycentric governance is also highlighted in this study. As also shown in Figure 7, governments can take on a prime leadership role in cross-border governance by establishing transboundary protected areas and implementing a shared system of resource governance rules (Borrini-Feyerabend & Hill, 2015). The establishment of a transboundary protected area can also help drive economic growth through the development of tourism (Andersson, Dzingirai, et al., 2013). Even if governments do not currently fulfil a leadership in cross-border resource

governance, resource users from border communities can still be a driving force for mobilizing polycentric systems of governance for tourism and natural resource at cross-border destinations through their own collaborative efforts (Hataley & Leuprecht, 2018).

Additional essential characteristics of polycentric governance structures pinpointed in this study include the localization of resource governance, establishing vertical and horizontal linkages, and equal partnerships in governance systems. As these essential characteristics are fortified, the imperfections of a polycentric system can be minimized and resource governance systems can be more robust (Andersson & Ostrom, 2008; Baldwin et al., 2016; Long et al., 2020). In a cross-border context, these characteristics are even more critical for successful governance considering the added challenges of working across borders where social, political, economic, cultural, and linguistic differences might be present. From the standpoint of binational tourism destinations, polycentric governance structures can help facilitate more just governance between stakeholders with historical power imbalances (Adams et al., 2019; Stoffelen et al., 2017). In addition to fortifying these essential characteristics of polycentric governance, this study demonstrates how resource governance systems must be built on a foundation of trust (Ostrom, 2010), as the lack of trust hurts internal communication and can stifle collaboration between governments and communities.

This dissertation research additionally reveals how cross-border tourism development and ecological restoration efforts impact bordering processes along a militarized border. For example, the opportunities for fostering appreciation for cultural and natural heritage and community-level collaboration increase as human mobility is facilitated through tourism. This increased collaboration can be seen as a form of

debordering where people interact with each other in solidarity and experience local culture and activities through tourism (Timothy, 2001). As has been seen in other parts of the world where political, cultural, and linguistic differences existed between neighboring countries, the expansion of tourism led to a decrease in mental barriers that had previously existed (Prokkola, 2010; Stoffelen et al., 2017). Increased appreciation and for cultural and natural heritage can even occur in the face of border militarization as concerned individuals from either side of a border rally to protect, restore, and share resources they cherish. The appreciation for cultural and natural heritage can also be used to rebrand a destination affected by a negative image by using cultural and natural symbols that can help rewrite this narrative (Del Río et al., 2017; Lew, 1987).

Unfortunately, militarization will also increase alienation between countries and lead to an increase of mental barriers and rebordering as border security discourages people from traveling in either direction at a border (Martinez, 1994; Mayer et al., 2019; Timothy & Tosun, 2003).

On an ecological level, increased connectivity through the removal of border barriers and the shared governance of cross-border resources also shows evidence of debordering (Ramutsindela & Noe, 2015; Sinthumule, 2020). This type of scenario is evident with the creation of TBPA's where two or more governments seek to reconnect large landscapes that facilitate the movement of wildlife and tourists (Andersson, Dzingirai, et al., 2013). As previous research illustrates, however, debordering influences may comingle with rebordering influences (Herzog & Sohn, 2017), suggesting that tourism development and ecological restoration may also present examples of rebordering. The rebordering influences of tourism and ecological restoration may occur

as tourism visitation expands at a cross-border destination but the tourism systems remain inequitable. This may occur if U.S. nationals increasingly visit the Mexico side of a cross-border destination, but Mexican nationals are not afforded the same mobility options (Bauder, 2015). In such instances, tourism could feasibly increase in under visited areas where debordering does not manifest itself for both sides of an international boundary given the relative ease of travel for tourists over locals (Sinthumule, 2020). Nevertheless, this study shows how creating TBPA's can increase multi scalar resource governance across borders; thus, stakeholders should continue to advocate for the creation of a TBPA at the U.S.-Mexico border where nearly a century of discussions on this topic have yet to come to fruition (Brenner & Davis, 2012).

When taken together, the studies within this dissertation research collectively contribute to tourism literature by highlighting how crucial community-level collaboration is for integrating borderlands and strengthening cross-border tourism (Hataley & Leuprecht, 2018). Although militarization is intensifying along international borders around the world (Evrard et al., 2020), this study reveals through innovative methods how people on either side of an international border may have a strong appreciation for their shared natural and cultural heritage. As shown through auto-driven photo elicitation interviews, individuals from different stakeholder groups and different countries have much in common in terms of their appreciation for heritage, and this is something that can be built on to create thriving tourism economies at cross-border destinations. Moreover, the need for equitable tourism systems that permit travel in both directions at an international border is exemplified in this research. As tourism systems across international borders allow for more social and ecological mobility and have

effective destination management, binational tourism destinations can become more competitive (Hartman, 2006) and tourism experiences can be enriched by enhanced ecological connectivity. Considering how important natural resources such as wildlife and scenic landscapes are for tourism (Duffy, 2016; Rainer, 2018), increased mobility and improved governance structure can help border destinations be more attractive and progress along the tourist area life cycle (Briassoulis, 2002). In conjunction with improved mobility and governance structures, effective marketing strategies targeting families or niche tourist groups can result in an improved destination image further improve tourism at border destinations (Wachowiak & Engels, 2006; Del Río et al., 2017).

On practical level, the findings from this research show how natural and cultural symbols can be used in promotional efforts to improve destination image and counter negative images produced by the media that focus on crime, border security, and political drama (Herzog, 1990). As another practical implication of this study, destination marketing organizations should promote cultural and natural attractions to tourists originating from the opposite side of an international boundary, generating more appreciation and awareness for the shared natural and cultural heritage in borderlands (Nyaupane & Timothy, 2010). These conceptual and practical implications demonstrate the need for future research to examine the social, political, environmental, and economic challenges for implementing cross-border tourism and ecological restoration work around the world even if there are favorable stakeholder attitudes towards such initiatives.

The limitations of this study involved several factors directly related to the COVID-19 pandemic, such as a dramatic reduction in tourism, a prolonged border

closure, and the necessity of conducting research remotely. These limitations impeded the amount of time spent in the field engaging different stakeholders, especially those in remote areas without stable internet access who could not be reached through remote methods and international tourists. Future research can overcome these limitations as travel restrictions are eased and public health conditions permit more in-person interactions with stakeholders and more international travel. As travel resumes around the world, the perspectives of international tourists, border communities, and other key stakeholders can enrich research that seeks to better understand the role of tourism and ecological restoration in bordering processes.

REFERENCES

- Adams, K., Snyder, J., & Crooks, V. (2019). Narratives of a “dental oasis”: Examining media portrayals of dental tourism in the border town of Los Algodones, Mexico. *Journal of Borderlands Studies*, 34(3), 325-341. DOI: 10.1080/08865655.2016.1267584
- Allen, K. (2015). Trade-offs in nature tourism: Contrasting parcel-level decisions with landscape conservation planning. *Ecology and Society*, 20(1), 21.
- Allen, L. (2006). Working Wilderness: The Malpai Borderlands Group and the Future of the Western Range [Book Review]. *Rangelands*, 28(2), 51–51.
[https://doi.org/10.2111/1551-501X\(2006\)28.2\[51:BR\]2.0.CO;2](https://doi.org/10.2111/1551-501X(2006)28.2[51:BR]2.0.CO;2)
- Anderson, R. M., Buitenwerf, R., Driessen, C., Genes, L., Lorimer, J., & Svenning, J. C. (2019). Introducing rewilding to restoration to expand the conservation effort: A response to Hayward et al. *Biodiversity and Conservation*, 28(13), 3691-3693.
- Andersson, J., Garine-Wichatitsky, M., Cuming, D., Dzingirai, V., & Giller, K. (2013). People at Wildlife Frontiers in Southern Africa. In Andersson, J., Garine-Wichatitsky, M., Cuming, D., Dzingirai, & Giller, K (Eds.), *Transfrontier Conservation Areas: People Living on the Edge* (pp. 1-11). Earthscan Publications, London.
- Andersson, J., Dzingirai, V., & Cuming, D. (2013). TFCAs and the invisible peoples. In Andersson, J., Garine-Wichatitsky, M., Cuming, D., Dzingirai, & Giller, K (Eds.), *Transfrontier Conservation Areas: People Living on the Edge* (pp. 12-24). Earthscan Publications, London.
- Andersson, K. P., & Ostrom, E. (2008). Analyzing Decentralized Resource Regimes from a Polycentric Perspective. *Policy Sciences*, 41(1), 71–93.
<https://doi.org/10.1007/s11077-007-9055-6>
- Aradhyula, S., & Tronstad, R. (2003). Does Tourism Promote Cross-Border Trade? *American Journal of Agricultural Economics*, 85, 569-79.
- Baldwin, E., Washington-Ottombre, C., Dell’Angelo, J., Cole, D., & Evans, T. (2016). Polycentric Governance and Irrigation Reform in Kenya: Polycentric Water Governance in Kenya. *Governance*, 29(2), 207–225.
<https://doi.org/10.1111/gove.12160>
- Bankston, C. L. (2010). Social justice: Cultural origins of a theory and a perspective. *Independent Review*, 15(2), 165-178.

- Bates-Eamer, N., & Hallgrímsdóttir, H. (2020). BIG (Borders in Globalization): Borders and Bordering Processes in the Pacific Northwest. *Journal of Borderlands Studies*, 35(40), 497-503, DOI: 10.1080/08865655.2020.1768886
- Bauder, H. (2015). Perspectives of open borders and no border. *Geography Compass*, 9(7), 395-405.
- Bauduin, S., McIntire, E., St-Laurent, M., & Cumming, S. (2018). Compensatory conservation measures for an endangered caribou population under climate change. *Scientific Reports*, 8(1), 1–10. <https://doi.org/10.1038/s41598-018-34822-9>
- Beaumier, T. (2015). At the borders of society: Border control and the perpetuation of poverty among immigration communities. *Public Affairs Quarterly*, 29(2), 139–154.
- Bernard, H., Wutich, A., & Ryan, G. (2017). *Analyzing qualitative data: Systematic approaches* (Second ed.).
- Bixler, R. P. (2014). From community forest management to polycentric governance: Assessing evidence from the bottom up. *Society & Natural Resources*, 27(2), 155-169. 10.1080/08941920.2013.840021
- Blanco, E. (2011). A social-ecological approach to voluntary environmental initiatives: The case of nature-based tourism. *Policy Sciences*, 44, 35-52.
- Blasco, D., Guia, J., & Prats, L. (2014). Emergence of governance in cross-border destinations. *Annals of Tourism Research*, 49, 159–173. Doi: 10.1016/j.annals.2014.09.002
- Borchert, J. (1982). Historical photo-analysis: A research method. *Historical Methods*, 15(2), 35. Retrieved from <http://login.ezproxy1.lib.asu.edu/login?url=https://www.proquest.com/scholarly-journals/historical-photo-analysis-research-method/docview/1300163293/se-2?accountid=4485>
- Borrini-Feyerabend, G., & Hill, R. (2015) ‘Governance for the conservation of nature’. In Worboys, G. L., Lockwood, M., Kothari, A., Feary, S., & Pulsford, I. (Eds), *Protected Area Governance and Management* (pp. 169–206). ANU Press, Canberra.
- Bothma, J., Suich, H., & Spencely, A. (2009). Extensive Wildlife Production on Private Lands in South Africa. In Suich, H., Child, B., & Spenceley, A. (Eds.), *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas* (pp. 147-161). London: Earthscan.

- Brenner, J., & Davis, J. (2012). Transboundary conservation across scales: A world-regional inventory and a local case study from the United States–Mexico Border. *Journal of the Southwest*, 54, 499–519.
- Briassoulis, H. (2002). Sustainable tourism and the question of the commons. *Annals of Tourism Research*, 29, 1065–1085.
- Budruk, M. (2010). Cross-language measurement equivalence of the place attachment scale: A multigroup confirmatory factor analysis approach. *Journal of Leisure Research*, 42(2), 25-42.
- Burger, J. (2000). Landscapes, tourism, and conservation. *The Science of the Total Environment*, 249(1-3), 39–49. [https://doi.org/10.1016/S0048-9697\(99\)00509-4](https://doi.org/10.1016/S0048-9697(99)00509-4)
- Bürkner, H. (2019). Scaling and Bordering: An Elusive Relationship? *Journal of Borderlands Studies*, 34(1), 71-87. 10.1080/08865655.2017.1300926
- Büscher, B., (2021). Between overstocking and extinction: conservation and the intensification of uneven wildlife geographies in Africa. *Journal of Political Ecology*, 28(1), 1-22. <https://doi.org/10.2458/jpe.2956>
- Busscher, N., Parra, C., & Vanclay, F. (2018). Land grabbing within a protected area: The experience of local communities with conservation and forestry activities in Los Esteros Del Iberá, Argentina. *Land Use Policy*, 78, 572–582.
- Butler, R. (1980). The concept of a tourism area cycle of evolution: Implications for the management of resources. *Canadian Geographer*, 24, 5-12.
- Butler, R. (2000). Tourism and National parks in the Twenty-First Century. In Boyd, S. & Butler, R. (Eds), *Tourism and National Parks: Issues and Complications* (pp. 323-335). John Wiley & Sons, West Sussex.
- Byrd, E. (2007). Stakeholders in sustainable tourism development and their roles: applying stakeholder theory to sustainable tourism development. *Tourism Review of AIEST*, 62(2), 6-13.
- Carlisle, K., & Gruby, R. L. (2019). Polycentric systems of governance: A theoretical model for the commons. *Policy Studies Journal*, 47(4), 927–952. <https://doi.org/10.1111/psj.12212>
- Chambers, D., & Buzinde, C. (2015). Tourism and decolonisation: Locating research and self. *Annals of Tourism Research*, 51, 1-16.

- Chapman, A., & Light, D. (2016). Exploring the tourist destination as a mosaic: The alternative lifecycles of the seaside amusement arcade sector in Britain. *Tourism Management*, 52, 254–263. <https://doi.org/10.1016/j.tourman.2015.06.020>
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage Publications.
- Charnley, S. (2014). *Stitching the West Back Together: Conservation of Working Landscapes*. (Summits: Environmental Science, Law, and Policy).
- Chester, C. (2015). Yellowstone to Yukon: Transborder conservation across a vast international landscape. *Environmental Science and Policy*, 49, 75-84.
- Child, B. (2009). Private Conservation in Southern Africa: Practice and Emerging Principles. In Suich, H., Child, B., & Spenceley, A. (Eds.), *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas* (pp. 103- 111). London: Earthscan.
- Clark, C., & Nyaupane, G. (2020). Connecting landscape-scale ecological restoration and tourism: Stakeholder perspectives in the Great Plains of North America. *Journal of Sustainable Tourism*. DOI: 10.1080/09669582.2020.1801698
- Clewell, A., & Aronson, J. (2013). Society for Ecological Restoration International, and MyiLibrary. *Ecological Restoration Principles, Values, and Structure of an Emerging Profession* (2nd ed.). Washington, DC: Island. Science and Practice of Ecological Restoration.
- Collier, M. (2001). Approaches to analysis in visual anthropology. In Van Leeuwen, T. & Jewitt, C, (Eds.), *The handbook of visual analysis* (pp. 35-60). SAGE Publications Ltd. <https://www-doi-org.ezproxy1.lib.asu.edu/10.4135/9780857020062>
- Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five traditions* (2nd ed.). Sage Publications.
- Creswell, J., & Creswell, J. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- Cumming, H.M., Dzingirai, V., Gerine-Wichatitsky, M. (2013). Land - and natural resource-based livelihood opportunities in TFCAs. In Andersson, J., Garine-Wichatitsky, M., Cuming, D., Dzingirai, & Giller, K (Eds.), *Transfrontier Conservation Areas: People Living on the Edge* (pp. 163- 191). Earthscan Publications, London.

- de la Garza, A. (2019). Internationalizing the Curriculum for STEAM (STEM + Arts and Humanities): From Intercultural Competence to Cultural Humility. *Journal of Studies in International Education*. <https://doi.org/10.1177/1028315319888468>
- Dearden, P. (2000). Tourism, national parks and resources conflicts. In Boyd, S. & Butler, R. (Eds), *Tourism and National Parks: Issues and Complications* (pp. 187- 202). John Wiley & Sons, West Sussex.
- Deleixhe, M., Dembinska, M., & Iglesias, J. (2019). Securitized Borderlands, *Journal of Borderlands Studies*, 34(5), 639-647, DOI: 10.1080/08865655.2018.1445547
- Del Río, J., Aguera, F., Cuadra, S., & Morales, P. (2017). Satisfaction in border tourism: An analysis with structural equations. *European Research on Management and Business Economics*, 23(2), 103–112.
- Dickie, G. (July 23, 2018). When cattle go missing in wolf territory, who should pay the price? *High Country News*. <https://www.hcn.org/issues/50.12/wolves-when-cattle-go-missing-in-wolf-territory-who-should-pay-the-price>
- Dodds, R. (Ed.), & Butler, R. (Ed.). (2019). *Overtourism: Issues, realities and solutions*. De Gruyter Oldenbourg. Retrieved from <https://www.degruyter.com/view/product/505514>
- Doppelfeld, M. (2016). Collaborative Stakeholder Planning in Cross-border Regions: The Case of the Great Limpopo Transfrontier Park in Southern Africa. In Wachowiak, H. (Ed.), *Tourism and Borders: Contemporary Issues, Policies, and International Research* (pp. 113-138). Aldershot, England: Ashgate.
- Doxey, G. (1975). A causation theory of visitor–resident irritants: Methodology and research inferences. In sixth annual conference proceedings of the Travel Research Association, San Diego, CA, 195-198.
- Dressler, W., Büscher, B., Schoon, M., Brockington, D., Hayes, T., Kull, C., McCarthy, J., & Shrestha, K. (2010). From hope to crisis and back again? A critical history of the global CBNRM narrative. *Environmental Conservation*, 37(1), 5-15.
- Dudley, N. (Editor). (2008). *Guidelines for applying protected area management categories*. Gland, Switzerland: IUCN.
- Duffy, R. (2016). Forward. In Mostafanezhad, Norum, R., Shelton, E. J., & Thompson-Carr, A. (Eds.), *Political Ecology of Tourism: Community, power and the environment* (pp. xvi-xviii). Taylor and Francis. <https://doi.org/10.4324/9781315717227>

- Duffy, R. (2006). The potential and pitfalls of global environmental governance: the politics of transfrontier conservation areas in Southern Africa. *Political Geography* 25, 89–112.
- Duffy R. 2005. The politics of global environmental governance: the powers and limitations of transfrontier conservation areas in Central America. *Review of International Studies*, 31(2), 307–323.
- Egge, M. & Ajibade, I. (2021). A community of fear: emotion and the hydro-social cycle in East Porterville, California. *Journal of Political Ecology* 28(1), p.266-285. doi: <https://doi.org/10.2458/jpe.2366>
- Eiler, L., Jose, K., Jose, V., Monti, L., Nuñez, A., Nabhan, G., Polacca, M., Trujillo, O. (2021). Saguaro as Sacred Plants Deserving of Legal Personhood and Protection with All O’odham Homelands On & Beyond the US/Mexico Border: Resolution and Historic Background.
- Evrard, E., Nienaber, B., & Sommaribas, A. (2020). The temporary reintroduction of border controls inside the Schengen Area: Towards a spatial perspective. *Journal of Borderlands Studies*, 35(3), 369-383. DOI: 10.1080/08865655.2017.1415164
- Fall, J. (2011). Natural resources and transnational governance. In Wastl-Walter, D. (Ed.), *The Ashgate Research Companion to Border Studies* (pp. 627-642). Burlington: Ashgate Publishing Company.
- Ferreira, S. (2011). One decade of transfrontier conservation areas in southern Africa. In Wastl-Walter, D. (Ed.), *The Ashgate Research Companion to Border Studies* (pp. 643-664). Burlington: Ashgate Publishing Company.
- Fisher, D. (2014). The U.S.-Mexico border wall and the case for "environmental rights". *Texas International Law Journal*, 50(1), 145-161,164-168.
- Fisher, J. (2015). Cleaning up the Streets, Sandinista-style: The aesthetics of garbage and the urban political ecology of tourism development in Nicaragua. In Mostafanezhad, M., Norum, R., Shelton, E., & Thompson-Carr, A. (Eds.), *Political ecology of tourism: Community, power and the environment* (pp. 231-250). Routledge.
- Forbes, W. (2006). Ecotourism. USDA Forest Service Proceedings, RMRS-P-40.
- Foronda, B. (2016). Cultural Humility: A Concept Analysis. *Journal of Transcultural Nursing*, 27(3), 210–217. <https://doi.org/10.1177/1043659615592677>
- Ganster, P., & Lorey, D. (2016). *The U.S.-Mexican Border Today. Conflict and Cooperation in Historical Perspective*. Lanham, MD: Rowman & Littlefield.

- Gao, J.; Ryan, C.; Cave, J.; Zhang, C. (2019). Tourism border-making: A political economy of China's border tourism. *Annals of Tourism Research*, 76, 1–13.
- Gelcich, S. (2014). Towards polycentric governance of small-scale fisheries: insights from the new “Management Plans” policy in Chile. *Aquatic Conservation*, 24(5), 575–581. <https://doi.org/10.1002/aqc.2506>
- Gerlak, A. (2015). Resistance and reform: Transboundary water governance in the Colorado River Delta. *Review of Policy Research*, 32(1), 100-123.
- Gerlak, A., & Mukhtarov, F. (2016). Many faces of security: Discursive framing in cross-border natural resource governance in the Mekong River Commission. *Globalizations*, 13(6), 719-740. DOI: 10.1080/14747731.2015.1134133
- Good Neighbor Environmental Board. (2014). *GNEB Sixteenth Report: Ecological Restoration in the U.S.-Mexico Border Region*. Washington, D.C., U.S. Environmental Protection Agency.
- Goodwin, H. Tourism, national parks and partnerships. In Boyd, S. & Butler, R. (Eds), *Tourism and National Parks: Issues and Complications* (pp. 245- 261). John Wiley & Sons, West Sussex.
- Gössling, S., Scott, D., & Hall, C. M. (2021). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1–20. <https://doi.org/10.1080/09669582.2020.1758708>
- Graizbord, C., & de la Fuente, E. (2006). Land Tenure and Preservation. In Hoffman, K. (Ed.), *The U.S.- Mexican Border Environment: Transboundary Ecosystem Management* (pp. 142-165). San Diego: San Diego State University Press.
- Guo, T., & Schneider, I. (2015). Measurement Properties and Cross-Cultural Equivalence of Negotiation with Outdoor Recreation Constraints: An Exploratory Study. *Journal of Leisure Research*, 47(1), 125–153. <https://doi.org/10.1080/00222216.2015.11950354>
- Hackenbergh, R., & Alvarez, R. (2001). Close-ups of postnationalism: Reports from the U.S.-Mexico borderlands. *Human Organization*, 60(2), 97–104. <https://doi.org/10.17730/humo.60.2.dh170v1xkrr4nfw0>
- Hainz-Renetzeder, C., Schneidergruber, A., Kuttner, M., & Wrбка, T. (2015). Assessing the potential supply of landscape services to support ecological restoration of degraded landscapes: A case study in the Austrian-Hungarian trans-boundary region of Lake Neusiedl. *Ecological Modelling*, 295, 196–206. <https://doi.org/10.1016/j.ecolmodel.2014.07.001>

- Hajradinovic, Y., Tishelman, C., Lindqvist, O., & Goliath, I. (2018). Family members' experiences of the end-of-life care environments in acute care settings – a photo-elicitation study. *International Journal of Qualitative Studies on Health and Well-Being*, 13(1), 1511767. <https://doi.org/10.1080/17482631.2018.1511767>
- Hall, M. (2006). Introduction. In Butler, R. (Ed.), *The tourism area life cycle, vol. 1: Applications and modifications* (pp. xv-xviii). Channel View Publications.
- Hall, M. (2019). Tourism and rewilding: an introduction – definition, issues and review. *Journal of Ecotourism*, 18(4), 297-308.
- Hansen, M., Bennet, S., Morales, J., Yeagley, R. (2018). Cooperative Conservation: Determinants of Landowner Engagement in Conserving Endangered Species. Policy Paper from the Center for Growth and Opportunity at Utah State University.
- Hardin, G. (1968). The Tragedy of the Commons. *Science*, 162(3859), 1243-248.
- Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual Studies*, 17(1), 13–26. <https://doi.org/10.1080/14725860220137345>
- Harris, J., Hobbs, R., Higgs, E., & Aronson, J. (2006). Ecological restoration and global climate change. *Restoration Ecology*, 14(2), 170–176. <https://doi.org/10.1111/j.1526-100X.2006.00136.x>
- Hartman, K. (2006). Destination Management in Cross-border Regions. In Wachowiak, H. (Ed.), *Tourism and Borders: Contemporary Issues, Policies, and International Research* (pp. 89-109). Aldershot, England: Ashgate.
- Hataley, T., & Leuprecht, C. (2018). Determinants of cross-border cooperation. *Journal of Borderlands Studies*, 33(3), 317-328. 10.1080/08865655.2018.1482776
- Henrikson, A. (2011). Border Regions as Neighborhoods In Wastl-Walter, D. (Ed.), *A Research Companion to Border Studies* (pp. 85-102). Burlington: Ashgate Publishing Company.
- Herzog, L. A., & Sohn, C. (2017). The co-mingling of bordering dynamics in the San Diego–Tijuana cross-border metropolis. *Territory, Politics, Governance*. doi.org/10.1080/21622671.2017.1323003
- Herzog, L.A. (1990). Where North Meets South. Cities, Space, and Politics on the US-Mexico Border. Center for Mexican American Studies. University of Texas Press.

- Hillman, M. (2002). Environmental justice: a crucial link between environmentalism and community development? *Community Development Journal*, 37(4), 349–360.
<https://doi.org/10.1093/cdj/37.4.349>
- Hruska, T., Toledo, D., Sierra-Corona, R., Solis-Gracia, V. (2017). Social–ecological dynamics of change and restoration attempts in the Chihuahuan Desert grasslands of Janos Biosphere Reserve, Mexico. *Plant Ecology*, 218(1), 67–80.
<https://doi.org/10.1007/s11258-016-0692-8>
- Hunt, C., & Stronza, A. (2014). Stage-based tourism models and resident attitudes towards tourism in an emerging destination in the developing world. *Journal of Sustainable Tourism*, 22(2), 279-298.
- Jacobson, et al. (2018). The Southwest's uneven welcome: Immigrant inclusion and exclusion in Arizona and New Mexico. *Journal of American Ethnic History*, 37(3), 5–36.
- Jamal, T., & Stronza, A. (2009). Collaboration theory and tourism practice in protected areas: Stakeholders, structuring and sustainability. *Journal of Sustainable Tourism*, 17(2), 169-189.
- Jańczak, J. (2018). Integration de-scaled: Symbolic manifestations of cross-border and European integration in border twin towns. *Journal of Borderlands Studies*, 33(3), 393-413. 10.1080/08865655.2016.1226925
- Johnson, R. (2011). Immigration as a response variable to climate change from Mexico into the United States. *Journal of Alternative Perspectives in the Social Sciences*, 3(3), 758-774.
- Johnston, M. P. (2017). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries*, 3, 619-626. Retrieved from <http://www.qqml.net/>
- Judkins, G. (2007). Persistence of the U.S.-Mexico border: Expansion of medical tourism and trade liberalization, *Journal of Latin American Geography*, 6, 11-32.
- Kelly, E., Charnley, S., & Pixley, J. (2019). Polycentric systems for wildfire governance in the Western United States. *Land Use Policy*, 89.
[10.1016/j.landusepol.2019.104214](https://doi.org/10.1016/j.landusepol.2019.104214)
- King, B., & Wilcox S. (2008). Peace Parks and jaguar trails: transboundary conservation in a globalizing world. *GeoJournal*, 71, 221–231.

- Knowles, N. (2019). Targeting sustainable outcomes with adventure tourism: A political ecology approach. *Annals of Tourism Research*, 79, 102809–. <https://doi.org/10.1016/j.annals.2019.102809>
- Knox, S. & Gruar, C. (2007). The application of stakeholder theory to relationship marketing strategy development in a non-profit organization. *Journal of Business Ethics*, 75, 115-135.
- Lamour, C., & Varga, R. (2020). The Border as a Resource in Right-wing Populist Discourse: Viktor Orbán and the Diasporas in a Multi-scalar Europe. *Journal of Borderlands Studies*, 35(3), 335-350, DOI: 10.1080/08865655.2017.1402200
- Landres, P., Hahn, B., Biber, E., & Spencer, D. (2020). Protected area stewardship in the Anthropocene: Integrating science, law, and ethics to evaluate proposals for ecological restoration in wilderness. *Restoration Ecology*, 28(2): 315-327.
- Lau, A. L. D., Cummins, R. A., & McPherson, W. (2005). An investigation into the Cross-Cultural Equivalence of the Personal Wellbeing Index. *Social Indicators Research*, 72, 403–430.
- Leduc, J., & Von Essen, E. (2019). The Compromises of Rewilding in Swedish Lapland: Implications for Nature Reconciliation. *The Journal of Transdisciplinary Environmental Studies*, 17(1), 38–54.
- Leiper, N. (1979). The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of tourism research*, 6(4), 390-407.
- Leiper, N. (1990). Tourist attraction systems. *Annals of tourism research*, 17(3), 367-384.
- Lew, A. A. (1987). A framework of tourist attraction research. *Annals of Tourism Research*, 14(4), 553-575.
- Lieberman, B. (2021). Details behind Biden’s ‘30 x 30’ U.S. lands and oceans climate goal. *Yale Climate Connections*. <https://yaleclimateconnections.org/2021/03/details-behind-bidens-30-by-30-u-s-lands-and-oceans-climate-goal/>
- Liliehalm, R., & Romney, L. (2000). Tourism, national parks and wildlife. In Boyd, S. & Butler, R. (Eds.), *Tourism and National Parks: Issues and Complications* (pp. 137-151). John Wiley & Sons, West Sussex.
- List, R., Pacheco, J., Ponce, E., Sierra-Corona, R., Ceballos, G. (2010). The Janos Biosphere Reserve, Northern Mexico. *International Journal of Wilderness*, 16, 35-41.

- Livandovschi, R. Cross-border tourism and its significance for tourism destinations. (2017). *Eastern European Journal for Regional Studies*, 3(1), 31–40.
- Lofland, J., Snow, D., Anderson, L., & Lofland, L. (2006). *Analyzing Social Settings - A Guide to Qualitative Observation and Analysis* (4th Ed.). Belmont, CA: Wadsworth Publishing Co.0534528619
- Long, H., Liu, J., Tu, C., & Fu, Y. (2018). From State-controlled to Polycentric Governance in Forest Landscape Restoration: The Case of the Ecological Forest Purchase Program in Yong'an Municipality of China. *Environmental Management*, 62(1), 58–69. <https://doi.org/10.1007/s00267-017-0972-7>
- López-Hoffman, L., & Quijada-Mascareñas, A. (2012). Madrean Sky Islands, North America. In Hilty, J., Chester, C., & Cross, M. (Eds.), *Climate and Conservation* (pp. 17-26). Island Press/Center for Resource Economics. https://doi.org/10.5822/978-1-61091-203-7_17
- Low, N., & Gleeson, B. (2002). *Justice, Society, and Nature: An Exploration of Political Ecology*. Routledge.
- Lubell, M., & Robbins, M. (2021). Adapting to Sea-Level Rise: Centralization or Decentralization in Polycentric Governance Systems? *Policy Studies Journal*. <https://doi.org/10.1111/psj.12430>
- Lusk, M., Staudt, K., & Moya, E. (2012). *Social justice in the US-Mexico Border Region*. Springer: New York, NY, USA.
- Lybecker, D., McBeth, M., Brewer, A., & De Sy, C. (2018). The social construction of a border: The US–Canada border. *Journal of Borderlands Studies*, 33(4), 529-547. 10.1080/08865655.2016.1247652
- Mahapatra, D. (2018). From Alienation to Co-existence and Beyond: Examining the Evolution of the Borderland in Kashmir. *Journal of Borderlands Studies*, 33(1), 141-155. DOI: 10.1080/08865655.2016.1238316
- Main, D. (2020). Sacred Arizona spring drying up as border wall construction continues. National Geographic. Retrieved 11/4/2020 from <https://www.nationalgeographic.com/science/2020/07/quitobaquito-springs-arizona-drying-up-border-wall/>
- Malpai Borderlands Group. (2021). Cooperators. <http://www.malpaiborderlandsgroup.org/?section=cooperators>

- Manzanares Rivera, J. (2017). Does the border matter for health care? A study of medical services provider's location at cities in the Mexican side of the border. *Estudios Fronterizos*, 18(36), 151–168.
- Martínez, O. (2016). *Mexico's Uneven Development: The Geographical and Historical Context of Inequality*. New York, NY: Routledge.
- Martínez, O. (2006). *Troublesome border*. University of Arizona Press.
- Martínez, O. (1994). *Border People: Life and Society in the U.S.–Mexico Borderlands*. Tucson: University of Arizona Press.
- Martinez, D., Reineke, R., Rubio-Goldsmith, R., Anderson, B., Hess, G., & Parks, Bruce. (2013). A continued humanitarian crisis on the border: Undocumented border crossers deaths recorded by the Pima County Office of the Medical Examiner 1990-2012. In Bi-National Migration Institute. Tucson: University of Arizona.
- Mattsson, B., Devries, J., Dubovsky, J., Semmens, D., Thogmartin, W., Derbridge, J., & Lopez-Hoffman, L. (2020). Linking landscape-scale conservation to regional and continental outcomes for a migratory species. *Scientific Reports*, 10(1), 4968–4968. <https://doi.org/10.1038/s41598-020-61058-3>
- Mayer, M., Zbaraszewski, W., Pienkowski, D., Gach, G., & Gernert, J. (2019). *Cross-border tourism in protected areas. Potentials, pitfalls and perspectives*. Springer.
- McGinnis, M. D., & Ostrom, E. (2012). Reflections on Vincent Ostrom, public administration, and polycentricity. *Public Administration Review*, 72(1), 15-25. doi: 10.1111/j.1540-6210.2011.02488.
- Meierotto, L. (2014). A Disciplined Space: The Co-evolution of Conservation and Militarization on the US-Mexico Border. *Anthropological Quarterly*, 87(3), 637-664.
- Mendoza, J., & Dupeyron, B. (2020). Economic Integration, Emerging Fields and Cross-border Governance: The Case of San Diego–Tijuana, *Journal of Borderlands Studies*, 35(1), 55-74, DOI: 10.1080/08865655.2017.1367711
- Meyer, C. B. (2001). A case in case study methodology. *Field Methods*, 13(4), 329-352. 10.1177/1525822x 0101300402.
- Minghui, S., Yunwei, G., & Li, F. (2016). Limited access to healthcare among Hispanics in the US-Mexico border region. *American Journal of Health Behavior*, 40(5), 624-633.

- Mitchell, R., Agle, B., & Wood, D. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *The Academy of Management Review*, 22 (4), 853-886.
- Mkono, M., Rastegar, R., & Ruhanen, L. (2021). Empowering women to protect wildlife in former hunting tourism zones: a political ecology of Akashinga, Zimbabwe. *Journal of Sustainable Tourism*, 1–21.
<https://doi.org/10.1080/09669582.2021.1900205>
- Morin, J., & Richard, B. (2021). Astro-Environmentalism: Towards a Polycentric Governance of Space Debris. *Global Policy*, 12(4), 568–573.
<https://doi.org/10.1111/1758-5899.12950>
- Mostafanezhad, M., Norum, R., Shelton, E., & Thompson-Carr, A. (2015). Political ecology of tourism: Community, power and the environment. Routledge.
- Mumme, Stephen P. (2014) Trade and Environmental Protection along the United States–Mexico Border. *Global Society* 28(4), 398-418.
- Mumme, S. (2015). The Evolution of natural resource conservation capacity on the U.S.–Mexico border: Bilateral and trilateral environmental agreements since La Paz. *Review of Policy Research*, 32(1), 19-39.
- Muñoz-Melendez, G., Quintero-Núñez, M., & Pumfry, R. (2012). Air Quality at the U.S.-Mexican Border: Current State and Future Considerations toward Sustainability. In Lee, E., & Ganster, P. (Eds.), *The US-Mexican Border Environment: Progress and Challenges for Sustainability* (pp. 219-266). San Diego, CA: San Diego State University Press.
- Murphy, P. E., & Andressen, B. (1988). Tourism development on Vancouver Island: An assessment of the core- periphery model. *The Professional Geographer*, 40(1), 32–42. <https://doi.org/10.1111/j.0033-0124.1988.00032.x>
- Nabhan, G., Knight, R., & Charnley, S. (2014). The biodiversity that protected areas can't capture: How private ranch, forest, and tribal lands sustain biodiversity. In Charnley, S., Sheridan, T., & Nabhan, G. (Eds), *Stitching the west back together: Conservation of working landscapes* (pp. 33-48). University of Chicago Press.
- Nagendra, H., & Ostrom, E. (2012). Polycentric governance of multifunctional forested landscapes. *International Journal of the Commons*, 6(2), 104–133.
<https://doi.org/10.18352/ijc.321>
- Navarro, L., Pereira, H., Proença, V., & Kaplan, J. (2015). Maintaining Disturbance-dependent Habitats. In Navarro, L. & Periera, H. (Eds.), *Rewilding European Landscapes*. Springer International.

- Nash, R. F. (2001). *Wilderness and the American mind* (fourth edition). New Haven, CT: Yale University Press.
- Nepal, S. (2000). Tourism, national parks and local communities. In Boyd, S. & Butler, R. (Eds), *Tourism and National Parks: Issues and Complications* (pp. 73-94). John Wiley & Sons, West Sussex.
- Newman, D. (2003). On borders and power: A theoretical framework, *Journal of Borderlands Studies*, 18:1, 13-25, DOI: 10.1080/08865655.2003.9695598
- Newman, D. (2006a). The lines that continue to separate us: Borders in our 'borderless' world. *Progress in Human Geography*, 30(2), 143–161.
- Newman, D. (2006b). Borders and bordering: Towards an interdisciplinary dialogue. *European Journal of Social Theory*, 9(2), 171–186.
- Newman, D., & Paasi, A. (1998). Fences and neighbours in the post-modern world: Boundary narratives in political geography. *Progress in Human Geography*, 22(2): 186–207.
- Nyaupane, G. P., Lew, A. A., & Tatsugawa, K. (2014). Perceptions of trekking tourism and social and environmental change in Nepal's Himalayas. *Tourism Geographies*, 16(3), 415-437.
- Nyaupane, G., Poudel, S., & York, A. (2020). Governance of protected areas: an institutional analysis of conservation, community livelihood, and tourism outcomes. *Journal of Sustainable Tourism*. DOI: 10.1080/09669582.2020.1858089
- Nyaupane, G. P., & Timothy, D. J. (2010) Heritage awareness and appreciation among community residents: perspectives from Arizona, USA. *International Journal of Heritage Studies*, 16(3), 225-239. [10.1080/13527251003620776](https://doi.org/10.1080/13527251003620776)
- Office of the United States Trade Representative. (n.d.). U.S.-Mexico Trade Facts. Retrieved from <https://ustr.gov/countries-regions/americas/mexico>
- Ojeda-Revah, L., & Brown, C. (2012). Environmental Services at the U.S.-Mexican Border. In Lee, E., & Ganster, P. (Eds.), *The US-Mexican Border Environment: Progress and Challenges for Sustainability* (pp.145- 186). San Diego, CA: San Diego State University Press.
- Ortega, A., Rodriguez, H., Vargas, A. (2015). Policy dilemmas in Latino health care and implementation of the Affordable Care Act. *Annual Review of Public Health*, 18, 525–544. <https://doi.org/10.1146/annurev-publhealth-031914-122421>

- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- Ostrom, E. (2005). *Understanding Institutional Diversity*. Princeton University Press, Princeton, USA.
- Ostrom, E. Gardner, R., & Walker, J. (Eds.) (2006). *Rules, games, & common-pool resources*. Ann Arbor, MI: The University of Michigan Press.
- Ostrom, E. (2008). Tragedy of the Commons. In Durlauf, S., & Blume, L. (Eds.), *The New Palgrave Dictionary of Economics* (2nd ed.) (pp. 3573–3576). http://www.dictionaryofeconomics.com/article?id=pde2008_T000193
- Ostrom, E. (2010). Beyond markets and states: Polycentric governance of complex economic systems. *American Economic Review*, 100(3), 641-672. 10.1257/aer.100.3.641
- Ostrom, E., & Cox, M. (2010). Moving beyond panaceas: A multi-tiered diagnostic approach for social-ecological analysis. *Environmental Conservation*, 37(4), 451-463. doi: 10.1017/s0376892910000834
- Ostrom, E. (2011). Background on the Institutional Analysis and Development Framework. *Policy Studies Journal*, 39(1), 7–27.
- Paasi, A. (2010). A border theory: An unattainable dream or a realistic aim for border scholars? In D. Wastl-Walter (Ed.). *A Research Companion to Border Studies*. Aldershot: Ashgate.
- Payan, T. (2014): Theory-building in border studies: the view from North America. *Eurasia Border Review*, 5, 1-18.
- Pechlaner, H., Innerhofer, E., & Erschbamer, G. (2020). *Overtourism: Tourism Management and Solutions*. Routledge.
- Pellis, A. (2019). Reality effects of conflict avoidance in rewilding and ecotourism practices – the case of Western Iberia. *Journal of Ecotourism*, 18(4), 316-331.
- Pennington, M. (2013). Elinor Ostrom and the robust political economy of common-pool resources. *Journal of Institutional Economics*, 9(04), 449-468. doi: 10.1017/s1744137413000258
- Perramond, E. (2008). The rise, fall, and reconfiguration of the Mexican ejido. *The Geographical Review*, 9(3), 356–371.

- Pettersson, H. L., & de Carvalho, S. H. C. (2021). Rewilding and gazettement the Iberá National Park: using an asset approach to evaluate project success. *Conservation Science and Practice*, 3, e258. doi: 10.1111/csp2.258
- Pezzoli, K., Kozo, J., Ferran, K., Wooten, W., Rangel Gomez, G., & Al-Delaimy, W. (2014). One Bioregion/One Health: An Integrative Narrative for Transboundary Planning along the US–Mexico Border. *Global Society*, 28(4), 419- 440.
- Piekielek, J. (2009a). Public Wildlands at the U.S.-Mexico Border: Where Conservation, Migration, and Border Enforcement Collide. <http://arizona.openrepository.com/arizona/handle/10150/194340>.
- Piekielek, J. (2009b). Cooperative Conservation, Unilateral Security: The Story of Two Sister Parks on the U.S.-Mexico Border. In Laura Lopez-Hoffman, Emily D. McGovern, Robert G. Varady, and Karl W. Flessa (eds.), *Conservation of Shared Environments: Learning from the United States and Mexico*. University of Arizona Press, Tucson, Arizona.
- Poudel, S., Nyaupane, G., & Budruk, M. (2016). Stakeholders' perspectives of sustainable tourism development: A new approach to measuring outcomes. *Journal of Travel Research*, 55 (4), 465-480.
- Prokkola, E. (2010). Borders in tourism: The transformation of the Swedish–Finnish border landscape. *Current Issues in Tourism*, 13(3), 223-238.
- Quadri-Barba, P. (2020, August 12). Conservation in Mexico 101 [Webinar]. Sky Island Alliance. <https://skyislandalliance.org/library/coffee-breaks/conservation-in-mexico-101/>
- Quadri-Barba, P., Sims, K., & Millard-Ball, A. (2021). Using cultural heritage sites in Mexico to understand the poverty alleviation impacts of protected areas. *Conservation Science and Practice*, 3(2). <https://doi.org/10.1111/csp2.339>
- Rainer, G. (2018). Producing nature for tourism: A political ecology angle. *Annals of Tourism Research*, 71, 62–63. <https://doi.org/10.1016/j.annals.2018.01.004>
- Ramutsindela, M., & Noe, C. (2015). Bordering and scalar thickening in nature conservation. In Bryant, R. (Ed.), *The International Handbook of Political Ecology* (pp. 501–514). Cheltenham, England: Edward Elgar Publishing.
- Ranganathan, M., & Balazs, C. (2015). Water marginalization at the urban fringe: Environmental justice and urban political ecology across the North–South divide. *Urban Geography* 36(3): 403–423.

- Robbins, P. (2012). *Political Ecology: A critical Introduction* (2nd Ed.). Oxford: Blackwell.
- Rosales, C., Carvajal, S., & De Zapien, J. (2016). Editorial: Emergent public health issues in the U.S.–Mexico border region. *Frontiers in Public Health*, 4, 93. <https://doi.org/10.3389/fpubh.2016.00093>
- Rosas-Rosas, O., Valdez, R. (2010). The role of landowners in jaguar conservation in Sonora, Mexico. *Conservation Biology*, 24(2), 366–371. <https://doi.org/10.1111/j.1523-1739.2009.01441.x>
- Saarinen, J., Rogerson, C. M., & Hall, C. M. (2017). Geographies of tourism development and planning. *Tourism Geographies*, 19(3), 307–317. <https://doi.org/10.1080/14616688.2017.1307442>
- Salazar, J., & Spalding, M. (2006). Adjacent U.S.- Mexican border natural protected areas: Protection, management, and cooperation. In Hoffman, K. (Ed.), *The U.S.- Mexican Border Environment: Transboundary Ecosystem Management* (pp. 69-107). San Diego: San Diego State University Press.
- Salvatore, R., Chiodo, E., & Fantini, A. (2018). Tourism transition in peripheral rural areas: Theories, issues and strategies. *Annals of Tourism Research*, 68, 41–51. <https://doi.org/10.1016/j.annals.2017.11.003>
- Samuels, J. (2012). Breaking the Ethnographer’s Frames: Reflections on the Use of Photo Elicitation in Understanding Sri Lankan Monastic Culture. *American Behavioral Scientist*, 47(12), 1528–1550. <https://doi.org/10.1177/0002764204266238>
- Sayre, N. (2005). *Working Wilderness: The Malpai Borderlands Group and the Future of the Western Range*. Rio Nuevo Publishers.
- Sayre, N. F., & Knight, R.L. (2010). Potential effects of United States-Mexico border hardening on ecological and human communities in the Malpai Borderlands. *Conservation Biology*, 24, 345-348.
- Schlosberg, D. 2013. Theorizing environmental justice: the expanding sphere of a discourse. *Environmental Politics*, 22(1), 37-55.
- Schulze, J. (2018). *‘Are We Not Foreigners Here?’: Indigenous Nationalism in the Twentieth- Century US-Mexico Borderlands*. Chapel Hill: The University of North Carolina Press.
- Seymour, & Summerlin, P. R. (2017). Evidence and deception: A historic photo-analysis method for landscape studies. *Landscape Journal*, 36(2), 91–109. <https://doi.org/10.3368/lj.36.2.91>

- Singh, J. (2006). Sovereignty Bargains and Transboundary Natural Resources Management: Crossborder Perspectives for the U.S.-Mexican Border. In Hoffman, K. (Ed.), *The U.S.- Mexican Border Environment: Transboundary Ecosystem Management* (pp. 123-142). San Diego: San Diego State University Press.
- Sinthumule, N. (2020). Borders and border people in the Greater Mapungubwe Transfrontier. *Landscape Research*, 45(3), 280- 291.
DOI: 10.1080/01426397.2019.1632819
- Siwik, A., Hebard, E., & Jáquez, C. A Critical Review of Public Participation in Environmental Decision Making along the U.S.-Mexican Border: Lessons from Border 2012 and Suggestions for Future Programs. In Lee, E., & Ganster, P. (Eds.), *The US-Mexican Border Environment: Progress and Challenges for Sustainability* (pp 105-144). San Diego, CA: San Diego State University Press.
- Slack, J., Martinez, D., Lee, A., & Whiteford, S. (2018). The geography of border militarization: Violence, death, and health in Mexico and the United States. In Slack, J., Martinez, D., & Whiteford, S. (Eds.), *The Shadow of the Wall: Violence and Migration on the U.S.-Mexico Border* (pp. 94-119). Tucson, Arizona: The University of Arizona Press.
- Slack, J., & Whiteford, S. (2018). Violence and migration on the Arizona-Sonora border. In Slack, J., Martinez, D., & Whiteford, S. (Eds.), *The Shadow of the Wall: Violence and Migration on the U.S.-Mexico Border* (pp. 43-62). Tucson, Arizona: The University of Arizona Press.
- Smith, D., Peterson, R., & Houston, D. (2003). Yellowstone after Wolves. *BioScience*, 53(4), 330-340.
- Smith, J. (2017). Up Against the Wall. *BioGraphic*. Retrieved from <https://www.biographic.com/up-against-the-wall/>
- Sofield, T. (2006). Border tourism and border communities: An overview. *Tourism Geographies* 8(2), 102–21.
- Staudt, K., & Coronado, I. (2002). *Fronteras No Más: Toward Social Justice at the U.S.-Mexico Border* (1st ed.). Palgrave Macmillan.
- Stoffelen, A., & Vanneste, D. (2017). Tourism and cross-border regional development: insights in European contexts. *European Planning Studies*, 25(6), 1013–1033.
<https://doi.org/10.1080/09654313.2017.1291585>

- Stoffelen, A., Ioannides, D., & Vanneste, D. (2017). Obstacles to achieving cross-border tourism governance: A multi-scalar approach focusing on the German-Czech borderlands. *Annals of Tourism Research*, 64, 126–138.
- Stone, L. S., & Nyaupane, G. P. (2019). The tourist gaze: Domestic versus international tourists. *Journal of travel research*, 58(5), 877-891.
- Stone, M., & Nyaupane, G. (2016). Protected areas, tourism and community livelihoods linkages: A comprehensive analysis approach. *Journal of Sustainable Tourism*, 24(5), 673–693. <https://doi.org/10.1080/09669582.2015.1072207>
- St. John, R. (2012). *Line in the Sand: A History of the Western U.S.-Mexico Border*. Princeton University Press.
- Stonich, S. (1998). Political ecology of tourism. *Annals of Tourism Research*, 25(1), 25–54. [https://doi.org/10.1016/S0160-7383\(97\)00037-6](https://doi.org/10.1016/S0160-7383(97)00037-6)
- Su, D., Pratt, W., Stimpson, J., Wong, R., & Pagán, J. (2014). Uninsurance, underinsurance, and health care utilization in Mexico by U.S. border residents. *Journal of Immigrant & Minority Health*, 16(4), 607-612. doi:10.1007/s10903-013-9828-2.
- Suding, K., Higgs, E., Palmer, M., Callicott, J., Anderson, C., Baker, M., Gutrich, J., Hondula, K., LaFevor, M., Larson, B., Randall, A., Ruhl, J., & Schwartz, K. (2015). Committing to ecological restoration. *Science*, 348(6235), 638-640.
- Sundberg, J. (2011). Diabolic Caminos in the Desert and Cat Fights on the Río: A Posthumanist Political Ecology of Boundary Enforcement in the United States–Mexico Borderlands. *Annals of the Association of American Geographers*, 101(2), 318-336. DOI: 10.1080/00045608.2010.538323
- Timothy, D. (1995). Political boundaries and tourism: borders as tourist attractions. *Tourism Management*, 16(7), 525–532. [https://doi.org/10.1016/0261-5177\(95\)00070-5](https://doi.org/10.1016/0261-5177(95)00070-5)
- Timothy, D. (1999). Cross-border partnership in tourism resource management: International parks along the US-Canada border. *Journal of Sustainable Tourism*, 7(3-4), 182–205.
- Timothy, D. (2000). Tourism and international parks. In Boyd, S. & Butler, R. (Eds.), *Tourism and National Parks: Issues and Complications* (pp. 263- 282). John Wiley & Sons, West Sussex.
- Timothy, D. (2001). *Tourism and Political Boundaries*. London: Routledge

- Timothy, D. (2006a). Relationships between Tourism and International Boundaries. In Wachowiak, H. (Ed.), *Tourism and Borders: Contemporary Issues, Policies, and International Research* (pp. 9-19). Aldershot, England: Ashgate.
- Timothy, D. (2006b). Tourism and Conservation in Border Regions. In Hoffman, K. (Ed.), *The U.S.- Mexican Border Environment: Transboundary Ecosystem Management* (pp. 225-242). San Diego: San Diego State University Press.
- Timothy, D., Guia, J., & Berthet, N. (2014). Tourism as a catalyst for changing boundaries and territorial sovereignty at an international border. *Current Issues in Tourism*, 17(1), 21-27. 10.1080/13683500.2012.712098
- Timothy, D., Saarinen, J., & Viken, A. (2016). Editorial: Tourism issues and international borders in the Nordic Region. *Scandinavian Journal of Hospitality and Tourism*, 16:sup1, 1-13. DOI: [10.1080/15022250.2016.1244504](https://doi.org/10.1080/15022250.2016.1244504)
- Timothy, D., & Tosun, C. (2003). Tourists' perceptions of the Canada–USA border as a barrier to tourism at the International Peace Garden. *Tourism Management*, 24(4), 411–421.
- Tory, S. (2020). *The border wall threatens decades of binational wildlife conservation*. High Country News. Retrieved 02 November 2020 from <https://www.hcn.org/articles/south-borderlands-the-border-wall-threatens-decades-of-binational-wildlife-conservation>
- Udoudom, D., & Basse, S. (2018). Plato and John Rawls on Social Justice. *Researchers World* 9(3), 110.
- UNWTO. (2022). Tourism grows 4% in 2021 but remains far below pre-pandemic levels. <https://www.unwto.org/news/tourism-grows-4-in-2021-but-remains-far-below-pre-pandemic-levels>
- U.S. Fish and Wildlife Services. Questions and Answers: Jaguar Final Critical Habitat. https://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/Jaguar/2014_FAQs_Jaguar_fCH_FINAL.pdf
- Usunier, J. (2011). Language as a resource to assess cross-cultural equivalence in quantitative management research. *Journal of World Business*, 46(3), 314–319. <https://doi.org/10.1016/j.jwb.2010.07.002>
- Vallet, E., & Charles-Philippe, D. (2012). Introduction: The (re)building of the wall in international relations. *Journal of Borderlands Studies*, 27(2), 111-119. 10.1080/08865655.2012.687211

- Van Devender, T.R., Avila-Villegas, S., Emerson, M., Turner, D., Flesch, A.D., & Deyo, N.S. (2013). Biodiversity in the Madrean Archipelago of Sonora, Mexico. In: Gottfried, G.J., Ffolliott, P.F., Gebow, B.S., Eskew, L.G., Collins, L.C., (Eds.), *Merging science and management in a rapidly changing world: biodiversity and management of the Madrean Archipelago III*. USDA Forest Service Proceedings RMRS-P-67, pp. 10–16.
- Van Schoik, R., Lelea, E., & Cunningham, J. (2006). Sovereignty, borders, and transboundary biodiversity: Turning a potential tragedy into a true partnership: An introduction to the theory of and practice of conservation biology in the security bisected US-Mexico border region. In Hoffman, K. (Ed.), *The U.S.- Mexican Border Environment: Transboundary Ecosystem Management* (pp. 1-68). San Diego: San Diego State University Press.
- Villarreal, M., Haire, S., Bravo, J., & Norman, L. (2019). A mosaic of land tenure and ownership creates challenges and opportunities for transboundary conservation in the US-Mexico borderlands. *Case Studies in the Environment*, 1-16.
<https://doi.org/10.1525/cse.2018.001651>
- Vollan, B., & Ostrom, E. (2010). Cooperation and the commons. *Science*, 330(6006), 923–924. Web.
- Wachowiak, H. (2006). Introduction. In Wachowiak, H. (Ed.), *Tourism and Borders: Contemporary Issues, Policies, and International Research* (pp. 1-6). Aldershot, England: Ashgate.
- Wachowiak, H., & Engels, D. (2006). Academic contributions on cross-border issues in tourism around the world: A commentary international literature bibliography. In Wachowiak, H. (Ed.), *Tourism and Borders: Contemporary Issues, Policies, and International Research* (pp.149-265). Aldershot, England: Ashgate.
- Wallerstein, N. (1999). Power between evaluator and community: Research relationships within New Mexico's healthier communities. *Social Science & Medicine*, 49(1), 39-53.
- Wastl-Walter, D. (2011). Contemporary Research Agendas in Border Theories: An Overview. In Wastl-Walter, D. (Ed.), *The Ashgate Research Companion to Border Studies* (pp. 33-48). Burlington: Ashgate Publishing Company.
- Whane, W., & Suich, H. (2009). Transfrontier Conservation Initiatives in Southern Africa: Observations from the Great Limpopo Transfrontier Conservation Area. In Suich, H., Child, B., & Spenceley, A. (Eds.), *Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas* (pp. 373-391). London: Earthscan.

- White, M., Stallcup, J., Comer, K., Vargas, M., Beltran-Abaunza, J., Ochoa, F., & Morrison, S. (2006). Designing and Establishing Conservation Areas in the Baja California-Southern California Border Region. In Hoffman, K. (Ed.), *The U.S.-Mexican Border Environment: Transboundary Ecosystem Management* (pp. 191-224). San Diego: San Diego State University Press.
- Wilder, M., Garfin, G., Ganster, P., Eakin, H., Romero-Lankao, P., Lara-Valencia, F., Cortez-Lara, H., Mumme, S., Neri, C., & Muñoz-Arriola, F. (2013). Climate change and U.S.- Mexico border communities. In Garfin, G., Jardine, A., Merideth, R., Black, M., & LeRoy, S. (Eds.), *Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment* (pp. 340–384). A report by the Southwest Climate Alliance. Washington, DC: Island Press.
- Wildlife Reintroduction. (2020). <https://cuencalosojos.org/pages/wildlife-reintroduction>
- Woosnam, K., Shafer, C., Scott, D., & Timothy, D. (2015). Tourists' perceived safety through emotional solidarity with residents in two Mexico–United States border regions. *Tourism Management*, 46, 263–273. <https://doi.org/10.1016/j.tourman.2014.06.022>
- Yin, R. (2003). *Case Study Research: Design and Methods* (3rd Ed.). Sage Publications.
- Yin, R. (2018). *Case Study Research and Applications: Design and Methods*. Sage Publications.
- Zhang, J., Fu, M., Hassani, F., Zeng, H., Geng, Y., & Bai, Z. (2011). Land use-based landscape planning and restoration in mine closure areas. *Environmental Management*, 47(5), 739–750. <https://doi.org/10.1007/s00267-011-9638-z>

APPENDIX A
IRB APPROVAL LETTER

Gyan Nyaupane

EXEMPTION GRANTED

WATTS: Public Service and Community Solutions, College of

602/496-0166 Gyan.Nyaupane@asu.edu

Dear [Gyan Nyaupane](#):

On 12/29/2020 the ASU IRB reviewed the following protocol:

Type of Review: Initial Study	
Title:	Ecological Restoration and Tourism Development as Agents of Bordering: A Case Study of the U.S.- Mexico Border
Investigator: Gyan Nyaupane	
IRB ID: STUDY00013093	
Funding: None	
Grant Title: None	
Grant ID: None	
Documents Reviewed:	<ul style="list-style-type: none"> • Focus Group Consent Form, Category: Consent Form; • Interview and focus group protocol, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Interview Consent Form, Category: Consent Form; • IRB Protocol, Category: IRB Protocol; • Recruitment Script, Category: Recruitment Materials;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 12/29/2020.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at

research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc: Connor Clark Connor Clark

Gyan Nyaupane

APPENDIX B
INTERVIEW PROTOCOL (ENGLISH)

Interview Protocol

Ecological Restoration and Tourism Development as Agents of Bordering: A Case Study of the U.S.-Mexico Border

Interview questions for participants:

1. How do you feel about ecological restoration and tourism development efforts in the region?
2. How can the benefits of these efforts be distributed more equitably?
3. How will these efforts impact the lives and livelihoods of border residents?
4. How effective is your organization at conserving resources and livelihoods?
5. Why was your organization created?
6. Why is your organization's approach to resource management deemed the most appropriate?
7. What are some obstacles and opportunities for cross-border resource governance?

APPENDIX C
INTERVIEW PROTOCOL (SPANISH)

Protocolo de Entrevista

Restauración Ecológica y Desarrollo Turístico como Agentes de Bordering (Fronterización) : Un Caso de Estudio en la Frontera de México-Estados Unidos

Preguntas para la entrevista:

1. ¿Cómo se siente de los esfuerzos realizados para restaurar la ecología y desarrollar el turismo en la región?
2. ¿Cómo cree que se podrían distribuir los beneficios más equitativamente?
3. ¿Cómo cree que impactarán estos esfuerzos en la vida y los medios de vida de los residentes fronterizos?
4. ¿Cuán efectivo es su organización en conservar los recursos y medios de vida?
¿Además, cuán efectivo cree que sus acciones individuales son para conservar y cuidar estos recursos?
5. ¿Por qué se formó su organización? ¿Cómo inició a tener esos hábitos de gestionar la tierra y sus recursos?
6. ¿Por qué es el enfoque de su organización considerado la forma más apropiado?
¿Considera que sus hábitos para cuidar los recursos son los más adecuados?
7. ¿Cuáles son los obstáculos y las oportunidades que usted ve en la forma en que se administran los recursos transfronterizos?

APPENDIX D
FOCUS GROUP PROTOCOL (ENGLISH)

Focus group discussion questions:

1. What are the major conflicts of ecological restoration and tourism development in this border region and how can they be addressed?
2. What would you like other stakeholder groups to consider if they find themselves involved in ecological restoration or tourism development efforts?
3. How can the benefits of ecological restoration and tourism development efforts be distributed more equitably?
4. How do ecological restoration and tourism development efforts affect you, your family, your livelihood, your organization, or your community?
5. Why was your organization created?
6. Why is your organization's approach to resource management deemed the most appropriate?
7. What are some obstacles and opportunities for cross-border resource governance?
8. What ideas do you have for promoting more effective cross-border resource governance?

APPENDIX E
FOCUS GROUP PROTOCOL (SPANISH)

Preguntas para las discusiones de grupo focal:

1. ¿Cuáles son los mayores desafíos de la restauración ecológica y el desarrollo turístico en la región fronteriza y cómo cree que pueden ser abordados?
2. ¿Qué aspectos cree usted necesarios que los demás involucrados deben considerar para la restauración ecológica y el desarrollo turístico?
3. ¿Cómo se pueden distribuir los beneficios de la restauración ecológica y el desarrollo turístico más equitativamente?
4. ¿Cómo le afectan los esfuerzos de la restauración ecológica y el desarrollo turístico a usted, su familia, su organización y a su comunidad?
5. ¿Por qué se formó su organización?
6. ¿Por qué es el enfoque de su organización considerado lo más apropiado?
7. ¿Cuáles son algunos de los obstáculos y oportunidades para gobernar recursos transfronterizos?
8. ¿Qué ideas tiene para promover una gobernanza más efectiva de los recursos transfronterizos?

APPENDIX F

PHOTO-ELICITATION INTERVIEW PROTOCOL (ENGLISH)

Photo-Elicitation Interview Protocol

Ecological Restoration and Tourism Development as Agents of Bordering: A Case Study of the U.S.-Mexico Border

Interview questions for participants:

1. What do you love most about this region?
2. What attaches you to this place?
3. What don't you like about this region?
4. What would be most appealing to visitors?
5. (For photo-elicitation interviews) Why did you take this picture?
6. (For photo-elicitation interviews) What does the image in this picture you took mean to you?

APPENDIX G

PHOTO-ELICITATION INTERVIEW PROTOCOL (SPANISH)

Protocolo de Entrevista de Fotoelicitación

Restauración Ecológica y Desarrollo Turístico como Agentes de Bordering (Fronterización) : Un Caso de Estudio en la Frontera de México-Estados Unidos

Preguntas para la entrevista:

1. ¿Qué es lo que más le gusta de esta región?
2. ¿Qué lo arraiga a este lugar?
3. ¿Qué no le gusta de esta región?
4. ¿Qué sería lo más atractivo para visitantes?
5. (Para las entrevistas de fotoelicitación) ¿Por qué tomó esa foto?
6. (Para las entrevistas de fotoelicitación) ¿Qué le significa la imagen de la foto para usted?

BIOGRAPHICAL SKETCH

Connor William Clark was born in Kansas City, Missouri on June 25, 1986. He received his elementary and secondary education in Eden Prairie, Minnesota where he graduated from Eden Prairie High School in 2005. In 2011, Connor graduated from Brigham Young University with a Bachelor of Arts in Latin American Studies. Following his undergraduate education, Connor pursued a Master of Science in Global Management from Thunderbird School of Global Management where he graduated in 2012. During and after his graduate studies at Thunderbird, Connor lived in Peru for over 18 months working for nonprofit and for-profit organizations that provided business education to micro, small, and medium business owners. In 2018, Connor entered the Watts College of Public Service and Community Solutions to pursue a doctoral degree in Community Resources and Development with an emphasis in Tourism Development and Management. During his doctoral studies, Connor served as Co-President of the School of Community Resources and Development Graduate Student Club and received support from the U.S. National Park Service.