THE INFLUENCE OF POLITICAL CLIMATE ON TRANSBORDER WILDLIFE

CONSERVATION: A CASE STUDY ON THE UNITED STATES-MEXICO

TRANSBORDER REGION

by

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Table of Contents

Abstract

Politics influences transborder conservation collaboration directly specific to wildlife projects. There is extensive research relating to transborder conservation as well as studies on the influence of governments and politics on conservation. However, research on the direct effects that government and/or politics have on transborder collaboration and conversation initiatives and interventions is scant. The need for understanding these influences and wildlife managers reactions to them is critical, as transborder collaboration is important to conserve and protect the wildlife that travels/inhabits the lands extending across border regions. The purpose of this study is twofold. The first goal is to understand the influence that politics has on transborder collaboration. The second goal is to determine how wildlife managers react to the political climate and its influence, as well as developing new insights to generate recommendations for future transborder collaborations and initiatives to occur effectively. This research focused directly on wildlife managers in the Arizona-Sonora region who conduct work specifically related on wildlife projects across the transborder region in direct collaboration with their neighboring country. I relied on political ecology theory as well as community-based collaboration as my conceptual framework to guide my study. The insights generated in this study provide future recommendations for transborder regions all across the globe.

Introduction

Transborder conservation areas are created between bordering countries in order to increase environmentally focused transborder cooperation (WWF, n.d.). These areas span lands that stretch across one or more border states and beyond national sovereignty or jurisdiction with constituents working to preserve biological diversity (Quinn, Broberg, & Freimund, 2012). The areas are managed collaboratively through legal and

political agreements aimed at integrating vast landscapes, developing transborder linkages, providing benefits to the local communities through socio-economic improvements, and to promote environmental stability (Quinn, Broberg, & Freimund, 2012; Mihalic et al., 2014). Transborder conservation areas are supported through a process of partnerships between international governments and are typically regulated by governmental agencies and non-governmental agencies on both sides of the border (Mihalic et al, 2014).

Indeed, community-based conservation is vital to effective transborder conservation. The community referred to here can be viewed as those who live in the same area, are unified by a common history or culture, and who share common (or compatible) interests in a particular resource (Barrow & Murphree, n.d.). In both policy and practice, this consists of protected area outreach, collaborative management, and community-based conversation (Barrow & Murphree, n.d.). Various agencies and conservation organizations have worked together to create conservation programs aimed at conserving biodiversity against upward trends in human population size, resource consumption, and the rate and direction of technological change – all of which increase the negative impacts of human activity on the environment (Chester, 2006).

Overall, there are more than 220 designated transborder conservation regions across the world (WWF, 2020). Surprisingly, not much has been studied on these transborder regions and the ways in which they are influenced by overarching factors, such as politics. The current study focuses on one such area: the transborder region between the United States (US) and Mexico (MX).

Cooperation and collaboration between the US and MX is required to conserve and manage migratory wildlife and the natural ecosystems of the transborder region (Boyer, 2012). Along the 2,000-mile international boundary between the US and MX

lies a vast economic, social, and cultural terrain (Ganster & Lorey, 2015). These

borderlands are defined by natural features like the Rio Grande River and such

ecoregions as the Sonoran Desert, Chihuahuan Desert, and the California coastal

chaparral (See Figure 1) (Cornelius, 2000). The current study focuses specifically on the

Arizona/Sonora transborder region, which consists of diverse terrestrial, freshwater, and

marine ecosystems (Laird-Benner & Ingram, 2011). This land, although lively and well

populated by both humans and wildlife species, needs natural resource management to

keep it healthy and vibrant, leading to the need for transborder collaboration and

collective decision-making

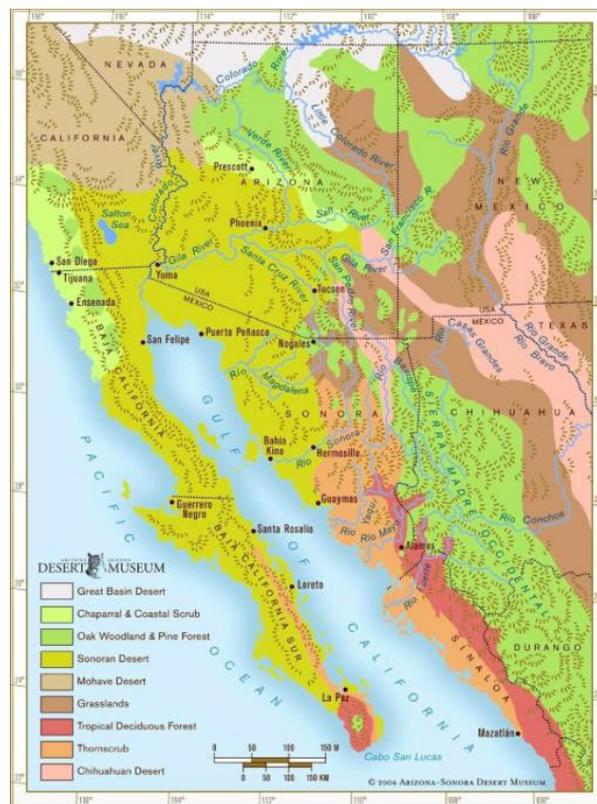Figure 1: A map of the Sonoran Desert Region (Arizona-Sonora Desert Museum, n.d.).

Beginning in 1993, the President at the time in the US, Bill Clinton, mandated

construction of a 13-mile border that divides San Diego, California and Tijuana, Baja

California. Following the attacks on September 11, 2001, attention and resources

otherwise allotted for the preservation of the transborder land was diverted to US

security (Laird-Benner & Ingram, 2011). In 2005 and 2006, the US then passed the REAL ID Act and the Secure Fence Act to secure the borders and reduce illegal immigration rates (Garrett, 2010). The REAL ID Act gave permission to the US secretary of the Department of Homeland Security to secure the borders of the US by any means necessary, allowing for the override of any environmental laws protecting the borderlands (Garrett, 2010). The Secure Fence Act led to the US Secretary of the Department of Homeland Security increasing surveillance along the border and building a 600 mile physical infrastructure (i.e., "the wall") to prevent unlawful border crossing (i.e., "the wall"). In 2017, the Donald Trump administration in the US issued an executive order to finish building the wall across previously undisturbed borderlands (Pierce & Selee, 2017).

The aforementioned US-MX border wall blocks migratory paths for certain wildlife species, such as the pronghorn and jaguar, and creates a barrier for agencies and organizations on either side of the wall attempting to collaborate on conservation efforts. These lands are under jurisdiction by more than a dozen federal, state, and local agencies between the US and MX, sometimes guided by differing and/or conflicting priorities (Laird, Murrieta-Sadivar, & Shepard, 1997). These priorities, which to date have not yet been adequately studied, are influenced, shaped, and re-shaped by the political climate on both sides of the border (and quite literally "the wall"). Accordingly, I explore here the following question: How do political shifts pertaining to the border shape and re-shape the collaborative conservation across the Arizona/Sonora transborder region? The aim is to generate insights into how more effective transborder collaboration can be fostered and sustained.

Literature Review

Approximately one-third of terrestrial biodiversity surrounds national borders (Westing, 1998). Thus, the protection and conservation of these areas inherently requires international collaboration (Chester, 2006). There is growing agreement that by declaring these areas as transborder conservation areas, neighboring countries are engaging in collaboration and conflict resolution, resulting in more wildlife protection (Jong, Snelder, & Ishikawa, 2010). The creation of transborder areas support conservation and help bring international, state, provincial, tribal, and land management borders together (Chester, 2015). According to a 1996 survey conducted along the US-MX border, there were 485 transborder initiatives and projects being conducted that related mostly to environmental activities (e.g., US-MX Border XXI Program, Border 2025, Environmental Education Iniative) (Chester, 2006).

The drive to conserve biodiversity internationally, through the creation of transborder conservation areas, is inherently political (Adams & Hutton, 2007). However, the management of wildlife along transborder regions is confronted with numerous challenges to include, for example, governments seeking greater control of national territory (Jong, Snelder, & Ishikawa, 2010). According to a study conducted on the factors that influence conservation and management in two separate border regions along the US-MX border, governmental interventions were plagued by corruption, inefficient enforcement, and counter-productive economic interests, all of which negatively impacted ecosystems, wildlife, and human health (Mihalic et al, 2014).

The Sonoran Desert is located primarily in MX with its northern sections being in the southern third of Arizona (AZ). The Desert an extremely diverse and lively ecosystem that requires constant collaboration between the US and MX to ensure its persistence. Accordingly, a majority of AZ border with the Mexican state of Sonora (SO) is protected by natural areas and refuges (Ray, 2010). A portion of the lands are

also Tohono O'odham tribal land, and are preserved mainly by those living on the lands. In short, the preservation of the Sonoran Desert environment involves many different components and many different collaborators.

There are pronounced differences in conservation approaches taken in AZ versus those in SO. There have been several ongoing conservation movements in the US since the 1800s that continue to this day, whereas in MX, the movements for conservation are relatively recent. Historically, the US has had more protected lands, protecting 10% of its land while MX had only protected 2% of its lands (Richards, 2018). On one hand, the pursuit of conservation in the US is active and regulated by a mix of state and federal agencies, as well as a multitude of NGOs. On the other hand, in MX the conservation services and regulatory bodies are far more limited with a lack of Mexican government support for conservation. This mixed dynamic further necessitates the development and preservation of transborder conservation (Simonian, 1995; Cartron et al., 2005). Moreover, Mexican wildlife managers must find ways to protect their vast and diverse ecosystems with minimal government support, which often results in reliance on international financial support (Cartron et al., 2005; Simonian, 1995).

Along the borderlands, the US has four different protected areas that under state or federal regulations prohibit human inhabitants (King & Wilcox, 2008). In contrast, in MX, the protected lands are either communal or privately owned properties (King & Wilcox, 2008). Research has shown that protections on public lands are more beneficial and progressive, while conservation on private lands progress occurs much more slowly (Richards, 2018). Yet, MX is making huge strides recently by the mid-20th century, now protecting 14% of its land, while the US has fallen behind due to recent changes in environmental agreements implemented by the Trump administration (Richards, 2018). Overall, US conservation efforts are slowing, while those in MX are expanding at a

relatively rapid pace (e.g., four new nature reserves were created in MX in 2016 by the Mexican administration) (Richards, 2018). These shifts point to the implications of national political climates on environmentally-based decisions and subsequently transborder conversation dynamics (Richards, 2018).

In general, the extant literature on transborder conservation and environmental collaboration across the US-MX transborder region is scant. While there are studies on the impacts of governments and politics on conservation, there is little on the direct effects that government and/or politics have on transborder collaboration and conversation initiatives and interventions. This study can add to the literature and provide a better understanding of the effects politics has on conservation and collaboration as well as starting the conversation on ways to improve transborder conservation and collaboration.

Conceptual Framework

I rely on the theories of political ecology and community-based conservation to explore How political shifts pertaining to the border shape and re-shape the collaborative conversation across the Arizona/Sonora transborder region. The field of political ecology focuses on the study of the relationships between political, economic, and social factors pertaining to the human impacts on and/or the preservation of the natural environment (Robbins, 2011). There are three core overlapping assumptions that guide political ecology theory (See Figure 2) (Bryant & Bailey, 1997). The first assumption is that any environmental change will distribute costs and benefits unequally due to the unequal distribution of political, social, and economic power. The second assumption is that existing social and economic inequalities are strengthened or diminished by the unequal distribution of power stated above. The third assumption is that unequal distribution of costs and benefits and the strengthened or diminished pre-

existing inequalities carry a possible consequence in terms of the changed power

relationships that occur (Bryant & Bailey, 1997). In short, political ecology looks at

environmental relationships and distributions of power relevant to economic, social, and

political conditions and structures.

Assumption 1: Costs and benefits linked with environmental change are distributed unequally. Political, social, and economic differences account for that uneven distribution.

Assumption 2: The unequal distribution of costs and benefits strengthens or diminishes any existing social and economic inequalities

Assumption 3: The unequal distribution of costs and benefits and the reinforcement of already existing inequalities hold possible consequences in terms of the changed power relationships that result.
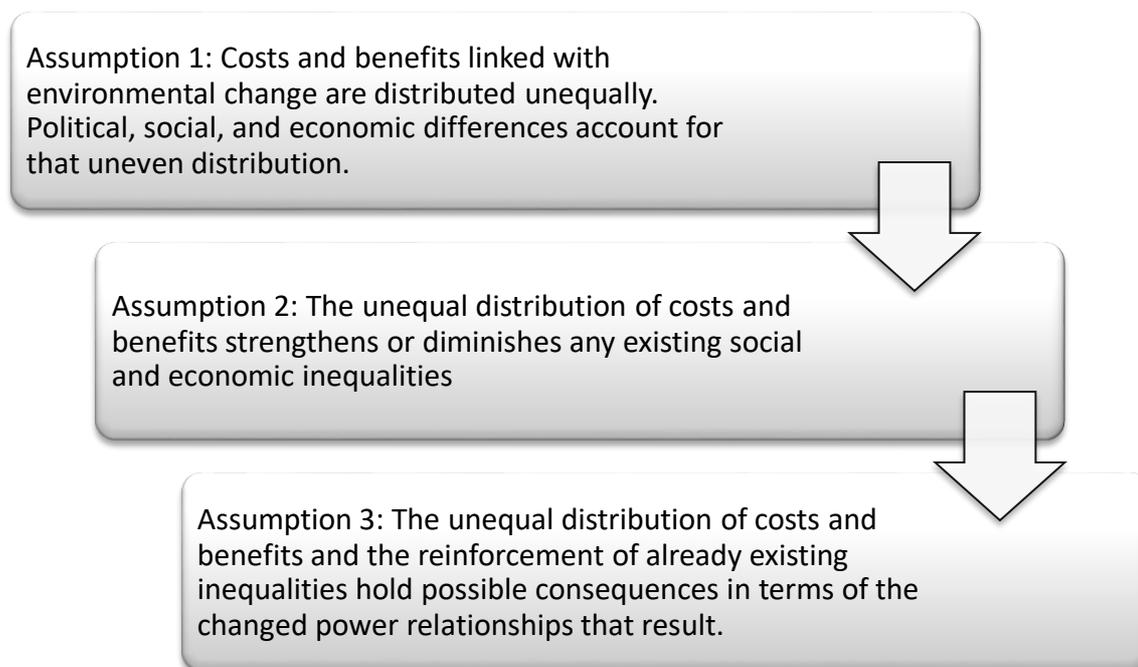
Figure 2: Explanation of the assumptions of political ecology and how each assumption drives the next.

My focus for this study is on the economic and socio-political factors of the

political ecology of transborder collaboration. The economic factor looks at the

economic motivations that drive particular wildlife decisions. Economics is the study of

the choices and structures that shape production, distribution, and consumption of goods

and services (Acemoglu, 2005). Politics have an influence on economic outcomes based

on who is in power. Douglass North, an American economist who won a Nobel Prize

for his work, argued that while politics should focus on the potential for economic

growth, economics instead strives to maximize the returns of the economy to the

politically powerful. Accordingly, factors that environmental economists have identified

as informing environmentally aware legislators include: 1) people make decisions in

response to incentives and to maximize utility (i.e., value realized), 2) government intervention often worsen conditions, 3) environmental problems are global, 4) negotiating solutions through agreements is a complex process, and 5) environmental protection costs money (Cato, 2010; Hanley et al., 2001). Economic factors informed my study by understanding the full costs and benefits of political interference on transborder collaboration and exploring the motivations behind transborder collaboration.

The socio-political factor is defined by both social and political instances, such as the idea of environmental conservation, which can be defined by social attitudes and political policies. A socio-political boundary affects the management of ecosystems due to different governance structures, political priorities, and societal attitudes that occur on both sides of international borders (Dallimer & Strange, 2015). Effective transborder conservation is reliant on ecosystem and environmental management policies and practices that are compatible with the socio-political conditions and factors on both sides of an international border. Transborder conservation areas have been shown to reduce the adverse impacts of socio-political factors on the environment if coordinated management that involves transborder collaboration between fewer, but more deeply committed partners is practiced. Conservation requires a unified transboundary approach between both sides of the border and the cooperation across multiple geographical areas is a necessity, along with the mutual benefits for individuals on both sides of the border. Socio-political factors informed my study by describing the political motivations behind the social factors of collaboration and how they are influencing and driving transborder conservation.

Next, I used community-based conservation to identify and conceptually unpack the role that collaboration has in instances of looming political effects and if it is an

effective approach to overcoming political hindrances. Community-based conservation operates on the promise that community involvement and leadership is critical to the successful management of natural resources (Adams & Hulme, 2001; Mahajan et al., 2021). Prior research has indicated that while community-based conservation is inherently a social process, it is also nested in economic, political, and environmental exchanges (Alexander, Andrachuk & Armitage, 2016). It typically consists of and is led by community members, government officials, and non-profit organizations, and a better understanding of these networks ability to collaborate can improve community-based conservation efforts and help integrate more conservation practices (Berkes, 2007; Alexander, Andrachuk & Armitage, 2016). I look at the collective action that occurs, via the following three community-based conservation constructs: 1) the collaborative communities capacity to **establish** meaningful partnerships, the **persistence** of those meaningful partnerships, and the ability to ideally **diffuse** these collaborative relationships in ways that allowed new groups to enter into established collaborations (Mahajan et al., 2021).

The ability to establish meaningful partnerships has a higher chance of occurring if the separate parties are in unity and share a common purpose (Mahajan et al., 2021). There must be some familiarity, frequent interactions, shared identity, trust, and reciprocity in order for emergence and establishment of meaningful partnerships to occur (Olsen, 1965; Ostrom, 2010). Without these factors, it is hard for partnerships to be established in an efficient way that allows for long-term relationships.

Community-based conservation practices have been shown to be both efficient and resilient when it comes to governing/managing the use of resources in long-term, sustainable ways (Mahajan et al., 2021). Adaptability and persistence are central elements of both effective wildlife management design and community-based

partnerships (Baggio et al., 2016). More specifically, community-based wildlife projects that are adaptable and able to innovate as conditions and needs change are more likely to persist as compared to those that are rigid and static (Adams & Hulme, 2001).

Understanding the ways in which community-based conservation systems diffuse to operate at greater spatial scales is important to ensure that communities can appropriately address global environmental crisis (Turner et al., 2007). Diffusion is more common among simple ideas that share beliefs and values versus more complex ideas with differing viewpoints and more likely to occur when all parties are familiar with one another and share a motivating nature to do well (Mahajan et al., 2021). Political conditions that support community-based conservation projects and the geographic and cultural alignments are significant inputs to diffusion (Wejnert, 2002). I will be drawing on these points of establishment, persistence, and diffusion to understand how transborder collaborative conservation is able to shape and re-shape despite political interferences across the Arizona/Sonora transborder region.

Methodology

Study Design and Site

I conducted the current study using a single qualitative case study design (Yin, 2009). This choice of design allowed me to confine the data to the AZ-SO region where the effects of the political climate on transborder conservation and collaboration could be richly explored. AZ shares borders with the region of Sonora, MX. SO geographically touches not just AZ, but also a small length of New Mexico and a significant amount of the coastline of the Gulf of California. Sonora is the second largest state in MX with a population nearing 3 million (Mexico: Sonora, n.d.). It is best described as mountainous and arid with diverse plant and animal life. AZ was

specifically selected because of its well-known connection to Mexico, along with it being an access point along the border wall. AZ has a much larger population and is the sixth largest state in the US, nearing about 7.3 million, with half of AZ being semi-arid, while the rest is arid and humid (Byrkit, Hecht, & McNamee, n.d.) I chose the counties focused mostly in the Southeastern region of the state: Cochise, Pima, and Santa Cruz. These regions are highly populated, total of about 1.2 million people, and diverse in plant and animal life.

Sampling

The primary data source consisted of informants from both the US and MX who are employed by state agencies, federal agencies, and non-governmental organizations (NGOs) who have wildlife conservation responsibilities, as well as those who work in university research programs that focus on transborder wildlife conservation. These different agencies and NGOs constitute community-based conservation. The sample was purposively selected using theoretical and maximum variation sampling strategies (Onwuegbuzie & Leech, 2007; Patton, 2002). I began by identifying the agencies and organizations along the AZ/SO border that were most likely to engage in transborder conservation. I then limited the sample to those within these agencies and organizations who were actively or had been actively involved in projects involving direct collaboration with the neighbouring country, as well as to those who were referred by experts (i.e., snowball sampling) (Fusch & Ness, 2015). Consistent with maximum variation sampling (Patton, 2002), I was able to recruit a sample that is representative of the various experiences, perspectives, and roles associated with transborder wildlife conservation and collaboration. I focused solely on those formally and professionally engaged in transborder wildlife conservation work, intentionally excluding volunteers, activists, etc. Consistent with the concept of data saturation (Butler, Connel, & Hall,

2018), informant recruitment ceased when new insights were no longer being revealed by informants and the scope and depth of the data allowed for rich exploration of the research questions.

The positions that were used to identify prospective informants involved some degree of transborder collaboration on wildlife conservation projects in the AZ/SO region. Ultimately, 15 informants were interviewed for the study (see Table 1). Per my university's human subject protection protocol, I assigned a pseudonym to each informant in order to protect their anonymity.

Table 1: List of informants, what kind of agency/organization they work for, where they are located, and project(s)

Informants	Agency/Organization	Location	Project(s)
Aidan	Education	US/MX*	Sonoran Pronghorn/Mud turtle
Andy	NGO	US	Watershed restoration/wildlife habitat restoration
Daniel	Education	US	Human/wildlife interactions/ocelot and jaguar
Henry	State	US	Reintroduction programs of wildlife/communication between US and MX
Jason	Federal	US	Fish/Mexican wolf
Jesse	NGO	US/MX*	Mexican Wolf/habitat connectivity
Kevin	Education	US	Mud turtle/aquatic ecosystems
Mike	NGO	US/MX*	Global environmental change/impacts of wildlife protected areas in MX
Rico	State agency	US	Sonoran Pronghorn
Ryan	Education	US/MX*	Black-footed Prairie Dogs/Jaguars
Sean	Education	MX	Wildlife public administration and

			policies/Management of water
Seth	State	US	Large mammals/Mexican wolf/birds
Sid	NGO	US/MX *	Wildlife protected areas
Thomas	Education	US/MX*	Invasive species/ecological management and restoration
Wes	Education	MX	Wildlife public policies/ watershed management

*for those with both US and MX, they either work for a US organization but are working and located solely in MX or they are funded by a Mexican agency to work and do research in the US.

Data Collection

Data were collected through semi-structured interviews (Patton, 2002) with the informants that due to the COVID-19 pandemic were conducted virtually using a password protected Zoom link. Each interview was recorded and later transcribed for analysis. Interviews lasted between 20 and 50 minutes. Consistent with the conceptual framework, the interview protocol was designed to explore the impact of the political climate on transborder conservation and collaboration in the context of economic and socio-political factors along with the three community conservation elements (i.e., establishment, persistence, diffusion) (Miles & Huberman, 1994). I explored economics through questions that probed the direct opinions the informants had on the costs and benefits of a changing political climate; socio-political factors through questions specific to how interactions were influenced by the political climate; establishment through questions that investigated the influence politics had on already existing relationships; persistence through questions specific to ways in which collaboration may change with shifts in political climate; and diffusion through questions specifying present and future opportunities for expanding and bringing new actors and groups into

existing transborder conservation activities and initiatives. I made sure to define politics in the context of any influence of national administrations, state or national level politics, and national policies, whether American or Mexican, that influenced economic or socio-political activities being conducted through transborder collaboration. A pilot study was conducted that involved three pilot interviews with individuals in roles similar to those who were included in the final sample. The insights generated from the pilot were used to refine the question in ways that increased the clarity and precision of the questions and enhanced the likelihood of collecting rich, high quality data.

Data Analysis

A "hand coding" strategy was used when analysing the data with the intent of developing a more intimate familiarity with insights and patterns contained within (Ryan, 2009). The data were both deductively and inductively analyzed over multiple rounds. Deductive analysis was performed using a structured coding framework (Miles & Huberman, 1994) composed of the two constructs, economic and socio-political, leading to environmental evaluation and the three community conservation elements: establishment, persistence, and diffusion. Inductive analysis was performed using an open coding strategy (Corbin & Strauss, 2015), which enabled me to identify any patterns or themes within the data that were relevant to the guiding research question, but not otherwise able to be accounted for using the deductive framework. Analysis began with a round of axial coding that resulted in the development of inter-code relationships (Corbin & Strauss, 2015), which were then continually narrowed and refined into the patterns and themes that ultimately became the findings. Such narrowing and refinement occurred through multiple rounds of both idiographic and nomothetic analysis (Gelo, Braakman, & Benetka, 2008). Memos were kept throughout

the analytical process as a method of recording, organizing, and distilling insights

(Corbin & Strauss, 2015).

Trustworthiness

In qualitative data, the researcher is the primary instrument (Xu & Storr, 2012)

and as such, several steps were taken to enhance the trustworthiness of the data and its

analysis, as well as to increase, the transferability of the insights generated from the

findings (Schwandt et al., 2007). First, I compiled an audit trail that documents the

theoretical, methodological, and analytical decisions made and procedures followed

over the duration of the study. This artifact brings greater transparency to the study and

enhances its replicability (Patton, 2002). To ensure credibility, I engaged in researcher

triangulation with my thesis advisor to establish inter-researcher consistencies in the

understanding of the insights, patterns, and themes developed over the course of the

analytical process (Leech & Onwuegbuzie, 2007). Lastly, transferability was fostered

through the rich and extensive descriptions of the findings that follow next. Such

richness and extensiveness enhance the capacities of readers to reach a deep,

transferable understanding of the study relevant to what they are interested in (Bailey,

2007).

Findings

Though the informants varied among their occupations, organizations, and

specialities, there were clear patterns across their experiences and perspectives. Recall

that political ecology was used to explore and understand the economic and socio-

political factors that influence collaborative conservation along the SO/AZ border. I

used community-based conservation to develop an understanding of how transborder

collaborations form, persist, and diffuse under shifting transborder political conditions.

Economic Factor

A majority of the informants believe that the political economy structure was stable, and that the political climate rarely had an impact on specific wildlife projects economically. The informants generally indicated that funding amounts and availability were relatively steady from one administration to the next and from one policy initiative to the next. They also described a mutual understanding between collaborators on both sides of the border that sustain/sustained productivity on current and past wildlife projects regardless of the political office holders. Kevin, one of the informants that works mostly on research on the US side stated,

> …the actual politics and elections and changes in federal administrations has really not affected my ability to do any work including this most recent administration we've been through, the only manifestations [seen] were the funding for our transborder work was a little bit slower to come but…the Congress continued to fund transborder work even if the president was not supportive of it, so the funding in our projects was still supported.

The funding came mostly from US grants that were then shared with partners on the MX side. However, there are no shared joint budgets between agencies and organizations that also extend across the border. Thus, funding exchanges are dependent on the day-to-day managerial decisions of those in the organizations and agencies who are doing the actual conservation work. Ryan, a researcher focusing mostly on jaguars and black-footed prairie dogs in MX stated, "decisions that administrations make on distributing budgets are reliant on those in the US, if they are restricted by money they are unable to help MX, but, if they have enough money, they are more than willing to reach out." With this, funding is not a major detrimental impact on transborder collaboration, however, it can cause stress and uncertainty for agencies and organizations.

The outlying informants who did sense funding fragility described a climate of perceived unpredictability and looming threats of budget cuts, resource reductions, and

the loss of efficiency and motivation due to various bureaucratic and political obstacles. This sense of unpredictability created for hesitation to collaborate and share resources because of the uneasiness of not knowing if/when/how much funding will occur. For example, Andy, who works on water issues for an NGO on the US side, said

> One major issue that we have for developing programming in Mexico, is the fact that we as a US based organization, have access to a number of funding sources through our federal government [and] those monies are often not available for use in Mexico, so you know inherently there's a political divide,…we are unable to do projects that might have a lot of benefit even if those projects have benefit for the US, also some of our ability to work with those agencies or federal agencies were interrupted by shutdowns and poor management and political decisions being made."

Interestingly, almost all of the informants who described project fragility due to unpredictable funding mostly worked for a US agency or organization. This inconsistent funding, though not detrimental to wildlife projects, creates obstacles and does not allow for efficiency in collaboration. Wildlife projects are prolonged, as well as limited, without full access to funding and this does not allow for effective diffusion to occur.

Socio-political Factor

The informants all expressed some degree of concern over socio-political factors leading to project fragility. Only three of the 15 informants stated socio-political stability despite sharing some comments of concern, while the other informants believed shifts in the socio-political climate had/were compromising the stability and productivity of transborder collaboration. The most commonly identified factors of socio-political fragility were increasing traveling restrictions making it hard to collaborate efficiently, the rhetoric of the administrations changing certain wildlife manager's perspectives toward transborder collaboration, constant shifts in bureaucracies and the administration causing uncertainties and inconsistencies among and between partner agencies and organizations, and the physical and social

impediment of the border wall. Jason, who works for a federal agency in the US, mostly focused on research along the border pertaining to the Mexican wolf, stated,

> Our efforts in collaboration can be restricted and effected dependent on how the administration considers MX at the time, if they see them as a partner then there is no chilling effect, but certainly in the last administration, they did not see MX as a partner and instead as more of a threat, making it harder for us by restricting our resources and creating more obstacles. For example, when wanting to travel, instead of having to fill out three forms to travel internationally, we need to fill out five and all five have to go through a long process of getting approved, so they do little things like that to make it more difficult for us.

An informant who worked for a state agency on the US side gave an example of a time where Arizona was working with the state of Baja California in MX specific to conserving pronghorn populations. The state of Arizona passed senate bill 1070, pursuing more enforcement on immigration laws, around the same time partnerships were formed, making the partners in MX uncomfortable and in result stopping collaboration all together on the project. There was also another example from a different informant, Thomas, who has worked in both MX and the US stated,

> The rhetoric coming from the Trump administration made me and others of Mexican descent feel uncomfortable and awkward when collaborating with those from the US because even though we knew we were respected partners, we felt insecure and uncertain of where we stood professionally among our peers in the process, creating for an awkward collaborative environment at times.

These socio-political factors do not allow for establishment of partnerships to occur because they are unable to travel to meet fact-to-face, or the rhetoric surrounding the borderlands causes shifts in attitudes, or the inconsistencies in both administrations makes it hard to make a decision, etc. Without establishment, or an effective establishment of partnerships, wildlife projects are going to have a hard time building and being successful.

The three informants who believed socio-political stability is possible in times of political uncertainty agreed that agencies and organizations are equipped to adapt to

shifting conditions in ways that not only preserve, but actually foster and enhance transborder collaboration. For instance, these informants described instances in which creative ways were found to access the funding needed to sustain collaborations or traveling to certain sites that others could not to check up on the wildlife. Mike, an informant who works in both the US and MX said the following about how collaborations improved in response to recent political disruptions:

> What did happen was that a lot of the non-profit organizations and other groups realized the danger that [politics] was presenting and so they enhanced their cooperation, their binational cooperation, and as this was happening, we ended up reaching out even more than in the past with those non-profit organizations.

Socio-political factors have a big impact on transborder conservation, whether it be positive or negative, changes occur from these factors. Wildlife managers and collaborators must be resilient and persistent if wanting to succeed against these socio-political factors. If not resilient and adapting, then wildlife projects have no chance of growing.

Environmental Factor

Ten informants expressed concern over the fragility of the surrounding political environment, while the remaining five reported a sense of relative stability. Environmental fragility occurred from a fragile socio-political structure underlying US and MX relationships while economic fragility led to inefficiencies in, restrictions around, and in severe cases, the discontinuation of transborder wildlife projects. Mike, who works for an NGO, stated,

> What happens is that our programs do get cancelled and get stopped, like in the case of [our cooperation with a federal agency], some of its multilateral cooperation programs where shutting down and we could not count anymore on their support of some of the usual programs for cooperation because the border wall represented a symbol of some ideology and the politics that the government agencies that were responsible of conservation didn't want to go against that ideology.

The degree to which economic stability occurred depended in part on the types of agencies and organizations engaged in collaboration and the political importance of the targeted species. For example, the Mexican Gray Wolf or Jaguar had more political influence than the Mud Turtle or the Pronghorn, because of the controversy surrounding these species and the various stakeholders that are involved. In particular, those working in or with federal organizations faced more internal bureaucratic and political restrictions compared to those working in and across state agencies, educational organizations, and NGOs. Rico, expressed the frustrations of collaborating with federal agencies when saying

> Our partners in the federal agencies are unable to go because it's too dangerous and too much of a risk for them to go, and in my opinion, it's extremely political, and it impacts us negatively because it puts the burden back on [us] to provide all the technical expertise and resources to our partners in MX.

Along with these frustrations, loss of motivation was a huge factor creating environmental fragility. There were statements from multiple informants talking about loss in motivations and feeling hopeless when thinking about the future of the borderlands and wildlife among them. The continuous obstacles politics provides is discouraging and overall tiring. Sid, a researcher for a non-profit on the US side, "the hoops we have to jump through are so bad, it's like you don't even want to go out there and do it anymore." Another informant in an educational setting in both US and MX, stated "if [the administrations] are going to create more division, what is the motivation driving this research, it's another source of emotional drain and inefficiency." This loss of motivation or interest in any professional setting is always damaging, whether that be specific to the project, to the work environment as a whole, and/or influencing the mood of the collaborative relationships that are already formed.

The informants did describe some benefits that politics provides to wildlife projects, such as dedicating regions along the borderlands to conservation, passing

certain policies supporting certain projects, and/or supporting international funding, all of which fostered greater collaboration and economic and socio-political stability. Yet, these are not consistent events happening. The overall fact of wildlife projects getting stopped and motivations dwindling because of the attitude of the political climate at the time is a massive issue in the field of transborder conservation. It is seen that politics can provide for a positive climate surrounding transborder conservation, however, the negatives drown out those positive factors, and the positives are not certain or consistent.

Collective Action – Establishment

The capacity to establish meaningful partnerships are inconsistent, which the informants attribute to concerns over financial conditions, shifting political conditions and restrictions, and a general uneasiness surrounding the socio-political climate across the border region. Such inconsistencies and resulting concerns make initiating and sustaining transborder collaborations more difficult and uncertain. For those collaborations that are established, the type of organizations, such as federal vs. state organizations, and consistent financial availability are the driving factors for why and how transborder partnerships are established and maintained.

Collective Action – Persistence

It is noted in every interview that no matter the obstacles or restrictions, collaborations are occurring and wildlife projects are continuous. The informants consistently described the transborder collaborations they were (or had been) involved in as being both persistent and resilient regardless of the surrounding economic and socio-political climate. For example, one informant, Daniel, who conducts research primarily on the US side of the border, stated

> No matter what, because of who we are and what we do, we find ways to get around these things and make it work. Collaboration still occurs no matter what, we are resilient, we always make it work because science is really important, and I believe that's the general mentality in this field.

This persistence and resilience is leading to wildlife managers and collaborators to become more creative and innovative, creating conflict-resolution mechanisms. An example of this resilience was stated by Aidan, who works in an educational setting. He illustrated that when traveling was unavailable for both people on the US side as well as the MX side of the border, those working on the side that the project is being completed will go out of their way to help and check those sites, even if not originally on the project. He stated,

> Collaboration is even more important because you are unable to travel now physically, not only because of restrictions placed by the administration but because of the physical border wall, so now we really need to rely on each other in order to get the job done.

This persistence and resilience is necessary for beneficial conservation efforts to continue despite the inconsistencies brought on by the political climate. Without this, efforts to conserve would not be effective and morale would be low.

Collective Action – Diffusion

Inconsistencies in government policies and practices have stifled the effective diffusion of transborder collaboration in ways that enable the sustainable expansion of partnerships. The more restrictions imposed on agencies and organizations, the harder it is to reach out and connect with others in ways that encourage and diffuse transborder collaboration. Jesse, a conservationist who works for a transborder NGO was direct in his description of how political decisions surrounding the border wall affect US/MX collaboration. He stated,

> The obstacle is both very tangible and physical in the form of the border infrastructure known collectively as the border wall but it also has an effect on international relationships, the ease with which government agencies can

collaborate, the ease with which researchers can move from one place to another, all those things have been in some way or another affected for sure by certain policies.

This example of the physical border having an effect on multiple entities, including the creation of international relationships proves that more restrictions and policies hinder future relationships as well as current ones.

Discussion

Wildlife managers are confronted with a variety of economic and socio-political factors that make collaborative approaches to wildlife conservation challenging. The presence of an international border further complicates the conditions under which collaboration is to occur (McShane et al., 2011). Complicating factors, which are largely political in nature, include travel restrictions, the physical border wall, rhetoric from the administrations, funding/budget cuts, selfish motives behind decision-making, and typical rules and regulations required. An understanding of how the economic, socio-political, and environmental factors are impacted by politics, as well as the effectiveness of establishment, persistence, and diffusion despite the overarching influence can help wildlife manager's all over the world overcome obstacles and better communicate and collaborate across borders.

Politics have varying effects on the ways in which transborder collaboration occurs, though the degree to which these influence the outcomes of transborder wildlife projects are offset by the persistence and resiliency of wildlife managers, both individually and collectively. However, our findings illustrate such effects are not entirely counter-productive as it necessarily enhances the ingenuity, persistence, and resilience of those individuals and groups who are actively engaged in transborder wildlife conservation.

Reliance on the persistence and resiliency of wildlife managers is not optimal nor likely sustainable, especially given the continuous uncertainties associated with the political climates that are marked by administration-level shifts in the views and approaches to conservation (Mahajan et al., 2021). Though the amount of funding provided continues to be steady, the inconsistency of when it will be provided counteracts the assurance of having funding, which is also not optimal or sustainable.

The findings illustrate that a number of economic, socio-political, and environmental factors converge to make establishing and diffusing transborder relationships and sustained collaborations difficult. Yet, conservation efforts continue to persevere. I find that operating in an unstable political environment unintentionally fosters more innovative and resilient collaborative strategies. The success of wildlife managers working along these international borders depends on them learning to adapt and work around (rather than a dependency of and/or in opposition to) the political environment. In general, I find that while transborder collaboration in AZ/SO regions emerges and functions as an apolitical approach to wildlife conservation, individuals and groups must work strategically and resourcefully in order to minimize political interference to mostly background noise.

The persistence and resilience of transborder collaborations across the AZ/SO region that I have revealed here is consistent with principles of community-based conservation. Not only is there compatibility between the agencies and organization in both countries, but the wildlife managers shared similar valued and perspectives relative to the goals of conservation, physical geographical settings, the importance of remaining flexible, adaptable, and as autonomous as possible when it comes to surrounding political conditions, shifts, and uncertainties (Rogers, 2003; Wejnert, 2002). Moreover, there are clearly defined boundaries, monitoring, and conflict-

resolution mechanisms (Mahajan, 2021) that are put into place by these agencies and organizations to ensure wildlife projects continue towards a successful goal. Internationally, persistence is continuous when supported by community-based collaboration tactics, despite any negative influence from outside factors, such as politics (Mahajan et al., 2021).

One particular point of concern that warrants further attention is the indication that political rhetoric from either side of the border has the potential to erode the trust needed to engage and sustain transborder collaborations. Rhetorically-induced distrust, in combination with international travel restrictions, threatens the intimacy and long-term sustainability of transborder collaborations (Zhang, 2018). In short, without trust or confidence in each other's partnerships, collaborative relationships that are durable and impactful are less likely to occur, let alone persist and diffuse (Olson, 1965; Ostrom, 1990).

Diffusion does occur in certain instances, such as when relationships between partnering agencies and organizations have occurred in the past or in cases when funding sources are certain diffuse (Olson, 1965; Ostrom, 1990). Fortunately, the diffusion of transborder collaboration is not dependent on political support. With continual changes in administrations, policies, and the ongoing dispute over the erection of the border wall, political support for transborder wildlife collaboration across the AZ/SO region is unstable and unpredictable. Such conditions would otherwise hamper, if not altogether prevent the diffusion of transborder community conservation and collaboration in the region (Mahajan, 2021). If the political environment was stable, wildlife managers and transborder collaborators would not be required to spend their time being adaptable. Instead, they could focus on fostering and enhancing international relationships that are exclusively focused on the environmental, economic, and social

conditions and dynamics that affect transborder wildlife conservation. Stability is important for any transborder collaborative relationship to persist and diffuse efficently (Schruijer, 2020).

Lastly, agency-/organization-type can have varied influence over the nature and performance of transborder wildlife projects. It was found that federal agencies have the least amount of flexibility and adaptability, while state agencies, educational institutions, and NGOs have the most. Politics in MX were less involved in formal wildlife conservation than politics in the US. Regardless, all the agencies and organizations represented by the study informants are in various ways susceptible to disruption via national administration changes and policy shifts. On one hand, for instance, if traveling is important, then federal agencies are going to struggle the most, while NGOs may have an easier time persisting against that specific obstacle. On the other hand, if funding is important, then NGOs are going to struggle the most, while federal agencies may persist against that obstacle better.

Conclusion

Interference from nation administrations and associated political rhetoric can reduce the efficiency, durability, and overall impact of transborder collaboration on wildlife projects. Accordingly, wildlife projects that involve transborder collaboration rely heavily on the commitment and persistence of the agencies/organizations and individual managers within to both persist and perform. Politics do not allow for diffusion to occur at a consistent and efficient rate and this needs to be understood, realized, and improved so that collaborations and resulting impacts can be scaled. Face-to-face interactions create and strengthen underlying relationships (i.e., establishment), which in turn fosters greater diffusion of persistent, transborder collaborations within the AZ/SO region. Increased persistence and resiliency at the agency-/organization-

level leads to collaborative innovations. Yet, such persistency and resiliency is continually threatened by shifting political climates and rhetoric that risk undermining the motivations and optimism of wildlife managers.

Overall, I recommend giving more control to the managers/community through a creation of a natural protected area (an area along the border that is federally protected, allowing limited public access, and managed specifically to conserve and preserve the environment and wildlife) among the AZ-Sonora region. Along with that, the need to support more co-management, as well as agencies and organizations taking the time to use community-based conservation strategies to re-evaluate the way in which they collaborate can allow for successful transborder conservation and collaboration. Some of these strategies consist of creating a similar socio-political environment of trust, shared goals, and shared motivations. The political climates and administrations in both countries need to better understand the impacts they have and progress towards a more open and flexible approach to transborder collaboration. If that is not possible, then wildlife managers and collaborators must learn to further adapt to these ever-changing administrations and continue to be resilient against these differing governmental backgrounds. The insights generated in this study have the capacity to inform and enhance future collaboration between international countries who share a common border and must work together for wildlife conservation and management. Specifically, this study can inform administrations on their impacts and the ways in which they can positively support future international collaborations, whether it be wildlife related or not wildlife related.

Future research that builds on this study is needed given there are surprisingly few studies that address how national politics impacts community conservation and on transborder collaboration on wildlife projects. In particular, future research that explores

the political environments within different borderlands (e.g. Texas-/New Mexico-/California-MX border regions, US-Canada border) here would strengthen and expand the transferability of the insights I have generated through the current study. Lastly, future research that further explores in-greater depth the impact of each specific element of the political environment (e.g., rhetoric, border wall, travel restrictions) on transborder collaboration and wildlife conservation is warranted. Limitations of my study that arose are the inability to reach all agencies and organizations because of the simple fact that politics was involved as well as not everyone wanting to or was allowed to participate. Language barriers also made it hard to interact completely with informants in MX.

Much like the numerous species that transverse the Sonoran Desert, conservationist's working along the border have a need to cross these man-made borders to study, help, and protect the environment. These international collaboration efforts boil down to the effectiveness of the individuals to communicate, and the reactions of those same individuals to the socio-political and economic policies that differ with shifts in political agendas. Understanding some of the most immense forces (e.g., the wall, certain policies, travel restrictions) standing in the way of successful collaborative communication allows the opportunity for reshaping community-based collaboration creating for successful positive long-term wildlife efforts to develop.

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