Walls And Wilderness: Analyzing The Impacts Of Border Barriers On U.S. Government Lands Of The United States - Mexico Border

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WALLS AND WILDERNESS: ANALYZING THE IMPACTS OF BORDER BARRIERS ON U.S. GOVERNMENT LANDS OF THE UNITED STATES – MEXICO BORDER

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Master’s Program in Latin American & Border Studies

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Dedication

This is dedicated to United States Park Ranger Kris Eggle. Ranger Eggle was killed in the line of duty on August 9th, 2002 at Organ Pipe Cactus National Monument in Southern Arizona.
WALLS AND WILDERNESS: ANALYZING THE IMPACTS OF BORDER BARRIERS ON U.S. GOVERNMENT LANDS OF THE UNITED STATES – MEXICO BORDER

by

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THESIS

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Abstract

This paper seeks to describe the impacts of physical structures (fences, walls, barricades, etc.) on five selected areas of federally-protected U.S. lands along the U.S.-Mexico border that fall under the jurisdiction of the U.S. Department of the Interior. The five selected areas are: Santa Ana National Wildlife Refuge, Big Bend National Park, Organ Mountains – Desert Peaks National Monument, the Tohono O’odham Nation Reservation, and Organ Pipe Cactus National Monument. The research looks into the historical development of structures put in place on the U.S. – Mexico border, how they have become ever more ubiquitous in the region, and what the implications are to federally-protected lands. The research will use the key concepts of conservation biology as biopolitics, the iatrogenesis effect of the border walls themselves, and also the biophilia hypothesis to describe the impact border barricades have on the U.S.-Mexico border. Finally, this paper seeks to put forth policy recommendations to attempt to address the challenges associated with the region.
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Chapter 1: Background and Literature Review

Introduction

The United States-Mexico border is an area teeming with both shared and distinct cultures, histories, and ecosystems. This area has evolved from an unmarked and open region to one of the most militarized and demarcated border lines in the world. Before the official founding of the U.S. and Mexico, indigenous peoples and wildlife freely moved among the land. However, with the ever-increasing sense of nationalism and securitization of the United States, the federal government began to draw the line in the sand (Nevins, 2010).

Three landmark legal actions have drastically changed the border landscape. First, the Treaty of Guadalupe Hidalgo (and five years later the Gadsden Purchase) created the modern U.S.-Mexico border. Next, the Secure Fence Act of 2006 (paired with the Real ID Act of 2005) drastically increased the militarization and barricading of the border. Lastly, the Executive Order 13767 by President Trump, signed January 2017, has set the tone for the way the Trump Administration sees the future of militarization at the border.

Along the U.S.-Mexico border there are hundreds of parcels of federal lands. From National Parks to National Forests, and from Native American Reservations to Wildlife Refuges, these lands play integral roles in the environments, economies, and livelihoods of the communities in which they are located. This research will focus on a few key concepts through which to view the topic of the impacts of border barriers. First, conservation theory is an important aspect of the research that will be observed through the lens of biopolitics—initially coined by G.W. Harris in 1911. The research will also draw on the iatrogenesis effects—a concept explained by Weber and Pickering (2014, p. 200) about the border barricades themselves, and how their planned legal requirements could have both planned and unplanned
impacts. Lastly, the research will use Edward Wilson’s *biophilia hypothesis* to view public activism and organization along the border when it comes to the impacts on government lands.

The notion of border barriers via the construction of fences, barricades, and walls carries significant implications for regions of the United States and Mexico near and far. I will use the aforementioned topics as guides in my research by focusing on five areas of the U.S.-Mexico border and providing case studies on how current and future border barriers will impact the immediate border region, and the larger regions of the United States and Mexico. With the construction of additional walls and fences, these impacts are seen in the physical sense by iatrogenic policies, as well as the human feelings and perceptions associated with the biophilia hypothesis and biopolitics as a whole. These lands include: The Santa Ana National Wildlife Refuge, Big Bend National Park, Organ Mountains – Desert Peaks National Monument, the Tohono O’odham Nation Reservation, and the Organ Pipe Cactus National Monument. All of these government lands have their own unique issues facing them with the further militarization and wall construction along the U.S.-Mexico border. The selection of the five government land parcels—all organized under the U.S. Department of the Interior— is also purposeful in that they provide a unique perspective through which to view the impacts along the border. These issues range from environmental to economic and from questions of sovereignty and security.

The reasons to emphasize the impacts to government-controlled lands are two-fold. First, U.S. taxpayers are the owners of these public lands, and the Tohono O’odham people exert sovereignty over their reservation. The construction of border barricades isolates public land use, restricts natural flow of fauna, and diminishes the natural beauty of these lands. Additionally, this paper focuses on government lands, because in order to construct walls or fences, the federal government will not need to use the power of eminent domain for land capture in these areas.
Since these lands are government-owned, they can move significantly more quickly in the planning, construction, and execution of further border barricades. The analysis will focus on the conflicting uses and restrictions of managing federal lands as it relates to border fencing. While there does exist inter-Department tensions at various levels of the organization, these lands all fall under the jurisdiction and management of the U.S. Department of the Interior, and ultimately answer to the President via the appointed Secretary. These Department land parcels are more time sensitive, in that the public can anticipate seeing border barricades constructed more quickly in these areas as opposed to privately-held lands. A limitation of the analysis—by making the choice to focus on federal lands—is that the research does not gather information about the social-cultural impacts stemming from the government’s use of eminent domain, fragmenting private lands, and infringing upon citizens and landowners.

With the lessons learned from the selected land parcels and other research, this paper will then seek to discuss potential alternatives and mitigation strategies of the impacts of the border barriers. The U.S.-Mexico borderland is changing daily in a multitude of arenas. Endless connections and divisions are being created economically, culturally, and ecologically (Fernandez and Carson 2003, Grossman and Kreuger 1991, Harriss 2017). However, by furthering the border militarization this also further fragments existing pieces of land that exist along the border. The ripple effects from these government decisions will be felt for years to come in varying social, political, cultural, economic, and environmental manners.

**Literature Review**
Literature surrounding this topic is both historical and rapidly expanding. This research will pull from a plethora of data sources including economic, environmental, historical, legislative, and more. This review will focus on what is currently known about the impacts of the border fortification, the key issues surrounding the impacts border barricades, the contending views about these bioscapes, and lastly seek to identify gaps in the knowledge on this subject. It will progress beginning with general background information, then move to more modern and specific research on the issue of border barricades.

**Legislative History**

The United States – Mexico border has been continuously changed and marked since the inception of both states. Famously, the Rio Grande makes up the boundary of the international border between Mexico and Texas snaking from El Paso to the Gulf of Mexico. When Texas was added as a U.S. state, this river became the new international boundary. The remainder of the U.S. – Mexico border is made up of the boundaries between Mexico and three other U.S. states: New Mexico, Arizona, and California. The modern-day border lines were drawn following two agreements. First, the Treaty of Guadalupe Hidalgo ended the Mexican-American War in 1848. As part of this, Mexico ceded over 55% of its landmass to the United States in the Mexican Cession (National Archives 2017). Moreover, in 1854, Mexico agreed to sell portions of present-day Arizona and New Mexico to the United States for $10 million in what is called the Gadsden Purchase (Office of the Historian 2017). This purchase and agreement then finalized the international political boundary that exists today.

While the political boundaries have remained basically unchanged since the Gadsden Purchase in 1854, there have been many pieces of legislation that have made impacts to the
borderlands region. In terms of this research, there are two main clusters of legislation that need to be addressed. First, there is environmental legislation to consider. The first piece of legislation is the National Environmental Policy Act of 1969. This act established the mandate of environmental assessments and environmental impact studies to be performed when any government entity would be planning a project. Additionally, the Endangered Species Act of 1973 provided protection to various animal species from hunting, development, smuggling and more (Corn and Wyatt 2016). These Acts were some of the first, and most substantive, policies enacted by the U.S. federal government to protect and prioritize the environment.

The next subsection of relevant policies deals with homeland security. In the years before the 1970s public sentiment desiring further control of the Southern border was almost nonexistent. However, in the 1970s the public perception and official government communications regarding the Southern U.S. border became of more importance for a variety of reasons. From the mid-1970s to the early 1990s, political and ideological developments occurred that led to the enhanced fortification and security presence along the Southern border. From this growing public and governmental opinion on fortifying the U.S.-Mexico border, Operation Gatekeeper emerged. This sentiment hardly wavered between political party and presidential administration. In fact, each party seemed to try to outdo the other in terms of political action. Since the Ford administration, tensions became heightened, and ultimately the Carter administration erected fences along the border in the areas South of San Diego and El Paso in 1978 (Nevins 2010, 58). Through the Raegan and Bush administrations, their war on drugs policies played into this public sentiment. In 1992, Republican presidential candidate Pat Buchanan first called for a solid wall to run the entire length of the U.S.-Mexico border. Additionally, two U.S. Congressmen, Randy “Duke” Cunningham and Duncan Hunter introduced a bill to strengthen the government’s ability
to prevent private land owners along the border from blocking governmental construction of roads and fences. Overall, with Clinton assuming office in 1993, Operation Gatekeeper was a serious attempt to implement and enforce government control over the U.S.-Mexico border (Nevins 2010, 70). These policies enacted, the changing tide of public sentiment allowed the public and the government to shift from seeing the border as a transition zone, to the border being an active and protected demarcation of U.S. versus Mexico.

The Secure Fence Act of 2006 was the most far-reaching act in that it provided resources to cover the majority of the U.S.-Mexico border from California, Arizona, and New Mexico (H.R. 6061 2006). Most recently, President Trump’s Executive Order 16737 of 2017, directs the Department of Homeland Security to construct a border wall along the entirety of the Southern border of the United States (Trump 2017). Additionally, two acts have been enacted to give extra power to the Secretary of Homeland Security to waive responsibilities protected under other laws and provisions. The National Security and Federal Lands Protection Act of 2011 prohibit the Department of Interior and Department of Agriculture from prohibiting or restricting activities on land near the border in which the U.S. Customs and Border Protection operate (H.R.1505 2011). Moreover, the Real ID Act of 2005 has sections that allow unlimited waivers of a plethora of environmental laws under the auspices of homeland security. This Act provides the legal ability to waive all protections of other pieces of legislation already on the books such as the Endangered Species Act, the National Environmental Policy Act, the Clean Water act, and many more (H.R.418 2005). This gives unequal power to the Department of Homeland Security to act without considering many environmental policies that have been protected by law for decades. Laws that give power to supersede previous laws should be looked at with intense scrutiny. In the case of this combination of environmental and homeland security acts, various government
entities are prioritizing homeland security without showing any consideration for negative environmental and economic impacts caused by their policy decisions. Physical cases where the effects of these decisions can be seen are within public protected lands and wildlife populations along the U.S.-Mexico Border.

**Border Theory**

This research is inherently integral to border issues. As the United States continues to enact policies at the border, we will continually see the outcomes of these actions—being overall positive or negative. Borders are manifestations of territoriality, and according to Diener and Hagen, “Borders provide a means to assign things to particular spaces and regulate access into and/or out of specific areas” (Diener and Hagen 2012 p.6). Saskia Sassen states that borders are not merely territorial edges but complex institutions (Sassen 2008). When policymakers make policy in order to regulate this space, they must consider all reverberating outcomes of their decisions. Diener and Hagen continue later in their book to say, “Borders are integral to territorialization in their ability to symbolically perpetuate meaning and physically shape the motilities of human beings” (Diener and Hagen 2012 p. 59). Wendy Brown in her book, *Walled States, Waning Sovereignty*, discusses this phenomenon by stating that the United States and other countries ‘building walls’ to exert their sovereignty over people and space is a theater by which the government acts out its control in a highly publicized manner. These acts are physical manifestations of the rejection of globalism in attempts to exercise the sovereignty of the specific state—usually over another country, people, or group. Moreover, Brown argues that the fences and walls themselves are signs of weakness and failures for the state to enact power of the territory (Brown 2017). The act of territorializing a space based on state sovereignty does not just have domain over humans; the environment of the space is also territorialized.
Thomas Lunden furthered this notion when he wrote:

“Humankind for the first time is facing the knowledge of global environmental problems, problems that no national state or region can be sure to avoid the negative environmental consequences of, and where the action of a single nation state is not enough for avoiding a realization of these environmental problems” (Lunden 2004 p.38).

Although in the case of the U.S.-Mexico border, it is the United States that is enacting policies of border militarization. However, if both states work together to solve policy issues, negative impacts of border wall policies could be addressed in more productive ways. Juliet Fall (2011) argues that in the construction of political borders, policymakers should look beyond the binaries of nature vs. society. Political boundaries do not have to be a hindrance to the rational scientific reasoning of conservationism. However, political boundaries like the U.S.-Mexico border present a unique arena for political action and activism to thrive.

In, Violent Borders: Refugees and the Right to Move, Reece Jones details how certain borders have evolved over the years from figurative lines in the sand to highly militarized demarcations. Jones argues that, “The violence of borders today is emblematic of a broader system that seeks to preserve privilege and opportunity for some by restricting access to resources and movement to others” (Jones 2017, pg. 5). This holds true in the case of the U.S.-Mexico border for multiple reasons. First, one of the primary goals of border demarcation and militarization is to prevent the flow of the ‘other’ (in this case being non-US citizens) into the United States. However, this also prevents U.S. citizens and other visitors who want to access the protected resources of public lands along the border. Jones also gives parallel examples of the U.S.-Mexico border with the India-Pakistan and Israel-Palestine borders. By militarizing and
fortifying the borders, the governments have restricted the flows of people, animals, water, and agriculture to and from these countries. Jones states, “There is little doubt that the hardening of borders often has a direct negative impact on the environment in border areas” (Jones 2017, pg. 142). Jones alludes to the idea that the increasingly militarized nature of borders will only lead to more unforeseen problems in the future.

Kenneth Madsen has closely examined U.S. border walls. In “Robert Frost’s ambivalence: Borders and boundaries in poetic and political discourse, Madsen and Ruderman use Robert Frost’s famous poem “Mending Wall” as a framework through which to look at the current border debates. Overall, the authors state that the poem shows a broader ambivalence regarding borders. (Madsen and Ruderman 2016). The ambivalence permeates not only to individual thoughts, but also political and critical discourses. In terms of the U.S.-Mexico border, this can relate to a person’s deeply held political beliefs meaning one thing to the individual, but to another it can mean nothing whatsoever. Madsen echoes many salient points regarding the emotions of borders. He states, “Border barrier landscapes are manifestations of ‘human thoughts and feelings’ with such tangible expression further alienating interest groups from each other. A necessity to some, a tragedy to others” (Madsen 2011). The border barricades are symbols of political, social, and environmental thoughts and actions manifested in a line along the U.S.-Mexico border. Madsen continues by stating, “Border barriers provide insight into influences of divergent political perspectives in the United States” (Madsen 2011). The border is naturally a lightning rod for political discourse and from this political discourse rises political activism.

Juanita Sundberg brings the ideas of feminist political ecology to the fields of border security and militarization of borders. She brings a unique vision to the area of border studies, especially when it comes to the intersections of border security and federally protected lands.
She sums up this view by stating, “The border enforcement regime threatens not only humans, but other living beings in the U.S.-Mexico borderlands” (Sundberg, 2017). Throughout this column, she details the overall lack of understanding by U.S. Border Patrol and other law enforcement agencies as they relate to the various missions of Department of Interior (DOI) lands. One example is that of Operation Rio Grande. This Operation was started in 1997, and this was implemented after decades of environmental cooperation between the Department of Interior and local agencies in the region that created wildlife corridors in the region amassing almost 90,000 acres along 275 miles of the Rio Grande River. Sundberg stresses that governmental agencies have differing goals, and are not always aligned in their actions and outcomes. Moreover, she argues these agencies can suspend laws at the periphery of the nation’s territory. This movement in the early 2000s comes during a time of proliferation of global border walls. This indicates the states exerting their use of sovereign power over their own citizens, citizens of other countries, and of the nature that cannot possess citizenship.

On a similar note, a June 2004 report initiated after Operation Rio Grande from the U.S. General Accounting Office (GAO) titled, “Agencies Need to Better Coordinate Their Strategies and Operations on Federal Lands,” states that the situations regarding border security for immigration, drug smuggling, and weapons movement create problems for law enforcement officers, visitors, and employees, all while damaging fragile natural resources. This report recommended that the Secretaries of Homeland Security, the Interior, and Agriculture coordinate strategic and funding plans in regard to federal borderlands (GAO 04-590, 2004). Sundberg argues that not only do states as a whole exert power, but oftentimes the agencies within the state can seek to exert power over similar agencies. In the acts of a government exerting power of
people, objects, and space at a boundary, attention must be drawn to this boundary marking as a power technique to change the state and its relationships with citizens in and around the nation.

Val Plumwood incorporates nature as the fourth dimension in the feminist framework in addition to race, class, and gender. She states “The category of nature is a field of multiple exclusion and control, not only of non-humans, but of various groups of humans and aspects of human life (Plumwood 1993, pg 4). This notion can apply directly to erecting structures along the U.S.-Mexico border. When the federal government orders construction of border barricades, it is enacting control over the area. The control does not stop at the physical land itself, but extends to both human and non-human actors in the region. In terms of controlling aspects of human life, the federal government – by constructing border barricades on public lands—controls the right to access these lands freely. Plumwood also states, “Human relations to nature are not only ethical, but also political (Plumwood 1993 pg. 13). This is especially true along the U.S.-Mexico border as the issue of border barricade construction is highly politicized. Specifically in areas of public, governmental lands, like National Parks and Memorials, Wildlife Refuges, and Native American Reservations, politicians—and thus the federal government—enact decisions that exert control over nature in these areas. Bookchin also echoes this sentiment by stating, “All our notions of dominating nature stem from the very real domination of human by human…. As a historical statement [this] declares in no uncertain terms that the domination of human by human preceded the notion of dominating nature” (Bookchin 1989, pg. 44). The barricades along the U.S.-Mexico border are perfect symbols for this, as they primarily stem from human control over other humans. However, these potential unintended consequences can occur, echoing Weber & Pickering’s iatrogenesis effects, and show these actions as engaging political actions over nature as in biopolitics.
This subject is uniquely a border issue. It is the continuous demarcation of borders by use of fences, walls, and barriers that create consequences. The world is becoming ever more bordered. This can be politically, socially, physically, and any combination of these. As we see the continual increase in bordering in the world, there will be ripple effects in various capacities that will be felt for generations.

**Key Concepts**

Oftentimes, policies can be enacted with specific goals and viewpoints, but can overlook unintended outcomes. This concept of *iatrogenesis* is explained by Weber and Pickering (2014, p. 200) as, “interventions that purport to ameliorate harms instead produce new ones.” The policy enacted to act as a border protection, ends up creating a multitude of other problems like fencings certain areas and leaving the areas with the harshest environments and most difficult terrains unfenced to funnel would-be immigrants into a deadly situation. The case of building barricades on the Southern U.S. border is a prime example. The intended effect of a border wall is largely to stop illicit flows of people, drugs, and other goods into the United States. As the iatrogenesis effect of the wall of trying to prevent death (via narcotics, people, and other illicit movement), actually ends up creating death for people and animals trying to circumvent these barricades. Roughly three to four hundred people die annually in the United States from attempting to enter the country (Heyman 2011). Iatrogenesis demonstrates that the impacts of a border wall are far greater than its proposed dimensions.

The earliest recorded mention of the term ‘biopolitics’ is from G.W. Harris in 1911. In this, he describes biopolitics as the intersection of biology and politics, and he initially used this to describe the growing European sentiments of democracy and race (Harris 1911). However, this
term was popularized by Foucault (1979) and others, and today can be applied to the larger umbrella of the intersections of biology and politics. In the case of border barricades, biopolitics can refer to the governance over the well-being of biological individual beings at and around the border. By including the concept of biopower and considering human-nonhuman interrelations one can see that both preservationist and capitalistic logic can work together, instead of in competition with one another. (Biermann and Mansfield 2014). A policy approach might be to build border barricades to stem the flow of illegal goods and people across the border to protect economic initiatives within the United States. This stance of capitalist-driven logic has negative impacts for those who wish to increase conservationism in the borderlands area—knowingly or unknowingly. Overall, the idea of biopolitics points to the inherent need to effectively manage and regulate the natural world and its consequences.

I argue that the majority of Americans would not want to see federal lands divided by border barriers, as the above poll and many others show the strong public and political support for the protection of public lands. The idea of border barricades as a symbol of political action and power are compartmentalized separately from the impacts that segregating public lands can have on the same population. If the idea (held by many Americans) that some type of border barricade is necessary could be juxtaposed with the reality that erecting those barriers has divided and will continue to divide public lands, I believe many of those same Americans would think twice about their eagerness to move forward with increased construction. For example, the Secure Fence Act of 2006 garnered bipartisan support in both the Senate and House passing by 80-19 and 283-138 respectively (H.R. 6061 Actions Overview, 2006). Alternatively, this weighs public support for public lands against support for other political agendas. While both of these ideas are commonly held by many Americans, it is difficult to separate political actions with
intended and unintended consequences. Overall, this narrative detailing the biophilia hypothesis aligns directly with protecting these public lands, and a border fence or wall will have a direct impact on the ecology of the border region.

Edward Wilson’s *biophilia hypothesis* to connect the various themes of the protection of biodiversity and the ecology of the U.S.-Mexico border region. Edward Wilson defines his biophilia hypothesis as that human possess an innate tendency to seek connections with nature and other forms of life (Wilson 1984). Part of this hypothesis is that as the world becomes more modernized and militarized, humans tend to spend less and less time within nature. This leads to a stronger psychological tendency to reconnect with nature. The biophilia can manifest itself in various forms from the yearning to hike, hunt, camp, walk, or just be ‘one’ with nature. This natural tendency of humans to interact with nature goes hand in hand with conservationism. While a President’s approval rating may ebb and flow, American support for conservation and public lands is one of the overall highest percent of public support. In a 2016 Poll from Colorado College, over 71% of Americans believe that federal and state governments should prioritize protecting public lands, and 93% of all voters in the Western United States (including the areas along the border of Texas, New Mexico, Arizona, and California) have visited national parks, national forests, or other protected lands in the last year (Colorado College 2016). A quote from Aldo Leopold, an American author and environmentalist, states this idea simply as, “A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise.” The idea of the biophilia hypothesis fully supports protecting these public and federal lands for generations to come. By constructing walls along the border that section off areas of the public lands, impact animal movements, and create a physical mar on
the natural beauty of the protected areas, policies are in contention with the biophilia hypothesis and popular support for protecting federal lands.
Chapter 2: Department of the Interior Lands

Federal Lands

Along the U.S.-Mexico border there exists an immense amount of protected public lands which abut the border. These include (but are not limited to) National Parks, Native American reservations, Bureau of Land Management lands, National Forests, and National Wildlife Refuges. These lands are under a more forthcoming threat as the government is able to enact policies and implement structures significantly more quickly on lands which the government owns. If the land was owned by a private citizen, the government would have to use the power of eminent domain to obtain the land. This can often lead to lengthy court hearings that would ultimately and inevitably delay the construction of the border walls or fences and raise costs. Additionally, there exists a complex history of federal government interactions with Native American Nations—especially when it comes to land and Reservation allotment and management. The immediate threat is largely confined to government lands, as the various agencies involved would be able to move much more quickly in the arena of public lands.

Site Selections and Methodology

Five specific cases that have seen and will continue to see negative impacts of border barricades are: The Santa Ana National Wildlife Refuge and Big Bend National Park (both in Texas), Organ Mountains – Desert Peaks National Monument in New Mexico, the Tohono O’odham Reservation and Organ Pipe Cactus National Monument in Arizona. I have selected these five examples for a variety of specific reasons. First, they all fall under the umbrella of the United States Department of the Interior. However, they are managed by different organizations.
under the Department. National parks and national monuments are governed by the National Park Service. The wildlife refuges along the border and around the country are managed by the United States Fish and Wildlife Service. Lastly, the Tohono O’odham Nation Reservation is a self-governed and self-managed Reservation as administered via the Bureau of Indian Affairs. In addition to the various agencies, bureaus, and departments that manage these lands, they each present their own unique challenges when it comes to border fortification. There is not a ‘one size fits all’ solution that could work best to apply as a blanket policy. Each individual unit of land has unique challenges that must be addressed individually. From the swampy wetlands of the Santa Ana National Wildlife Refuge to the precipitous cliff faces of Big Bend National Park to the high desert in the Organ Pipe Cactus National Monument, each piece of land has its own challenges.

In the selection process, I attempted to draw from a variety of criteria for selection. I wanted a wide sampling of geographic areas, and I ultimately settled on sites in three of four of the U.S. states that share a border with Mexico. Additionally, I drew from a wide variety of Department of the Interior bureaus. The National Park Service, Bureau of Indian Affairs, and U.S. Fish and Wildlife Services are three of the largest and most well-known organizations in the Department. Next, I looked into cooperation between the selected lands and other agencies. These cooperative agreements can be between other DOI agencies, NGOs, Border Patrol, and more. Lastly, I selected five sites that are some of the most politically and socially contentious. The five that were selected all have some level of national and international name recognition, reach, and attention.

Other potential sites I identified in my preliminary research will be discussed below. I reviewed Bureau of Land Management lands, namely Imperial Sand Dunes in Southern
California, in order to include another prominent DOI bureau. Other potential candidates from the USFWS include the Buenos Aires National Wildlife Refuge, Cabeza Prieta National Wildlife Refuge, and The Laguna Acosta National Wildlife Refuge. These would all be great candidates for future study of federal protected lands along the U.S.-Mexico border. A limitation of the research is the purposeful exclusion of state-protected public lands along the U.S.-Mexico border, and there are dozens in Texas, New Mexico, Arizona, and California. By excluding state-protected lands, this research focuses on federal policy and its impact on federally protected areas. Some of these notable candidates include Big Bend Ranch State Park in Texas, San Rafael State Natural Area in Arizona, and Border Field State Park in California. In my research, I visited Imperial Sand Dunes, Cabeza Prieta NWR, Big Bend Ranch State Park, and Border Field State Park. Overall, I believe all of these protected lands are worthy candidates of further research in this field.

In performing the research on and in these protected areas, I reviewed a variety of source material from typical literature research to physically visiting all five areas. I visited all five sites various times from fall 2017 to fall 2018. The research began with reviewing histories of the protected areas, news stories, press releases, statistics of visitors, interviews, and more. After establishing a research focus for each of the areas (for example: wildlife study near Organ Mountains-Desert Peaks National Monument, discussed later), I physically visited each of the sites. The site at which I spent the most time is the Organ Mountains – Desert Peaks National monument; primarily due to proximity and research focus. Conversely, I spent the least amount of time on the Tohono O’odham Nation Reservation, and thus relied more heavily on secondary sources at these sites.
These parcels of land draw thousands of visitors each year to visit, and thus bring massive amounts of money to the local economies. These visitors are a huge boost to the local economies, and create a positive feedback loop by paying money to the U.S. Department of Interior and other businesses in the area, which in turn funnels those dollars back to increased conservation and public access. The biophilia hypothesis fully supports this notion that people want to be in nature. Moreover, as these are public lands, cutting off public access to lands preserved by public money creates strife and critique of U.S. public policy.

While the aforementioned cases are just a few of the hundreds parcels of government lands that run along the U.S.-Mexico border, the majority of the border in the states of California, Arizona, and New Mexico are government lands. In Texas, the majority of the lands that lie along the border are privately owned, but there are a number of federal lands, including the only National Park in the National Park Service that lies along the U.S.-Mexico border. Figure 2.1 below is an image from the United States Geological Survey showing the vast amounts of government lands within 100 miles of the U.S.-Mexico border. While the focus of this research is lands located directly along the U.S.-Mexico border, this image is important more a number of reasons. First, it shows the large concentration of federal lands in the area. Moreover, the Border Patrol via the Department of Homeland Security has the ability to patrol within 100 miles of the border. While the physical border barriers do not cross-cut all of these lands, DHS and CBP have authority to move the enforcement of the border inland, thus potentially impacting numerous other protected lands. Additionally, this Figure highlights the level of interconnectedness among the various federal agencies and their land jurisdiction in the area. This is important for cooperative efforts of inter and intra-agency departments. The highly interconnected nature of the border area creates a web of federally-protected lands. The focus of the research is on the
more immediate nature of wall construction along the border, but the issues discussed below will only grow inward and to other connected protected lands in the region close to the border.

Figure 2.1: Federal Lands within 100 Miles of the Southern Border.

Each of these government lands exhibits unique challenges to manage and operate in general. However, with the addition of border barricades these problems can be exacerbated. The following sections will detail how the individual parcels of federal lands have interacted with border barricades. The research will seek to shine a light on the unique challenges for each section of federal lands. Moreover, it will investigate fields of contention when it comes to federal lands and border barricades. The research will discuss cooperation among and between agencies and departments within the United States Department of the Interior, and additionally will look into collaborative and combative organizations in the region. The research will show how border barricades impact animal movements near Organ Mountains – Desert Peaks National
monument, and it will investigate how Mexican and American agencies work together at Big Bend National Park in firefighting efforts. Additionally, it will look at inter- and intra-agency efforts surrounding the adjoining parcels of land in Organ Pipe Cactus National Monument and the Tohono O’odham National Reservation. Finally, it will discuss environmental activism in the Santa Ana National Wildlife Refuge and measure the impact activism has on enacting policies in and around federal lands along the border. Pictures of the border at various points within these federal lands are also included to illustrate the border barricades in place, and to provide a backdrop for commentary.

Overall, there is a multitude of challenges involved with managing federal lands along the U.S.-Mexico Border. This research seeks to provide a case study on the selected five parcels of land along the border. The research highlights the marked differences in the challenges of each individual parcel of land.

**Santa Ana National Wildlife Refuge**

“Will they soar with Green Jay through swinging Spanish Moss?... Will they hear the wingbeats of butterfly floating? Will they hear before it’s too late? Ay Santa Ana.”

-Excerpt from “Ay Santa Ana” by: Krista Schlyer

The Santa Ana National Wildlife Refuge lies along the Rio Grande near the South Texas cities of McAllen and Brownsville. This 2,000+ acre refuge has been called the ‘Crown Jewel’ of wildlife refuges nationwide, and this designation was even displayed on informative signs located throughout the Refuge. The SANWR is part of the South Texas National Wildlife Refug...
Refuge Complex, which includes 20 National Wildlife Refuges including the Lagunas Atascosa and Lower Rio Grande Valley National Wildlife Refuges. Together, these three refuges protect more than 180,000 acres of one of the most biologically diverse areas in the United States (information obtained from NWR Signs). The National Wildlife Refuge system was established by President Theodore Roosevelt in 1903. This system was designed to help protect endangered and threatened species, and also provide people with places to connect with nature through activities through wildlife observation, hunting, fishing, photography, and a host of educational programs (information obtained from NWR Signs). The NWRs are administered by the U.S. Fish and Wildlife Services. Currently, it protects and manages over 500 national wildlife refuges including over 150 million acres of public lands.

The SANWR was established in 1943 to primarily protect migratory birds. In addition to bird species, over 450 plants, 45 mammal species, 22 varieties of fish, and 50 species of reptiles and amphibians call the SANWR home. The Rio Grande floodplain supports a wide variety of habitat types including sabal palms, dense thorn forests, dunes, mudflats, and coastal beaches. Greater than 50% off all bird species in the United States come to these South Texas NWRs to nest, rest, and feed. Due to the massive increase in commercial agriculture along the Lower Rio Grande Valley, over 95% of all original habitat has been cleared or altered (information obtained from NWR Signs). The SANWR provides a vital wildlife corridor in this area that includes the last remaining subtropical flood forest that once dominated the landscape in this area. Due to the fact that the Rio Grande makes up the actual international border, any proposed border barricades would have to be moved further inland, disrupting internal land of the United States. In the case of the SANWR, the border (by way of border fence construction) would move the physical demarcation of the international border onto Wildlife Refuge lands.
This area is at the heart of the debate about border securitization impacting wildlife, as the construction of Trump’s Wall could cut off the refuge from the entrance to the park. This area is home to protected ocelots, close to four hundred bird species, and over three hundred species of butterflies (Phillips 2009). In addition to physically cutting off the refuge for natural animal movement on or near the ground, the current and future walls could impact water flow in the park leading to extended flooding and massive death tolls to multiple animals, including the breeding ground for endangered ocelots. Trump’s Wall could combine with current levees to create a deathtrap for the refuge by trapping water between the river and the wall to flood the refuge and leave catastrophic species death (Jarvie and Bennett 2017). On the opposite end, the wall would also restrict water access to animals in the region. In addition to the negative animal impacts to the area, there could be significant economic impacts to the region. In a study by Texas A&M University, in 2001 the Refuge brings in over 165,000 visitors annually, and nature tourism brings in $463 million to the area (Woosman at al. 2011). If the border wall were to be someday built on the levees at the refuge, this would completely eliminate any visitor access to the refuge, effectively killing the cash flow from visitors to the area. The furthering of border barricades would be highly detrimental to the area of and surrounding the Santa Ana National Wildlife Refuge.

A highly coordinated group of environmental activists have been at work protecting the Santa Ana National Wildlife for decades. With the increasing pressure from political action, from the Secure Fence Act of 2006 to the Trump administration’s repeated calls to increase border barricades, activists have been in overdrive working diligently to influence communities and politicians to create a unified front to protect the Santa Ana National Wildlife Refuge and others in the area. One of the most active organizations in the area has been the Sierra Club with
their Borderlands Campaign. Scott Nicol serves as the Campaign’s co-chair. In an interview from October 2017, Nicol states, “I think that especially Sierra Club members along the border have been very interested in this for a long time. We see what is happening. We see the damage that’s being done. I think in more recent years, larger parts of the Sierra Club and other environmental organizations see this as well” (Nicol 2017). On January 27th, 2018, Nicol met with another group of environmental activists—Ben Masters and his crew for the documentary, “The River and the Wall”—at Santa Ana National Wildlife Refuge. These groups came together to amplify their messages in preparation for the Congressional spending bill of March 2018 was put up to a vote. They both expressed concerns that by erecting border barriers at SANWR would isolate over 90% of the protected lands of the Wildlife Refuge. The work being done by the Sierra Club and other environmental activist groups in the Rio Grande Valley has been tireless for decades, but they have finally seen some fruits of their labor.

As of early 2018, the Congressional Budget passed with current protections prohibiting the establishment of a border barricade on the National Wildlife Refuge’s land. The SANWR lies in the Rio Grande Valley sector of the U.S. Border Patrol. It has long been a hotly contested section of land. During the 2018 Congressional spending bill, Democrats and Republicans supported funding of additional border wall construction in the South Texas counties of Starr and Hidalgo. However, there were two main caveats introduced by that provided protections for constructing a border wall around the NWR and provided protections against introducing any new type of fence/wall/barrier construction. According to Section 230 of H.R. 1625, “The amounts designated … shall only be available for operationally effective designs deployed as of the date of the Consolidated Appropriations Act, 2017, (Public Law 115–31), such as currently deployed steel bollard designs.” This protects any implementation of new border wall designs,
including full concrete walls. Moreover, the Section 230 addition states simply, “None of the funds provided in this or any other Act shall be obligated for construction of a border barrier in the Santa Ana National Wildlife Refuge” (H.R. 1625, 2018).

While this small victory gives activists and SANWR visitors hope for now, this does not provide indefinite protections for the NWR. In addition, there are a number of other federal and state protected areas that the previous spending bill did not protect, and will be subject to border fence construction in Hidalgo and Starr counties. In a recent push to ensure protections for SANWR and additional protected federal lands in the area, a group letter was drafted and submitted to the Trump administration via the Border Patrol and Secretary of Homeland Security Kirstjen Nielsen on August 3rd, 2018. Signees of this letter include the Sierra Club, Center for Biological Diversity, ACLU Border Rights Center, North American Butterfly Association, Texas Border Coalition, and many more. In the letter, they provide a unified front in opposition to further border barricade construction. The letter demands CBP to review and respond to a number of questions and concerns, including the agency’s potential non-compliance with the National Environmental Policy Act. The multitude of environmental activists and activist groups in the area is creating a constant presence in the area, and thus is putting constant pressure on legislators to take their concerns into consideration. I consider that the work of the various groups of environmental activists ultimately was the reason that protections were introduced into H.R. 1625. The Santa Ana National Wildlife Refuge was a lightning rod for local and national attention in recent years, and I believe it will continue to be a symbol for environmental struggle, especially in the Rio Grande Valley, for decades to come.

During my time at the NWR, I observed visitors, employees, and volunteers at the NWR’s headquarters and office. I hiked the Pintail Lake Trail and the Cattail Lake Trails,
traversing the natural river clay surface from the visitor center to the Rio Grande and back. I saw dozens of different species of bids, lizards, mammals, and especially butterflies. In the following section, I will include photographs I took in the Wildlife Refuge, and explain what the photographs entail.

Figure 2.2: Looking into Mexico from the Banks of the Rio Grande River.
Figure 2.3: View of Santa Ana National Wildlife Refuge from Observation Tower.

Figure 2.4: Levee Walls in Santa Ana National Wildlife Refuge.
Figure 2.2 gives a view from the Refuge on the banks of the Rio Grande River looking across into Mexico. During my research at this site, I viewed two Border Patrol boats in a span of about 25 minutes here. As it currently stands, there are no barricades located at this spot in the Wildlife Refuge. Figure 2.3 shows how dense and lush the protected habitat is in this area. The dense forest provides the perfect habitat for the hundreds of species that are protected by the Santa Ana National Wildlife Refuge. The observation tower allows researchers and other visitors a bird’s eye view of the Refuge. Lastly, Figure 2.4 show the current levee walls constructed in the Refuge. This photo was taken roughly 100 feet from the SANWR’s visitor center. Before the Congressional budget law passed protecting the Refuge from barrier construction, the original plan was to erect the border barrier atop the levee walls. If the wall was ever constructed, this would effectively isolate the vast majority of the Refuge from outside visitors, but even worse it would create a barrier trapping all terrestrial animals between the River and the wall when the River inevitably floods.

One potential repercussion of creating border barricades in surrounding areas of Hidalgo and Starr counties but not specifically in the Santa Ana National Wildlife Refuge is the potential for a funneling effect. Kenneth Madsen discusses the funnel effect by describing that when other areas of the border become increasingly militarized and fortified, this can leave un-barricaded areas exposed to an increase of movement. This could make the SANWR a potential funneling point for immigrants and smugglers. This can be described as an iatrogenic consequence of banning border barricades at SANWR. One view is that in an attempt to protect the SANWR, legislators unintentionally create another issue in that we could see a potential scenario for the funneling effect. However, others argue that this is exactly the point of allowing certain areas of the border without barriers. In purposefully allowing the SANWR to be without barricades, this
creates an opportunity for legislators to be potentially asked in the future by SANWR and environmental activists to protect the area if the funnel effect brings in illegal border crossing.

The Crown Jewel of the National Wildlife Refuge System has come under intense scrutiny when it comes to the intersection of border barricades and public lands. This Wildlife Refuge has been ground zero for a wave of environmental activism clashing with legislative challenges. While the work of the environmental activist and advocacy groups has claimed a small victory in currently protecting the Santa Ana National Wildlife Refuge, the fight is far from finished in the Rio Grande Valley.

**Big Bend National Park**

“Big Bend is a land of strong beauty – often savage and always imposing.”

-Lon Garrison

Another area of prized public land in Texas is Big Bend National Park. Big Bend National Park is the only National Park located along the U.S.-Mexico Border. This National Park is located in the Southwest of Texas and hugs the Rio Grande River, and thus shares a long border with Mexico. Some of the most popular activities that bring people to the park are hiking, camping, and water sports like rafting. These activities rely on the natural geography of the area and use the Rio Grande River for much of their visit or visits. Hundreds of species call this National Park home as a protected land from hunting and other activities.

Currently, man-made border barriers do not have much an impact on the National Park. However, under President Trump’s Executive Order #13767 “Border Security and Immigration Enforcement Improvements” detailing the Department of Homeland Security to build a wall on
the Southern border, a large portion of the park, including the river, could be blocked off from access. Not only does this restrict natural movement of species in the park, but it detracts from the ability of visitors to enjoy the full range of the public land. One of the largest tourist draws to BBNP is water activities. Rafting tours frequent the river from nearby towns of Terlingua and Alpine. Additionally, one of the Park’s most iconic hikes is the Santa Elena Canyon (pictured below in Figure 2.5) hike located along the river, where hikers must cross a tributary of the river to gain trail access. The Rio Grande River is the life-force of the National Park. In addition to human visitors, the river is one of the very few sources of water in this area. The park’s terrain can change from dry and dusty desert scrub to lush vegetation along the river banks. In a study by Park Ranger Jurado in 2017, Big Bend National Park brings in over 385,000 annual visitors who collectively spend $34.2 million annually in the surrounding community (Jurado 2017). Due to the sheer size of Texas and relative isolation of this National Park, Big Bend National Park and the surrounding communities rely on this economic activity to sustain themselves. Building a wall through Big Bend National Park would greatly detract from animal movement, public access, and tourism spending in the region.
Figure 2.5: Santa Elena Canyon in Big Bend National Park.

Figure 2.6: Cliffs to the East of Santa Elena Canyon with Rio Grande River in Forefront.
In addition to the numerous tour guide services that interact with National Park Service employees, Big Bend National Park employees cooperate with numerous other agencies in the area. The Border Patrol actively operates in the park, and the sector of Border Patrol control in the area is actually named Big Bend after the National Park. NPS employees have a working relationship with the CBP officers operating in the area. Due to the natural geography and geology of the area, Big Bend National Park is not a common place to find illegal border crossing. The National Park is very isolated from settlements on the Mexico side of the border, with the exception of the small village of Boquillas del Carmen in the Mexican state of Coahuila. With the harsh and isolated geography of Big Bend come specific challenges. One of those challenges that is amplified by the isolation of the Park is fire control.

In addition to inter-agency cooperation, the NPS employees also work with various other groups in the United States and in Mexico. One of these groups is an international firefighting group called Los Diablos Firefighting Crew. This cooperation began in the early 1990s to create a group of international firefighters to cover the large area of BBNP. These approximately thirty Mexican citizens work together with National Park Service employees and individuals from various participating organizations like the World Wildlife Fund, U.S. Bureau of Land Management, Texas A&M Forest Service, and even the Mexican National Commission of Natural Protected Areas (Fernandez 2016). This group not only extinguishes raging fires, but also operates controlled burns to eradicate an invasive species of cane along the river banks. By using controlled burns to remove this invasive plant species, Los Diablos not only decrease the potential future fire risk, but they protect habitats and reduce the risk of river flooding due to congested channels of cane debris.
This international group coming together with a singular goal exemplifies what a positive working relationship between the United States and Mexico can be like on the border. In this international partnership, over 30 men from Mexico have been able to work hand-in-hand with their American counterparts to manage wildland fires in Big Bend National Park (Los Diablos Fire Crew 2018). In addition to just the physical joining to tackle a shared problem, the partnership has extended to Secretary-level permissions in the United States. These Mexican workers are paid by the United States stating at $17 U.S. dollars per hour. They have been granted social security cards and their money is deposited into U.S. banks. Former Secretary of the Interior, Secretary Sally Jewell renewed the international commitment to protect these federal lands by Los Diablos. She stated, “We have a 2,000-mile border between the United States and Mexico. Wildland fire knows no borders. Working on these landscapes together is a way we can build a bond between our two countries” (Oldershausen 2017). Los Diablos Fire Crew should be a model on cross-border U.S.-Mexico cooperation on public lands. When establishing similar international cross-border partnerships regarding public lands, other federal government agencies need to look to Big Bend National Park as the example. In the face of such go-it-alone isolationism that border barrier construction represents, this example of international cooperation juxtaposes sharply for Los Diablos Fire Crew in Big Bend National Park.

**Organ Mountains – Desert Peaks National Monument**

“Sun, not yet risen above the Organ Mountains, splashes wisps of pink, horizon to horizon, across dawn’s blue-gray dome.”

-Chuck Harper
The Organ Mountains – Desert Peaks National Monument is a unique case as the majority of the protected area does not directly abut the border. On May 21, 2014, President Obama issued Proclamation 9131 – Establishment of the Organ Mountains- Desert Peaks National Monument in near the city of Las Cruces, New Mexico. Obama states, “The protection of the Organ Mountains-Desert Peaks area will preserve its cultural, prehistoric, and historic legacy and maintain its diverse array of natural and scientific resources, ensuring that the prehistoric, historic, and scientific values of this area remain for the benefit of all Americans” (Obama 2014). This protected land is one of the newest additions to the Department of Interior’s protected lands. This Proclamation combined several units of federally protected lands from various entities, mainly the Bureau of Land Management, to further protect the area under the Antiquities Act. This area is home to dozens of indigenous artifacts, a multitude of plant and animal species, and many geological wonders. One of the mountain units, The Potrillo Mountains, is located just a few miles from the border. Overall, the amount of visitors to the Monument has risen dramatically since its National Monument designation from 67,378 in 2014 up to 170,451 in 2016. This translates to the monument generating between $8.2 million to $33.8 million in economic impact to the area (Gibbs 2017). Overall, this fairly young National Monument is greatly contributing to the protection of resources, artifacts while simultaneously drawing in economic benefits to the area.

In an attempt to further control the border in relation to public lands, President Trump signed Executive Order #13792 on April 26, 2017 instructing Department of the Interior Secretary Ryan Zinke to review several protected areas created under Presidents Obama, George W. Bush, and Clinton. One of these protected areas included the Organ Mountains – Desert Peaks National Monument (OMDPNM) in New Mexico. The Executive Order instructed
Secretary Zinke to review all protected lands created under the authority vested by the Antiquities Act. This act allows for protecting public lands with historical, archaeological, geologic, or other significance. In Secretary Zinke’s review of OMDPNM and other designated lands, he was tasked with determining the relevancy of the Monument to be protected, and also the scope of the protections. This charge was meant to determine size and scope of protected areas, in an attempt to reduce the federal management of these lands. Secretary Zinke was supposed to conduct open forums in the style of town halls to seek community impact. However, I personally tried to contact his office multiple times regarding opportunities to discuss this and found that all community outreach events were invite-only. This severely limited the scope of opinions submitted to the Secretary and the Department of the Interior by the public. It limited the opinions discussed only to local ranchers and excluded the voices of community members who use the space for recreation, environmental groups who seek further protections in the Monument, and other groups seeking historical preservation of archaeological treasures located in the Monument.

Secretary Zinke released a publication of his findings in response to the Presidential Executive Order and his visits to the monuments, and detailed this in a DOI press release on April 24th, 2017 (U.S. Department of the Interior). In this, he states that the scope of protections afforded to the national monument interferes with Border Patrol activities in the area—namely the prohibition of the use of off-road vehicles in certain areas of the National Monument. One of the protected areas of the OMDPNM includes the Potrillo Mountain Complex. This area is an area of historical volcanic activity with an abundant amount of surface-exposed geological features unique to this complex. Various types of volcanic and other igneous rocks are strewn about in lava flows and rock fields in the area. In the Secretary’s report, the protections of a
National Monument designation restrict Border Patrol motorized vehicle access along the border. However, I found this not to be the case. I observed over ten Border Patrol motorized vehicles during just one of my observations at the Potrillo Mountain Complex. Moreover, my 2WD Ford Escape easily traversed the county roads present in the area to observe the various lava fields.

While this area is already delineated by a series of vehicle barrier fencing (see Figure 2.7 below), in March 2018 the Department of Homeland Security announced it would be moving forward with extending the 18-foot-tall pedestrian fencing westward near Santa Teresa, New Mexico. At the location of the new proposed pedestrian fencing near Santa Teresa, there existed the vehicle barrier fencing. This new addition of pedestrian fencing does not directly impact the OMDPNM. In addition to the geological and historical beauty preserved in the OMDPNM, there is an abundance of flora and fauna in the area. In working with the Southwest Environmental Center (SWEC), I participated in a game camera study of the OMDPNM area near Santa Teresa, New Mexico. Chuy Mendoza is the Wildlife Camera Project Assistant for SWEC, and SWEC decided to conduct a study of baseline wildlife activity in the area before the construction and installation of the pedestrian fencing and after the fencing was installed. This study would allow us to observe wildlife activity before, during, and after the construction of pedestrian fencing in order to observe the effect of the fencing and construction on the wildlife population. In the baseline study before the fencing construction commenced, game cameras were placed at various locations along the proposed new construction in June and July. We observed a large variety of species captured by the game cameras including: mountain lions, gray foxes, deer, coyotes, bobcats, badgers, and numerous species of birds, bats, rabbits, rodents, toads, and invertebrates. The study provided physical proof that there is high wildlife movement in the area. We left the game cameras in the same areas after the 18-ft-tall pedestrian fencing was constructed and
installed. After the fence was erected, we observed a decrease in wildlife activity in the area. This resulted in significantly less wildlife movement and presence in the affected area. The study continued through October 2018, and additional photographs and videos of the study can be found at WildMesquite.org. or on Facebook at


Figure 2.7: Border Barrier Construction Material near Potrillo Mountain Complex.
Figure 2.8: Border Fencing South of Organ Mountains – Desert Peaks National Monument.

Figure 2.9: Potrillo Mountain Complex with Volcanic Rock Fields
This wildlife camera study performed in the area of increasing border fencing is an example of the contentious views held by many in this area. The points of contention demonstrated simply by creating the idea of this study seek to question the impact that these border barriers have on animal movements in the area. By simply conducting the study and sharing the results publicly, this manifestation environmental activism is supported by the biophilia hypothesis. Moreover, the study seeks to bring the idea of biopolitics to the forefront of conversation in the fields of conservation biology and policy implementation. The Southwest Environmental Center sought to develop a conversation regarding this issue by implementing the study. The study additionally highlights some of the iatrogenic consequences of the border barrier policies. This study explicitly demonstrates that policy can have alternative consequences associated with the physical implementation of policy. As President Trump pushes for increased funding for creating fencing along the Southern border, a prime candidate for increased fencing is this area in question between Santa Teresa and the Potrillo Mountain Complex. By instructing DHS to continue the wall-building westward in this area, Trump is able to not only increase the amount and extent of the border fencing, but also work to fence off areas near the Organ
Mountains – Desert Peaks National Monument as suggested by Secretary Zinke. The Southwest Environmental Center’s study is a prime example of the contending views associated with barriers along the U.S.-Mexico border.

**Tohono O’odham Reservation**

“She could see herself standing on the earth's surface. Her thick, wide feet solidly planted, toes digging in. Her visualization so strong she almost feels her body arch against the centrifugal force of the rotation. She sees herself with her long hair floating, floating in the atmosphere of stardust.”

-From “Riding the Earth” by Ofelia Zepada, Member of the Tohono O’odham Nation

The Tohono O’odham Nation reservation is located along the U.S.-Mexico border in Southern Arizona. The Nation governs four pieces of land amassing to over 2.8 million acres. Moreover, their lands contain 74 miles of the U.S.-Mexico border. The tribe has approximately 28,000 enrolled members, and the tribe governs the second largest land holding by an indigenous nation in the United States (Mizutani 2013). This self-governance is overseen by the Bureau of Indian Affairs, a subsection of the U.S. Department of the Interior. In legislative resolutions and official press releases from the Tohono O’odham Nation, the Nation continuously opposes a fortified border wall. The press release (Tohono O’odham 2017) states,
The current international border was drawn through the Nation’s traditional lands in Arizona and Sonora, Mexico, which the Tohono O’odham have inhabited since time immemorial. Today, the Nation’s reservation includes 75 miles of the US-Mexico border, with tribal members residing on both sides of the border...The proposed wall would further split the Nation in half and have dramatic cultural and environmental impacts.

The Nation has continued to support local law enforcement and Border Patrol activity in the area. However, as they exert their sovereignty over their lands, the construction of a large-scale wall without their express consent would be a direct violation of their sovereignty.

Like stated in the official Tohono O’odham release above, the range of the Tohono O’odham Nation originally extended into what is present-day Mexico. Currently, many member of the Nation still reside in Mexico. After the United States and Mexico decided the present-day borders, the Nation was split straddling the border. Tohono O’odham Nation members are able to cross the U.S.-Mexico border without a government-issued passport, by using their tribal identification cards. In 2009, the U.S. Department of Homeland Security entered into agreements with the Tohono O’odham Nation and three other Native American groups to allow the tribal IDs to be compliant under the rules of the Western Hemisphere Travel Initiative (Lipowicz 2009). While this is also a small victory for the tribe’s sovereignty, the Nation is pushing forward and continuing to work together with various U.S. federal agencies and departments on collaborative projects.

The Nation has a good working relationship with the Border Patrol and other federal and state agencies. However, the Nation has a right to its sovereignty and has opposed the construction of border barriers to be constructed along their traditional lands and current
Reservation. The Tohono O’odham Nation has always exerted its sovereignty and made clear their stance to federal government actions. However, during the 2016 U.S. Presidential campaign, and following the inauguration of President Trump, the Nation has become even more vocal in opposing a physical border wall be constructed. In January 2018, the Tohono O’odham Nation passed Resolution No. 18-032 in its Legislative Council. This resolution, titled “Resolution of the Tohono O’odham Legislative Council Opposing Federal Legislation that Promotes Construction of a Border Wall, Waives Laws, and Undermines Tribal Jurisdiction,” paints a clear picture stating that the Nation strongly opposes any border wall construction on Reservation lands. Any continuation of construction would be an overreach of federal power and a direct violation of the Nation’s sovereignty.

The Nation also works with other sections of the Department of Interior agencies. The Nation’s reservation borders the Organ Pipe Cactus National Monument to the West of the reservation. The Nation’s government works hand-in-hand with the leadership of the National Monument on conservation and security issues. One such agreement is in regards to the Sonoran Pronghorn. The Nation has constructed wildlife crossings along Highway 86 in order to facilitate ease of movement by the local wildlife population. In Figure 2.11, one such wildlife crossing is displayed. These wildlife crossing areas consist of mounds of earth raised to the nearby fence height to allow animals, like the threatened Sonoran Pronghorn to cross safely. This is an example of an interior border of the fence along the highway, and how the Nation has worked with other groups to preserve and protect the wildlife on the Nation’s Reservation. In this specific case, the wildlife crossings are designed to help funnel wildlife away from the dangers of the highway. However, I give an example in Chapter 3 of a type of crossing that could work on the U.S.-Mexico border.
The Constitution of the Tohono O’odham Nation spells out the sovereign rights afforded to the Nation. The Nation’s most recent constitution was ratified in 1986, replacing the existing constitution from 1937. In this, the Nation begins Article I with jurisdiction. The constitution states in Section 1, “The sovereign powers, authority, and justidiction of the Tohono O’odham Nation and of its government shall extend to all lands within boundaries of the Tohono O’odham Nation established by Executive Orders: December 12, 1882.” It continues in Section 2 stating, “The sovereign powers, authority, and jurisdiction of the Tohono O’odham Nation and its government shall extend to all persons and activities carried on within the boundaries of the Tohono O’odham.” This reaffirms their sovereignty over territory and their right to have a direct say regarding what happens on their land. The Tohono O’odham have been and continue to be instrumental in assisting Border Patrol, National Park Service, and the U.S. Fish and Wildlife
Service on collaborative efforts for good in and around the reservation. In addition to the normal
descriptions of branches of government and rights wherein, the Nation also has an article titled
“Environmental Policy.” This Article XVIII of the Nation’s constitution delivers legal structure
and a framework for the Nation’s views on the environment. Article XVIII states,

It shall be the policy of the Tohono O’odham Nation to encourage productive and
enjoyable harmony between members of the Nation and their environment; to promote
efforts which will preserve and protect the natural and cultural environment of the
Tohono O’odham Nation, including its lands, air, water, flora, and fauna, its ecological
systems, and natural resources…and to create and maintain conditions under which
members of the Nation and nature can exist in productive harmony (Tohono O’odham
Constitution 1986).

The ideas enshrined in the Nation’s constitution fully support the biophilia hypothesis, and give
an even stronger reason for the Nation to oppose federal intervention by erecting border
barricades. Conversely, the biophilia hypothesis also supports the notion that the Tohono
O’odham do not want to have their land littered with trash associated with the movement of
cross-border violators. The Tohono O’odham work closely with Border Patrol and other agencies
to diminish the effects on their lands.

The quote at the beginning of this section by Tohono O’odham Nation member Ofelia
Zapada further echoes the sense of connection between the Tohono O’odham Nation members
and the land.. This is a shared sense throughout all members, and is supported by the ratification
of the constitution. The Tohono O’odham Nation, along with the rest of the Native American
Nations in the United States, have been engaged in a constant struggle with the federal
government since their initial interactions. The Tohono O’odham are a resilient people, who will tirelessly work to ensure their sovereignty and protect their reservation.

**Organ Pipe Cactus National Monument**

“We take our desert seriously in Arizona. We’re the only state with a national park and a national monument dedicated to protecting cactus.”

-Roger Naylor

The Organ Pipe Cactus National Monument lies along the U.S.-Mexico border in Southern Arizona. This national park service monument adjoins the Tohono O’odham Reservation, and lies directly west along the border. The Cabeza Prieta National Wildlife Refuge also borders this monument. This area lies within a UNESCO biosphere reserve in the Sonoran Desert. This biosphere reserve is home to some highly endangered animals like the Sonoran pronghorn and Sonoran desert tortoise. Moreover, this protected area houses 95% of all organ pipe cactus in the world (Johnson 2003).

There is some controversy surrounding this park and its history, as Park Ranger Kris Eggle was shot and killed in 2002 by a suspected cartel squad. Following this incident, areas of the park shut down completely, and it was not until 2014 when all 517 square miles of the park were reopened (Peterson 2014). However, this park attracts many visitors to this otherwise remote corner of the state. In 2017, 260,534 individual recreational users were reported to have used the park in some capacity (NPS Stats 2018). Moreover, the entirety of the OPCNM has some type of border barriers. This includes 5.3 miles of pedestrian fencing in areas of legal border checkpoints and an additional roughly 30 miles of vehicle barrier fencing. With the
combination of high amounts of visitors and the monument’s mission to protect this threatened biosphere, the Organ Pipe Cactus National Monument is a critical nexus in the fields of border protection, conservation, and public land use.

Despite the occasional claim to the contrary by politicians, the OPCNM works frequently with other agencies in the area. In an interview with Ranger Rijk Morawe, who currently is the Chief of Resources Management for Organ Pipe Cactus National Monument, the interconnectedness and collaboration between agencies was expressed. In addition to the Border Patrol and the Tohono O’odham, the OPCNM has worked with the Cabeza Prieta National Wildlife Refuges, and even with Mexican officials in El Pinacate y Gran Desierto de Altar Biosphere Reserve on cooperative projects. First, the OPCNM works with the Tohono O’odham reservation in multiple ways. The NPS employees work to attend tribal meetings and continue to foster the good and cooperative working relationship. In addition to working with the Tohono O’odham on environmental and wildlife protection plans, the NPS employees liaise with their counterparts at Cabeza Prieta National Wildlife Refuge and El Pinacate y Gran Desierto de Altar Biosphere Reserve in Mexico to further develop projects for wildlife rehabilitation and environmental protection. These agencies work together on a number of projects, but two of the most noteworthy include the Sonoran Pronghorn and the Sonoran Desert Tortoise rehabilitation programs. In the pronghorn project, the animals were tagged with transmitters to show movement via GPS location. The organizers of the project recently tracked a male and a female Sonoran pronghorn go from the National Monument / Wildlife Refuge lands crossing into the protected land in Mexico, and returning to the United States (Morawe 2018). This shows the cross-border movement of the animals is regularly occurring, and is healthy for populations to be able to make movements in order to contact other members of the species.
In order to formalize the working relationships operating in and around the National Monument, the U.S. Departments of the Interior, Homeland Security, and Agriculture signed a memorandum of understanding, or an MOU, in 2006. This document highlighted how the three federal departments would work together on projects moving forward in the future. While this MOU was nation-wide in scope, it is particularly important to the Organ Pipe Cactus National Monument and its surrounding federal lands. The MOU focused mainly on how U.S. Customs and Border Protection (CBP) interacts at various levels with all organizations, as the MOU is titled “Cooperative National Security and Counterterrorism Efforts on Federal Lands along the United State’ Border.” This MOU focused on efforts to police and curtail cross-border violators (CBVs). While the focus is on security aspects, the MOU details the need for environmental law, regulation, and policy. This is an important aspect of the MOU, and it needs to be understood on the same level as that of homeland security.

Figure 2.12: Vehicle Barrier Fencing in OPCNM
The Organ Pipe Cactus National Monument is a highly important parcel of federal public lands that must continue to be protected. Due to its complicated history with the death of Ranger Eggle, this National Monument is often the target of the Trump Administration and the policies put forth to increase border militarization. Secretary Zinke visited the Monument in 2018, and during his visit he echoed he was, “There to support the administration.” The OPCNM is a crucial biosphere reserve and protects one of the four Great North American Desert habitats. The work of the National Park Service employees at the National Monument is really exemplary of how inter and intra-agency task forces should be organized. With the 2006 MOU and additional project collaboration, the agencies have been to successfully protect the area, while
simultaneously re-opening hundreds of square miles of public lands. Conversely, if additional border fencing is constructed, this could negatively impact the ability for many of the partnership programs to be successful. For example, if the remaining roughly 30 miles of vehicle barrier fencing is converted to 18-feet-tall pedestrian fencing, this would completely eliminate the ability of the Sonoran Pronghorn and Sonoran Desert Tortise to move freely across the border. These endangered species would be directly impacted, and the results of the many years of cooperative work between the NPS, USFWS, and the Tohono O’odham in this area would be erased.

At the same time of increasing safety in the area, the agencies and employees are seeing swelling visitor numbers to this remote Arizona location. With the combination of increased visibility and increased safety, this National Monument will be able to continue its important work to protect the area for years to come. In addition to the growth seen at this National Monument, there is immense opportunity for further collaboration with counterparts in Mexico to continue wildlife corridors and establish stronger ties between the United States and Mexico in terms of environmental protection and wildlife rehabilitation programs.
Chapter 3: Discussions and Recommendations

Comparing the Public Lands

These five segments of protected federal lands are just a small window into the federal lands along the U.S.-Mexico border. While they all share certain basic qualities of being located along the U.S.-Mexico border and being federally protected lands, they all have unique challenges associated with the individual parks, monuments, refuges, and reservations. As these lands all fall under the umbrella jurisdiction of the U.S. Department of the Interior, which is ultimately controlled by executive appointment. The Secretary of the Interior represents the presidential administration he or she is appointed to serve. While executive orders and Secretarial initiatives are controlled by the executive branch, there is a check on the power of the administration established in the federal government as the legislative branch. Laws like the Real ID Act of 2005, National Environmental Policy Act, Secure Fence Act of 2006, and the Endangered Species Act all are applied to these public lands by Congress. With a regular switch in the political leanings and composition of the Senate and House of Representatives, the laws will continue to be malleable to future Congresses and presidential administrations. We have seen that environmental activism and organizing can have varying levels of effectiveness, depending upon the reception of legislators. In the future, I only think the debates regarding public lands along the U.S.-Mexico border will continue to grow.

Public lands, as previously mentioned, garner bipartisan support. The biophilia hypothesis suggests that humans continue to be drawn to nature. Policies implemented to further fragment and separate public lands along the border are becoming increasingly unpopular. As of June 2018, public support for increased border walls/fences/barriers is very low and decreasing. A Gallup Poll suggests that “The majority of Americans (57%) oppose expanding the
construction of walls along the nation’s Southern border” (Newport 2018). Implementing policies along the U.S.-Mexico border can have unintended or iatrogenic consequences. By implementing policy with a primary purpose (in this case, border security), unintended consequences (in this case negative environmental impacts) can come to the forefront. By implementing conservation biology into politics, we get the intersection of biology and politics, or biopolitics. If legislators fully develop policy by incorporating conservationism into law, unintended environmental consequences can be mitigated or eliminate altogether.

Overall, I believe the biophilia hypothesis is converging with biopolitics in the sphere of influence over the border. Environmental activism is bringing the negative issues associated with the building of barriers along the border to the attention of the larger population. Niche activist activities focused on specific areas, such as at the Santa Ana National Wildlife Refuge, demonstrate effective campaigns to insert conservationism into political action. The biophilia hypothesis supports the desires of various community members to preserve and protect this area, and many areas like this. At the same time, by focusing and coalescing efforts of a larger group of organizations onto a specific goal, conservationism has been able to be combined with policy along the U.S.-Mexico border. Just like Trump has weaponized the symbol of the wall as a politically convenient tool, activists have been able to create a shield by using the Santa Ana National Wildlife Refuge as a symbol of the resistance. Using this specific location as a magnifying glass to focus national attention on a specific area, this allows the larger population to better understand the iatrogenic potential consequences associate with fencing the Southern border of the United States.
Policy Recommendations

While national security, illegal immigration, and narcotrafficking remain hot-button issues in 2018, there can still be solutions to assuage these issues while also maintaining environmental responsibility. I have identified three major actions that can take place that will immediately positively impact the environment in the borderlands, ordered from most feasible to least feasible in today’s political climate. After introducing the three recommendations, I will give more specific recommendations for each of the five federal lands along the U.S.-Mexico Border.

First, I recommend legislators to amend or repeal portions of the Real ID Act of 2005, specifically Section 102. The provision in the Act allows the Department of Homeland Security to “Waive in their entirety” thirty-seven federal laws. There have been various House and Senate efforts to repeal portions of the Real ID Act, especially those portions giving the Secretary of Homeland Security near-unrestricted power to override past legislation within 100 miles of the U.S.-Mexico border. However, these efforts have not been overall successful. If legislation is introduced to remove outright power of the Secretary of Homeland Security to waive established laws in the interest of security, this will provide a much-needed check to power. I am simply suggesting that the Department of Homeland Security follow laws that are already on the books, namely environmental laws, to ensure quality work along the U.S.-Mexico border. Most importantly, this includes keeping the requirement for federal agencies (like Customs and Border Protection) to perform environmental impact studies before beginning work along the border. By passing legislation to amend the Real ID Act, this will hold federal agencies accountable for being good stewards of the environment. Once again, environmental laws (including National Environmental Policy Act, Endangered Species Act, Clean Water Act, Native American Graves
Protection and Repatriation Act, and Antiquities Act, just to name a few) are already current legal statute. By amending or repealing Section 102 of the Real ID Act of 2005, this allows the laws as currently in place to be enforced.

Next, I recommend the implementation of wildlife fence crossing points to areas of the border fence already constructed and future fencing to be constructed. In visiting Banff National Park in Canada, I viewed a large highway connecting the city of Calgary to the park. All along the highway, the government of Alberta constructed wildlife crossings that go above and below the highway to allow animals to freely cross. Similar crossings could be implemented in the construction of border walls along the U.S. Mexico border. By implementing these structures, it would allow for increased wildlife flow across the border. These wildlife crossings can be remotely monitored, or monitored in person by CBP officers. This would allow animal movement to occur naturally, but would also account for protections against cross-border violators as agreed upon in the 2006 MOU. The Tohono O’odham Nation has implemented these wildlife crossing points at several internal fencing points (See Figure 2.11 above). Because the Tohono O’odham Nation currently only has vehicle barriers along the international border, there is no need for these crossing points. These only need implemented in wildlife corridors where pedestrian fencing or other impassable barricades exist. Additional studies, similar to the game camera study at OMDPNM, would need to be performed to further develop wildlife crossing spacing and frequency. Additionally, the wildlife crossings would have to be further studies over the variety of ecosystems of the U.S.-Mexico border. The ‘one-size-fits-all’ approach cannot be applied when it comes to implementing possible wildlife crossings. The crossing point design and frequencies would need to be altered between swampy Southeast Texas and the high desert of Arizona. If the Trump Administration and Congress agree to move forward with funding
border fencing, a particular look into wildlife protections should be taken into careful consideration. This calls back to the potential amendments to the Real ID Act, and allows environmental laws to be reviewed while moving forward with any increased border fencing legislation.

Lastly, International ‘Peace’ Parks would be a feasible option to preserve larger corridors of public lands. In order to enhance wildlife habitat connectivity, the U.S. and Mexico can partner to form adjoining protected lands in both countries. While currently unlikely to be formally recognized between the federal governments of the U.S. and Mexico, this has been done along the U.S.-Canada border at the combination of the Waterton-Glacier International Peace Park and the Wrangell-St. Elias National Park and Preserve and the Kluane National Park and Reserve. These areas form continuous parcels of protected public lands, but are managed both independently by each country, but also jointly. There are numerous areas along the U.S.-Mexico border where protected public lands in the United States abut protected, public lands in Mexico. At Organ Pipe Cactus National Monument, El Pinacate is an adjacent protected area in Mexico. This would not only be beneficial to the environmental protection in these areas, but will also increase access of public lands by citizens of both countries. This idea is not a novel or unique concept to the United States and Canada. While the Waterton-Glacier International Peace Park was the first of its kind, established in 1932, it is not the sole example. In the book, *Transboundary Conservation: A New Vision for Protected Areas*, this topic is discussed in detail. Currently, there exist 188 complexes like this in the world involving 818 protected areas in 112 countries, representing approximately 17% of the world’s protected lands (Mittermeier 2006). At Big Bend National Park, there is a case for international federal, the state of Texas, and the private company CEMEX coming together to formally recognize and protected connected tracts
of lands. On the Mexican side, the federal government protects certain areas like Santa Elena Canyon. CEMEX has also purchased adjoining lands with the aim to preserve and protect these areas. On the American side of the River, Big Bend National Park is adjoined by Big Bend Ranch State Park of Texas. These four entities could come together in order to protect thousands of square miles of land jointly. This concept, founded by the United States and Canada, has been replicated all across the world, and now it is time to seriously consider taking action to create connected public and protected lands across the U.S.-Mexico border in order to preserve and protect these federal lands.

**Future of the U.S. – Mexico Border**

As border securitization, militarization, and fortification all expand at a rapid pace, the future of the impacts from creating border barricades will not be fully known for many years to come. Currently it is estimated that there are over 26,000 km or over 16,000 miles of border fencing/walls around the world, and that number is growing quickly (E Vallet 2009).

As of the last week of September 2017, the Department of Homeland Security has narrowed down the design finalists for ‘Trump’s Wall.’ This has led to the physical construction of the 8 different prototypes of walls near San Diego, California. See Figure 3.1 below.
During the last portion of 2017, various tests were performed on each wall from a security aspect. However, there is no evidence of conservationists, economists, or U.S. Department of Interior employees being contacted to assist in the wall design selection (Spagat 2017). Of the eight designs submitted, 6 are impermeable to water and small animal movement. The remaining two are composed of vertical metal beams that would only allow animals smaller than six inches passage. All eight of the walls would effectively isolate all animal movement between the United States and Mexico. Additionally, these walls could cut across government lands—from the Tohono O’odham reservation to National Parks. Overall, we do not currently know the potential impacts of the full implementation of this wall. Legality and appropriations surrounding the new prototype walls is constantly in flux. As of the Congressional budget passed on July 27th, 2017, Trump’s administration obtained $1.6 billion for increased construction of border barricades. However the caveat is that the Department of Homeland Security could only build walls with designs proven before the origination of the eight ‘Trump Wall’ prototypes in specified areas of
the Rio Grande Valley in Texas and near San Diego in California (H.R. 3219 2017). However, with a changing Congressional makeup, these laws can change. If the Trump administration and the Department of Homeland Security secure additional funding and new laws are passed, it could open the doors to the administration moving forward with the implementation of the selected design(s) along the border. While yet unknown, the impacts associated with the selected design or designs—especially environmental impacts with the lack of environmental impact studies performed—could be seen for years to come. Alternatively, the tension surrounding public opinion on the general effectiveness of the wall policy in accomplishing its goals will come into closer discussion. This will call out the wall as an expensive symbol of a campaign promise as compared to its intended purpose to decrease or eliminate cross-border violators coming to the United States. As the wall effectiveness is compared to the additional consequences that the wall will bring about, like negative environmental impacts, this will only increase the intensity of the national discourse on the subject of border barriers between the United States and Mexico.

Public lands along the United States – Mexico border are a political balancing act of policy prioritization. On one hand, the U.S. Department of Homeland Security places border securitization at the top of their priorities in the area. Meanwhile, the U.S. Department of the Interior has responsibilities to manage the country’s public lands including National Parks, National Monuments, Native American Reservations, National Wildlife Refuges, National Forests, and more. These departments ultimately answer to the appointing administration, but Congress acts as a check to the executive branch in the U.S. federal government.

The five selected lands along the U.S.-Mexico border have a multitude of challenges associated with each of them. While all of the lands have overlapping issues, each requires an
individualized approach to optimize these federal lands. The Santa Ana National Wildlife Refuge has won a small victory by blocking the construction of border barricades along the Refuge. However, there could be iatrogenic consequences to this policy decision, such as the potential for the funnel effect. In order to further protect this Refuge, there is a need to further understand the impacts to other local protected public lands. Big Bend National Park has huge potential to form an international park across the border with Mexico. Santa Elena Canyon is protected on both sides of the border, but formal recognition and reorientation to protect the area jointly as opposed to independently can increase the connectivity of public lands. This would not only help environmentally, but also allows visitors greater access. The Organ Mountains – Desert Peaks National Monument is undergoing potentially major changes in response to Secretary Zinke’s review of the Monument under the Antiquities Act. Additionally, increased border fencing in the area has the potential to negatively impact wildlife movement and further isolate protected lands. The Tohono O’odham Nation must continue to be steadfast in their claims of sovereignty over their land to not allow further border fencing constructed. They also need to continue their working relationships with other federal lands in the area to multiply the positive impact potential in the region. The Organ Pipe Cactus National Monument has another opportunity to combine with the Cabeza Prieta and form an international park with Mexico across the border. Increased inter and intra-agency cooperation is needed at all protected lands in order to further positive impacts in public lands along the U.S.-Mexico border.

The five selected areas of federally-protected lands along the U.S.-Mexico border only begin to provide a window into the multitude of issues currently facing the borderlands. Mollie Beattie, former Director of the U.S. Fish and Wildlife Service, famously stated, “What a country chooses to save is what a country chooses to say about itself.” This simple statement carries
profound impacts. The biophilia hypothesis supports that humans innately want to protect and enjoy nature. By saving and preserving these federal lands, they can be enjoyed not only presently, but for future generations to come. By implementing conservation biology into politics, people are putting the biophilia hypothesis into motion. The policies and legislation introduced can either support or take away from the idea of protecting these lands. At times, policies can be implemented that can purposefully or inadvertently cause effects on multiple adjacent areas. When the policies at the border to prevent cross-border violators have been implemented, they have had and will continue to have additional consequences. Iatrogenic consequences can be seen all along the U.S.-Mexico border. By implementing policy of fencing at the border, an unintended consequence can range from preventing natural wildlife movement to infringing upon Indigenous sovereignty to fragmenting lands protected to be enjoyed by the public. In the case of the five selected areas, they were all designed to serve a specific purpose or purposes—from protecting wildlife to allowing an indigenous population to exert its sovereignty. However, each has unique gifts and challenges associated with the protected status of the lands. While the U.S.-Mexico border has continuously been in flux since the countries first demarcated the region, the federally-protected areas along the current international border should be carefully preserved and protected for years to come.
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Vita

Bryce Fugate attended Skiatook High School in Skiatook, Oklahoma graduating #1 in his class in 2011. Bryce then attended the University of Oklahoma where he earned a BS in petroleum engineering and a BA in international studies. During his time at OU, Bryce was active in various leadership roles on campus. He was the student chapter president for the Society of Petroleum Engineers, a member of the President’s Leadership Class, founded Students for Osage Language, was a team member for OU’s Petrobowl team placing second in the world, was a Leadership Education and Development (LEAD) Team ambassador, captained the teams placing at the Alberta Energy Challenge case competition two consecutive years, was a member of the 2015 Homecoming court, participated in the US Department of State Diplomacy Lab, and represented OU at a number of international conferences including the World Business Dialogue and Harvard Initiative for Latin American Relations. He studied at the Universidad Nacional de Colombia and worked as a student intern for the Oficina de Relaciones Internacionales in the engineering faculty during undergrad. Bryce also worked in the Diversity Enrichment Program for over three years, and led the University’s first Spanish-language campus tour. After graduating in December 2015, he accepted a position as a consultant engineer with Nalco Champion in Houston, Texas. After working in more than 15 refineries across the country, Bryce transferred to El Paso, Texas in 2016 to assume the position of process lead at the refinery in the city. He enrolled at the University of Texas at El Paso in January 2017 to pursue an MA in Latin American & Border Studies while concurrently working as an engineer at the refinery. Bryce currently serves on the Membership Committee for the Society of Petroleum Engineers International, and is the OU Alumni Club of Greater El Paso – Las Cruces president.

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