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An Exploration: How Voluntourism Conservation Projects Coordinate with and Contribute to Conservation Efforts in Madre de Dios, Peru

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AN EXPLORATION: HOW VOLUNTOURISM CONSERVATION PROJECTS COORDINATE WITH AND CONTRIBUTE TO CONSERVATION EFFORTS IN MADRE DE DIOS, PERU

By

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Abstract: Mirroring trends in international tourism, alternative tourism, and ecotourism, the voluntourism industry has grown, developed and diversified significantly over the past two decades. Scientific attention to voluntourism has focused mainly on participant motivations and outcomes. However, explicit research on the outcomes and impacts voluntourism projects generate for their host communities and environments is sparse. As voluntourism becomes increasingly frequent, it is critical to design and implement projects that maximize potential for positive impacts and minimize negative impacts. This study focuses on voluntourism conservation projects in the Madre de Dios region in Peru which is a global conservation priority. Specifically, the research investigates (1) operational characteristics of voluntourism conservation projects, (2) the social networks and relationships among stakeholders to understand the ways in which these relationships influence projects and, ultimately, (3) the ability of voluntourism projects to effectively and collectively contribute to regional conservation needs. Through a social network analysis and interviews with leaders of voluntourism conservation projects, the findings suggest that some projects are well-connected to and coordinated with other conservation entities and efforts of the region. Yet, there are many projects that are disconnected and struggle to coordinate their activities with broader conservation efforts. Operational characteristics relate to a project's ability to communicate and coordinate with efforts of other conservation entities, implying that voluntourism leaders can adjust operations to allow for a project that, in addition to meeting participant needs, generates relevant contributions to the conservation needs of Madre de Dios.

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Chapter One: Introduction

In 2016, international tourist arrivals increased for the seventh consecutive year, reaching a total of 1.2 billion – a 4% or 40 million traveler increase from 2015 (UNWTO, 2016). Alongside the increase in mass tourism, participation in alternative tourism, which encourages sincere and low-impact interaction with local environments, communities, and peoples, continues to rise as well (TRAM, 2008). In conjunction with this trend is a coinciding increase in opportunities and inclinations to participate in a specific type of alternative tourism referred to as voluntourism or volunteer tourism, defined broadly as "utilizing discretionary time and income to travel out of the sphere of regular activity to assist others in need" (McGehee & Santos, 2005, pg. 760). As the voluntourism industry continues to grow, so does the scientific interest and research around the topic. A noticeable majority of the studies focus on some aspect of the volunteers, including their backgrounds, motivations, expectations, and personal transformations (Andereck et al. 2011; Coghlan, 2011). A smaller body of work investigates the social, economic, and, less often, environmental implications that voluntourism programs and actors have on their respective host communities (Zahra & McGehee 2013; Lorimer 2009; Loiseau 2010). Already common, and increasing in popularity, are voluntourism projects that have environmental/natural resource conservation-oriented missions, objectives, and activities. Madre de Dios Peru, a tropical region and biodiversity hotspot facing growing rates of settlement, land development (Elmes et al., 2014; Vuohelainen, Coad, Marthews, Malhi, & Killeen, 2012), and ecotourism ventures (C. Kirkby, 2002; C. A. Kirkby et al., 2011), is also home to an increasing number of voluntourism conservation projects. This study explored how the operational traits of these voluntourism conservation projects, as well as the type and quality of their interactions with stakeholders, affects their ability to design and implement a project that effectively contributes to conservation needs of the region.

While it is generally accepted that voluntourism conservation projects, hereafter referred to as 'VCPs', will have more socially-oriented goals (e.g. personal growth, cultural exchange, improved understanding of science and nature, etc.) that don't necessarily relate directly to scientific or conservation contribution (Nerbonne, 2003; Shirk et al., 2012; UK Environmental Observation Framework, 2016), such projects should still be expected to contribute to conservation efforts effectively. Madre de Dios is an area dominated by rainforest ecosystems

and is, therefore, home to great amounts of biodiversity, and treated as a conservation priority. Additionally, it is densely populated with VCPs and several diverse protected areas such as Manu National Park/Biosphere, Tambopata National Reserve, and Amarakaeri Communal Reserve. Despite the multiple ways in which voluntourism projects have been assessed, reliable methods have yet to be developed to support understanding of how VCPs contribute individually and/or collectively to local or regional conservation efforts. Stemming from this lack of comprehensive understanding, explicit 'best practices' or methods for improving current or upcoming VCPs are unavailable. This type of insight and associated tools are especially needed within the voluntourism literature and practice because the industry is relatively new but rapidly expanding and diversifying (Pappas, 2012), and its long-term impacts or outcomes are poorly understood (Steele et al., 2017). To address this gap, this study sought to understand how voluntourism groups interact, communicate, and/or coordinate with each other and other stakeholders to enable a project that effectively recognizes and contributes to the conservation needs and ongoing efforts of the larger region or landscape. Since conservation issues and actions are multiscale in nature, effective planning would require that various entities involved in implementation of actions understands their responsibilities and how they relate or contribute to the actions of the 'bigger picture' conservation actions (Margules & Pressey, 2000; McKinstry Jr., McElfish, & Jacobson, 2007; Vogler, Macey, & Sigouin, 2017).

VCPs are, above all, ecotourism ventures, but their marketing strategies emphasize their contributions to conservation. However, to effectively recognize where they can be filling gaps in conservation actions they must be connected to, and coordinating with, other entities (stakeholders) involved in regional conservation planning and implementation. This study will investigate these questions as they relate to the VCPs currently operating within the boundaries of the Madre de Dios region of Peru. Since conservation "needs" or priorities of Madre de Dios might not be explicitly agreed upon or distributed, this research aimed to understand how VCPs consider conservation needs by understanding how they engage with and are influenced by other stakeholders in the conservation efforts in Madre de Dios Specifically, this study sought to understand how VCPs contribute to conservation by exploring the following questions:

1) What are the operational characteristics of voluntourism conservation projects in the Madre de Dios region?
    a. How does this influence their challenges and opportunities?
2) How do voluntourism conservation projects in the Madre de Dios region interact with other voluntourism projects and other stakeholders?
    a. How do the types and qualities of these interactions influence a project's ability to implement activities to effectively contribute to the conservation needs of the region?
3) How are voluntourism conservation projects addressing Madre de Dios's regional conservation needs?
    a. How do they balance what's required to address regional needs with various conditions of their voluntourist workforce (expectations, preferences, abilities, length of stay, etc.)?

By answering these questions, instances of successful relationships and/or coordination, and the potential benefits of such interactions, were uncovered. Alternatively, barriers that inhibit VCPs from aligning their volunteer projects with the actions and goals of the larger conservation community were also identified. Based on these insights, suggestions for how to adjust or improve relationships and coordination related to VCP implementation so that current or future projects may be designed to more effectively contribute their efforts to regional needs have emerged. The questions in this research project and the results were intended to be of use to the individual conservation projects involved in the study, the voluntourism industry, and other stakeholders involved in conservation efforts in the Madre de Dios region.

Chapter Two: Literature Review

Tourism and Alternative Tourism

In 2015, international tourism generated US$ 1.5 trillion in export earnings (UNWTO, 2015). From 2016 to 2017, international tourist arrivals increased by 7% to reach a total of 1.322 billion, and this growth is projected to increase at a rate of 4% in 2018 (UNWTO, 2017). Further, international tourist arrivals have been steadily increasing at an average rate of 4% each year since 2009 (UNWTO, 2017), making tourism one of the world's largest and fastest growing industries. As the industry has grown, it has diversified the ways in which travelers can engage with destinations as a tourist. Particularly relevant to this research proposal is the increasing popularity and frequency of alternative tourism, ecotourism, and voluntourism (CREST, 2016; Wearing, 2003; Young, 2008). While these three types of tourism have distinct characteristics, voluntourism conservation projects can encompass the definitions and key components of each tourism type (Cohen, 1987; Holden, 2000).

Alternative tourism, being an alternate to the more conventional/commercial, or 'mass tourism', "involves travel that is personal and authentic and encourages interaction with the local environment, people, and communities" (BAAT, 2009). Where mass tourism is criticized for its large-scale, ill-informed, and sometimes destructive consumption of people, places, and culture (Urry, 1990; Cohen, 1984, 1988), alternative tourism activities or destinations are generally lauded for operating on a small scale, being more low-key in nature, and allowing more participation with and from the local community (Smith & Eadington, 1992).

Ecotourism, as defined by the International Ecotourism Society, is "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (TIES, 2015). While ecotourism maintains goals that are distinct from those of alternative tourism, it mirrors the broad intentions of low-impact activities, benefit and empowerment of local people/communities, and enhanced awareness of and sensitivity to the destination environment. Alternative tourism, which includes ecotourism and voluntourism, continues to attract more visitors each year as there are increasingly more of these opportunities created and as tourists become more aware of both the popular trend and benefits of alternative tourism (CREST, 2017; UNWTO, 2016). It is especially important to note that

although a destination or activity may claim to be a form of 'alternative tourism' or 'ecotourism', it may not truly meet the defined or accepted features of the sector.

Voluntourism

Voluntourism, which is a form of alternative tourism and often ecotourism as well, has several varying definitions that have been assigned over the last couple of decades, none of which is completely inclusive of all that the sector includes. Figure 1 shows how the three types of tourism relate to and overlap with each other. To avoid debating the definition of voluntourism, this paper relies on the following definition assigned by Sin (2009, pg. 480): voluntourism is "a form of tourism where the tourists volunteer in local communities as part of his or her travel". McGehee and Santos (2005, pg. 760) have also defined voluntourism as the "[utilization of] discretionary time and income to travel out of the sphere of regular activity to assist others in need". Both give a simple but clear explanation of what voluntourism entails. However, this paper relies on the first more broad definition because environmental or conservation volunteering is a particular kind of voluntourism in which 'doing good' is not only about caring for or assisting other people and places, but often it is also about generating scientific knowledge to support conservation efforts (Gray, Meeker, Ravensbergen, Kipp, & Faulkner, 2017).

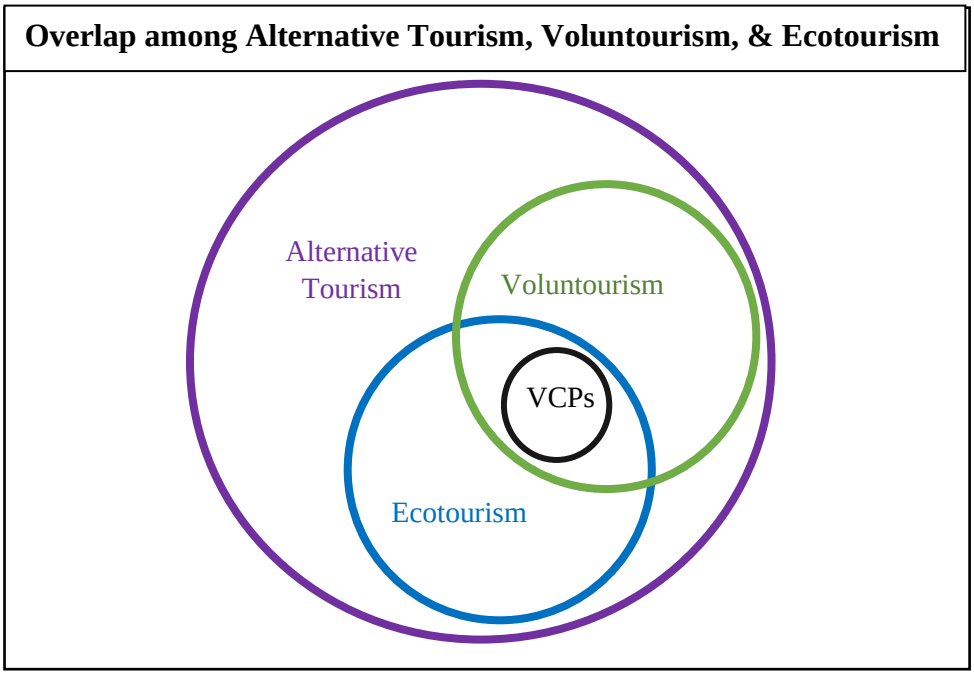


Figure 1. Alternative tourism includes ecotourism and voluntourism, and often voluntourism is also a form of ecotourism. VCPs fit within the definition of each.

Types and Trends of Voluntourism

Similar to other types of tourism, the voluntourism industry has been experiencing significant growth (Brown, 2005). A study conducted in 2008 suggests that roughly 1.6 million people participate in some form of voluntourism each year, contributing $1.7 billion – $2.6 billion to the sector annually (ATLAS/TRAM, 2008). The number of projects, participants, and dollars earned have only increased since 2008 and are projected continuous growth (voluntourism.org, 2008). The origin of voluntourism is not exact, but some suggest that it has its roots in the early part of the 20th century when there was a call to repair the great amount of psychological and infrastructural damage across Europe that had been caused by the First World War (Tomazos & Butler, 2009). The rise of voluntourism has also been related to the establishment of the US Peace Corps in 1961 when President Kennedy called upon American volunteers to "fight tyranny, poverty, disease, and war" across the globe (cited in Tomazos & Butler, 2009). It has also been noted that voluntourism as a commercialized industry has grown rapidly since the since the Indonesian tsunami of 2004 and the attack on the Twin Towers on September 11, 2005 when travelers and markets became more aware of the opportunity to combine holiday/travel and volunteer work. The rise of voluntourism has also been fueled by globalization, reduction of barriers to travel, rise of the middle classes across the globe, the desire to participate in alternative and 'sustainable tourism' (Van de Schoor, 2016; Devereux, 2008).

While the sector continues to diversify, there is an increasing number of ways in which volunteer/voluntourism projects are manifesting across the globe. Organizations that commonly engage in the projects include tour operators, environmental and humanitarian NGOs or Not-for-profits (NFPs), and academic groups, and projects can focus on a range of causes such as medical/dental, environmental/conservation, construction, business development, community welfare, education, or childcare (S. L. Wearing, 2003). Under the general 'environmental' category of voluntourism, one may find projects that include biodiversity surveying, wildlife monitoring, environmental education, animal care/rescue/rehabilitation, reforestation or restoration, farming or gardening, etc. In general, the voluntourism industry as a whole is not well understood. Most importantly, a significant majority of the research focuses on some aspect of the voluntourist, neglecting to empirically investigate or understand the impacts to the host community or local environment (Foller-Carroll & Charlebois, 2016; Zahra & McGehee, 2013).

The Voluntourist

Historically, volunteer tourists originated from developed, Western countries to volunteer in developing nations, but recent trends show an emergence of Asian and African participants (Kirillova, Lehto, & Cai, 2017; Lo & Lee). However, the general trend is that a voluntourist is usually a young (18-25 years in age) western female (Keese, 2011, pg. 259), educated to at least the post-secondary level, and in the middle-class of a developed country (O'Brien, Townsend, & Ebden, 2010). The second most common voluntourist is retired and/or between the ages of 55 and 65 (Bakker & Lamoureux, 2008). Volunteers can work on a project for as little as just a couple of days or as long as a year, but the average stay is between one and four weeks (Keese, 2011). Besides demographics, much of the research surrounding volunteers has focused on their characteristics, motivations, and personal transformations (Andereck, McGehee, Lee, & Clemmons, 2012; Bailey & Russell, 2012; Brown, 2005; Knollenberg, McGehee, Boley, & Clemmons, 2014; Lee, 2011).

Researchers like to point out a range of positive motivations of voluntourists, such as altruism, desire to make a difference, self-development, giving back to host community, participating in community development, seeking camaraderie, and cultural understanding (S. L. Wearing, 2003). While there is an ongoing debate asking whether voluntourists are truly motivated by altruism or, as are most other tourists, primarily by self-interest (Mustonen, 2007), we should consider that they will exist on a spectrum of motivations, or may hold more than one simultaneously, rather than holding strictly one (altruism) or the other (self-interest) (McGehee, 2014). It is also worth noting that motivations will often differ among demographics and life-stages. For example, the younger generation is more likely to be motivated by self-interest while the older (40-70 years old) demographic is more likely to be seeking, for instance, cultural immersion, the opportunity to 'give back', and camaraderie (Bakker & Lamoureux, 2008). Callanan and Thomas (2005) have created a framework that categorizes voluntourists/motivations in one of three categories – shallow, intermediate, or deep – based principally on the following six criteria: destination, duration of project, focus of experience, qualifications, active versus passive participation, and level of contribution to locals.

Opportunities of Voluntourism

While the industry and its proponents stress that volunteer tourism should generate positive impacts to locals and/or host communities and create reciprocal and mutually beneficial host–

guest relationship in the destination (McIntosh & Zahra, 2007; Sin, 2009), such benefits are largely undocumented, based on anecdotal evidence, or simply assumed to take place. Research in this area is extremely lacking, and attention has been called to fill this void (McGehee, 2012; S. L. Wearing, 2003). To date, few case studies and empirically-based examples exist but the following sections will mention some instances of documentation. A significant body of literature does highlight some of the benefits and opportunities that voluntourism can create for voluntourist participants.

Socio-Cultural Opportunities

Advocates for voluntourism cite the increased opportunity for, and value of, person-to-person interactions between host and guest, and the ability of these interactions and relationships to create a platform for cultural exchange and understanding (Singh, 2002, 2003). Voluntourism is unique in that volunteers are often interacting more directly with host community members as they live and/or work together. Social exchange theory has often been used to frame and understand the results of the direct interactions that take place between voluntourists and host community members (Proyrungroj, 2016) and it is now widely accepted that the interactions and relationships which take place between these two parties may influence the attitudes, expectations, opinions and, in some cases, the lifestyles of both groups (Sharpley, 2008, 2014).

A recent study explained the ways in which a voluntourism projects can increase community capital, which includes social, political, natural, human, built, cultural, financial capital, welfare capital, and personal capital (Zahra & McGehee, 2013). The voluntourists allow the community to create bridging social capital (social capital exchanged between community members and outsiders), in turn allowing increases in all other forms of community capital. However, in all of these cases documenting benefits, there is a direct relationship between community members that benefitted personally from the project and support for it and/or future voluntourism development (Mcgehee & Andereck, 2017).

There has been much wider recognition of the beneficial impacts that voluntourism offers the volunteers. A significant amount of research shows that that voluntourists often are personally transformed by their experience (Banki & Schonell, 2017; Knollenberg et al., 2014; McGehee & Santos, 2005; Luh Sin & Oakes, 2015). They report personal growth, and changed worldviews, an increase in consciousness, openness, wisdom, and more positive civic attitudes.

Emerging studies claim that post-voluntourists are more likely to be "global citizens" and agents of social change, as they engage more with the happenings of the world (McGehee & Santos, 2005). It is also common for post-voluntourists to credit their experience with contributing to the development of their professional skills and allowing them to explore curiosities related to their potential career path (Proyrungroj, 2016). In addition to professional skills, voluntourists often attribute their experience to helping improve their confidence, enhance their ability to work with others, craft problem-solving skills and develop communication skills (Lo and Lee, 2011; Jones, 2005).

Economic Opportunities

Voluntourism, if designed and implemented appropriately, has the potential to provide economic support, particularly for the more economically troubled areas of the host region and those that wouldn't typically attract tourism ventures or dollars (Mcgehee & Andereck, 2017). Since voluntourists are often embedded within the community they are serving, they can have direct input to the local economy. Volunteers may pay to stay with families or other locally owned and operated accommodation and they contribute money to the local economy through purchases of, for example, locally grown or made foods, arts and crafts, and other goods and/or services made by the host community (Mcgehee & Andereck, 2017). Researchers, public media outlets, tour operators, volunteers, and some community members credit this monetary input for contributing to the 'development' of the host community and/or region. Proponents of voluntourism suggest that if a project can provide what is in essential to a host-country's development (i.e. education facilities and services, health services, construction, etc.), it will benefit both the hosts and volunteers (Dykhuis, 2010). However, empirical evidence to support these claims is not readily available.

Environmental Opportunities

While there is little concrete evidence in the scientific literature, it is indeed the case that some voluntourism projects create direct positive environmental impacts such as habitat maintenance or restoration, plant nursery or biogarden construction, or data collection (Schneller & Coburn, 2018). Importantly, voluntourism projects provide funding and human resources/labor to support environmental projects and research that might not be possible otherwise. Funding can be particularly scare in areas of the global south where biodiversity is highly concentrated but local resources to support conservation research is scarce (Myers et al.,

2000). For example, from 2001 to 2007 Earthwatch, a volunteer-recruiting NGO, sent 328 voluntourists to work on the Tambopata Macaw Project in the Madre de Dios region of Peru. During these years, researchers invested 2300 hours in training and supervising volunteers/activities, roughly 13,000 hours of volunteer labor were completed, and their voluntourist fees contributed $115,000 to research funding (Brightsmith, Stronza, & Holle, 2008). While some professionals doubt the reliability of volunteer-collected data, studies have shown that when (1) appropriate tasks are chosen and (2) sufficient training is given, volunteers can collect high-quality data that is indeed useful for scientific publications as well as natural resource planning and management (Newman et al., 2003; Pattengill-Semmens and Semmens, 2003).

There has been little research designated to understanding the influence that voluntourism has on environmental awareness and/or behaviors of host community members or volunteers. However, some emerging research does suggest that VCPs can increase community awareness and concern for environmental conditions and issues that the project is addressing, and can positively affect the "mentality of environmentalism" and pro-environmental behaviors of both the host community members and the participating volunteers (Schneller & Coburn, 2018, pg. 14). A study that focused on a Costa Rican sea turtle voluntourism projects has also suggested that volunteers are highly susceptible to the lessons and messages received from project leaders and staff, and that these NGO entities could play an important role in raising the general environmental awareness of their volunteers (Campbell, 2006).

While scientific-based attention to the effect of voluntourism on environmental awareness is lacking, there is a great amount of literature highlighting the potential for ecotourism to increase environmental awareness (Luck, 2003; Orams, 1997; Zeppel & Muloin, 2008). Free-choice environmental learning experiences, effective interpretation, and witnessing of animal behavior in close proximity have been shown to be especially impactful to environmental and conservation awareness (Ballantyne & Packer, 2011; Ballantyne, Packer, et al., 2007) in participating tourists. Local residents of a community that hosts ecotourism or nature-based tourism may also experience increased levels of environmental or support for conservation, but are more likely to do so when they accrue benefits from the tourism endeavor (Diedrich, 2007).

Challenges of Voluntourism

The various political, social, and contextual factors that are manifest and interplay in volunteer tourism, such as the potential for unequal power relationships mentioned here, can create several diverse challenges for the industry and individual projects.

Socio-Cultural Challenges

While literature has identified some positive outcomes or impacts that voluntourism projects might create, there is growing criticism of the sometimes selfish, neocolonialistic, and ephemeral nature of their objectives, discourse, and community impacts, respectively (Stein & Stein, 2017; Guttentag 2009; Loiseau, 2016). Because a majority of voluntourism projects are taking place in countries that are "undeveloped" countries, and a majority of the white or Western volunteers come from "developed" countries, it's possible that this relationship perpetuates the concept of the "white man's burden" to help and develop Third World countries, thus creating a cycle of aid and dependency (Butcher, 2017; Devereux, 2008). Voluntourists may situate themselves, by their own interpretation of their experience and by influence of the market that attracts them, as saviors of an impoverished people; they are liable to create a dichotomy of "us" and "them", ignore historical context of inequalities, and rationalize or romanticize poverty (Guttentag & Wiley, 2009; Simpson, 2004).

The social and economic inequalities as well as the demographic differences that often exist between voluntourists and the host community, or 'the voluntoured', verge on inherent circumstances of the industry. By nature, voluntourism often joins "economically powerful volunteer tourists… with less powerful host communities" (Pastran, 2014, p. 49), thus reinforcing unequal power relationships and cultural stereotypes. Stemming from this exposure and relationship, and frequently documented, is what is commonly referred to as the "demonstration effect". As tourists demonstrate their wealth (regardless of intentionality), it can create tension between residents, create high and sometimes frustratingly unachievable expectations of affluence – especially for young children – and it can erode or disrupt host cultures as they adopt behaviors or culture from the tourists (Simpson, 2004; Monterrubio, 2014).

Importantly, the more privileged voluntourists are infrequently required to have any prior experience or knowledge about international aid or relationships, or understanding of the

historical, political, social, or economic conditions of the host country, which can further divide the two groups and lead to increased misunderstanding and/or conflict between them. On a related note, community members can suffer emotionally and psychologically from close and nearly constant interaction with a steady stream of (sometimes ill-informed) volunteers (Epprecht, 2004).

Economic Challenges

As the voluntourism industry has developed within a neoliberal context and the global free market regime, it's not wildly surprising that voluntourism endeavors are increasingly designed in a way that commodifies goods, services, experiences, and culture in order to confirm a better market share (Lyons et al., 2012). Voluntourism projects exist on a spectrum ranging from 'commodified' to 'decommodified', but as the industry continues to grow and receive greater interest from tourists, it is becoming increasingly market-driven and competitive. To be decommodified, a voluntourism project must direct its profits towards the local community instead of an outside company and it must achieve a genuine exchange between hosts and guests (Wearing, 2001). The focus on market competition can outcompete the maintenance of a project that truly meets the wants or needs of the host community and its members (Guttentag & Wiley, 2009; S. Wearing, Young, & Everingham, 2017). Many projects are crafted instead to meet the expectations and satisfy the preferences of the paying volunteers, or else face the consequence of losing their funding and volunteer workforce (Lorimer, 2009; Smith & Font, 2017).

Not only are many projects crafted based on the preferences of western volunteers, they are also liable to be created *by* western owners/operators/managers or by large for-profit tourism operators, thus creating economic leakage from the local host community, region, and sometimes country (Coghlan & Noakes, 2012; Mostafanezhad, 2013; Stein & Stein, 2017). For example, due to foreign control of tourism in Thailand, which is home to a robust tourism *and* voluntourism industry, the country experiences a profit leakage of up to 70% each year (Conran, 2011; Lacher & Nepal, 2010). Guttentag (2009, pg. 544) simply notes that "just because a community is hosting a volunteer tourism project, one should not assume that the community will inevitably benefit economically".

Depending on the type of voluntourism project and its management, it may negatively impact labor demand or create economic dependency within the host community (McGehee, 2012). Some voluntourists are performing unskilled labor and not only do they do it for free, they pay large sums of money to work, and thus, it is possible that they are doing work that could be done (potentially done better) by local people (Guttentag & Wiley, 2009; Ver Beek, 2006). Alternatively, a community may become economically dependent on voluntourism projects. Like other forms of aid and tourism, the voluntourism industry, and the amount of paying participants that it attracts each year, reacts to changes in the global economy and tourism industry (McLennan, 2014).

Environmental Challenges

Some environmental voluntourism projects are criticized, because while their program may align with the well-meaning, albeit not always well-informed, expectations of international volunteers, it may not necessarily align with or effectively contribute to larger conservation plans, needs, and/or priorities of the local or regional community (Matthews, 2008; Guttentag 2009, 2011). Lorimer (2009) points out that because most of volunteers' time and money is dedicated to popular threatened species in areas of the most global biodiversity importance, there are important areas left out from the sector's concern and attention. Some researchers and professionals have also questioned whether volunteers have sufficient skills or if they stay long enough with any one project long enough to make a meaningful and/or effective difference (Callanan & Thomas, 2005). More detail on this concern is provided in the following section. Although it is often overlooked, there are direct and indirect environmental impacts that are inherently associated with voluntourism, since travel and tourism are, by nature, resource-intensive (Epprecht, 2004).

Environmental and Conservation Volunteerism

As concern and attention toward the environment continues to grow, and as historically larger budgets dedicated to the cause are continually reduced, non-governmental organizations step in to create more opportunities to contribute to environmental stewardship initiatives, leading to a rise in environmental volunteering (Caissie & Halpenny, 2003; Conrad & Hilchey, 2011). Where institutions lack sufficient financial or human resources to undertake environmentally-related projects, volunteers can fill the void. For example, in Europe there are an estimated 148,690 person-days spent monitoring biodiversity each year; this adds up to be worth roughly €13

million (Schmeller et al., 2009) or roughly $18 million. Environmental volunteers are typically given tasks such as flora or fauna monitoring, restoration, activism, education, outdoor maintenance, sustainable living, and general organizational support (O'Brien et al., 2010; Scottish Forestry Commission, 2008).

While there are clear benefits to engaging volunteers in environmental projects, it has been suggested that the scientific data collected by volunteers is not always well-accepted or utilized by decision-makers or scientists because doubts about the credibility, non-comparability, and completeness of the data (Gouveia et al. 2004; Bradshaw 2003). Many doubt that volunteers have received a sufficient amount of training to allow them to collect reliable or unbiased data, especially in the case of biological identification (Royle, 2004; Engel & Voshell 2002). However, there is evidence that environmental volunteers, when appropriately trained in manageable tasks, can indeed collect and compile datasets that are 'not significantly different' than those that are created by accredited scientists, thus making valuable contributions to the science/research projects (Foster-Smith & Evans, 2002 pg. 207). The fact that volunteers can 'produce practical environmental improvements at a relatively low cost', as an added benefit of their work.

Though volunteers are expected to make significant contributions to the environmentally-based priorities of a project, be they restoration, data collection, education, etc., it is widely accepted that many environmental volunteering programs do have additional goals that span from the individual to community level (Branchini et al., 2015; Chao, 2017; Stepenuck & Green, 2015). For example, many projects emphasize participant education as a major goal. Major learning outcomes for individuals may include a better understanding of the scientific process, an increase in engagement with/interest in science and nature, enhanced awareness, knowledge, and understanding of ecology, and increased environmental stewardship and sense of responsibility (Dickinson et al., 2012; Foster-Smith & Evans, 2003; Hine, Peacock, & Pretty, 2008). At a larger scale, potential community-level impacts may include increased social capital and/or community capacity and improved trust between the public, scientists, and land managers (Jordan, Ballard, & Phillips, 2012). It should also be noted that there are often social and recreational motives and outcomes involved in environmental volunteering and volunteer work in general (Caissie & Halpenny, 2003; Measham & Barnett, 2008). Increasingly, governments encourage volunteering

programs since they often engage civic society and create meaningful connections between people as they act together to improve local community places and benefit the wider society. Importantly, environmental volunteering brings people together in a way that helps people develop a common sense of place and a sense of ownership and shared identity (O'Brien et al., 2010).

This section has mentioned some of the common social, economic, environmental, and scientific challenges and opportunities of environmental/conservation volunteerism, because several of these themes will be apparent in voluntourism endeavors as well. Although voluntourism conservation projects do create distinct opportunities and challenges – such as the increased chance of cross-cultural interaction – there are still major similarities and relationships between the two types of environmental volunteerism (such as the creation of meaningful connection between people and an increasing understanding/appreciation of science and/or nature). While there are similarities, voluntourism projects differ slightly from typical at-home or locally-based environmental volunteerism or citizen science projects, because voluntourists are usually (1) paying large sums of money to participate in the project (Lupoli 2014), (2) arriving with additional expectations of 'adventure', 'travel', 'pleasure', and 'new experience(s)' (Brown, 2005), and (3) entering temporarily into social and ecological systems with which they are not necessarily deeply familiar. These factors are liable to complicate the process of deciding on goals, volunteer activities/duties, intended outcomes, and tradeoffs in the design of projects.

Stakeholder Engagement

The issues that scientists and conservation practitioners seek to resolve are often complex, multi-scale, and uncertain in nature. Thus, it is unlikely that the solution to such problems will come from within any one discipline or institution, making coordination and collaboration among stakeholders helpful and increasingly incorporated into environmental decision-making (Reed, 2008). While organizations may further define situation-specific groups of stakeholders as related to the purpose of their particular organization/institution, a general definition explains that stakeholders are the people and organizations who are involved in or affected by an action or policy and can be either directly or indirectly included in the decision-making process (Freeman, 1984; Annan, 2008; Sterling et al., 2017) In environmental and conservation-related endeavors, typical stakeholders include government representatives, businesses, scientists, landowners, and local users of natural resources (Vogler et al., 2017) and often other members of the general

public/community and donor/funding sources (Steele et al., 2017). The level of engagement ranges from passive dissemination of information (to stakeholders) to active engagement, which emphasizes the idea that empowerment should lead to the transformation of the communities that are involved (Reed, 2008).

Stakeholder Engagement and Voluntourism Conservation Projects

Voluntourism conservation projects ideally should either engage stakeholders in the decision-making processes/plans/actions of their projects or be engaged with other collaborative efforts/conversations (initiated by other entities) to ensure that the various components of their projects are well-informed and actively considering the knowledge and perspectives of those that will be affected by the existence and/or work of their project. By engaging with diverse stakeholders, VCPs should be able to design projects that will more effectively make power relationships transparent, access new and diverse knowledge, adapt activities to evolving conditions, encourage accountability, and thus garner more support for their project (Arora-Jonsson et al., 2008; Armitage et al. 2007; Steele, Dredge, & Scherrer, 2017; Wulfhorst et al. 2008). Perhaps the most important stakeholder group to be included in VCP conversations, decisions, and plans is the local/host community in which it is situated. The perspective/values/wants that are apparently most often considered though are those of the voluntourists (Guttentag & Wiley, 2009; Smith & Font, 2014; S. L. Wearing, 2003). A major challenge is found in the reconciliation of voluntourist perspectives/priorities with those of the host community residents, since it is indeed the voluntourist group that is the main funding source and ensuring force behind the continuation of the project. However, a project that consciously aligns with the needs/wants of the host community is more likely to achieve greater volunteer success and persist (Nelson, 2010).

Engaging the perspectives of other conservation stakeholders should also ensure that the VCPs are appropriately designed to meet environmental/conservation priorities instead of focusing only (or too heavily) on the priorities and expectations of the voluntourists. Through a process of intentional project design, VCP leaders and stakeholders can identify explicit and measurable outcomes as well as the necessary tools and features required to achieve such outcomes. Conservation issues are, of course, complex and require a multitude of diverse actions applied at various scales (Guerrero, McAllister, Corcoran, & Wilson, 2013; Pressey, Cabeza, Watts, Cowling, & Wilson, 2007) and unique to the social and ecological contexts in which they

take place. It's critical that conservation problems are understood and negotiated in ways that produce strategies and actions to be implemented at the most appropriate scale (Guerrero et al., 2013), including actions taken by VCPs. Continuance of an iterative process of design, evaluation, and revision will help encourage successful protocols and practices that align the scientific and education objectives with the project activities as well as the abilities/expectations of volunteers (Dickinson et al., 2012).

Benefits of Stakeholder Engagement

By engaging diverse groups of people in conservation projects, a variety of perspectives, motivations, past experiences, and interests will be included in, and potentially influential to, the project (Vogler et al., 2017). Additionally, engaging a diverse group of stakeholders can allow projects to access new knowledge and resources, adapt activities to evolving conditions, and increase accountability among actors. If stakeholders are involved in the decision-making/planning process from the beginning, and have the opportunity to provide feedback, it is more likely that there will be increased support for, and improved implementation of, the project (Shirk 2012; Kapoor 2001). And, as more people and perspectives are involved in the process, and more sources of information are included, a project is more likely to make higher quality decisions as there is a greater amount of creative options from which to choose. For example, an extensive analysis of 239 case studies of stakeholder collaboration revealed that involving stakeholders in environmental decision-making did indeed improve the quality of the decisions made (Beierle, 2002). However, the quality of a decision is contingent on the methods and processes of participation. Important for environmental voluntourism projects, engaging local stakeholders can allow for ideas and plans to emerge that are most well-suited to the social and cultural context of the region (Richards et al., 2004). However, engaging a wide range of stakeholders is typically a delicate balance; it can be difficult to determine who needs to be included and how many opinions/perspectives can be included before the project becomes overly burdensome or stagnated. The best methods for engagement will vary depending on the stage and nature of the project (Sterling et al., 2017).

Challenges of Stakeholder Engagement

It's important to note that, as stated by Reed (2008, pg. 2420), "stakeholder participation does not take place in a power vacuum." By considering or empowering previously marginalized groups, there may be unanticipated conflicts as they interact with existing power structures.

Unfortunately, including these groups can reinforce existing privileges, thus discouraging representatives from minority or marginalized groups from expressing their perspectives (Reed, 2008). On a related note, stakeholders may develop 'conversation fatigue' if/when they are continually asked to take part in participatory processes that are either poorly facilitated or that fail to give them meaningful capacity to influence the decisions that affect them (Reed, 2008; Burton et al., 2004). Finally, as is to be expected, by engaging a diversity of perspectives there are likely to be disagreements and potential conflicts about how decisions are to be made. When collaboration involves an especially high diversity of interests and opinions, and/or when some may be particularly powerful or 'non-negotiable', decisive action may be delayed, and the extent to which stakeholders can (or believe that they can) influence decisions is limited. Again, this type of conflict or disagreement can lead to a discrediting of the usefulness or participation as well as a decrease in the willingness to participate in future collaborative engagements (Reed, 2008).

Monitoring Project Outcomes

The processes of both monitoring and evaluation are often integral to the successful implementation of a conservation/environmental project, mission, or organization as they can uncover insightful information regarding progress, impacts, and outcomes (Stufflebeam & Shinkfield, 2007). Monitoring is generally described as the gathering of information on the various actions/activities and aspects of a project/organization to better understand how they are progressing (Bartle, 2007). The method of monitoring and the type of data collected depends on the specific purpose of the organization or project in focus, and thus, there is no one true method that will work across the board. The methods used in both monitoring and evaluation can range; the process can be internally or externally conducted, formal or informal, and either qualitative, quantitative, or mixed methods-based data can be collected (Steele et al., 2017). Ideally, information and understanding gleaned in the monitoring process, which should take place over an extended period of time, should be used in the evaluation process (Steele et al., 2017) as the combination of these two processes, and the iterative feedback between them, can help organizations or projects determine if they are meeting their goals and/or the needs of their stakeholders (Steele et al., 2017).

Following that the root of the term 'evaluation' is 'value', the act of evaluation ultimately involves making some sort(s) of value judgement; the objects of evaluations are evaluands, and

these can range greatly from programs, projects, proposals, products or outcomes, to data and other types of information, or organizations, among several others (Davidson, 2018). Evaluation, as it has been formally defined, is the "act or process of determining the merit, worth, or significance of something or the product of that process" (Stufflebeam & Shinkfield, 2007, pg. 8). Merit relates to the quality of an evaluand and asks if the evaluand does well what it's meant to do. The measurement of worth (or value) is slightly more nuanced but can be broadly defined as the measurement of quality that includes consideration of context and cost; the measure of an evaluand's worth acknowledges its "combination of excellence and service in an area of clear need within a specified context and considering the costs involved" (Stufflebeam & Shinkfield, 2007, pg. 9). Evaluations should be undertaken in a way that may allow for suggestions for improvement (Scriven, 1974; Davidson, 2018). However, it is important to note that indicators and perceptions about success will vary in type and character among conservation organizations. Successes may range from social outcomes, which are less concrete or tangible, to more tangible environmentally-focused outcomes. Furthermore, success may not be defined in the same way by all members of the same organization, and the type of success that is defined can have direct or indirect connections to the organization (Thomsen & Caplow, 2017).

Increasingly so, there are calls for more monitoring and evaluative processes to take place around voluntourism projects and within the voluntourism industry, as it has the potential to create negative impacts as it continues to rapidly expand and commercialize (Steele et al., 2017; Taplin, Dredge, & Scherrer, 2014; S. L. Wearing, 2003). Additionally, since using voluntourism as a tool to address environmental issues is a relatively new approach, there is much about its shortcomings and opportunities that is yet to be well-understood. Establishing monitoring and evaluation protocols about voluntourism activities and services is integral in determining how communities are beneficially or negatively impacted by such initiatives (Raymond, 2011; Simpson, 2004; Stufflebeam & Shinkfield, 2007). To facilitate this, the International Ecotourism Society published a set of guidelines and suggestions in 2012 for measuring, monitoring, and reporting the community impacts of a given voluntourism project. While it focuses on aspects such as the importance of conducting local needs assessments, working with local and diverse stakeholders, and establishing systems to monitor progress and measure impacts, it is unknown how often projects follow these suggestions or whether they have been helpful/successful (TIES, 2012). To reiterate, since there is a great range in different types and dimensions of voluntourism

projects, purposes, and contexts within which they exist, there is no monitoring or evaluation plan that will be a universal fit. However, Figure 2, borrowed from a research article published in 2014 (Taplin, 2014), suggests some fundamental aspects that voluntourism projects should consider when designing, implementing, and reporting monitoring and evaluation processes/results, and it could potentially be used by projects as a template for creating their specific project monitoring/evaluation plan

In general, projects should implement monitoring and evaluation processes that help assure that they are relevant to host communities and are implemented in ways that satisfy the needs of both volunteer tourists and host communities (Taplin et al., 2014). Conservation projects should also monitor and evaluate the environmental components of their work, because…. While frameworks for monitoring and evaluation voluntourism projects are beginning to emerge, there is little evidence about how successfully these have been implemented or what improvements have been made possible by their incorporation., some research suggests that many voluntourism organizations may recognize the importance of monitoring and evaluation, or say that they practice it in some way, but these claims often hold little weight; there is a great need for more attention to be given to defining, educating, and disseminating information to organizations to facilitate and support improved practices (Steele et al., 2017).

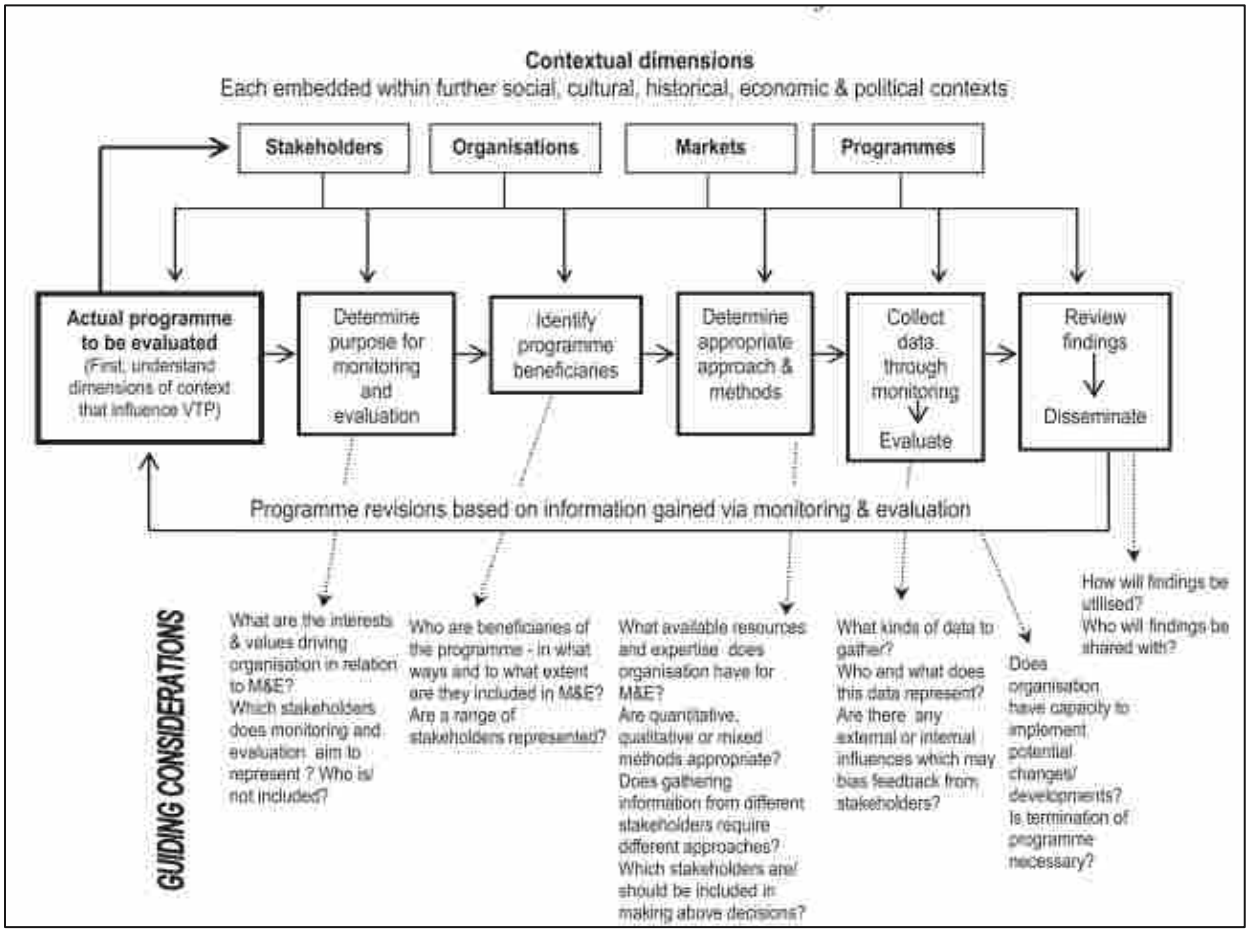


Figure 2. An analytical framework for volunteer tourism program monitoring and evaluation, including contextual influences and monitoring and evaluation processes (Taplin, 2014).

Social Networks and Analysis

As explained by Borgatti et al. (2018, pg. 2), social networks are "a way of thinking about social systems that focus our attention on the relationships among the entities that make up the system". Since an actor's position in a social network may be related to the opportunities and constraints that he/she/it encounters, a position in a network is an important predictor of actor outcomes. On a related note, what happens to a group of actors is also in part a function of the connections among them and the structure of the network. Networks do not have to be disconnected; a disconnected network contains nodes that cannot reach certain other nodes by any path. Overall, utilizing the network concept can provide and illustrate a mechanism – direct or indirect connection(s) - by which different parts of a system might affect one another. The most important components in a social network are the actors (nodes) and the relationships among

them (ties). Both the nodes and the ties will have certain traits or characteristics that define or distinguish them (Borgatti et al., 2018). It is generally expected that different networks, and the nodes that create them, will have various network properties that ultimately account for differences in outcomes for the nodes and/or networks.

While each node can represent either one individual or a collectivity (i.e. teams, organizations, etc.), relationships between nodes are categorized in four basic types - similarities, social relations, interactions, and flows– and a great amount of social network research investigates how these relationships/ties affect each other (Borgatti, Mehra, Brass, & Labianca, 2009). Brief descriptions and examples of each of these types of relationships are listed in Table 1. Beyond the type of tie connecting actors, the strength or intensity of ties can influence network or node outcomes as well. Since social networks can be observed and measured using quantitative techniques/methods, they can be analyzed by a social network analysis (SNA). In SNAs, the three primary levels of analysis take place at the node level, the dyad level (relationships between nodes), and at the level of the larger group or network. It is important to note that networks do not have natural boundaries, so it is ultimately the researcher that defines a network by the nodes and types of ties that they choose to identify and investigate (Borgatti et al., 2018).

Similarities	**Social Relations**	**Interactions**	**Flows**
Relational phenomena that are not social ties but can be treated the same methodologically – they can be antecedents and/or consequences of social ties.	Continuously present relationships between nodes.	Behaviors with respect to others that are often observable by third parties. Establish the medium that allows things to flow.	The outcomes of interactions. Flows may be intangible or tangible.
Examples: similarity in physical location, similarity in gender.	Examples: Mother of, boss of, friend of, competitor.	Examples: Talking to, giving advice to, helping another to.	Examples: money, information, beliefs
Potential Examples in VCPs: proximity in location, similar type of ownership	Potential Examples in VCPs: competitive projects, long-term partnerships	Potential Examples in VCPs: collaborating with other projects/institutions, communicating with stakeholders,	Potential Examples in VCPs: money/funding, information about conservation priorities

Table 1. The four main types of relationships among nodes/actors in a social network and examples of each.

There are two main types of outcomes that SNA research often seeks to explain. One is the outcome of success, which will consist of some sort of achievement, performance or benefit, or award either for individual nodes or for the whole network. Since outcomes are related to flows among actors, success outcomes assume that an actor's achievement is partially a function of the resources that they are enabled to access via their social ties. In contrast to the emphasis on success outcomes, where one outcome is better than another, the second major focus in outcomes is on 'style', which relates to choices. Analyses in this category will focus on things like behaviors, attitudes, and beliefs, and how observed similarities are spread via diffusion or influence, to understand things like decisions to adopt an innovation or acquisition of practices (Borgatti et al., 2018). Related to this category is the common concept of homogeneity. Node homogeneity describes the amount of similarity between or among actors with respect to behaviors and internal structures. Nodes tend to become homogenous as they experience and adapt to similar social environments. For example, if two nodes have the same ties to the same/equivalent other node, they will face the same environmental forces and are more likely to become increasingly similar. The results of a SNA are most commonly represented mathematically/visually as graphs and/or matrices (Borgatti et al., 2018).

SNA has been widely used across a variety of disciplines such as public health (Valente & Pitts, 2017), business and management (Monaghan, Lavelle, & Gunnigle, 2017), education (Grunspan et al., 2014), biology (Rushmore et al., 2012), and social science (Mertens, Saint-Charles, & Mergler, 2012), and it is becoming increasingly frequent in the field of natural resource management. It does not appear that the SNA method has been used within the context of voluntourism-related research. Nonetheless, SNA serves as an important research tool in environmental or natural resource management, because social networks have been envisioned as enabling various actors/organizations to collaborate and coordinate their management efforts (Bodin, Crona, & Ernstson, 2006) and the analysis of such networks allows for the identification of the role and influence of various stakeholders (Prell, Hubacek, & Reed, 2009) based on their position in the network. Within the literature that uses SNA to understand aspects of natural resource management, there are several other recurring themes that prove to be especially useful to the field. Among other network, relational, and nodal characteristics, literature often recognizes the strength of ties, the amount and degree of centralization, and the density of the

network as having important implications for how the network may indirectly affect natural resource management decisions, actions, and ultimately success (Bodin et al., 2006).

For example, strong ties among stakeholders increases the likelihood that they can/will influence each other and, therefore, such strong ties among a diverse mix of stakeholders can enhance mutual learning as well as the sharing of information, resources, and advice (Prell et al., 2009). Similarly, the location of specific nodes within the network, specifically degree centrality, is another network concept often discussed in resource management literature as it can relate to how information and resources (or other flows) are exchanged in the network. Degree centrality measures and refers to the amount of direct connections that one node has to others, and stakeholders with a high degree centrality are often important actors in diffusing information, bringing others together, and mobilizing the networks toward action. In addition, SNA can be a tool used to identify de facto social groups, influential actors, and patterns of communication (Crona & Bodin, 2006). What conclusions can be drawn from the analysis will, of course, be dependent on the research design and context of the network in focus.

Based on the diverse insights that can be granted via the completion of a SNA, only some of which have been mentioned or described here, the tool could help clarify how VCPs contribute to regional conservation efforts, both on an individual and collective scale. Since there has been observed homogeneity of VCPs in Peru and competition among them, a SNA will help conceptualize and identify some of the forces and mechanisms that create these circumstances. Additionally, by identifying the patterns of communication and coordination that take place in the planning, on-the-ground, and results stages of VCP work, a SNA can help reveal how/from whom each project receives information about the regional priorities for conservation and how the work/results of the VCPs is ultimately shared or acknowledged.

(Peruvian) Amazon Forests

Peru, which is located on the western coast of South America, is generally classified as a tropical country as its northern tip nearly touches the equator. While the country is known well for its tropical environments, it is in fact home to a great diversity of climates, terrains, and cultures. The name Peru is derived from the native Quecha Indian word that implies ‘land of abundance’, which speaks to the country’s vast natural resources such as minerals and metals, forest and timber products, and marine resources. The three major regions of the country include the arid

western coastal plains, the rugged Sierra or Andean mountain range, and the wet and forested Amazonia region (Encyclopedia Britannica, 2018). Amazonia, which is part of the heavily forested and tropical lowlands of the Amazon Basin of South America, makes up more than 60% of the area of Peru. While the region is most well-known for the massive Amazon river that flows through it, which has the largest volume of flow of any in the world, it is also characterized by several other great rivers such as the Huallaga and the Ucayali (CIA, 2018). Until the Spanish conquest of Peru in the 16th century, all three of the major regions of Peru were populated by millions of indigenous people representing a diverse range of cultures. Today, remnants of those cultures and peoples remain in a mosaic assemblage across the country (Leainaweaver, 2007).

Although a majority of the country's population is made of native Quecha Indians and Mestizos (people of mixed European and Indian descent), there are several remaining indigenous groups, such as the Matsigenka and Amahuaca, that still survive in some parts of the country. The differences in lifestyles among the groups are pronounced, with Peruvians of Spanish descent and mestizos controlling most of the country's wealth and power (Leinaweaver, 2007). On a global scale, the country is categorized as 'less-developed', and thus, it is not particularly surprising that their economy has been long since dependent on the export of raw materials to 'more-developed' countries in the Northern Hemisphere. Conversion, exploitation, deforestation, and degradation of the Peruvian Amazon rainforest is a popularly referenced detriment of the world's dependence on and exploitation of the country's natural resources. Within and surrounding the Amazon rainforest there is a diversity of past, ongoing, and emerging conflict related to politics, liberty and equality, and natural resource management (Encyclopedia Britannica, 2007). Instances either around or within the boundaries of Manu National Park (MNP) and/or Amarakaeri Communal Reserve (ACR), both of which are located in the Madre de Dios region, exemplify many of these cases.

Madre de Dios Region

For administrative purposes, Peru is divided into 25 regions, and each is further divided into departments, provinces, and districts. The region of Madre de Dios (Mother of God), which encompasses a significant portion of the Peruvian Amazon Rainforest, is home to MNP and ACR, among other protected areas and reserves, and it is divided into three provinces - Manu, Tahuamanu, and Tambopata. The region, which has a population of at least 101,788 (IPUMS Peruvian Census, 2007), is highlighted in red in the map below (Figure 3). The capital of the

region, Puerto Maldanado, rests within Tambopata and welcomes over 40,000 visitors each year, most of which came to participate in ecotourism activities/travels within the province (C. A. Kirkby et al., 2011). Based on 2007 figures, approximately 54.3% of the land in Madre de Dios is located in state protected areas, 2.3% in privately managed conservation and ecotourism concessions, and 2.4% in native community areas (Garcia & Limachi, 2008).

Madre de Dios has been described as a ‘‘low governance area,’’ and previous studies have noted the particularly weak governance of land use in the region (Vuohelainen, Coad, Marthews, Malhi, & Killeen, 2012; Garcia & Limachi, 2008, pg 559; Yu et al., 2011), but several protected areas of various types, and thus various levels of effectiveness, exist within the region. For example, in 2011, there were 34 conservation concessions (876,251 hectares) and 36 ecotourism concessions (81,367 hectares) in Peru (totally 957,618 ha), and most of these areas are in the Peruvian Amazon (Vuohelainen et al., 2012). Renewable ecotourism and conservation concessions are leased to individuals, organizations, communities, or companies for 40 years at a time and concession holders become responsible for the management and reporting of management plans to forest and wildlife authorities (Vuohelainen et al., 2012). Other major protected areas in the region, which are shown in Figure 4, include Manu National Park (1,532,806 ha), Amarakaeri Communal Reserve (402,336 ha), Megantoni National Sanctuary (216,003 ha), Tambopata National Reserve (274 690 ha), and the Bahuaja-Sonene National Park (1,091,416 ha). These areas do not include buffer zones surrounding the protected areas/reserves. The VCPs that will be included in this research project are located either in the buffer zone that runs between MNP and ACR or in/around the Tambopata National Reserve.

Figure 3. Madre de Dios region of Peru is highlighted in red.

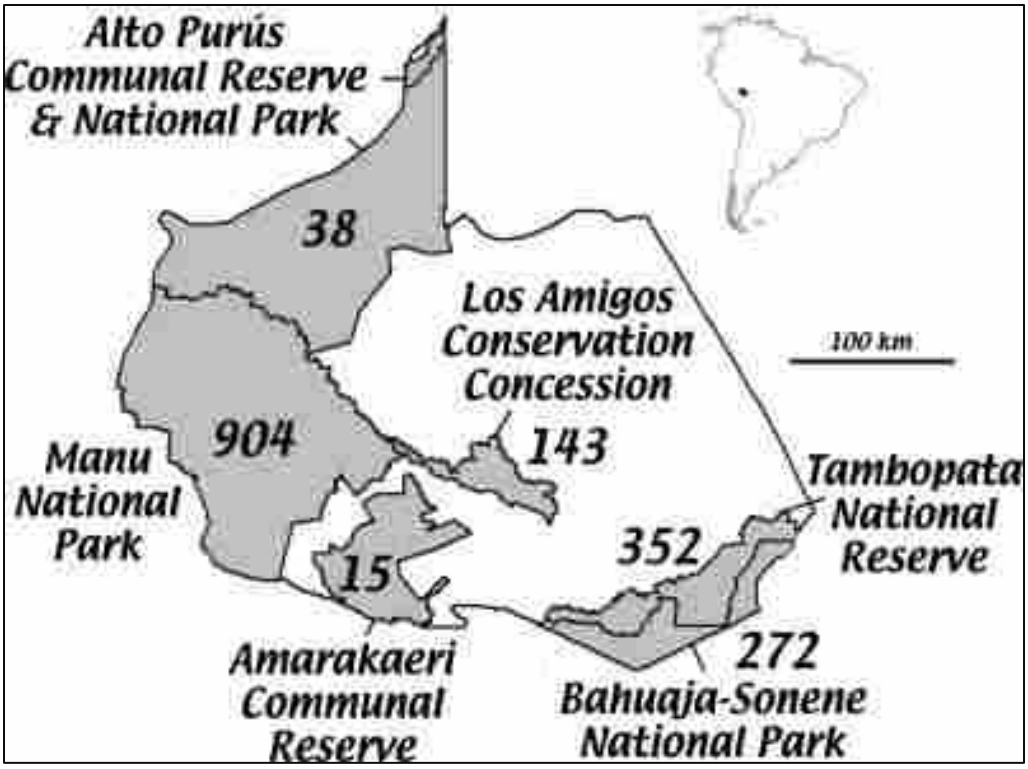


Figure 4. Map of the protected areas of Madre de Dios, Peru, borrowed from Pitman et al., 2007. (Numbers indicate how many written documents in the regional bibliography are associated with each area. Inset shows the location of Madre de Dios in South America.)

The intangible/core zone, which encompasses a majority of the MNP/Biosphere, is strictly for flora and fauna preservation and allows access only to government sponsored biologists and anthropologists. In the buffer/cultural zones, there are small village or semi-urban communities composed of Andean peasants, settlers, and/or native peoples that work in productive activities such as agriculture, forestry, and cattle breeding (IUCN, 2009). Also, as opposed to the Reserved Zone of MNP, which is also reserved for research and ecotourism, but requires that tourists be accompanied by a guide, tourists can enter the buffer zone unaccompanied. Especially since the 1990s, government agencies and NGOs have hosted projects in environmental education, forest management, agricultural outreach, community-based tourism activities in the buffer zone (Shepard, 2010).

The Madre de Dios region, particularly MNP, which was recognized by UNESCO as the core zone of a larger biosphere as well as a World Heritage site, is home to an unrivaled level of plant and animal biodiversity, and thus, of global importance. More than 200 species of mammals, 800 species of birds, 68 species of reptiles, 287 species of reptiles and amphibians, and countless species of freshwater fish, insects, and plants inhabit the area. However, The International Union for Conservation (IUCN) Red List of 2013, which identifies highly endangered species, included 118 species from Peru, many of which live in ranges/habitats within the Amazon rainforest. Both MNP and the biosphere reserve are under the authority of Peru's national protected areas agency (Servicio Nacional de Áreas Naturales Protegidas por el Estado - SERNANP) which is situated under the Ministry of the Environment. While the biosphere/World Heritage classification "recognizes efforts seeking to reconcile conservation of biological and cultural diversity and economic and social development", it is important to note that there is no accompanying financial support given by UNESCO to maintain or promote these ends (Scriven & Malhi, 2017).

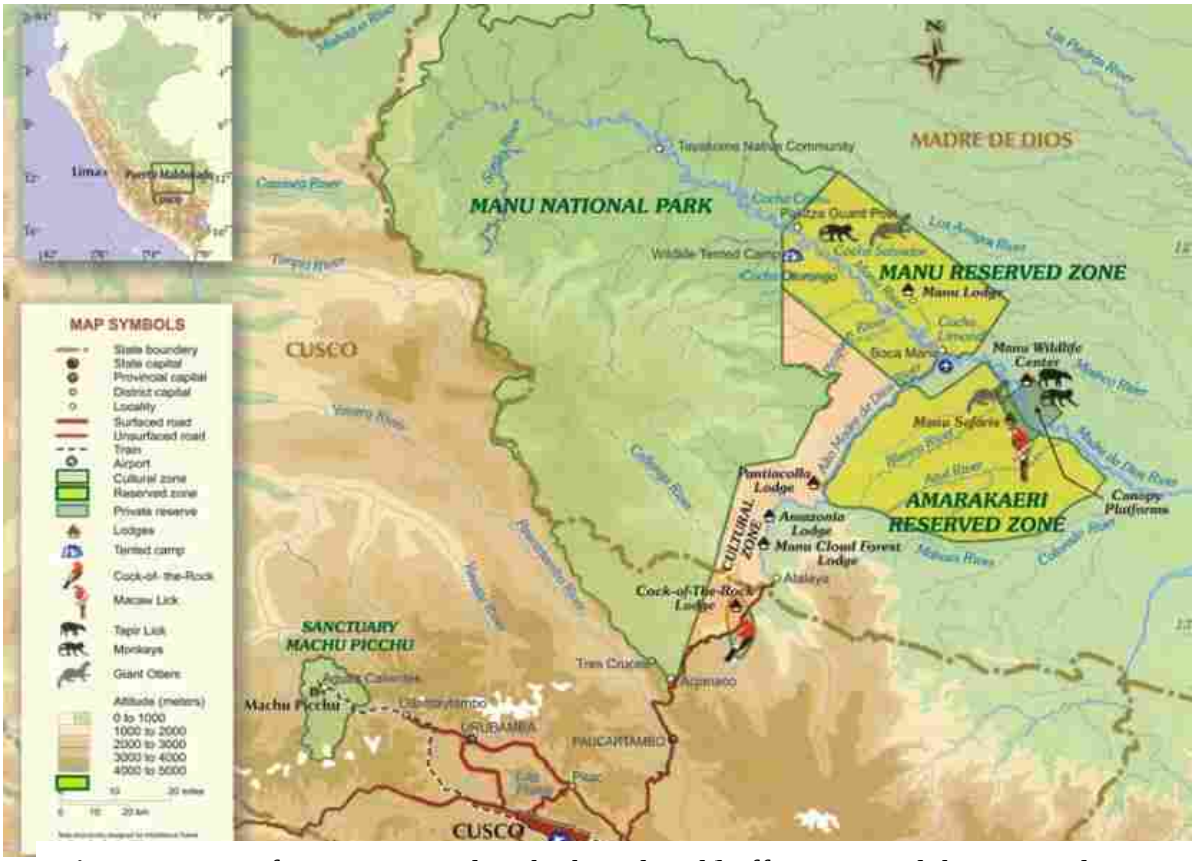


Figure 5. Map of Manu National Park, the cultural/buffer zone, and the reserved zone.

Despite the amount of protected areas and formalities found in this region, deforestation rates in parts of Madre de Dios tripled from 2000 - 2010 (Vuohelainen et al., 2012). This major increase has been related to the extension/paving of the Interoceanic Highway that extends through the region, as the infrastructure is thought to have facilitated migration to the region and, with it, increased agriculture, logging, and mining activities (Asner, 2010; Southworth 2011). However, since long before the construction of this highway, deforestation and forest degradation has been a concern of the region due to causes related to crop production/land conversion, livestock farming, oil and gas ventures, ground transportation and other infrastructure developments, mining, legal/illegal logging, and other types of extraction (UNESCO, 2011) Illegal logging in particular is more prevalent in Peru than in most other countries and, in fact, the majority of the timber from Peru is harvested illegally (WWF, 2018).

Voluntourism in Madre de Dios

While there has not been data published explicitly about voluntourism in either the Madre de Dios region or Peru as a whole, some conclusions, namely that the region has a relatively high concentration of projects, can be justly extrapolated. A study completed by Lorimer (2009) showed that some biogeographical regions and habitats are particularly popular and receive the highest number of volunteers. Tropical forests receive the highest percentage of volunteers (37% of total) followed by coral reefs and savannah type habitats. In fact, project in tropical areas attract 73% of volunteers and 66% of projects. Additionally, volunteers are clustered into four regions, one of which is 'the Andes and the Amazon'. Since project locations/programs are correlated to volunteer preferences, 84% of projects occur in one or more of the following priority designations: Conservation hotspots, critical ecoregions, and/or megadiversity countries. Lorimer (2009) specifically notes that the Tropical Andes are especially well visited. Considering that the Madre de Dios region fits under each of these categories, it can be assumed that the area is well populated with voluntourism projects and volunteers.

A Google search of 'conservation volunteer amazon rainforest Peru' (or something equivalent, such as 'environmental volunteering') produced over 25 organization/entities that offer conservation voluntourism opportunities. Further investigation revealed that some of these organizations sent their volunteers to the same on-the-ground conservation project/site, so the list was narrowed to a total of 13 VCPs. A surface level investigation of these 13 VCPs reveals that

there is significant overlap in project descriptions/volunteer duties; reforestation and flora and fauna monitoring are especially popular. Whether this overlap is intentional, complementary or competitive in nature, or aligned with larger conservation priorities or efforts of the region is unapparent.

Chapter Three: Research Methods and Methodology

To address the primary research question, this study used a grounded theory approach. According to Babbie (2013), a grounded theory method is an inductive approach to social life that attempts to generate a theory from the constant comparing or unfolding observations and the analysis of the patterns, themes, and common categories that are uncovered by this process. Additionally, the research was carried out in the absence of a hypothesis that is to be 'tested' through observations.

General Introduction of Research Methods

The data collection process engaged more than one phase and type of data collection to refine the interrelationships among categories of information (Corbin & Strauss 2015). Before explaining the specific qualitative and quantitative methods, a preliminary explanation for how and why they will be mixed should better illustrate the purpose of each distinct stage of data collection. Taking a mixed methods approach is intended to (1) provide richer, comprehensive data, (2) allow for integration of the datasets for a deeper analysis, and (3) use the datasets to inform and support each other (Creswell, 2007). Furthermore, the quantitative data and conclusions can help frame the words of participants with numerical and statistical trends or results (Creswell, 2007).

There were two stages of data collection; qualitative data was collected in Stage One while quantitative data was collected during Stage Two. Stage One encompassed in-person interviews with VCP staff and stakeholders, which was used to inform the questions included in the electronic social network survey administered during Stage Two designed to collect data on the type, quality, and frequency of interactions that VCPs have with other entities. The survey will include some questions about the VCP typology but will be mostly composed of questions required for the SNA.

Phase One: In-person Interviews with VCPs and Other Stakeholders

The qualitative research process is comprised of the participants and the data they provide as well as the researcher who is responsible for collecting and interpreting the data (Anselm & Corbin, 2015). Considering that this research asked questions of each VCP that will require open-ended, thoughtful, and potentially nuanced answers, a bulk of the data will be sourced from qualitative, semi-structured in-person interviews to generate "in-depth information about the population under study and descriptive information about the conservation site and wider

community or region" (Russell, 2003, pg. 157). A semi-structured, as opposed to structured, interview format complemented the grounded theory method by allowing for flexibility and for unexpected concepts to emerge.

Phase I included 35 in-person interviews with 23 VCP representatives and 12 stakeholders. These 35 interviewees represented 13 VCPs, two community members, three representatives from branches of the federal government (locally-based offices), one protected area representative, two contracted researchers (one local, one foreign), four representatives from four environmental/conservation NGOs (three local, one international). There are at least three VCPs operating within the region who did not participate in this study. Eleven of the VCPs who participated in Phase I were identified and included in pre-investigation conversations and planning prior to their participation; two were uncovered during in-country research and were able to participate. There are at least three VCPs operating within the region who did not participate in this study.

At least one key informant from each VCP participated in an interview. Key informants are people whose "social positions… give them specialist knowledge about other people, processes or happenings that is more extensive, detailed or privileged than ordinary people" and for this reason they are highly valuable sources of information for research (Payne 2004, pg. 134). From each of the 12 VCPs, the primary leader or founder participated in an interview; in seven cases, more than one VCP representative participated in an interview. The additional participant may have been a co-founder or staff member of the project. To maintain consistency, rapport, and familiarity with the research topic, the same key informants from Phase I were also be asked to participate in Phase II.

Because the study also addressed the nature of coordination or communication that takes place between VCPs and other stakeholders, it was necessary to include some of these other stakeholders in the data collection process. Possible stakeholders that may inform or influence the work of VCPs include nearby national park or protected area management, local governance, local community members, other international/national/local conservation organizations, project volunteers, scientists/researchers, and so on. Sampling of stakeholders should include a range of perspectives but will focus on those who might be most directly related to the conservation/outcomes of the voluntourism projects, such as local community members,

protected areas, and other conservation institutions/NGOs. Stakeholders were identified during in-person interviews with VCPs and were, therefore, contacted for in-person interviews based on chain referral. Other stakeholders, such as protected area or local government officials, were contacted based on the supposition that these types of entities should be related to or knowledgeable of VCP efforts based on their positionality. It should be noted that, due to financial, temporal, and geographic restraints, the diversity and number of stakeholders originally intended to be included in this study was not achieved.

Phase I interviews focused primarily on how VCPs identify regional conservation efforts and priorities, incorporate these initiatives in their work, how they relate to or interact with other conservation entities, and how they balance conservation or stakeholder priorities with the conditions of their volunteer work force. Phase I also collected basic typology information such as age of the project, size of land, focus of project activities, type of ownership, etc. Interview data was also complemented with observational data. With each of the VCPs that participated in this study, I stayed at the project site, worked alongside volunteers, and had casual conversations with project staff, from anywhere from one to seven nights. My average stay at a project site was four to five nights. The in-person interviews with stakeholders were semi-structured as well and asked about their conceptualization of regional conservation priorities, how they work with/relate to VCPs and their initiatives, how they perceive the role of individual and collective VCP efforts in conservation efforts of the region, and whether there are ways to strengthen the conservation contributions made by VCPs. Interview guides for VCPs and other stakeholders can be found in Appendix I and II, respectively. Approximately half of the interviews were completed in Spanish and the other half in English. Therefore, approximately half of the quotes shared in the results section have been translated from Spanish to English.

In-person interviews were used to collect information to inform the primary research questions as well as the content of the survey administered in Phase II. Each interview was recorded on a battery-operated device. From the stakeholders who were mentioned as influential or related to VCP work, and from a list of presumably important stakeholders who were not necessarily mentioned by VCP representatives, only some were purposefully selected for interviews in attempt to collect a thoughtful range of various stakeholder perspectives. After each interview of Phase I, written memos were taken to describe and define concepts, address any

methodological issues, and provide initial insight to theoretical formulations (Babbie, 2013). These memos intentionally included notes designed to inform the content of the survey to be administered in Phase II. While VCP representatives were asked to participate in both Phase I and Phase II, other stakeholders were only be asked to participate in Phase I. The research is more interested in the personal networks of the VCPs, as opposed to the networks of other stakeholders.

Prior to beginning Phase II, at least one interview from each VCP and a few of the stakeholder interviews) were analyzed. Analysis and understanding of interview content helped reveal the types of network relationships that may exist or are important to the study, which should ensure that the questions included in the social network survey (Phase II) and their wording, terms, and labels used are most appropriate (Borgatti et al., 2018). Due to the condensed timeline for this research, not all interviews were analyzed before designing the survey.

Phase Two: Social Network Surveys

The surveys administered in Phase II of data collection included close-ended questions to assess the types, frequencies, and qualities of relationships that VCPs have with other entities; this information was used for a basic social network analysis. The survey was administered in both Spanish and English. Survey questions (English version) can be found in Appendix III.

Understanding how information flows to and from the VCPs, with what other entities they coordinate or communicate, as well as who influences their actions and decisions, helps understand their place within, and contributions to, the larger (conservation) community/network. An egocentric network analysis will be used to understand the social networks of each VCPs as related to their project and conservation work within Madre de Dios. The two types of SNAs, egocentric or whole network studies, both hold the basic assumption that behaviors, beliefs, attitudes, and values of individuals are shaped through contact and communication with others (Borgatti, 2006). While the whole network, or sociocentric, SNA seeks to understand or predict group-level outcomes by studying the network structures of an entire geographically and/or socially bound group of actors/nodes, the egocentric SNA can address how one ego's (in this case one VCP's) patterns of interaction shape their *individual*-level outcomes (Borgatti & Halgin, 2011). An ego network contains the ego, those nodes to

which the ego is connected (referred to as alters), and the ties between the ego's alters. Visual examples of each are depicted below in Figures 6 and 7.

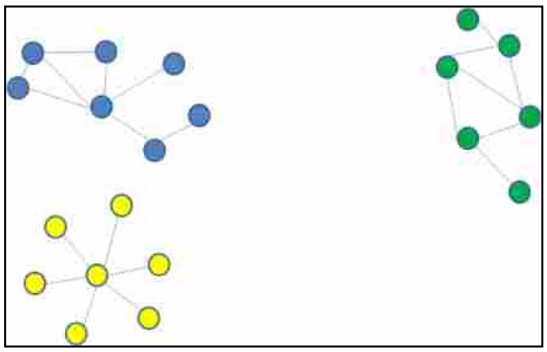


Figure 6. Three egocentric networks.

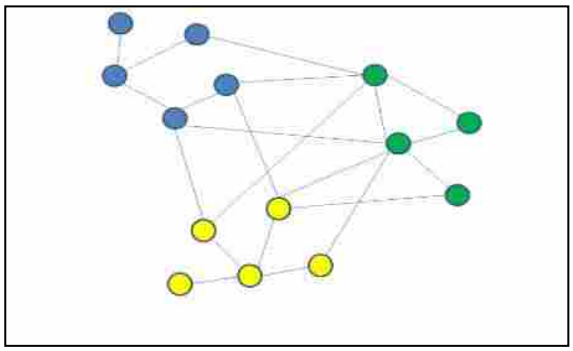


Figure 7. One whole or sociocentric network.

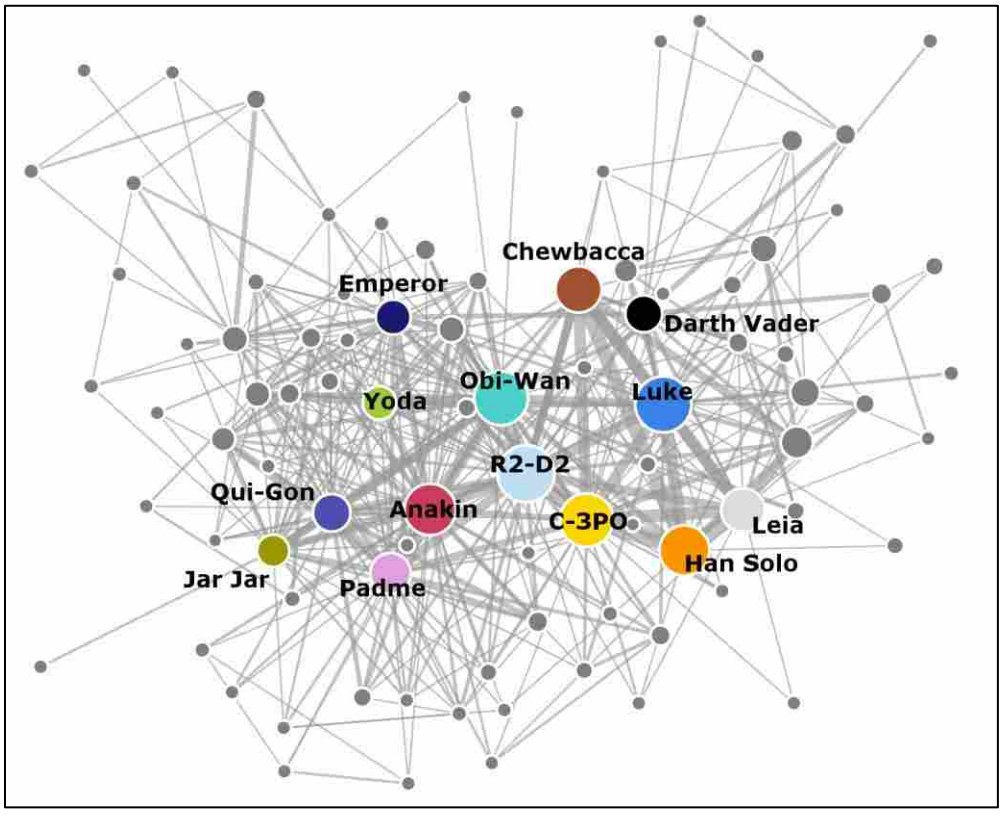


Figure 8. A whole network graph of the Star Wars movie characters (Gabasova, 2015).

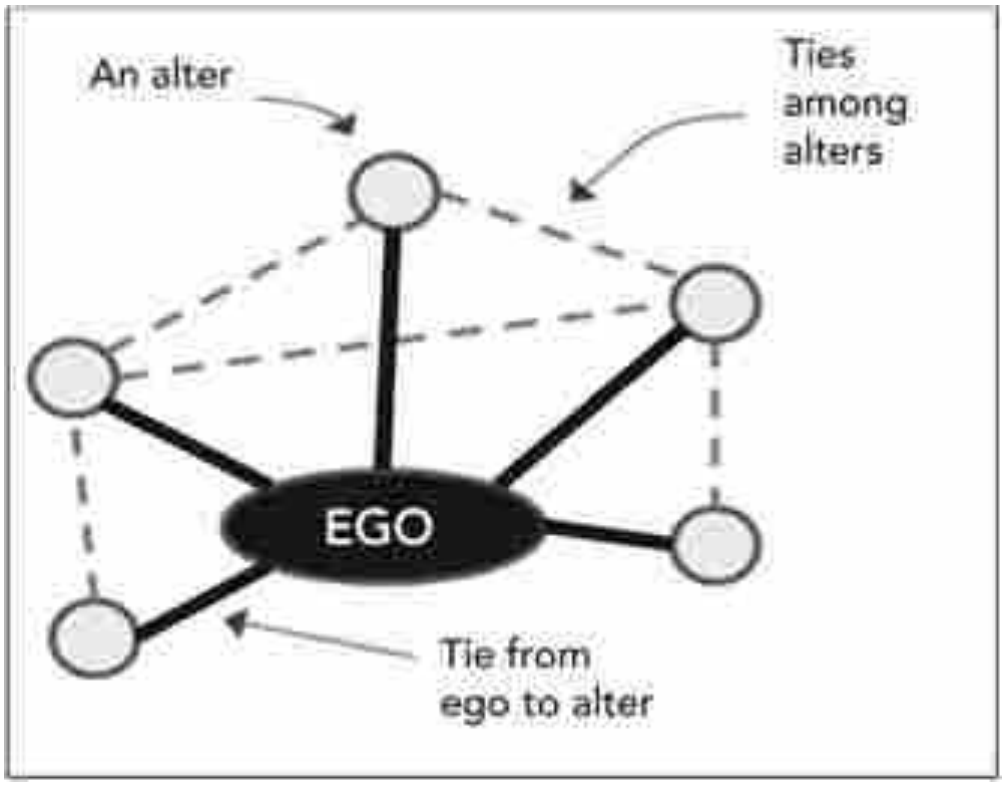


Figure 9. Diagram of an ego network, the ego's alters, and the ties among them.

Ego networks can be extracted from whole networks or they can be created via a personal-network research design, as will be done in this research project. Egocentric network analyses provided insight about the number and the type of stakeholders that each VCP interacts with, the nature of the relationship, and the flow of resources/information to and from each alter and the VCP. Whether these connections were related to how each VCP plans their project activities, carries out their on-the-ground work, and/or disseminates their project results as they work to contribute to conservation priorities of the region became apparent through the iterative process of data analysis. One of the most useful outcomes produced by a SNA is a graph or 'socio-gram' that visually represents the ties among nodes (Hanneman, 1970). A SNA uses one primary kind of graphic display consisting of nodes/points to represent actors and lines to represent the ties or relations between them (Figures 6 – 9). The process of deciding which graphs are most relative, appropriate, and significant to this particular research question will be an iterative process that requires repeated cross-reference of the SNA results/graphs with qualitative interview and typology data (Borgatti, 2017).

Data Analysis

Overall, the data analysis process was iterative in nature. Since there was more than one type of data, the process of making informed conclusions required a circular movement between various types to understand possible relationships before creating clear and final conclusions.

To address the subjective bias that may influence the analysis of data, my (the primary researcher) viewpoint and perspectives were examined before collection and analysis, as individual social, economic, or personal characteristics may impact the way that data is interpreted and represented (Hesse-Biber, 2004). To analyze the content from Phase I, transcribed interviews were entered in NVivo for coding and analysis. To better understand the interview content during analysis, observational data, post-interview memos, and a few transcribed interviews were reviewed before analysis began (Corbin & Strauss, 2015; Pope et al., 2000). To begin analysis of interview, an open and axial coding system was used to generate appropriate codes. Open coding is the initial classification and labeling of concepts in which the codes are suggested by the researcher's examination and questioning of the data (Babbie, 2013). Prominent themes identified in published scientific literature served as an initial foundation for the open-coding process. Using the results of these initial codes, which related to basic concepts such as regional conservation needs, VCP activities, benefits and challenges of stakeholder relationships, and challenges and benefits of engaging volunteers in project work, an axial coding process was used to identify core concepts by regrouping the open-code categories and searching for more-analytic concepts (Babbie, 2013). Based on the most prominent themes, concepts, and categories, and how they are similar, different, or interrelated, conclusions emerged (Hesse-Biber, 2004).

Overall, the coding process was iterative in nature, requiring continual addition of new concepts, the breakdown of large concepts into smaller parts or sub-concepts, and the combination of sub-concepts within one larger theme. Although interviews were conducted in different languages, they were coded using the same set of codes and Spanish interviews were not translated to English. Stakeholder interviews were coded with the same set of codes as VCP interviews. Due to the size of the sample, results are presented using qualitative descriptors of frequency (e.g. a majority, more than half, few, rarely, etc.) rather than statistical descriptors. Phase II survey data was extracted from Qualtrics and analyzed with UCINET VI version 6.680 (Borgatti et al., 2002), a specialized and widely used social network analysis software. Because

Phase I and Phase II interact with and reflect each other, analysis of the two was flexible and required frequent transition from one to the other to re-visit or further refine key conclusions. More details of social network data analysis are found in the Results section and Appendix IV.

Ideally, the results from the SNA would have informed the content of a Phase III follow-up interview designed to gain a deeper understanding of the reasons for, or meanings behind, certain prominent characteristics (connections, disconnections, flows of information, sources of influence, trustworthiness, centrality, information brokers etc.) of the network; this method of situating the SNA between two qualitative data collection periods is suggested by social network researchers and is referred to as an "ethnographic sandwich" (Borgatti et al., 2018). The term refers to "sandwiching a formal, quantitative network study in between two layers of ethnographic work: one at the beginning of the study and one at the end of the study" (Ofem et al., 2012). Although a Phase III data collection period was included in research plans, restrictions of time, funding, and energy prohibited the completion of Phase III. However, the quantity and quality of Phase I interviews alone do still provide depth and context for the SNA results.

Impacts and Outcomes

The findings of this study are likely to have implications for the VCPs that participated in/assisted with the research, the larger voluntourism industry, and the conservation initiatives of the Madre de Dios region. Madre de Dios served well as a study site because of (1) the great and growing number of VCPs within the region, (2) similarly, the growing number of ecotourism and conservation initiatives, (3) the scale and complexity of conservation issues facing the region, and (4) how the previous three conditions relate to each other and the pressing need to appropriately manage and coordinate conservation initiatives of the region, which is both a biodiversity hotspot and global conservation priority region. The research questions are designed to better understand the relationships that VCPs have with other entities, and thus, who has great influence in the work of VCPs and their ability to design and implement a project that effectively contributes to the conservation needs of the region. Combined with an investigation of VCP operational and organizational characteristics, this research explained conditions that may encourage or discourage coordination among VCPs and other stakeholders related to conservation efforts in Madre de Dios. Circumstances or decisions that appear to facilitate a VCP's ability to consciously and/or effectively align their work to the conservation needs of the region could be replicated by existing or emerging projects. Therefore, a final step in this

research endeavor was to share findings and suggestions with VCPs and stakeholders involved in data collection, so they can be used to further promote, adjust or improve, or to simply better understand, current stakeholder relationships and planning and implementation processes of their conservation projects.

Chapter Four: Results Overview

The main focus of this research is to understand the various types and qualities of relationships that VCPs within Madre de Dios have with other stakeholders and evaluate how these relationships may affect the ways in which VCPs are able to contribute to the conservation needs of the region. It was also relevant to collect information about VCP organizational and operational traits to decipher if such traits affected the stakeholder relationships maintained by VCPs. Therefore, it was also important to collect information about how VCPs and other stakeholders perceive the regional conservation needs. VCP representatives were asked to describe the conservation work of their project, the role played by project participants, and the benefits and challenges associated with using voluntourists as a primary work force. Interviewees also provided information about the general operational structure of a VCP, including its common challenges and opportunities.

The intent of such a wide context is to begin to understand (1) how VCP operational structure and characteristics may influence the connections that they have with other stakeholders, (2) how these relationships may affect the conservation efforts that a VCP and its participants are able to undertake and (3) how these efforts contribute to the needs of the larger or local region. In general, VCPs within Madre de Dios face common challenges and opportunities that appear to influence their abilities to maintain connections with other conservation entities or stakeholders, and therefore, the ways in which they are able to coordinate their conservation work so that it effectively contributes to regional conservation needs. It is important to note that the term ‘conservation’ is used loosely to encompass a range of related activities, including actively conserving land, producing research that indirectly supports conservation efforts, restoration, animal rescue/rehabilitation, environmental education, environmental policy reform, etc. In the following three chapters, results are categorized based on the research question (RQ) to which they most relevantly respond.

Chapter Five: RQ1 Results

This chapter presents results that relate to research question one which asks about the operational characteristics of voluntourism conservation projects in Madre de Dios and how such characteristics may influence VCP challenges and opportunities.

Voluntourism Conservation Projects (VCPs) in Madre de Dios

Because of increased access to the region, and the environmental impacts and interest that have come along with it, the region is prime territory for development of a voluntourism industry. It is home to high biodiversity and sections of secondary and primary Amazon rainforest, which attracts scientists, conservationists, and tourists alike. Based on an increasing rate of establishment, it appears that VCPs are taking advantage of the 'frontier region' character of Madre de Dios, while also trying to resolve some of the negative impacts that have been exacerbated by the region's frontier character. One interviewee noted that, ten years ago there was "no conservation action at all, very little tourism, hardly anything at all. Kind of wild west and frontier, and it felt like something new and exciting, so it really captured my, and the other co-founders, hearts and spirits." Another explained that,

> Here there is a lot of potential in the subject of volunteers, obviously, in Madre de Dios. Historically Tambopata has a giant potential in the subject of tourism, which has been reinforced, but now, more than anything, with young people.

Similarly, to the rapid increase in migration to and development within the region, the rate of establishment of voluntourism projects has also been rapidly increasing over the last 10 years. One interviewee mentioned that,

> It's a wing that recently is growing. Before there was no voluntourism. There wasn't anything. Almost nothing of volunteering. Recently we're starting to see volunteerism around here, voluntourism over there, volunteers in [Project A], a ton…. And generally, they're organizations that have started recently or they're young and they're organizations that are doing ecotourism or scientific investigation.

In general, Peru is a popular destination for tourists, especially those seeking nature-based tourism, spiritual tourism, cultural tourism, or food-based tourism. Now that Madre de Dios is more accessible to guides and their tourists, tourist attraction is spilling into the region. One interviewee explains that one reason for the rise of tourism and, more specifically voluntourism, in the region is because,

> You are near Cusco, Macchu Piccu, [so it's like] half an hour in flight. That's why there's more voluntourism and all that. And many volunteers who come are staying...That one in [Town A] is managed by a volunteer who came years ago as a volunteer. He is now the director of the [VCP].

There are at least 18 VCPs working within the region. Fifteen of those projects contributed to this research project. In general, these fifteen projects have similar operational and/or organizational structures, with different but sometimes overlapping focuses in their project efforts. Since they have similar operational structures, the VCPs tend to face similar challenges and experience similarly unique opportunities. The structure and traits of VCPs may also influence the type of relationships/networks they are able to establish. The similarities found among operational structures, focuses of various projects, their challenges, benefits, and relationships with other stakeholders are described in the sections below.

Organizational Structures and General Characteristics of VCPs

VCPs are a type of ecotourism venture and they represent a unique type of "business-model" approach to conservation. Visitors and participants are paying customers and essentially "investing in the cause of the project whether they see it that way or not". These visitors range in type as many VCPs often differentiate between tourists/visitors, volunteers, interns, and independent researchers. Unless one of these groups is specifically noted/named, they are collectively referred to as project 'participants' throughout this analysis. For the most part, all participants do pay fees to the project, which are used to pay for food, lodging, transportation, staff support, supplies and other operational costs of the VCP. In some cases, typically for native Peruvian participants, fees may be waived or dramatically reduced. For the VCPs included in this study, the participant fee ranged from $7.00 to roughly $135.00 per day. The variation in length of a participant's stay can influence fee structures. For instance, a six- month-participant would pay $50.00 per day, while a one-week-participant may pay $135.00 per day at the same VCP.

Most of the VCPs in Madre de Dios were initiated within the last ten years. Five were initiated before 2010 and nine between 2010-2019; six of these nine were initiated between 2015 - 2019. The rapid and continuing increase in the number of VCPs in this region is apparent. Of those that contributed to this study, one is operated by a local of the area in which the project exists, three are operated primarily by a Peruvian leader, five are primarily operated by a foreigner and a Peruvian partner, and five are primarily operated by a foreign leader. In some

cases of foreign-Peruvian partnerships, it is clear which entity takes the leadership role, while in others it is ambiguous or equally split between the two entities. To make this comparison simpler, there are two distinct categories – 'foreign initiators' and 'Peruvian initiators'. It is important to differentiate between foreign and locally initiated projects because this may affect the type of relationships that projects are able to create or maintain, and perhaps, the type of conservation work they are able to achieve (Table 4). This study highlights the large amount of foreign influence in VCPs within Madre de Dios.

Seven of the projects in this study were initiated by a previous staff member and/or volunteer of *another* VCP in the region. This phenomenon can be partially attributed to the frontier character and the growing tourism industry in the region. Increased access allows more tourists to enter and connect with the place, while the frontier character allows them to return and take ownership over a piece of unclaimed or ready-to-lease land. While land is being claimed for settlement, agriculture, development, and material extraction, it is also competing with tourism and conservation.

Although some VCPs own rights to their land, many have conservation or ecotourism concessions from the government, which allow them to hold the land for at least 40 years. The number of acres held by VCPs in this study ranges from 0 hectares to 4,460 hectares, and most are located within secondary forest, a few contain small areas of primary forest, and only one occupies a severely degraded/deforested site. It should be noted that other projects within the region also occupy deforested or agricultural sites, but they did not contribute to this study.

For the most part, VCPs are isolated from nearby towns, communities and even neighbors. For example, one leader said, "I can't communicate with my next-door neighbor when they're a forty-minute boat ride away just to be like, hey, have you got some candles I can borrow? … It [doesn't] work like that. [and] we don't have any service here." There are several reasons and benefits behind the isolated character of most of these projects. In some cases, this isolated property was simply what was available for lease or purchase. For those projects that focus on ecological research or monitoring, these isolated sites are typically more intact and more inhabited by the flora and fauna that staff and visitors are attempting to experience and/or study. This can allow for more research on these subjects and is more enjoyable for volunteers who are coming to live the jungle experience. The isolation can often contribute to the richness

of the experience for the volunteer; they are living directly 'in nature', they have boundaries to what they can do (e.g. you must remain within the parcel of forest rather than spend all your days in town), and they are able to create close relationships with the small community of participants and staff in that isolated area.

However, the isolation of projects and their participants can also cause challenges. For example, an isolated project site can make it difficult for VCPs to regularly interact with or sustain meaningful relationships with outside entities. For example,

> It's just not a very in-depth, profound kind of relationship [with the nearby community] … we are quite cut off so it's not easy for us to come and go all the time and it's also equally not as easy for community members to come here. Sometimes school kids come here for different trips and then sometimes, we have an anniversary coming up soon and then we'll be invited, and everyone comes from all over the area, but generally we're just here and they're just there.

Some projects intentionally work with surrounding communities, but they can be half a day to four days away, so interaction may be infrequent. Even though most VCPs do not work directly with nearby communities, they still must make frequent trips in and out of the project site to pick up/drop off participants, purchase supplies, access internet, attend meetings or events, etc. Many interviewees noted that this transportation to and from the site can be especially costly, and these financial and time costs can limit what the project participants and staff can do. For example,

> Six or seven years ago… we had agreements with the municipality, which were a little difficult because of mobility…from here… to the forestry nursery is 19 kilometers. I'd made an agreement to be able to support the forestry nursery with my volunteers, so they could get a bit more knowledge about forestry plantations, the maintenance, and to get to know the plants a little better … a connection that was maybe one year, no more. Because the cost was a bit strange... to get transportation to arrive down there, you have to have lunch there, so… after that, I don't think… another person has made this exchange. Of ideas with the engineers or the techs of the municipality… the only thing I see is that they go and get plants.

In addition to type of ownership, type or size of land, and the number of years in operation, VCPs can also be categorized by the *type* and focus of their conservation work. Each VCP has at least one program that has on-site impacts (e.g. biodiversity monitoring, reforestation, ecological research), but many also have programs that are more oriented toward impact on the volunteers (e.g. sustainable living, experiential learning, professional development). And, a few projects facilitate programs that are not necessarily directly related to

conservation (e.g. teaching English). Table 2 displays a range of various project attributes for the VCPs involved in this study along with the type of conservation work that their project supports.

Table 2. VCP Typology. Information that was not obtained is listed as 'n/o'.

VCP #	**#Years in Operation**	**Size of Land** (ha)	**Side of Region** (1= west, 2 = east)	**Type of Ownership** (F=Foreign, P=Peruvian, L=Local)	**Previous Volunteer** (PV=Previous Volunteer)	**Main Focus(es) of Conservation Work** A=Agriculture, AF=Agroforestry, AR/R=Animal Rehab/Reintroduction, CD=Community Development, CE=Community Education, CP=Cultural Preservation, F/FM=Flora/Fauna Monitoring, R=Research, PE=Participant Education, P=Protection, Rf=Reforestation,	**Participant Activities** AC=Animal Care, AF/P=Agroforestry/Planting, CE=Community Education, DC=Data Collection for VCP Research, F/FM=Flora/Fauna Monitoring, IR=Independent Research, Rf=Reforestation
4	2	50	2	F - P	--	R, F/FM, A, PE, CE	IR, F/FM, DC
5	11	<30	2	P	--	AR/R, CE	AC
9	3	4,460	2	F	PV	R, P, PE, CE	IR, F/FM, DC
11	10-20	655-1000	1	P	--	P, F/FM, CD, CE	IR, F/FM, E,
16	14	643	1	F	PV	R, F/FM, CD, PE	IR, F/FM, DC, CW
18	6	<30	1	L	--	AR/R, CE	AC, CE
22	3	300	2	F - P	PV	R, F/FM, AF, CD, CE, AR/R	IR, DC, AF/P
25	2	172	2	P	--	R, F/FM	IR, DC, F/FM
27	2	0	1	F	PV	n/o	n/o
28	2	n/o	1	F - L	--	AF, CD, CP	AF/P,
29	7	23	1	F	PV	Rf, F/FM, AF, CD	AF, Rf
30	6	60	2	F - P	PV	F/FM	F/FM
34	12	190	1	F	--	Rf, F/FM, PE	Rf, F/FM, IR
35	4	100	1	F - P	PV	Rf, F/FM, PE	Rf, F/FM, CE
40	17	476	2	F - P	--	R, F/FM, AF, PE, A/AC, CE	Rf, F/FM, IR, DC, AC

Roles, Benefits, and Challenges of VCP Participants

Interviewees varied in how they referred to or described the VCP participants, suggesting that participants play diverse roles and overlapping roles such as 'tourist', 'student', and 'project contributor'. A 'project contributor' is a participant who contributes to the project directly with, for example, funds, labor for project goals, with their independent research projects, or with other goods or services. These role titles were created based on analysis of the different ways in which interviewees described their participants across each and all interviews. Although interviewees described the role of their participants differently, each participant typically plays each of these three roles, at varying degrees, simultaneously. In other words, 'project contributors' are also 'students' and 'tourists'; and, depending on the plans for each day, they may play more of a 'tourist' role rather than a 'contributor' role or vice versa.

Some VCPs specifically differentiate between the different roles of their participants, giving them the option to visit as a tourist, a volunteer, or an intern. A 'tourist', in this case, is differentiated from volunteers and interns even though, according to formal definitions, all visitors are tourists. One project leader explains that,

> We have our constant income of volunteers now, we have like a good solid amount of volunteers… but we are also focusing a bit more now on tourism, because it can bring us more money and help us in that way as well. It's not like high-end tourism, it's more … they know that they're coming to a place where we're conserving, and we show them the research that we do.

Whereas volunteers and interns participate in activities to contribute directly to a VCP's goals, tourists are there simply to experience and learn about the ecosystem and, in most cases, the conservation efforts of the project. These 'tourists', therefore, are considered and managed differently than 'participants'. However, unless specifically mentioned, the relationship between a VCP and their 'tourists' is not described in this analysis because emphasis has been placed on understand the role of VCP *participants.*

Roles of VCP Participants

Tourist/Experiencer

By definition, all project participants are 'tourists' since a tourist is someone who "[travels] to and [stays] in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes" (UNWTO, 2008). Participants are guests at a VCP and

must have their needs/wants acknowledged, often catered to, and managed. But, VCP leaders do still differentiate between volunteers and interns (project participants) and 'tourists'. While general 'tourists' are 'experiencers', too, this section describes the 'experiencer' role played specifically by project participants.

All VCP interviewees described some aspect of the 'experience(s)' that they craft or provide for participants. Several interviewees explained the necessary balance that must be found between creating a fulfilling 'experience' for their participants while having them meet the goals of the VCP project. There is a need to "find a balance between technical-scientific activities and a little bit of relaxation." One leader explains that,

> There's absolutely a balance that we have to hit between people working on data collection that we need, projects that we need, and also providing more of an educational and, I would say, almost tourism side. Which I think serves a role in terms of introducing people to [the region], insuring that they have a good time, but it doesn't necessarily channel into the work and the project objectives that we have.

Another mentioned that "within the activities that we do, they also have their days. Like today, we went to the waterfalls, we go to the clay lick, a place to show them biodiversity, we go out on a walk to look for wildlife."

Several interviewees note the importance of communication with participants to identify any special areas of interest so that during their time at the VCP, and perhaps *while* they are serving the role(s) of 'student' and/or 'contributor', they can enjoy experiences that align with those interests. In other words, VCP leaders will "try to figure out what they're interested in" and "try to… incorporate what [participants] are interested in." In fact, ensuring that participants have an enjoyable experience is vital to the long-term success of VCPs because, as explained by one leader, "without volunteers, without tourists, we wouldn't have any [money], so it's like… if their experience is good we can ensure that volunteers will keep coming." This process of assessment and integration of individual interests is important because,

> What, for one, could be enjoyable, for another is a punishment. And sometimes people who don't know, or who have never done anything in their life, find that the nice thing they wanted to do, is a punishment; it wasn't pretty. The monkey was so cute, but only for three seconds because then he poops on you, he pees, he crawls on you, he bites you and now it's not pretty… this I know, too, so it's important to measure who is who.

The same interviewee describes the process of incorporating participant interests to create a fulfilling experience:

> When they say, “this interests me” – what could it be? Studying butterflies? … So that we both get the most out of it, from there… I say, “Look, grab a basket, put some clay in it, put some rotten fruit, pee on it and tomorrow we’ll have butterflies” [laughter]... For people like this, I have all the capacity to manage their interests. I don’t dedicate myself to making butterfly houses, but if someone comes tomorrow with that interest, in the blink of an eye, I’ll make a gigantic butterfly house… it’s not my interest, but I’ll give it to them, "We will make your butterfly house, but in the meantime tomorrow you’ll plant plants, you’ll clean the corridor, we will do other things”… It’s very nice for the environment, very ecological, is very cool, very colorful… but I'm going to make sure they help me with the project... With something strategic… things that are, both for the project, and even for [the participant], probably a task that leads to reflection.

Other interviewees noted the creative ways in which they strategically consider participant preferences in ways that allow the participant to be an ‘experiencer’ while also contributing to project goals. For example,

> The gentleman preferred to go to these places where you don’t do anything, everything is included, you’re laid back… and I said, “Great. That’s the person we need because if you’re going to lay back all day, go to the river please and monitor animals.” It’s perfect because there are people who can’t stay still for half an hour. So, in this you get to know the person and then all of the activities can balance themselves.

Student/Learner

Most VCPs are also managed to create an educational experience for their participants. In this sense, participants play the role of ‘student’ or ‘learner’. A centerpiece of all VCPs is that they teach their visitors about the local flora and fauna. For example, one VCP reflects: “When they return to their country... They’ll know these things, right? Animals, types of birds, or what it is in English, the scientific name, the local name, what it eats, what role it plays.” Most others also teach about local environmental issues and conservation efforts in Madre de Dios. It appears that most of these teachings occur in informal settings such as casual conversations or walks through the forest. For example, project leaders “teach [participants] things, bring them to get to know the forest, in the trails” or a participant may “go out and learn some stuff while they go catch butterflies.” One project leader “[tries] to help people as much as [they] can with conversations; conversations that you can have in any moment, with any person.” In some cases, teachings occur in structured settings like a lecture/lesson, videos, or specific guidance (on research projects) given by staff members. A few VCPs have programs designed to teach or train their

participants as researchers or future conservation practitioners/leaders, or to help them develop personally or professionally. One interviewee emphasized that,

> We really try to teach them, a lot, and make them grow also in an academic way. We really put a lot of effort in getting them… projects that they are interested in and then mentoring them every step of the way. And having them write a report and setting things up, and analyzing their data, and wrapping it all up, instead of just making them go out and do work that needs to be done for us. Instead of just using them to be useful for us, we want them to gain something in their academic studies or… also, personally, if they just want to grow on making a project and become more independent.

Some may allow their volunteers to enhance other types of skills that aren't necessarily related to conservation, such as teaching. One interviewee explains how their project provides unique opportunities for participants:

> Someone who never has been able to work with children, who has no idea and maybe is even a little scared, but they want to do it - I give them the opportunity… I'll put you in school, I'll tell you what to do, how it will be, what you represent, who you are and tomorrow…you're teaching.

A few projects focus on creating a space that teaches ecological consciousness. These VCPs may have, for instance, sustenance programs, provide/require biodegradable products, serve vegetarian meals, use limited amounts of electricity, or offer teachings that emphasize sustainable lifestyles. One project leader mentions this type of teaching by saying that,

> There are people who tell me 'should I return the biodegradable shampoo? Because I'm leaving. ' I tell them – but take it with you! Keep on using the biodegradable. It's not just here... To keep in mind every act of your life - this space offers you that. Keep in mind - in every act of your life - what are you doing? Then, also from there, something interesting is generated. Because of course, you are here and worry about... a paper bag that you don't throw away. That you can use again. Or a plastic bag. Reuse it. And that's in your memory. And then one makes those decisions at home. But that part is important – generating conscientiousness.

A different project leader also describes the impact of this type of (ecological consciousness) education by saying that,

> It's also what they take. What they learn, no? And the connection with the place. We say, [it's not just what you do here]. We know that when you [go] back to your country something has changed just [from] the experience, no? We know that after being at the reserve, even without thinking about it, your way of living after that will be more sustainable.

Overall, most VCPs note 'education' as one of their main goals. One leader explained that "conserving, research, and education… are still our three main… pillars". A different VCP leader also mentioned "the three pillars are conservation, education, [and] research." Another leader explained that,

> Our volunteers come, and they basically fulfill … it's more like an education tourism where they're paying and that helps us to survive. What they're getting out of it is an education experience and so really right now I would say most of the value is in the income and the value for the student is in the education.

In many cases, "people that apply to come as… volunteers have a purpose… they want to learn because they want to use the skill, so they're focused, they're generally doing it for a purpose." In other words, volunteers are usually, but not always, seeking this type of experience and education. Regardless of whether their participants have a specific interest in rainforests, ecology, conservation, etc., many interviewees note the way in which participants are inspired in one way or another by their VCP experience.

> I'd say, by far – hands down – the biggest thing that all of these voluntourism places do, is the most important thing they do… is inspire young minds. To be like… this is really cool and… I care about this and I can do something here… I can be a part of this. I can learn here and also teach here and just like be a part of this movement… it brings them here and really puts them in it in a really like non-sterilized way. It's not 'tourism'. You're not going to hang out in a fancy lodge – it's real and it's in your face… and its overwhelming at first, but then you get the sense of… I can contribute to this, I can do something in whatever my own way is, and then they take that back, they go home, maybe they study more or whatever… in a lot of people it just starts this little spark in their minds where they're like, 'yeah, this is a thing I'm going to do.'

Direct Project Contributor

In addition to learning and enjoying experiential activities, participants are also described as direct contributors to the project's work-and/or success. Participants contribute to the productivity of a project in several ways. They are most often cited for contributing labor to support the project's goals; this can be labor towards various causes such as site maintenance or data collection (Table 5). Secondly, they contribute financially to the project, either through their payments to participate or donations. Thirdly, participants contribute to the research or knowledge generated by each project via an independent research project or knowledge/input contributed to ongoing VCP research endeavors One interviewee explains that,

> Their money is really important, but also, they're just helping with the actual research. We are trying to teach them something or sometimes people come in with their own research, which would also just help us if articles get published from research done on [Project A], so in various ways volunteers are helping us with our costs.

Another mentioned that "in participating in the project, those volunteers provide a physical, so in terms of labor and financial, support to the projects. The research projects and the community projects that we run." More often, it is interns who are credited with contributing to project research or knowledge, because they typically have longer stays (6 weeks – 6 months) and they often complete their own individual research which aligns with project goals or, at the least, contributes to knowledge collected from the project site. Volunteers, on the other hand, will typically work on a wider range of activities that contribute to permanent project goals, sub-projects or, in some cases, investigations led by an intern or independent researcher. In this sense, participants can play the role of 'direct project contributor' by teaching or leading *other* participants, thus lessening the workload of permanent VCP employees. The two most commonly cited ways that participants directly contribute to VCPs were (1) work/labor for project goals and (2) financial support for the project. In other words, participants are the major method of financial support/resources for VCPs. Not only do they work as 'laborers' for the project, thus allowing that the project hire less paid staff to accomplish the same amount of work, they also pay to do so which is unique compared to other forms of volunteering.

Financial Support for Project

Volunteers are essential not just for project labor, but also for financing the projects and supporting operational costs of the VCP. More often than not, a "project only has finances from the people that come" and these fees paid by participants are used to pay salaries to project staff, buy food and supplies, transport volunteers, and for other managerial or logistical needs. One interviewee explicitly said,

> I would say… alongside that kind of physical work, the other component is simply the fact that by having volunteer and intern programs year-round that provides us with a sort of income as a business that allows us to maintain a presence year-round, which we wouldn't necessarily be able to do otherwise.

Therefore, an ongoing stream of volunteers/visitors is almost essential for the financial viability, continuation, and capabilities of the project. Fees from participants also pay salaries of long-term staff who are responsible for generating project outcomes like research manuscripts, educational

outreach programs or materials, or partnerships with other entities. For instance, a few VCPs have staff capacity to support local communities by helping them develop and sell products such as chocolate or cacao soap or alcohol; VCPs may use these products on site, participants can buy them directly from community members, or VCPs may help producers sell products in other markets. The heavy reliance on volunteers for project funding can be viewed as a benefit and also a challenge for the sustainability of VCPs.

General Challenges of VCPs

The challenges associated with working with and relying on volunteers should be considered a 'challenge of VCPs' but there are other challenges related to the common structural and operational traits of VCPs and the environments in which they work. One common challenge was balancing the need to manage participants and their wants and needs with the desire to produce meaningful project outcomes. One interviewee, for example, said that,

> The research we've done has also been great, but it's been equally… limited, just by… staff capacity to focus on that… it's sort of finding the right balance between… being able to support and run programs for volunteers, for clients, who are paying to be here, and who are essential to what we do, but at the same time, having the time to sit aside and work on your computer and analyze stuff and produce stuff. So, finding that balance is essential, but it's hard.

Other challenges that were only represented by a few interviewees were lack of organization or formality, lack of local support, isolation of project site, and existing amidst bad reputations of NGOs or outsiders. But, by far, the most common challenges of operating as a VCP are related to lack of, typically financial, resources. Another commonly noted challenge was the growing number of VCPs in the region, and that growing competition has the potential to stress already limited project resources.

Limited Resources

VCPs rely on volunteers for most of their funding, so it's pertinent that their program structure forms around the participant wants/needs/preferences, which can limit, or at the very least, influence the types of projects that VCPs are able to complete. Additionally, projects typically operate on limited financial resources, since they do rely on volunteer funds to finance their project, but also have to use those funds to meet the needs of volunteers, not just to help achieve the on-site conservation goals of the project. One interviewee explains the essentiality of participant fees by explaining that,

> On the one hand, it's a bit of a tricky line to walk with the whole involving a clientele base into conservation, like their money and stuff, but at the same time it's super important. It's the only way that any of these organizations stay afloat, really. Because when you start up, you get those preliminary donations to buy the land and maybe build stuff, but then to actually keep functioning on a daily basis, no one gives that money. So, that's where… maybe it sounds a bit petty, but money makes the world go around, you know? We couldn't be here doing research and conservation if we didn't have money to buy food, water, and gasoline.

Many interviewees describe extremely minimal and restricted budgets. One project manager said "in reality… in five years we have never seen – not even on sol… it's not a business. We don't benefit from the lodge." In other words, most of participants' fees go back to VCP operation costs rather than to the employees or project owners. A different interviewee noted that, "I don't know where the money goes that we get from volunteers and interns… we need to rely more on grants because it seems to me that although people are paying quite a bit of money to be here, for whatever reason, we don't have that much money to spare." One interviewee simply stated that, "the biggest thing that all these organizations struggle with, it always comes down to the bottom line – is money. They all struggle with money."

Many VCPs operate with a small or limited staff that often feels overworked and/or financially undercompensated. Several interviewees explain that there is more than just financial incentive to work with a VCP; many employees are drawn to the unique opportunity to pursue their passions related to the rainforest and may take less pay in exchange for this. One project leader said, "the employees are stressed out and… they're working really hard, very little money, but I think they're generally happy and I think they're very inspired which is why they're staying." Another mentioned that,

> We don't even have… the proper amount of staff to feel not overworked. For instance, I woke up at 6:30 today and I will be working till nine for sure. No questions asked. And it's not a bad thing… if something is not absolutely urgent, if it's not the most pressing thing, I can't think about it because there's too many other things going on. And so, what happens is you lose forward thinking and you lose relationships like that. We need to be looking for more grants but unfortunately [Name]… has so much work already on her plate that I don't know how she could every possibly be looking for grants.

Not only do VCPs lack financial and staff resources, but, possibly as a result of these factors, they have a high rate of staff turnover, which creates a different set of challenges. One interviewee noted that "changing over in staff… is a reality of an organization like ours." And another emphasized that,

> Whenever we transfer a new staff member in or an old one out, what it means is you're losing a lot of knowledge… It's just that if someone took the time to sit down and say, I'm here for a while, and let's make a difference together. Because what you see in [Project Name] as well is that there's so much transition of staff that if I was to go over to [[Town Name] with all of my staff team, all - a lot of us - would be constantly changing. So how can you make a relationship with community members if you're never there? O if you're just seeing new faces every single time?

Lack of sufficient staff support and/or consistency can also impede on the quality of relationships that VCPs have with other entities, which is an extra burden when "communication in general is actually pretty hard [there], because people do work in remote areas and because everyone is understaffed or… everyone's doing their own thing."

Competition with other VCPs

Not only are most VCPs already stressed for sufficient resources, their access to paying participants is becoming, in many cases, increasingly unreliable due to a growing number of VCPs in the region, and thus, more competition among projects to secure participants. Out of the fifteen VCPs that participated in this study, seven (44%) were initiated within the last five years. In Madre de Dios,

> There are many problems with voluntourism; each one fights for their own market – there are those where only the English can come, those where only Americans, only Spanish – it's well fought over… the one that has few volunteers is the one that won't continue…This is a weakness and a weakness with which the majority of projects are presented.

In the words of another interviewee,

> What we're seeing is this huge growth and expansion of small, little NGOs and people who are coming to this region that might have been here as a volunteer before… who are coming and setting up their own little projects, which are also volunteer projects, also doing research, also in the same region. And… I think it's really positive, but there are some people who are concerned about that, who are concerned of the competition that that will create cause it's a limited market.

Although the region receives more tourists each year, participants are still divided among an increasing number of VCPs and, in some cases, VCPs are receiving less participants. One interviewee described the effects felt at their VCP:

> What we've been seeing more in the last couple of years, because the prices here are relatively high compared to some of the newer projects that are starting up, but because

> we've got everything well-established… But … with all the other projects around now, it's really difficult to get the same number of people in – the same quantity as we used to.

Another interviewee emphasized that "there is definitely competition between the groups. Especially as they grow. And as they start to incorporate more clientele, as far as like volunteers and interns, because it's just, money and the human condition." Importantly, this competition, in addition to potentially restricting access to participants, funding, and project resources, can be challenging to VCPs and their work in that,

> As soon as you start worrying about competing rather than just focusing on your goals, then the goals become secondary. So, therefore, they can be sort of put aside. Or when people are competing to get volunteers and stuff, then it sort of becomes more about just getting the volunteer and not utilizing the volunteer. Or teaching the volunteer, or inspiring the volunteer, or whatever. And that can affect the quality of the work that happens and can also affect the experience had by the person that comes, which, as I said, affects, super directly, if they're going to care and want to come back, or not care and want to go somewhere else… So, in that way it definitely affects the work.

Competition among VCPs can also stress interpersonal or interorganizational relationships and challenge opportunities for collaboration or mutual support. This type of challenge is described with more depth in 'VCP Competition' section.

General Opportunities of VCPs

Most of the opportunities encountered by VCPs in Madre de Dios are related to the benefits of working with a volunteer workforce. For example, the constant stream of diverse knowledge, energy, and creative input brought by participants creates unique opportunities for development and achievements of VCPs. And, that some participants will "spearhead" or lead sub-projects, is also a unique opportunity created by the organizational structure of VCPs. One project had an "intern that was one of [their] very first ones, [and has come] back four times now and is now basically leading her own section of [Project A]." Plus, "it's great to think that we have a workforce that is paying to work", which, can indeed cause challenges but is also a unique opportunity that not all types of conservation organizations can access. Finally, although most interviewees recognized the growing number of VCPs as a challenge, they also recognized the benefits or opportunities of the circumstances, too.

For one, "obviously the more people you get here and that work here and that learn something about the region, the more aware people might become about the problems of this

region, so this would be an opportunity." And, although some projects may be experiencing negative impacts from the decline in participants, it's possible that it will eventually be offset by the growth in tourism in the region.

> I think that there's enough volunteers and tourists for everyone. There's… Machu Picchu, and Peru, are huge tourism pools… Madre de Dios is very popular, I think tourism is growing here, voluntourism is growing here. As these little new organizations are growing so is the market, I think. And as long as you're providing a good product and like a real or genuine product, which is not just, you know, plastic volunteering where people are coming… without a real purpose, then I think there's no reason why you shouldn't be successful.

The same interviewee also explained that competition among projects could be "good for the region" by improving the work done by VCPs because "it may end up pushing the standard of volunteer projects… We want people… to push themselves and make sure that their work Is valid, and its good, and the service level is good, and the volunteers are being treated well… ultimately that's what competition does." Some interviewees also recognized that more VCPs in the region may allow for increased opportunities to conserve and protect parts of the region. One person commented that,

> There are challenges, but its good… because at some point, we are all protecting… I think it's a good future… if there [are] projects … small or big… [that] really want to be there for long time. And work…. Because actually at some point, if we work all together its really good…. it will give a new face of the area, more about conservation. And the future generations will change with that. Like the children, if they are more surrounded by these kinds of projects… I would say they would have more changes in their life. They will have more reference [for] ways of living… for the local people, especially for the younger ones. It's beautiful.

Chapter Six: RQ2 Results

This chapter presents results that relate to research question two which investigates how VCPs in Madre de Dios interact with other voluntourism projects and stakeholders. Specific attention is given to beginning to understand how the types and qualities of these interactions may influence a VCP's ability to design and implement activities that effectively contribute to regional conservation needs.

VCP Relationships with other Conservation Entities

Since this study was focused on understanding how relationships among VCPs and other conservation entities may influence the work that they choose or are able to do, a significant portion of each interview sought to collect insight about the dynamics of these relationships or, in some cases, lack thereof. The major types of entities with which VCPs are related to were: (1) current or past project participants, (2) (typically foreign) scientists/researchers or practitioners, (3) local/national conservation NGOs/institution, (4) other VCPs, (5) international conservation NGOs/institutions, (6) governmental units, (7) local community members or associations, (8) tourism agencies, (9) individuals not associated with an organization, and (10) private companies. Each of these types of relationships create unique challenges and opportunities, which are described below. To consolidate, these different types of entities are grouped into the following categories (with some types belonging to more than one category):

- *Foreign/International Entities:* Past or current project participants, scientists/researchers and practitioners, conservation NGOs/institutions, tourism agencies, companies, individuals
- *National (Peruvian) Entities*: Past or current project participants, scientists/researchers and practitioners, conservation NGOs/institutions, governmental units, tourism agencies, individuals,
- *Local Entities:* Other VCPs, conservation NGOs/institutions, governmental units, local community members or associations, individuals not associated with an organization,

Relationships with Foreign/International Entities

It is common for VCPs to have relationships with international entities especially since the majority of participants and project founders are foreigners. As a result, VCP programs are both

influenced by and designed to meet the desires and expectations of their international client or donor base. According to one interviewee, "international connections are huge" because,

> In terms of impact… the groups that are connected internationally – massively bigger, because they have friends that can get them more resources to build capital like… an organization that was here that didn't have those connections, it would have taken them 10 years to do that. Maybe.

The same interviewee also explained how Western VCP founders or leaders may influence the success of the project:

> Westerners being involved… it's true - for Western people to have a really good experience, you have to understand their culture. And there are plenty of Peruvians here that do, but often they need the insight from people who are Western. So, it's either Westerners working in the project, or advising the project, and this is true for any country in the world - if French people want to start something in the US, they better talk to some Americans. So, it's working with foreigners if your market is foreign, which with voluntourism – it is foreign.

Similarly,

> The international element… [is] key… There's many a project that have started in this region with grand dreams of Western tourism that are no longer around, because they didn't have the pipeline, they didn't know how to build the pipeline, and when tourists did come, they didn't have the experience they were expecting.

At the same time, when partnering with international entities, "there can be differences in opinion as to how you get to the final goal." However, it's worth mentioning that there will be differences in opinion no matter whether people are from the same country or not. Many VCPs do have an international 'pipeline' established in one way or another. Several have a 'sister organization' (NGO) based in a foreign country, which supports the project by collecting funds and funneling them to the VCP in Peru. The sister NGO may do this through fundraising events, grant applications, and/or other mechanisms. When asked what has allowed some VCPs to successfully contribute to the conservation priorities of the region, one interviewee replied,

> Contacts with outside organizations. That have given them money; financed the projects that they have. It hasn't been little funding, it's been quite a lot of funding. From outside, and so they have money for logistics, for all of administration, for the infrastructure…. they are equipped, too, so this allows for it to function. It's like this that they've gotten concessions, it's like this that they've worked to implement some community projects. So, basically contacts and funding.

In other cases, a VCP is connected with an international 'sending agency', or, a foreign organization that markets to and communicates with participants to funnel them to VCPs (and other voluntourism projects). One interviewee also touches on the importance of international connections by stating that,

> This is an advantage for foreigners because they come, they put their project there, but they already have an outside link, like those from [Project Name] that already have universities and important people. We are the opposite – starting from here is a bit more difficult.

It's also important to note that the specialists or scientists/researchers conducting research at VCP sites are – not always - but often foreigners, too. In some cases, these researchers may have previous and sometimes great experience working in the region, but in other instances they may be visiting international university students conducting thesis or internship driven research. This type of researcher would be classified also as a project participant. One VCP leader explains that,

> We have some researchers who lead the research and the learning experience for the volunteers. And then we have other researchers who just come in and they just want to use the site and the kind of the expertise and the logistics, and they take their own research project and basically use that for their thesis… or we have some researchers that are coming to do very specific stuff [as] part of their bigger climate change project… which is like over ten years' time, or we have a herpetologist who comes every year and is looking for new species as part of his like ongoing career to find these species.

In many cases, a VCP may work or partner with at least one foreign university. One project works with "The universities of Spain, the universities of France" and another works with a Scientific Director based in a UK University, who "advises the research coordinating" and "[provides] some sort of direction, overarching leadership, for… both research and… community work."

Besides sister organizations and sending agencies, there are other types of international connections mentioned by interviewees. In a few instances, a VCP may be closely related to an international conservation organization. For example, the Frankfurt Zoological Society has worked with more than one of the VCPs in this study to support or improve their project capacities. It's likely that there are other international connections had by VCPs that are managed by the 'sister organization' or administrative employees, and therefore, not mentioned by interviewees who were working on the ground. For example, one interviewee mentioned

funding that their VCP has received from the European Union, and it's unlikely that this is the only case of foreign government or institution support to VCPs in Madre de Dios. Multiple VCPs have also hosted international filmmakers at their project site. Finally, some projects are connected to foreign companies which assist with, for example, financial investments, marketing, provision of technologies, or providing avenues through which products (cacao-based, textiles, etc.) produced by the VCP or communities with which they partner can be sold.

Relationships with National (Peruvian) Entities

While most VCPs have some sort of international connection, many are also connected to Peruvian NGOs and research institutions. Several VCPs mentioned that they coordinate, in either an ongoing or intermittent way, with at least one Peruvian university; several have coordinated with UNSAAC (National University of Saint Anthony the Abbot in Cuzco), in Peru. One VCP works "very closely with the lab of entomology there to do certain things like butterflies, getting… macroinvertebrates processed there… and so [they] definitely have that pretty strong relationship there." A few VCPs have unique programs designed specifically to support Peruvian volunteers. For example, one leader said that, "we always receive[s] the volunteers of University for free and we support them with their bus tickets. We support them with the food and from this they [leave us their work]… [the information]… which is really interesting." Another VCP explains their partnership with the University of Cusco which allows "a group of volunteers… that are *actually* volunteers so they don't pay" to help the VCP in exchange for "some conservation experience." Another VCP explains the importance of offering cost-free programs/volunteer/internships to Peruvian university students because,

> Although…it costs money, [it's important] to invest in the people that come here – especially Latin Americans and Peruvians – to give them the opportunity. It's satisfying when you see it and they learn, and they can do things alone and then you don't have to teach them, and they teach each other. What they learn in the university, they do here.

Most, if not all, of the VCPs in this study interact with the national government in some, typically minimal, way. National governmental offices that VCPs are related to include Servicio Nacional Forestal y de Fauna Silvestre[1] (SERFOR), El Servicio Nacional de Áreas Naturales

[1] National Forest Service and Wildlife

Protegidas por el Estado[2] (SERNANP), Federación Nativa de Madre de Dios[3] (FENOMAD), and Ministerio de Comercio Exterior y Turismo[4] (MINCETUR). These relationships are usually necessary for securing certain permissions and/or documentations for, for example, animal acquisitions, land concessions, and some projects' approval. For example, one leader explained that,

> We have had to work… with SERFOR…. that's anything to do with the private reserve that we have with the rescue center… you apply for something, you put in all necessary paperwork and after a while they give it back to you… or the permission comes through or whatever.

Another touched on their ongoing relationships with SERFOR, because

> It's the only institution that oversees animals and plants – the national forest service – plants, fauna, animals, wildlife. They're in charge of all of the paperwork, the documents, that we present to them, so they can grant permissions.

In some cases, one of these national agencies may provide feedback to a VCP, partner with them on a sub-project, or communicate during formal meetings. For example,

> FENOMAD is… helping just to make sure that we're sound. That we're not being colonial or taking advantage, I guess, of the native communities, which is really important.

In a separate case, a VCP explains a collaboration with a local branch of the federal government. They explain,

> We've also worked with SERFOR, for the National Forestry Weeks, to help them identify species. And also, with them we've had some events in common in the schools.

And, in other cases VCPs may interact with the federal government during formal meetings:

> We do work a little bit with SERNANP as well... it's more like formalized meetings and thinking about … what kind of environmental education could we offer Madre de Dios with logistics the way that they are, money the way that it is etc.

While some VCPs coordinate with a branch of SERNANP, the agency responsible for national protected areas, others may interact directly with a federally protected area. However, direct interaction between a protected area and a VCP appears to be rare. Nationally protected areas to

[2] National Service of Natural Protected Areas
[3] Native Federation of the Madre de Dios River
[4] Ministry of Foreign Trade and Tourism

which some VCPs are near include Manu National Park, Tambopata National Reserve, Amarakaeri Communal Reserve, and Alto Purús National Park. A representative from MNP explained that they have a close relationship with one VCP in the region but have only a vague idea of what other VCPs in the area are doing.

> We do have knowledge of the activities that volunteer groups are doing around the park… [but] really, the particular activities that they perform in each institution – we don't have in detail. … We know they do environmental education stuff, we know they do development project activities… In that [way] we do have knowledge, but more specifics, no… with others that we hardly interact with, we don't know their activities. We don't know.

The organizations (including non-VCPs) that do partner directly with the park,

> Many of the activities they put within their proposals or projects are connected to the theme of management. Some support in the area of surveillance monitoring, they support us with participatory management - volunteering. That's why we work harder with them. It has interacted well with the priorities of the park… They always have access to the Master Plan, it's public, then they identify themselves within those [themes], and on that basis they raise their proposals.

Although MNP only works directly with one VCP, the others are still considered as allies in conservation.

> All of the conservation initiatives around the park… - those that have formed concessions, that have formed… Private Conservation Areas around the park - those help strengthen us. Now they are our allies, they also continue to manage, because they know they're by our side, they're adjoining to us. Many of them are our neighbors. So, this really strengthens conservation in the area.

The park representative also explained that if other VCPs "wanted to do some activity with [MNP], we would do it." But, the VCP would need to approach the park with such an intention and follow through with their agreement. They explained, however, that,

> Sometimes it's articulated maybe in a meeting, they mentioned it, or participate, but not directly. I mentioned the Management Committee - Some, because it is voluntary, too, have come together, have decided to participate, but they are not always constant, and others don't do it.

While most VCPs may not interact directly with national parks or reserve, they did often speak to the beneficial relationships allowed by the proximities of their respective protected areas and/or conservation actions. One leader said,

> To know that we have Manu… we are [in] the buffer zone. So… we know that what we do helps the area and also helps impact Manu park… And when we do ecotourism we take people to Manu Park… And at the end we also know this money supports [the continued protection of] this place. And also, when they have meetings and they have agreements about all the buffer zone, they always call us.

Another explained that,

> [Our VCP hasn't been influenced] directly by [the national park]. But it's true that the idea of the park is to preserve that natural area. Which is a protected area. And our project, is developed in a buffer zone of the park. So, yes, we respect the flora and fauna – it is true that we reforest and treat... the area where we have this [project], and where our terrain is, as a wild animal passage area... The fact is that this environment is being cared for and sustainably growing the plants that are in the area, allowing that the animals return.

An interviewee whose project is close to another of Peru's protected areas echoed the same idea of mutual support between protected VCP land and protected federal lands:

> When we release animals, especially the larger ones, we try to release them in an area which is closer to the… [protected area]. It's like trying to take them as close as possible to a kind of safe haven. The reserve that we have, acts as like a safe corridor for animals to get down to the river. Because all around us there are farms, there are people living who wouldn't hesitate to hunt or shoot anything that they walk by… Also, in terms of people as well, because at… the back of our private reserve, we connect to the [protected area] – it means that we can't get any farms going around behind us, so the land that we have is not going to become an isolated island of forest.

And, in some cases, a VCP leader may have casual or friendly relationships with an employee – like biologists or managers, for example – of a nationally protected area, which may allow for a sort of indirect relationship or exchange between the entities.

Relationships with Local Entities

The third and final level at which VCPs interact with conservation entities is 'locally'. This includes other VCPs, NGOs, or tourism operations, local governmental units, and local community members or associations. The term 'local' is used to refer to towns or jurisdictions within which VCPs are located or to those which they are relatively near. For example, VCPs would likely buy food, services, or materials from a 'local' community or have staff members hired from a 'local' community. A 'local' government entity would be one that is located near or within the jurisdiction/territory in which the VCP exists.

VCPs and Nearby Communities

Not all of the VCPs in this study have a particularly strong relationship with the local community/communities since their project work is typically focused within the boundaries of their own land. All of the VCPs in this study had local, or at least Peruvian, staff members on their staff team. Their jobs, or the ways in which they influenced each VCP, ranged from service provider (boat driver or chef) to project contributor (researcher or volunteer coordinator) to project advisor (board member or expert insight) and, in very few cases, project founder or co-founder. Sometimes project advisors are employed by the VCP, but this is not always the case. To clarify, a project advisor is, as described by one interviewee,

> Someone that has always lived here and who can identify the trees and knows if it's good to put this or that… They are references… in the reforestation, of the project… they are references of the experience of life in the jungle – experts. They are people who we can ask many things, when we have doubts.

On one side of the spectrum (service providers), some VCP-Community relationships are established through necessity or organic interactions. For example,

> We do work with most of the communities, either through… them providing us services, them providing us with staffing, or contractual staffing, building services, boat services, buying stuff from their farms, their stores… just kind of that camaraderie and sharing of services.

In the middle of the spectrum are friendly relationships between VCPs and local communities and relationships. One interviewee said,

> I'd say working with the local communities is absolutely imperative … you don't have to work with them, but at least… actively build relationships - is really, really important… we've been building up friendship, we play sports together, we share experiences together, we drink together, you know, it's like that. And we have a business relationship where it's like, ok that's your price, that's your thing, we work together… we employ local staff members, and I think our relationship is really good.

Beyond working as service providers for VCPs, some local community members work as VCP staff members, and thus, have a greater influence in the work of the project. One leader explained that, "some of the local community members have worked with us over the years as full-time staff members. And all full-time staff members have influence over the project." On the other side of the spectrum, and occurring infrequently, are VCP-Community relationships that are built around what support/contribution the VCP can provide to the community. Or, in other

words, VCPs that intentionally focus a good portion of their actions on community work rather than, for example, biological or ecological research. For instance,

> We've tried to focus our projects… letting the communities choose which projects… Usually they're just super on board with everything you say and you're like, but … Which one do you actually really want? And sometimes it's the ones that aren't super interesting research wise to us, but… we know that they'll focus on it and get it done… so those are the ones we focus on at this point.

The same VCP representative described the nature of their engagement with communities by explaining that, "when we go to [Community A], we have a meeting with the whole town, and when we go to [Community B], we have a meeting with the whole town. In [Community C] it's a bit different, because we just pass through all the time." If a VCP does focus on community-type projects, or at least emphasizes the maintenance of strong relationships, they typically interact with community government or leaders, children (e.g. in classroom settings), or touristic/economic initiatives. And, typically they maintain these connections via individual relationships between long-term VCP staff members and community/association members, since these people represent a more stable and lasting personality. The ways in which VCPs influence local communities include, for example, providing jobs and/or economic input, creating a venue for culture exposure, influencing environmental consciousness, and generating local conservation impacts. Several VCPs mention environmental education for local communities as one of their conservation impacts. It is important to highlight that most education initiatives are fueled by staff members rather than project participants. One interviewee explained that, in regard to providing educational outreach programs for the local communities,

> It's mainly… [Name] and me, because we're just here long-term - and other coordinators that have been here long term - that help the most in education… because we know the people and they trust us the most... Because if you just have someone coming in for like a week trying to do something, and the people don't know the person, [maybe] they don't understand the person, they don't really understand why that person might be there for just a week, so I think with people that have been around here and that actually know the people on an individual level have a more successful way of communicating with them and bringing across points.

A different VCP leader said,

> With the communities, I've had a constant relationship as an individual… I've accessed the interior of the communities to relate… with the individuals, the characters, with the representatives and with members of the communities to perceive their realities, to share

> humanity with them. So that has allowed me to always be in contact and, sometimes, to intervene in a more formal way, in their villages, leaving volunteers, sometimes in communities like [Community Name]… I've always been present in the communities to help them visualize their strategies to integrate themselves in the global community.

Project participants do interact with community members too, but in a much less formal and less frequent way (e.g. in passing through town, exchanges at local stores, interactions with VCP staff who may also happen to be a local community member, etc.).

While most VCPs have at least friendly relationships with local communities, there are challenges, of course, in VCP-community relationships. The VCP's lack of staff or financial resources or the community's perception of their organization were commonly mentioned challenges. For example, a local community may lack confidence in the work of a VCP based on negative impressions of former NGOs or perhaps by distrust in foreigners. One interviewee explained the distrust of foreigners,

> There are these big organizations that aren't Peruvian. They're Spanish. So… sometimes this causes conflict with the community, because… the people here view the [projects from foreigners] as something strange, different. They think that they're going to take all the land or that they're going to appropriate the whole valley.

Further, another interviewee discusses how a poor NGO reputation can hinder a VCP's relationship with local communities,

> I've seen also a sort of younger… organizations make pretty big errors in terms of like their ideas of how to work with the local community, which has ended up damaging reputation of NGOs in the region. Because once one NGO messes up with the community it really ruins it for the others as well.

In addition to the fact that VCPs are often isolated, and thus, don't spend much time in local communities, the high rate of staff-turnover can also make it difficult to establish meaningful relationships with local communities. For example,

> What you see in [Project Name] … is that there's so much transition of staff that if I was to go over to [Town Name] with all of my staff team… a lot of us would be constantly changing. So how can you make a relationship with community members if you're never there?

One VCP leader, although a long-term staff member, explained that they don't have sufficient time or financial resources to sustain great relationships with the local community or associations. The VCP leader shares that "Communication… with the community – in the past,

yes it existed. More than now… Like I told you, I don't have the time… Maybe it's influenced just by the fact that we don't have a vehicle." And, finally, some interviewees spoke about the notion that local people don't support conservation, which can make it difficult for VCPs/conservation advocates to establish meaningful relationships if local people aren't supportive of conservation missions. One said, "if you go to Madre de Dios, you're going to see that the people aren't interested in conservation". Another interviewee commented that, "In a way the core of what we're doing was influenced by the community because we're conserving the land that was about to be destroyed by the community", highlighting contrasting ideas about how to use the land.

VCPs and Other NGOs/VCPs

VCPs are typically aware of other VCPs, and other conservation NGOs, operating in their part of the region. Most interviewees could easily list three to seven VCPs working in the region.

> The ones that I know…. [Project A], [Project B], [Project C], the work of [Project D], which is new but they're really moving toward the level of voluntourism, I know of their existence, but I haven't spoken with them, but also [Project E], [Project F].

At times there are relationships between VCPs, but more often it does not extend beyond awareness and casual or passing encounters. Several VCP founders and staff members previously volunteered, completed an internship, or worked with another VCP in the region in some way before beginning their own project. Thus, many VCP projects are inherently connected to each other via these past relationships. One co-founder "volunteered with [Project A], and then [they] went to work for [Project B]" before establishing their own VCP. A different project founder also "volunteered with [Project C] and… also volunteered with [Project D]". In fact, VCPs created by people who have *not* had previously worked another VCP in the region are rare.

In general, VCPs have good or friendly relationships with each other – "neighborly sort of interactions and stuff like that." While some VCPs are literal neighbors, others are just in close proximity to each other. However, coordination or collaboration between VCPs that are aware of each other is not common. In a few other cases, VCPs don't seek out relationships with others.

> With the other project that is new here in [Town A] we don't have a relationship. Only for the activity where we gathered trash, or if there is something that is interesting to all

> of us… we go, we support it together, we don't have problems, but not much more than this. I haven't even been to visit the project, but it's because of a total lack of time.

Another interviewee explained that, "we don't have relationships with other volunteer projects in the area… we have next to no contact or information about other volunteer programs", beyond the simple notion that these other projects exist. Again, lack of purposeful connections or coordination can sometimes be a result of VCP operational characteristics. Since many VCP project sites are isolated and secluded, the ability to leave the project site to nurture relationships is hindered.

Some VCPs do coordinate or partner with each other, but it seems more likely that they will do so with a non-VCP organization (other NGO). In a few cases though, mutually beneficial relationships exist between VCPs. These types of beneficial relationships vary, but the most common instances are (1) sharing volunteers between projects or offering referrals, (2) coordinating or sharing land for an animal reintroduction, and (3) sharing advice or insight about VCP operations. In just a couple of instances, several VCPs (4) gathered either their resources or volunteers for a mutual cause. In one case, they were assembled by a non-VCP community-based association. Examples of beneficial relationships can be found in Table 3.

Table 3. Types of beneficial relationships between VCPs.

Type of Beneficial Relationship	Examples
Sharing, Referring Volunteers	"Another thing is that the volunteers that come with a wildlife management profile, we communicate, and give them to [Project A] for a week… And like this we strengthen ourselves and also give the opportunity to the person who comes here to have direct contact with animals…this is another thing that we offer as a part of this project, I offer the project of [Name]." "There's now this new project, from a native community… And I just met this project one month ago and I loved it. And we are going to refer people to them also. And they already came to our place… we interchange[d] seeds and things like that." "[With Project B] we… kind of share volunteers. It's very messy… we're still trying to figure out exactly how it all works and fits together."
Coordinating for Animal Reintroduction	"We had to bring [the monkey] to [Town Name] and with [Name] and [their] volunteers, with a boat, and my volunteers, [the monkey], and we set him

	free there. It was very successful. Also, the turtles we release there in the same place." "We work occasionally with [Project A] – they send animals down here that they want to be released… they don't have much forest around there. And it's right on the edge of town as well."
Sharing Insight, Advice & Resources	"[Project A]… have been a very integral part of this project since day one. They have helped us to collect certain data, they have also helped to, since the very beginning… put us in the right direction in terms of our research goals and priorities. And… their volunteers have helped to kind of build and stuff as well in the beginning." "Whoever wants to join and, I'm willing to share information, we're willing to share resources, we're willing to share data, we're willing to share like our budgets. there's nothing... that we want to hide from anyone. We're willing to just give, because… we *want* [this region] to be protected" "[Our relationships are successful] because we share our resources. We don't want to claim anything as like "ours" or anything. We share information… like if other researchers want to… rent our boat, we make sure that that is possible, even if they're from a different organization… Which costs, does cost us a lot of time, but it makes good alliances."
Collaborating for Mutual Goal	"I am also now in cooperation with [NGO Name], which is a really big organization here in Peru, and [Project C]… and we are working on a children education book on… monkeys. So, I wrote the story and one of our volunteers is actually going to be drawing the book…. [NGO A] is going to be doing the financial part and [Project B] is also going to be heling with the text and the informative part of it." "With [Association A] we did a road cleanup campaign. Together – with the people that work in this type of work."

Some VCPs do find ways to support each other, but often VCPs within close proximity to each other have relational tensions, and sometimes they can be quite notable. One interviewee explained that,

> With the neighbors, [Project A], we don't really have that [good] of a relationship right now, so it's not like we would get together with their volunteers and socialize, which we used to do in the past. They would like come, over and play [sports] with us on Sundays, which was really nice. But I don't think that will happen in the future, which is a shame, so hopefully we can still fix that relationship.

When VCPs have a poor relationship with another VCP it is typically due to (1) competition, (2) differences in opinions, beliefs, or practices, (3) personal relationships, (3) lack of a need or desire to coordinate, or (4) other specific reasons. It's also possible that isolation of project sites contributes to the difficulty of maintaining good relationships. Examples of each type of relational pressure are in Table 4.

Table 4. Reasons for lack of or poor relationships between VCPs.

Reason for Poor or Lack of Relationship	Examples
Competition	"We are really open to work with anyone, really… I don't necessarily see anyone else as… competition. But I know for other volunteering organizations, it's easy to see us, I think, as competition. So maybe other organizations wouldn't want to work with us necessarily, because they do see that we're like quite successful with our volunteering program, and we might be a threat for other people. But we don't see other people as threats. You know, we would like to work together."
Difference in Opinion	"Some of the organizations don't necessarily have the greater priorities of the region as their main driving factor… Maybe there are personal motivations or motivations of like money and things like that, or just even sometimes people sort of have the right intentions, but the way they execute them is not that great." "I would like to work in a more allied way with other organizations that are in [this region], but the focus of the organizations that I know that are [here], it's not the same, it's a focus more economic, more ambitious toward economic themes, more tourism and that's not something that I'm focusing on... their focus is more about business than about conservation, we don't coordinate with them, we don't work with them, in reality. "And then on the other extreme, this organization who we have these problems with right now, believes it's *all* about the community and [our VCP] doesn't do enough, that we should be building water towers and schools and all that stuff. And I just don't believe in that at all. I'm just like completely not about that; that is not our mission, that's not our vision, it doesn't fit in with conservation… we want the community to be happy… but we want them to be sustainable and… we don't have money to spend on... those things."

Personal Relationships	"To me it doesn't matter what other people say while we're working and, more importantly, time is what I have the least of to be worried with the gossip and what another person says… and this is one of the reasons that I don't like to work with other groups." "There are some new projects in [Town Name], but honestly we don't trust them at all… we had big problems with [Project A]. Its people that for us they are… they don't respect nature. They don't respect people… … they completely copied what we did. It's a copy… we don't work with them. And if they wanted to work together we'd say no. because I don't think its people that are really working from their hearts." "I had been working with [Project B], … and after having different opinions and different points of view on certain aspects, each one has taken a different path."
No Interest in Coordinating	"Basically, we're pretty separate. And I think we work better as individuals. Like instead of two or three organizations collaborating, we work much better as an individual organization doing what we do… I care about the differences that we've made… And if we can do that a lot better as an individual organization instead of collaborating or having friendships and partners with people in the region then…. Why collaborate with people if they're just going to make us worse? I personally wouldn't." "When you're coordinating with other entities then it kind of limits the work you can do on your own… it becomes very difficult to stay an independent project. And because we are a project which [has] not been specifically planned out, it's always take it as it comes, see what you can do with what you've got, or where something comes up which is a new idea, and it's something that looks like it's going to help out with various things, then we can just do that. Whereas if you're coordinating with several then it's difficult to separate out the resources to do the things you want to do as they come up."
Lack of Resources	"If I coordinate with other projects in the area – no. That could be a failure in this moment, but the project did have times that, yes… the person who was here had activities with children, with the schools, activities with the radio. I imagine it would have been really nice. A radio that related them a lot with the outside. Now, I am very much here." "[I don't coordinate with other projects] because I'm very attached to this place. Maybe if we had more volunteers, if things advanced more quickly, if everything were ready… maybe there would be more time for other things. I would love that…the biggest reason is my lack of time… This is totally the primary reason."

VCP Competition in Madre de Dios

While the topic of inter-VCP competition was not originally an intended focus of this research, it emerged as a fairly common theme across interviews and a common reason for poor relationships. It is also possible that competition impedes on potential VCP success or impact in some ways. Considering some of the circumstances in which VCPs in Madre de Dios exist, the competition that among some of them is not especially surprising. The following factors appear to have contributed to VCP competition:

- The number of VCPs in the region is increasing
- Many VCPs have been founded or are led by a former participant of another VCP in the region
- VCPs exist within relatively close proximity to each other
- VCPs exist within the same market, attempting to attract the same clients and competing for the same resources
- VCPs often have similar goals or missions, but differ in opinions about how to achieve those goals

The extent of this competition can deter willingness of VCPs to communicate or coordinate their projects' activities. One interviewee said that,

> My real big insight… when I first came here, is nobody worked together. Nobody works together. People know each other… but they don't work together. I mean, they sometimes do…, but that's often the reality, is these projects, even [Project Name] and [Project Name], they don't really work together. And … they're neighbors. They're not like against each other or anything…and certainly they are collaborating in different ways, but not as much as you'd expect.

When organizations are uninterested in coordinating their work, "each one works for their own goals and there are many organizations that also overlap – they do the same thing." Another interview stated that,

> Sometimes we don't interact with other parties… because we're so focused on, 'no, we want to bring tourists here, not anywhere else'… and we could lose out on a lot of opportunity because of that. Most organizations that I know, here in [Town Name], they all compete with each other instead of working together… volunteering organizations, even rescue centers… Which is a shame. It's just… money involved. So, you all want the most volunteers. You all want… to give the best experience… I think people just really want most money, and if you're getting more volunteers than one other organization they might not want to work with you.

One VCP leader even said that, “It might get a little bit better, but we’re always going to be in our own little war inside a war. Like organizations here have like a civil war instead of [a war on] the deforestation.”

Social Networks of VCPs in Madre de Dios

Social Network Methods

To complement qualitative information about the types of relationships and interactions that each VCP has with other entities, a social network analysis (SNA) was conducted as Phase II of data collection. Data for the analysis was collected via an online survey emailed to VCP representatives. The survey questions were designed based on information gathered in Phase I and focused on the types, qualities, and frequencies of interactions that VCPs had with regionally-based and international entities as related to the conservation work/activities their project chooses or is able to complete. This batch of data was intended to investigate what network properties may be influenced to the ways in which a VCP contributes to conservation needs of the region. It’s also used to generally explore the social networks of VCPs, especially how they are interacting with other stakeholders to enable an effective conservation project, to uncover curiosities to inform future research. Rather than complete a whole network study, this research analyzed VCP networks at the ego (VCP) level. Conducting a whole network study comes with several challenges (Borgatti et al., 2009; Burt, Kilduff, & Tasselli, 2013), and was therefore outside of the capacity of this study.

Most of the survey focused on relationships with regionally-based entities because the type and level of communication, coordination, and/or collaboration with local entities is most indicative of a conservation or ecotourism initiative’s ability to efficiently recognize the conditions of the local socio-ecological systems, the associated conservation needs, and the specific conditions that may inhibit or encourage their ability to contribute their efforts pragmatically to these needs, gaps, or ongoing efforts (Bodin et al., 2006; Crona & Bodin, 2006; Guerrero et al., 2013). However, knowing that conservation organizations, and especially VCPs, interact with and can be greatly influenced by their connections with international or foreign entities, the survey also included a short section investigating such interactions.

Surveys were shared with 21 VCP representatives, representing a total of 14 separate projects, to collect information about the stakeholder connections and interactions maintained by

their VCP. 19 survey recipients were the same individuals who participated in Phase I of data collection; 13 of these Phase I recipients completed the survey, representing 10 VCPs. Additionally, three survey recipients were individuals who did *not* participate in Phase I but had expressed interest in participating in the study; these three respondents submitted network data representing three VCPs, two of which did not participate in Phase I. One VCP that participated in Phase I did not receive an electronic survey because they do not have an email address. In total, 16 of 21 surveys were completed, yielding a response rate of 76%, and representing complete ego network data from 12 of the 15 VCPs (80%) that participated in either Phase I or II.

Survey Instrument

The survey was generated using Qualtrics software, which generated a survey link that was sent to respondents in February 2018; survey collection ended in April of 2018. The survey instrument can be found in Appendix III. Respondents were provided with a roster of 45 regionally-based entities, or alters, which was composed based on entities that were commonly mentioned during interview conversations. It should be noted that four of the 45 entities, while they may be based or operating within the region, are international or foreign organizations. Each of the 45 entities was categorized as one of eight types, as were the 16 additional entities that respondents listed (Table 5). Respondents categorized the additional alters they provided.

Table 5. Number of each type of entity in VCPs' reported network data.

Type	Number	Percentage of total
Conservation NGO	14	23.7
Federal Government	6	10.2
Local community*	4	6.8
Research institution	4	6.8
Company	6	3.4
Individual (not associated with an organization)	2	3.4
VCP	18	30.5
Other	5	8.5
TOTAL	59	100%

*In the original roster there was only one option of 'local community/government'. However, the different VCPs will, of course, not all be interacting with the same local community.

Entities were also categorized by the VCP's geographic location within the region (Table 6). Entities were either permanently located on the (1) west or (2) east side of the region or (3) 'general' entities, like branches of the federal government, and able to work on both sides of the region. There are 14 west side entities, 21 east side, and 24 general entities. 12 of the 'general' entities were identified as such because it wasn't necessarily clear which side of the region they would be working on. For example, one VCP listed 'individuals with agroforestry interests' as an entity, and it's unclear where these individuals are based.

Table 6. Types of entities reported in VCPs' networks categorized by geographic location within Madre de Dios.

Side of Region	Number of Entities	Percentage of Total
West	14	23.7
East	21	35.6
General	24	40.7
TOTAL	59	100%

From the roster of 45, respondents first selected entities of which they were aware; follow-up questions about frequency, types, and qualities of interaction were asked only about the entities each respondent selected. Respondents were also able to add alters not included in the roster. In total, 16 additional regionally-based entities were listed by respondents and were also included in questions about frequency, types, and qualities of interactions. For all of the entities of which VCPs were aware, they indicated the degree to which their conservation techniques or actions aligned with those of their VCP; five possible response options ranged from (1) 'not aligned at all' to (5) 'completely aligned'.

From the list of alters of which each respondent was aware, they were asked to indicate the frequency of interaction with that entity, including six options from (1) 'never' to (6) 'weekly'. If the respondent indicated that they 'never' interacted with the entity, no further questions were asked about this entity. For those entities with which the VCP/respondent interacted at least 'once every few years', they were asked to indicate the *types* of interactions had with each alter. The types of interactions were those most frequently described in Phase I and included (1) neighborly encounters, (2) interactions during formal meetings or gatherings, (3) sharing physical resources, (4) seeking permits or documents, (5) seeking funding, (6) discussing conservation-related information of the region, (7) seeking help in the creation of projects or activities, (8) sharing results, (9) collecting feedback, (10) collaborating on conservation work/activities, or (11) other. It's important to note that each ego may interact with any single alter (entity) in a number of ways, so each respondent was able to select as many types of interactions (per alter) as necessary.

In relation to entities that provide 'help with the creation or projects' or 'feedback', respondents indicated the degree to which such inputs influenced the work their VCP chooses or is able to do. Five degrees of influence were provided and ranged from (1) 'little to no influence' to (5) 'completely influences'. For entities that did *not* provide help with the creation of projects or feedback, respondents indicated the degree to which the entity influenced the project. Five options were available ranging from (1) 'greatly challenges' to (5) 'greatly supports' and including a mid-level option for (3) 'little to no influence'. Finally, respondents were provided with a matrix including each of the regionally-based alters of which they were 'aware', listed horizontally and vertically on each side of the matrix, and asked to indicate alter-alter

interactions. In other words, VCPs reported their perceptions of with which other alter(s) each single alter interacted.

The latter and shorter part of the survey focused on relationships with international or foreign entities; no roster was provided, so respondents had to list entities with which their organization normally interacts to realize and/or accomplish its goals. Across all 16 respondents, 36 international entities were listed. Respondents indicated the types of interaction(s) had with each international entity, frequency of interaction, degree of influence of feedback and help with the creation of projects, and degree to which the entity generally influenced their VCP. In addition to network-related questions, each respondent was provided with a list of entities and categories that may influence the work their VCP completes in its efforts to address regional conservation needs. This list was compiled based on analysis of interview data and respondents were given the option to add up to two other entities or categories. Only one VCP inserted an extra category and it was broadly titled as 'funders' so it was regarded and combined with entity nine, 'funding source'. The options provided included (1) primary project leader, (2) employees/individuals within your organization, (3) other *conservation* organizations, institutions, agencies, etc., (4) n*on-conservation* organizations, institutions, agencies, etc., (5) local communities or government, (6) local researchers or research institutions, (7) international researchers or research institutions, (8) project volunteers and/or interns, (9) funding source.

Analysis

From these data complete ego network emerged from 12 VCPs. Each ego network, containing all types of interactions, was analyzed as a whole, but individual types of interaction networks were extracted and analyzed, too. To calculate network measures, I used UCINET VI version 6.680 (Borgatti et al., 2002). Analysis focused mainly on network properties such as size of networks (degree centrality), network compositions (types of entities), frequencies of interactions, quality of interactions, and correlations between different types of interactions. Although the survey was designed to capture data about alter-alter ties, only eight of the twelve survey respondents completed this section; this category of data has yet to be analyzed and is not presented in this thesis. Analysis was not able to yield significant conclusions about causal relationships between network properties or structures and VCP outcomes or 'success'. However, some hypotheses are presented in the discussion section. Such an analysis to further explore direct relationships between VCP social networks and project outcomes is recommended. For now, these data should

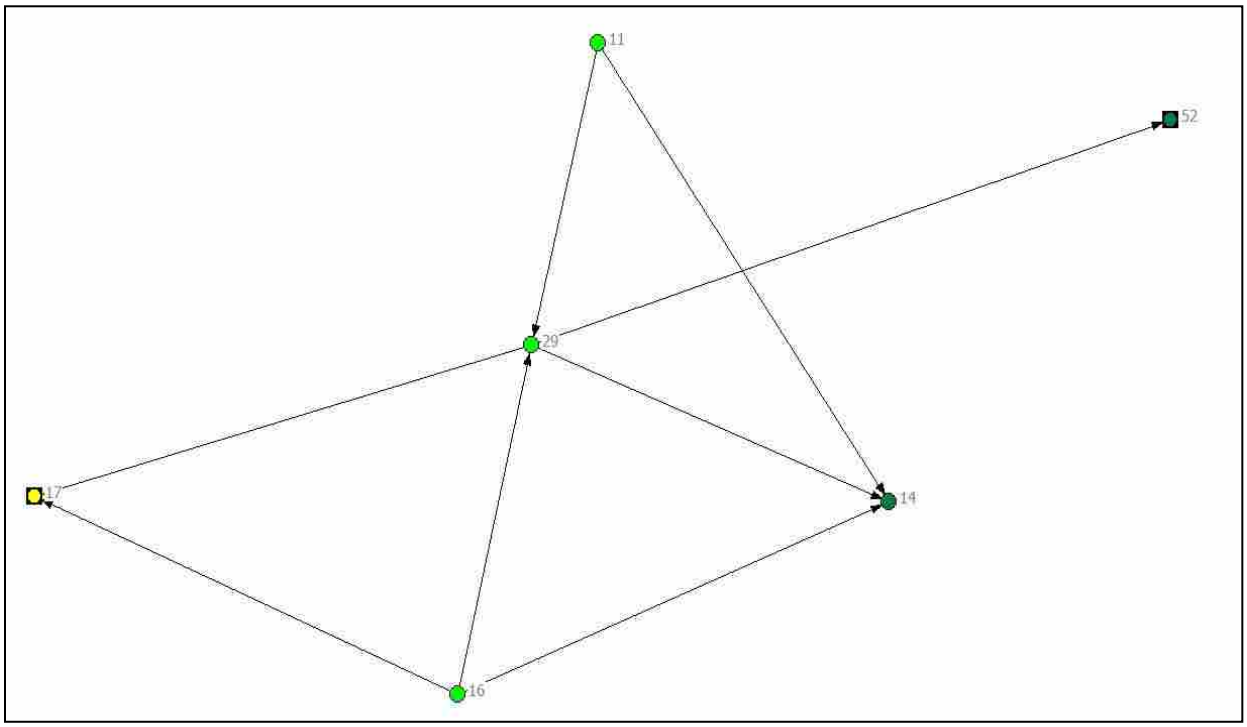
fulfill the 'exploration' stage of the research and point out future directions that can be explored. Major results are described below. UCINET steps and measure taken to capture results can be found in Appendix VI.

Awareness and Basic Interaction Networks

From the list of 45 alters, each respondent identified the regionally-based entities of which they were aware, producing an 'awareness network'. Network 'size' refers to the number of connections that an ego (VCP) has with other alters (entities). The size of awareness networks, including all entity types, ranged from 11 to 33, with an average size of 22 and standard deviation of 7.29. VCP awareness networks, based simply on number of each type of entity, are made mostly of other conservation NGOs and VCPs. Awareness networks were made of 22.2% to 36.4% conservation NGOs and 21.7% to 61.1% VCPs. On average, each VCP was aware of nine other VCPs working in the region, making up a notable portion of their awareness network. One VCP's awareness network is made mostly (61%) of other VCPs and contains zero federal government entities and zero research institutions. In all but two networks, the ego was aware of at least one entity from the other side of the region. In other words, most of the VCPs on the western side of Madre de Dios were aware of at least one conservation entity working on the eastern side and vice versa. All eastern VCPs were aware of at least one and up to five western entities.

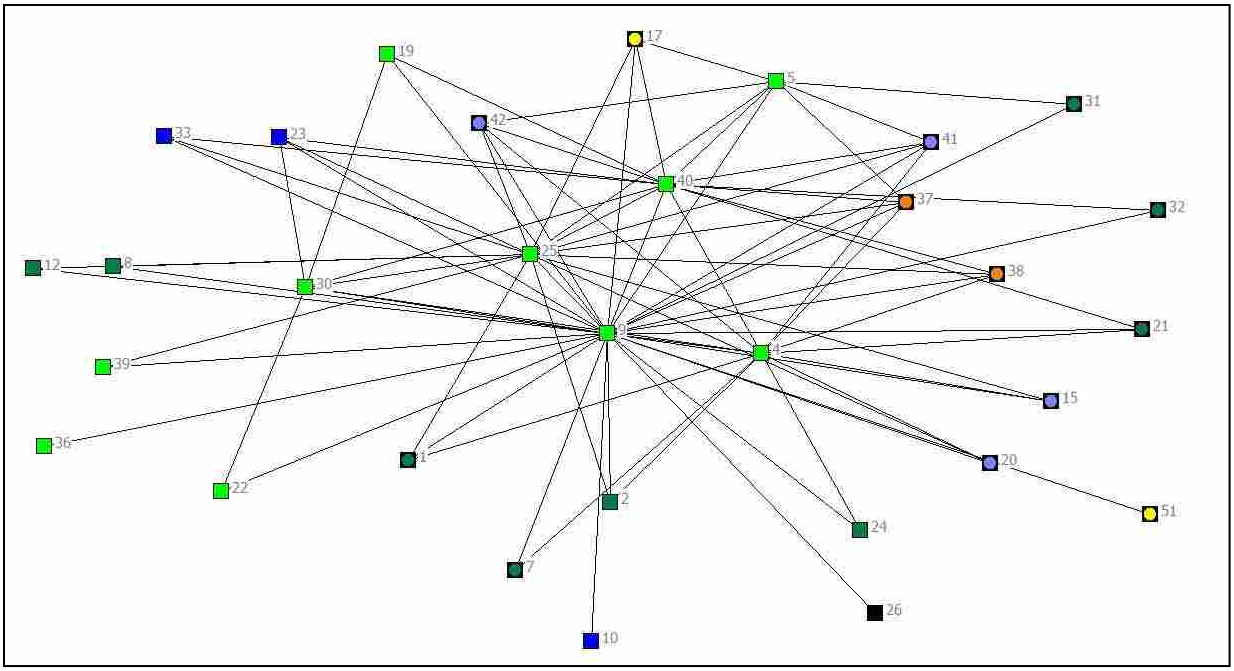
While VCPs are aware of several other entities working in the region, they do not necessarily interact with each entity of which they are simply 'aware'; each VCP only *interacts* with a portion of these entities. By excluding entities from the awareness network with which VCPs 'never' interact, a 'basic interaction network' for each VCP was created. The basic interaction network includes ties, or connections, with entities where at least one form of interaction occurs at least once every few years up to as frequently as once a week. These interactions range in type and are described in a later section. It is clear that while each VCP is aware of 11 to 33 other conservation entities working within the larger region, the number of these entities with which they interact is noticeably lower. While one VCP interacts with 90.9% of the entities of which they are aware, the other eleven interact with 43.5% to 78.6% of regionally-based entities in their awareness networks.

Based on the number of outgoing ties, or just the ties that each respondent reports having with other alters, the basic interaction networks of individual VCPs ranged in size from three to 30, with an average of thirteen. Images of the smallest, largest, and average-sized basic interaction networks are below (Figures 10, 11, and 12). These figures show both outgoing ties (ego indicates that they interact with another entity) and incoming ties (another entity indicates they interact with the ego). So, although the smallest basic interaction network (Figure 10) has only three outgoing ties, it has five ties in total because Ego #16 and Ego #11 indicated that they interact with Ego #29 even though Ego #29 did not report an interaction with Ego #16 or #11; arrows in this image indicate the direction of ties. Figure 13 depicts the all awareness networks and Figure 14 depicts the all basic interaction networks.



Conservation NGO	Federal Govt.	Local Community/Govt	Research Institution	Company or Agency	Individual	VCP	Other

Figure 10. Basic interaction network of Ego #29. Smallest VCP basic interaction network.



Conservation NGO	Federal Govt.	Local Community/Govt	Research Institution	Company or Agency	Individual	VCP	Other

Figure 11. Basic interaction network of Ego #9. Largest basic interaction network.

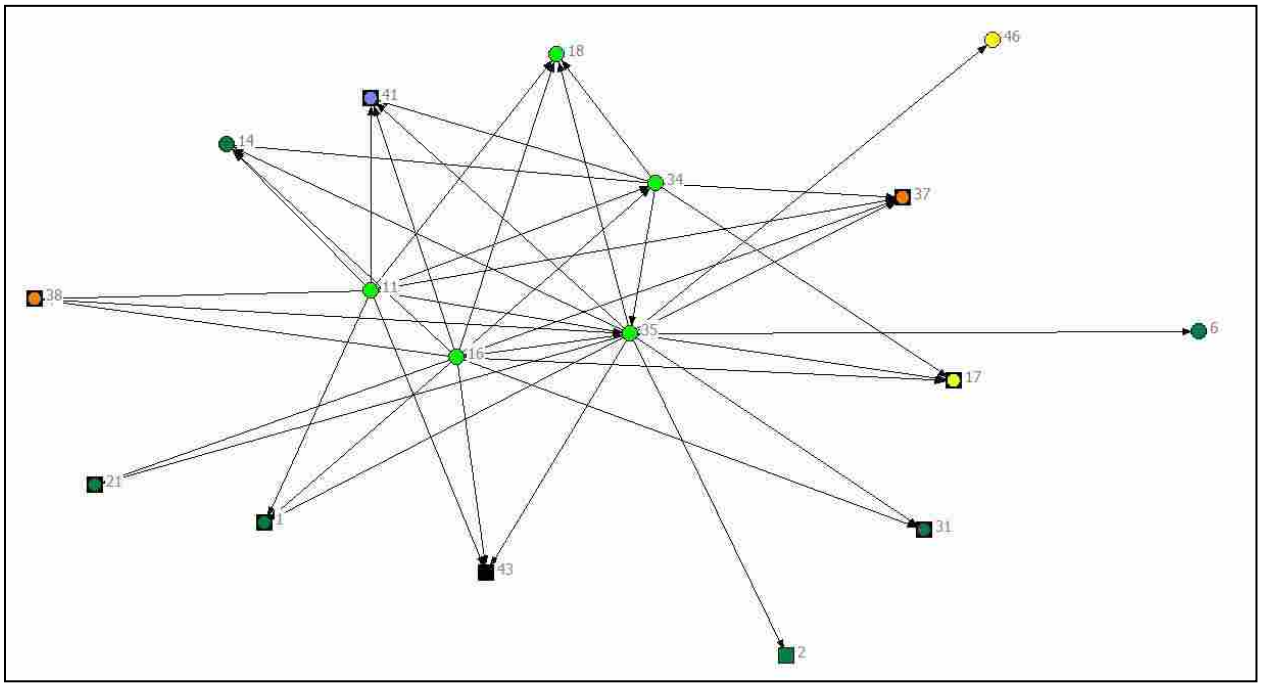
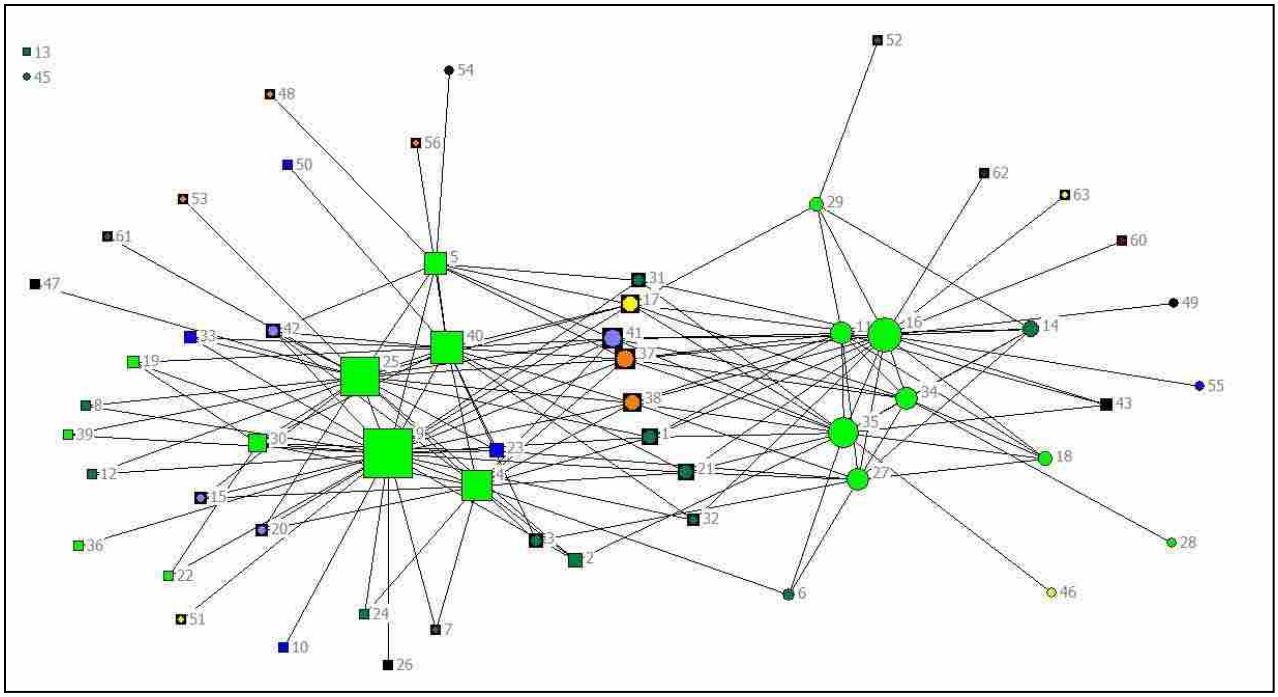


Figure 12. Basic interaction network of Ego #35. Average sized.



Conservation NGO	Federal Govt.	Local Community/Govt	Research Institution	Company or Agency	Individual	VCP	Other

Figure 13. Basic interaction network (of all VCPs). Since complete ego network was provided for only 12 of the 16 VCPs involved in this study (and so only 12 of the 45 alters in the roster completed a survey) there are many "pendants", or nodes that are connected to only one other node. This image should not be considered to be a "whole" network, rather a combined image of 12 ego networks who may have some alters in common. Nodes area sized according to the size of each ego's network with larger symbols representing larger sizes. Square symbols = east side, circle = west side, circle in square = general/across region.

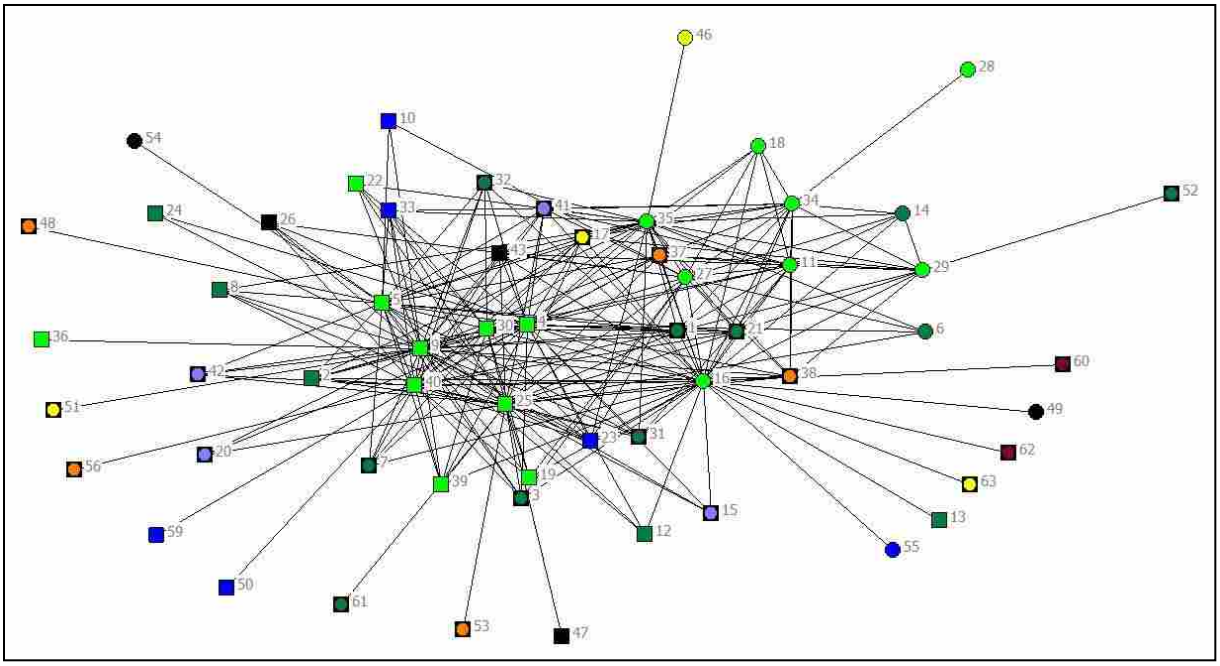


Figure 14. Awareness network (of 12 VCPs). Since complete ego network was provided for only 12 of the 16 VCPs involved in this study there are many "pendants", or nodes that are connected to only one other node. This image should not be considered to be a "whole" network, rather a combined image of 12 ego networks who may have some alters in common. Square symbols = east side, circle = west side, circle in square = general/across region.

Frequent and Semi-Frequent Interaction Networks

The interactions that each ego has with various alters can be further broken down by the frequency of interaction ranging from weekly to once every few years. If a respondent indicated that their VCP interacts with an entity at *least* two to four times each year, this interaction was categorized as 'semi-frequent'. If the ego indicated that they interacted with an entity at least once a month or weekly, this interaction was categorized as 'frequent'. The size of semi-frequent interaction networks, including both incoming and outgoing ties, ranged from zero to 24 with an average size of eight. The size of frequent interaction networks ranged in size from zero to fifteen, with five VCPs having a frequent interaction with one or fewer entities. On average, each VCP interacts frequently with only five entities. VCPs interact semi-frequently with 0% to 72.7% with entities of which they are aware and frequently with 0.0% to 45.5% of these entities.

Types of Interaction Networks

In addition to frequency of interaction, ties were categorized based on the *type* of interaction. All types of interaction networks – such as neighborly encounters, sharing results, etc. – excluded interactions that happened *less than* semi-frequently. In other words, analysis focused on interactions that occurred at least two to four times a year or more. Analysis of specific types of interaction networks focused mostly on semi-frequent interaction because VCPs only had frequent interactions with few entities.

Besides the 'other' type of interaction, the most uncommon type of interaction that VCPs have with regionally-based entities is 'seeking funding'. The most common type of interaction was 'neighborly encounters'. The range in size of the network, average size, and standard deviation in the size of VCPs' networks for each of the ten defined types of interaction are listed in Table 7. The size of each network was calculated based on outgoing ties.

Table 7. Size of VCPs' various types interaction networks with regionally based entities.

Type of Interaction Network (semi-frequent)	Range in size	Average Size (rounded to nearest whole number)	Standard Deviation
Other	0 – 4	1	1.32
Seeking funding	0 - 5	1	1.72
Seeking documents or permissions	0 - 8	2	2.35
Help with creation of projects or activities	0 - 11	3	3.35
Collecting feedback	0 - 12	3	3.64
Sharing physical resources	0 - 12	3	3.94
Sharing project results	0 - 14	3	3.84
Collaborating on work	0 - 16	4	4.65
Discussing regional conservation information	0 - 19	4	5.21
Neighborly Encounters	0 - 21	5	6.03
Formal gatherings or meetings	0 - 22	5	6.13

Across each type of interaction network, the same two VCPs are setting the high and low end of the range in size. In other words, the sizes of each interaction network of VCP #29 (Figure 12) are consistently the smallest while the sizes of each interaction network of VCP #9 (Figure 13) are consistently the largest. In fact, VCP #9's network was notably larger than the rest and increases the average size of each type of interaction network by one to two alters. The types of interactions that are most relevant to the intention of this research to understand how VCPs' relationships with other stakeholders might allow them to coordinate with and contribute effectively to the conservation needs of the region include (1) discussing regional conservation-related information, (2) help creating projects, (3) sharing results, (4) collecting feedback, and perhaps (5) collaborating on work. Formal gatherings and meetings could be relevant, too, but without knowing more detail about what happens at these meetings it is hard to draw any conclusions or hypotheses. The other types of interactions, however, relate more directly to the work/activities VCPs choose to do – who helps create those activities, who receives the results, and who gives feedback that may help the project or sub-projects improve or progress in a way that contributes to larger regional conservation needs or goals.

Discussing Regional Conservation Information

This type of interaction was described as 'discussing conservation-related information or updates of the region' and was designed to capture how VCPs communicate with other stakeholders about regional-level conservation topics. Respondents indicated that their project discusses regional conservation information with anywhere from 0 to 20 regionally-based entities. Seven of the twelve VCPs discuss information with two or fewer entities. Three VCPs discuss information with local communities/governments and three with some branch of the federal government, but most commonly VCPs are discussing conservation information with conservation NGOs and other VCPs. Two or more VCPs indicated that they discuss information with the following entities (most of which are named by type rather than name due to confidentiality agreements): two large (multi-site) conservation NGOs, one small/district level conservation NGO, three VCPs, the Frankfurt Zoological Society, SERFOR, and SERNANP.

Table 8. Number of regionally-based entities (by type) with which VCP semi-frequently discusses regional conservation information and/or updates

	Entity Type								
VCP #	Consv. NGO	Fed. Gov.	Local Cmmnty	Research Inst.	Company	Individual	Other	VCP	TOTAL
4	**2**								**2**
5									
9	**6**	**2**	**2**	**2**	**1**		**1**	**5**	**19**
11								**1**	**1**
16	**2**	**2**	**1**	**1**	**1**	**2**			**9**
25	**2**	**1**					**1**		**4**
27	**2**							**1**	**3**
29									
30					**1**				**1**
34									
35	**3**		**1**					**1**	**5**
40								**2**	**2**

Help Creating Projects

In the SNA survey, this type of interaction was described as 'provides or helps create projects/work to do for regional conservation needs'. The VCPs in this study interact with anywhere from 0 to 11 regionally-based entities for help with the creation of project or activities. Five of the twelve VCPs interact with only one or zero entities to help create activities. Although ten of the VCPs who responded to the survey reported that their project conducts some sort of research or monitoring (or work designed to generate or collect information), only three VCPs report that they interact with a research institution for help creating their project or activities. Three VCPs are interacting with the local community or government in this capacity, but they most commonly interact with other conservation NGOs, a branch of the federal government, or other VCPs.

Table 9. Number of regionally-based entities (by type) from which VCP semi-frequently collects help with the creation of projects

	Entity Type								
VCP #	Consv. NGO	Fed. Gov.	Local Cmmnty	Research Inst.	Company	Individual	Other	VCP	TOTAL
4	**2**								**2**
5		**1**							**1**
9	**4**	**2**	**1**					**3**	**10**
11		**1**							**1**
16	**2**	**2**	**1**	**1**	**1**		**1**		**8**
25	**2**			**1**			**1**	**1**	**5**
27	**2**								**2**
29									
30									
34									
35	**2**		**2**					**1**	**5**
40								**1**	**1**

Respondents were also asked to indicate the degree to which another entity's help in creating projects/activities influenced the work that their VCP chooses to do. Although 83% of VCPs reported that they receive help from at least one entity in creating projects, only 30% of these VCPs indicated that the help received greatly influences the work they choose to do. On the other hand, 60% of VCPs indicate that they are working with entities whose help is only moderately, if at all, influential to the work they choose to do. In fact, a majority of the entities who are providing help with project/activity creation, appear to provide help that is not greatly influential to the work each VCP chooses to do.

The percentage of entities that provide influential help with the creation of projects is not necessarily related to the size of each VCPs 'help with projects' network. Of the five VCPs with the largest 'help with projects' networks (ranging in size from 3 to 11), only two are receiving help that's greatly influential. The third VCP that receives any greatly influential help has only

two entities in their 'help with projects' network and both provide greatly influential help. Just one VCP indicated that help received from the local community or government is greatly influential in the work they choose to do. SERFOR, the National Service of Forestry and Wildlife, was the only entity listed by more than one (two total) VCPs as providing greatly influential help. One VCP receives greatly influential help from two other VCPs. Finally, two VCPs indicated that (regionally-based) international organizations, Alter #44 and the Frankfurt Zoological Society (FZS), provides greatly influential help with the creation of projects or activities.

A Quadratic Assignment Procedure (QAP) correlation can be used to test whether two matrices are positively or negatively correlated and, if so, to what extent. For example, matrices representing 'feedback interactions' and 'collaboration interactions' can be correlated to determine if the two are correlated. This correlation would test if there is there a relationship between the entities from which VCPs collect feedback and those with which they collaborate. In addition to testing correlations between matrices, which produces a Pearson Correlation Value, a QAP correlation also computes statistical significance by randomly switching around rows and columns of each matrix thousands of times to test how often correlations represented by the Pearson Correlation Value (PCV) appear by chance alone. A positive PCV indicates a positive correlation between two matrices, while a negative value represents a negative relationship; bigger values on either side of the spectrum indicate a stronger correlation (Borgatti, 2017).

Based on PCV from a QAP Correlation, VCPs are more often gathering help from entities with which their project's conservation actions align. Respondents reported the extent to which they believed the conservation actions or approaches of another entity aligned with those of their VCP. A Pearson correlation value of 0.358 ($p = 0.00$) between matrices for 'actions aligned' and 'help with creation of projects' indicates that VCPs interactions with alters for help with creation of projects is mildly correlated with their perception of how well their respective conservation actions align. On the other hand, a PCV of 0.234 ($p = 0.00$) indicates that VCPs are less often utilizing help from entities with which their project's conservation actions are *not* aligned. A Pearson correlation value of 0.131 ($p = 0.00$) implies that VCPs are unlikely to receive greatly influential help with projects from entities with which their project's conservation actions do not align. QAP Correlations also indicate that that greatly influential help with

projects is positively correlated with the number of types of interactions that each VCP has with the entity providing help (Table 10). A VCP is more likely to report that they receive greatly influential help with the creation of project activities from entities with which they have more types of interactions.

Table 10. Pearson correlation values and significance resulting from QAP correlations between 'greatly influential help' matrix and matrices for increasing levels of multiplexity.

	Number of Types of Interactions with Entities That Provide Influential Help with Projects					
	≥ 1 type	≥ 2 types	≥ 3 types	≥ 5 types	≥ 7 types	≥ 8 types
PCV	0.259 p = 0.00	0.337 p = 0.00	0.380 p = 0.00	0.442 p = 0.00	0.568 p = 0.00	0.614 p = 0.00

Collecting Feedback

The exact description for this type of interaction in the Qualtrics survey was 'collecting meaningful feedback about your organization's actions or work'. Four VCPs indicated that they do *not* collect feedback about their project's work from any regionally-based entities. Of the eight VCPs (66%) that collect feedback from at least one other regionally-based entity, five are collecting feedback that greatly influences the work their project chooses to do. Of these five who receive influential feedback, three are collecting it from only one entity (each of the three from a different entity). In other words, less than half of the VCPs survey are collecting feedback from regionally-based entities that is greatly influential to the activities their project chooses to complete. Respondents indicated that a majority of the entities providing feedback (47.0%) give feedback that is only 'moderately' influential to the work that a VCP decides to do. Five entities provide feedback to three VCPs that is not influential at all.

Table 11. Number of regionally-based entities (by type) from which VCP semi-frequently collects feedback.

	Type of Entity								
VCP #	Consv. NGO	Fed. Gov.	Local Cmmnty	Research Inst.	Company	Individual	Other	VCP	TOTAL
4	**2**								**2**
5									
9	**4**	**2**	**1**		**2**		**1**	**2**	**12**
11									
16	**2**	**2**	**1**	**1**	**1**		**1**		**8**
25							**1**		**1**
27	**1**								**1**
29									
30									
34									
35	**2**		**2**					**1**	**5**
40					**1**			**1**	**2**

Entities which provide greatly influential feedback to VCPs include five conservation NGOs, two federal government offices (SERFOR and SERNANP), three VCPs, and local communities/government. Three of these conservation NGOs are foreign-initiated while the other two are strictly local. A Pearson correlation value (PCV) of 0.771 ($p = 0.00$) between 'collect feedback' matrices and 'help with creation of projects' implies that VCPs are often collecting feedback from the same entities that help them create projects/activities. Not only are VCPs unlikely to collect feedback from entities whose conservation actions are not aligned to their own (PCV = 0.234, $p = 0.00$), they are certainly unlikely to collect greatly influential feedback from these entities (PCV = 0.086, $p = 0.019$). Following a QAP Correlation, the PCV values indicate that greatly influential feedback is positively correlated with the number of types of interactions that each VCP has with the entity providing feedback (Table 15). A VCP is more likely to report that they receive greatly influential feedback from entities with which they have more types of interactions.

Table 12. Pearson correlation values and significance resulting from QAP correlations between 'greatly influential feedback' matrix and matrices for increasing levels of multiplexity.

	Number of types of interactions with alters that provide greatly influential feedback					
	≥ 1 type	≥ 2 types	≥ 3 types	≥ 5 types	≥ 7 types	≥ 8 types
PCV	0.281 p = 0.00	0.366 p = 0.00	0.413 p = 0.00	0.529 p = 0.00	0.575 p = 0.00	0.621 p = 0.00

Sharing Results

This type of interaction was described as 'sharing results, outcomes, or updates from your organization/project' in the SNA survey. Three VCPs indicated that they do not share their project results with other regionally-based entities and two VCPs share their results with just one regionally-based entity. Three VCPs share their results with a research institution. Four of the twelve share results with the local community or government as well as a branch of the federal government. Most commonly though, VCPs share results with conservation NGOs and other VCPs. However, it's important to note that of the list of 45 alters provided in the survey and including the 16 other conservation entities provided by respondents, a majority are conservation NGOs or VCPs. And, these results don't provide insight into the type, quantity, or quality of results that are being shared. For example, it's possible that VCPs are casually sharing results with other VCPs during semi-frequent 'neighborly' interactions; while they may only share results with one or two governmental agencies infrequently, they may be sharing results in these instances in more meaningful ways.

Table 13. Number of regionally-based entities (by type) with which VCP semi-frequently shares results

	Entity Type								
VCP #	Consv. NGO	Fed. Gov.	Local Cmmnty	Research Inst.	Company	Individual	Other	VCP	TOTAL
4	**2**								**2**
5									
9	**6**	**2**	**2**	**1**	**1**		**1**	**2**	**14**
11									
16	**3**	**2**	**1**	**1**					**7**
25	**1**			**1**				**1**	**3**
27	**2**								**2**
29									
30					**1**				**1**
34								**1**	**1**
35	3		**2**					**1**	**6**
40		**1**	**1**					**1**	**3**

For the most part, VCPs are sharing results with the same entities that help them create projects/activities, collaborate with them on projects, and provide them with feedback on their own project work. Between the 'sharing results' and 'collecting feedback' interaction matrices, there is a Pearson correlation value of 0.719 ($p = 0.00$) Similarly, it is 0.718 ($p = 0.00$) between 'sharing results' and 'help with creation of projects'. It is relatively unlikely that VCPs will share their project results with an entity who does not focus on similar conservation actions, indicated by a Pearson correlation value of 0.248 ($p = 0.00$) between the two matrices.

Collaborating on Work

This type of interaction was described as 'collaborating on activities and work of your organization(s)' in the survey. Although ten of twelve VCPs indicated that they collaborate with one or more regionally-based entities, three of these ten collaborate with just one entity each. On average, VCPs collaborate with four other entities. Once again, this average is slightly skewed

by Ego #9, who reports that their VCP coordinates with 16 entities, which is five alters more than the second largest collaboration network, and ten alters more than the third largest collaboration network. Just three VCPs reported that they collaborate with the local community or government in the activities or work that their project does. Three VCPs collaborate with at least one research institution. It appears that most VCPs are collaborating most commonly with either other conservation NGOs or, even more commonly, other VCPs.

Table 14. Number of regionally-based entities (by type) with which VCP semi-frequently collaborates

	Entity Type								
VCP #	Consv. NGO	Fed. Gov.	Local Cmmnty	Research Inst.	Company	Individual	Other	VCP	TOTAL
4	**2**			**1**					**3**
5		**1**						**1**	**2**
9	**5**	**2**	**2**		**1**		**1**	**5**	**16**
11								**1**	**1**
16	**3**	**2**	**1**	**1**	**1**	**2**	**1**		**11**
25							**1**		**1**
27	**2**							**1**	**3**
29									
30					**1**				**1**
34									
35	**3**		**2**					**1**	**6**
40					**1**			**2**	**3**

International Connections

Survey respondents were asked to list other entities with which their organization/project interacts that are international or, in other words, not locally-based. These may be organizations, institutions, agencies, or individual/s (not associated with an organization), etc. with which the VCP normally interacts to realize and/or accomplish its goals. It's also important to note that the roster provided in the survey included seven international or foreign entities. These foreign

entities, such as the Frankfurt Zoological Society, had notable regional presences/offices and were analyzed in the regionally-based interaction networks. However, they are also noted and discussed later as international connections.

Eleven of the twelve VCPs that completed the survey report that they're interacting with at least one international entity. From the twelve completed surveys there were, in total, 36 international connections reported, not including the eight in the provided roster. The greatest proportion (47%) of respondent-reported entities were identified by respondents as a company or business. It appears that most of these companies are those that promote, coordinate, and/or sell tourism or voluntourism opportunities. Only three foreign research institutions were listed, one conservation NGO, and seven individuals that were not associated with an organization (six were listed by just one respondent). In all but six instances VCPs are interacting with these international entities semi-frequently; with 19 of the 36 (52.8%) entities they are interacting on either a monthly or weekly basis.

Table 15. Types of international entities reported in VCPs' interaction networks.

Type of International/Foreign Entity	Number Reported (total number including those in roster)
Government	0 (1)
Research Institution	3 (4)
Company/Business	17 (17)
Individual	7 (7)
Other	6 (6)
Funding Agency	2 (3)
Conservation NGO	1 (4)
TOTAL	36 (42)

Nine of the 36 (reported) international entities provide feedback to VCPs about their project work, but no VCP indicated that this feedback was greatly influential to the work their project chooses to do. Eleven entities help VCPs create conservation activities or projects, but only two of these entities, which were identified as 'funding agencies' offer help that is greatly

influential to the work done by the VCP. In conclusion, international/foreign entities (that are *not* regionally-based) do sometimes provide feedback to VCPs or help them create projects, but these inputs are generally not influential to what the VCP ultimately chooses to do.

In regard to other 26 entities (that do not help with creation of projects), their service typically greatly or completely supports the work of the VCP. In fact, only two of these 26 entities are *not* identified as greatly supporting the work of the project. Since neither the feedback nor help with projects that these entities provide is influential to the work of the project, the general support they provide must come in other forms. From these results alone, it is not possible to discern how they are supporting VCPs but considering that most of these international entities are promoting and connecting VCPs with tourists/participants, it is likely that this unique service is greatly supporting the VCPs. Of the 17 foreign businesses/companies that were listed, 16 are identified as greatly or completely supporting the work of the VCP. If these entities are helping secure participants they are also, in turn, heling to secure financial resources (in the form of participant fees) for the project.

Including the international entities listed in the original roster, there are a total of 43 international entities with which VCPs may be interacting. The additional seven international entities include one funding agency, one international government entity (UNESCO), one research institution, and four conservation NGOs. Eleven of the twelve survey respondents are aware of one international conservation NGO, the Frankfurt Zoological Society (FZS), but only three indicated that they interact with the organization at least semi-frequently. The VCP that interacts with FZS most frequently (monthly) finds their feedback and help with creation of projects to be greatly influential to the work done by the project. Another international conservation NGO, Alter #44, interacts with one VCP on a weekly basis and provides both greatly influential feedback and help with the creation of projects.

If international connections are combined with regional connections into one larger network, the size of different types of interaction networks, of course, grow. For example, in this larger context, VCPs are interacting semi-frequently with zero to 25 entities, with an average semi-frequent network size of eleven. Whereas within the regional networks VCPs' semi-frequent interaction networks were composed mostly of other VCPs and conservation NGOs, within the larger (international inclusive) network, international businesses/companies become a

third common entity type. In one case, 45% of a VCP's semi-frequent interaction network is made up of international business. In another, they make up 29%. However, it's important to note that this has the potential to be a misleading representation of network composition. For example, there is only ever one to three local communities/government entities with which one VCP could possibly interact, whereas there are 18 potential VCPs with which they could interact. So, that local communities/governments make up less than 10% of a most VCPs' semi-frequent network compositions is not grounds for reliable deductions. In the same regard, that 29% of one VCP's network semi-frequent interaction network is composed of international companies is not all-telling by itself. However, in combination with the fact that the local community makes up 0% of this VCP's network does provide a remarkable result. Another VCP's network is 22% international companies, 0% research institutions, and 0% local community entities.

Table 16. Composition of VCPs' semi-frequent interaction networks including regionally-based and international actors. Numbers represent a percentage of composition. Note that not all types of entities are included (e.g. individuals); only those that were most represented in networks are shown here.

VCP #	Local Consv. NGO	Peru Fed. Gov.	Local Cmmnty.	VCP	Peru Research Inst.	TOTAL local	Intl Consv NGO	Intl Cmpny	Intl Research Inst.	TOTAL INTL	GRAND TOTAL (size of network)
4	**43**	**14**			**14**	**71**			**28**	**28**	**7**
5		**29**	**14**	**14**		**57**		**43**		**42**	**7**
9	**16**	**8**	**8**	**28**	**16**	**84**	**8**		**4**	**16**	**25**
11	**17**	**17**		**50**		**83**				**16**	**6**
16	**15**	**10**	**5**	**10**	**5**	**6**	**5**	**20**		**35**	**20**
25	**22**	**17**	**6**	**6**		**55**	**6**		**6**	**44**	**18**
27	**40**			**20**		**60**				**40**	**5**
29						**0**				**0**	**0**
30				**66**		**78**		**2**		**22**	**9**
34				**40**		**40**		**40**		**60**	**5**
35	**15**	**7**	**15**	**15**		**54**	**8**	**23**		**46**	**13**
40		**13**	**13**	**37**		**87**		**13**		**13**	**8**

General Influence

Respondents indicated the degree to which each entity in their basic interaction network (excluding those who provided feedback or help with creation of projects, due to survey design) influenced their project's ability to contribute to the conservation needs of the region. Although interview data revealed some competition or, at the least, lack of comradery among select VCPs, six respondents (50%) reported that at least one, and up to three, other VCPs in the region support (either moderately or greatly) the work of their VCP. And, it's important to remember that this question did not address how entities providing feedback or help with projects supported or challenged the project. While respondents indicated the influence of other VCPs' feedback or help with creation of projects, they were not able to indicate how these entities supported (or challenged) their VCP overall. So, this is not a complete measure of how respondents perceive that other VCPs are generally influencing their project. Four VCPs indicated that their project is generally supported by the federal government and three VCPs indicated that both SERNANP and SERFOR were supportive of their efforts.

However, one respondent reported that their VCP is challenged by SERFOR. And, two other government entities, Administración Técnicas Forestal y de Fauna Silvestre[5] (ATFFS) and Organismo de Supervisión de los Recursos Forestales y de Fauna Silvestre[6] (OSINFOR), were reported as challenging the work of the VCP. Only one VCP reported that they are challenged by the local community and two VCPs reported that another VCP challenges their ability to contribute to conservation needs of the region.

VCP Rankings of Influence

Respondents were presented with nine entities or categories and asked to rank the influence they had on the work completed by the VCP from 'most' to 'least' influential. Since only 16 surveys were completed it is not possible to draw statistically significant conclusions. However, some common and interesting trends are apparent. Focusing on the 12 surveys used in the SNA,

[5] Forest and Wildlife Technical Administration
[6] Agency for Supervision of Forest Resources and Wildlife

entities that were most commonly ranked as one of the top four 'most influential' were primary project leaders and employees or individuals within the organization. By far, most commonly listed as one of the least four influential categories were the funding source. International researchers or research institutions and other conservation NGOs were also more commonly listed as one of the least influential entities. Local researchers, local communities, and project volunteers/interns were listed within the top four most influential more often than they were listed as one of the bottom four (least influential).

However, some of these results are shifted when all 16 surveys are assessed rather than just the 12 used for the SNA, which implies that different individuals working within one VCP will have sometimes markedly different perceptions of which entities are influencing the work that their project chooses or is able to complete. In a couple of instances there are notable differences between the ranking of influential entities provided by a VCP employee (who carries out on-the-ground work with project participants) and VCP founders or leaders (who are more responsible for upper level management of the VCP). Entities that were ranked noticeably differently by employees and project leaders included (1) primary project leaders, (2) project employees, and (3) volunteers/interns. Within the group of 16 surveys, primary project leaders and funding sources are still most commonly listed as 'most influential' and 'least influential', respectively. Project employees are more commonly ranked as one of the bottom four least influential entities while project volunteers/interns are even *more* commonly listed as one of the top four most influential entities. Additionally, in one case where a 6 month-term/temporary project employee completed a survey, the sizes of the reported awareness network (17) and basic interaction network (8) differed dramatically from those reported by the permanent project founder/leader (31 and 15, respectively).

While it is interesting to include an analysis of all sixteen responses to this question, it is most reasonable to focus on the twelve rankings associated with the twelve sets of ego network data used for the analyses of all interaction networks previously described. The primary twelve rankings should provide better, more correlated, insight to the twelve ego networks with which

they are connected. Regardless of how the rankings are analyzed, it's clear that, typically, the entity who most influences the work completed by a VCP is the primary project leader and the least influential is the funding source.

Chapter Seven: RQ3 Results

This chapter presents results that relate to research question three, which asks how VCPs in Madre de Dios are contributing to regional conservation needs. First, prominent characteristics and threats are described to establish an understanding of perceived conservation needs. RQ three also asks how VCPs balance what is required to address regional needs with various conditions of their voluntourist workforce (expectations, preferences, abilities, length of stay, etc.). Therefore, this chapter also includes results related to challenges and benefits of working with a volunteer workforce and a list of commonly described volunteer activities.

Regional Characteristics of Madre de Dios, Peru

The descriptions of Madre de Dios collected from interviewees expand upon the information gathered in the literature review. The tropical region is indeed known for its great amounts of biodiversity. One interviewee explained that "here there is an enviable biodiversity. Many other countries would like to have the biodiversity that we have in this space." The most referenced characteristic of the region, however, was the ongoing struggle between conservation and development. During interviews, Madre de Dios was often described as a "frontier region". The interoceanic highway (IOH) that transects the region, which was completed in 2010, rapidly increased access to the area, and development of various industries, communities, agricultural ventures, resource extraction (both legal and illegal), tourism, and conservation efforts. With a rapidly increasing population, development of the area is inevitable and neither the original communities nor the government has been able to maintain or implement full control over such development. Some of the socio-cultural, economic, and ecological characteristics of the region are described as they relate to the rapidly increasing access to the "frontier region" of Madre de Dios and the increasing presence and impact of VCPs.

Figure 15. Interoceanic Highway[7] (highlighted in red).

[7] Sourced from https://www.peruinformation.org/route-nazca-cuzco

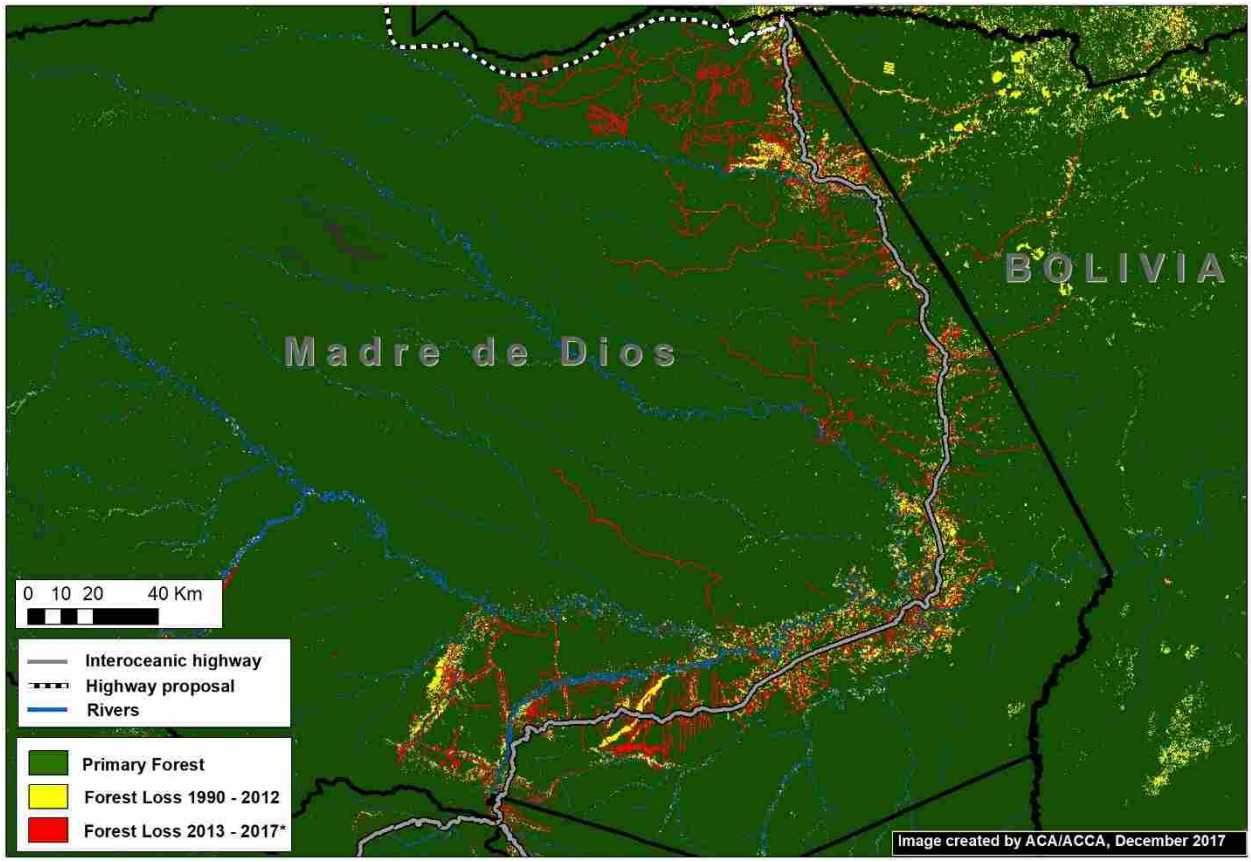


Figure 16. Interoceanic Highway and associated loss of forest as it transects Madre de Dios (Mongabay, 2017).

There are multiple factors contributing to the increasing access to Madre de Dios, but the construction and subsequent use of the Interoceanic Highway stands out among the rest. The IOH stretches for 2,600 kilometers, reaching from Peru's Pacific Ocean coastline, and climbing through the Andes mountains and the Amazon rainforest (through Madre de Dios) before crossing the Peruvian-Brazilian border where it connects with existing highway structures leading to the Atlantic coast. Previously, Madre de Dios was remote and difficult to access, and thus, its inhabitants lived in a mostly isolated environment with disconnected societies and economies. Since "the rainforest maintains the big cities, producing edible products, all types of products," there was much greater traffic and movement of products *out* of the region (pineapple, yucca, wood, bananas, etc.), rather than products and/or services coming *into* the region. In

general, getting in and out of the region is not easy. But, 20 years ago "you could only enter with a cargo truck that took you 24 hours to arrive in Salvación; today you arrive in ten hours." This interviewee explained that,

> 70 years ago… trucks entered full of settlers. What were the settlers carrying with them? Machetes, shotguns and chainsaws, to the edge of what were primitive roads... Very few people have become wealthy, but exploitation in economic value has been enormous.

Despite this sentiment, the improved access to the region is appreciated and indeed desired by most of its residents. One small-town resident noted that "The mayor should... try to conserve the roads. Or maybe over time, ask for the road to be asphalted. That would be the first need when conserving... prioritizing the communication pathways... because if there is no way of communication, the products produced in the jungle wouldn't come out." Not only does easier access to the region make it more feasible for producers to export their products, the it also allows more products, services, and knowledge to enter the region.

> Since navigation in the Amazon River has existed, there was no boat to bring candy to sell, or to bring motorcycles to sell or bring anything to sell. They only entered empty to extract. Now things have changed in the big cities of Manu, where the big companies are, where it's desirable to them to construct things there like Toshiba, the Toyota, Honda.

The interviewee above may lament some of this new development but benefits such as access to modern goods and services (e.g. healthcare, electricity, public education, internet, social services, etc.) are typically appreciated by Madre de Dios residents. Some communities in the region so desperately want more roads – better connections and access to different goods, services, ideas, and opportunities – that,

> They started building [the road] without the government's permission… so now the road is being built illegally… and that opens up this entire area to more infrastructure development than ever before… And a lot of that comes with negative side effects as well. It does offer a more sustainable way of living maybe… but it also offers habitat fragmentation.

Overall, the social and economic well-being of the peoples have improved as it's now more economically feasible to ship their products out and, more importantly, they are seeing new

products and services enter the region. And, it's easier for people to transport themselves in and out of the region. However, the increasing road network is creating threats and challenges which were prevalent in this study. Descriptions of Madre de Dios were most often related to the (1) lack of political regulation or support, (2) the type and amount of migration and development, (3) resource extraction and degradation, and (4) the rise of ecotourism and conservation efforts. Understanding some of the prominent characteristics of Madre de Dios is important for understanding the ways in which VCPs fit into or relate to the social, economic, and/or environmental layout of the region.

Lack of Political Regulation or Support

A lack of political regulation or support, specifically a lack of capacity to properly monitor, regulate, or manage the area, continues to allow for rapid progression of settlement and development in Madre de Dios. Several interviewees noted the political and governmental weaknesses of the region as fundamental issues and hindrances to conservation efforts and successes. It should be noted that there are, of course, governmental offices and individuals that give great efforts to managing the development or supporting more 'sustainable development' of the region, but they are extremely limited by financial resources. One interviewee clarified that "Peru has really strong agencies in terms of clear codes of what's legal and what's not, the challenge is often capacity. Staff implementation, staff technical ability, [and] political will…" The shortcomings of governmental units were often attributed to one or more of these factors - lack of capacity (e.g. finances, staff, technical ability, etc.), lack of political will, or political corruption. One interviewee said,

> I've worked for the government before and it was completely bad. I didn't like… how they manage, because everything is money in the government… but the point of the government is that they have the control. Administration of land, control of laws, of everything. They have in their hands all of the capacity to do [something], but they say that they don't have the logistics, they don't have money.

Government and other types of regulating bodies in the region are still in relatively nascent stages, and thus, they haven't yet developed the capacity to be overseeing all activity, especially in a complex and rapidly evolving social-ecological environment. The challenges of

regulating or monitoring activity and development within the region can be compared to one interviewees' description of the challenges of monitoring occurrences on their own section of land. They explained that they constructed "five bathrooms in the forest below… precious - and after four years they disappeared… we couldn't maintain them, and the jungle eats everything when you aren't there permanently… the termites enter into the columns." Faced with economic pressures to extract or degrade resources and lacking social norms or regulations to deter these behaviors, people participate in illegal or unregulated development, extraction, settlement, or activity. Without the presence of an overseeing body, their actions often go unchecked and unnoticed until it's 'too late'. Another interview explained that when the activity is so "out of the way… there are very, very few people going to check up on that. They don't have the man power to be policing everything all the time."

However, in some cases, government or regulating bodies are indeed fully aware of illegal or unfavorable activities taking place and still lack the resources to be act in a meaningful capacity. As an example of lack of resources or capacity to act, "Manu National Park is a natural area protected by the state but does not have adequate funding and does not have adequate guidance to manage sustainable development criteria." Another interviewee notes that,

> [The] governmental departments here get really, really excited… when they hear that you have resources that you're willing to offer or give or provide, but they also just get really excited that they can pursue a project they've always wanted to do. Cause it's not like they don't want to… they have all these kinds of big projects that they have in mind and have been wanting to do for a while, but they don't have like the equipment, or sometimes the funds.

According to some interviewees, the lack of adequate government enforcement or support is due to lack of political will or corruption within the government. Madre de Dios has "governors who enter for money, who are miners… and are there because a lot of corruption... for example, the regional governor is a miner, he does not like anything that is conservation… he fights with conservation NGOS." Similarly, an interviewee says,

> Do you hear this machine? They're cutting wood right now… Nobody controls anything here. They tell you it's forbidden, but trucks go out with a tremendous amount of wood, everything goes out… by the hills… There's no control.

Regardless of why the government does not play a greater role in conservation or organized development of the region, a common perception is that they do not have a true interest in the matter. One interviewee explains that,

> In this area, there's no government involvement. They don't come out here, they don't look here, they don't care. Which is really different than somewhere like the Tambopata, for example, where all day long you see the government park ranger boats going by. And the reason for that is that the government's investment in conservation is fully related to ecotourism and the associated money that that brings to the country. So, in a place like Tambopata, where there's like five new ecotourism lodges every year, which are bringing, some of them, over a hundred people a day, that's a huge boom to the government. And also, there is a protected area, a national reserve there, which all those tourists, every day, they pay their 30 soles to go into the national reserve and that money goes to the government, so that's their investment like that.

It is important to note that responsibility of conscientious development and conservation does not rest on the shoulders of the national government alone. Local governments, citizens, NGOs, and other institutions are involved in the process and also held to some degree of accountability for creating and implementing pragmatic ideas and solutions. As one interviewee suggests, with "a joint work where the state participates, NGOs, civil society, universities, everyone - and they define and carry out orderly growth".

A few interviewees expanded their ideas about lack of government support to the international level, suggesting that Peru, and especially the rainforest, ought to receive greater interest and support from other nations, since these forests are the "lung of the world". In more detail,

> In the protected areas of Peru not one receives resources from the Global Fund so that it can continue being a bank of values of natural capital and environmental equilibrium. That

> is the figure that I think is urgent, that has to be achieved, that the plenary global politics now has to value the planet as a natural capital in environmental equilibrium.

Overall, the lack of governmental support and political challenges of the region were often cited as a primary characteristic of the region. Additionally, addressing or resolving this characteristic was also often listed as a conservation priority for the region. Despite the work of individuals, private conservation efforts, NGOs, or those government programs that do exist and implement programs successfully, there is high necessity given to improving the political and governmental circumstances in Madre de Dios and, perhaps, in Peru. In combination with increased access to the region, lack of governmental capacity to implement regulation over what method of development or resource use is allowed in the region, allows for it to go largely unrestrained.

Migration and Development

The building of the IOH and other large road systems through Madre de Dios allow for migration and development, some of which is highly beneficial to the people living in those areas, but a great portion of which has also proven to be detrimental to the environment and local societies. For the purpose of this study, the broad term 'development' refers to the settlement of people, construction of infrastructure, land conversion or degradation (for agriculture, logging, or mining), industry development (e.g. tourism), and the growth of typical provisions that typically accompany large, modern cities/societies (more automobiles, diverse production/consumption of goods and services, tourism, public services, etc.). Due to the design of the interview questions, which specifically asked about conservation priorities of the region, most of the information provided by respondents was related to environmental impacts caused by development rather than the benefits it has created.

Often development within the region was described as occurring rapidly as a byproduct of increased access to the region and a lack of oversight for development planning. One interviewee said that, "construction of the interoceanic highway began, and this started to bring many environmental and social problems to the region. Deforestation, monocultures, invasions, illegal mining, increased… and it was right during this time." Another explains that, "the big problem is the people. More than anything else… one of the priorities is to try and control that."

Another inputs that, “they’ve come here because this land is more economic than in Cusco, but where they put cows, now there is no rainforest.” And, one interviewee explains the result of massive migration combined with a lack of government capacity to completely monitor or regulate their settlement on the land:

> It’s the quantity of people that are moving to the area as well. So just six or seven years ago the Interoceanica was built… and so many people came down or moved down to Puerto to help build, you know the people without a specific skill set just general construction, and now there’s so many people around who are out of jobs, don’t have anything to do. So, any way that a road is built, and then new little roads built off that, you’ve got people moving in where they’ve got access to a piece of land. They’re suddenly… moving out and they’re settling there. And so, land that used to be all covered in forest completely and belonged to the government, now the government doesn’t have a choice. The people have just been settling on there. And after seven years of living in that place, then they can get the title deed to the land.

In many cases, an entire community may be composed of migrants. For example, “[Community A] began approximately seven years ago… this is how many other communities or small villages around the rivers or around the highways of Madre de Dios have started.” It is important to consider this factor because migrant communities may not have the same type of ecological knowledge compared to a native or long-term community that has spent more time in the region. Limited ecological knowledge will likely influence the way in which they conceptualize, use, or manage their new environment. One interviewee even noted that not even the teachers in the region were well-informed about the local environment. They reported that, “many come from other regions… regions of Peru that do not necessarily have tropical humid forests ecosystems like this. So, they are almost completely unaware. And they teach about the environment, about conservation.” The recent growth in migrant communities raises additional concerns. As the communities are established, they continue to infringe upon the territories and lives of indigenous peoples living in Madre de Dios. The details of this type of impact are beyond the scope of this research project, and only mentioned in a small number of interviews, but worth noting as a common cause of social and political tensions.

It is also important to note that while the majority of migrants are coming from Peru or other South American countries, the enhanced access has also allowed for more western foreigners to establish themselves in the region. One western resident said,

> When I first arrived in Puerto you were lucky if you saw another white person anywhere. Anywhere in the town. If you saw one, you'd be like, oh wow... But now they're everywhere… They make up a good part of the town and a lot of them are here for longer term.

The rate of population growth and sprawl in Madre de Dios exists in a system with little oversight or control, and thus, goes largely unsupervised or regulated. One interviewee explains the development of the region as existing in a sort of a positive feedback loop where "thanks to the roads they're building, each time there are more roads, more people entering to live in these places, and more streams being contaminated, more forests being cut down." The people living in and migrating to the region are not necessarily keen on conservation efforts either. The surge of development in Madre de Dios is, for the time being, a lucrative or at least a self-sustaining business for thousands of people. One interviewee explains the challenge of facilitating conservation work within a society not yet willing to support the efforts:

> But we still don't really have the support of the society, nor of the politicians, nor of the entrepreneurs, because all of them are oriented to even more personalized interests. They still don't see conservation as a scheme with anything more than just a higher roof, where it could really be more wholesome, effectively.

While development of the region has certainly created social and economic benefits, the environment has suffered from the increased amount of use and extraction. One interviewee notes that "extraction of products is what has impoverished the rainforest. The extraction of wood, extraction of gold, the extraction of oil - is what creates problems."

Resource Extraction and Land Degradation

As more people move and settle into the area, new environmental impacts emerge. Some of the impacts are unavoidable, but others are caused by ill-informed or illegal treatment of the land and its resources. One interviewee said that "people go to the forest, open roads, they settle there, [and] it grows like this. They end up taking everything… there is no territorial order, there is no

zoning." While various peoples have been inhabiting and using the lands for millennia, the increasing growth and type of use is cause for concern. One interview explained that,

> The people that live there have lived there for many years, but they never saw that it was bad to cut down the forests because there weren't many of them - … they'd cut a few and it didn't affect anything. But today it is worrisome. Each time they're cutting more trees. There are concessions from the state, the government, that promote forestry concessions, mining, oil and gas, etc. They all have an environmental impact. And one that isn't being restored, mitigated… so… the problems are grave.

They go on to say that before the region was open to so much migration and development, "you didn't see as much contamination, as much trash, as many people living in the forest. The forest wasn't made for cities. If you make a city in the forest, the forest is lost. And all the time there are more people living here."

Interviewees frequently describe the people and the environmental impacts they are causing as 'advancing' or 'invading'. Many describe the system as a feedback loop where new roads create greater access, which leads to more clearing or development of land, and then more roads, greater access, and more development of land. In the words of one interviewee, "colonies of farmers keep coming to invade the places while there are roads. Or, where they have improved access, they're going to come and invade." Some residents of the area have seen the progression over the past decades. One explains that, "the first settlers that arrived here started to cut trees. So, because of that, it went advancing towards the lower [forests], so necessarily all of this place has been pillaged of its forests." Many connect the devastation of the forest with the spreading of the road system(s). In other words, as long as access to deep parts of the forest continues to increase, so will the amount of resource extraction. One interviewee describes the situation:

> Each year the wood is farther away, and they clean deeper until, today – up to where the man can arrive with his 4x4, military trucks, that can enter where there are no paths And, from there, where the physical force of a man can carry wood from the forest to the truck. And now there isn't wood and it's because it's too far, so now it's not so profitable.

In addition to facilitating more logging, and other types of resource extraction, the extending roads have also led to an extreme increase in land used for agricultural purposes. One

interviewee said that, “the encroachment of all these agricultural areas where you’re losing that biodiversity, you’re having … slash and burn and … you’re just disrupting the natural environment and there seems to be no end to it because the road seems to be going further.” Another said that, “deforestation through unsustainable agriculture… basically clear-felling hundreds of thousands of hectares of forests every year for mono crops, like papaya, cacao, palm oil is starting to maybe take off here as well.” In the words of another,

> In this area you see that there’s a lot of forest felled to put livestock… but there aren’t any cows. There’s simply grass for cows and no cows. They cut down the forest, sometimes for pleasure, or maybe for nothing… and every year they burn the grass for this culture that the people have to burn to renovate the grass. Often for nothing. Agriculturalists, each year, cut-down forest and leave them like this.

The region is experiencing a migration of people and their use of that land and its natural resources with little political control or regulation, allowing environmental degradation to occur at a remarkably quick pace. One interviewee describes this trend as a “wave of people” but also expresses the belief that there are solutions being created and more to be found. This interviewee wondered, “How do [we]… help them make more opportunities, or they help themselves make more opportunities… so that the frontier isn’t really such a wave of people that there’s nothing you can do?”

The degree of resource extraction and land degradation of Madre de Dios is considered characteristic of the region. However, it also overlaps, or connects to, a range of ‘conservation priorities’ that were explicitly mentioned by interviewees All interviewees were asked to identify some of the ‘conservation priorities’ of the region. In fact, the other major regional characteristics – lack of political control or support and high rates of migration and development – also relate to the ‘conservation priorities’. Often, interviewees identified the same or similar conservation needs. However, the need was framed and communicated differently by interviewees. While some ‘conservation priorities’ were presented as a threat or issue within the region, others were presented as a solution to presumed issues. For example, one contributor might have identified ‘deforestation’ (issue) as a priority for conservation, while another may

have said ‘reforestation’ (solution). While ‘issue’ and ‘solution’ perspectives often relate to the same theme, separating the responses about priorities by these perspectives reveals an intriguing detail. Most ‘conservation priorities’ (e.g. clean water, intact forests, conscientious land management) are represented by both the ‘issue’ and ‘solution’ perspectives. A few, however, are only thoroughly represented in one category. For example, while mining was frequently framed as an issue, it was never framed within a proposed solution to the conservation priority. These conservation issues and potential solutions are listed in Table 17 and Table 18. Although the list is not exhaustive or sufficiently detailed, it provides a basic understanding of the conservation priorities/needs of the region. Such a baseline understanding is helpful when understanding how VCPs may contribute to efforts that address such needs.

Table 17. Examples of commonly described conservation issues of Madre de Dios.

Issue	**Example**
Mining	“Not to mention mining which is also a very serious problem that is contaminating not only forests, but the entire region, with mercury. That's a very serious thing… and the sad part is that we are being contaminated.”
Illegal Logging	“We’re dealing with illegal logging, so a lot of degradation of the forest, a lot of loss of the big important species, like Chiyawaco, or ironwood trees, uh, Tornillo, Quinilla, all these huge very important species are being lost.”
Uncontrolled Land Development	“Colonies of agriculturalists keep coming to invade these places while there are roads… the government doesn’t have a master plan to control this.” “Madre de Dios will continue to grow and, sadly, right now it’s growing in a disorderly way.”
Poor or Unsustainable Land Management (In general)	“Overharvesting of forest products, so Brazil nuts for example is seen as a sustainable rainforest product, but in truth it’s actually not the way people are currently collecting it. Because people are collecting *all* of their brazil nuts, and they’re not leaving any and that means we’re actually having this generation gap of brazil nut trees. We’re eventually not going to have brazil nut trees.”

Poor or Unsustainable Land Management (Agriculture)	"I think it starts with, more deforestation for more agricultural sites, then how the agricultural sites are used, that they just [plant] lots of monocultures with intensive fertilization and everything, and it just leaves the soil bare and then they abandon the land, and then it's just bare land."
Water (clean water, conserved water)	"Basically, the water is one of the biggest problems that you're going to see… because of ignorance, people are not conserving water."
Public Lack of Ecological Knowledge/Information	"Most of the people that are involved in resource extraction… often don't realize the impacts." "The majority of Peruvians. We're not aware of the damage that we do the nature. And we're not aware of the luck that we have to still have these spaces – that we can recover."
Government Inaction or Lack of Capacity	"The first priority of the conservation of these territories – I can't fail to mention… Manu National Park as a biosphere reserve and as Manu National Park… does not have adequate funding and does not have the proper guidance to be managed with sustainable development criteria."
Poor Social and/or Economic Conditions	"Right now, the market incentives are - cut down all the possible marketable trees and send them to some far way place. And in the short term, that's awesome, but in the long term they're totally destroying this opportunity to build an industry that will power this region forever. And I recognize why the reality is the way it is, is because Peru more broadly has to be developed, right? It's that there's so many people that are incredibly poor coming from the Andes, coming from the south, coming from the north, and Madre de Dios is opportunity." "We also have here the expansion of agriculture. Plantains…are basically the "cash crop" here. But… you don't make very much money at all from banana farming… it is just not a feasible way of living."
Loss of Biodiversity	"We see… biodiversity hotspots that have become like islands almost and then also the encroachment of all these agricultural areas where you're losing that biodiversity."
Illegal Wildlife Activities (e.g. hunting endangered species, or	"The problem is that the animals that are here, there are people that capture them and people that also find them abandoned and don't know where to take them."

participation in the wild pet trade)	"They also hunt to sell, which is another source of income for them… now it's more like, oh, we hunt a female with a baby because we can sell the baby in the pet trade."
Waste, Contamination	"You didn't see as much contamination, so much trash, so many people living in the forest."

Table 18. Examples of commonly discussed solutions to conservation issues in Madre de Dios.

Proposed Solution	**Example**
Land Protection	"Trying to like immediately protect the land in the sense of like buying it and the occupying it… because otherwise this land would be like a resource extraction concession." "Perhaps even more important in this moment, cause the education [is] just not fully there, the culture is not fully there, is land protection… So, holding land and holding it so much so that communities understand that you're not going anywhere."
Environmental Education, Engagement	"I've seen the power of education… the long-term strategy here is work with the young people, help them to see how beautiful of a place it is here, how special it is, and how it could be managed more thoughtfully. So, I would say it's about education principally." "The conservation priority… is to involve the people. And [that] the people feel like conservation is something that can give them something to eat, not that it's something that's going to prohibit them from doing things."
Protect, Conserve Water	"The priority in this zone is to protect the headwaters of the rivers." "A super important conservation priority is to maintain pure water." Another priority is also caring for the water… we neglect the water... There are no water meters and they take it from the rivers. There's no control. You can see that there are open water taps continuously."
Political Reform or Increased Action	"Also, trying to get the government to at least be somewhat involved, at least be paying attention… then everything else sort of comes afterwards… as far as protecting individual species, and certain areas and trying to teach people to be different." "We need good policies and good laws and good strategies – it's a front of everything – and also a tool that responds to what strategies

	we use to be able to do land management, because there is no conservation without land management and territorial planning and terms of governance, because when people don't abide by the laws and they don't serve to modular a predator's harmful behavior, what are you going to do?"
Promotion of 'Sustainable' Economies	"Conservation priorities in this area are definitely to promote tourism and promote the manufacture of rainforest products. This is the only one that I see as a benefit that can give a clean economic movement, not extractive... What to avoid is extractive predation. What needs to be fostered is a sustainable economy, like tourism, which only brings. It brings novelties, brings new languages, brings knowledge, brings culture, and takes nothing." "So, in terms of Madre de Dios and conservation, it's really about finding people alternative work that is more sustainable, or at least is more regulated."
Promotion of 'Sustainable' Social Practices or Environments	"I think mostly if people were to focus a little more on health and education, it'd make a really big difference… if people had less worries about those two things they'd have a lot more time and energy and money to focus on things that right now don't really matter."
Improved Land Management (Control of Development)	"We would have to define what activities can be done in which areas. Madre de Dios doesn't yet have it. It could have a zoning of the areas where you can do certain activities, this area we preserve, these areas we use for agriculture, this area we use for mining, this area we use for ecotourism, this area we use for mixed things etc."
Improved Land Management (Agricultural Land)	"The model for certain conservation areas is conservation agriculture, nothing more… The idea is rather just to channel things that are more positive, harmonious, productive, healthy - and promote from that energy and with that synergy of those who join into that dynamic that is productivism. Environmentalism such as being in balance with the environment and the ecosystem, with that value of the bank that is urgently needed to give value to protected areas."
Ecosystem Rehabilitation	"The topic of reforestation, too… plant trees that have been cut down that existed here."

	"Recover the diversity of plantations that existed in the area. … have a lot of varieties of trees… native of the area, without introduction of plants from other places."
Scientific Investigation or Generation of Knowledge	"The other is… the study of restoration and the species in danger from illegal logging." "I think that if people were to focus on… getting better at… being able to translate the knowledge that they're generating or what they're working on."
Reduce Waste, Trash Contamination	"Another priority is to reduce the volume of trash we generate." "In the area of waste, for example, we're collecting plastics in on area, organics in another… for compost… because often people don't know the difference. It's all the same to them. What we should do is enlighten people, so they can reuse some things, and those that they can't, recycle it or reduce use."
Wildlife-related Reform	"Many animals are disappearing… what we want is that [this project] can have these species and then release them in protected natural areas."

More Tourism, More Conservation

Where greater access to Madre de Dios has presented opportunity for uninhibited development and resource extraction, the region also offers opportunity to those who seek to enjoy the region in different ways. One interviewee describes Madre de Dios as "a very rich area, diverse, and many people come, like you, from other places, to do science, research, make a life, and other people come, too, to look for a life and extract resources." And, as simply stated by another, "Madre de Dios is opportunity; that's why you're here, that's why I'm here, that's why they're here." Alongside the rush to benefit from extraction of natural resources from the rainforest, there has also been a steadily growing interest in studying the area, exploring its natural features and cultural traits, and conserving and preserving parts of it. Tourism offers a way to combine these interests and is one of the most popular and rapidly growing industries in Madre de Dios. One interviewee explained one way in which tourism has progressed over recent years,

> [A] political sense has been given to this [tourism] development plan, which was to socialize tourism as a viable strategy toward conservation and the development of Manu Park… until [2013] the park was only spoken of as an unknown place that was a tourist destination, but only at an exclusivist level… since then, the reality of tourism has changed a lot; now it's overcrowded and diversified. Then, there would be about 3,000 passengers entering that place. Today… throughout the park it's 8,000 – 10,000 a year.

The region is also receiving increasing attention from local as well as international conservation organizations, each trying to conserve part of the region or mitigate the increasing and seemingly endless environmental impacts. As one interviewee said,

> [In] a place like this where the frontier is just hot, things are changing very, very quickly. There are people who want to conserve the forest, but they are massively outnumbered. In almost anything, any metric you could imagine, in terms of people, in terms of resources, in terms of technical skills.

Often, tourism and conservation efforts are joined into ecotourism ventures, as one interviewee describes:

> I've seen that there are many people that come, migrating this way..., who come with a romance for ecology, with a romance to see tourism as a strategy that takes them to the forest.

Other interviewees noted that now they have "more people there and more researchers and more tourists and everything – because it's the trend." Further,

> If you said 'the Amazon' before, it was speaking of Brazil. This – Madre de Dios – didn't exist in Peru 30 years ago. There was only Iquitos, the jungle of Peru… and later, little by little, researchers were coming to Tambopata, they made it famous. So now Tambopata is super famous. It keeps on growing. And tourism is growing.

With the expanding tourism opportunities, most of them based around the biological/ecological features and/or local cultures, there has also been a proliferation of voluntourism ventures within the region. One interviewee, who happened to be the *only* project founder who was a local resident of the community in which the project exists, said that,

> "If we're talking about tourism, we're also talking about conservation because the two are the same. If there's no conservation, there aren't tourists… so the most important thing is that a lot of people are more involved in tourism activities."

VCP Outcomes and Successes

Project leaders and staff were asked to describe their VCPs' 'biggest successes' and some other 'successes' were mentioned throughout the rest of the interview conversation. Interviewees often mentioned general 'outcomes' created by their project as well, but only in some cases did these outcomes overlap with what they described explicitly as a project 'successes'. It cannot be assumed that all of the project impacts are also considered 'successes' and, in some cases, project outcomes are not necessarily positive. Therefore, 'project outcomes' are loosely differentiated from 'project successes'.

It is difficult to make comparisons of 'success' across projects, since they have distinct goals and methods of evaluating and/or characterizing their individual project successes. However, it can be noted that three of the more common types of success mentioned are related to (1) education of project participants, (2) growth or development of the organization, and (3) successful project work (e.g. reforestation or protection, research outputs, knowledge generated, animals reintroduced, community education or outreach, etc.). Successful project work was often explained throughout the interview conversation, but it was not the most commonly mentioned as one of the 'biggest successes'. One interviewee focuses on the educational success by explaining that,

> I would say the most successful aspect by far is that we can bring in people that would have never known about the jungle and teach them about the jungle… another… quite successful trait is that I do believe that the staff that we have here get quite trained up in biology basically and field work and field surveys.

Another interviewee who emphasized the successful education of project participants said that,

> I think that we have done a really good job in opening up people's eyes to the importance of [the region] and to some of the realities of conservation work on the ground. Obviously, we can't expose people to everything and there's less interaction with community conservation work than there is with research in the field, but I think

> that we do a good job of inspiring people and sometimes changing people's perspectives, and both motivating and empowering them to be further involved in that."

One interviewee clarified that their VCP didn't engage many Peruvian national participants when they said that they "[turn] over staff and environmental education on a foreigner front, rather than on a Peruvian front, unfortunately." Within the theme of project growth and development, one project leader notes that,

> We've just grown so much. We have a lot more people here now than two or three years ago. So I think that's a good success, like just our marketing, I would say. But also I think the relationship with those two like upper communities, [Community A], [Community B], has probably improved a lot in the recent years and I think we'll keep improving that… like our network is growing fast and there's so much opportunities and ideas and good ideas and people that want to invest… we're on the line of obtaining some more land as well, which, of course, every time we get more land it's a success… we're growing and like every time land is obtained it's just, I think that's so important.

In regard to successful project work, the definition of success can vary greatly, since projects are focusing on distinct types of activities and using different standards of measurement. For example, while one project leader explained that their research team/interns "found species that might be undescribed, that have never been published, like the life story history of them has never been published" compared to another VCA that describes the "liberation of animals" as their biggest success. One interviewee explained that,

> I think there's a great success in terms of reforestation... Each time I see more and more animals near the lodge. Just right here, you don't have to go into the jungle to see them. That's how I feel like this space, where the project is developed, is healthy. Or that it's been maintained. It has been restored in a good way. I mean, I don't know if it's the best way, because I'm not an expert either, but I think the place is healthy and part of the success is that it lives on…That's the most successful.

A representative from a different project describes the way in which their ecological monitoring has been successful enough that it could contribute to regional conservation planning. They explained,

> The successful part is us being able to show really clearly the value in regenerating forest. Both at the [project site] as well as in the sort of… human use zone. That's like the buffer zone and transition zone surrounding [the protected area] … being able to show that even though forest has been impacted and degraded by human use, that it's still very valuable

> for biodiversity and that that should play a role in conservation planning. I think that being able to generate those results is something really positive for [the region] and for regenerating rainforest in general.

Finally, one leader explained their success of changing the local communities' ecological consciousness, or behaviors via education and engagement. Some projects believe that the presence of their project and volunteers influences the beliefs and/or behaviors of the local community. For instance,

> It's our presence there and just being there with what we're doing in general, not really just the projects that we do. [It] kind of helps the area because people have to be curious to learn… If they're interested, they're going to come to us and we're not going to just turn them away. I think that's what we do good, even though it's not specifically to a project.

Only a few projects work directly with nearby communities with the intention of creating community-level change or impact. In regard to this type of success, one leader relates the change created in communities to ecological impacts,

> All that we're doing with the communities, [they] are learning. Not only are the kids learning, the parents are learning. They have more respect for their forest, for the animals; in some way we're avoiding that they hunt animals for pleasure. This is the other successful part of [our project], the influence that it's had in the communities… to mitigate the impact in the forests and to be able to recuperate, in certain ways, the flora and fauna of these areas.

It's worth noting that one interviewee, a stakeholder who is not a VCP leader, reflected that the capacity of VCPs to achieve success is often related to their ability to market their projects and establish connections with entities able to send or refer project participants. They explained that,

> What has made these projects successful, the ones that are doing land conservation, the ones that are impacting education, economics… it's all about marketing. It's all about marketing. At the end of the day… and it's about relationships, it's building those pipelines, so tour agencies… So, you need to have connections with those places, they need to know who you are, also you need to have a strong web presence, in terms of your own social media, in terms of good reviews on all the different sites, you know, it's a tour business. It's just a business that happens to have people that go and pay because they

want an experience. And the core of a tour business is people go and they have a good time and they can find you.

Project impacts described by interviewees fall within a much greater spectrum. Frequently mentioned impacts are highlighted in Table 19. To reiterate, some project impacts overlap with types of 'success'. Impacts have been categorized into three typical overarching categories – social, ecological, and economic. To study the impacts of VCPs was not necessarily the focus of this investigation, but it is important to note the perceptions that VCP leaders and other conservation leaders within Madre de Dios have about the impacts of VCPs working within the region. A couple of impacts – (1) negative ecological impacts associated with increased tourists and people at project sites (2) changing socio-cultural conditions due to increase tourism in the region – were mentioned only infrequently.

Table 19. Type of outcomes associated with VCPs.

Type of Outcome	**Example/Description**
Ecological Outcome	
Scientific Impact, Knowledge Generated	"He found a new glass frog just the other… quite recently at [our site] which is quite cool." "The research that we do here is on some endangered species… the research and the work that we do on those is just very important, we need that information… and that's one of our main goals here, is to do research on species that are very little known." "We'd love to see what's around [our site]… but it's not for the now, it's for the future... These people that come in the future, they're going to be like, "oh, wow there were 17 individuals of jaguar here in 2018" and then 2038… they're going to be like, "shit…", or they're going to be like, "wow" … It's [going to] go one of two ways, but they're not going to know any different if there's not any research done in the first place." "We're trying to find ways that are feasible, like time wise and money wise, for other people to do sustainable agriculture, because we feel if you read all the research, some of the stuff you just cannot get here. And then it doesn't make sense; you

	can't tell people to go above and beyond. So, that's one of the aims - to find good, easy methods to use that are sustainable. That the neighbors, for example, could do, and then spread the word."
Protecting and/or Restoring Land	"The forest is quite conserved, it's a primary forest." "[Not only was there] logging in the past, there was hunting... this forest has recuperated and it really pleases me because we see the force that we're making and much of the fauna that's around here feels safe here… animals are intelligent and they know the places that are safe, they look for food in the safes places… and they know the specific places where they have to be careful, too." "It's a very, very important piece of land… It might be small, but it actually is buffering and stopping deforestation from encroaching into [this larger area] which is this incredible ecosystem."
Wildlife Reintroduction	"It's been interesting to me to see the amount of wildlife around here from when we were first here to now… it was very, very different… you could wake up in the morning and smell the burning and it's like the farms around us… and finding 2 or 3 frogs on a night walk… but now, I can go out and find absolutely amazing amounts of animals." "We liberated him there. It was very successful. Also, the turtles, we freed them there, too." "In terms of the rescue center… when we release animals, especially the larger ones, we try to release them in an area which is closer to the [protected area]. It's like trying to take them as close as possible to a kind of safe haven. [Project Name], the reserve that we have, acts as like a safe corridor for animals to get down to the river."
Social or Economic Outcome	
Local Community 'Development' or Support	"Most communities don't really know how to ask for help, because they've never received any. So, our presence being in communities… has definitely had positive impacts on not just the people but the forests around them."

	"We consider that area already kind of lost to cacao, but what we can do is try to… help them become more sustainable and help them also get more value for their products that they don't need to then cut down, cut down, cut down more, so we have looked at kind of added value for their product, so we've helped them develop soap… and other products. And we use the soap…we give the soaps to our clients and we also sell them and they've now started distilling it and making like cacao alcohol. They're doing a whole bunch of different products."
Education of Participants	"They're capable people, and you can change their mentalities a bit. You can help them so that they can do things outside [of here]; future professionals. Many of them could be in the position of making decisions; here we present them with the reality of how it is in [this region]. They learn and leave with knowledge." "I also think it's a means for young people to get professional experience, and that's huge. To get in a job in the environmental sector is really freaking hard and the more experience you have, not just on your resume, but personal experience and being in the field, being in a place like [project name], you learn what conservation is like."
Education of Local Residents, Changing Consciousness	"I give them presentations on… the other monkeys that we have here and they really don't really know what we have and they've probably not seen half of the species that we have here, because they're not really interested but they might get interested." "If they grow up with a sensitized feeling toward the jungle, with love for the jungle, to protect it and care for it and know that they can live in harmony with the jungle, they're going to protect it. I know kids that, now, they say… "I've said to my dad that he shouldn't hunt." "We returned to [Community A] and then talked to [name] and since we've been there [they say they've] washed [their] dogs every day... It's a bit intense, but [they've] got the message. You know [they know] that if [their] dog gets mange… then it could also possibly affect [their] plants."

Cultural Exchange	"It's a really awesome way for intercultural exchange; mutual understanding. For the Peruvians, for the people who come down here…. some of that exchange is not positive. They see all the stuff we have, that sucks, but on the flip side they see our culture is different, there are some things about our culture that maybe they want to aspire to, just like maybe there are some things in their culture that we want to aspire to." "Whenever you have a lot of people of another culture or another skin color in a place that's new and changing, and resources are scarce, it can create friction, so you just have to overcome that, you really have to engage. And local communities have to understand why you're there, what you're doing, that you're not a threat… but if you do do those things, then this region is pretty chill and… so far it's been good at a like community scale."
Job Creation	"We have a guy working here that is now studying ecotourism and he's from the local community… and I think that in the future he would want to work with us as a guide… it's really nice that we have an effect on the local community like that." "Of the people that are left in this town, I think half have worked in this place."
Economic Input from Tourists	"They stay here with us, because they're not just a tourist that passes through… they stay for two or three weeks and many for a month. In this time that they're here with us, we consuming products from the community. We go to a restaurant to eat… they buy water, they buy chocolate, cookies, beers, all that they need." "The volunteers create an asset that otherwise wouldn't be here… [they] invest their money… in these projects, in these stores; there's a lot of Peruvians here that embrace the ecotourism, there's a chunk of them that don't want anything to do with it, but at the end of the day they have to admit that they know somebody who works in tourism. So, if these volunteers didn't come, if these tourists didn't come, this would just be a mining capital. And [this area] would've been toasted a long time ago for cacao."
Increased Visitation from Foreigners	"Having more people around [City Name], loses its charm, it just becomes like a Cusco… the face of [City Name] is changing, it's becoming more gringo. Gringified…[That's]

	probably not hugely bad… but what we don't want is for this to become just like a pure tourist attraction… but it's certainly better than the alternative, which is destroying the forest. Prices go up. That's one of the negatives of people here in general."
Bringing Attention to Underserved Areas	"In this area, there's no government involvement. They don't come out here, they don't look here, they don't care... And the reason for that is that the government's investment in conservation is fully related to ecotourism and the associated money that that brings to the country… And so, one of the best ways to get them involved is to just start projects like this and bring in like the volunteers and the tourism and stuff, and that creates a financial benefit to the government, where they're like, 'hey, we care about this now, 'cause this is money'." "We've been focused more on assessing basic needs in communities and trying to attack some of the smaller things in different communities that aren't receiving as much aid from the government… Our projects now are moving in a direction where we're going to be having much stronger connections to those departments and acting as almost like a facilitator between them and communities." "[Project Name]… when they appeared… to explain the project to us, and everything that had happened, I said "[oh no]". Sometimes one doesn't know. Well, I say they should spread themselves out. Not just stay there… spread what you do… they help us in many ways… sometimes the state doesn't have money, resources… there are connections that can be made."

VCP Participant Activities

Participants complete a range of types of activities or work for their projects. The types of activities described by interviewees are in Table 20 and listed from most to least frequently referenced. Other activities mentioned rarely were clean/pick up of trash, teaching English or providing other classroom support, and maintaining social media accounts. In several cases, participants perform more simple tasks while their fees are used to pay VCP staff members to

perform more complex tasks such as writing manuscripts, coordinating with policy makers, or hosting educational workshops.

Table 20. Types of activities to support VCP work and/or goals.

Activity Type	Example
Monitoring Flora/Fauna	"Primarily they're focused on biodiversity monitoring. So, the research monitoring program we have that runs for 10 years, we use volunteers and interns to help carry out a variety of surveys. So, there are surveys that involve butterflies, birds, mammals, reptiles, and amphibians."
Research, Data collection or Processing (for VCP project)	"Some also work in their projects with the sustainable agriculture and they… test different methods, for example, for growing things … or for best ways to compost things, so to actually help us figure out new ways to plant or grow things."
Research, Data Collection (for independent project)	"By having interns focusing also on their own projects and increasing the knowledge in these ways, the staff has time actually to do the other projects that are fixed, that need to be done. And… the interns also help with these… So it basically increases both… while they work on the projects they help us just do the work in the fixed projects, but they also increase the knowledge by doing their own projects."
Basic Facilities or Land Maintenance, Physical Labor	"Volunteers and interns are a great help in terms of just physical labor to work on things, to build things, to move things that need a lot of hands."
Patrol of Land	"Patrolling is one, the path of the forest, we call it patrol, because it serves us to maintain the presence on the protected forest"
Reforestation	"They help us to plant trees. They help us measure. Now we are a lot on the measuring. We plant less, and we measure a lot… they help us to clean the areas… to help us like the lines succeed on the growing… We need to always clean the bamboo. Take the bamboo away."
Animal Care	"They all get involved in the rescue center of course." "The principal activity that the volunteers do is to feed the animals, take care of them…"
Food, garden work	"We've installed gardens together, with some of the interns." "[Now] We ask [for help] with the organic garden, which is much bigger."

Educating, Teaching (other participants)	"Sometimes our volunteers… actually do those presentations. So [name] was interested in doing a fungus presentation and we'll see presentation today from two of our interns."

Benefits of Volunteers

While descriptions of the roles filled by volunteers were taken from varying parts of the interview conversation, interviewees each answered a specific question about the 'benefits of using volunteers' in their project. In some instances, there is overlap between the participant 'role' and the 'benefits' of involving them. For example, the role of volunteers is to 'provide labor' for project goals and maintenance, and this labor was also often described as a benefit. Likewise, there was overlap between the role of 'providing financial support' for the project and the *benefit* of using volunteers to help finance the project. Thus, these benefits are not described below, but are listed along with all major benefits in Table 21. The three most commonly referenced benefits of using participants to achieve VCP goals, outside of labor and financial contributions, were that they (1) create a presence at the project site, (2) serve as ambassadors for the region and/or the VCP, and (3) provide creative inputs like new ideas, knowledge, and energy.

Presence at Project Site

Considering that major threats to the region are uncontrolled development and resource extraction, many projects place great emphasis on protecting their share of land from encroachment or invasion. Therefore, having a presence on the land helps achieve this goal. In many cases, having a constant and well-known presence "is essentially what's protecting the land." One interviewee said that,

> I think in this kind of work… it makes a lot of sense to have more people … on the land. [Because]what we need is presence and with a low budget conservation project, it's very difficult to get high-paying tourist. Whereas volunteers come out, they're paying a lot less, they're providing a good force of people.

Another explained how participant presence on the land helps to protect the space:

> First thing you need to make sure is to protect. [We say] the most sustainable way of protecting one place… [is] when you live there. When you live every day and all the

> neighbors see you have presence of this place. You take care… of the place. Just to have an office in Cusco and have a lot of money and pay people… it's okay if you can, but its more effective and, and also sustainable if you have people living there. So, one of the most effective things [is] that we have having volunteers walking the trails, living there [so] that all of the community knows that we are taking care of the place and they respect us from that… We have… just to be there; we are guardians [of] the place.

Creating a 'presence on the land' is one of the greatest benefits of a volunteer workforce and it also happens to be easy to achieve, and, fulfilling for participants. When participants work on other project goals – reforestation, trail maintenance, fauna monitoring, or excursions to learn about/explore the land – they are inherently creating this important presence on the land. One interviewee mentioned to influence of international presence when they mentioned that,

> For us it's important that the people can see that we're strengthened by people of the world, that they support the project, and this is an image of the strength of our interests, that the people say, 'look, people from all over the world have come to protect [the reserve.]'

Ambassadors

Participants are often described as ambassadors for the VCP and/or the region of Madre de Dios. Many interviewees note that after having lived in and learned about the region, volunteers return to their home country and share the importance or wonders of Madre de Dios, the issues it's facing, and often insights about the work that their respective VCP is doing and/or about the great experience that they had. Ambassadors can encourage more people to have interest in the region, perhaps interest in visiting it or simply learning more about it or, as in many cases, an interest in visiting a VCP. In other words, volunteers help market each VCP and, in doing so, help gather and send more volunteers their way. One interviewee describes the 'experiential learning' component of their VCP,

> The aim there is really to do two things. One is to create ambassadors for Manu, as you might say. So local people, international people, who can be ambassadors for Manu. Who can come, understand better why Manu is important, and share that with their own networks. Go on to potentially in some cases support that through their own career… And then in addition to that, all of our participants, we hope, learn something about Manu, go on, spread that word to other people who can, in turn, build awareness of Manu and potentially help.

Another mentioned that,

> I've seen hundreds of people be turned out through this, and you see the way that they are inspired, and they learn and they share their own knowledge and then they take everything they've learned back with them and they tell people about it and they inspire other people, or just inform people.

There are different levels at which a VCP participant may act as an ambassador upon completion of their service and return home. Most frequently mentioned was that participants spread information and support for (1) the VCP with which they worked or (2) the region of Madre de Dios in general. In just a few instances, interviewees noted that a benefit of working with foreign participants is that they can serve as ambassadors at an even greater level by embodying and spreading ecological consciousness. When participants "return to their places, many of them want to do something more for the planet. Sometimes by supporting alternatives here or of other countries or of their own country, helping to create consciousness." Not only do they speak on behalf of Peru or the region or their respective VCP, they may use their experience to help them stand as advocates for ecological consciousness in general. While several interviewees mentioned this as a product of participation in a VCP, only a couple specifically defined it as a benefit of engaging participants.

Creative Inputs: Ideas, Knowledge, and Energy

One of the benefits of having volunteers as the primary workforce is their individual and collective support for creative inputs for the project through cultivating new ideas, knowledge or energy at the project site. One interviewee summarizes this benefit by explaining that,

> The presence of volunteers moves ideas with interest, makes us mature, too. We're moving things dynamically [and] also… they move things. There is more revolution with people that contribute ideas or have constructive criticism...The emotional presence strengthens us also, from these people, because it's a stimulus and company, joy, energy, presence, sisterhood, brotherhood. It really propels enthusiasm.

Several others describe the benefit of energy and enthusiasm provided by volunteers.

> We had a lot of people that came really as a passion and because they loved the project, we could achieve things that we didn't expect. And at some point, we discovered that as

> long as you do it from your heart sometimes it's even better than if you have one million dollars behind you.

Not only does the diverse mix of volunteers help create an energized environment and produce novel ideas, VCPs also welcome specialists to their project that bring unique types of skills or knowledge. For example,

> We got more specialists in … we had a herpetologist come, then we had an ornithologist come out as well. A few years after that we got a botanist…. There was a bat guy. We've had several entomologists come in as well. Some specializing in butterflies, some in beetles, some just general. We had a couple of fish biologists in recently as well. So, it's gradually going getting more and more scientific… we've had biologists coming in, vets, and animal behavior people and then… a primatologist now. So, things have started getting slightly more and more detailed. And more and more interesting.

But, participants don't necessarily have to be a 'specialist' to bring new knowledge or creative input to the project. One interviewee explained that,

> We learn by sharing. There are also new visions here with the volunteers that come with new knowledge, that one didn't have before; it's like an exchange of knowledge and know-how in this exchange between people… what one can't see, the other can, and there the ideas can complement each other, the ways of thinking, to make things better - the activities [and] the benefits of this place.

Table 21. Benefits of using volunteers/participants to support project goals.

Presence at Project Site	
Benefit	Example
Protect Land	"The help of all the volunteers…strengthens our presence... So that's the first way to see the support they give us…With our patrol we are stubbornly marking the footprint that we are the drivers of this ride; it's vital; that is an important presence. You don't have to do anything but to be present in the forest and that is already giving an adequate use to the forest."

Safety in Numbers	"Volunteers help us in the way that they go along with the researcher, that the researcher wouldn't go out by themselves, because… you don't really want anyone to go out by themselves, because there is dangerous animals around and anything could happen… So volunteers help us by keeping us company."
Ambassadors	
Spread more awareness of the region, generate/spread knowledge	"All of our participants, we hope, learn something about [the region], go on, spread that word to other people who can, in turn, build awareness of [the region] and potentially help."
Generate more support for project, publicity	"They spread the word… they also have an important message when they go home, and they tell their friends, and their friends come here, and its starts all again. So, they are like our publicity as well, in a way."
Creative Inputs	
Energy, Enthusiasm	"It's nice to have a lot of people around; it makes the camp feel really awesome. Having all these young, or generally young minds together and working on solving problems together is really useful." "It kind of refreshes us to have new faces here. So, if you only work with the same people all the time it would get a bit dreary I would say in a place that is closed off from everywhere around, but because we have volunteers coming in every month it kind of keeps us fresh and excited about what we do."
New Ideas, Stimulation	"You get so many different ideas. And one of the really nice things is we get people from all over the place. Volunteers come from everywhere. They're all different age groups, all different places, and everyone has different perspectives on things. So, you can incorporate some of the different ideas into the projects that we're doing."
Special Knowledge or Skill	"If we have to fix something, and a carpenter volunteer arrives, wonderful, because there are things to do in this area." "Although people do come in with quite a bit of knowledge under their belt as well… And then we develop brand new skills, too… We also work for the interns. It's not just a one-way thing. We learn from them, they learn from us. They may learn a lot more stuff from us, but even if we learn one thing from each person… I learn stuff from interns all the time."

Financial Support	
Participant Fees	"Their money helps in conserving the land and like paying these people on the ground so like part of their money goes to paying this [employee], for instance, and paying me and… their money is really important."
Donations	"There are people that give donations and they say – 'this is for that'… and others tell you, 'so that you guys can continue'. We respect this. At the start, our first volunteers were two Australians… during this time the school was still functioning, they saw the conditions in which they were working, and so they made a campaign in their town, and they send us money and they said – it's for this specifically."
Provide Labor/Support for Project	
Support Project Goals	"The volunteers are essential as part of… a general workforce to get things done, but if you've only got the people who are organizing things, or trying to organize things, and nobody below that, then you're not going to get anything done. Ever. You need to have the people that move things and actually do the work." "Sometimes people come in with their own research, which would also just help us if articles get published from research done [at our site]."
Site Maintenance	"So, there's always general things like maintenance like clearing the trails, making new trails, repainting the buildings, clearing up after a flood, we had to fix the water pump, or do something with the boats. So everyone got involved in all of the general things."
Lead Sub-projects or other Participants	"It's just more like delegating of things, spearheading different projects basically. And it's usually whatever that persons the most interested in, so it's beneficial to them as well. So, if someone that's coming because they love animals or someone who's coming because they have a specific project that they're doing, they're spearheading that section of [our project]. And that's helpful for us because usually we're kind of doing all of these things, but when you have people that are here, especially here for longer periods of time, they're then in charge of that separate section and can fully operate it by themselves and lead the people that they're helping." "What's happened before in quite a few cases is longer term volunteers end up actually taking up more of a lead, and that is very

	useful, because it allows us to undertake more research, cover a bigger area, and actually take on more volunteers."
Other Benefit	
Inspire/Spread Conscientiousness	"It creates conscientiousness. Not only on a local level, but on a global level. We give the opportunity to these young people, because mainly they are young people [and] they see a different way of living… and later, when they return to their areas, they support alternatives of this place or other countries or of their own country – helping to create consciousness."
Economic Input to Local Communities	"The higher numbers of people is really good for local business. Everybody is going and buying a beer and a pack of crisps from the local store, and they're coming out and they're hanging out in town, and they're supporting the local economy, so I think while they can be damaging as well, having lots of young or like lots of low-paying people around, I think overall, it's a positive impact… to the local economy."
Culture Exchange, Exposure	"As well, them communicating with our Peruvian staff, they exchange experiences, they exchange languages, like they teach each other languages" "They interact with local people more than a tourist would, so there's definitely a bigger level cultural exchange… And they're here for longer periods of time."

Challenges of Working with Volunteers

Interviewees mentioned some challenges of working with project participants in response to a specific interview question. The challenges were not as commonly discussed, nor did they have the same amount of consensus across interviews as did the benefits of working with volunteers. Most commonly, 'managing the tourist/experiencer' was offered as a challenge and is described at length in the following sub-section. A second common challenge was reliance on participants for project funding. Other challenges that were mentioned, but not frequently or with much detail, include (1) cultural differences, (2) poorly executed work, and (2) impact on the forest/site. Most of these challenges, like relying on participants fees, are inherent characteristics of the operational and organizational characteristics of VCPs. In regard to the challenges of cultural differences, one interviewee explained that,

> I saw… that there are many people that come with many… mental parameters, like you have an idea from there, and when you come here, it's another reality. Or, often it's like a cultural shock… so, there are people that come prepared for this, that know they should be more flexible, more tolerant, but also there are people that don't… but a volunteer is here for more time, many more activities, co-habitation, from a different culture… and those of us that are here are ready to be more respectful, but also those that come should be like that.

The impact of so many people living and working at the forest site was noted by a couple interviewees. One said,

> I think lots of volunteers doing research probably will have an impact on the rainforest … Lots of people traipsing through the forest daily, capturing snakes, capturing birds, you know, capturing caiman… definitely will have its effect for sure.

Only rarely did a VCP leader note the quality of work done by participants as a challenge. But, it was noted that,

> When it comes to service and building and constructing and painting and that kind of stuff, it's hit and miss. Sometimes it's really useful if people put their minds to it or if they're a more skilled group, but if … the kids are really not that interested or they're not that skilled it can end up just being a waste of time because we don't end up with the finished product and sometimes it gets wasted because people break stuff or make it worse.

Another mentioned that "sometimes… you'll teach them and teach them and teach them and they don't get it. [They'll] like break the bloody generator or something."

Managing the Tourist/Experiencer

Considering that VCPs rely primarily on foreign participants to fund their operations, the primary challenges were related to the participants' youth, cultural differences, and need to create a positive tourist/participant experience. The most often mentioned challenge was that participant wants and needs must be considered and managed by project leaders. Addressing these challenges consumes energy, time, and financial resources from each VCP and, in some cases, they may affect the type of work that a VCP is able to accomplish. Participants usually choose to work with VCPs "because they want to directly contribute to conservation work and research, so in that sense they're usually pretty keen to participate in all of that work that [the

VCPs] do. But for sure [the VCPs] spend part of [their] time managing other sort of more touristic activities and other education activities for them as part of their program."

One interviewee explained that the VCP leaders "can't be with the volunteers 24/7, but sometimes that's what the volunteer expects or wants". Another said that "they always need to be coordinated [because] you want to have everybody be happy and do something that makes sense". And, in some cases, there are "volunteers that are like… needy in a way. I don't know how to say it in a nicer way, but they like need a lot of attention, and that's sometimes hard because we have a lot of other stuff on our minds as well, not just the volunteers". These needs can range in type and complexity but can include, for example – proper pre-trip preparation, supervision, education/guidance, quality food service, provision of experiential/enjoyable activities, transportation to/from the site, assistance with personal matters, health care, and maintenance of the site and facilities.

Another tourist characteristic of participants that causes challenges for VCPs is the length of stay of each participant. Short lengths of stay (less than one or two weeks) can be resource intensive with little productive benefit, since so much time and energy must be invested in training and orienting the participant before they can feel comfortable or are prepared to contribute well to project efforts. One interviewee explained that,

> There is one thing that unbalances us, which is the volunteers of two, three days, because in two three days you can't even realize very well where you are; you can't manage to arrive if you are already thinking that you have to go… [these] volunteers are a lot of energy for us, you have to take care of them… take care that they walk around, that they get to know the place, and you have to listen to them because they come with a personal story and everything. These people are a challenge, beautiful to know them, but they take time… of course, volunteers are demanding, [so] the ideal is minimum one week here.

And another simply states, "I don't think we should have a two-week [volunteership] at all. If they only have two weeks they should go to a different project. There [are] great projects out there, but don't come here. Because it doesn't make any sense." Even though several interviewees discussed the challenges of short-term volunteers, these types of visitors/participants are still typically always welcome at VCPs "because its cost benefit - they

will still make money having those people come."

In addition to managing for participant wants and expectations, VCPs in Madre de Dios are faced with challenges caused by the environment in which they are located. In short, there can be "problems with volunteers that don't understand what it means to come to the jungle" because "obviously things happen in the jungle… it is not easy living in the jungle." In most cases, VCP participants are living in and using rudimentary facilities and they have ongoing interactions with the various facets and struggles of the environment – heat and humidity, insects and other wildlife, rough terrains, etc. While many participants come to enjoy these aspects, it can be unpleasant for others or, at least, at times. And,

> Another challenge [is] being so far away from home for a lot of our volunteers... our program is… really open to anyone so you could have never gone out of your state before and come here and I wouldn't necessarily say that you'd be having the time of your life cause it can be a difficult place…just being anywhere new can be really difficult for people. Especially a place like off the grid, remote jungle living.

VCP managers must consider the challenges faced by their clients (participants) and take measures to prepare their participants and address their concerns or issues as they arise. These acts, too, require a notable portion of VCP managers' time and energy resources. And, of course, there are participants that have expectations of their VCP experience that do not align well with the expectations of some of the VCP managers. For example, "Some will come, and sit there with their book and start to read… and I say, "hey, how have you come to volunteer in the rainforest just to read a book? You can read it in your house, you'll be more comfortable, you'll have a couch, I'm sure you could even watch TV."

Cumulatively, these challenges will likely affect the type of work that VCPs are able to incorporate into their projects. Project leaders must strike a balance between managing the wants, expectations, and needs of the volunteers with the goals and capacities of the project, its staff, and resources. One interviewee explains that,

> I don't like to just have volunteers do stuff just to keep them busy. We want them to do something that makes sense for us, that makes sense for them, because they learn something. We want them to have a variety of things to do. Not like a whole week of just

> like weeding… so… sometimes it's a bit challenging, because things come and go and what is necessary to be done or what kind of resources we have to do some things… just to find a good combination of what can they do that is useful and that's fun for them to learn and… to coordinate these things.

When creating their goals and specific projects, VCP leaders consider not only the necessary components or actions, but also the capabilities and preferences of their participants, since participants are seeking (and paying for) and enjoyable experience. However, with these challenges acknowledged, another sentiment of several interviewees is captured in the comment of one – "but I believe that the efforts are worthwhile".

Depending on Volunteers for Funding/Support

A notable challenge of utilizing project participants is that VCPs rely on them for funding, and therefore, continuation of the project. If the number of participants declines, then usually so does the potential productivity or success of the project. Often, "the greatest challenge presented to the people that do these projects is that the continuity of the volunteers isn't a quantity that ends up being outstanding; it's very little." Another interviewee suggested that it would be great to,

> Not have to depend [on participant finance] for the project to continue onward and to pay the people that work and to make the place better, to maintain everything. To not rely on the people that visit… because if they don't come, what do we do? The people that work here, what do they do? So, it seems to me that depending only on the people that visit, whether they are tourists or volunteers… could be… a limiting factor for the continuation of the project.

When asked what the challenges are of working with volunteers, one interviewee replied,

> It's getting the volunteers here. That's the main thing… when the volunteers are actually here there's no problem…Some people want to work, some people don't. But as long as you have a good variety then its fine… with all the other projects around now, it's really difficult to get the same number of people in – the same quantity as we used to. So, we've had to actually reduce some of the things that we do. Because we don't have the people to do it. We don't have the manpower. So, we've had to reduce the staff as well. So that's…. that's the problem really. It's actually attracting the people to come here in the first place… If we don't have the people, we can't do it.

The fact that VCPs rely heavily on participant finance and "manpower" to continue their projects is also related to the structural character of VCPs. Additionally, between 2010 and 2019, the

number of VCPs in Madre de Dios noticeably increased, creating more competition to secure participant support, and enhancing the challenge of relying on participants to fund and fuel VCP work. This topic is covered in more depth in the following section.

Chapter Eight: Additional Findings

Monitoring Project Outcomes

Interviewees were also asked how their respective VCP monitored project outcomes and/or successes. To clarify, while many projects have their participants work in some sort of monitoring work, either of specific or general flora and fauna on site, this type of monitoring is not *necessarily* monitoring of the project's overall outcomes or impacts. For example, one project explains a formal monitoring process that has participants continually monitor wildlife to "see the impact that we're having on the wildlife… so is the biodiversity and abundance of species increasing or decreasing or staying the same and that helps us to understand if our conservation impact is working". In contrast, another project leader explains the informality of their fauna monitoring. They said, "we're always doing an inventory, because whether we want to or no, I am looking if there's excretion from a pick, excretion from a jaguar, excretion from a deer… and [what] I see is helping to give me a sense of the health of the forest, the presence of those that are here." Monitoring the presence or recovery of flora and fauna within site boundaries is crucial, but it typically only monitors one aspect of project work and may not necessarily reflect outcomes of other project actions.

While some projects described a clear and explicit process for monitoring outcomes of their organization's work, several others reported less structured methods. All projects reported that they did indeed observe and assess the work of their project, but most explained that they lack an official or systematic method for doing so. Some VCPs had monitoring systems installed just for specific aspects of the project. For example,

> We have feedback forms to let us know what the volunteers thought, and we had for a little bit… a fund that was given to us by… the European union I think… So, with that what happened is we had to kind of tell people that somehow, we're making a difference and, look, from the last three years, this is how much we've done… we don't really have anything that's like, oh yes, our environmental education works. We tried a survey for a little bit, but it didn't show much.

A couple of other VCPs described a more comprehensive monitoring plan used for their project. One explained that,

> We have evaluation for the different projects… For example, all the kids fill out a little evaluation after they visited. The teachers fill out an evaluation, and then we will basically join it all together in a final report about the project. All the different projects each year, write kind of like a final report, evaluating how the year went. All the interns fill out an evaluation or do an oral evaluation... We [evaluate the research projects] in the sense of writing annual reports about them and just seeing what the progress was; how much work has been done in that year, what was the outputs, in case something might have been published or, what kind of animals we found.

Another explains a different set of measurements,

> We do have metrics that we use every year. We have like how many local people employed, how much generated for the local community, how many hectares of forest we're protecting, we have some basic metrics on how much just general income we've raised.

In an anomaly case, one VCP responded that the most systematic or rigorous evaluation of their project was performed by a separate entity (a conservation NGO). They explained that,

> [NGO name] has helped us by making observations about how things are going in the lodge… They've come 3 times to evaluate, to tell us – look, this you do well and this you do poorly... they do an assessment for us - with solid waste management, reduction of solid waste… [extensive list continues]… they give us suggestions and comments. Then water resource management, water pollutant reduction… [list continues]… and for the conservation of biodiversity, the support of conservation for cultural identity... environmental education, human resources training, which is awareness raising…social responsibility in community support. These are the categories.

However, most of monitoring methods used by VCPs are less technically designed, implemented, and/or documented. An example of this less formal method is described by one interviewee,

> If you ask me if we have a monitoring system made, we don't have one, but we go all the time to these places and we can see how it is so that we don't need a monitoring system. Probably, yes, in the future... There's really been an impact within communities… and listening to them, too, that's another way to monitor, to know what they tell you.

In the simple words of one interviewee, although their project had some casual monitoring methods, “I’d say we’re weak on being able to really strongly monitor and evaluate what impact we’re having as an organization.” In regard to measuring impact on project participants, “it would be hard to do. Not impossible, but very hard. We know that it has an impact and it does help build awareness. We just can’t put numbers on it right now.” One interviewee said,

> Up until now it’s basically been just me… I can’t even keep up with it to be honest. I would love for that to be like someone’s actual project… creating a system where you can actually monitor project successes and just project development and management and all that kind of stuff. I think that would be key, but for right now we don’t really have a system, no… free ballin’. Free ballin’ system.

While VCPs don’t always have structured monitoring processes, leaders and staff who have been present to witness project progress are still able to testify to project outcomes or impacts. When asked how the reforestation project was monitored, an interviewee replied, “we see it, no? … you go to some places of the forest and you see big trees that before was bamboo. Just now we need to prove it scientifically.” Another said,

> It's not structured. I mean, it's not like, “this year it’s da, da, da…” – no. What I'm telling you is just my hands-on experience – what I'm seeing. How is success evaluated?... everything I've told you. Seeing the animals, when I'm going to take measurements of the trees, see how the trees are, that they’re growing... everything that goes on day by day, gives me the guideline… I’m here and I can know… the other thing is what I’ve been told - especially that… the activities that have been done by all the people who have been through here…. How it was going in this time, [the] changes… ‘in a certain moment the reforestation was one way’, ‘in one point when I was here the reforestation was organized in another’, then it’s always taken into account what such person or such other did. Then you get buried in what each person did, but that's the only way I have that information. It's not written anywhere.

Such a response was not uncommon. Another project leader mentioned that,

> [Monitoring and evaluation] is hard. It takes time and dedication and commitment to do it. Especially with changing over in staff, which is a reality of an organization like ours… It’s not that we do a terrible job, but it’s something that we could do better.

To review, all VCPs had either a structured or unstructured process for monitoring and evaluating at least some aspect of their project’s work. Only a few projects rigorously monitored

their outcomes or impacts, while most others had less formal methods of monitoring project outcomes or successes. Not all interviewees expressed that the informal or less structured monitoring methods were less meaningful than structured methods. However, several VCPs cited the desire to expand the attention given to monitoring project outcomes, impacts, and successes.

Recommendations for Improvement and/or Future Goals

Interviewees, including VCP staff and leaders as well as non-VCP stakeholders, were asked to provide suggestions to improve the way in which VCPs address or contribute to the conservation needs of the region. The most common suggestions include (1) more and/or better coordination, unification, or alignment of various organizations' conservation efforts, (2) acquisition of more financial resources, (3) enhanced inter-organizational communication, (4) more education and/or engagement efforts directed toward local residents, (5) more government support, (7) improved monitoring and evaluation processes and, in a few cases, (6) diversified project activities. Not as commonly mentioned was improved organization of project records and agreements. Examples of these suggestions are found in Table 22.

Table 22. Suggestions for improving the abilities of VCPs (and/or other conservation entities) to contribute effectively to conservation needs of the region.

General Category of Suggestion for Improvement	Quote / Example
Coordination and/or Collaboration	"That's something that we could do a lot better. Sort of aligning, I guess on two levels – one, collaborating towards goals for [the region] with other organizations that work in the region. And sharing our learning, whether that be research specific or whether it just be learning in general about how to run projects, with other organizations is something that we could do better, and I imagine other organizations could do better as well… But there's perhaps sometimes a lack of that… collaboration or platforms for collaborations. Or commitment to collaboration." "People need to work together. Not just westerners or like organizations and Peruvians. It needs to be everybody. We can't just have organizations dotted about all over the place and we're all doing

	individual things and we're all fighting against each other to see what's best for ourselves. Its bullshit… People need to work together on each level. Unfortunately, it is most of the Westerners coming in. and I don't think that's going to stop…"
Communication with Stakeholders	"I feel like we have to adjust the communication so that more people can know about the project... Communication at the level of, for example, making the project known to social networks in universities more – more. In every sense, make it more known... I'd like the project to have more communication with the outside. It's a related issue… with the community. In the past – that, yes, it existed. It existed more than now." "If I could be a genie and grant a wish, it would be that everybody understood each other better. Mostly in terms of the local communities. If they only knew that the Westerners are trying to help. A lot of times people think that they're trying to take land or trying to shut down certain things. And likewise, if we only better understood the serious situation that they find themselves in, and the choices they have to make, I think we'd all be better off." "I say, if I've been here long before all these people arrived, but nobody's looking for me, I have to find out who they are, where they are, and what their address is, "Hey I'm [name], I've been here for more than eight years, we have a little project, who are you?" This is missing - we need to assemble ourselves… I saw [name]… [and] the exhibition [they] made – very beautiful. There I took advantage and introduced myself, I said… "We have to get together," "Yes, yes," we exchanged emails, but there it stayed."
Sharing/Communicating VCP Results	"But I think that if people were to focus on… being able to translate the knowledge that they're generating or what they're working on." "I think they have another approach that is more research to know a little more about the forest ecologically... It's very important to have that information. But it's also important to bring that information to the entire population that lives here so everyone knows. Many times scientific research is done but all that information… never reaches people who live in the forest, who use the forest… take this information to other levels, understandable ones, simple ones, and be able to share it with the population, because the scientific part often… nobody reads it because they're articles… Lower the level, to lower the language, a comprehensible language in both English and Spanish

	so that the people who aren't linked to the forest can actually have an interest in the forest." "In research topics my idea is always to take it to another level, to be able to make the research part serious, with articles, with everything. Be able to make as many publications, and if not, then have the information available on the web, like as field reports."
Financial Resources	"It would be great if just from somewhere, somehow, that there could just be like… an increased economy so that [these projects] didn't have to worry so much about money and could focus more on what their real goals are. And have the money to like pay people better and just like do things better; do like bigger, more extensive projects." "Something that would improve the project, obviously, is funding. To not have to rely - for the project to go ahead and pay the people who work, and make the place nicer, keep it up – to not rely more on the people who visit... because that's where we play really - we are very close to that sense. Because if they don't come, what do we do? The people who work here, what do they do? So, it seems to me that relying only on the people who visit this project... that could be a limitation."
Staff Resources	"Another would just be the changeover in staff… and I'm not sure that you could really change that, because of the nature of the work, but having enough continuity in staff that [we don't] have to keep sort of resetting… having people who have the experience and can keep developing that. And building on that experience rather than sort of having to take little steps back." "We should have an income that's more stable, so we can ensure… fair salaries for all of our staff members… I think… everyone has been changing out mostly because we don't get paid enough as foreigners. Because we can't do anything really with the wage like, can't save it up… so at one point you're like, 'I need to do something else, because I'm not getting anywhere'… it's like minimum wage that's being given here."
Education & Engagement (with local community)	"Given how long we've been working there, which is a number of years, its actually probably quite surprising that we're not more known in the community… it's hard to say that's due to the fact that we're just short on staff, and there's not enough staff there on ground to keep that visible connection and keep working on those relationships. Or if it's due to something else, but I would say that, yeah, there's more work to be done there. "

	"It would be a key thing for all projects to be related here. It's like being able to spread... that we had a fine idea. Then, participate... for example - we still have civic parades coming for the anniversary of the district... why don't we get together? … Because that way, they relate to the people… because there are a lot of people who know that there are projects up here, so if they join us on this idea, they would be so involved. Both volunteers and projects... the idea is that – to be more related… And it's a lot of value, to be together, right? The projects, the owners, and the people here of the community... and carry it much further. They could collect many more ideas from people... me, how much I would like local people to go and visit the projects. But in some projects…I do not know... they don't want to relate to the people." "What I always ask is that other projects... connect much more to people... to be related. There is an economic benefit, a benefit of the ecosystem, a benefit of being able to conserve our flora and fauna."
Support from the Government	"We really need the governmental influence in this area to help us conserve the area here." "Yes, policies, obviously. Policies that defend resources. That's for sure... support for such projects and policies that defend resources. Because if not – one is alone in the world, pulling forward with their project, but imagine how beautiful this support would be... it would make everyone have another vision."
Diversify Project Activities	"Those volunteer programs contribute... but more in the theme of Fauna... now, with another kind of project, of maintaining a species of flora, I haven't heard, honestly... maybe you have to incentivize more of other types of projects." "We have the problem that there are fewer forests every day. In the face of that we need to do more work. Maybe another kind of volunteering, right? They could do more of reforestation. You hardly hear of that here... there's talk of reforestation but it's is far from here."
Monitoring and/or Evaluation	"I think that sometimes conservation organizations would benefit from having people in the organization that are experts in that field too, and they can be the people to ensure that everyone is aligned with the objectives and with monitoring objectives and with really making sure

	that organizations are efficient in creating impact… Otherwise sometimes what you get is a collection of very smart, positive, passionate people working towards a big goal, but not necessarily working in the most efficient, effective way and not necessarily collaborating in the most efficient of effective way."
More Local-led Projects	"I see - and it's also very good - much of the interest instead from outside people coming in, buying a concession, getting a piece of land and starting to work. Many hire local people. I would like the initiative to also come from people from here in the region, with the help of people from outside, probably... This is an advantage for outsiders because they come, puts their project here, but you already have their outside link… we are the opposite – we start from here now, it's a little harder." "Almost the majority of the projects are privatized. So, we're just talking about people who have money. In order to contribute more, in the region, I think [there should be]... economic support for people who want to reforest and who don't have this, right? The contribution of this would allow reforestation programs to grow a little more and also contribute… Because I see that most of NGOs that come out... it's foreign. So, if someone... that is eager and that isn't at the economic level to do it… Like in my case - I want so much to make my own program and make it very beautiful. I already have a lot of experience. But there are difficulties. For the same reason that the minimum wage here is super low. That it's not enough for the livelihood of a family."

Chapter Nine: Discussion

This study aims to understand how voluntourism conservation projects (VCPs) interact or coordinate with each other and/or other stakeholders to enable a project that contributes to the conservation efforts of Madre de Dios region in Peru. VCPs' unique structure encompasses multiple different 'types' of organizations; they can be categorized as conservation NGOs, non-profit organizations, ecotourism ventures, voluntourism projects and, in some cases, businesses. This research study analyzes operational and structural traits of VCPs to assess how certain challenges and opportunities may influence the VCP's stakeholder relationships or the outcomes of conservation activities. Specific attention is given to understanding the explicit challenges of having mostly foreign participants serve as a primary financial and human/labor resource for the project. The research also explores the perceived successes and impacts of VCP initiatives; however, measurements of success are difficult to capture because indicators and perceptions about success will vary in type and character among conservation organizations.

While 'success' is not measured in this study, it is possible to infer how various types and qualities of VCP relationships influence how their project contributes to regional conservation needs or ongoing efforts. Conservation impacts, especially those that effectively contribute to regional needs, are tangential to efficient conservation planning in which sufficient stakeholder engagement and coordination is a key component. Whether VCPs are classed as voluntourism projects, ecotourism ventures, or conservation NGOs, one of their objectives is to improve the ways in which they contribute to conservation needs. It is especially pertinent to investigate the conservation contributions of these organizations and how they might be further supported or improved with the growing popularity of VCPs in Peru and around the world. With aims of deepening the understanding of voluntourist conservation projects and the ways in which they can be more intentionally utilized or managed to effectively support conservation efforts, this discussion highlights common and unique challenges of VCPs in Madre de Dios and highlights conservation outcomes.

Regional Conservation Needs

Analysis of interviewees' descriptions of conservation priorities yields a general idea of which conservation needs are most widely acknowledged or pertinent. Some of the most commonly referenced conservation 'priorities' or issues includes, (1) gold mining, (2) deforestation, (3) poor, unsustainable, or uncontrolled land use/management, (4) lack of governmental support or regulation, and (5) the public's lack of ecological knowledge or information. Although interviewees were based in distinct areas of the region, responses describing regional conservation priorities was generally consistent across interviews, reflecting a common perception of region-wide priorities. However, illegal gold mining seems to be a greater issue of the eastern region than the western side.

These conservation needs have been cited, and thus, corroborated by scientific literature and general media sources. Madre de Dios has been described as a ''low governance area,'' and previous studies have noted the particularly weak governance of land use in the region (Vuohelainen, Coad, Marthews, Malhi, & Killeen, 2012; Garcia & Limachi, 2008, pg 559; Yu et al., 2011). This lack of capacity of the government to manage certain land use practices is a root cause of other issues such as illegal mining, (illegal) deforestation, and uncontrolled land development/use. Although Madre de Dios has more than 3,517,251 federally protected hectares, deforestation rates in parts of the region tripled from 2000 - 2010 (Vuohelainen et al., 2012). This major increase has been connected to the extension and paving of the Interoceanic Highway that extends through the region, as the infrastructure is thought to have facilitated migration to the region and, with it, increased agriculture, logging, and mining activities (Asner, 2010; Southworth 2011). However, since long before the construction of this highway, deforestation and forest degradation has been a concern of the region due to activities such as crop production/land conversion, livestock farming, oil and gas ventures, ground transportation and other infrastructure developments, mining, legal/illegal logging, and other types of extraction (UNESCO, 2011).

In regard to the lack of ecological knowledge or conscientiousness of Peruvian residents, there seems to be sparse literature that would either directly support or negate the notion. In

general, the socio-economic conditions of the country are poor (Weisbrot, 2006), and the education system is notably less-developed than others, meaning that not all children, especially those in rural areas, may have access to basic or public education services (Glewwe & Kremer, 2006). While indigenous people in Madre de Dios may have a rich collection of ecological knowledge, most of the region's inhabitants are migrants and not familiar with local environments or best practices (Jensen et al., 2018). Finally, lack of appropriate ecological knowledge or conscientiousness is considered a global conservation issue (Palmer, 2002; Tilbury 1995) facing all people and places and, therefore, is not an especially unique concern of Peruvian citizens or Madre de Dios.

VCPs' Contributions to Regional Conservation Efforts

Comparing the commonly mentioned conservation issues and commonly mentioned conservation solutions can provide a more comprehensive understanding of the conservation needs of Madre de Dios. The most commonly referenced solutions to conservation priorities include (1) land protection/conservation, (2) environmental education, (3) promotion of 'sustainable' economies, (4) promotion of better land use planning and 'sustainable' land management, and (5) preservation of clean water. Although the majority of interviewees mentioned 'mining' as a conservation priority, it was never mentioned along with a solution. It appears that illegal mining in the region, coupled with lack of political regulation, was such an overwhelming issue that no plausible solution is available. Some interviewees mentioned 'preservation of clean water' as a conservation solution, but not always in conjunction with the issue of mining.

To begin to understand how VCPs may contribute to regional conservation needs, we can compare the most commonly referenced conservation issues and solutions with conservation activities and subsequent impacts of VCPs. This study discusses impacts rather than successes, because successes may range from social outcomes, which are less concrete or tangible, to more tangible environmentally-focused outcomes. Furthermore, success may not be defined in the same way by all members of the same organization, and the type of success that is defined can

have direct or indirect connections to the organization (Thomsen & Caplow, 2017). VCPs involved in this study had participants work on a range of conservation activities such as reforestation, animal care or protection, agroforestry or garden work, flora or fauna monitoring, data collection for VCP or independent research projects, land patrolling, and miscellaneous activities. Each of these activities, if implemented appropriately, has the potential to contribute to regional conservation needs. However, these activities do not necessarily align with the most commonly discussed conservation impacts of VCPs. Overall, the most commonly referenced impacts of VCPs include, (1) scientific impact or knowledge generated, (2) land protection or conservation, (3) education of participants, (4) local community education or influencing ecological consciousness, and (5) economic development in local communities. The latter three impacts are not byproducts of VCP participant activities, but instead impacts generated by the presence of the VCP of by long-term staff members employed by the VCP and paying participants.

Scientific or Knowledge Generated

Each VCP hosts dozens and sometimes hundreds of participants each year. At least half of the VCPs in this study undertake some sort of 'research' and an even greater number carry out monitoring surveys on flora and fauna within their project site, meaning that most of the projects engage in some sort of activity that is designed to generate or collect new conservation-related knowledge. While scientific impact or knowledge generated is the most frequent project activity *and* impact of VCPs in this study, it appears to be one of the less tangible ways in which VCPs contribute to conservation needs in Madre de Dios. Importantly, conducting scientific research or generating new knowledge about the region was never mentioned as a conservation need or even as a precursor to or tangential aspect of a conservation need. This is not to say that generation of knowledge is not an important factor to all conservation needs, but rather to clarify that 'knowledge generation' or 'research' was never explicitly mentioned as related to conservation needs. That being said, since 'unsustainable land use practices' was cited as a conservation priority, VCPs that generate knowledge to directly address this need likely contributes more

effectively to local needs. In reality, if appropriately planned and implemented, research could be used to inform any one of the conservation priorities.

However, it is unclear how new knowledge generated from projects is disseminated or used. Based on SNA results, there are few entities with which VCPs share their results, either collectively or as individual projects, even though the majority of VCPs have some sort of knowledge generation (monitoring, research, experimental land management strategies, etc.). Most of the research being conducted appears to be biological or ecological in nature and focused on flora or, even more often, fauna within or near to the project site. When appropriate protocols are used, voluntourism does have the ability to fill necessary funding or human labor voids in scientific research or monitoring (Roques, Jacobson, & Mccleery, 2018), especially research or monitoring that requires funding over long period of time or covers extensive spatial conditions (Ellis, 2003). Another type of research that a few VCPs in the region are beginning to launch is related to agricultural or 'sustainable' land use practices, and this type of knowledge generated presumably has greater potential to contribute to the conservation needs of the region, since it aligns with a top conservation issue and suggested solution. Finally, some VCPs may serve as a research station or base for independent researchers and thus have little to no control over the relevancy of the research conducted by visiting researchers or what is done with the results.

For results to be most useful though, they must be shared and interpreted to diverse stakeholders through various outlets (Chapman, Algera, Dick, Hawkins, & Lawrence, 2015; Laurance et al., 2012; Reed, 2008). Additionally, during planning stages potential research projects should be communicated with other conservation or natural resource management organizations to decipher what types of investigations would be most relevant or contributive to pressing needs (Sayer and Campbell, 2004; Sutherland et al., 2009; Milner-Gulland et al., 2010). Of course, to make conservation research relevant, the socio-ecological systems in which they are to be applied should be thoroughly investigated and understood (Pressey et al., 2007). While it's not necessarily the responsibility of each VCP to conduct this background research, nor do

they have the means to, collecting this type of information from other entities would be vital to creating informed and relevant research endeavors. If seven of twelve VCPs are coordinating with only two or fewer regionally-based entities for help with the creation of projects, it's likely that they are not effectively aligning their research agendas to fill relevant gaps or needs of the region. There are a number of VCPs who do not seem to engage other NGOs, research institutions, government entities, local people, or other stakeholders in their project plans and this is especially where improvements can be made.

Communicating intentions with other stakeholders and conservation practitioners could help ensure that research completed by VCPs and their participants is relevant to implementation actions (Laurance et al., 2012). In other words, it's important to engage the relevant users of results in initial planning stages to clarify that results will be useful. Communicating with these users will also ensure that appropriate protocols for data collection and analysis are used (Jalbert & Kinchy, 2016; McKinstry Jr. et al., 2007; Shirk et al., 2012). In general, coordinating protocols for data collection, analysis, and storage is important for sharing information at regional scales (Lauber et al., 2019). Most of the VCPs in this study conduct ongoing monitoring studies flora and fauna, but do not coordinate with other projects to ensure they are implementing similar monitoring protocols, which would support shareability and collective impact of their results.

The research and monitoring conducted by VCPs can be extremely valuable to conservation efforts. For example, some of the information collected from monitoring efforts has been organized into guidebooks and at least one VCP has published results from intern studies and project research. Ensuring research and results are put to meaningful use can present a challenge not just for VCPs but for researchers in general. Several authors have found that research published in peer-reviewed journals is not often used in or directly influential/meaningful to on-the-ground conservation actions or outcomes (Whitten et al., 2001; Campbell, 2007; Knight et al., 2008; Milner-Gulland et al., 2010, 2011) even though most researchers want their results to be used to support on-the-ground action (Meine et al., 2006;

Noss 2007). Since a majority of the VCPs in this study cite some sort of research, monitoring, or knowledge generation as one of their conservation activities, but only a few indicated specific or on-the-ground outcomes made possible by the knowledge generated, this study's results support the notion that the simple act of conducting research is not enough to make it meaningful to applied conservation actions. It's not necessarily the case that VCPs should be the entities to implement actions based on results of research, since they are stressed for staff resources and young, foreign, and short-term tourists might not be best positioned to serve as conservation practitioners but sharing these results/information with entities who do have the capacity to integrate them into conservation plans, decisions, or actions could render research results more useful.

Bridging the gap between conservation knowledge and/or science and action has been proven to be difficult (Clark, 1993; Cook et al., 2013). What likely makes it more difficult for VCPs is that after most of their resources have been used for managing the tourist/experiencer or student, there are little left over to ensure that their research or knowledge is put to meaningful use. To clarify, a few VCPs in this study do appear to publish their research or share it/use it to make informed conservation decisions/actions. Take, for instance, the VCP who has conducted a ten-year monitoring program and is using the results to demonstrate the value of regenerating degraded forest. Others seem to struggle in sharing their data or putting knowledge to use; ideally, this research, and the hundreds of participant hours used to complete it, would be used in or contribute to regional conservation knowledge, planning, and/or decisions. Roques et al. (2018) found that it is not often VCP participants who publish research manuscripts, but rather project staff employed by participant fees. Authors also suggest that collaboration with academic institutions, since they have the motivation and capacity to analyze and publish results, increases the ability of a VCP to publish peer-reviewed research. However, even if results are published in scientific journals, it remains highly inaccessible to both conservation practitioners (Pullin et al., 2004) and local peoples (Arlettaz et al., 2010), thus failing to stimulate local support or understanding of the issue or meaningful action based on the findings. Even if interns' scientific reports are published online, they'll be written in English and in scientific formats that are

typically not accessible (or desired) by the general public. Especially when the general public, in this case, does not speak English.

Chapman et al. (2015, pg. 335) suggest that, to be relevant, or to meaningfully contribute to solving conservation problems by engaging with practitioners, decisionmakers, and stakeholders, "conservation scientists today need to do more than conduct research on self-identified topics of interest and publish their work in peer-reviewed outlets." Besides the notion that communicating research intentions with other stakeholders/conservation entities could help develop more innovative and multidisciplinary projects or uncover unknown sources of funding/resources (Laurance et al., 2012), it could also foster collaboration between research(ers) and practitioners that lead to real impacts towards real conservation issues and solutions (Smith et al, 2009; Chapman et al., 2015). Sharing or communicating results is likely especially difficult for VCPs considering that they already lack sufficient staff capacity to handle the day-to-day/on-site operations and that they're often relatively geographically isolated. For the several respondents who reported that their VCP shares results with one or no regionally-based entities, their results may be limited in how they contribute to collective conservation needs of the region.

An additional hurdle that VCPs must overcome to create useful scientific impact is that they primarily rely on relatively young students to either conduct independent studies or contribute labor to long-term research projects. Similar challenges associated with relying on a stream of short-term or non-professional volunteers to conduct research is extensively highlighted in citizen science literature (Shirk et al., 2012; Steger, Butt, & Hooten, 2017). Although there are obvious differences between local residents participating in citizen science projects and voluntourists, the models are similar enough to make comparisons. One of the biggest debates surrounding citizen science is about the quality of the data collected (Gollan et al., 2012) as an outcome of inconsistent, insufficiently trained, and/or biased citizen scientists/data collectors (Lakshminarayanan, 2007). Navigating these barriers can be especially challenging for VCPs since their participants are foreign to the social and ecological systems in which they are working. However, there is a growing body of research implying that, if

volunteers are adequately trained and working on manageable tasks, the quality of the data produced is comparable to that collected by professionals (Burgess et al., 2017; Gollan et al., 2012; Kallimanis, Panitsa, & Dimopoulos, 2017). Burgess et al. (2017) found that scientists' were more likely to publish data from citizen science projects that were partnered with academic institutions and whose managers considered the primary purpose of the project to be 'research' rather than 'education'. Additionally, citizen science data from academic institutions was most preferable to scientists while data from for-profit institutions was least preferable (Burgess et al., 2017). Recalling that some VCPs have 'education' as one of their primary focuses, it may not be their intention to publish their science or monitoring results. For those that do focus on 'research' though, it's possible that partnering with an academic institution and being more transparent about the training requirements and data collection methods of their project might improve the likelihood that other scientists, or perhaps conservation practitioners in general, will accept the quality and usefulness of their data.

Although VCPs may be conducting relevant research projects, such as the many that focus on endangered or threatened species, without intentional dedication to engage in pragmatic conservation planning, such efforts may be unfortunately limited in their conservation impacts. Much scientific work is already criticized for its lack of applicability to real world conservation efforts (Knight et al., 2008; Barmuta et al., 2011). Based on the social network results for 'discussing regional conservation information', seeking 'help with the creation of projects', 'collecting meaningful feedback', and perhaps even interacting during 'formal meetings or gatherings', some VCPs do appear to engage with a number of stakeholders to design and/or adaptively manage relevant research or activities. Interview data also revealed that some of these same VCPs are still attempting to define 'to what end' their research contributes or how it can be 'applicable'. That VCP leaders are asking these types of questions though, or attempting to link their science to action, is an important aspect in conservation planning and a step toward more relevant conservation contributions (Knight et al., 2008; Lauber et al., 2019)

Co-creation of VCPs research agenda with other relevant practitioners and decisionmakers can help resolve the division between research (or knowledge generated/collected) and the organizations or individuals who will use it (Roux et al., 2006; Cooke, 2011) in management or policy actions (Milner-Gulland et al., 2010; Burbidge et al., 2011; Laurance et al., 2012). Aligning VCP activities with regional conservation goals is critical for avoiding drastic scale mismatches in which data collected within specific time periods or localized spatial areas do not necessarily generate information that is transferable or relevant to the larger temporal or spatial scales at which related conservation actions will be applied (Guerrero et al., 2013). Such mismatches between scale of research and the scale or scope of information required to make informed decisions or plans is inherent though (Schneider, 2001). To help lessen these scale mismatches (Chapman et al., 2015, pg. 336) suggests that "research needs to concentrate on generating data that are translatable to the scales at which a given conservation problem exists and consider the political scale at which the necessary policy solutions will be addressed". In other words, scale matches, and thus sufficient and meaningful communication with other stakeholders, is a necessity for coordinated conservation efforts.

Land Protection

Protecting land is one way that VCPs can directly contribute to conservation needs of the region. With just a few exceptions, VCPs in Madre de Dios are operating on relatively large portions of land that they've reserved via conservation or ecotourism concessions. Conservation and ecotourism concessions were introduced in 2000 (Government of Peru, 2000) and allow that individuals, organizations, communities, or companies lease land for 40 years at a time. Concession holders must present a management plan for their area(s) and submit annual reports to forest and wildlife agencies. In 2011, there were 34 conservation concessions (876,251 hectares) and 36 ecotourism concessions (81,367 hectares) in Peru (totaling 957,618 ha), and most of these areas are in the Peruvian Amazon (Vuohelainen et al., 2012). Not all of VCPs are large enough to act as stand-alone reserves (e.g. VCP sites of 100 hectares or 60 hectares), but they still offer a fair amount of protection when alongside other concessions or protected areas. Required to manage their own concession land and incentivized by the need to maintain a

rainforest habitat for tourists, lodge owners are increasingly taking expensive legal or enforcement actions to deter illegal loggers or poachers from their concession land (Kirkby 2011).

Based on computer modelling, Kirby et al. (2010) posit that ecotourism lodges and concessions have the potential to prevent deforestation from entering the Tambopata National Reserve (TNR) and the Bahuaja Sonene National Park (BSNP). With the presence of ecotourismconcessions, deforestation around these areas was predicted to decrease by only 7.5%, relative to the 'no ecoutourism' scenario. However, if the non-protected land between the two large clusters of ecotourism concessions were to be conserved, too, the model predicted that by 2040, deforestation in the TNR will be 40% less than in the 'no-ecotourism' scenario.

Therefore, when VCPs protect and occupy land in Madre de Dios, they may provide a relatively small and isolated protected area for flora and fauna, but more importantly, they contribute to the collective efforts to protect land and reduce forest loss across the region. Some interviewees also reported that their protected land served as a 'buffer zone' to other protected areas, helping to provide corridors or habitat for wildlife. Previous research has cited the ability of private protected areas to act as buffer zones around larger protected areas (Naughton-Treves and others 2005; Nagendra 2008; Soares-Filho and others 2010; Joppa and Pfaff 2010b; Kirkby and others 2011), so it is likely that VCP reserves can contribute to this positive impact, too.

Vuohelainen et al. (2012) studied the effectiveness of various Madre de Dios ecotourism concessions in deterring deforestation and listed a VCP as the most effective, citing "intensive presence of concession holder and volunteers in the area" (pg. 656) as one of three factors contributing to success. Such an insight supports this study's collection of interviewee reports referencing volunteer presence on the land as an important factor in their ability to protect it. However, concession areas that are heavily patrolled have the potential to be minimize trust between local people and conservation actors (Infield and Namara, 2001). They are also likely to be viewed as, in the words of Langholz and Krug (2004, pg. 18), "islands of elites – places where wealthy landowners host affluent tourists." Therefore, VCPs' patrol of land to deter

encroachment is part of a useful strategy for conservation but unlikely to generate long-term positive conservation impacts if not partnered with local community outreach and engagement efforts, promotion of alternative or more 'sustainable' livelihoods, fostering of community participation in decision-making (Shanley and Rodrigues-Gaia 2002; Horwich and Lyon 2007) and, in general, quality relationships with local community members that encourage trust and support of conservation.

Education of Participants

Volunteer conservation projects include goals that focus on the impact to volunteer participants (Pappas, 2012; Shirk et al., 2012). For example, common volunteer-related goals or outcomes include a better understanding of the scientific process, an increase in engagement with/interest in science and nature, enhanced awareness, knowledge, and understanding of ecology, and increased environmental stewardship and sense of responsibility (Dickinson et al., 2012; Foster-Smith & Evans, 2003; Hine, Peacock, & Pretty, 2008). The results of this study indicate that VCPs in Madre de Dios also place significant emphasis on achieving participant-related outcomes such as an enhanced ecological consciousness, professional development as a conservationist or researcher, and a greater understanding of local ecology, environmental issues and solutions. Some VCPs consider participant-related impacts as indirect conservation or environmental impacts. Upon completion of their service at a VCP, it was often mentioned that participants would be more likely to behave in environmentally conscious ways and share their knowledge of environmental pressures in Madre de Dios with their personal networks at home, and maybe even support other conservation efforts through service work or professional careers. In other words, although their changed behavior would not have direct effects to the environmental project for which they worked, some VCPs believe that a participant will likely make some sort of a global conservation impact, as inspired by their experience at the VCP. Indeed, many VCPs report this as a major project success.

Several interviewees provided anecdotal evidence about the way in which their project inspires and develops environmental activists, leaders, and future professionals. And, several cite 'education' or 'creating environmental awareness' as one of their main project missions. There is

a great amount of literature highlighting the potential for ecotourism, as long as interpretive programs are well-designed and delivered, to increase environmental awareness (Luck, 2003; Orams, 1997; Zeppel & Muloin, 2008) and supportive attitudes towards natural resource issues of the host area (Stem, Lassoie, Lee, Deshler, & Schelhas, 2003). Free-choice environmental learning experiences, effective interpretation, and witnessing of animal behavior in close proximity have been shown to be especially impactful to environmental and conservation awareness (Ballantyne & Packer, 2011; Ballantyne, Packer, et al., 2007) in participating tourists, which are voluntourists in this case. This is important to consider because it emphasizes the salient notion that not all of VCPs' work is designed to create positive environmental impact on site or even in Madre de Dios. While each project does seek to stimulate some sort of local environmental impact, VCPs are also designed to inspire people to lead or create environmental impact upon returning to their respective home locations. This notion is supported by McGehee and Santos (2005) who demonstrated that participants are more likely to become "global citizens" and agents of social change, as they engage more with the happenings of the world upon completion of a voluntourism program.

However, it's worth noting what types of people are receiving this professional development from VCPs. Only very few projects host local (Peruvian national) participants and, if they do, their Peruvian participants only represent a small percentage of their total participants. In other words, VCPs are training future professionals and instilling in them experiential capital for future careers (e.g. resume builders), but, these participants and their new skills leave the country with most of them returning to areas in the global north. What would be extremely helpful to long-term conservation efforts and the ability to create positive environmental impacts in Madre de Dios would be for VCPs to train Peruvian students as future professionals. This, of course, is a challenge when the VCPs only exist as a result of paying foreign participants and when the average Peruvian national would not have the means to pay for such an experience. Multiple scholars have criticized the marginalization of non-westerners in voluntourism (Brondo, 2015; Mostafanezhad, 2013). Some VCPs in this study have allowed for local Peruvians to participate by partnering with other entities (such as a university) or using other participants' fees

paid by international volunteers. Brondo (2015) especially criticizes voluntourism as a form of neoliberal conservation that has adopted a commodified 'pay for nature' model to support conservation that creates a hierarchy of labor valuing the contributions of travelers over local residents. Such a debate is outside of the scope of this discussion, but relevant to consider along the steadily increasing number of VCPs and other ecotourism ventures in Madre de Dios.

Environmental Education for Local Residents

Interviewees often mentioned that, whether or not their project has initiatives or activities specifically designed to educate or impact local community members, their interactions with local people or just the presence of their project and participants, enhances the ecological consciousnesses and/or environmental knowledge of local community members. Recalling that 'lack of ecological conscientiousness' and/or 'environmental education' were commonly mentioned conservation priorities, VCPs who can generate this type of impact would be contributing to regional conservation needs. According to interviewees, much of this education occurs through casual conversations and neighborly interactions. Just one VCP seemed to focus on environmental education of local people to the extent that they had an established program designed to provide formal educational exhibits and experiences for local children/students at their project site; they also partnered with other conservation-related entities to host the same program at various sites and reach different audiences. Most of the lessons were given by upper-level staff or long-term (Spanish-speaking) interns rather that 'volunteers'. A couple other VCPs mentioned that their staff, rather than project participants, would occasionally host educational courses or lessons for local people.

Environmental education can encourage and lead to more ecologically conscious or pro-environmental behaviors (Niesenbaum & Gorka, 2001). There has been little research designated to understanding the influence that voluntourism has on environmental awareness and/or behaviors of host community members. However, some emerging research does suggest that VCPs can increase community awareness and concern for environmental conditions and issues that the project is addressing (Campbell, 2006), and can positively affect the "mentality of environmentalism" and pro-environmental behaviors of host community members (Schneller &

Coburn, 2018, pg. 14). The presence of ecotourism, in general, has been cited as increasing conservation or environmental awareness and support among host communities (Cheung & Fok, 2014; Diedrich, 2007; Stronza & Gordillo, 2008). Therefore, it is possible that VCPs can encourage community members' pro-environmental behaviors directly (via formal education programs) or indirectly (via casual conversations and interactions). However, the lack of evidence to support changes in environmental awareness or behaviors makes it difficult to conceptualize, measure, or discuss the scale of impacts that VCPs cause to local environmental conscientiousness. Interviewees did provide descriptions of instances where they noticed instances of residents' behavior changes though, which suggest that a systematic study to capture the causes, scale, and reasons for these changes could reveal meaningful insights.

VCPs can also educate communities on environmental matters indirectly. A few VCPs, namely those that work toward goals related to 'sustainable' agriculture or agroforestry, posit that the methods used and developed on their land, once proven successful, can stand as a model for local agriculturalists. Small-scale agriculture and, increasingly so, industrial monocropping (Gutiérrez-Vélez et al. 2011), is a livelihood and source of income for families and communities across Madre de Dios (Piñeiro et al., 2016); however, destructive agriculture practices are spreading rampantly throughout the region (Chávez Michaelsen et al., 2013). Presumably, most local farmers or ranchers don't have the capacity (time, finances, energy, or knowledge) to practice or invest in new or different practices. VCPs on the other hand do have the required resources, and the ability to experience failures while they experiment with different, more 'sustainable' or holistic management methods. Engaging community members as active participators from the beginning, who can serve as ambassadors and local supporters for the new methods once they are developed and shared with the local farming communities can aid in the transition of local practices (Boley & McGehee, 2014; Miller, 2008). Overall, interactions between VCPs and communities in regard to environmental education, as well as outcomes and impacts, should be monitored to determine the extent to which they are contributing to this conservation need.

Local Economic Development

That VCPs create new jobs for local people and are playing a role in the development of more sustainable economies was cited as a positive impact by several interviewees. Many VCPs also mentioned that new job opportunities meant that less local people would feel the pressure to extract or degrade natural resources in attempts to generate an income. Therefore, not only can VCPs improve local livelihoods, they can subsequently decrease negative environmental impacts caused by those previously working in resource extraction. The other way in which VCPs reportedly support sustainable economic growth is by assisting local people in product development (e.g. crafts or agricultural goods) and sales. Once again, because these impacts have not been systematically measured, the extent to which they are truly occurring is extremely difficult to describe or verify. However, it is often the case that the economic benefits accrued directly by local people are often overestimated as is the way in which these economic benefits relate to enhanced interest in or dedication to local conservation efforts (de Vasconcellos & Stronza, 2008). Nonetheless, as VCPs attract and host more tourists in Madre de Dios, they are contributing economic input to the region and nation, and thus, at least indirectly contributing to conservation needs of the region by creating the potential for more 'sustainable' economies and uses of land. full-time staff (Brondo, 2015).

Researches and practitioners often cite the ability of ecotourism to enhance local welfare via 'sustainable development' while also protecting biodiversity (Kruger, 2005; Agrawal and Redford, 2006) through direct conservation and by educating local people (Weingberg, Bellows, & Ekster, 2002). Kirkby et al. (2010) actually concluded "ecotourism is the single most valuable use of tropical forest in Tambopata", the south-eastern part of Madre de Dios, and "justifies the maintenance of intact rainforest over all alternative uses on narrow economic grounds alone." The economic support generated by ecotourism programs for local people/communities can encourage them to transition out of natural resource intensive livelihoods such as agriculture or logging (Langholz, 1999; de Vasconcellos & Stronza, 2008). However, not all ecotourism ventures automatically provide enough economic benefit to create real incentives for this shift (de Vasconcellos & Stronza, 2008). Or, if the shift does occur, sometimes its true impetus can be

wrongly assumed and may have little to do with increased ecological consciousness or appreciation for the protection of 'nature' (Stem, Lassoie, Lee, Deshler, & Schelhas, 2003). For example, Stem et al. (2003) found that local people who worked in ecotourism positions decreased their involvement in environmentally destructive practices, but due to a lack of time (as a result of employment with an ecotourism program) rather than a change in ecological consciousness. The study found that the exchange of ideas and training, which are indirect benefits of tourism, were more strongly associated with pro-environmental perspectives.

While this is not to say that ecotourism fails to provide economic development nor that it cannot be used as a tool for community development and conservation, creating an ecotourism program that engenders long-term positive outcomes for host communities and environments is a complex process that requires rigorous planning and monitoring to evaluate its impacts, and impacts are usually not inspired by economic input alone. It appears that several VCPs in Madre de Dios may overestimate their economic impact, since each only provides few jobs relative to the size of the local population and jobs provided does not necessarily correlate with greater appreciation for conservation nor promotion of pro-environmental behaviors (de Vasconcellos & Stronza, 2008; Stem et al., 2003; Wunder, 2000). Additionally, most of the jobs offered to local people are lower-level service jobs like cook or taxi-driver, which are less stable across the fluctuations in tourist seasons. Brondo (2015) also found that when VCPs use paying participants to perform most of the day-to-day duties, there is less need to hire full-time staff members.

While new 'green' jobs and incomes may improve the economic welfare of select individuals and families, and perhaps indirectly enhance the local intention to support conservation, such benefits are typically only short-term in nature. Vasconcellos and Stronza (2008) argue that economic benefit alone is not enough to inspire meaningful or long-term conservation efforts, and that if such a goal is to be achieved, ecotourism ventures must engage local residents as decision-makers and co-managers instead of simply employing them as service workers. Although a couple interviewees noted that the primarily international employee base of VCPs is 'the nature' of the industry, others challenged it as a shortcoming and called for the

engagement of more local people in higher-level positions. Fostering community participation in ecotourism is often critical for strengthening local institutions (Boley & McGehee, 2014; Stronza & Gordillo, 2008), empowering individuals as well as the community (Pretty and Ward, 2001), inspiring collective action (Jamal & Stronza, 2017) and, in these ways, indirectly encouraging long-term support and capacity for conservation.

Despite limitations of direct economic impacts, VCPs offer an indirect economic benefit for local communities and Peruvian residents in general. Both local and federal governments are investing significantly in ecotourism as a tool for conservation and sustainable use of forests, especially within the country's Amazonian regions (SERFOR, 2015). Of the 4,419,430 foreign tourist arrivals to Peru in 2018, 2.5% of them visited Madre de Dios (MINCETUR, 2019). In 2008 there were 2,057,620 foreign arrivals, indicating a 214% increase in the last ten years (MINCETUR, 2009). If the tourism industry in Peru continues to grow, it is expected to generate a direct economic impact of $40.9 billion and directly employ 550,000 residents by 2025. Currently, tourism in Peru attract 3.6% of the country's GDP and employs 2.4% of its citizens (SERFOR, 2018). In Tambopata alone, one of the most popular tourism destinations in Madre de Dios, ecotourism was responsible for $3.8 million[8] in local spending in 2005. Theoretically most of these tourist dollars circulate within Peru's national and local economies, bolstering them overall. Each VCP, especially those established in/near communities where ecotourism is not currently well-developed, will bring more paying visitors and outside economic input, even if it comes in small forms such as the purchase of food, drinks, or crafts. However, while economic input is an important factor, it does not necessarily equate to conservation impact (de Vasconcellos & Stronza, 2008). To increase their conservation impact, VCPs can focus on inviting more local involvement in the planning, management, and perhaps even ownership of VCPs or other ecotourism ventures.

[8] This spending was further split into low- (12.2%) and high-leakage (20.3%) expenses.

One prime example of local participation in ecotourism and transfer of capacity occurred in Tambopata. In 1996, community members from Infierno partnered with Rainforest Expeditions, a private tourism company, and began to co-manage the Posada Amazonas Lodge. Importantly, both partners agreed to split profits and to divide management responsibilities in half (Stronza, 2003). An important part of the legal agreement was that Infierno residents were "actively involved in the enterprise, not only as staff but also as owners, planners, and administrators" (Stronza, 2003, pg. 6). Such a partnership between company and community, and transfer of ownership, seems to be rare in Madre de Dios's ecotourism ventures as well as within the particular arena of VCPs. Entering into agreement such as that of Posada Amazonas could behoove VCPs by addressing their tendency to be criticized as introducing 'neocolonial' behaviors and programs *and* it would contribute to the potential for long-term conservation by generating community capacity via meaningful participation. Results from research about the Posada Amazonas partnership have implied that the effects of economic benefits from ecotourism are largely uncertain for conservation (Stronza, 2003). However, the local participation in management of the lodge has led to stronger communal organization and trust, a greater network of support beyond the community and, as a result, a greater capacity for community members to lead their own conservation and development initiatives (Stronza, 2003).

Ultimately, it's hard to measure or discuss the extent of beneficial economic impact that individual VCPs create within local communities, and it's especially difficult to decipher what type of behavior or conservation impact it may create. Most of the evidence interviewees offered in regard to 'economic impact' was a narrative/anecdote. While some interviewees did provide detailed descriptions of a holistic approach to community economic development, such descriptions lacked conclusions about the impacts of their reported good practices. Monitoring or capturing economic aspects of project impact or outcomes can indeed be challenging (Agol, 2014). What can often prove more challenging, but also more important, is to capture social changes (as related to conservation) as a result of economic impacts, and thus, they are seldomly measured by ecotourism programs (de Vasconcellos & Stronza, 2008; Kusters et al., 2018)

Although challenging, if VCPs could devote resources to monitoring the economic and social or behavioral impacts generated by their project, rather than make anecdotal assumptions, it would allow them to better understand and guide their project impacts to directly support long-term positive conservation impacts and to adapt project plans to garner more support from communities and other stakeholders eager to support successful conservation initiatives. If VCPs lack capacity to initiate these types of monitoring, they could potentially partner with conservation organizations, practitioners, or researchers who could assist (potentially by volunteering their time) to address this need.

Other Impacts

VCPs whose project focuses on wildlife rescue, rehabilitation, and/or reintroduction generate impacts associated with wildlife reintroduction and education to participants/local people about wildlife (respect, care, management, etc.). However, these impacts are not included in the list of five 'most' common because the three wildlife-related VCPs only represented a small portion of total VCPs. Wildlife trafficking, illegal pet capture or trading, and legal/illegal hunting of sometimes endangered species are widely cited as prominent issues in Madre de Dios (Leberatto, 2016). Such issues were also commonly described by interviewees but not as commonly mentioned as the five issues/solutions mentioned above. Therefore, VCPs that directly address the issue by rescuing illegally captured wildlife, caring for and rehabilitating them, and (in many cases) reintroducing them are presumably contributing to regional conservation needs.

Along the same vein are the few VCPs who focus on reforestation, whose impacts are not the most commonly referenced. Given that deforestation is conservation issue of the region, reforestation directly contributes to this need, especially reforestation of endangered and high-value trees like big leaf mahogany (*Swietenia macrophylla*), Spanish cedar (*Cedrela odorata*), and Tornillo (*Cedrelinga catenaeformis*) (Garcia and Limachi, 2008). However, reforestation efforts are taking place only within the boundaries of VCP project sites and, therefore, have the potential to expand to benefit other deforested areas. Likewise, VCPs could focus on documenting their methods and results to share these insights with others implementing

reforestation efforts. Multiple stakeholder interviewees also mentioned a need for VCPs to broaden their emphasis on reforestation, since deforestation is such a huge issue and reforestation efforts are underrepresented.

No VCP addresses mining issues in the region, likely because the territory and issue is unsafe for people, let alone tourists. Miners frequently threaten or incite violence against the government agencies, tour operators, NGOs, and individual conservationists (Ra´ez-Luna, 2010). It appears that very few NGOs or conservation entities are involved with the issue of illegal mining at all. Outside of one project that works closely with communities to promote proper disposal of waste and preservation of clean waterways and another that participates in water-quality monitoring of local streams, no other VCPs mentioned activities that are designed to preserve clean water. However, the other four commonly mentioned impacts of VCPs do appear to have the potential to help address conservation issues or contribute to solutions. It is worth noting though that only few of these outcomes are systematically measured; in most cases they were based on interviewee observations or reported as a brief narrative.

In regard to 'lack of governmental support or regulation' as a conservation priority, VCPs may be contributing indirectly to remedy the issue. Because several VCPs operate in remote areas of the region, communities in such areas are typically underserved or unrecognized by government agencies. NGOs rising to 'fill the gaps' left by withdrawal of national governments in environmental or natural resource management has been cited before (Raustiala, 1997). In just a couple of instances, VCPs fill this gap to help address community needs, such as assisting them in the construction of a water pump or waste disposal system. More commonly mentioned by interviewees though, was that VCPs can communicate otherwise unidentified community conditions, occurrences, or needs with federal government offices to bring more attention and services to the area. Along a similar vein, some interviewees believe that increased tourism to neglected areas will indirectly draw more attention from the government.

Factors Related to VCPs' Abilities to Contribute to Regional Conservation Needs

Most of the VCPs in this study are contributing in some way to regional conservation needs. Other contributions include educational programs for local students, wildlife reintroduction, or knowledge generation. Interviewees commonly mentioned how extreme lack of resources inhibits their abilities to reach toward project goals or outputs, connect or plan their efforts with other entities in the region, or engage meaningfully with the local community – actions that are related to their ability to effectively contribute their efforts and outcomes to regional conservation needs (Belsky, 2002; Doyon & Sabinot, 2014; Holladay & Ormsby, 2011). Additionally, managing, teaching, and entertaining project participants, although central to VCPs' missions and business models, reasonably consumes a significant amount of resources, often further decreasing their ability to focus on other actions (mentioned above) which would allow them to directly contribute their efforts, and those of their participants, to local conservation solutions.

Planning to Align VCP Activities with Conservation Needs

While participant-level impacts are critical, including the training of scientists and conservation professionals, a high-impact VCP contributes effectively to on-the-ground conservation efforts within the local area or region. While some VCPs do appear have positive environmental impacts, there is much room for improvement via more investment in structured conservation planning. Pressey and Bottrill (2009, pg. 2) describe conservation planning as the process of "deciding where, when and how to allocate limited conservation resources"; it forces entities to consider overarching conservation goals and the most efficient ways to achieve them. When thoughtful planning methods are used, practitioners and decision-makers are supplied with sufficient information and direction to set priorities and implement actions. Since conservation issues and actions are multiscale in nature, planning allows that the various entities involved in implementation of actions understands their responsibilities and how their contribution relates or contributes to the actions of the 'bigger picture' conservation actions. While VCPs are, above all, ecotourism ventures, they are also conservation NGOs and have the capacity to contribute to

regional conservation plans. However, to effectively recognize where they can be filling gaps in conservation actions they must be connected to, and coordinating with, the conservation planning processes of the larger region. Results from this study imply that, although a couple of VCPs are engaged in planning efforts, the majority are extremely underdeveloped in this sense.

However, conservation planning is challenging especially across large landscapes due to 'scale mismatch' or a misalignment between the conservation actions that are implemented, and the scale of resolution required to solve a given issue in the system of interest (Guerrero et al., 2013). Scale mismatches can be spatial, temporal, or functional in nature and can result from a number of conditions including lack of resources for implementation or lack of coordination among important organizations and actors in planning stages (Waudby et al. 2007). Conservation issues are complex and require a multitude of diverse actions applied at various scales, unique to the social and ecological contexts in which they take place. It's critical that conservation problems are understood and negotiated in ways that produce strategies and actions to be implemented at the most appropriate scale (Guerrero et al., 2013). As cited by a body of literature, engaging stakeholders is a key ingredient to effective conservation planning and eventual implementation as it will allow access to new knowledge (Dredge & Gyimóthy, 2015; Lauber et al., 2019; Lee, 2011; Reed, 2008) resources and opportunities, enhance trust and support of the conservation actions (Davenport, Leahy, Anderson, & Jakes, 2007; Dredge & Gyimóthy, 2015), and facilitate the coordination of various actions and competing or complementary objectives (Chwe, 2000; Ritchie, 2019; Hahn et al. 2006; Olsson et al. 2007; Bodin & Crona 2009).

For VCPs in Madre de Dios, engaging local stakeholders is especially important to overcoming distrust of foreign non-profits and overcoming historically unjust and unequal distributions of power, which interviewees mentioned as a challenge in establishing quality relationships. And, if local peoples were more engaged with the conservation planning and implementation, they would have a greater capacity and perhaps more willingness to take leadership role in such initiatives (Gruber, 2011; Holladay & Ormsby, 2011). In some cases,

another stakeholder may be another VCP, since a few are in close proximity to each other. Not only do their geographic areas of focus overlap, but some of their conservation goals and actions may, too. Neighboring VCPs often cited disagreements that impeded their ability to successfully coordinate or even communicate with each other, but many of these disagreements stem from personal conflicts. Competition and conflict is common among non-profits who compete for similar resources (Guo & Acar, 2005; Tsasis, 2009). Whether conflict stems from personal relationships or mismatched conservation objectives, VCPs may find it easier to plan and work toward conservation goals if they cooperate or coordinate with VCP neighbors as stakeholders rather than disregard them or their mission. Even if organizations have different agendas, positive inter-organizational relationships can help create trust and respect of each other's interests (Tsasis, 2009; Vangen and Huxham, 2003; Marchington and Vincent, 2004; Lehtonen, 2006). If one VCPs' staff members believe another VCP's activities are hindering their ability to achieve their own goals, they may respond by withholding important information or resources, failing to support each other, perceiving the other as incompetent, and losing confidence in working together in the future (Tsasis, 2009). Therefore, while competition and poor interpersonal relationships among VCPs as non-profits is understandable, it impedes their ability to effectively communicate or coordinate their projects in a way that encourages collective conservation impact *and* it can hinder the ability of each project to pursue its own goals.

To contribute effectively to ongoing conservation actions in the region, or to implement new actions that address conservation needs, VCP leaders/planners must have a thorough understanding of what other actions are already taking place and (1) what their organization can do to support these ongoing actions or (2) which efforts are needed or desired, but not being addressed efficiently. It is well cited that implementation-related challenges stem from disconnected conservation planning processes (Balmford & Cowling 2006; Knight et al. 2008; Pressey & Bottrill 2009). Thus, a VCP that is well-connected to, and coordinating or communicating with, other stakeholders and/or conservation entities operating in the region in conservation planning processes, should have a better understanding of how their organization can support ongoing efforts or fill needs that are not being sufficiently met. Otherwise, they're

liable to make decisions or actions at a spatial and temporal scales that are mismatched with the scale of the ecological or social patterns relevant to the larger conservation issue (Guerrero et al., 2013). In other words, VCPs run the risk of establishing activities that may be meaningful or interesting to project participants, but generally unable to efficiently contribute to the conservation needs or other ongoing efforts within the region.

To begin to ameliorate scale mismatch issues, and to solve conservation problems in general, it can be useful to investigate social networks of relevant actors. In order for conservation actions to occur at the correct scale (temporal, spatial, and/or functional), those deciding upon and implementing actions must be able to learn from and adjust to constantly evolving, multiscale environmental problems. This degree of flexibility is related to various network characteristics such as the transdisciplinary nature of actors involved (experts, local stakeholders, government, etc.) (Newman & Dale, 2007) and structural characteristics such as the degree of connectivity of a network (Gunderson, 1999). For instance, networks in which a core group of central actors are well connected, and other actors are connected to the core group, but not necessarily each other, are associated with collective action (Ernstson et al 2008) and maintaining effective communication (Osterblom & Bodin 2011). In general, network structures can provide a deeper understanding to the coordination of multiple actors and actions (Guerrero et al., 2013). The network analyses conducted in this study bring to light some common network characteristics of VCPs and areas where opportunities or challenges related to effective conservation planning may exist.

VCP Participants as Stakeholders

If we regard participants as stakeholders, or even project collaborators, they relate uniquely to the ways in which a VCP can contribute to local conservation needs. Project participants contribute in that they provide creative inputs (new ideas, knowledge, etc.) to the project, they provide labor for the project, and act as ambassadors for the VCP and/or Madre de Dios upon their return home. Most importantly is the integral role that participants play as funding sources for VCPs. Since Mckinnon et al. (2015, pg. 1) define conservation NGOs as “entities that aim to protect, manage and restore unique and threatened biodiversity, ecological processes and

ecosystem services", many VCPs in this study could also be categorized as a conservation NGO. If we investigate the role of participants as 'donors' and their relation to each VCP as a 'conservation NGO', it's apparent that this type of partnership, while uniquely beneficial in many instances, can also affect the ability of a VCP to work directly towards their own conservation-related goals. In other words, donor/participant preferences, needs, and interests influence the work and subsequent outcomes of VCPs in Madre de Dios. Project participants can also be regarded as 'clients' or 'customers', but participants are investing in the work of the VCP they're visiting. Irrespective of how voluntourists may view the purpose of their project fees, this is often how they are viewed by project staff/leaders. Since voluntourists are often motivated by the desire to make a positive impact (O'Brien et al., 2010; S. L. Wearing, 2003), they are envisioned here as 'donors', of time and funds, to what they believe is a worthy cause. Even if they were analyzed as 'clients', it would still hold that participant preferences are powerful factors in the decisions made by VCP leaders and the goals they choose to pursue (Johnstone, 2000). Since survey respondents frequently ranked 'participants' as one of the top four 'most influential' entities in the work their project chooses to or is able to complete, the notion that participants, whether they be regarded as 'donors' or 'clients', hold power in the directions that VCPs pursue is corroborated.

Non-governmental organizations are growing in number, type, and concentration (Armsworth et al., 2012; Barman, 2019)and, in turn, are using increasingly diverse methods to cope with competition to secure funding for their organizations such as donations from funding agencies, grants from the government, churches, other NGOs, schools, the general public, individual donors, or corporations (Reith, 2010). Voluntourism projects have developed unique strategies to secure funding that creates a unique working relationship with funders in a way that engages them as participants and sometimes direct project contributors. While two or more entities may partner to fund work towards a common goal, donor-NGOs partnership relationships are complex in nature and liable to result in issues or frustrations stemming from power imbalances (Reith, 2010). In fact, Lister (2000, pg. 229) suggests that when money is involved, a "true partnership [is] impossible." When donors have the ability to provide funds to

NGO, they typically have processes or standards in place to ensure that funds are spent as they, the donor, desires; in other words, donors will have notable and sometimes significant control over which goals NGOs pursue and how they achieve such goals (Reith, 2010). In a competitive NGO environment, organizations are increasingly pressured to set (and sometimes sacrifice) goals and perform in ways that meet the desires or demands of funding partners. Since VCPs are type of conservation NGO and project participants are their primary source of funding, they run this risk of becoming "servants to an externally imposed agenda" just as other NGOs do to their funders (Commins 1997, pg. 154). The power relationships between donor and NGO is possibly what has caused VCPs to focus on scientific (namely ecological or biological) research that does not necessarily contribute to local conservation needs, but instead creates educational and enriching participant experiences.

A portion of interviewees discusses how a significant amount of time and energy is dedicated to creating and/or engaging the participant in activities or projects they find most interesting. Catering project activities to the preferences of participants can distract a VCP from their primary goals or sub-projects, but it does help achieve the goal/impact of participant education and enrichment, and in turn, long-term survival of the project. By giving attention to the interest and backgrounds of participants, and incorporating these into their projects' plans, VCPs are inherently diversifying and broadening the scope of their work. This never-ending supply of new and diverse inputs creates an organizational model that contrasts with that other conservation NGOs who work with a relatively stagnant composition of full-time employees. On the other hand, a large majority of VCP participants are merely students or novices in their field, who typically lack well-developed expertise and are foreign to the social-ecological systems and conservation needs of the region. Thus, catering activities to their interests does not guarantee that the activities will align well with local conservation needs (Matthews, 2008; Guttentag 2009, 2011; Lorimer, 2009).

While the independent projects, research, or activities completed by participants may not contribute directly to conservation needs of the region, their participant fees are, in some cases,

used to pay full-time staff who are able to carry out upper-level work that correlates more directly to the conservation goals of the VCP and their potential to create positive local impacts or address local conservation needs. Roques et al. (2018) also discusses positive conservation impacts that were generated not *by* voluntourism activities, but by staff of the host VCP who are employed by the voluntourism project and provided the technical assistance to generate such an outcome - $6 million donated to finance Strengthening the National Protected Area System of Swaziland program. A well-staffed VCP has the capacity to allow for some employees to focus on participant education or management while others are focused on work that coordinates with (e.g. communication or partnership development with other entities) and/or contributes directly to conservation needs. It's often full-time staff who, for instance, lead environmental education classes for local community members or produce scientific (or other publication) materials. The slow accumulation of participant fees that often allows a VCP to expand its operations by hiring more staff, purchasing more land, acquiring necessary tools or materials, or other capacity building.

It appears that VCP participants in Madre de Dios are, above all, students and experiencers, so their needs must be met and catered to in ways that consumes time, energy, and financial resources. The result is that sometimes VCPs may entertain participants' preferences in activities that don't necessarily contribute directly to their project goals or regional conservation needs because they need to produce content participants if they are to continue attracting future participants and their support. When significant amounts of attention and resources are given to supporting the wants of the experiencer, less is left to work directly toward primary project goals. Brondo (2015, pg. 1414) also noted that at a Honduran VCP with only two full-time employees, "very little time was available for actual research, let alone collaboration with the local population." Perhaps VCPs have little drive to coordinate or plan their group's work with other conservation entities when the emphasis is on fulfilling participants wants and needs. If a primary goal is to provide a rewarding and educational experience for participants, this can be met even if results or impacts of the project do not extend beyond the boundaries of the project. In other words, a project can continue to exist without effectively contributing to ongoing/larger

conservation efforts because what fuels the continuation of the project is (mostly) funds from participants. And, participants may be fulfilled and continue to visit regardless of how effectively the VCP coordinates with or contributes to larger conservation needs of the region.

However, considering that most voluntourists/participants are keen on 'doing something good' for the environment and want to 'make a difference' (O'Brien et al., 2010; Van Den Berg, Dann, & Dirkx, 2009), they are likely to be most attracted to a voluntourism project that can prove or qualify the type and quality of conservation impact their project creates. In the same way that 'donors' have control over which NGOs and goals they support with their funds (Rithe, 2010), voluntourists have control over which types of VCPs they support via investments. VCPs that can't exemplify a meaningful conservation contribution will become basic ecotourism ventures and attract only 'tourist/experiencers' rather than 'project contributors'. In other words, to continue operating as a VCP, especially in an increasingly competitive market, VCPs must be able to monitor, document, and publicize or market the ways in which they contribute to conservation efforts in the region if they are to attract future visitors who seek an experience/project that truly 'does something' good for the environment. Only a couple of VCPs in this study actively monitor and evaluate indicators of impact or success (ecological, social, economic or otherwise). Since monitoring and evaluation is an integral process of conservation planning, in that it allows actors to adjust their actions to be more appropriately matched to continually changing conditions of social-ecological systems (Stufflebeam & Shinkfield, 2007), it's critical that VCPs (as conservation NGOs) give significant attention to improving or initiating systematic monitoring and evaluation processes.

Local Community Engagement

While there are numerous benefits associated with engaging foreign participants as stakeholders, the discussion of this study will stress, as do many others (Armitage, 2005; Boley & McGehee, 2014; Hartman, Paris, & Blache-Cohen, 2014; Macura, Secco, & Pullin, 2015; Sterling et al., 2017), the need and importance of giving emphasis and resources toward engaging local community members in the planning and implementation of ecotourism (specifically VCP) initiatives. While the 'local community' is often referred to as one body, it is not one single or

unanimous group of stakeholders. Within one 'local community' there will be different desires, interests, resources, perceptions, and levels of power or influence (Carlsson and Berkes 2005, Nygren 2005). This study, too, has consistently referred to 'the local community' as one unanimous body, for reasons related to simplification to capture a basic understanding of if or how VCPs were interacting with their local community members. Although this study did not focus on community perceptions of VCP ventures, some insight can still be collected from the data. Besides the few that specifically emphasize community engagement, most VCPs rarely interact with the community, nor do they share results with them or collect feedback. The range of community engagement or involvement takes on many forms; terms such as community 'participation', 'coordination', and 'collaboration' are typical.

Since VCPs are ecotourism ventures, they are expected to meet the standards of the industry. Unfortunately, such standards are not necessarily explicitly defined, and they have been proven difficult to achieve (Carrier & Macleod, 2005; Coria & Calfucura, 2012; Shepard, Rummenhoeller, Ohl-Schacherer, & Yu, 2010). Results from this study imply that VCPs face both common and unique challenges in their abilities to sufficiently engage nearby communities. Ecotourism, as defined by the International Ecotourism Society (TIES), is "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" (TIES, 2015). While this definition does not require that the local community participate, TIES does define that ecotourism unites conservation, communities, and sustainable travel, and that "by increasing local capacity building and employment opportunities, ecotourism is an effective vehicle for empowering local communities" (TIES, 2009, pg. 12).

Ecotourism is often cited and designed as a tool for 'conservation and development' (Cheung & Fok, 2014; Doyon & Sabinot, 2014; Spenceley & Snyman, 2017), a field that essentially demands that local peoples participate in planning and implementation (Heinze, 2005.; Kuhlman & Farrington, 2010; Znajda, 2014). Thus, if VCPs are to be contributing effectively to regional conservation and/or development needs, it's pertinent to emphasize

community participation or, at the least, community coordination. Some VCPs in this study coordinate with the 'local community' but only few follow processes that allow for much community/local stakeholder participation. This point is not meant to romanticize community participation; facilitating meaningful community participation in developing countries is a challenge due to, for example, cost of participation and lack of financial resources, lack of expertise or trained human resources, and power imbalances (Tosun, 2000).

Although previous conservation approaches were rooted in top-down, state-led approaches (Rosenburg, 2017), the past few decades have seen a shift towards 'community-based' natural resource management or conservation or, at the very least, a greater emphasis on coordination and collaboration between governmental or non-governmental conservation powers and local community residents. Rather than concentrating power on any one side of the spectrum (either state or local jurisdictions), dispersing authority among several institutions is most likely to yield success (Barrett, Brandon, Gibson, & Gjertsen, 2001). In the case of Madre de Dios, some branches of the government appear to be dysfunctional, corrupt, and inefficient, which confines their abilities to lead or even support conservation initiatives (Yu, Hendrickson, & Castillo, 1997; Yu & Shepard, 2010). Based on testimonies from some interviewees, it's possible that VCPs could implement projects to help bridge the disconnect between top down and bottom up conservation approaches by fostering community participation and investing in local capacity for conservation practices. VCPs who struggle to engage community members could collect advice from other projects who do succeed in this area.

Multiple interviewees noted and sometimes lamented that westerners have more capital than local/national people making it easier for them to fund or establish a project. The capital advantage of Westerners is amplified when the funding-application processes can be arduous for NGOs established/based in the South; large donor agencies, which are typically based in the global north, often require that applications be completed in English or use specific 'jargon', standards which can be difficult for Southern NGO representatives who may not have the specific writing or communication skills to reach these standards (Reith, 2010).

VCPs in Madre de Dios do offer new employment opportunities as well as experiential learning opportunities for local/Peruvian citizens. In one instance, a VCP partners with a Peruvian university to allow for Peruvian interns to participate; they also recruit short term staff/researchers from the university. However, only a couple of VCPs offer special free or reduced cost programs for Peruvian participants, which allow these students to gain otherwise difficult to access on-the-ground experience in the field of environmental conservation. Since several other interviewees mentioned a desire or need to create more opportunities for Peruvian citizens to participate, there is potential for improvement in this area.

Hosting more local residents as participants (and as stakeholders) could allow more local knowledge to infiltrate and influence the work of the VCP (Bodin et al., 2006; Crona & Bodin, 2006; Polk, 2014) Plus, training Peruvian residents as future conservation professionals will have a different level of localized impact than training international participants, since it would help begin to establish local leaders and transfer capacity to local peoples. Connecting with Peruvian participants and professionals could also pave the way for coordination with regionally-based conservation entities. It's likely that VCPs would be perceived by and connected to local communities differently if they weren't as dominated by foreign staff, but instead by nationals. What appears to be the greatest barrier to hiring local staff is that VCPs are so low on financial resources that the minimum wage they pay to foreign staff, who also seek to benefit from experiential opportunities provided by working for a VCP in Peru, is not typically a sufficient or fair wage for local residents.

International Connections

Based on insight collected from VCP representatives, other conservation stakeholders, and on-the-ground observations, connections with international entities are often integral to a successful establishment and continuation of a VCP in Madre de Dios. The region is limited in availability of financial and logistical support, so having an outside organization funnel in financial resources, either in the form of funds or project participants, is hugely beneficial. Some of these international entities are also providing logistical support. The Frankfurt Zoological Society, for example, provides meaningful feedback (for project improvement) to one of the VCPs in this

study and, for another, they funded and facilitated the project leader's visit to another animal refuge site to witness and learn from their strategies and systems. These international connections and support also lessen the pressure for VCPs to compete with other local conservation entities for already sparse resources (Barman, 2019; Tsasis, 2009). Interviewees without these international connections expressed a desire to establish them and reap the advantages they bring.

It appears that not only international connections, but foreign leadership alone often gives VCPs an advantage. Foreign leaders enter with more capital than the average local/Peruvian citizen as well as knowledge of how to appropriately meet the expectations or wants of a Western tourist. Additionally, it's likely easier for them to establish connections with and garner support from entities from their home-nation, creating the external pipeline for funds and resources. Nonprofits in poorer nations typically receive most of their funding from more affluent countries (Balmford & Whitten, 2018). Foreign leaders and staff members generally have greater opportunities to become appropriately educated or trained for the positions available at VCPs like experiential education leaders or biological or ecological researchers (Stronza, 2003; Scullion, 2007). To bolster their ability to create local-level conservation impacts, VCPs can stimulate local leadership and by transferring and developing appropriate skillsets and authority to local community residents (Rodriguez et al. 2007) rather than relying primarily on foreign employees and skills.

Lack of VCP Resources

It appears that one of the greatest barriers to establishing and maintaining quality connections with locally or nationally-based stakeholders is the extreme lack of financial and staff resources. Coupled with the isolated nature of their project sites, insufficient funds can be crippling for the maintenance of a coordinated and quality network. It's important to note that many VCPs have at least one administrative leader or staff member who is typically based off-site, and thus, positioned to serve as a liaison between the VCP and other entities. However, this person can be so far or so often off-site that, while able to maintain coordination with other entities, they are not as well primed to maintain relationships with communities most local or near to project sites.

On-site staff members tend to be confined to on-site work as a result of (1) lack of sufficient staff support, and thus, an urgent need to be present with/manage volunteers and project operations or (2) the steep time and financial costs of traveling to/from the project site. To be clear, there were several VCPs in this study that were outliers and have multiple levels of staff. These VCPs also had larger network sizes, suggesting that employing staff members who are not confined to remote project locations or strapped by the constant need to manage participants, allows for more VCP-stakeholder connections to flourish.

Not only do on-site staff members have low capacity to seek or nourish connections with other stakeholders or conservation entities, the high rate of staff turnover within VCPs further complicates the creation of long-term, quality relationships. Again, the high rate of staff turnover is related to a lack of resources and subsequent low employee wage, especially for foreign staff. On the other hand, the frequent overturning of staff members can potentially provide the opportunity for VCPs to create and benefit from new local or international connections as new employees bring or facilitate new connections. However, comparison of the reported social network of a short-term, site-based staff member with that of the long-term, off-site project leader reveals the degree to which short-term VCP employees can be disconnected from local stakeholders. Furthermore, as cited by Pappas (2012) in a guide for 'Managing Voluntourism', after project finances have been spent primarily on (1) food, lodging, transportation and staff support, (2) pre-departure outreach, (3) volunteer coordination, there is little left for 'program development and management' and 'general and administrative' actions. Results from this study support this breakdown of costs, as several interviewees noted how an extreme lack of resources inhibits the possible actions and outcomes of their programs.

Connections with Stakeholders

Since a single organization is limited in knowledge, expertise, and capacities (Guo & Acar, 2005; Knaggård, Slunge, Ekbom, Göthberg, & Sahlin, 2019), coordinating ideas or efforts with other entities can broaden their capabilities, perhaps allowing that they create greater or more comprehensive positive impacts (Tsasis, 2009). Interviewees describe multiple instances of the benefits of coordination or collaboration (e.g. wildlife VCPs partnering with other to release

animals, community development VCPs coordinating with the federal government, VCPs partnering with foreign 'sister organizations', etc.). However, barriers (e.g. existing and growing competition, isolated, lack of resources, disinterest in coordination, inefficiencies of other organizations, etc.) were also cited.

This study focuses mostly on communication and coordination among VCPs and stakeholders, but few VCPs also collaborate with other entities. While coordination refers to organizing otherwise disparate units or forces so that each can efficiently to assist in realizing a collective goal (Mattessich, Murray-Close, & Monsey 2001), Gray (1989) defines collaboration as a "process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited visions of what is possible" (pg. 5). Inter-organizational coordination can be especially challenging for smaller NGOs lacking resources (Albers et al., 2008) because of the associated costs of time, finances and, in the case of collaboration, individual organizational goals or outcomes (Bode, Probert, Turner, & Wilson, 2019; Wondolleck & Yaffee, 2000; Provan, 1984). However, in the long-term coordination with other stakeholders could potentially increase a VCP's opportunities for positive impacts by ensuring that their activities are relevant to regional conservation needs, natural resource managers, local residents, and other stakeholders (Prell et al., 2009; Stoll-Kleemann, De La Vega-Leinert, & Schultz, 2010).

All Out Africa, a VCP operating in Mozambique and Swaziland has generated and documented various types of local conservation impact (Roques, et al., 2018); it's worth noting that "[contact] parks and local conservation authorities to establish co-operation" and "[contact] universities and NGOs to establish collaboration" (pg. 388) are listed as key elements in the Planning and Organization stage of their program development. To clarify, cooperation does not require that entities join or organize their separate efforts but simply refers to the ability of distinct actors to "get along with each other" so each can achieve their respective goals (Keast, Brown, & Mandell, 2007, pg. 17) Considering the rapidly changing economic and social contexts of Madre de Dios, and the scale of associated environmental issues, more coordination,

at the very least cooperation, among VCPs and other conservation initiators in the region could expand the creation and implementation of potential solutions.

Additionally, cooperative arrangements can minimize logistical inefficiencies (e.g., data replication) among non-profits or, in this case, VCPs (Wondolleck & Yaffee, 2000). Several of the VCPs in this study perform some sort of monitoring of flora and/or fauna and, based on website, interview, and observational information, there is extensive overlap in what is being monitored. While it could certainly prove helpful to have data replicated at various sites, VCPs can coordinate their monitoring methods to improve data management, utility, and dissemination. Additionally, coordinating activities can support collective learning and improved methods (Holling, 1978, Folke et al., 2013) as well as the ability to uncover and fill gaps in knowledge or practice (Prell et al., 2009; Sterling et al., 2017). Bode et al. (2019) found that cooperation among conservation organizations, in comparison with independent behavior, resulted in greater protection for each of the organizations to reach their respective and collective goals. Authors also noted, however, that if substantial transaction costs are required for cooperation, benefits are reduced. Operating on the east side of Madre de Dios is an 'Association of Tourism Resources' with which at least two of the local VCPs are interacting; the organization works to convene local tourism operators and goals (including conservation-related goals), a strategy that could be beneficial for coordinating a complex and rapidly changing planning domain.

Several interviewees mentioned that lack of financial and staff resources severely undermined their ability to maintain meaningful relationships with other entities, let alone coordinate or collaborate their efforts. Several VCP representatives rejected the idea of coordination, recognizing that it was hindered by either poor interpersonal relationships, contrasting approaches to conservation, competition, or the possibility that it could impede upon the ability of their organization to pursue their own goals. Not only is it likely that VCP competition for resources and volunteers dampens their desire to coordinate with each other and pushes them to tighten their specific project focus (Bilodeau & Slivinski 1997; Yaffee 1998; La

Piana & Hayes 2005), but a majority of VCPs in the region are relatively young in age (2-6 years old) and often do not have sufficient resources or standing to collaborate with others (Foster & Meinhard, 2002). Because implementing long-term coordination and/or collaboration can be difficult, experts on the topic often recommend an external or 'referent' organization to help organize, manage, and monitor progress (Andriof, Waddock, Husted, & Rahman, 2003; Kramer & Kania, 2011).

Finally, it's worth mentioning that only one VCP explicitly mentioned that they had a board of advisors and this VCP happens to have the largest network of those who completed the survey. Some research findings suggest that an organization with board linkages to other organizations is more likely to have more formal collaborative activities (Gulati & Westphal, 1999) because each board member can help create access to more nonprofit organizations that may become potential partners (Guo & Acar, 2005). It's possible that if a VCP were to establish an advisory board, they would broaden their interorganizational/social network, thus allowing for more access to diverse resources, information (Gulati & Westphal, 1999; Guo & Acar, 2005), skills, and opportunities for coordinated or collaborative conservation activities. VCPs can also consider adding local resident(s) to their advisory board to allow for greater community participation, sharing of knowledge and decision-making powers, and greater trust and communication between local populations and VCP goals. Researchers or representatives of a research institution, local conservation NGO representatives, international conservation NGO representatives, local land owners/managers, other VCP leaders, and past project participants could also serve meaningful roles on a VCP's advisory board.

Additional Social Network Analysis Insights

In addition to the social network insights throughout this discussion, this section will focus on other major network results. An actor's position in a network is an important predictor of their outcomes because it may be related to the opportunities and constraints they encounter. Although this study was not able to draw conclusions about how each VCP's network properties affects outcomes of their project, including their ability to contribute to conservation needs, some inferences and observations emerged from the results. Previous research has exemplified that

network structures enable various actors/organizations to coordinate their efforts (Bodin et al., 2006) and that analysis of networks can help identify the degree of influence of various stakeholders (Prell et al., 2009) based on their position and role in the network. The different types and qualities of interactions among entities can sometimes challenge or support certain processes that are needed for efficient project/conservation planning such as communication and generation of knowledge (Bodin & Crona, 2009). Since engaging and coordinating with diverse stakeholders is integral to the design and implementation of effective conservation or VCP projects (Belsky, 2002; Hartman et al., 2014; Pappas, 2012; Taplin et al., 2014), it's useful to understand how VCPs are interacting with various entities to infer how they may be able to design and implement projects that effectively contribute to conservation needs.

From the eleven possible types of interaction provided in the survey, those that are *most* relevant to a VCP's ability to plan a project that effectively recognizes and contributes to conservation needs are (1) discussing conservation-related information, (2) collecting help with the creation of projects, (3) sharing results, and (4) collecting feedback about project activities. Communication is integral to conservation and voluntourism planning. To clarify, communication refers to the exchange of ideas and information (Drucker, 1990). This study focused specifically on communication of 'conservation-related information or updates' rather than general communication. Resolving wicked problems related to environmental issues requires flexibility, openness, and thus, continual communication among the stakeholders and policymakers (Balint et al., 2011) as they continually observe and adapt to constantly changing and overlapping socio-ecological systems.

Even if a VCP receives no feedback with specific aspects of their programs, communication with other entities is a key factor to ensure VCP leaders are able to design relevant project activities. Communication is important for social learning, therefore improving the ability to evaluate management or project outcomes (Andersson, 2006). Communication about regional conservation information, or just communication in general, is also a vital process to effective planning and implementation as it begets coordination or goals or activities

(Margules & Pressey, 2000). Thus, it's concerning that five VCPs are only communicating about conservation-related information with two or fewer entities; four of these same five collect feedback or help with the creation of projects from one or fewer entities. It's possible that through communication with only one entity, *if* that entity happens to be positioned within a network in such a way that allows them to efficiently gather and share information from multiple other entities (Kowalski & Jenkins, 2019), a VCP could still collect sufficient amount of conservation-related information. However, without whole network data, it's not possible to discern which entities are information brokers. A VCP who has a semi-frequent interaction network of size zero is likely limited in their contribution to the conservation needs at all if they are largely disconnected from communication or coordination networks.

While this study does not have the ability to directly correlate network structure to project outcomes, it is worth noting that the VCP with the largest network has more than four times more hectares protected than any other project. The VCP with the smallest network has the least amount of land protected by far. Note that these comparisons do not include land owned by wildlife rehabilitation projects, which focus on different project goals and tend to have their built infrastructure concentrated into smaller areas. For most VCPs, especially those that focus on ecological monitoring or research, reforestation, agroforestry, or simply land protection, having more land enhances their ability to expand their efforts. Importantly, acquiring and successfully managing concession land requires substantial resources (Stronza and Pegas, 2008). Thus, it's possible that VCPs with larger networks have been able to leverage their various stakeholder connections to gather the resources required to acquire more land and expand their operation.

Although western and eastern sides of the region are facing similar environmental and social issues, there is considerable geographic distance between them. Nonetheless, VCPs on each side might benefit from connecting and communicating with, and learning from, entities on the other side of the region. While VCPs on the west side are aware of east-side entities, they do not often interact with each other. However, this study revealed that one conservation NGO, located on the west side, interacts semi-frequently with multiple west-side VCPs and one east-

side VCP and, therefore, has the potential to serve as a broker by bridging, or connecting otherwise disconnected groups, from the two sides of the region. As a broker, this entity has the potential to engage diverse information, derive ideas or resources from separated actors who differ in opinion or practice, they are more likely to detect and articulate 'good' ideas, and they have the ability to coordinate disconnected actors (Burt et al., 2013) from different sides of the region. In other words, this broker could facilitate the ability of entities on one side of the region to learn from the actions, achievements and mistakes of those on the other, thus encouraging adaptive project management and contributing to effective regional conservation planning.

VCPs are more likely to receive help with the creation of projects that influences what activities they choose to implement from entities whose conservation actions and techniques align with their own. Similarly, VCPs are more likely to collect meaningful feedback from entities with which their conservation approaches align rather than from those whose actions are *not* aligned. Similar to people seeking or heeding advice from others with a shared set of values (Van Swol, 2011), VCPs tend to seek feedback from entities with which their conservation actions align. This phenomenon, where similar actors are attracted to each other and, therefore, prefer to interact with each other, is referred to as 'homophily' (Friedkin 1998; Skvoretz et al. 2004). Actors with similar attributes, in this case the type of conservation approach they take, have a higher degree of mutual understanding which facilitates better communication (Wellman & Frank, 2001). Along the same vein, VCPs are more likely to receive *influential* feedback and help with the creation of activities from entities with which they had many types of interactions. In other words, VCPs with more types of ties to a given alter have a stronger tie/connection, and thus, are more likely to trust and understand each other (Prell et al., 2009; Newman and Dale, 2004) and communicate more efficiently (Sterling et al., 2017). And, since alters connected to a VCP by several types of ties are more engaged throughout the various stages of activities (planning, implementing, giving feedback, etc.), they are more likely to have a comprehensive understanding of the VCP and its progress and evolution.

However, some VCPs may be failing to collect a diversity of input by only gravitating to similar entities and stakeholders. Successful natural resource management acknowledges different values and perspectives (Crona & Bodin, 2006; Newman & Dale 2007). Planning and implementing conservation actions requires definition and understanding of the problem(s), creation of appropriate actions, and decisions about how such actions will be implemented (Knight et al., 2008). Conservation problems are complex and almost always involve competing objectives, a number of actors/stakeholders, and a diversity of possible actions that could be involved in these various stages (Guerrero et al., 2013; Reed, 2008; Stem et al., 2003; Sterling et al., 2017).While many stakeholder preferences or conservation actions can be aligned or complementary, they can also be competing (Reed, 2008). Collecting feedback or help from entities with which their conservation actions are *not* necessarily aligned may allow for VCP leaders to better consider the diverse perspectives of various types of conservation actors, and thus, broaden their own ideas about how their project activities could complement the work of others to achieve a more collective conservation impact (Prell et al., 2009).

In regard to respondents' rankings of influential entities, it is unclear why non-conservation organizations are collectively categorized as more influential than conservation entities. Since international entities that promote and coordinate volunteers with VCPs were frequently listed and designated as 'great support' for VCPs, it's possible that this type of entity may fall into the category of 'non-conservation organizations'. Considering that only five of twelve VCPs reported that they frequently interact with 'local communities/governments', it is surprising that this entity was highly ranked as one of the most influential entities. The strength of ties between actors, which can be measured by frequency or quality of the connection, is related to the degree of influence that actors have over each other (Krackhardt, 1992). Furthermore, VCPs who indicated frequent interaction with local communities did not necessarily rank them as one of the more influential entities. On the other hand, VCPs who do *not* interact even semi-frequently with the local community ranked them as one of the top four most influential entities. It could be that the presence of local communities near project sites, or VCPs' perceptions of what would be helpful for, desired, or not desired by the community, is

what influences the work they decide to complete rather than direct interaction with or feedback from the community. As written by Salafsky et al. (2002, pg. 1477) "most conservation practitioners rely largely on anecdotal evidence, fashion, and gut feelings to select which strategies and tools to use." While VCP leaders may let 'gut feelings' about community wants or needs influence their project plans, fostering direct community communication or participation would be a more meaningful way of allowing local communities to influence project work.

There were noticeable differences between responses from project employees versus project leaders suggesting that different individuals in one organization, depending on the role they play, have different perceptions of what entities are influencing or guiding the work of the project. In three of the four cases where both an employee and leader from one VCP completed a survey, the employee ranked 'volunteers/interns' as more influential to the work their project chooses to or is able to complete than did the project leader. Such an observation suggests that employees, who work more closely with project participants in the day-to-day, on-the-ground activities of the VCP perceive their influence over project work to be greater than do upper-level project leaders/founders.

There were a range of sizes and composition represented by VCPs' network datasets. The great difference between sizes of 'awareness networks' and 'semi-frequent interaction networks' implies that there may be opportunities to increase the amount of interaction – at the very least communication – that exists between VCPs and other conservation entities. In general, local community entities seem underrepresented in VCPs' interaction networks. Similarly, in contrast with the number of projects who engage in scientific research or monitoring, relatively few are interacting with research institutions. Roques et al. (2018) demonstrated that, when volunteers are appropriately managed, projects are effectively designed, and when there is collaboration with institutional partners (academic/research), VCPs can generate important research outputs. Despite that interviewees often described 'lack of political will' as a conservation priority, branches of the federal government (SERFOR and SERNANP) were cited by multiple respondents for giving influential feedback and help with projects, discussing information, and

collaborating on conservation activities. These results indicate that SERFOR and SERNANP may be key entities affecting conservation outcomes of VCPs. It's also clear from interview data that VCP connections with federal offices can act as a bridging connection between officials and communities, helping to bring government attention to distant and currently underserved areas of the region.

Chapter Ten: Conclusion

Although the practice of 'voluntourism' has been established for decades, recent and extreme growth, development and diversification of the industry has resulted in increased attention to the unique challenges and opportunities of voluntourism, many of which have not been thoroughly explored or described. This study has integrated themes related to non-governmental organizations, ecotourism, conservation and development, environmental volunteerism, and, as it is increasingly becoming a distinct theme in and of itself, voluntourism, to analyze the organizational structures, practices, and outcomes of VCPs within Madre de Dios, Peru. Within and across each of these sectors, specific attention was given to understanding the most holistic and recommended planning and implementation practices, with the greatest focus on how varying degrees of stakeholder coordination can affect a VCP's ability to effectively recognize, coordinate with, and contribute to regional conservation needs. In conjunction with rich qualitative data describing regional conservation needs, project activities, and types and qualities of stakeholder relationships, the social network analysis served as a tool to investigate current VCP-stakeholder interactions related to conservation activities in Madre de Dios. While outliers exist, many of the VCPs in Madre de Dios lack sufficient resources for, or attention to, coordinating the long-term planning, implementation, or outcomes of their project's activities with stakeholders, which will limit their capacity to effectively contribute their efforts to regional conservation needs.

A resounding insight of this research is that VCPs in Madre de Dios have extremely limited staff and financial resources which, in combination with the priority to meet the needs of 'experiencers' and 'students' above all else, can confine their ability to invest the time, energy, and financial costs associated with stakeholder coordination and integrated conservation planning. Additionally, many projects operate in isolation which makes communication or coordination difficult with outside entities. Finally, since a significant portion of each project's workforce is made up of short-term students/learners, the tasks to which they are assigned must be relatively easy to understand and perform. In other words, there are limits to the ways in which participants can directly contribute to VCP, and thus, regional conservation goals. If a

VCP has multiple upper level, long-term staff, they have more opportunities to (1) engage in long-term communication and high-quality relationships with other entities and (2) devote the sufficient amount of skill and time required to generate and share project results that contribute to conservation needs. Alternatively, the continuous supply of participants funds and 'hands' for project work, new creative and knowledge inputs, and enthusiasm for environmental research and conservation efforts within Madre de Dios are special opportunities allowed by the structures of VCPs.

In summary, the frontier character of Madre de Dios is allowing unmanaged settlement and development of the region to progress rapidly, causing both positive and negative impacts to social-ecological systems. Included in this wave of development and supported by national and local governments as a tool for both development and conservation of the region, is ecotourism. More ecotourism and/or conservation initiatives, including VCPs, continue to arise to meet these demands. To remain in operation, VCPs devote a notable portion of their finances and energy to creating enriching and educational experiences for foreign participants. Therefore, they excel in this category and serve an important role in the development of future conservation professionals and ambassadors for Madre de Dios, sent around the globe to share insight about the value of the region and the issues it faces.

However, after a significant portion of VCPs' limited resources are devoted to managing the 'experiencer' or 'student' participant, and in combination with isolated project sites and results, foreign staff members, and high rates of staff turnover, finding resources to expand the project's capacity to contribute effectively to regional conservation needs is a challenge. Most VCPs contribute to conservation needs by shuttling economic input to typically sparsely toured areas and protecting land via ecotourism concessions. Others also contribute by garnering more government support for underserved areas, generating knowledge, reintroducing wildlife and providing educational opportunities for local residents. While such impacts are important, recommendations follow for how VCPs can improve the relevancy of their conservation

activities and outcomes and strengthen the collective positive impacts of the growing number of ecotourism and conservation initiatives in Madre de Dios.

Like the majority of environmental volunteers and conservation NGO leaders, those that were engaged in this study are well-intentioned, considerate, and enthusiastic about generating positive conservation impacts. Although this research has highlighted some concerns associated with VCP practices, such a review is intended to inspire ideas about improvements within the industry, not to dramatically criticize it for shortcomings. These recommendations are offered to be considered not only by VCPs in Madre de Dios, but also by other conservation leaders working within the region and other VCPs operating in similar social, economic, and ecological conditions in other regions/countries.

Recommendations

Related to these major insights are a few prominent suggestions, for both VCPs and other conservation entities within Madre de Dios, that emerged from this research. While a few have arisen based on my analysis of previous literature, observations, interview content, and social network analyses, a majority of the suggestions described below were commonly provided by interviewees. It's important to note that the responsibilities of considering and potentially implementing the suggestions described in interviews and in this discussion should fall not just on the shoulders of VCPs but also on those of other conservation entities (NGOs, governments, individuals, ecotourism companies, etc.) operating within Madre de Dios. While the suggestions and major conclusions are most related to VCPs in Madre de Dios, they're likely to be applicable to other voluntourism conservation projects operating within tropical ecoregions, too.

To begin to more effectively contribute projects' efforts to regional conservation needs, it is recommended that more attention be given to coordinating planning, implementation, and dissemination of project efforts with research institutions, other conservation NGOs, branches of local government, and local communities/associations to ensure VCP activities are designed to be contributing to or supplementing the conservation goals of these other entities in the region. Importantly, improved coordination would all VCPs to (1) make their research, monitoring, or

other project activities more relevant to local conservation practitioners and/or priorities and (2) facilitate more local participation in their project actions to foster greater community capacity, and thus, long-term positive conservation impacts and (3) implement more structured monitoring methods to better capture, understand, share, and improve their projects' outcomes.

A grand portion of interviewees mentioned the need or intention for their project, and/or conservation entities within Madre de Dios in general, to communicate and coordinate better with each other. In other words, many interviewees recognized the need to consider their actions in the context of regional conservation goals. Some interviewees went so far as to suggest more 'collaboration' with other organizations to work better toward goals of the region. VCPs can increase their ability to connect and communicate with stakeholders, and thus their ability to contribute effectively to conservation needs, by establishing an advisory board (Gulati & Westphal, 1999; Guo & Acar, 2005). Such an adjustment would be relatively easy to implement. The discussion has also touched on a few of the central tenets and benefits of conservation planning; concerted efforts to improve communication with other stakeholders would improve the chances for coordinated efforts and collaboration among diverse organizations, communities, and individuals. Groves et al. (2003) and Margules and Pressey (2000) have popularly cited/used frameworks for conservation planning. However, I borrow and suggest the 'collective impact' framework from the social service literature and practices because (1) it, too, is widely cited for facilitating successful coordination and positive collective impacts, (2) it slightly broadens the scope of suggestions provided in this discussion, and (3) it's central tenets, while challenging to implement, would increase opportunities for positive conservation impacts, generate by VCPs and other actors, in Madre de Dios.

The "collective impact (CI) approach [is implemented] to solve large-scale social problems" (Kania & Kramer, 2011). The collective impact approach could be an efficient strategy for uniting forces toward common and collective conservation goals in Madre de Dios because the driver of each of the region's 'conservation needs' are large-scale social problems; perhaps not across the entire region, but at the very least within great portions of it such as the

'west' and 'east' side. The CI approach urges that, rather than creating isolated impacts as siloed leaders, organizations, or initiatives, more comprehensive and large-scale social change will originate from extensive cross-sector coordination (Kania & Kramer, 2011) among stakeholders and impact initiatives. Without going into much detail, the five necessary ingredients of a collective impact approach are (1) a common agenda, (2) shared measurement system, (3) mutually reinforcing activities, (4) continuous communication among stakeholder participants, and (5) a backbone support organization. CI participants should undertake specific activities in which they have the capacity to excel but it is critical that these actions be in support of and coordinated with the differentiated actions of other participants. The backbone support organization is especially central to a successful CI mission because it provides the infrastructure which guides and supports the work of all other entities. Staff in the backbone organization have specific skills and the capacity to lead planning and management of the CI cohort with services such as technology and communication support, data collection, reporting, and other administrative or logistical tasks (Kania & Kramer, 2011). Several other authors also cite the importance of a third-party or referent organization for supporting successful coordination among organizations (Andriof, Waddock, Husted, & Rahman, 2003; Trist, 1983).

A backbone organization could be especially helpful for guiding the planning and coordination of current conservation efforts, including those of VCPs, in Madre de Dios. Since several interviewees reported that effective communication and coordination is thwarted by isolation or distance of work sites or lack of resources, a backbone organization would be specialized in maneuvering around these barriers. Secondly, the backbone organization, and the CI approach in general, would help participants (i.e. VCPs) create activities that are mutually enforcing rather than repetitive or irrelevant to regional conservation goals. The explicit details, examples of success, and explanations of commonly faced challenges of the collective impact approach are beyond the scope of this discussion (see: Kania & Kramer, 2011; Weaver, 2014; Hanleybrown et al., 2012). However, this information is publicly available online and simple to find due to a high number of references by other authors. Achieving a well-functioning CI initiative takes years of time and energy, so if an ambitious organization were to launch efforts in

Madre de Dios, it would not create immediate effects. However, neither 'simple' communication or coordination necessarily generate immediate effects. The presentation of this approach is intended to at least inspire VCPs, other organizations and people in Madre de Dios, and any reader of this paper to begin to imagine new techniques to create comprehensive solutions and long-term, large-scale positive impacts to solve social, and hence, conservation issues.

As both a precursor to and byproduct of coordination, it's critical that VCPs begin to monitor not only participant outcomes, but also outcomes related to other project goals, conservation needs, and factors that are of interest to stakeholders. Increasingly so, there are calls for more monitoring and evaluative processes to take place around voluntourism projects and within the voluntourism industry. Establishing monitoring and evaluation protocols about voluntourism activities and services is integral in determining how communities and environments are beneficially or negatively impacted by such initiatives (Raymond, 2011; Simpson, 2004; Stufflebeam & Shinkfield, 2007). Observational monitoring and narrative evaluations are the types of monitoring and evaluation processes used by a majority of VCPs in this study. While this type of monitoring is helpful, it is complicated to track over long periods of time, it is typically disorganized, and it makes sharing concrete results more difficult. All VCPs in this study, especially those that are relatively young in age, can begin to develop and implement structured and systematic monitoring processes for the various aspects of their projects. Doing so can increase transparency and accountability of their actions, allow for the VCP to learn from and improve upon past practices, and serve as a tool to better understand the unique shortcomings and benefits created by VCPs in ways that could facilitate refining of the industry as a whole.

Since there is a great range in types and dimensions of VCPs in Madre de Dios, there is no monitoring or evaluation plan that will be a universal fit. However, Figure 17, borrowed from a research article published in 2014 (Taplin, 2014), suggests some fundamental aspects that voluntourism projects should consider when designing, implementing, and reporting monitoring and evaluation processes/results, and it could potentially be used by projects as a template for

creating their specific project monitoring/evaluation plan. To facilitate monitoring and evaluation of voluntourism, the International Ecotourism Society has also published a set of guidelines which are available on their website (TIES, 2012). The handbook states that voluntourism "project development and management strategies must be measuring, monitoring and evaluating the effectiveness of each volunteer project" (TIES, 2012, Pg. 12). It's worth mentioning that the guidelines also emphasize that projects should "collaborate" with local partners to define what project success would mean to various stakeholders; understanding what types of success other entities desire can help inform what types of measurements to take for monitoring and evaluation processes.

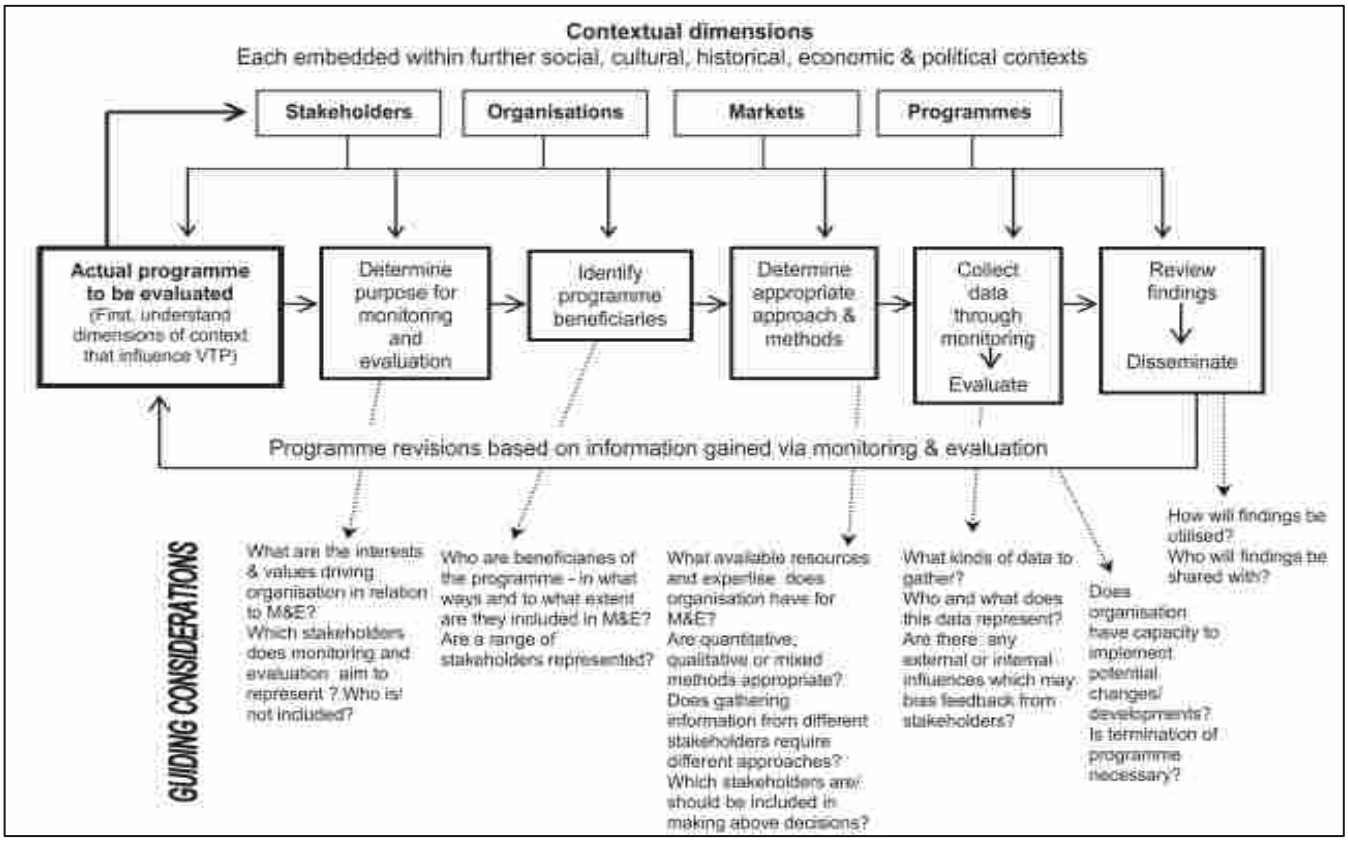
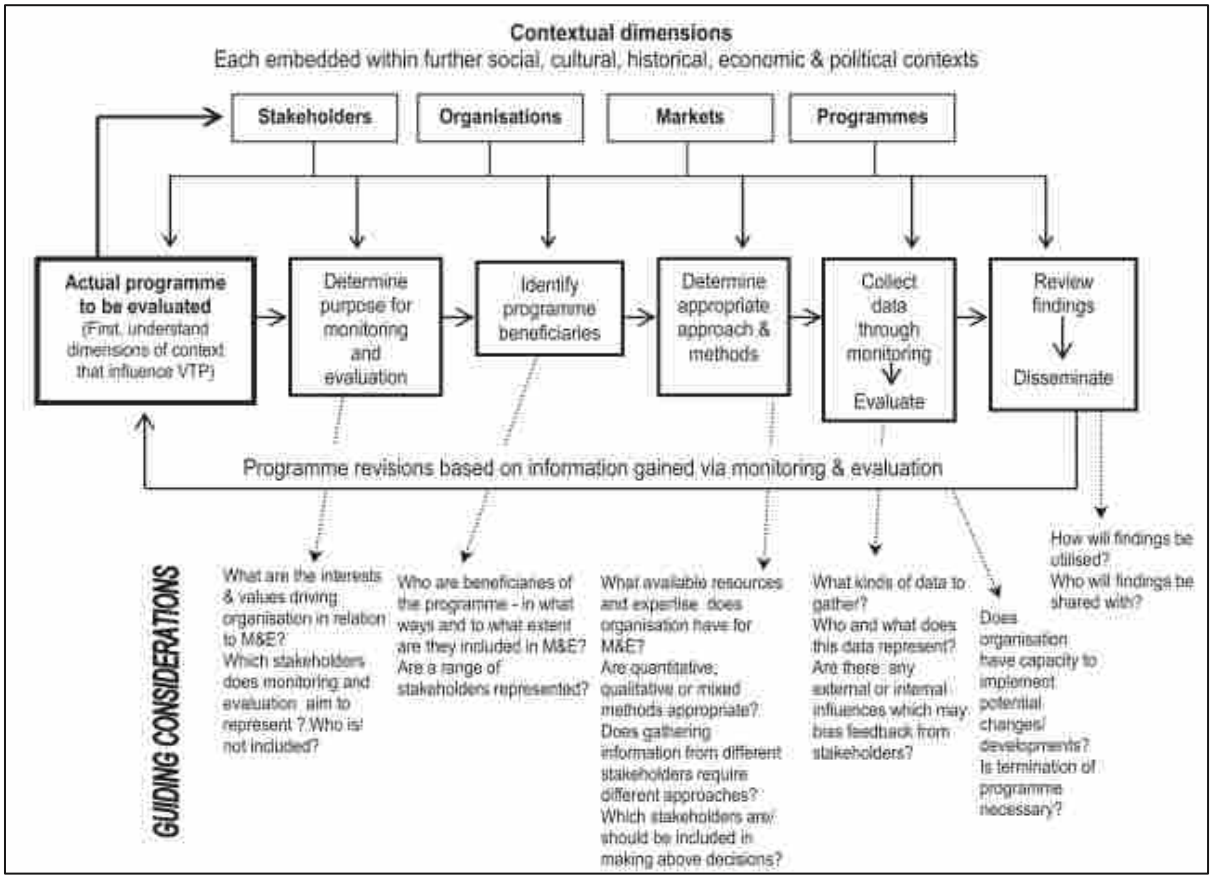


Figure 17. An analytical framework for volunteer tourism program monitoring and evaluation, including contextual influences and monitoring and evaluation processes (Taplin, 2014).

Each VCP can consider discussing or sharing their monitoring plans with other VCPs in the region to see how they compare and how they might learn from those of others. Several interviewees noted that they did not have the time or resources to implement structured monitoring protocols. However, starting monitoring practices from the beginning of the project will aid in the ability of a project to learn from past successes and shortcomings, adapt to changing socio-ecological conditions, and thus, slowly improve and develop their project. If VCPs are able to track and exemplify the progress and impacts of their project, it's likely that they will be able to attract more support from participants and other donors or stakeholders who



believe in and support their efforts/impacts (Bilodeau & Slivinski 1997; Yaffee 1998; La Piana & Hayes 2005).

Research Limitations & Future Directions

As is any research endeavor, there are limitations and opportunities for future research. First, there is inherent researcher bias that, despite all efforts to deconstruct it and separate from interpretation of results, still manifested itself in this thesis. Importantly, working within the somewhat limited timeframe of a master's program meant that time and funding was restricted. Data collection would have benefited from a longer period of stay in Madre de Dios and at each individual VCP site. More time in the field would have also allowed that I conduct more interviews with 'other stakeholders', thus generating a broader, deeper, and more diverse collection of perceptions of VCP contributions, successes, and potential suggestions for improvement. Additionally, while my position as a foreign/Western researcher creates several opportunities for research efforts, it also limits my capacity to collect and understand certain participants and data, as well as my ability to communicate results to local residents of Madre de Dios.

The lack of local resident perceptions is another limitation to generating broad conclusions about VCP interactions with local communities. Although the original research proposal presented intentions to interview local community members as 'other stakeholders', the lack of time in each project site/vicinity made this unattainable. In combination with the isolation of many VCP project sites, it was extremely difficult to travel to/from communities to meet with residents. Other limitations related to data collection relate to technical difficulties and question design. Each of the 35 interviews conducted was recorded but unidentified issues with the recording device results in seven 'corrupted' audio files which were unrecoverable. In their place, detailed written memos taken after each interview were used to inform analysis, but obviously these do not provide the same amount of detail or expression as interview conversations.

In hindsight both the interview guide and survey were long for research contributors. Not only did respondent exhaustion limit the results collected from the survey, but it contributed to a reduction in the proposed methods of data collection. It was my intention that the survey results/analysis would be followed up with a second interview with each respondent (completing

the ethnographic sandwich approach that is suggested for SNA research), but it was clear that respondents were becoming 'exhausted' and less engaged with the research. The great geographic distance between Montana, where I was based, and Peru further challenged my ability to keep project contributors/respondents engaged. Finally, to complete a more insightful analysis about correlations between VCP networks and conservation contributions, it would have been helpful to collect data regarding specific indicators of impact or outcome. On the other hand, it appears to be that most VCPs don't have documented records of exact impacts our outcomes. Measuring success or impact can also be difficult when VCPs are striving for dramatically different types of impact (e.g. reintroduction of animals and reforestation), but perhaps organizational traits like annual budget, number of staff, or number of participants per year could have been collected and analyzed as they relate to network properties.

This study can be considered an initial exploration of how VCPs contribute to the regional conservation needs of Madre de Dios; there is, of course, much more to be discovered here. I provide three major suggestions for future research. Firstly, as previously noted, this study is extremely lacking in inclusion of resident/local community member perceptions. Future research should emphasize the inclusion of community perceptions of how VCPs contribute to local conservation efforts, if not focus on community perceptions alone. Secondly, this study engaged 16 VCPs and identified some general trends, and outliers in those trends, in the results and discussion sections. However, grouping so many projects together and conceptualizing them as one group of 'VCPs', while helpful for identifying initial trends and curiosities, fails to fully recognize or represent the unique organizational structures, environments, and character of each one. Rather than study a multitude of VCPs, future studies should consider partnering with just one, two, or three projects and more deeply capturing their unique traits. Thirdly, this study focused on VCPs but it revealed conditions within Madre de Dios that beg for deeper investigation, analysis, and hopefully, progress towards solutions.

Mentioned by almost every interviewee, in one way or another, was the lack of and need for greater coordination among several disjointed conservation initiatives. A long-term, multi-year

social network study involving conservation organizations, leaders, and other stakeholders in Madre de Dios could provide a huge amount of insight about strengths and weaknesses of the network(s), thus pointing to areas or actors that could be specifically targeted, utilized, and/or improved to enhance the effectiveness of the region's collective but currently disconnected conservation efforts. Connecting the various conservation actors, plans, and actions within Madre de Dios is especially critical if they are to understand, manage, and begin to solve both the social and environmental issues that are rapidly evolving and accruing. Based just on the small sample of actors who contributed to this study, the will and enthusiasm to pursue these conservation missions is already present and would only be strengthened by more concerted efforts to understand challenges, opportunities, and methods for coordinated conservation planning and implementation.

Appendix I – Interview Guide for VCP Leaders

Research Question	**Question**	**Reasons**
RQ1	Tell me about yourself and how you got started in this role?	Identify interviewee and their role.
RQ1 RQ3	Can you tell me about the history of this project? For example, how it was created? (Was it community initiated, by a private landowner, national or international NGO, for profit company etc.)	Private businesses may undermine the potential benefits of a voluntourism project. There is already evidence of a move towards the commodification of voluntourism as large tourism operators are competing for a share of the emerging market (Wearing, 2001) Voluntourism projects are liable to be geared toward profit rather than the needs of the communities. "Projects may impose an imported Western project and not include local participants in the entire process, even if generated by an NGO" (Grimm, 2013, pg. 265)
RQ2	What are the primary goals and priorities of your project?	Many project goals may be primarily related to education, experience or outreach, as opposed to contribution to conservation. "Data points that could shed light on some of the differences between projects in the goal-based clusters would include the number and type of institutional links." (Wiggins & Crowston, 2012, pg. 8) Whether the project is run by a single academic private institution or by a collaborative arrangement between multiple conservation organizations can be expected to have a significant influence on its resources, impacting the geographic range and types of goals the project undertakes.
	Scaling up: What would you say are the conservation priorities of the	Some people may assume that communities will naturally favor the conservation of their surround ding environments, but that assumption would not always be correct. (Guttentag, 2009)

	Madre de Dios region? (local *and* regional?)	Answers of VCP leaders can be compared to the priorities listed by other stakeholders. For example, Manu NP has a Master Plan for 2013-2018 that has several pages and guidelines on "priorities for conservation".
RQ2	With so many things to be addressed, how do you come to identify these as the conservation 'priorities'?	Social network theory holds the basic assumption that behaviors, beliefs, attitudes, and values of individuals are shaped through contact and communication with others. This question may reveal from whom/what entity VCP leaders gather resources or information that influences their idea of regional conservation priorities.
RQ2	Which of these have you decided to address with your project goals?	"When asked how they set [conservation] priorities, none of the managers interviewed explicitly mentioned any of the global priority templates" Managers have explained that prioritization in the voluntourism sector is conservative, reactive and market-driven. "Managers know from past experience which projects work and sell well; they continuously gauge and channel volunteer enthusiasms and then seek to establish or solicit similar ventures." Conservation priorities emerge from the machinations of these negotiations… [and] the volunteer market closely reflects the cultural preferences of Western volunteers. (Lorimer, 2009, pg. 357)
RQ2	What type of work do your volunteers do to support these goals?	The challenge for volunteering organizations is to "create, harness and direct these ethical energies and enthusiasms… Many of these preferences overlap with those of conservationists but there are some subtle and striking differences" These contrasts and coincidences both enable and constrain VCPs and determine which organisms, places, and practices they can encompass. (Lorimer, 2009, pg. 358) However, under the right circumstances and with thoughtful study design citizen science/volunteer projects can generate high quality data that leads to

		reliable, valid scientific outcomes, unexpected insights and outcomes (Wiggins & Crowston, 2012).
RQ1 RQ2b	How do you balance the conservation priorities of the region with preferences of the volunteers? Do you ever have to make compromises on either end? For example, assign tasks to volunteers that they don't find super satisfying? Or, assign tasks to the volunteers that might be important, but don't necessarily align directly with the regional conservation 'priorities' that you identified earlier? What are the benefits of utilizing volunteers as the major force of your project's work?	Satisfying the volunteers' motivations becomes desirable because it is a necessary measure for attracting project participants. Understanding volunteers' motivations is vital to the design and operation of successful conservation programs that rely on volunteers as their primary labor source (Broad & Jenkins, 2008) A problem emerges once one considers the possibility that when tourists' desires are focused upon, they may be considered before the desires of host communities or local conservation priorities. This reveals the interwoven nature of volunteer motivations, organization priorities and host community needs.
RQ3	How do you work or coordinate with other conservation leaders or institutions to make this project successful? This coordination might take place during the planning stages of your project, your one-the-ground work, or the sharing and use	More research on volunteer tourism needs to examine if an absence of local involvement existed in the decision-making process (Benson & Wearing, 2011) The inclusion of local community members in the research teams and the hiring of community members to provide logistical assistance helps to build trust and leads to cultural sharing and acceptance of scientific outcomes and recommendations. (Lorimer, 2009) This question will also relate to social network theory and contribute to understanding about how connections

	of your project results. Would you say that your project influenced by nearby protected areas? Why or why not? Why do you coordinate with these other entities? What are some reasons for why you might NOT coordinate with other conservation forces of the region?	and influence from other entities influences the work of VCPs and their ability to align their work to conservation priorities.
RQ3, RQ1	Can you describe your interactions with other VCPs in the Madre de Dios region? Is there competition or complementarity among projects?	VCP leaders from Madre de Dios have noted that competition exists among some projects. Others have noted VCP coordination and mutual support. There is "little in the way of a… shared sense of global purpose… Diverse organizations scrabble for and react to available market opportunities" (Lorimer, 2009, pg. 359). Ecotourism has been criticized as an agent that "commodifies people and places for the aesthetic consumption of self-indulgent tourists, leading to a privatized, competitive and highly commodified industry" (Lupoli, 2014, pg. 900; Guttentag, 2009). Researchers question whether the philosophy and practice of volunteer tourism (that extend beyond market priorities) can be sustained in the global tourism marketplace. (Lyons & Wearing, 2008; Guttentag, 2009).

RQ3	How does the community view this project?	Communities are not always consulted in project plans and/or the projects might not align well with their needs and priorities. Some people may assume that communities will naturally favor the conservation of their surrounding environments, but that assumption would not always be correct. (Guttentag, 2009; Mathews, 2008).
RQ3	Knowing the community preferences, the volunteer expectations or preferences, and the conservation priorities of the region, how do you decide which programs to offer to volunteers?	Researchers suggest that it is important to know "how decisions are made as to which programs to offer volunteers and thus what is prioritized for conservation" (Lorimer, 2009, pg. 357). Volunteer tourism organizations should play an "intermediary role of appealing to the motivations and value systems of potential volunteers, while simultaneously meeting the immediate needs of host communities and generating positive local impacts" (if the sector is to be decommodified). This may have repercussions on volunteer recruitment and/or project activities and host community impacts (Lupoli, Morse, Bailey, & Schelhas, 2014, pg. 900) These arguments call for a closer look at the perspectives of volunteer tourism organizations and how they consider and/or assess the needs of volunteers and host communities.
RQ2 RQ3	How would you say that your VCP fits into the conservation efforts of the Madre de Dios region? What do you think are the most important 'results' or outcomes of this project?	To date, there has been little systematic research that explores the history, character, scope and significance of the voluntourism sector in relation to its impacts on conservation (Lorimer, 2009).
RQ 2, 3	How do you monitor and/or evaluate the progress, results, or effects of this project?	The processes of monitoring and evaluation play important roles in the wider project planning and implementation cycle of an organization and its project(s)

		To ensure that their services or programs are meeting the needs of the community and other stakeholders, VCPs need to "continually obtain pertinent evaluative feedback" on their programs and services (Stufflebeam & Shinkfield, 2007, pg. 29). In order to ascertain whether or not a program is benefitting those it is meant to serve, it is essential that the relevant stakeholders and their agendas and interests are identified, and their feedback sought in monitoring and evaluation processes (Stuffelbeam & Shinkfield, 2007). "Host" or "local" communities comprise individuals and groups with both shared and conflicting social, cultural and economic values and priorities. "Volunteer tourism organizations, therefore, need to take this into account and consider appropriate monitoring and evaluation methods to gather information relevant to stakeholders and the intended beneficiaries of a volunteer program" (Taplin et al., 2014, pg. 879)
RQ2	What aspect of this project are you most proud of? Is there anything that you wish would change in order to help your project better contribute to conservation priorities of the region?	Question one is mostly so we can end on a positive note! Question two could generate potential suggestions from improvements or adjustments to VCPs and their work in Madre de Dios.
RQ 1, 2, 3	Any other questions or comments to mention before we finish?	In case I forgot something, or they thought of another important aspect during our conversation.
	Could you recommend or connect me with	To identify other stakeholders for interviews. And to get a vague idea about who they're interacting with.

	another stakeholder or organization would have helpful insight about your VCP project *or* the conservation efforts of this area?	

Appendix II: Interview Guide for Stakeholders

Research Question	**Question**	**Reason**
	Can you tell me a bit about yourself? What is your role in this community (or in the organization that you work for)?	Get to know the interviewee.
	If conservation related organization/institution: Can you describe the purpose of your organization? What are your goals and responsibilities?	Understand their organization/institution and how it might relate to the work of VCPs or conservation efforts in Madre de Dios.
RQ1	What would you say are the conservation priorities of the Madre de Dios region? (local community *and/or* regional priorities)	These priorities can be compared with those that are identified of the VCPs. Do they align?
RQ1	With so many things to be addressed, how do you come to identify these as the conservation 'priorities'?	Compare this process with that explained by the VCPs; potential to identify particularly influential forces in the identification of conservation priorities.
RQ3	How familiar are you with the VCPs that work within the Madre de Dios region? Which ones do you know of?	Gain understanding of how well connected the VCPs are with other conservation entities of the region.
RQ3	How do you (or how does your organization) work or coordinate with these various groups? This could be during the planning stages of their projects, their on-the-ground	Including the perspectives of local stakeholders can allow for solutions better suited for the social and cultural context of a region. Large organizations, such as the United Nations Environment Program, recognize that "broad and balanced participation of [stakeholders]… plays a

	work, or the sharing and utilization of their results. Why do you work or coordinate with them?	central role in providing expertise and scientific knowledge, informing governments of local needs and opinions, as well as identifying the 'on the ground' realities of policy decisions" (Cited from Vogler et al., 2017). Understanding how stakeholders and VCPs coordinate will relate to the social network theory/analysis.
RQ2	To what extent do you think they are addressing the conservation priorities (that you identified earlier) in their projects? Either on an individual level or collectively. *If they are not successfully addressing priorities:* why do you think this is the case? *If they are successfully addressing priorities*: what has allowed them to achieve this success?	Personal conversations with those who are related to government and large NGO-led conservation efforts in Peru indicate that VCPs are not often involved in these collective conversations/decisions/actions about conservation priorities. Some suggest that VCPs don't effectively contribute to conservation efforts. This question may identify organizations that are doing a satisfactory job, why they might be able achieve this success and notice of it, and thus, generate suggestions for how that practice may be implemented by other VCPs.
RQ2	How do these VCPs fit into the conservation community of the Madre de Dios region? In general, how do they contribute to conservation efforts of the region? Has their role in the region changed over time? If so, how?	This (external) perspective of VCP work can be compared with the perspectives of the VCPs (internal) It answers the primary research question from an outside perspective.
RQ2	What do you think would need to change in order to allow these VCPs more effectively contribute to	Generates potential suggestions for improvement, from the perspective of the conservation stakeholder.

	conservation priorities of the region?	
RQ1/2/3	Other things to mention or ask?	In case I forgot something, or if the interviewee thought of another important aspect to mention during our conversation.
	Could you recommend or connect me with another person or organization would have helpful insight about your VCP project or the conservation efforts of this area?	To find other stakeholders who would provide helpful insight to this research project (Stage One).

Appendix III. Social Network Survey Questions

(This copy does not include the survey introduction nor the informed consent sections.)

1. Please select the name of your organization/project.
    - (List of VCP names)
2. How would you describe your rank in your organization?
    - Organization Founder
    - Project Manager or Leader
    - Employee/Staff Member
    - Other Not Listed (please enter here)
3. Within the region, there are many other entities that are working on conservation or environmental issues. These may be NGOs, research institutions, independent researchers, government agencies, community associations, individuals not associated with an organization, etc. ***Please check the names of the entities of which you are aware.***
    - (List of 45 alters)
4. Are there other locally-based entities with which your organization interacts to achieve your conservation goals that ***were not listed*** in the previous question? If so, please list them below. You can name organizations, associations, agencies, etc., but please use initials or pseudonyms in place of the names of any individuals that you may name to protect their privacy

- Respondents could list up to eight other entities

5. Now, please answer the below question in regard to each entity listed.
    - How would you characterize this entity?
        - NGO
        - Federal Government
        - Community Government
        - Research Institution
        - Company or Agency
        - Individual (not associated with an organization)
        - Other Institution (e.g. school)
6. *To what extent do the conservation approaches, techniques, and/or actions of <u>your organization</u> align with those of this <u>other entity?</u>*
    - They do NOT align at all
    - They align in SOME ways
    - They align in MOST ways
    - They are COMPLETELY aligned
    - I am not sure
7. **How often does your project interact with this entity?** *These interactions can range in complexity from simple, passing or friendly interactions to formal and organized meetings to discuss plans or collaborate.*
    - Never
    - Once every few years
    - Once a year
    - 2-4 times a year
    - Monthly
    - Weekly
8. **How would you describe your interactions with these entities? You may select more than one answer.**
    - Neighborly or casual passing encounters
    - Interactions during formal gatherings of associations, groups, etc.
    - Sharing physical resources (e.g. tools, vehicles, etc.)
    - Seeking permission(s) or documentation
    - Helps secure funding
    - Discussing conservation-related information or updates of the region
    - Provides or helps create projects/work to do for regional conservation needs
    - Sharing results, outcomes, or updates from your organization/project
    - Collecting meaningful feedback about your organization's actions or work

- Collaborating on activities and work of your organization(s)
- Other not listed

9. **You reported that these entities provide meaningful feedback about your organization's actions and/or work.** Now, please answer the following questions in regard to each entity.
    - How much does this entity's feedback influence the decisions, actions, and/or work of your organization?
        - None at all
        - A little
        - A moderate amount
        - A lot
        - A great deal
    - Do you also provide meaningful feedback to this entity about their decisions, outcomes, or other actions related to conservation efforts within the region?
        - Yes
        - No
10. **You reported that these entities help your organization identify or create projects/initiatives that will help address regional conservation needs.** Now, please answer the following questions in regard to each entity.
    - To what extent does this entity's help in identifying potential projects influence the work that your organization chooses to complete?
        - It does NOT Influence the work we do
        - It slightly influences the work we do
        - It MODERATELY influences the work we do
        - It greatly influences the work we do
        - It COMPLETELY influences the work we do
    - Do you also help this entity identify or create projects/initiatives that *they* can do to help address conservation needs?
        - Yes
        - No
11. How would you describe the influence that this entity* has on *the ability of your project/organization to contribute to the conservation needs of the region/area*?
    - *Including only those entities with which the project interactions but not those that provide feedback or help with the creation of projects.
        - Greatly CHALLENGES or negatively influences our organization
        - Slightly CHALLENGES or negatively influences our organization
        - Little to no influence

        - Slightly SUPPORTS or positively influences our organization
        - Greatly SUPPORTS or positively influences our organization

12. Please list the other entities with which your organization/project interacts that are **international.** Or, in other words, **not locally-based.**
    These may be organizations, institutions, agencies, or individual/s (not associated with an organization), etc. with which your organization normally interacts to realize and/or accomplish its goals.
    You can name the organizations, associations, agencies, etc., but please use initials or pseudonyms in place of the names of any individuals (not associated with an organization) to protect their privacy.
    You do NOT need to fill all of the spaces. (Ten spaces.)
13. Now, please answer the following questions in regard to each entity.
    - How often does your project interact with this entity?
        - Once every few years
        - Once a year
        - 2-4 times a year
        - Monthly
        - Weekly
    - How would you characterize this entity?
        - Conservation NGO
        - Other NGO
        - Federal Government
        - Community Government
        - Research Institution
        - Company or Agency
        - Individual (not associated with an organization)
        - Other Institution (e.g. school)
14. **How would you describe your interactions with each of the entities listed below?**
    You may select more than one answer.
    - Neighborly or casual passing encounters
    - Interactions during formal gatherings of associations, groups, etc.
    - Sharing physical resources (e.g. tools, vehicles, etc.)
    - Seeking permission(s) or documentation
    - Helps secure funding
    - Discussing conservation-related information or updates of the region
    - Provides or helps create projects/work to do for regional conservation needs
    - Sharing results, outcomes, or updates from your organization/project

- Collecting meaningful feedback about your organization's actions or work
- Collaborating on activities and work of your organization(s)
- Other not listed

15. To what extent do the conservation approaches, techniques, and/or actions of your organization align with those of this conservation NGO?
    - They do NOT align at all
    - They align in SOME ways
    - They align in MOST ways
    - They are COMPLETELY aligned
    - I am not sure
16. **You reported that these entities provide meaningful feedback about your organization's actions and/or work.** Now, please answer the following questions in regard to each entity.
    - How much does this entity's feedback influence the decisions, actions, and/or work of your organization?
        - None at all
        - A little
        - A moderate amount
        - A lot
        - A great deal
    - Do you also provide meaningful feedback to this entity about their decisions, outcomes, or other actions related to conservation efforts within the region?
        - Yes
        - No
17. **You reported that these entities help your organization identify or create projects/initiatives that will help address regional conservation needs.** Now, please answer the following questions in regard to each entity.
    - To what extent does this entity's help in identifying potential projects influence the work that your organization chooses to complete?
        - It does NOT Influence the work we do
        - It slightly influences the work we do
        - It MODERATELY influences the work we do
        - It greatly influences the work we do
        - It COMPLETELY influences the work we do
18. How would you describe the influence that this entity* has on *the ability of your project/organization to contribute to the conservation needs of the region/area*?

- *Including only those entities with which the project interacts but not those that provide feedback or help with the creation of projects.
    - Greatly CHALLENGES or negatively influences our organization
    - Slightly CHALLENGES or negatively influences our organization
    - Little to no influence
    - Slightly SUPPORTS or positively influences our organization
    - Greatly SUPPORTS or positively influences our organization

19. Listed below are entities and categories that may influence the work that your organization completes in its efforts to address regional conservation needs. Please rank these options from most influential (top of the list) to least influential (bottom of the list). You can drag and drop the names of each entity/category to re-arrange your list.
    - _____ Primary Project Leader (1)
    - _____ Employees/Individuals within your organization (2)
    - _____ Other *conservation* organizations, institutions, agencies, etc. (3)
    - _____ *Non-conservation* organizations, institutions, agencies, etc. (4)
    - _____ Local communities or government (5)
    - _____ Local Researchers or Research Institutions (6)
    - _____ International Researchers or Research Institutions (7)
    - _____ Project Volunteers and/or Interns (8)
    - _____ Funding Source (9)
    - _____ Other (please enter here; not required) (10)
    - _____ Other (please enter here; not required) (11)
20. In order to contribute to the conservation needs of the region, which locally-based conservation entities that *your organization* interacts with also interact *with each other*?*
    - *This question captured alter-alter ties. Descriptions of how to complete this question were provided in the online survey but not in this Appendix copy.

Appendix IV. Social Network Measures

Question	Steps taken	Figure Extracted
What are the sizes of a VCPs' 'awareness networks?	Input 'Frequency of Interaction' valued edgelist; Dichotomize; Change all values ≥ to 1 to (1); all else = 0; Output = AwareNetwork; Network → Ego Networks → Structural Holes	Degree: The number of direct connections a node has to other nodes.
What are the sizes of a VCPs' 'basic interaction' networks? *Applied for semi-frequent & frequent interaction networks*	Input 'FreqOfInt' valued edgelist; Dichotomize; Change all values > than 1 to (1); else = 0 Output = InteractNetwork; Network → Ego Networks → Structural Holes	Degree: The number of direct connections a node has to other nodes.
On average, with how many (local) entities do VCPs (semi-frequently) share results from their project's work? *Applied to all interaction types (share resources, collect feedback, etc.)*	Transform → Matrix Operations → Between Datasets → Statistical Summaries → Multiply SemiFreqInteractions X ShareResultsInteractions; Output = SemiFreqShareResultsInts; Network → Ego Networks → Structural Holes	Degree: The number of direct connections a node has to other nodes.
With what types of entities are VCPs semi-frequently sharing results? *Applied to all interaction types*	Network → Ego Networks → Composition → Categorical Attribute → Input 'SemiFreqResults' matrix; Input 'EntType' Attribute File	Egonet Composition: Make-up of the alters in an ego's network based on their categorical attributes.
From what types of entities are VCPs receiving greatly or completely influential help with the creation of projects? *Applied to greatly influential feedback & general influence on VCP matrices*	Transform → Dichotomize 'InfluenceOfCreateProjs'; Change all values ≥ 4 to (1) where (4) = great influence and (5) = completely influence; else = 0; Output = GreatInfluenceOfCreateProjs; Networks → Ego Networks → Composition → Categorical → Input 'EntType' Attribute File → Input 'GreatInfluenceOfCreateProjs' matrix	Egonet Composition: Make-up of the alters in an ego's network based on their categorical attributes.

Which types of entities are commonly indicated as providing greatly influential help with projects? *Applied to greatly influential feedback & general influence on VCP matrices*	Network → Centrality → Degree → Input 'GreatlyInfluentialHelp' Matrix	In Degree: Number of incoming ties to each node.
Are VCPs more likely to collect feedback from entities with which their conservation actions align (rather than entities with which their actions are not aligned)? *Applied to greatly influential help with creation of projects*	Transform → Dichotomize 'ActionsAligned'; Change all values ≥ 4 to (1) where (4) = greatly aligned and (5) = completely aligned; else = 0; Output = 'ActsGreatlyAligned' Tools → Testing Hypotheses → QAP correlation → Input 'ActsGreatlyAligned', 'ActsNotAligned', 'SemiFreqCollectFeedback' → Number of Permutations = 10,000	Pearson Correlation Obs Value: Correlation coefficient of every pair of matrices. Significance/p: Level of marginal significance within a statistical hypothesis test.p:
Are VCPs more likely to collect feedback from entities with which they also share results?	Tools → Testing Hypotheses → QAP correlation → Input 'SemiFreqCollectFeedback', 'SemiFreqShareResults', → Number of Permutations = 10,000	Pearson Correlation Obs Value: Correlation coefficient of every pair of matrices. Significance/p: Level of marginal significance within a statistical hypothesis test.
Are VCPs more likely to collect meaningful feedback from entities with which they have multiple types of interactions?	Transform → Matrix Operations → Between Datasets → Sum all 11 interaction matrices; Output = NumberOfIntTypesNetwork' Transform → Dichotomize → Input NumberOfIntTypes → Change all values ≥ 3 to (1), else = 0;	Pearson Correlation Obs Value: Correlation coefficient of every pair of matrices. Significance/p: Level of marginal significance within a statistical hypothesis test.

	Transform → Dichotomize → Input NumberOfIntTypes → Change all values ≥ 4 to (1), else = 0; *Continue dichotomizing 'NumberOfIntTypes' until all values ≥ 8 change to (1);* Outputs = 'NumberOfIntsGE3', 'NumberOfIntsGE4' …. 'NumberOfIntsGE8' Tools → Testing Hypotheses → QAP correlation → Input all 'NumberOfInts' from GE3 to GE8 → Input 'GreatlyInfuentialFeedback' matrix → Number of Permutations = 10,000	
The same basic steps and measures described above were applied to international networks as well to answer the same questions.		

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