

Seeing Animals as Kin:
The Role of Visual Art in Preventing Wildlife Trafficking

by
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ABSTRACT

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The illegal wildlife trade, which ranks among the most economically significant criminal activities globally, is a leading cause of species decline and extinction. Wildlife trafficking is a growing, consequential international problem profoundly impacting people, wildlife, and ecosystems. In the United States and elsewhere, consumers of trafficked animals and animal products create demand, fueling the market for illegally traded species. Disruption of the complex networks that supply trafficked wildlife to consumers, through consumer education about the scope and impacts of trafficking, is essential for mitigating and reducing the wildlife trade. My thesis investigates the significance and possibilities for visual art to communicate the problem of wildlife trafficking to global consumer audiences. Strategically chosen images can play a vital part in daylighting the realities of animal harm and demonstrating the negative consequences to social systems tied to wildlife trafficking. Through interviews with conservationists and artists, I explore how interdisciplinary collaboration can foster the creation of scientifically-based visual works expressing the crises of wildlife trafficking. Through Personal Meaning Mapping research, I examine audience responses to wildlife trafficking themed images. Using a combined evaluation of scholarship, interview research, and empirical evidence, I conclude that the powerful communication medium of visual art, particularly works developed out of cross-disciplinary collaboration, can be leveraged to increase awareness and change consumer attitudes about wildlife trafficking. This thesis makes the case for the increased use of conscientiously designed, targeted visual works about wildlife trafficking, and expresses the significant part these images can play in confronting the consumer role in the nuanced and challenging problem of the illegal wildlife trade.

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For the Animals

Chapter 1: Introduction

Walking through urban Parque del Centenario a few days after arriving in Cartagena, Colombia, I saw a group of tourists gesturing excitedly up at the tree tops. Monkeys! Their words reached me, and I moved closer. In planning to visit Colombia, I'd enthusiastically anticipated seeing some of the many species of monkeys living in this biodiverse country, and my curiosity was intense. As I approached the spectators, vendors did too, selling watermelon and other fruits to the enthusiastic observers. People purchased these treats eagerly, holding their outstretched arms upward with delicacies in hand to entice the small primates. A few of the animals came close and reached out their tiny hands to take food. It was then that I saw that the monkeys were tamarins, and among the mixed group were several critically endangered cotton-top tamarins (*Saguinus oedipus*). Critically endangered monkeys living in a small urban park. A park where groups of people gather around fountains, market stall vendors sell crafts to tourists, and kids roller skate around and around a smooth oval track. Surrounded on all sides by pavement, cars, buildings, city, and the Caribbean coast, the park is totally disconnected from other natural spaces and utterly removed from any opportunity for a small primate to access wilderness; they were as trapped there as though on an island in a sea.

How and why were these wild animals in a setting so distant and alien from their natural habitat? Because the illegal wildlife trade brought them there. Captured in the wild, taken to the city to be kept as a pet, left behind in the park the day their former owners lost interest, or figured out that keeping a wild animal is difficult, or perhaps given up after the cute baby tamarin grew up and bit someone. Earlier the same day I spotted the tamarins in the park, I'd attended a lecture at the International Society for

Conservation Biology 2017 conference by the organization Proyecto Titi. The mission of this group is to conserve the cotton top tamarin using a multipronged approach that includes partnering closely with communities to establish forest reserves, providing conservation education for youth, and offering classes on dog training to encourage caring for domestic, rather than wild, animals as pets. In the Proyecto Titi presentation, I learned about the threats cotton top tamarins face from the illegal pet trade. Echoing the issues related to illegal trafficking expressed in the presentation, the publication *Primates in Peril* (2009), describes the ongoing take of cotton top tamarins from the wild for the pet trade, in spite of international laws forbidding the practice; it is estimated that fewer than 7,394 of these animals remain in the wild (Savage, A., et. al 2009).

As I was walking out of the park, heading back to my room, I saw another group of people gesturing skyward to the trees. Sloths. Highly sought after in the illegal pet trade for their docile personality and adorable appearance, as of 2013 sloths were considered the most trafficked animal in Colombia, with a street value of around \$30 USD; sloths consume a complex diet of approximately 40 rainforest plants and cannot survive independently outside of their proper habitat (Nuwer, R. 2013). Yet in the city park, there were the sloths, looking down at the people pointing up from below.

While travelling in Colombia, further experiences learning about and directly witnessing the impacts to animals resulting from the illegal trade in wildlife focused my initial, pre-existing passion for animal welfare and visual communication and inspired the topic of this thesis, *Seeing Animals as Kin: The Role of Visual Art in Preventing Wildlife Trafficking*. To be clear about the perspective expressed in this thesis from the outset, the illegal wildlife trade is not a problem exclusive to Colombia. It is an issue of international

scope that presents a major threat to the survival of global fauna and flora; endangered species in particular face added pressure from the illegal trade. The United States is one of the largest markets for the consumer market of illegally trafficked wildlife and wildlife products; the US role in trafficking is both as a consumer market and as a key nation through which goods are transported (Indenbaum, R. 2015). The consequences to wildlife victims of the illegal trade are grave and include extreme physical harm or loss of life, fragmentation and disruption of ecological relationships, or extinction of entire species as likely outcomes. Wildlife trafficking occurs on a massive scale, with participation in the trade experienced by nearly every country globally and up to 1/3 of all living species impacted by the illegal trade (United Nations Office on Drugs and Crime, 2016; Sollund, et al. 2015). For humans, the harms of wildlife trafficking include systemic oppression, corruption, violence, and loss of access and experience of natural heritage.

Recognition of the gravity of this problem for animals, ecosystems, and people drove my interest in developing a thesis that recommended some means of addressing consumer culpability in the illegal trade. The first-hand observations of animals displaced by wildlife trafficking in Colombia, and later, Indonesia and Costa Rica, sparked my interest in communicating with the consumers of trafficked species by using art to emotionally connect with these audiences. With a professional and academic background in both visual art and ecology, I have spent the majority of my career thinking and acting on my interest in mobilizing visual art to communicate and raise awareness of human-caused ecological problems. Because wildlife trafficking is an issue of extreme ecological consequence and is also a problem that touches many layers of society and culture, advancing art as a means to communicate this problem seems

intuitive, logical, and necessary. The global nature of wildlife trafficking is such that visual images may be the most effective tool to broadcast this problem to an audience of potential, or actual, consumers of trafficked animals and products. If cultural interpretations are considered in the use of specific images, pictures have the ability to transcend language barriers to inform and educate about the scope and nature of this problem.

My central questions in this thesis arose from this line of thinking. How can visual imagery be used to promote conservation of internationally trafficked vulnerable and endangered wildlife? How effective are specific kinds of artwork at conveying educational and pro-conservation messages about wildlife trafficking and eliciting the intended emotional reactions about wildlife trafficking? And, how can artists, scientists and conservation groups develop collaborative models to communicate about the illegal wildlife trade in ways that impact, inspire, and elicit pro-conservation behaviors by audiences?

Images are ubiquitous in contemporary United States society and in most other cultures participating in the global explosion of visual media. The prevalence of visual communication facilitates abundant opportunities to use imagery about wildlife trafficking to connect to a virtually unlimited audience. Despite the extensive use of images in conservation efforts, I found a major gap in the existing body of knowledge on the use of visual art to prevent wildlife trafficking. While I may have overlooked some sources on this subject in the course of my research, I encountered no studies looking specifically at the impacts of animal conservation visuals on consumer audiences of trafficked wildlife or wildlife products. Wildlife trafficking (specifically, animal welfare

concerns resulting from the trade) has been described as a particularly difficult area to research due to its inherent illegality (Baker, et. al, 2013). By working on the theme of communicating the problems of wildlife trafficking to audiences, my hope was to add to the existing body of scholarship about the use of visuals for animal welfare and other biodiversity conservation campaigns.

This thesis begins with a literature review exploring multidisciplinary scholarship about the problem of wildlife trafficking and potential impacts of visual art on consumer audiences of trafficked animals or products. The first section describes the nature and scope of the illegal trade in wildlife, including local impacts and global significance of trafficking. At the human scale it examines unsustainable behaviors and social systems; at the ecological scale it identifies harms to illegally traded animals, particularly endangered species.

The next sections of the literature review discuss the relevance of imagery to influence audience knowledge and attitudes toward wildlife trafficking. These sections provide examples of artist-scientist collaborations, outlining the value of interdisciplinary efforts for wildlife and biological conservation. The importance of culturally relevant use of artworks is also approached in this section. At the close of the literature review, I describe Personal Meaning Mapping (PMM) research, the method used to evaluate participant responses to artworks in this thesis. The literature review revealed numerous gaps in the existing body of knowledge on this subjects, especially a lack of research concerning anti-wildlife trafficking visuals to address consumer audiences; this absence motivated my empirical research into the impact of wildlife conservation visuals.

The following chapters describe the methods, results and implications of my

interviews with conservationists and visual artists. In each section, I focused on common themes among conservation professionals, common themes among artists, and areas of overlap and tension between these two groups. In speaking to experts advocating for animal conservation and welfare, my goal was to develop an understanding of how these groups currently use visual art in campaigns to communicate generally about wildlife conservation and specifically about the illegal wildlife trade. I also wanted to better understand the perspective of these conservationists about the ways organizations currently interface and collaborate with artists.

In interviewing professional artists, my purpose was to develop a picture of how the artists presently create work describing wildlife trafficking and related conservation subjects. As a practicing visual artist working on the themes of ecological conservation and the complex interface between humans and non-human animals, a major goal of my work on this thesis was to bring the voice of other artists into the spotlight and allow them to speak about their own work and experiences. I was interested in knowing more about the motivations that ignite the creation of this work and how they understand the impact and value of their creative projects in amplifying awareness of illegal trafficking and support for wildlife conservation.

Further, I was particularly seeking information about how artists envision successful and sustainable collaboration with scientists and conservation organizations. The general purpose of my write-up of the interviews is to provide a snapshot of the present state of these collaborative efforts. These insights can then be developed into recommendations for increasing interdisciplinary collaborations that communicate the science of biological conservation and the problem of wildlife trafficking. Understanding

the current status of cross-disciplinary interaction on this topic can also generate suggestions for expressing anti-wildlife trafficking messages in innovative ways that reach new audiences. The interviews with artists and conservation professionals inform and supplement the literature and scholarship on this topic in timely, personal, and practical ways.

The final chapters comprise the methods, results and discussion chapters of the PMM research. The PMM method, as described in the literature, seemed the most effective and practical mode to evaluate people's attitudes and behaviors before and after exposure to wildlife trafficking themed artworks. This method was designed as an evaluative tool for audiences before and after experiencing an exhibition. It allows participant voices to be at the forefront of the results, which was my objective in collecting audience responses to images. My thesis asserts that images representing or informing us about the realities of animal harm and wildlife trafficking have limited visibility within our immersive social experience of visual images. I embarked on the PMM research in an effort to understand which image types arrest our human-centric narratives, refocusing our attention on animals and allowing the stories of wildlife trafficking to be told.

The PMM research was an effort to do just that- to understand how particular images influence audience attitudes toward wildlife trafficking. My PMM studies examined changes in feelings and knowledge before and after participants looked at works of art, along with other response categories explained in detail in the chapters relating this research. The method chapter describes the development and application of the studies, which took place in Washington, D.C. and in several locations in Costa Rica.

A goal in conducting this research in the United States and abroad was to further my understanding of cross-cultural similarities and differences in knowledge and perceptions of trafficked animals. Because of the global nature of this problem, implementing the research internationally was a key aspect of the study design for this thesis. Subsequent chapters present the PMM results and discuss their implications. The PMM results chapter provides an assessment of the challenges and success of this research, along with recommendations for a future, similar study. The thesis conclusion suggests applications for artist-scientist-conservationist partnerships and recommends additional study around the impacts of visuals on audience knowledge about the problem of wildlife trafficking.

Chapter 2: Literature Review

Introduction

This literature review provides background and context on wildlife trafficking and how visual art can be leveraged to communicate the problem of the illegal wildlife trade to a consumer audience. Descriptions are provided of cases where art has influenced audience perceptions of conservation topics. The first section will summarize locations where illegal wildlife trade occurs, identification of key players at various scales of trafficking, and motivation for participation in the illegal wildlife trade. The definition of trafficking will cover harm to animal species subject to trafficking, along with environmental and social consequences of wildlife crime.

The second section will examine the unique qualities of visual art, including empirical evidence for why and how images can effectively access viewer emotion, and a description of the ability of visual art to readily convey complex information. The overarching purpose of section 2 is to pinpoint the use of art as an activist tool by identifying the specific impact of art in communicating pro-conservation messages. Evidence for this includes descriptions of existing projects using visual arts for conservation as well as scholarship on this topic. Additionally, the visual arts section will discuss how artists, scientists, and anti-trafficking environmental organizations can best collaborate to address the international problem of the illegal wildlife trade.

The third, concluding, section will provide examples and critiques of research evaluating the emotional and intellectual impact of art to sway attitudes and behavior concerning wildlife trafficking and other pro-wildlife conservation topics. This section

will also describe the technique of Personal Meaning Mapping (PMM), the method used in my research to assess perceptions of visual art on the theme of wildlife trafficking

Section 1 Map: Wildlife Trafficking Problem Scope

Wildlife crime is a growing and consequential problem for people, wildlife, and ecosystems. Section 1 describes how the international problem of wildlife trafficking manifests in different countries. This description includes information about regionally-specific trafficked species, enforcement challenges and problems with how confiscated animals are managed, harms resulting from the illegal wildlife trade for both animals and people, and identification of the chain of participants in the illegal trade from small to large scale trafficking.

Additionally, this section will describe existing understandings about underlying human motivations for wildlife trafficking, from the disciplines of Green Criminology and eco-psychology. As much as possible, rationales for trafficking will be identified in relationship to the role a specific motive plays along the chain of supply and demand for trafficked animals. Better understanding of driving forces motivating consumers of trafficked animals and participants along the supply chain will support identification of ways visual art can be applied to address root causes and motivations for participation in the trade. Throughout this first section, I will provide examples of where and how various facets of the wildlife trade can simultaneously inform the creation of relevant, impactful visual messages, and provide opportunities for art to function strategically to interrupt the illegal wildlife trade.

Section 1: The International Problem of Wildlife Trafficking

Pound for pound, exotic, endangered birds are worth more to smugglers than cocaine.

-Jacqueline L. Schneider, *Sold into extinction: The global trade in endangered species*

The planet's menagerie has become like shards of broken glass; we're grinding the shards smaller and smaller.

- Carl Safina, *Beyond Words: What Animals Think and Feel*

Since 1970, Earth has witnessed a drastic 58% decline in species globally, according to the World Wildlife Fund *Living Planet Report*, published in 2014 (McLellen, 2014). This species loss estimate was derived from observation of 14,152 monitored populations representing 3,706 vertebrate species; based on the continuing rate of biodiversity decline the report estimates that by 2020, monitored species populations will decline by 67% (McLellen, 2014). Drivers of species loss include habitat destruction and displacement by invasive species; significantly, poaching and hunting are identified as threats to the survival of many species (McLellen, 2014). After habitat loss, wildlife overharvesting has been pinpointed as the second greatest threat to species globally; in addition, overharvesting impacts the abundance and occurrence of other species, ecosystems processes, and food webs (Wittemyer, et al., 2014). In a striking statistic about the scale of the extinction crisis, the *Living Planet Report* indicates that as many as 100,000 species are lost to extinction annually; this represents a number that is 1,000-10,000 times greater than natural extinction rates (McLellen, 2014).

Citizens in nearly all countries globally participate in the illegal wildlife trade, and individuals suspected of trafficking have been identified from 80 countries, with the following associations between regions and types of animals trafficked: mammals with

Asia and Africa; corals with Oceania; reptiles with North America and Europe; and birds with South and Central America. (United Nations Office on Drugs and Crime, 2016). A publication reviewing literature discussing animal welfare in the trade from 2006-2011, identified Asian countries — particularly Thailand and Indonesia— as the primary nations through which animals were trafficked and where species were sourced (Baker, et. al, 2013). Another study asserts that the scope of wildlife trade is massive, with a third of all living species facing threats from trafficking (Sollund, et al. 2015). Regardless of the source, there is ample evidence and agreement across the conservation literature that illegal wildlife trafficking is a growing and consequential problem for people, wildlife, and ecosystems.

Wildlife crime overlaps with and parallels other criminal activities and routes and is strongly linked to other nefarious activities, including the illegal drug and weapons trade, money laundering, human trafficking, organized crime, and terrorism (Nurse, 2013; Sollund, et al. 2015; United Nations Office on Drugs and Crime, 2016). In the text, *Animal harm: Perspectives on why people harm and kill animals*, traffickers are identified as “... offenders for whom animal harm is a means through which profit can be derived, and the use of animals is simply a form of commoditization” (Nurse, 2013). A Defenders of Wildlife report concerning the illegal trade in wildlife from Latin America to the United States describes the actions of traffickers and poachers as tantamount to the theft of our collective natural heritage (Goyenechea, et. al, 2015). After weapons and drugs, illegal trade in wildlife is thought to be the 2nd or 3rd most economically valuable criminal commerce globally (Nurse, 2013). One 2014 estimate of the global value of illegally traded endangered species indicates that the trade is worth between \$8 to \$10

billion dollars annually, not including illegally traded timber and fisheries (Lawson & Vines 2014). Difficulties in monitoring trafficking make certainty about the true scale of the issue problematic (Nurse, 2013).

For images confronting consumer participation in trafficking to be effective, identifying participants and motivations is critical. Traffickers run the spectrum from organized criminals to impoverished hunters; corrupt officials and consumers; and legitimate business people (Sollund, et al. 2015). While motivations of these individuals may differ, multiple sources indicate that across the trade as a whole, the main impetus for trafficking is consumer demand for luxury goods. (Sollund, et al. 2015; Baker, et. al, 2013). With the steady increase in human population growth and concurrent rise in economic prosperity among developing nations, the demand for live wildlife and wildlife products also rises. (Baker, et. al, 2013). One example of the connection between social status and the collection of wildlife occurs in China, where the acquisition of exotic pets is an indicator of wealth and privilege; birds and turtles are increasingly fashionable (Zhou, 2015). Personal position of animals which signify financial success influences and perpetuates the desire of individuals to collect species in order to attain and demonstrate status (Zhou, 2015).

Another association between affluence and the consumption of trafficked wildlife comes out of a study investigating the demographics of wealth and social status on the increasing consumption of wild animal meat in Vietnam (Drury, 2011). In this context, the author indicates that wildmeat is derived from trafficking, unsustainable hunting, or poorly regulated wildlife farms which in fact participate in the illegal trade as source of captive animals; meat from these farms is considered inferior in quality by comparison to

meat from wild captured animals, further compounding the problem (Drury, 2011). The scale of trafficking for meat is difficult to measure but one 2003 estimate by the Vietnamese Forest Protection Department indicates that 120 animal species and 200 bird species had been locally extirpated as a result of overhunting during the past 40 years (Drury, 2011). The perception of rarity and limited access to these products leads to consideration of their consumption as a symbol of affluence and status, available to consumers in fashionable, urban settings where professional and social pressures are implicated as an added incentive to partake in wildmeat consumption (Drury, 2011).

Alarming, animals identified as endangered species are subject to increased threat from wildlife trafficking when rarity becomes a driver of desire and interest in collecting and killing these animals intensifies to meet a lucrative demand (Sollund, et al. 2015). As species become ever rarer as a consequence of human over-exploitation, these anthropogenically generated declines lead species toward extinction as a result of reduced population size, negative growth rates, mate shortage and other factors (Courchamp, et. al 2006). The human-induced impact on rare species is termed “The Anthropogenic Allee Effect,” and suggests a correlation between rarity and the market value of the species, one that creates a spiral of demand that magnifies population decline as value increases, creating an ‘extinction vortex’ (Courchamp, 2006). The authors stress that the relationship between rarity, value, and extinction is difficult to prove due to the complexity of the systems involved (Courchamp, 2006). Because the consequences of the value driven trade in endangered species are significant, I suggest that the precautionary principle should be applied and that the likelihood that rarity is a driver of

extinction be considered in approaches to preventing trafficking, including the use of visual art to communicate this problem.

The misguided nature of the perception that wildlife trafficking is a ‘victimless crime’ is emphatically indicated throughout the literature. Using psychological terms drawn from Green Criminology, traffickers are described as ‘neutralizing’ the animals, creating a ‘denial of the injury’ and ‘denial of the victim’ (Sollund, et al. 2015). Some collectors are identified as exhibiting addictive behavior, demonstrated by a pathological need to collect animals (Sollund, 2015). Likewise, Nurse describes the behavior of some collectors as “obsessive” (Nurse, 2013). Some wildlife traffickers interpret the conservation action of listing a species as endangered as a tacit stamp of desirability and value in trading that species, thus increasing the possibility that the species will be exploited in the trade (Courchamp, et. al 2006). Financial incentives function as the impetus for wildlife and wildlife parts trafficking, attracting participants to kill or collect animals to supply the lucrative illegal trade (Sollund, et al. 2015). The perception of trafficking as a low-risk, high reward activity escalates poaching activities, while poverty and criminal exploitation of local hunters also fuel involvement in the supply side of trafficking (Lawson & Vines, 2014).

A complicating factor pinpointed across the literature is that the illegal trade operates in conjunction with the legal trade in animals (Nurse, 2013; Sollund, et al. 2015; United Nations Office on Drugs and Crime, 2016). These authors identify that within the legal trade in animals (for example as pets, for trophy hunting, and for medicinal use), illegally traded animals are often intermingled with legal species to obfuscate sources and confound identification. Lack of information about species overharvesting and population

trends impact species including elephants, tigers and rhinoceroses (Wittemyer, et al., 2014). As of 2011, the trade in ivory, tiger bone, and rhino horn were pinpointed as the most profitable illegally traded products (Lawson & Vines, 2014). Because these protected species are killed illegally, estimating the impacts and killing rates is difficult (Wittemyer, et al., 2014).

An important aspect of regulating the illegal wildlife trade is the need for images and education to support greater accuracy in species identification. In the UK and Norway, changing and complicated lists of threatened and endangered species, and inability of customs officials to recognize regulated animals confound proper species identification (Sollund, et al. 2015). Although the focus of this thesis is on the use of art to raise consumer awareness of trafficked wildlife, an important side note is that visual art, in particular, photography and scientific illustration, can be leveraged to increase the capacity of enforcement agents to correctly identify species.

Understanding which species are in greatest demand in specific nations will assist the creation of artwork to develop appropriate images targeting consumers. In *Rough Trade: Animal Welfare in the Global Wildlife Trade*, (2013), mammals were reported as a trafficked taxon 2-4 times more often than other categories, with the following rankings for other taxa: reptiles 24%, birds, 19% and amphibians, 11%; these representative categories held across all countries reported (Baker, et. al, 2013). The authors indicated that these distributions across taxa may or may not reflect a bias toward mammals in the trade. The reality that trafficked mammals are likely to attract attention from greater numbers of researchers, are conspicuous, and are often traded on request in smaller individual numbers in comparison to amphibians, birds, and reptiles (for example, a

single illegal shipment of turtles may comprise many thousands of individuals) creates difficulties in cross-comparing proportions of taxa traded (Baker, et. al, 2013).

The wildlife pet trade is a central element in illegal trafficking of animals, one that I suggest is of particular concern due to sustained animal welfare concerns in the capture and keeping of exotic pets, as well as the prevalence of US consumer participation in the illegal pet trade. Additionally, the exotic pet trade encompasses a large number of taxa, including insects, arachnids, molluscs, fish and other vertebrates, such as reptiles amphibians, birds, and mammals (Courchamp, 2006). The pet trade (including both wild and domestic animals) is also poorly regulated in comparison to existing regulations governing wildlife trafficking (Lavorgna, 2015).

The pet trade is described by the United Nations Office on Drugs and Crime as a major industry in wealthy countries such as the US and the UK, where exotic pet species preference varies by location (United Nations Office on Drugs and Crime, 2016). The United Nations study also describes that pet breeders can create demand for illegal wild capture of species, through efforts to maintain and increase genetic diversity in captive breeding stock. The pet trade is implicated in trafficking where the capture and sale or display of captured animals can be a source of income; demand for species could exceed sustainable wild take and capacity to produce captive bred animals, resulting in illegal trafficking (United Nations Office on Drugs and Crime, 2016).

Motivations for keeping animals as pets vary among consumers. For example, poverty and lack of information influence the capture of wildlife as pets in Colombia; especially favored pets are monkeys and parrots (Sollund, et al. 2015). According to the Colombian conservation organization Proyecto Titi, whose mission is to conserve the

critically endangered cotton-top tamarin (*Saguinus oedipus*), the majority of residents in rural communities do not differentiate between keeping captive wild or domestic animals as pets. These populations also do not recognize the consequences of removing a wild animal from its natural habitat to keep as a pet; Proyecto Titi has comprehensive, community-based education programs geared toward changing these attitudes (Proyecto Titi, 2018). Population movement from rural to urban in Colombia has brought the practice of keeping wildlife to the cities, where traffickers operate through a complex network with many players, usually beginning with poor indigenous individuals who collect the wild animals. Law enforcement in Colombia puts focus on the middlemen who receive these animals (Sollund, et al. 2015).

As human populations increase and become more densely urbanized, demand to see and experience animals also surges upward: zoos and other locations where species in captivity can be viewed by audiences grow in significance (United Nations Office on Drugs and Crime, 2016). The increase in demand for viewing animals in captivity is also noted in the work of Kalof, et. al (2011), who express that there is a need to develop appropriate animal representations -beyond seeing captive animals- to balance and respond to the depleted first-hand experience of animals that is the experience of many in contemporary urban cultures (Kalof, et. al 2011). The observation that animal representations can play a role in building awareness, interest, and compassion for animals is a thematic axis of this thesis.

Increasing visibility of the illegal wildlife trade is essential to creating awareness and inspiring efforts to confront the problem. WildAid communicated the results of a 2016 United States survey about wildlife trafficking; only 18% of those surveyed

reported having “heard a great deal” about the illegal trade, with those respondents most aware of highly visible species such as elephants and sea turtles. Only 16% of the respondents described wildlife trafficking as strongly impacting their local community (WildAid, 2016). In a survey of publications from 2006-2011 discussing animal welfare in wildlife trafficking, Baker, et. al (2013) identify North America and Europe as major markets for consumers, rather than producers, of trafficked animals and animal products. They describe the most common product categories (in descending order of prevalence) as food and luxury items, traditional medicine, and entertainment and pets. (Baker, et. al, 2013). The lack of awareness of the illegal wildlife trade among the US public belies the reality that this country is one of the largest consumers of trafficked goods globally.

A 2015 Defenders of Wildlife report looked at internationally imported wildlife entering the United States, evaluating data collected between 2005-2014 by the Fish and Wildlife Services Law Enforcement Management System (Indenbaum, R. 2015). They found that illegal wildlife products – both live and dead animals or animal parts- enter the U.S. from 214 countries. Shipments were denied at 64 entry ports and 77 different kinds of products – including 900,000 single feathers and 550,000 products made from shells- were transported into the U.S. consumer market. In total, this analysis uncovered greater than 4.8 million pounds of caviar, fins, and meat, over 660,000 animals, and 5.5 million discrete wildlife products and parts seizures over the nine-year assessment period (Indenbaum, R. 2015).

It is important to remember that these are figures of goods that were seized; the actual number of live animals and animal products entering the country is no doubt significantly greater. A *Washington Post* infographic expressing data on the trade in ivory

and rhino horn illegally entering the United States shows that at JFK Airport, just 4 police officers and 6 inspectors are responsible for monitoring 1.3 million tons of cargo passing through the port annually (The Washington Post 2014). In another measure of the scope of trafficked products entering the US, the National Wildlife Property Repository outside of Denver, CO, houses approximately 1.3 million tons of wildlife products forfeited or seized by the US Fish and Wildlife Service; this figure does not account for live animals trafficked in the US (U.S. Fish and Wildlife Service National Wildlife Property Repository, 2018).

The complexity of creating and enforcing laws related to wildlife trafficking contributes to challenges in curtailing wildlife crime. Across the literature, varied and inconsistent responses to trafficking by independent nations are regarded as barriers to preventing wildlife crime (Nurse, 2013; Sollund, et al. 2015; United Nations Office on Drugs and Crime, 2016). In addition, availability of resources and person power at border controls to inspect cargo for trafficked species is limited. National policies of enforcement may be wide ranging in efficacy, and also reflect disparate levels of understanding the severity of issues surrounding wildlife crime.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is the legal framework most empowered to regulate wildlife trafficking. However, numerous problems with CITES enforcement have been identified. Many species -in the millions- are currently not regulated, and are subject to illegal trafficking; additionally, illegal wildlife harvesting (i.e. domestic poaching and national wildlife trading) is outside the scope of CITES, which only has international jurisdiction. (United

Nations Office on Drugs and Crime, 2016). CITES enforcement is further weakened by lack of adequate enforcement, prosecution, and penalties (Sollund, et al. 2015).

In addition to enforcement through legal channels as a means to control trafficking, conservation NGOs should emphasize educating people to increase support of wildlife protections (Sollund, et al. 2015). Education -beginning at the earliest age- is critical in stopping consumer purchase of illegal wildlife products (Sollund, et al. 2015). Media is a powerful force for public education, and there is currently a problematic lack of visible stories about trafficking (Sollund, et al. 2015). The identification of the need for conservation organizations to support education to prevent wildlife trafficking ties directly to my thesis research. Likewise, implicating media as an underutilized format for communication to raise awareness around the illegal trade in wildlife links to my examination of the contributions of art to anti-trafficking communication.

Daylighting the problem of wildlife trafficking in the US and providing educational resources, such as visual images and creative art exhibitions that inform about the intensity of the problem are essential. An example of the impact of education is expressed in participant responses to the WildAid survey questionnaire. After viewing educational information incorporated into the survey, 90% of the respondents indicated opposition to the trade (WildAid, 2016). Psychographic and demographic groups most receptive to messaging and education about wildlife trafficking were individuals who have previously bought wildlife trinkets or souvenirs, frequent domestic travelers, African Americans, rural residents, and millennials (WildAid, 2016). The report summary did not provide additional details about why these participant categories were

more influenced by the educational materials; this kind of information will be especially useful to the development of visual images addressing wildlife trafficking.

Education is vital in efforts to increase awareness of wildlife trafficking. Of the extensive numbers of individuals (~4,500) surveyed by Courchamp, et. al (2018) regarding the conservation status of endangered animals identified as ‘charismatic,’ approximately one-half incorrectly described the declining status of the animals. The three animals that received the highest percentage of correct responses to the identification of their endangered status were the polar bear, tiger, and panda (14.5%, 21.3% and 22.2% incorrect responses, respectively). The species with the highest number of incorrect responses was the giraffe, with 60.1% of participants misidentifying the conservation status of this animal (Courchamp, et. al, 2018). The authors attribute the higher awareness of the status of the polar bear, tiger and panda to the unusual success of conservation campaigns in communicating with audiences about the salient issues impacting the survival of these animals (Courchamp, et. al, 2018). To clarify, for this study, multiple species were grouped together i.e. African and Asian elephants were considered ‘elephants’; therefore, the authors refer to the animals in the study as ‘animals’ not ‘species’.

Determining preexisting audience knowledge about wildlife trafficking is strategically relevant to designing appropriate educational tools. An important finding identified by the WildAid survey is that those who self-describe as ‘in favor’ of the illegal trade in wildlife were more apt to incorrectly answer true/false questions about trafficking. This reveals that those in favor of trafficking represent an uninformed

population, further recommending education as central to broadening awareness and influencing perceptions of this problem (WildAid, 2016).

While the results of this study appear to be a concerning indicator of the low awareness of wildlife trafficking within the US population, the questions asked by the study, number and locations of participants surveyed, and survey methods were not provided in the summary, and I could not locate the full report to better understand and evaluate the scope of the research. Because the United States consumer market for illegally traded wildlife is a major contributor to the demand for these goods, additional insights into consumer motives for participating in the trade and how animals and animal products are ranked relative to other status objects will support the creation of responsive and appropriate pro-conservation images. Additionally, the current paradigm of using endangered charismatic mega-fauna to communicate about wildlife trafficking must be closely examined to ensure that accurate messages are portrayed and understood.

There is an assumption by the Western public that charismatic endangered species are adequately protected because of their prevalence in conservation campaign images and a parallel lack of mobilization and sense of urgency in response to the crisis of species endangerment (Courchamp, et. al, 2018). In *The paradoxical extinction of the most charismatic animals* (2018) the authors identify a “mismatch between the virtual presence and natural presence of these particular species” as a consequence of the proliferation of these species in cultural, commercial and creative works (Courchamp, et. al, 2018). The authors conclude the article by mentioning that the extinction of these species -which would be a terrible tragedy for conservation- could also weaken the conservation movement as a whole through the consequences of public response to the

extinction of animals that have long been held up as standard bearers for the movement (Courchamp, et. al, 2018). Anti-trafficking visual arts projects must be strategic in the use of flagship animals, to avoid creating public misperceptions concerning conservation status and population stability, or even accelerating trafficking by increasing interest in and demand for endangered species. Reconsidering the emphasis on depictions of these species, and choosing instead to produce images of other trafficked animals, may result in a positive outcome: drawing attention to the immense range of under-recognized species impacted by trafficking.

In considering how to use visuals to advocate for the cessation of demand and consumption of illegally trafficked goods, it is critical to consider the welfare of the animals impacted by the trade. Beyond the problems caused by illegal wildlife trafficking on the human scale, the depth and breadth of non-human animal suffering inflicted by trafficking is foremost and essential to acknowledge to understand this problem fully, and to inform the creation of impactful visual representations designed to reduce this crisis. The suffering of sentient beings as a consequence of capture, captivity, and death, along with the loss of their inherent right to survive and thrive in natural habitats must be considered in developing solutions to this issue (Sollund, et al. 2015).

In spite of the growth of the illegal trade in wildlife, there is limited research into the welfare of impacted species - a concerning absence of information considering the steady increase in global trafficking (Baker, et. al, 2013). Species capture often includes cruel handling and inhumane conditions, resulting in high mortality rates for trafficked species; for example, parrots, rare birds, and reptiles experience a 90% death rate during trafficking (Sollund, et al. 2015). Brutal transport practices such as overcrowding,

confinement in small spaces, dangerous levels of sedation, intentional injury, and concealment of drugs in living animals may be inflicted upon trafficked animal victims (Sollund, et al. 2015). Even when animals are discovered by agents, they are not necessarily rescued: for example, in Norway they are often euthanized, and in the UK, animals may be sent to locations such as zoos and sanctuaries.

That relocated animals are able to continue living is no guarantee of their welfare or ability to thrive. Holding facilities for trafficked animals may lack proper licensing, and animals may be kept for extended periods in what ought to be temporary housing (Sollund, et al. 2015). Further, limited housing for rescued species may result in animals being returned to their country of origin, where they may face further victimization (Sollund, et al. 2015). In Colombia, where efforts are made to return endemic trafficked species to the wild, many animals have been so brutalized during the trafficking process that release is impossible. With lack of cooperation from traffickers, who are often reluctant to reveal where animals are sourced, releasing animals to their original habitat is often challenging or even impossible (Sollund, et al. 2015).

In closing this section, it is important to briefly remark on scholarship pertaining to the moral imperative of species conservation. Within the Conservation Biology community, some researchers express that the extinction of species as a consequence of human economic activities is morally allowable, as long as ecosystem functions of benefit to humans persist and any ecological destruction caused by our behaviors avoids negative consequences for people (Cafaro & Primack 2014). In contrast, it is asserted that economically-centered frameworks dwell too heavily on human financial benefit, reflect an anthropocentric selfishness, and too easily and conveniently absolve individual and

collective destructive actions (Cafaro & Primack 2014). By degrading habitat and extracting resources to such an extent that species extinction is the outcome, humans are culpable of bringing "...a valuable and meaningful story to an untimely end" (Cafaro & Primack 2014).

There is increasing recognition that conservation science, which originated in a period where conventional thinking indicated that animals were simplistic and unfeeling, is primed for reevaluation of foundational frameworks, allowing for the potential to adopt new models, such as those embracing recent advances in understanding animal sentience (Keim, 2018). Current critiques of conservation's proclivity for emphasizing populations and species, without attention to the welfare of individuals, is transforming the mindsets of some conservationists, who are adopting the descriptor 'compassionate conservationists' (Keim, 2018). This term references the requisite need to consider the well-being of individual animals as part of a holistic approach to biodiversity conservation (Keim, 2018). Commentary on the history of the environmental movement is embedded in this perspective. In the US, early 20th century wildlife conservation plans were hunting-focused, and animal welfare concerns were siloed (Keim, 2018).

As animal welfare and conservation science increasingly find common ground, challenges and debates will take place, and creative approaches and mindsets for redefining conservation will develop. Importantly, by recognizing the intrinsic value of individual animals' well-being within the fabric of biodiversity conservation, space for innovative approaches open. I suggest that visual art can help to shape and present this transformed perspective, particularly in expressing the problem of wildlife trafficking. The following sections express the possibilities for, and timeliness of, contributions of art

to conservation science and present ways that art can uniquely communicate the illegal wildlife trade while advocating for biodiversity conservation.

Section 2 Map: Visual Art for Conservation: Efficacy and Value

Section two will review literature describing efforts to expand collaboration between artists, conservation scientists, and conservation organizations. These collaborations are interdisciplinary partnerships that strive to identify shared interests and common aims, creating and maintaining pathways to sustain collaborative projects across fields. Effective collaborations among professional categories will be presented, along with challenges and barriers to cross-disciplinary work. I will look at what these collaborations reveal about current needs in this field, and ways that addressing gaps can promote higher-functioning collaborative work and share examples of literature expressing art's value in stylistically and conceptually impacting audiences. These examples will center on research about climate change visuals, art expressing harmful environmental events (including representations of sudden violence, such as oil spills), and the use of art at scientific conferences. These examples have an existing body of peer reviewed literature, whereas to date I have found no studies evaluating the efficacy of visual art specific to the problem of wildlife trafficking. My thesis addresses the lack of information and research addressing wildlife trafficking visuals, an area where further research is currently needed.

Section 2a: Why Art?

Rather than presenting pictures as mere illustrations, as passive mirrors that simply reflect historical change, I instead consider images as active rhetorical agents.

-Dunaway, F. *Seeing green: The use and abuse of American environmental images*

Many people working in ecology or the environment spend a lot of time working on depressing issues, e.g., biodiversity decline or climate change. The arts have a role in uplifting the spirits and reinvigorating people...

-Curtis, et al. *Communicating ecology through art*

Art making is an essentially human practice. It is one of a core set of behaviors that distinguish humans from other species. Millennia of artistic and creative expression and the ties between these practices and our cultural development as a species are frequently invoked as markers defining our humanity. Human evolution has traversed a biological, evolutionary course. In addition, the evolution of humans is fundamentally defined in relationship to the origins of art, with its imaginative and emotional representation of ideas (Douglas, 1974). Art, with its intimate ties to the development of human cultures, allows humans to represent and make meaning out of natural phenomenon. The representation of the natural world through visual art facilitates a hybrid understanding of both the physical and spiritual importance of nature (Hicks, et.al, 2007). To increase ecological literacy and human engagement with nature, effective artistic expression of environmental subjects and themes is critical (Hicks, et.al, 2007).

Recognition of the methods shared alike by science and art helps to sharpen understanding of common standards and practices applied uniquely within these fields. Appreciation and respect for the common practices shared by science and art can be a starting point to amplify and expand upon practices shared across disciplines. These intersections allow for creative propagation of new communication models. One example of an attempt to foster connectivity between the arts and science is a study describing the impacts of art integrated into the structure of an ecology conference, *Communicating Ecology Through Art: What Scientists Think* (Curtis, et al., 2012). At the Ecological

Society of Australia conference art was intentionally infused into the conference for the following purposes:

- to provide reflection by scientists on how art could be an effective communication tool

- to give participants an opportunity to acquire information

- to show how the arts can succinctly communicate challenging information

- to provide a sense of community, enjoyment, relaxation

- to improve conference logistics

- to create a memorable experience

(Curtis, et al. 2012)

Conference attendees were surveyed about their experience of the arts-infused program; despite 50% of responders indicating they better understood the role art can play in communicating science to a larger audience, only 24% of the survey participants said they would think about using the arts in their own work in the future (Curtis, et al. 2012). While these are positive findings in that half of the participants made strides in understanding the value of art in relationship to science communication, the numbers indicate that a barrier remains for the majority of attendees in adopting creative methods to express their scientific work. The authors emphasize that few studies have been done to gauge the interest of scientists in adopting the methods of visual art to express science and emphasizing that art can play a role in raising awareness of ecological problems, much as it does in use for consumer marketing. They further assert that the lack of action on the part of scientists to engage artists in their research is an ‘all important’ area for additional research (Curtis, et al. 2012).

Several aspects of the Curtis study are relevant to my thesis. As the authors conclude, more research on the topic of arts-science collaboratives is required to tease out the reasons that scientists are reluctant to incorporate art in their work: does it indicate lack of practical knowledge about arts integration, a perception that art isn't effective for science communication, or some other barrier? The researchers in this study identified a key reason for the lack of scientist participation with artists: a failure to incorporate art education in schools. Out of 77 undergraduate and graduate environmental programs the authors surveyed, none included coursework in the arts (Curtis, et al. 2012). The theme of education and the power of art to function as an interpretive, informative, and expressive mechanism to explain complicated concepts are essential definitions that surface repeatedly in the literature.

An example of a successful collaboration between artists and scientists is found in the Electronic Visualization Laboratory (ELV) project at the University of Illinois, Chicago. In this collaborative, artists interpret research and offer ways to communicate knowledge derived from science (Sandin, 2006). Embedded educational programs train artists in the vocabulary of science, in parallel with training scientists in art techniques, toward establishment of a common, multi-disciplinary language. Professional attributes of artists which parallel those of science include communication and attention to organization and quality, traits which are fostered by professional necessity: artworks are generally exhibited for public scrutiny and scientific research must be reviewed and published. Through collaborative projects at ELV, scientists described increased understanding of how to represent concepts underpinning their work. Similarly, because

science generates socially significant findings of high value, scientific information can serve as a rich source of inspiration for artists (Sandin, 2006).

The conservation organization Natural Resources Defense Council (NRDC) is another group which has pro-actively engaged with artists to communicate about organizational conservation campaigns. According to NRDC Artist in Residence Jenny Kendler and NRDC Manager of Arts Partnerships and Events Elizabeth Carr, there is growing awareness on the part of organizations in the value of engaging artists as collaborators in support of campaign efforts. Kendler and Carr describe that artists have long expressed interest in collaborations and opportunities to reach new audiences concerning important ecological topics (Kendler & Carr, 2016). For more information about Jenny Kendler's creative practice, please see the interview with this artist in Appendix B.

In the case of the Kendler-NRDC collaboration, artist Kendler connected with National Resources Defense Council after seeing other collaborative projects produced by the organization. These projects demonstrated an organizational understanding of how artwork can be used in ways outside of typical marketing and design functions (Kendler & Carr, 2016).

Kendler and Carr further recommend the following toward the development of artist-scientist-conservationist collaboratives:

- More funding for projects connecting (usually siloed) environmental programs and arts/culture programs
- Increased knowledge within environmental organizations around the needs of artists, including compensation

-Better communication from artists about their unique skill sets and how they can bring these to play in environmental communication

-Organizational staff who understand, value, and support the work of artists

(Kendler & Carr, 2016).

These examples of cross disciplinary initiatives to communicate conservation science through art describe challenges yet to be addressed, areas of success, and nascent possibilities for development. How audiences respond to the works generated by these collaborations will be addressed in the following sections.

Section 2b: How We See, Understand, and Interpret Images

...gazing out the train window at a random sample of the Western world, I could not avoid noticing a kind of separation between human beings and all other species. We cut ourselves off by living in cement blocks, moving around in glass-and-metal bubbles, and spending a good part of our time watching other human beings on television. Outside, the pale light of an April sun was shining down on a suburb. I opened a newspaper and all I could find were pictures of human beings and articles about their activities. There was not a single article about another species.

-Jeremy Narby, *The Cosmic Serpent: DNA and the Origins of Knowledge*

This section describes research about decisions to include or exclude information from visual images and how these choices influence people's perceptions of animals. The literature on visual brand marketing is described, conveying findings from visual marketing studies, including research on development of visual brand identity. This includes a description of how brands create *schema*: memories identifying the characteristics and feelings associated with a specific product. This section also considers the variability of cultural interpretation of images. The importance of consumer identification of a given product will be related to concepts central to my thesis- that anti-wildlife trafficking imagery, and collaborations between artists, scientists and

conservationists can benefit from understanding branding concepts. The use of the well-researched methods for creating memorable images can be applied to support anti-wildlife trafficking imagery, ideally resulting in predictable and measurable consumer responses.

Second, research on image content will be presented, including studies describing changes in audience perception of the endangered species status of animals, based on the context of the depiction. Inclusion of people, captive vs wild settings, animal condition, and anthropomorphization of an animal (such as a depiction of an animal wearing clothing) can all impact perceptions of animals. Third, cultural interpretation of various image types will be considered. Because wildlife trafficking is an international problem, knowledge about how images are understood in varied cultural contexts is essential if the goal is to influence how people think about and participate with wildlife trafficking. Finally, there will be discussion of how depictions of animals can generate empathy and an ability for humans to see other animals as similar to ourselves.

Section 2c: The Impacts of Visual Media Consumption

We live in an extraordinary time in visual culture. Images are pervasive and constant, part of daily interface with our environment. From store ads to highway billboards; magazines, brochures, and books; across the internet, television, and video games, in movies and digital media formats, visual messages envelop us. Yet, these images depict few representations of animals, and far fewer which build knowledge about their lives and draw us into their stories.

In *Animals in art: Some trends across three millennia* (1987) Baenninger surveyed almost 1,700 paintings included in the catalogues of 17 major European and

American museums, noting a pervasive drop in the depiction of animals over time across the selected works. In paintings from Egyptian and Persian antiquity, 60% of the works included animals. In contrast, 15% of paintings from the 20th century either centrally or peripherally represented animals. The author found similar declines in numbers of animal images in art history texts, noting that these artworks were selected for educational use rather than popular viewing, and included more works from the 20th century. The purpose of these surveys was to test the hypothesis that animals have become less important in modern societies. The author concludes that animals are less important in the creation of elite artworks but still play a role in the visual aspects of popular culture; this is backed up by evidence that depictions of animals on coins have increased (Baenninger, 1987). He states that acclaim is given to painters who work with abstract themes but that contemporary wildlife painters are regarded as ‘sentimental panderer(s)’ with a wistful longing for the past and that animal art is to be found only in the context of home decoration, on greeting cards, and calendars.

Baenninger puts forward the idea that ‘serious art’ does not include animals, identifying this exclusion as a cultural phenomenon: “Like most people in the modern world, critics, curators and painters have little to do with animals, are relatively independent of them, and experience little to no sense of awe of them” (Baenninger, 1987). He goes on to broadly identify a decline in connection with animals in modern society; because we presently have less to do with animals - except as domestic pets- their depictions are less frequent, “... other species are no longer central elements of great symbolic, social, or economic significance” (Baenninger, 1987).

Because Baenninger's research took place over thirty years ago, it appears to ride the undercurrent of 20th century conclusions about painting, such as the influential and lasting assertion in 1935 by Kenneth Clark – in parallel with similar ideas from artists and other cultural critics-that painting was no longer of interest and dead as an art form (Hammer, 2013). Additionally, *Animals in art: Some trends across three millennia* excluded surveys of publications from museums in Asia, Africa (except Egypt- curiously identified as 'European' in this study) and the global south. While his examples of the decline in the depiction of animals in painting over millennia are compelling, these biases, perhaps representing the time when the research was conducted, make Baenninger's generalizations about the lack of interest, experience, and reverence for animals in contemporary culture difficult to square with the impact of animals in media detailed in the next sections. The burgeoning interest in animal depictions in artist-scientist-conservationist collaboratives will be expressed in both the following section along with the interview discussion of this thesis.

In building a case for the impact of animals in visual imagery, the study *How visual brand identity shapes consumer response* provides information about the efficacy of ad imagery in conveying the concept or the "branding" of a product and how consumers develop positive or negative relationships to brands (Phillips, et al. 2014). Their research identifies the concept of Visual Brand Identity (VBI), or the total qualities of a visual ad, which collectively produce brand identity. The authors describe how consumers process VBI through several conceptual frameworks, including *Familiarity* and *Congruence*. *Familiarity* describes how a brand is retained in consumer memory, while *Congruence* is the feeling of familiarity in addition to how a given brand fits a

person's larger, personal, sense of identity. Conversely, an unfamiliar brand will be harder to recall, and an incongruent brand will create feelings of uncertainty and risk within the consumer. These negative qualities make engagement with a brand less likely (Phillips, et al. 2014).

In *Multicultural challenge: A visual-cultural guide to coping in the global era* (2011), Aall expresses how familiar imagery is a device in postmodern artworks, used to convince an audience to pay more attention to the image content. In the case of fine art, the author asserts that this sense of familiarity creates feelings of needing and wanting to understand what is being expressed in the image (Aall, 2011). Because the consumption of ads is a passive activity (since advertising is ubiquitous and does not need to be specifically sought after) feelings of *Familiarity* and *Congruence* in consumers are central to the development of brand perceptions (Phillips, et al. 2014).

Phillips, et. al further identify the importance of *schema*, which are relatively unchanging mental templates ordering and retaining complex knowledge and memory. Mental schema form in our brains through repeated exposure to visual and verbal information. Through repetition, familiarity develops. In the context of marketing, familiarity can affirm positive or negative feelings toward a brand (Phillips, et al. 2014). In *Animals, archetypes and advertising* (2013), the author describes cultural schema, which are schema extending past individual memories to our collective, cultural memory. These cultural schema function subconsciously as "... a loose network of shared knowledge that consists of a central concept and its associated beliefs, values, and objects" (Lloyd, 2013). Animal symbols are especially potent and resonant with culturally specific associations (Lloyd, 2013). Lloyd goes on to describe how consuming

specific brand goods can have a fetishistic aspect, such as purchasing a guitar of the same brand used by a revered famous performer, with the belief that this specific kind of guitar will confer the talents and abilities of the skilled player onto the purchaser (Lloyd, 2013). Animals can similarly be used in an advertising context as ‘fetish’- magical objects which confer protective, healing, or other kinds of power- or ‘totem’- objects or concepts with deeply rooted spiritual and cultural meanings (Lloyd, 2013).

Similarly, in a recently published study that measured the frequency of virtual representations of charismatic endangered animals, researchers recruited volunteers to count the number of representations of animals seen in images such as logos, artworks, films, products, etc., over 7 consecutive days (Courchamp, et. al, 2018). They observed that the volunteers saw 4.4 lions on average per/day, which amounts to two to three times as many virtual depictions of lions (if extrapolated to the number of representations seen over a year) than the entire current population of actual lions living wild over their range in West Africa. The authors call out the reality that for most people, exposure to animals occurs through images, or as they describe the concept, ‘virtual’ populations of animals, making it unsurprising that perceptions of animal conservation status are so distorted (Courchamp, et. al, 2018).

In the Phillips study, which looked at how professional graphic designers and non-professionals responded to various familiar or less familiar versions of Campbell’s Soup ads, the authors found that both audiences preferred ads which met pre-formed schema and aligned with expected norms for product branding. Further, both visual professionals and members of the general audience who had training in art or an

inherently stronger sense of aesthetics were more impacted when ads deviated from expected brand identities (Phillips, et al. 2014).

Anti-wildlife trafficking messages in visual art can deploy the concept of creating mental schema within audiences, allowing images about wildlife trafficking to function in much the same way as branded products, leading to familiarity and engagement with this issue. The purpose of these visuals would be to create a negative association with wildlife trafficking and a positive association with conservation behaviors and actions. In contrast to the prevalence of ad imagery for assorted consumer products, visuals which describe and represent animals- much less the problem of wildlife trafficking – are uncommonly presented, limiting public exposure to this topic. Adoption of product advertising tactics that convey a sense of urgency and importance about wildlife trafficking, along with increased access to platforms and visibility for these kinds of images, will support the development of mental schema about this topic, increasing awareness of the problem of wildlife trafficking.

Animals are already well-represented in effective visual advertising for other purposes. In *Animals, archetypes and advertising* (2013), the author explains that the proliferation of animal characters and symbols in advertising is due to advertisers' awareness and use of the fetishistic and totemic symbolism of animals, qualities which confer these meanings to the brand advertised (Lloyd, 2013). Lloyd goes on to identify a two-way exchange where the archetypal qualities of animals influence the creation of specific types of ads and in turn influence the way that people interpret the ads. The author identifies the animals whose images dominated 20th century advertising as: the dog, the horse, and the bird. The most commonly used animal in advertising of that

century, the horse, imparted symbolism of strength, energy, war, and mastery to the products it was linked to (Lloyd, 2013). Visual art on the topic of wildlife trafficking can also subvert the consumerist paradigm by promoting awareness about this ecologically impactful topic. Anti-wildlife trafficking advertising can meet a need to ‘consume’ or support a product, while concurrently acting to educate and inform audiences’ actions in support of conservation. An added step, which I advocate for in this thesis, is redefining and expanding engagement between artists and conservationists to develop innovative visual projects against wildlife trafficking (and other ecological issues), applying lessons learned from the psychology of consumer advertising to the arsenal of visual arts environmental advocacy.

While I have been unable to locate research on the efficacy of images to communicate the problem of wildlife trafficking and influence peoples’ attitudes and behaviors on this topic, there is an existing body of research on the use of visual imagery to represent climate change. In *Climate change and visual imagery*, the authors critique the lack of research on the efficacy of representative forms to influence public perception despite the common use of images by media, organizations, governments and scientists (O'Neill & Smith, 2014). The authors also note other problematic qualities of images: that visuals are subject to multiple interpretations, based on cultural perceptions; that photographs must be used with caution because photography may be interpreted literally or as truth; and that we may fail to recognize that how we perceive and interpret pictures is in itself a social construct (O'Neill & Smith, 2014). To develop impactful images on the topic of wildlife trafficking, it is necessary to understand not only how we process and understand visual media, but also how interpretations of images vary between

cultures. As will be more thoroughly addressed in later sections, O'Neill and Smith (2014) emphasize the importance of cultural competencies in choosing images to allow for the 'correct' or intended interpretation of the image by audiences (O'Neill & Smith, 2014).

In their research O'Neill and Smith examined multiple sources of visual information to identify visual content in depictions of climate change (CC). Through surveys of newspaper images, they identified pictures of CC representing the following: people; causes, especially 'smokestacks'; local or distant impacts; and graphic information about CC. These studies relied on identification of single images as the unit of analysis. The authors describe that this evaluative method may be problematic, in that audiences may in fact interpret the image through combined messaging- understanding the problem by relating the article text and story imagery. They describe a consistent disconnect between article and image content, which can lead consumers in opposite directions in terms of textual and visual meanings (O'Neill & Smith, 2014).

Climate change and visual imagery also looked at Non-Governmental Organization (NGO) use of visual information, finding that these groups tend to use different image types from the representations in newspapers. NGO images depicted the following: ecological destruction, vulnerable development, and non-violent direct actions. They described the role of visual images used by NGO in CC communication as "bearing witness" to this problem (O'Neill & Smith, 2014). Similarly, in *Seeing green: The use and abuse of American environmental images*, Dunaway (2015) expresses that the spectacle of crisis and popular environmentalism are often intermingled visually. These kinds of images portray ecological problems as a personal responsibility, affecting

people by tapping into negative feelings, such as guilt (Dunaway, 2015). Dunaway further asserts that images have not as effectively addressed the responsibilities of corporations and governments for their role in these global problems (Dunaway, 2015).

In the *Climate change and visual imagery* study (2014), the authors discuss tactics used by Greenpeace, describing how the visuals presented by this organization lean heavily on the audience to deconstruct the meaning of the image as a threat to nature. They indicated that, for audiences, these kinds of images “may promote feelings of nostalgia, irretrievable loss, and shock” (O’Neill & Smith, 2014). The authors describe that strong reactions have been recorded among audiences viewing images showing receding ice and smokestacks. These images, called ‘fear-producing,’ get attention but can also cause feelings of being overwhelmed, detached, or disempowered (O’Neill & Smith, 2014). In *Advertising animal protection* (1997), the author addresses attention-getting images in the context of animal welfare media. The author cites past studies indicating the efficacy of “fear arousal,” which was deemed useful in changing attitudes in favor of animal welfare. Realistic depictions of animal suffering may invoke controversy. Yet at the same time, research suggests the tactic of showing suffering may be effective in generating empathy amongst audiences (Jones, 1997). Likewise, imagery inserting humans in the situation of animals or with animal characteristics may be effective in building empathy (Jones, 1997).

Conversely, Jones describes two unproductive ends of the spectrum of imagery about animals: images shielding people from the true dimensions of animal suffering, and offensive or inflammatory images, which lead to audience alienation from the issues represented (Jones, 1997). Because the definition of images as controversial or

appropriate is a shifting terrain based on context, cultural competency, and timing, more research into how people perceive and respond to images about animal welfare and wildlife trafficking is vital if pro-conservation campaigns wish to effectively use images. Further, conservation organizations and scientists must work more closely with artists to leverage the impact of images beyond their use in advertising. In *The dark side of environmental art* (2014) Chameides suggests that what is missing in the research about the impacts of environmental visuals are the voices of artists who are creating relevant works (Chameides, 2014), a finding echoed in the interviews I conducted with artists, expressed in detail in the interview discussion chapter.

Chameides identifies environmental art as falling into one of two categories: art that expresses the magnificence of the natural landscape (i.e. the artworks of the Hudson River School), and art that is quite the opposite, depicting devastation and the ruin of the environment (Chameides, 2014). The author describes his experience developing television ads for the Environmental Defense Fund to increase people's awareness and conversation around the dangers of climate change. Chameides identifies this project as unsuccessful and uses this lack of success as evidence that negative, fear inducing images impart feelings of disempowerment amongst audiences (Chameides, 2014).

Conversely, CC visuals which generate positive feelings in audiences include pictures of leaders signing agreements, climate protests, and -most positively received- pictures of people installing solar panels (O'Neill & Smith, 2014). Overall, the authors found that images promoting personal responsibility and action, with a behavioral shift toward use of renewable energy, were positively interpreted (O'Neill & Smith, 2014). These findings, indicating that imagery showing how we can intervene to address the

problem of CC has a positive impact on audiences, can be applied to an approach to creating impactful images about wildlife trafficking, perhaps in the form of images showing positive human intervention in wildlife trafficking.

In looking at how images are used by environmental NGOs with an eye toward leveraging visual art to change perceptions of wildlife trafficking, it is useful to understand how images can catalyze public perceptions and opinions. The use of a specific image or set of images can mediate how audiences consider and understand a particular topic. In *Seeing green: The use and abuse of American environmental images*, the author discusses the outcome of the use of images of oil-soaked otters and devastated pristine beaches following the 1989 Exxon-Valdez oil spill disaster in Prince William Sound, Alaska (Dunaway, 2015). These kinds of images sparked an intense popular outcry directed toward Exxon, but this outrage did not, critically, ripple outward to critique or challenge the policies and corporate actions driving oil-dependence at a larger scale (Dunaway, 2015). Emphasis on images of ‘sudden violence’ - incidents that are singular and marked by their egregious impacts on the environment- may result in neglect of actions for larger scale, long term problems of ‘systemic violence’ (Dunaway, 2015).

Likewise, the article *Art makes environmental change real* (2014), identifies a need to creatively express large-scale, long term environmental issues. The author argues that no matter how much scientific evidence for climate change is presented, presenting the topic through data and logic does not persuade disbelieving audiences in human-caused CC or convince them even that CC is happening (Chameides, 2014). Chameides explains that people’s evolutionarily hardwired attunement to local conditions and weather make it difficult for disbelievers to be convinced of the ‘systemic violence’ of

CC in the face of daily, personal and experiential evidence (Chameides, 2014). The author describes the involvement of artists as a means of engaging skeptical audiences. An example he cites is the work of artist Eve Mosher, who, in a climate change visibility project, draws lines on the ground in New York City (and other locations). These lines mark the height of a 10-foot sea level rise- the height of a 100-year flood, a kind of flooding event which would increase five-fold by midcentury under some climate models (Chameides, 2014). As expressed by my thesis, these kinds of artist-developed projects can make visible scientific findings, presenting academic knowledge in ways that demand public engagement.

The potential for images to create a hyper-focus on alarming problems while neglecting to raise dialogue about foundational causes of long-term challenges suggests a need for images that portray the underlying causes of the wildlife trade- not just those creating emotions about narrow topic or charismatic species. Because the problem of wildlife trafficking is global and impacts such a diversity of species, and because the harms and consequences of the trade are often invisible, the systemic violence and long-term implications of species extinction and other consequences of wildlife trafficking make amplified visibility of this problem vital.

In *Multicultural challenge: A visual-cultural guide to coping in the global era* (2011), Aall identifies the importance of being cognizant of cross-cultural interpretations of visual images and calls for increasing one's familiarity with imagery and interpretations of images from outside of one's own culture. The author further expresses that understanding art from other cultures is contingent on the identity of the viewer and how much familiarity one has with other cultures. For example, audiences who lack

cultural knowledge about the values, stories, and subjects depicted in artworks (such as in representations of cultural stories, myths, and legends) miss much of the meaning of these works (Aall, 2011). When works of art are transposed between cultures, contexts and interpretations are displaced and meaning is diminished (Aall, 2011). Aall pinpoints the global trend toward an increase in artistic freedom, resulting in appropriation and re-invention of culturally specific styles, imagery, and techniques across the globe, with advertising identified as a visual platform especially mailable to these kinds of cross-cultural reimaginings. Aall, who calls advertising “the child resulting from the three-way marriage of art, technology, and capitalism” describes advertisements as a creative form liberated from ethics, permitted to borrow from any culture or religion to get a message across (Aall, 2011). The suggestion that visual images can be so liberally adopted and used implies the need to reconsider ethics, especially concerning the use of animal imagery in the effort to curtail wildlife trafficking.

Esson and Moss further describe a challenge to their research that I came across in my surveys, particularly in Costa Rica: the desire to please the researcher with a socially appropriate answer or provide a response that the participant thinks the researcher wants. Another challenge to their work relevant to my own: language translation, and the possibility that biased or inaccurate translations may compromise research results (Esson and Moss, 2016). Because the creation of PMMs can include a combination of text and drawings, the authors regard this evaluative tool as particularly effective in cross-cultural research, especially when illiteracy may be a factor in assessing understanding (Esson and Moss, 2016). In designing an effective PMM project, particularly one that will be implemented in multiple cultures, the authors assert that it is essential to design a project

where the magnitude and direction of change in knowledge can be assessed (Esson and Moss, 2016). Evaluating understanding of conservation issues in cross-cultural education requires flexibility in methods and interpretation (Esson and Moss, 2016). Art, along with Personal Meaning Mapping - the method I used to evaluate study participants' responses to images of trafficked animals- can bypass barriers of literacy, language and culture (Esson and Moss, 2016).

Cultural differences are referred to by educators from Chester Zoo, UK, who distributed PMM surveys in countries including Mauritius, Tanzania, and India (Esson and Moss, 2016). They mention that when a classroom has a higher degree of formality (as was the case in Mauritius), the students experienced more influence from teachers, who attempted to mitigate responses (Esson and Moss, 2016). The researchers describe the ideal setting for their research as a space with free access to students not supervised by teachers, and with sufficient time to allow for post-study discussion to occur. An additional cultural element that influenced the outcome of the researcher's PMM study was the variation in cultural fluency and experience with art. They noted that student participants in Tanzania preferred to respond in words on the PMM, only later realizing that drawing was seldom used as an expressive form by the students in this culture, due in part to limited resources to create drawings both at school and in the home (Esson and Moss, 2016). Education is culturally sensitive, so educators must be adaptive in implementing instruction (Esson and Moss, 2016). This idea that the presentation of information is contextually and culturally dependent informs the design of my study and was considered in my effort to understand if and how distinct cultural groups may uniquely interpret images about wildlife trafficking.

Section 2d: Suggested Practices for the Use of Animals in Images

Natural species are the primary expressions and repositories of organic nature's order, creativity, and diversity. They represent thousands of millions of years of evolution and achievement. They show incredible functional, organizational, and behavioral complexity. Every species, like every person, is unique, with its own history and destiny.

-Philip Cafaro and Richard Primack, *Species extinction is a great moral wrong: Sharing the Earth with other species is an important human responsibility.*

Stylistic depiction can positively or negatively influence thinking about a subject (Phillips, et al. 2014). If the intention of the depiction is to generate a specific feeling or behavioral outcome, clarity about perceptions resulting from various images is essential to making informed aesthetic choices. *Animals and Media: A Style Guide for Giving Voice to the Voiceless* provides a set of research-based suggestions for representations of animals (Animals and Media, 2014). The authors suggest that when animals are included in ads, depictions should emphasize altruistic messages about animals, rather than reinforcing self-interested consumerism. Further, they argue that associating animals with products and brands can result in stereotyped consumer perception of a given species. Images which over-simplify and reduce animals to human-constructed roles such as “annoying or disgusting pests, cunning threats, rugged warriors, majestic nobles, beautiful exotics, comic jesters, cutesy playthings, objects of prey, or tools for human use,” limit and prevent understanding of species’ true complexity (Animals and Media, 2014). In *Advertising animal protection* (1997), Jones similarly questions a technique traditionally used by animal welfare organizations in their visual campaigns, anthropomorphism.

Anthropomorphism here refers to the application of human traits to animals in animal welfare visuals. This visual strategy is criticized by animal rights organizations for denying the intrinsic value and qualities of animals, adding that anthropomorphic ads can fall into the trap of reinforcing stereotypes about animals, if not created with careful consideration (Jones, 1997). An effective example of a visual communication tactic identified by groups working on animal rights issues are images depicting *contrasting animal treatments* (italics added) (Jones, 1997). These kinds of images include topics like before/after examples of animals who have formerly been maltreated but are now free or properly cared for.

Jones describes an ad by Animal Rights International depicting a cat and a piglet and posing the question, “Which is your friend, and which do you eat?” This is an image/text statement calling out the disparities and inconsistencies in how society treats pets and companion animals (Jones, 1997). In this case, an important point is again raised and identified- the need to confront the underlying problems at the heart of how we regard and treat animals. Rather than creating visuals which deal only with a specific issue, images that raise universal, underlying causes can awaken audiences to question root issues more deeply. Because these contrasting animal treatments show change over time and circumstance, implying human engagement and agency in helping address a problem, this may be an effective method to apply to wildlife trafficking visuals.

Because endangered animals are particularly at risk for trafficking (Sollund, et al. 2015), the mindful depiction of these species is especially crucial (Animals and Media, 2014). Issues which may impact perceptions of endangered species include how frequently representations occur and which species are represented. Repeated

representation of specific animals may generate misperceptions that the species are more numerous than in fact they are. Over-reliance on representations of charismatic megafauna reduces people's awareness of other, less well recognized endangered species (Animals and Media, 2014).

Examples of the challenges of accurately representing endangered species are found in the Ross, et. al study *Specific image characteristics influence attitudes about chimpanzee conservation and use as pets* (2011). This was the first empirical study to look at how media portrayals of endangered species impact general perceptions of species conservation status (Ross, et al. 2011). The focus of research concern for chimpanzees in media has been on the animal welfare of the chimpanzee 'actors', but investigations into the impacts of animal portrayals in visual media have been few (Ross, et al. 2011).

When this article was written in 2011, chimpanzees were legally sold in the US in the pet trade and for entertainment purposes, despite their status as an endangered species throughout their African range. In 2015, the U.S. Fish and Wildlife Service designated all chimpanzees, including those in the United States, as an endangered species (U.S. Fish and Wildlife Service, 2015). Research from 2008 survey data demonstrated public misperception of chimpanzee conservation status; individuals surveyed incorrectly identified chimpanzees as less endangered than other great apes (Ross, et al. 2011). The researchers attributed the misinterpretation of this ape species' conservation status to the frequent use of chimpanzees in media, including television, advertisements, and movies. (Ross, et. al 2011).

In their study, Ross et.al looked at how representations of chimpanzees with or without specific visual variables impacted audience knowledge of conservation status.

Concurrently, they looked at the perception of respondents of the appropriateness of chimpanzees as pets. To create appropriate evaluative images, the researchers used Photoshop to create photographs of the same chimpanzee with the following variables: human presence or absence, animal wearing or not wearing clothing, and wild or captive image setting. The study found people who saw images of chimpanzees with humans and/or in a human mitigated setting (i.e. captive) were 35.5 % more likely to erroneously describe chimpanzee populations as stable, when compared to responses to images of chimpanzees alone (Ross, et al. 2011).

Apes shown in human environments were also less likely to be perceived as endangered than chimpanzees depicted in neutral, wild, or zoo/captive contexts. Additionally, images showing chimpanzees standing next to a human resulted in a 30.3% greater likelihood that respondents agreed chimpanzees are good pets. Interestingly, chimpanzees were the least likely to be described as appealing as pets when shown in a captive setting (Ross, et al. 2011). This finding has implication for images designed to prevent wildlife trafficking, especially in the context of the illegal pet trade: showing captive trafficked species may be similarly impactful in shifting perceptions of the suitability of these animals as pets.

Section 2e: Seeing Animals as Kin

The animal has secrets which, unlike the secrets of caves, mountains, seas, are specifically addressed to man.

-John Berger, *Looking at Animals*

At the center of my thesis is the idea that it is essential to broadly understand how people perceive and relate to animals, and apply this information to the creation of

visuals confronting the problem of wildlife trafficking, in order to generate the maximum pro-conservation audience response. To create anti-wildlife trafficking visuals that generate responses and change perceptions (ideally, leading to pro-conservation behaviors and actions) it is important to recognize existing stereotypes, beliefs, preferences and biases that people hold toward animals. Having some relationship to this knowledge and taking these perceptions into thoughtful consideration when creating images will allow for visuals to connect with and speak to root perceptions about non-human animals. Clearly, this subject goes well beyond the borders of this thesis. My aim is to reflect on the scholarship concerning human perceptions of non-human animals and understand how people respond to images about wildlife trafficking. Specifically, I conducted research where people expressed their ideas of wildlife trafficking through personal meaning maps (PMM) before and after viewing relevant images. The research project will be presented in the chapters about PMM methods, discussion, and results chapters. In the section below, I look at a seminal example from the literature reflecting on human views and attitudes toward non-human animals.

In *Why Look at Animals?* John Berger asserts that beginning in the 19th century, the relationship between animals and humans began to unravel, sustaining increasing damage as a consequence of 20th century corporate capitalist frameworks (Berger, 1977). Berger declares that “In the last two centuries, animals have gradually disappeared. Today we live without them.” According to Berger, prior to the most recent 200 years of human history, animals “... were with man at the center of his world.” He identifies our historical relationships with animals, while functional and utilitarian, as ultimately spiritual. Presently, there is a gulf between human and animal. Contributing to this

distance is the fact that humans cannot speak to animals and cannot be ‘confirmed’ by them (Berger, 1977). My interpretation of this notion is that animals have ways of knowing and being that are inaccessible to us, and ways of being and knowing that render us irrelevant.

By contrast, the uniquely modern proliferation of domestic pets reflects the qualities of our consumer culture (Berger, 1977). Berger describes pets as different from other animals because they confirm their owner- the owner can behave and be with the pet as they cannot with other people. In his essay, Berger expresses that animals still permeate our language, stories, dreams and myths, because removing animals from culture is a more complicated process than the physical marginalization of animals (Berger, 1977). The despairing finality of Berger’s evaluation of the decline and devaluing of the human - non-human animal relationship feels dated to the period in which it was written - the tones of despair, finality, and lack of solutions to reestablishing connections between humans and animals seem more relevant to the late 1970’s than today. Yet Berger’s work raises many vital points of particular relevance to the topic of wildlife trafficking visuals. His work identifies the spiritual connection between human and animals which once – and, I assert, still exists. As the losses of species grow ever greater, there is an increasing outcry for intervention in the problems leading to the diminishing of animal diversity. Art is a way to express the spiritual and to awaken the sense of kinship between human and animal.

Section 3 Map: Personal Meaning Mapping

Section 3 provides an overview of the origins and applications of the research method applied in my study; this method is Personal Meaning Mapping (PMM). This

method was originally designed to evaluate museumgoer knowledge and perceptions before and after experiencing an exhibit, to assess the impacts and educational outcomes from the exhibition experience. To provide context and guidance for my research, which involved participants looking at images on the theme of wildlife trafficking and providing responses to related keywords before and after seeing the artwork, the section below also provides examples of PMM studies concerning the responses of audiences viewing select images of animals. These examples were the model after which my study was designed.

Section 3 Personal Meaning Mapping: Origins and Applications

In *Practical ontology: Collaborating and communicating with concept maps*, Rao, et.al (2015) describe the origins of and differences between Concept Mapping and Personal Meaning Mapping (PMM). According to the authors, Concept Mapping was developed in 1972 by Joseph Novak at Cornell University; Personal Meaning Mapping, debuted by John Falk in 1998, built on the Concept Mapping model and was created to evaluate changes over time around ways museum-goers understand a topic.

PMM was initially applied in research at two museums in Canada to capture information about museumgoers' experiences and understandings of First Nations peoples (Falk, et al., 1998). In a subsequent Falk study, *The Effect of Visitor's Agendas on Museum Learning*, which used strategies developed out of the two initial Canadian projects, PMM functions as an interpretive measure for how visitor's agendas (i.e. reasons for visiting museum exhibitions) influence learning at the National Museum of Natural History in the Geology, Gems, and Minerals Section (Falk, et al., 1998). In this setting, the researchers established four semi-independent realms of visitor understanding to assess PMM responses: breadth, extent, depth, and mastery. The visitor's agendas were

defined by two terms: strategies used by museum visitors and motivations for visiting the museum (Falk, et al., 1998).

The PMM is a constructivist tool, that is, it acknowledges the role of the participant in constructing knowledge by bringing prior experiences and understandings to new learning experiences (Falk, et al., 1998). By accounting for a continuum of participant understanding, rather than presuming that all participants are beginning from the same point and should end at the same point, PMM is uniquely able to demonstrate degrees of change as well as providing discreet and equally valued learning measurements (Falk, et al., 1998).

Additionally, PMM was designed to provide insight about how learning experiences are assimilated, understood and made meaningful (Kalof, et. al, 2011). Concept mapping is based on the constructivist model, which indicates that people learn actively and through experiences which foster or lead to idea generation; concept maps can also function as a creative mental exercise, however, analyzing and applying the resulting information within the maps is challenging (Rao, et. al, 2015). Rao et. al (2015) asked participants in their workshop at the 2015 Chicago, IL conference, *Museums and the Web*, to create concept maps. The purpose of the concept maps was to gather, organize and disseminate ideas; to determine common ground between collaborators; to perceive a familiar issue in new ways; and to demonstrate ideas visually (Rao, et. al, 2015).

In *Brookfield zoo: Wolf woods*, (Foutz, et. al, 2005) the authors share several case studies, including the rubric for evaluating PMM through their research at Brookfield Zoo, where they assessed visitor attitudes toward ‘caring about wolves’. The researchers

recorded two aspects of visitor responses: the number of ideas and words expressed, and the categories of responses written by participants (i.e. concepts, phrases, single words, etc.). These PMM responses were placed by the researchers into eleven categories: Role of Zoos, Worldview, Affect, Education, Human Impacts and Awareness, Take Action, Personal Connections and Experiences; Animal Needs, Physiological/Psychological, wolves; Animal Characteristics, Behaviors/Physical Qualities, wolves; Role in Nature/Environment, wolves, and Miscellaneous (Foutz, et. al, 2005). A similar approach was taken in the rubric for evaluating PMM by the *Austin children's museum song of Korea summative evaluation* (Foutz, 2006) In this PMM study, the authors likewise looked at two measurements: the number of words or ideas and the form that these responses took (i.e. phrases, nouns adjectives, etc.). In the PMM research for this thesis, I followed these and other models described in this section to determine descriptions of the emergent categories for the PMM responses. The categories developed were based on recorded participant words and phrases in response to the keywords seen before and after viewing the artwork in my study.

In *The meaning of animal portraiture in a museum setting: Implications for conservation*, Kalof, et. al (2011) used the PMM as a research tool to capture and evaluate changes in audience perception before and after viewing a photographic exhibit of animal portraits at the National Museum of Natural History in Paris, France. The photographs were created by artist Joe Zammit-Lucia; Kalof, and fellow researchers also used the same body of work by this artist in a 2016 study, *Fostering kinship with animals: animal portraiture in humane education* (Kalof, et. al 2016). The images used in both research projects were black and white animal portraits, where the subjects were

depicted in a similar style to a conventional human portrait, using studio lighting and establishing a visual connection between the animal subjects and the audience.

By representing animals in this manner, Zammit-Lucia intends to reveal animals as individuals, rather than generalizations of type or species (Kalof, et. al., 2011 and 2016). By selecting Zammit-Lucia's work for their research, the authors are investigating how representative forms can more deeply connect us to animals; their goal is to assess and understand how visual images are interpreted, essential knowledge if one wishes to create an emotional relationship with an audience (Kalof, et. al., 2011 and 2016).

Additionally, these researchers note that within the environmental movement, traditional representations of animals intended to generate support for conservation show animals in their wild, 'natural' state. The authors question the efficacy of these kinds of images, which they view as less impactful in connecting our compassion and interest in helping species than would images which promote relationship, kinship and vulnerability (Kalof, et. al., 2011).

At the Paris National Museum of Natural History, Kalof et. al (2011) gathered PMM data from 50 visitors who attended the museum's photographic exhibition of Zammit-Lucia's works. The researchers selected this site in part to evaluate whether the presentation of a small fine art show in the context of a natural history museum, where science and rationality is the focus, has an emotional effect on the audience (Kalof, et. al 2011). Before and after viewing the exhibit, participants engaged in the PMM study were provided with a sheet of paper which was empty except for a prompt or key word written in the center of the page. In this case, the selected prompt was the word 'Animal.'

Participants were then invited to draw or write any images, phrases, nouns, verbs or adjectives that they thought of upon reading the keyword (Kalof, et. al, 2011).

Key words that the study participants associated with animals before the exhibit included: ‘nature’ and ‘wild/free’; after the exhibit, words identified with animals included ‘personality’ and ‘kinship.’ (Kalof, et. al, 2011). Likewise, in their 2016 study, conducted on 51 student participants in Montreal, Quebec, at a pre-university college, pre and post PMM responses showed a shift in the terminology used to describe the animals (Kalof, et. al, 2016). The purpose of the 2016 study was to investigate how photography might positively influence young adults’ perceptions of animals.

These authors assert that an improved understanding of human-animal kinship can also help our understanding and framing of many intertwined contemporary ecological issues, such as ecological sustainability, intersectionality in environmental education, and social justice (Kalof, et. al, 2016). In the 2016 study, participants were shown a slideshow of images – again, Zammit-Lucias’s photographs- which were designed to elicit emotional responses and feelings of kinship with animals among audiences. The PMMs created by the students before and after witnessing the show reflected a 90% change in perception after the animal portraits were seen, toward a more empathetic and relational view of human and animals (Kalof, et. al, 2016). The authors describe that the 2016 PMM study expands upon the author’s 2011 study, moving from the impact of portraiture in a museum context to how portraiture impacts individuals in a classroom context. The difference between these settings is that learning experiences at museums are generally more open ended and voluntary, whereas learning experiences in classrooms conventionally take place within a structured academic environment. These and other

differences may result in different learner motivations and learned outcomes at each site
(Kalof, et. al, 2016

Chapter 3: Interview Methods

1a. Interviews with conservationists

The first research phase consisted of interviews with professionals working for conservation organizations which include wildlife trafficking issues in their activist campaigns and/or organizations fostering collaborative engagement between artists and scientists. In selecting organizations to contact, I chose to interview organizations with focus on a specific trafficked species, as well as groups that address the issue of wildlife crime more broadly. All the interviewed organizations recognize that wildlife trafficking exists at both national and international scales. For these interviews, my purpose was to determine how these organizations responded to questions on the topic of the use of visual art for conservation. The goal was to understand each group's current use of art and perceptions of art and science engagement and compare these uses across the groups to identify common themes, challenges, and suggested practices.

After contacting various organizations of interest, I was ultimately able to interview individuals working with the following organizations (locations in parenthesis): David Robinson, Education Director, The Endangered Species Coalition (Washington, DC); Alex Alberg, Graphic Designer, Animal Welfare Institute (Washington, DC); Arnica Luther, Office Manager, Snow Leopard Trust (Seattle WA); Janice Girardi, Bali Animal Welfare Association (Bali, Indonesia). Additionally, I interviewed the founder of the organization *Creature Conserve*, Dr. Lucy Spelman (Rhode Island), who is a Veterinarian, Educator and Author. *Creature Conserve* is an organization whose mission, in part, is dedicated to fostering collaborations and creative projects between artists and scientists. For our interview, I used a hybrid of the conservation organization and artist

interview questions; the approach of *Creature Conserve* is inherently cross-disciplinary, so questions from each category were applicable.

The interviews were conducted remotely, via telephone, or in person at the offices of the organizations. Typically, the interview conversations lasted between 20-45 minutes. Prior to these interviews, I developed a set of questions to investigate the spectrum of interactions the groups had with the arts and with artists, to understand how and why artists have been and are currently engaged with organizational projects. I also wanted to gather feedback about perceptions of successes and failures in how conservation programs interact with artists and apply visual art as a campaign strategy. These questions were shared with the interviewees prior to our conversation.

The questions and the interview process as a whole were designed to allow for emergent responses. I intentionally kept the design of the questions broad and somewhat open ended, to allow for unforeseen and naturally arising ideas to be included in the conversations. If a new and relevant topic surfaced during the interview process, I asked for additional details and encouraged the interviewee to relate their ideas to previously discussed concepts. I also applied the spontaneous information generated by our conversation to ask new questions or address the pre-designed questions in ways we hadn't touched upon. Post interview, the conservation organization representatives were provided with a draft version of my transcription of telephone or in-person interview. This was done to provide individuals with the opportunity to provide feedback about my presentation of the interview. In some cases, the interviews were revised based on input provided.

The conservationist interview questions were as follows:

- What is your organization's current use of visual art to support wildlife protection and conservation projects? Is this artwork specifically commissioned or created to fulfill campaign or organizational objectives?
- Do you see visual art as a useful tool to address communication needs and reach target communities? Why or why not?
- Do you use art events to engage with individuals and communities? If so, what is the goal of this engagement (i.e. encourage conservation behaviors, increase knowledge of ecological problems, gain support for campaigns etc.)?
- Which projects/campaigns using visual art have been the most/least successful, and what were the reasons for their success or lack of impact?
- What do you see as the benefits of using visual art (i.e. does it impact audiences in desirable ways which forward project goals and agendas, direct attention to conservation problems in engaging ways, attract different audiences, etc.)?
- How is visual art impactful in ways that are different from other methods of communication?
- Is there anything else you would like to share -specific to your organization or in general- about the use of art to promote pro-conservation actions?
- Who else/which other organizations do you recommend I speak with on these topics?

1b. Interviews with artists and arts professionals

Artists were contacted due to my personal knowledge of their creative projects, or after internet research uncovered their visual work on the theme of wildlife trafficking. Effort was made to obtain a cross section of interview subjects from various geographic locations. Not all the artists contacted responded with willingness to participate in an interview, but the group of willing interviewees included the following artists and locations: Sara Everett, Seattle, WA; Chris Huss, Port Townsend, WA; Jenny Kendler, Chicago, IL; Emily Schnall, Northeastern United States; and Deirdre Hyde, Costa Rica. Selected artists create work in media including photography, illustration, mixed-media,

sculpture, painting, and conceptual works. In these interviews, I was looking for generalizable information, in order to develop suggestions and recommendations for how artist-scientist-conservation collaborations can be initiated, fostered and sustained. Because of the generalizability of the information I was seeking, and because I was requesting permission for the use of their work in the PMM study, all the artists received Human Subjects Review paperwork. This paperwork was reviewed and approved by the Internal Review Board of The Evergreen State College. The forms provided to the artists included an Informational Letter and an Informed Consent form that was signed by the artists and indicated which works were permitted to use in the study (Informational Letter Appendix C; Informed Consent Appendix D). All of the artists interviewed generously allowed the use of their works in the PMM study, therefore, all these media were included in the image pool for the PMM surveys.

Additionally, I interviewed an Art Director/Artist, Jaime Nunez, who lives in Spain and works out of London, England. For his interview, I used the artist interview questions to discuss graphic projects that address environmental themes and understand methods he considered effective in calling audience attention to wildlife trafficking. This interviewee did not receive Human Subjects Review paperwork, as my purpose in interviewing him was to understand his specific perspective on how commercial art projects (i.e. conservation advertising) can effectively capture the attention of audiences.

These interviews had several purposes. First, in requesting the use of varied artworks for the PMM study, I hoped to evaluate audience responses to different images types, to learn if some kinds of images were more effective at eliciting a pro-conservation response than others. Second, I was interested in determining, if possible, whether the

artists' stated intentions and use of subject matter to communicate a specific idea were reflected in the responses of the audience. The artists were interviewed via telephone, in person, or by Skype. Artist responses to questions were typed or hand written as the interview took place. Post interview, the artists were given a draft version of my transcription of telephone or in-person interview, to provide the opportunity to share feedback about my presentation of the interview. In some cases, the interviews were revised based on input provided by the artists.

The artist interview questions included the following:

How and why did you become interested in creating art about endangered and/or trafficked species?

What keeps you motivated to create work on this topic?

Which sources do you go to for information/inspiration when creating your pieces (what kind of research do you do, if any, before and during your creative process)?

Who is/are your target audience/s?

Who is part of the community of people you work with on this topic (other artist peers)?

What impacts do you hope that your work has on audiences (what is/are the goal/s of your work)?

What are some of the best/worst responses you have received to your images?

Have you ever partnered with an organization to create artwork on these themes? If so, could you talk about your experience doing so?

Where do you think would be most effective venue for presenting work to your target audience about endangered and/or trafficked species?

What do you think scientists, conservation organizations, governments and other stakeholders can do better, in terms of the way they use art as well as how they engage and collaborate with artists?

What do you think artists can do better, in terms of developing partnerships with conservation groups and scientists, advocating for science-art collaboration, and a role for the arts in the conservation field?

Have you found funding for production of your work, and how does this funding source impact the way you produce your art?

Is there anyone else you think I should talk with about this topic?

Chapter 4: Interview Discussion

Introduction

This chapter presents my observations of frequently recurring ideas that surfaced during the interviews with conservation organization professionals and visual artists. The first and second sections of the interview discussion chapter describe what I determined to be themes that developed out of conversations with individuals from each respective group. The first section expresses my observations of similarities that came up during my conversations with conservation organization experts (hereafter described as ‘conservationists’). These conservationists included organization founders as well as staff in a range of organizational roles.

The second section describes my impression of similarities that emerged out of the interviews with visual artists and arts professionals. The analysis in this section is parallel to that undertaken with the conservationist interviews, in that I determined areas of thematic similarity across all of the discussions with visual artists. The final section of this chapter describes my personal sense of the kinds of conversations, challenges, and interests shared alike by conservationists and artists, representing my impressions of the collaborative potential that exists between these fields. I also report a few areas where responses deviate somewhat but are generally complementary. Additionally, I note several examples where findings from the literature are echoed in the interviewee comments.

Section 4a Conservationist Interview Discussion

When you teach what’s happening to biodiversity, you teach that all animals are in trouble. You explain that the rate of extinction is at an all-time high and that we (humans) are the problem. The drivers of extinction are habitat loss, agriculture,

the global wildlife trade, overhunting and overfishing, and climate change. Humans are responsible for all of these problems, and they are all connected. This also means the solutions are connected.

(L. Spelman, personal communication, April 8th, 2018)

I interviewed colleagues at conservation organizations to gain insight about organizational use of artwork for conservation and anti-wildlife trafficking campaigns. My purpose was to understand the current use of visuals from the perspective of experts within these organizations. Additionally, I was interested in identifying perceptions of how these organizations might more frequently, and with greater efficacy, interact with visual artists. In speaking with organizational founders and program staff about the use of visual art by their respective groups, I noted similar concepts surfacing repeatedly in our conversations. What is described here is my impression of shared perceptions about the use of art in conservation among the organization representatives interviewed. For the complete, transcribed text of the interviews with conservation organization professionals, please refer to *Appendix A: Conservation Organization Interviews*.

All of the conservationists indicate that they personally or organizationally (or both) regard art and images as important to communication. Images were specifically called out as uniquely well-suited to the presentation of issues relating to wildlife conservation. In the following paragraphs, I will describe a few of the particular ways that art was invoked as useful means of presenting animal welfare, conservation, or wildlife trafficking visuals.

Art functions as a beneficial tool for visual communication because it is capable of transcending international boundaries and language barriers to communicate cross-culturally. Arnica Luther, Office Manager for Snow Leopard Trust expressed this

perspective: “Anyone who has the privilege of sight can access visual art, and it transcends national borders. Wildlife trafficking and poaching are international problems” (A. Luther, personal communication, October 30th, 2017). Janice Girardi, Founder of Bali Animal Welfare Association identified visuals as particularly important to communicating and overcoming language barriers in Bali, a province of Indonesia with a rich diversity of languages: “Showing, instead of telling, is crucial. For example, photos let you see the pain and sorrow in an abandoned dog’s eyes, they allow you to look at the dog’s raw skin, open wounds, and emaciated body – things that words cannot always accurately portray” (J. Girardi, personal communication, February 1st, 2018). These responses mirror a perspective expressed in my thesis: that visual art is particularly capable of showing the international issue of wildlife trafficking in emotionally evocative ways, in part because visuals can overcome language barriers. I assert that if chosen with awareness and attention to various interpretations amongst cultures, artworks can serve as powerful and influential descriptors of the illegal wildlife trade.

At the same time, visual images must be particularly impactful to stand alone without text and convey the intended message clearly to audiences. Alex Alberg, Graphic Designer for Animal Welfare Institute (AWI), talked about how text and visuals can be used effectively in combination: “Including facts in text format with photographs or illustrations is useful if the graphics themselves don’t convey the entire message, which is often the case” (A. Alberg, personal communication, October 6th, 2017). In the literature review, I describe a study of climate change visuals that noted the importance of relating images and text thoughtfully to create a coherent message (O'Neill & Smith, 2014). David Robinson, Education Director for the Endangered Species Coalition (ESC)

referenced the power of images to show ideas immediately in ways that words cannot: “You can write 5 paragraphs...but the impact is different with an image. It’s a more immediate way of grabbing attention. Any copy you would read is an addition to that. The photos or illustrations that capture the emotion really make a difference” (D. Robinson, personal communication, August 30th, 2017). Whether an image alone communicates an anti-trafficking message effectively, or if text or other explanatory material is needed for context, is an area for additional research toward maximizing the effectiveness of these images.

Another valuable facet of artwork that is leveraged by conservation groups is the idea that art can foster and maintain long term connections with organizational audiences. Robinson mentions art as an entry point for youth to become interested and involved in supporting endangered species:

Art creates attention about endangered species. Sometimes it’s people first awareness of these issues. These are our goals: we want to encourage behaviors that support endangered species and gain support for our campaigns. People come out and look at the shows, then they can sign up and participate in the Coalition and its campaigns. We want art to inspire people, create support, awareness, and get people to take action. The art contest engages young people on a long-term basis. We know that visual images will help them to do that. We look for ways to engage – for example, the art contest grand prize winners’ ceremony. His or her art is displayed, and the award/public display may be an incentive for teachers. It can be the first introduction to endangered species issues for the students and others
(D. Robinson, personal communication, August 30th, 2017).

Anecdotally, I will mention here that as the Environmental Educator for ESC, I coordinated the preliminary judging of the 2018 Saving Endangered Species Youth Art Contest. This process involved partnering with 6 art educators and artists to judge ~1,500 entries from K-12 students across the United States. Frequently during the judging process, the jurors remarked on the incredible passion they could feel in the students’

artwork, and that they themselves were inspired by young people's caring approach to endangered species.

Visuals can function as an access point to connect with youth and other audiences. For example, Animal Welfare Institute (AWI) presented the topic of ivory poaching through the medium of an age-appropriate graphic novel. The use of art by AWI tangibly impacted audiences in other ways: "Separate from our work on wildlife trafficking, we have also found success using graphics to educate the public about the endangered vaquita. Because of our campaign, Trader Joe's agreed to stop selling Mexican shrimp in their stores" (A. Alberg, personal communication, October 6th, 2017). The critical role images can play in conservation education surfaced in my review of the literature; particularly relevant was one study that engaged students in creating illustrations as part of developing a Personal Meaning Map to elicit conservation knowledge (Esson and Moss, 2016).

The leveraging of organizational engagement of audiences through the purposeful use of images is an area that merits further exploration, in particular as applied to wildlife trafficking visuals. In the literature review section, I describe a study by Jones (1997) indicating the usefulness of a visual communication practice applied in animal welfare visuals, known as contrasting animal treatments (Jones, 1997). Contrasting animal treatments visually represent the condition or circumstances of an animal before and after a significant event occurs; often this represents some level of human causality, involvement or intervention. An example is a 'before' image of a Toucan with its bill removed by traffickers and an 'after' image of the same bird fitted with a prosthetic bill

after being rescued by animal welfare workers. Girardi spoke about the value of these kinds of before/after images:

Images allow you to see remarkable transformations post-treatment. These before and after photos, in addition to all of our photos, play an important role in organizational transparency by allowing our donors to see the impact of their donations and where they are being used... The point is to really illustrate what we are doing as an organization, to be able to see the work, and not just hear about it. (J. Girardi, personal communication, February 1st, 2018)

The value and importance of organizational transparency, and the ability to convey the quality of work being undertaken by groups through the use of descriptive images, reinforces the importance of thoughtful image selection by conservationists.

Luther shared feedback received concerning an image used by Snow Leopard Trust:

One anecdote comes from the images used in the calendar that we sell each year. The Oct. 2017 photo is in a zoo, a leopard crouching/predatory stance. A woman called recently and complained at our choice of using the image when the animal looks cornered, afraid. It's interesting how people anthropomorphize and project emotions onto an animal. Big cat supporters are very passionate. We have such dedicated and fervent supporters. It's not the only example of people responding; they care deeply about the species. (A. Luther, personal communication, October 30th, 2017)

I interpret the responsiveness of people to images of animals in conservation messaging as evidence for the impact of visuals in audience engagement. That viewers remark on the content and expression of animals in visuals (as in the above example) indicates attention to imagery and investment in how animals are depicted. With additional information about image types that generate pro-conservation responses to wildlife trafficking visuals, this concern can be activated in ways that support the aims of the conservationist.

The choice of species depicted by conservation groups is a complicated area in terms of balancing member interest in species, the urgency and immediacy of problems

confronting wildlife, and the appeal of the visual message to funders (among other considerations). In the course of conducting interviews for my thesis, in addition to the interviewees quoted here, I connected with several people working for conservation organizations or government agencies who shared information about the use of artwork in environmental campaigns. These individuals did not wish to go on record about this topic but did share some valuable insights about the use of visual art or the use of art to deter wildlife trafficking. One person working with a major U.S. conservation organization described frustration with the organization's use of artwork, saying that organizational leadership did not value images, and as a result of this low prioritization of visuals, the group primarily defaulted to depictions of charismatic animals thought to appeal to member audiences- mainly white, middle-aged women.

An added challenge in communicating wildlife trafficking is to interest people in species that may or may not immediately resonate or appeal. A number of conservationists spoke both on and off the record about the prevalent use of charismatic species in campaigns. Alberg described some considerations in the selection of visuals for campaigns addressing issues outside of the wildlife trade:

When selecting images, the 'cuteness factor' also plays an important role in our choices of imagery. Using images of beloved companion animals caught in leghold traps connects the public to trapping on a personal level, more so than an opossum. We generally always choose charismatic species because they gather a better response. People are more apt to show interest in species like furbearers, elephants, and pandas when compared to bats or rats, which some people might be turned off by.

(A. Alberg, personal communication, October 6th, 2017)

Robinson also addressed the issue of species selection in visuals:

The leap between a dog picture and a grizzly bear isn't that big. I think some animals are a little harder. The great white shark, the orca, are a little harder. The almost human-seeming ones connect emotionally. You have a continuum. At one

end you have an elephant. At the other you have poisonous snakes that are endangered, it's harder to get that empathy. It's the web of life, they are part of the environment. It's harder to get that action- to donate to great white shark vs a panda bear.

(D. Robinson, personal communication, August 30th, 2017)

An anonymous staff person at one organization described the paradox of communicating about wildlife trafficking. They described that it is difficult to talk about an illegal trade, one in which some participants are trafficking wildlife to survive and meet basic needs, in contrast with wealthy US consumer audiences of trafficked products, who think wildlife trafficking is happening somewhere else and, as a result of privilege, are disconnected from the problem. Separately, Alberg referred to the importance of science education within communities and the role graphics can play in education, speaking to the nuanced problem of wildlife trafficking: “Working to end trafficking can also be more complex than just banning certain practices. In certain communities, whaling exists as the sole sustaining industry. How can we replace it with something that still allows people to survive?” (A. Alberg, personal communication, October 6th, 2017).

Dr. Lucy Spelman, founder of *Creature Conserve*, talks about the disconnect between people in the United States, who imagine that the illegal wildlife trade is occurring elsewhere yet fail to recognize the role that this country plays as a primary market for trafficked goods:

For example, people in the United States think the wildlife trade is happening in other parts of the world, but it is largely driven by our economy. Wealthy Americans are among the top consumers of ivory and rhino horn. The wildlife trade has rapidly accelerated as the world has become more and more global. But how do you make someone feel close to a rhino or a tiger – an animal whose future depends on our ability to curb the wildlife trade – which they will never have an association with? We need to find new ways to engage the public what is happening to animals today, new ways of connecting them, and of sharing the solutions.

(L. Spelman, personal communication, April 8th, 2018)

Interest in innovative communication methods to increase the public visibility of wildlife trafficking and other conservation challenges is a point that will be further touched on in sections 4b and 4c of this chapter.

Section 4b Visual Artist Interview Discussion

Conservation Biology is one way, activism is another way, and art is a third way to get under people's skin. Time is short, and I am motivated that I might be able to make a small impact.

-Jenny Kendler, (personal communication, February 14th, 2018)

As a visual artist practicing illustration and photography, part of my purpose in writing this thesis was to better understand the kinds of images that are most effective in presenting issues of biodiversity conservation and the specific problem of wildlife trafficking to audiences. I am also deeply personally and professionally invested in understanding how to develop and maintain artist-scientist-conservation group collaborations. The interviews I conducted with other artists were both inspiring and illuminating concerning the topic of interdisciplinary collaboration and other, related, subjects. Across the interviews, I observed many common themes: parallel motivations for creating work on conservation topics, interest in and suggestions for working with conservation groups and scientists, and belief in the relevance and impact of presenting conservation themes through art. The following paragraphs will detail my impressions of the artists responses to these topics. For the complete, transcribed text of the visual artist interviews, please refer to Appendix B: Visual Artist Interviews.

When we spoke, the artists referred to the challenging nature of working with subject matter like the extinction crisis and the illegal wildlife trade. Frequently, they mentioned that it is challenging to keep producing work on these subjects, but also that

doing so is essential. Artist Deidre Hyde explained: “The world isn’t getting better. These topics of wildlife and ecological conservation are like a motor in my creative life” (D. Hyde, personal communication, March 23rd, 2018). Artist Emily Schnall shared her perspective on the drive to keep creating work relating to wildlife conservation:

I have been interested in animals, the environment, and biology, since I was a kid- spending all my time drawing animals and watching wildlife documentaries. It was natural, once I became an adult, to take the problems faced by animals and do something with those concerns as a visual artist. I’m not good at forcing uncomfortable issues to the back of my head. Even though I feel hopeless at times about specific issues- giving up hope is not an option. (E. Schnall, personal communication, February 14th, 2018)

Multiple artists talked about personally identifying a need to inspire a sense of urgency about conservation problems and their interest in using art in this way. Artist Jenny Kendler described art as capable of inducing feelings and thoughts that interrupt normal ways of understanding a problem. Kendler spoke about her motivation to continue working on these topics:

Human exceptionalism is deeply wrong. Endangerment is an issue I feel passionate about. I actually don’t think that is special in any way, I just think that most people are not paying attention. I always wanted to be an artist. I hope that my art will help audiences engage with an issue that they have maybe been skating over that’s unbearable. It makes sense to me that the public will want to shy away from it. The images of the faces of rhinos and elephants hacked off- you never forget them. With an art experience, you can take people on a trip with you to maybe get somewhere they wouldn’t get on their own. I want people to feel enrolled in the fight and be engaged. (J. Kendler, personal communication, February 14th, 2018)

With this kind of engagement, I assert that art is uniquely positioned to reach people who might not otherwise be involved in endangered species conservation, wildlife trafficking, or other related issues.

This interest in accessing audiences and engaging them in support of conservation was expressed by other interviewed artists. Photographer Chris Huss described:

It's tough because of the current state of affairs. It can be very difficult to keep going. With the changes in photography, so many photographers I know have changed careers. The way I look at it is- this is how I want to spend my life. I have a huge body of work behind me. I'm not struggling to start out. It's relatively easy to share the work. The exhibits are fun and high energy. The idea is to do the exhibit, and set an optimistic tone, so that people walk away feeling motivated.

(C. Huss, personal communication, November 20th, 2017)

Senior Art Director Jaime Nunez describes a nuanced approach to audience

communication that interests people and calls them to act:

I worked for RSPB (Royal Society for the Protection of Birds). The idea is that when you are walking around the city, you might see some birds, and notice they are there one day and not the other. It is really hard to picture the impact. If you show them a beautiful bird, they say it looks quite happy. If you show them a dead bird they might walk away. My line for the project was: 'Birds are irreplaceable, don't wait until they are gone.' Instead of showing actual birds I showed ways of replacing birds. I made origami birds and placed them in parks, everywhere. You could open up the origami and read a letter about the issue. Especially parents- that want their kids to enjoy nature, and they may be sensitive to birds. You could put those birds in schools and parks where kids play. We had the idea of having bird kites. You could have 3 or 4 kites in the sky. You could say birds are irreplaceable. How would people replace birds when they are gone? In a world where people are dying it is almost like birds are a luxury: who would you rather save? (J. Nunez, personal communication, January 19th, 2018)

In developing impactful and scientifically grounded work to communicate with audiences – images that inspire dialogue, interest, and action— the artists noted the relevance and importance of research as integral to the creative process. Without exception, artists interviewed mentioned the value of being informed by the science underpinning the topics they depict. For these artists, science plays a vital role in grounding and inspiring the creation of responsive visual works. The artists' research processes were described in variety of ways: connecting with subject matter experts who

provide insight around a topic; independent research sourced from articles, websites and other texts; partnerships with organizations which enable the use of internal information or data to develop a project; and presenting findings and materials from conservation groups and scientists as part of the visual display of artworks. Kendler explained the essential nature of research in developing work, “I am definitely a very research driven artist. It’s maybe a newer mode, working cross-disciplinarily, but it’s very important to me. I was raised with the scientific method and raised as a researcher. I am driven by unending curiosity” (J. Kendler, personal communication, February 14th, 2018).



Figure 1. How to Disappear (Hideout for Endangered Hummingbirds), Archivaly preserved wind-fallen lichen, paperclay, black glitter, microsuede, vintage bell jar, by Jenny Kendler. Hummingbirds are illegally trafficked for the trade in 'love charms' in Mexico.

The process of conducting research motivates the artists to develop creative projects describing the problems of wildlife trafficking and related conservation themes.

Artist Sara Everett describes her research process:

For my show, *There are Too Many* I did quite a bit of research to find out who was listed as endangered. I remembered from when I was a kid the list was like a dozen. I was thinking at the time maybe it would be like thirty. The extent of the list gets glossed over. I don't think that how extensive the list is part of people's general awareness. Most people don't know. I combed through the IUCN Red list. That was my eye-opening moment. Looking through their website and data- it's a lot of very well-articulated data. I would be 300 years old if I painted all of the creatures that resonated with me the most. (S. Everett, personal communication, November 15th, 2018)



Figure 2. Panthera Passing, acrylic and thread on canvas, by Sara Everett. This image of a Jaguar (Panthera unca) is from the artist's There are Too Many series.

The artists talked about the value and importance of showing work; exhibitions afford artists opportunities to see people's responses to their work and possibilities for engaging in dialog with audiences. Artists observed that exhibits can facilitate an audience's experience of a conservation problem, such as the wildlife trade, the extinction crisis, or the number and scope of endangered species, in new and unexpected ways. Everett talked about her experience observing audience responses:

For the show, I ended up printing out in tiny font the IUCN (International Union for Conservation of Nature) Red List of endangered animals, including amphibians, reptiles, birds, mammals, fish. I left out the plants to reduce paper, but it still ended up as such a physical presence...it was close to 100 pages, at 8 x 11 inches. About $\frac{3}{4}$ of an inch thick. I didn't get comments on it, but I observed people going through it and being surprised. (S. Everett, personal communication, November 15th, 2018)

Huss, referring to his show *State of the Sharks*, mentioned people who attended commented that prior to seeing the show, they had not been aware that some sharks are endangered and that this endangerment is directly connected to human actions:

A friend of mine and I wanted to show sharks in a friendly light and educate the general public. There are hundreds and hundreds of shark species, most of which don't harm humans. We wanted to help people understand that, and how important sharks are as a top predator. They are being slaughtered, for shark fin soup and out of fear. The response from the general public was, 'I had no idea we were a danger to sharks or that sharks were endangered' More than half the species I'd photographed could not be photographed anymore because their population had so declined.
(C. Huss, personal communication, November 20th, 2017)



Figure 3. Watchful, photograph by Chris Huss. This image of a blue shark was used as a promotional shot for the exhibition *State of the Sharks*. Huss indicated that "...recent DNA testing on shark fin soup showed them (blue sharks) to be used more than other species."

Schnall also described the importance of reaching audiences:

If an audience for my work gets the right read of a piece that's a success, if not, that's a failure. The *Snare* piece was for a gallery and I made it to be hung at eye-level. I put a lot of focus on rendering the eyes. I wanted people to turn from across the gallery and make eye contact with the piece and see that this animal was in pain. It was very successful and created the impact I intended. (E. Schnall, personal communication, February 14th, 2018)



Figure 4. Snared Juvenile, sculpture by Emily Schnall. This sculptural piece was created for the *Wildlife: Trading and Conservation* exhibition, a collaboration between IFAW, RISD, and Creature Conserve.

Questions and ideas about how artists can most effectively form and sustain collaborative relationships with conservation organizations surfaced in the interviews.

Everett suggested that organizations could improve responsiveness and engagement with artists expressing interest in collaboration:

More collaborations between conservation groups, scientists and artist are needed as a way to reach the public. Stats don't always get through. The right visual can mean more than a paragraph. It would be helpful if an organization could actually respond if an artist reaches out. It often goes to the wayside. I'd like to see organizations reach out to artists directly- not be afraid to reach out to pursue a particular campaign. I think a lot of artists that would be interested in putting their effort into a collaboration. Once I produce work I want it to go somewhere. I want to keep spreading the impact. I would love to partner with organizations. Even if it was just for a special edition piece that the organization puts out. I've thought about reaching out to organizations to have the exhibition travel. I'd like to pursue partnerships.

(S. Everett, personal communication, November 15th, 2018)

Hyde, Artist in Residence through the National Parks Service in Costa Rica, expressed the process of developing a long-term relationship with this agency:

Six months after coming to Costa Rica, in 1979, I started volunteering for the National Parks Service here making panels for park interpretation. I interviewed biologists about what they wanted to represent and became a consultant to the National Parks. The work I was doing was for environmental education purposes- the art was to educate. Artist residencies, like the one I am doing at OTS (Organization for Tropical Studies) nourish me. This place has fabulous natural, cultural, and landscape diversity. A primary forest makes me happy, a secondary forest makes me less happy, a pasture makes me unhappy, and an empty field makes me really unhappy. Most of us live in such depleted landscapes that we can't afford to feel.

(D. Hyde, personal communication, March 23rd, 2018)



Figure 5. Mangrove (work in progress) by Deirdre Hyde. Panel painting describing the mangrove ecosystem, along with and human relationships and impacts.

Kendler described the importance of building a relationship with a supportive staff person within a conservation organization, Natural Resources Defense Council (NRDC), who recognizes and supports the value of artwork and production of unfettered creative projects as fundamental to collaborative success:

The NRDC partnership has been a great relationship for both of us, myself and the staff. It basically happened because I met an individual, Elizabeth Corr, who was thinking about how art can connect to people more deeply. White papers are important, but don't we need to leverage all the tools in our arsenal?
(J. Kendler, personal communication, February 14th, 2018)

Schnall also shared ideas for developing well-functioning collaboratives:

I think that between my experience with IFAW and an experience I had with WWF as part of a trip to Guiana, I learned that it will be helpful for artists to be very clear up front about what their skills are and the type of work they do. What I can offer as an artist is not necessarily something others might understand or think of i.e. doing conceptual work. Being very clear up front to discuss all the ways you can contribute is vital- explaining what resources you need, etc. to avoid

disorganization. This can be overlooked when there is excitement on both sides- once things are in motion it's too late if you haven't already made it clear what you can offer. Having one or two people from either side- people who can bridge that scientist- artist gap are pretty key. Besides just that gap, you never know who you might be working with, maybe someone from a marketing background. Having representative from all key roles can foster better art/science collaborations.

(E. Schnall, personal communication, February 14th, 2018)

Artists must develop skills that empower them to be good advocates for themselves and nurture clear communication, positioning them to express the boundaries, limitations, and attributes of their unique talent and working style. Conservationists may or may not have training or familiarity with the vocabulary and concepts used in communicating visual art. The need, identified by several artists, to connect with allies working for conservation groups who understand, respect, and support the needs of the artists, is a key point in developing effective collaborative models. I suggest that, for conservation organizations, this might involve staff training in the arts, such as attending conferences or participating in online resources, and intentionally seeking out or developing opportunities for interdisciplinary dialogue and projects.

The need for equitable pay, grounded in the understanding that art is worth supporting financially, came through as a challenge to the creation of conservation artwork, and an area where artists can be more assertive in promoting the value of their products. Jenny Kendler talked about advocating for funding of work, suggesting that failing to address adequate compensation perpetuates the problem of artists receiving inadequate pay, "It is an important thing to advocate for. Do you have money to support the work? Do you have a stipend? Most artists feel this is taboo, but it disempowers us and causes us to be pushed around" (J. Kendler, personal communication, February 14th, 2018).

Schnall made parallel remarks about the need for increased financial support for conservation artwork:

I can say from my end as an artist that if I had funding and the resources to do the work I think is important, I would be doing way more. I'm volunteering my time- so it's basically an area of work where I'm doing it because I want to. I hope to see grants and resources for this type of work become more available. I am absolutely limited by funding, and so I have to limit how much time and energy I can put toward it. As artists we have to be wary of people trying to get free work or undervaluing our work, yet we also make choices to do work because it is important. If there was more value on this kind of work, we would be able to create many new kinds of collaborative projects.
(E. Schnall, personal communication, February 14th, 2018)

Likewise, I note from my professional experience searching and applying for funding both as an artist and environmental educator that funding sources for cross-disciplinary art and conservation initiatives are few. My impression is that granting agencies, foundations, and other sources are behind the curve in recognizing the possibilities and value in monetarily supporting these kinds of projects. Funding is currently a limiting factor in the development of artist-scientist-conservation organization collaboratives.

Huss related that it can be challenging to identify a willing organization or staff person to engage with as artist interested in developing partnerships: "I have tried to reach out to organizations- often there is too much bureaucracy, and too many hoops to jump through. You have to search out people who are very willing and supportive."

Likewise, he indicates a lack of willingness by art consumers to financially support work on conservation topics:

There are not a lot of people out there who want to pay for art on endangered species. For example, the shark exhibit- people were so complementary of the photographs, yet very few people are willing to pay gallery prices for the images.

They will spend that much for a sunset picture or a dog picture. That's just one example of part of the challenges in doing this kind of work.
(C. Huss, personal communication, November 20th, 2017)

Everett also commented on the challenge created by the lack of sales from her show about endangered species, even when she related to potential buyers that a percentage of the sale of the work would support conservation:

My goal with this show was to spread awareness. I attempted to raise funds for IUCN. I had a designated amount of funds to share from profits of the work that was sold. The political climate was not conducive- it was right after the Trump election. This is the first show I have had in eight years that didn't make any money. The gallery didn't make any money, the galleries around the area didn't make money.
(S. Everett, personal communication, November 15th, 2018)

All of the interviewed artists are passionate about and interested in collaboration with conservationists and scientists. In my view, the well-informed artist can play various roles in an interdisciplinary collaboration and as an intermediary between the subject depicted and the audience experiencing the conservation message: advocate, witness, interpreter, storyteller, and many others. The kind of audience engagement that a conservation organization may be looking for through the use of some combination of text and image, may also be found through in-person contact with an artist. The next section details ideas for how these collaborations might be fostered, along with other concerns and perceptions about visual communication of wildlife trafficking that I observed were shared between the two interview categories.

Section 4c: Emergent Themes Across Interview Sets

As described in my literature review, art and science have different, yet complementary, processes and practices that can be leveraged and expanded through collaboration. The two decades of work I have undertaken as a teaching artist and visual

artist have also taught me that artworks demand close observation of the object under study: in essence, art teaches us to *see*. Observational skills are an asset common to artists and scientists; skilled observations can generate insight and awareness of previously unseen connections. If we hope to increase awareness of wildlife trafficking, collaborative art-science-conservation models, which include audiences as actors to avert this devastating problem, must be applied in order to increase the visibility of the illegal wildlife trade.

Dr. Spelman, *Creature Conserve* founder, described similarities between art and science: scientists are driven by interest in knowledge about how a given process works, whereas artists are motivated by an internal drive to express concepts. She spoke about similar outcomes in the creation of products by both disciplines, in the sense that each must make their work public in order to successfully meet the objectives of their professions and build relationships with audiences and peers:

This type of collaboration is possible because art and science are both very visual. Both disciplines involve feedback and criticism. Their purpose is also similar: what is happening in the world around us; what is our place in the world? The difference is what is produced. Scientists create technical works that add to our body of knowledge. Artists create what they want; what they feel inspired to make; they make art to make art. Artists need to be given the chance to learn the science first, and then encouraged to use their unique skill sets to share what they have learned, to help people feel connected. In my experience, when we do this the resulting artwork is more powerful, has more emotional impact, than if they had not learned the science. For example, lions are in trouble for many reasons, including being poisoned. Artists can make someone care about this problem in a way that I cannot.

(L. Spelman, personal communication, April 8th, 2018)

Artists, scientists and conservationists have extraordinary potential to work collaboratively to powerfully express the problem of wildlife trafficking. A major ingredient that must be considered in these expressions is the role of the audience. Who is

being addressed by the artworks, and to what end? Based on interviews from both groups and my own observations as an Environmental Educator for the Endangered Species Coalition, my perception is that it most conservation-oriented artists and organizers recognize that the messages of conservation are urgently in need of reaching larger, more diverse, and less traditional audiences. Innovative messaging that connects with groups outside of the current wildlife conservation dialog is essential in building momentum and action for the critical problems facing trafficked species. Education is imperative for conservation campaigns to be successful and art is a powerful means of connecting to new audiences.

Visual Artist Schnall spoke about an exciting and original approach to developing these connections:

Recently, I've become most interested in working with underserved demographics. A lot of conservation messages are only for a specific set of people and it turns everyone else off. In the non-activist side of my artistic life I've had some recent involvement in the world of professional wrestling; it brings together such a wide range of people- almost all of whom are outside the typical eco-preaching demographics. The types of messages that are used in conservation would totally turn these people off. I'm interested in working with the medium of professional wrestling, which is at its core about storytelling, to reach these audiences that are not being effectively engaged with. Environmental messaging can be preachy, and it tends to just preach to the choir of those already onboard and likely to donate: it's for white, middle aged, middle class people. Other audiences would look at it with sarcasm or annoyance. If people are not already onboard it seems like it's not for them.
(E. Schnall, personal communication, February 14th, 2018)

The issue of audience interpretation of artwork and the imperative to present a nuanced perspective of complex problems, like wildlife trafficking, was also taken up by artist Kendler. She related this experience: "At the time I did *Music for Elephants* at the MCA (Museum of Contemporary Art Chicago), I spoke to a woman who was a Chinese-American citizen and we had a really meaningful conversation. In the piece I call out the

west, not just identifying Asia as the problem. It was meaningful to her to not be othered and she expressed deep empathy with the issue.” Additionally, Kendler mentioned, “I am not a performance artist, but I participate in my work as a guide or interlocutor. I want to have lots of points of entry. I am really interested in engaging people about the work behind it” (J. Kendler, personal communication, February 14th, 2018).

A challenge described by artists and conservation organization professionals alike was identifying the most effective way to express and represent a topic like wildlife trafficking, which presents many disturbing and upsetting truths. One insight by Senior Art Director Nunez was his view that people turn away from depressing images. He explains, “If you say ‘3000 elephants left in the wild’ you just cry. If you say ‘this guy will protect the elephants’, that will make you feel good.” He added, “When it comes to creative campaigns, rather than giving people scary numbers or making them feel like the world is going to end, positive, tangible acts are the most important” (J. Nunez, personal communication, January 19th, 2018). Several works cited in the literature review section likewise indicate that people feel disempowered after viewing images depicting negative or apparently inevitable representations of climate change or other ecological problems (O’Neill & Smith, 2014; Chameides, 2014). It seems probable that wildlife trafficking imagery would be subject to similar interpretations by audiences. Because the scholarship around the impacts of wildlife trafficking visuals is nascent, more research, experimentation, and thoughtful creative projects that communicate the illegal wildlife trade are needed.

Wildlife trafficking is a problem that fundamentally encompasses treatment of animals that could easily be shown in highly graphic, disturbing and devastating ways.

Determining appropriate images to use to communicate this problem, along with animal conservation and welfare issues more generally, is a concern expressed by the conservationists interviewed. Alex Alberg described one approach to this challenge, “At AWI, we try to use gory or disturbing images sparingly, more often highlighting the beauty of wildlife in its natural habitat” (A. Alberg, personal communication, October 6th, 2017). In my review of the scholarship I found research that indicates images that are at extremes - pictures that conceal the scope of animal suffering, or images which are intensely graphic- can alienate audiences from the problem being presented (Jones, 1997).

Likewise, *The dark side of environmental art* (2014) refers to common expression of images showing the majestic power of nature or the harsh realities of ecological devastation – work that can be polarizing (Chameides, 2014). Similarly, Dr. Spelman describes her view of conservation images:

In my view, much of the art about the fate of nature today is either very sanguine or over the top upsetting, showing gory details and trying to make a statement. These images are all fine, but we need something in between, art that is informed by science that makes what is happening today more accessible, meaningful, and relevant. Only then will we be inspired to act.
(L. Spelman, personal communication, April 8th, 2018)

A critical, unresolved element that surfaced across both interview sets is the question of identifying the target audience for anti-wildlife trafficking, pro-conservation imagery, and where this artwork is best placed for maximum visibility. Luther talks about street art as a democratizing medium for visual communication, saying, “In terms of other art forms, I think it would be interesting to look at using street art/graffiti- it’s a very much a ‘for the people’ art form. It’s accessible to all people, and I really respond to that” (A. Luther, personal communication, October 30th, 2017).

In my view, the best strategy is to pursue showing work in a range of venues and locations to connect with many kinds of audiences. More research about where the work is most visible, the kinds of audiences who respond at various sites, and how the art is received and perceived are all critical if the goal is to connect strongly and influence attitudes about wildlife trafficking. At this phase, little coordinated research accounting for all of these factors should not limit the selection of venues for presenting unique visual messages about the wildlife trade. Rather, efforts to explore and evaluate a range of presentation options ought to be explored.

I noted that several organizational staff and artists suggested that there is a need to better understand the impacts of images for conservation on social media platforms. Both artists and conservation organization representatives identified social media as a promising yet problematic venue for using visuals to increase awareness and initiate dialogue about wildlife trafficking and other conservation issues. Promising, in the sense that images on social media have the potential of reaching a huge audience, and problematic in that the filters and algorithms that drive social media content may limit exposure to these images to a self-selected audience already aware of these problems. I observed a general sense that it is difficult to understand the impact of images used on social media in terms of measuring long term changes in pro-conservation behavior by audiences.

Alberg spoke about the challenge of measuring social media impacts in the context of identifying conservation actions taken by viewers, beyond immediate responses to images in the moment of visual consumption:

We use social media to gauge what people are most interested in...Graphics can also be helpful in educating the public about species they wouldn't otherwise

know exist. Social media and the sharing of these graphics is changing how people get information with more exposure through sharing. But even with all the sharing that is happening today, I think we have yet to see the full impact. Just because people are sharing more information, does not necessarily mean they are taking action to help protect animals.

(A. Alberg, personal communication, October 6th, 2017)

To further round out the idea that it is difficult to gage what sharing images truly does for animal conservation, I will include a perspective from Nunez:

People can understand where the money is going (direct marketing) in the sort of advertising when you are looking for a direct reaction in that moment. You are looking for a response there and then. Call this number and save the tiger from extinction. In direct marketing it is very simple to know that people are responding. How much money has been raised? Text works really well. The more people text the more you know people are responding.

(J. Nunez, personal communication, January 19th, 2018)

The question that remains for me concerns the ability to respond immediately to an image by ‘liking,’ sharing, signing, or donating. These actions are gratifying to an audience- but do they indeed translate into long term actions or sustained changes in perception? Whether the quick, momentary responses to social media conservation images have longer-term impacts is an area – although outside the scope of this thesis- which merits additional examination of the scholarship and research in this field.

Valuable observations were made across both groups of interviewees concerning the use of graphics and fine art by conservation groups. Part of developing new models for collaboration between artists, scientists and conservation groups is evaluating the differences between producing conservation advertising and deploying creative conservation projects that fall outside conventional conservation organization use of visual media. Several of the artists critiqued the current use of visuals by wildlife conservation groups. Everett describes:

I remembered WWF from childhood advocacy, and then looking at it now, I was kind of disheartened how dumbed down it was. It's geared toward the lowest common denominator. When I started narrowing my categories (author's note: for works in her show *There Are Too Many*), I went to WWF to see what's resonating with people. Their website is just so slick and polished. Their stat sheets of the animals are almost like baseball trading cards.
(S. Everett, personal communication, November 15th, 2018)

A factor identified in the literature and that I observed in the interviews is that successful cross-disciplinary collaborations must avoid the biases of entrenched disciplinary hierarchies and be grounded in respect for artists' individual practices.

Kendler addresses the model of honoring the vision of artists who are generating creative works on conservation topics:

One thing conservation organizations and scientists can do is let artists be artists. It's not about making a white paper, or a big media spectacle. That is not art because it is totally instrumentalized. Art is not something you can instrumentalize. The work that I am doing does not get instrumentalized. I am not trying to make pretty pictures.
(J. Kendler, personal communication, February 14th, 2018)

While I strongly advocate for and embrace the stance that new kinds of interdisciplinary and artist-driven creative projects are critical for increasing awareness of wildlife trafficking, there is a concurrent need -evidenced by my review of the scholarship and my interpretation of the interviews- to understand and implement advertising tactics to maximize the impact of creative art projects. Robinson describes advertising as being purposefully emotionally engaging and indicates how important it is to elicit feeling experiences in images that address species conservation, "Think about art directors at ad agencies- their whole goal is to grab your emotions. It's even more so with our goals and objectives. Pictures of animals, ecosystems- when you see pictures of the environment being leveled it has an impact" (D. Robinson, personal communication, August 30th, 2017). Visual artist Hyde speaks to the reframing of advertising tactics in

creating pro-conservation works, “Right now, the best minds in visual design are working in advertising. What we are talking about here is anti-advertising, to be the counterpoint of this gigantic world of advertising. Art is traditionally about the artist’s personal agenda. I am an activist on the feeling side of environmental issues, not the political side” (D. Hyde, personal communication, March 23rd, 2018).

Nunez described strategic advertising that targets the presentation of a conservation message to a moment when the consumer is feeling good about themselves. He outlines the tactics, describing:

Now we know who they are, where they are, when the planner considers it will be the most effective moment to give them the message. We consider it will be the magazine on the airline. They will be pampered, they will feel good about it, they will be in a positive state of mind. It’s almost like dressing up in the mind. I see myself in the situation. For me, as a creative, what I am trying to get is a role-feeling that is quite basic. First, I could make them feel good: I am super pampered here, I am doing so well. The charity can make them feel guilty. You might consider that people will have a negative reaction to that. I think I would go more for the empowering feeling. If you are doing well in your life, you understand that you are going to enjoy a country, nature, you have the power to make it better. It’s sort of like an ego massage. You are awesome, you can be more awesome. These people have a lot of power and you are showing them: you could do good.

(J. Nunez, personal communication, January 19th, 2018)

The consumer is the link in the illegal wildlife trade network that I assert is the most effective target for emotionally impactful artworks that encourage engagement. Nunez’ insights about addressing consumer audiences, especially timing and message type, are useful in considering the development of these kinds of projects. A model where artists work closely with conservationists and scientists to develop wildlife trafficking visuals has a great deal of promise to emotionally involve and inspire audiences. This engagement could include strategies and concepts drawn from advertising that are applied and leveraged in new ways. This form of collaboration is distinct from the more

conventional approach that conservation organizations take to presenting images, where an artist is directed to develop a specific kind of visual product.

Spelman particularly identified engagement with the unique skillset of artists as central to interpreting and broadcasting scientific information in innovative ways. She explains:

I feel that it is important to allow the artist to do their own research into the science of conservation, give them the space and the chance to choose what they want to learn more about, and then create work in response to what they discover. Most of what is out there in terms of conservation or scientific use of art is content driven by the scientific experts. I am interested in creating space for artists to make work that is relevant to a wider audience and therefore has the potential to be more powerful. We do have corporate use of visuals by conservation groups but most of this is graphic art. There are many creative people who could be involved in addition to the graphic artists working for these organizations.
(L. Spelman, personal communication, April 8th, 2018)

This working model nurtures the engagement between artists, scientists, and conservation organizations. It is a framework that values cross-disciplinary skill sets and innovation and is the collaborative method I advocate for in this thesis.

Chapter 5: Personal Meaning Mapping Methods

For this research phase, I invited study participants to create a Personal Meaning Map (PMM) to understand individual perceptions of wildlife trafficking after viewing artwork on this theme. Personal Meaning Mapping is a research method developed by John Falk in 1998; it was created to evaluate changes over time in museum-goer understanding of a topic presented in an exhibition (Rao, et. al 2015). My PMM research project was designed after the work of Linda Kalof and other researchers, who conducted studies in educational and museum contexts about the efficacy of animal portraiture in generating feelings of empathy and connection to non-human animals (Kalof, et. al, 2011, 2016). Because my research revealed no existing studies concerning the efficacy of visual images in changing attitudes toward wildlife trafficking, and because prior PMM studies (Kalof, et. al, 2011, 2016) have revealed positive shifts in audience perceptions of animals after viewing related visual art, I identified the PMM model as an appropriate method for investigating core issues within my thesis. These core topics are: what changes occur within audiences after viewing artwork about wildlife trafficking; do artworks describing and commenting on wildlife trafficking have the impact on audiences intended by the artist; and which kinds of artworks demonstrate changes in attitudes toward wildlife trafficking after audiences view the work.

The PMM research for this thesis was conducted to measure people's perceptions of key words related to wildlife trafficking before and after viewing an image. In my original study design, I aspired to use images depicting the same species in a range of ways. Here, I'll use an elephant as an example to express how various representations of the same species might look: living individual elephants, living elephants in groups,

elephants with people (such as individuals on safari), dead elephants killed by poachers (non-graphic), dead elephants killed by poachers (graphic), dead elephants with trophy hunters and/or poachers, ivory trinkets, ivory antiques, collected ivory stockpiles, burning ivory. I envisioned a research project assessing the efficacy of various ways of depicting the same animal, to determine changes in attitude according to different image types. For example, would seeing some depictions lead to feelings of disempowerment and despair about wildlife trafficking and other images inspire people to understand wildlife trafficking from a new conservation perspective? Or, even cause people to feel motivated -at least in the moment that they saw the work- to act to reduce harm from trafficking?

In practice, the study design described above was adapted as a result of several factors. Because the kinds of images used in the PMM study were determined by permission granted for the use of the work by the artists interviewed, the content of the works created by specific artists dictated the range of images used in the PMM. Of the artists I contacted who were willing to be interviewed, all allowed the use of their artworks in the study. However, none of the artists had bodies of work that depicted such a wide range of species representations as those described in the case of the elephant, above. Therefore, I broadened the criteria for selecting artworks, along with the study emphasis, beyond evaluating different depictions of the same species. Instead, the idea was to understand how artworks interpret and describe wildlife trafficking, in ways that are more or less successful at generating positive perceptual changes.

By using images representing the range of species which were the artists' subjects, including sea life, primates, birds and others, the artwork selected reflected, in a small way, the extensive number of species impacted by the illegal trade. Additionally,

the artists, and the works of art they create were chosen not only because their work expresses themes related to wildlife trafficking but because they create work that can be categorized as fine art. Part of what I wanted to uncover in this thesis was whether fine art, with its unique aesthetic and interpretive qualities, can uniquely access audiences' emotional responses and harness these responses to increase pro-conservation attitudes. This approach identifies visual art as distinct from the way in which images are commonly used by conservation organizations. I say "way" as opposed to "kind" of images, because the placement and positioning of a work of art in various contexts provides cues about the function of the work. The same work of art may function as commercial work or fine art, depending on the way that it is used or presented. In describing common ways images are used by conservation groups, I refer to graphic design, images in newsletters or magazines, or images in advertising. In this study, I was interested in looking at how art can be presented in innovative ways by conservation organizations and scientists. In contrast to more conventional uses of artwork, these forms of presentation might have a performative, activist, or audience engagement component. The artwork might be situated to communicate with an audience in a gallery setting or in a public space.

The idea is that this work, regardless of presentation format, involves artists in the process of developing a finished piece. As opposed to a work of graphic design where the client (i.e. a conservation non-profit) solicits a specific image from an artist, the artwork I looked at in this study involves the artist's creative voice and agency to comment on the topic at hand. In some cases, the work was developed out of research on a conservation subject, and in others, through the process of creative collaboration with scientists or

conservation organizations. This approach identifies artists as equal collaborators with conservationists and scientists in the development of artworks that describe and express the problem of wildlife trafficking. These artists are empowered to make works in the ways they view as most emotionally impactful, by developing art that interprets scientific information and is simultaneously aesthetically and stylistically representative of the individual artist's creativity.

These artworks from the interviewed artists were used in the PMM study- an evaluative method of recording changes in perception before and after viewing images, in this case, artwork about wildlife trafficking. This research took place at two study sites: the first location was Washington, DC, USA and the second, Costa Rica. The Washington, DC research sites included the National Mall National Park and the Smithsonian's National Zoo. These locations were chosen because they are high-use areas receiving visitors from within the United States as well as international travelers. The PMM surveys were distributed over a period of four days. On the National Mall, the surveys were done on Sunday, March 4th and Monday March 5th. On Wednesday March 7th and Thursday March 8th, I conducted PMM research at the Smithsonian National Zoo. A total of 14 PMM responses were collected across these dates.

In Costa Rica, the PMM surveys were distributed at Piro Biological Station, Las Cruces Biological Station and in the town of San Vito. Prior to conducting this research, my research materials, including the letter of information informing subjects about the purpose of the study, demographic data sheet, and the PMM keywords were translated into Spanish by a hired translator; additional translation support in conducting the surveys was provided by fellow students, faculty, and station staff. These sites were chosen

because they were visited as part of an Evergreen State College Tropical Ecology course. At the research stations, invited participants were selected in consultation with faculty and station staff. In San Vito, community members were approached at a weekly farmer's market and inside of veterinary clinics. Costa Rica research locations and dates included: Piro Biological Station on Tuesday 20th of March; Las Cruces biological station on Friday, 23rd March, and the town of San Vito on Saturday, March 24th. A total of 8 PMM responses were collected across these dates.

In both locations, the research conducted was entirely anonymous, with participants identified only by the number on their PMM. The same number was used to identify the participant's demographic data sheet. The demographic data collected included participant gender, nationality, ethnicity, and age group. All demographic data categories offered a 'no response' option. The purpose of this data collection was to assess whether the responses varied by gender, nationality, ethnicity, or age.

Participants were then provided with a sheet of paper with key words in the center. For the Washington, DC research, keywords used included Rhinoceros, Tiger, Exotic Pets, and Wild Animal. These keywords were paired with images of Rhinoceros (*Diceros bicornis*), Tiger (*Panthera tigris*), Bali Mynah (*Leucospar rothschildi*), and Scarlet Macaw (*Ara macao*). For the Costa Rica research, the keywords included Endangered Animal, Wild Animal and Exotic Pets. These keywords were paired with images of Cotton-top Tamarins (*Saguinus oedipus*), Scarlet Macaw (*Ara macao*), and Margay (*Leopardus wiedii*). In all cases, I attempted to get a minimum of 5 PMM responses for each keyword-image pairing; however, this was not always possible, due to

a limited pool of willing study participants. Descriptions of specific image-keyword pairings are provided in the Results section.

The choice in keyword selection for both locations was guided by the kind of artwork used. In Costa Rica, I was specifically interested in understanding how participants would respond to images of species native to Central and South America, perhaps species that they were personally familiar with. The images and related key words used in Costa Rica and were selected based on these criteria. For the Washington DC site, I chose images representing animals not native to the US, species that are either generally well-known species, or charismatic and attractive species. The reasoning for these choices was that on the National Mall in Washington DC, it is likely that one will encounter a people from many nations. I wanted to provide images that were relatable or known to the research participants. Additionally, because half the research dates were spent at the National Zoo, I felt that using species which may be commonly encountered in a zoo setting opened up the possibility that responses would demonstrate prior knowledge of the species depicted.

Participants in both locations were asked to write down all of the words- nouns, verbs adjectives, etc.- that they associated with the keyword, using blue pen. I found that it was important at this point to indicate to the study participant that the purpose of the research was to elicit their first impressions of the keyword, and that there were no right or wrong responses; this information was particularly helpful in Costa Rica (due to the challenges of translation from English to Spanish as well as taking into account cross-cultural expectations). Participants were also invited to add phrases expanding on the words they wrote, as appropriate. Next, they were shown one out of the set of twelve

images depicting trafficked species, created by the interviewed artists. The images were selected to correspond appropriately to the key words used. The PMM participants were given no information about the artists or their techniques, other than the artist's name. After the subject looked at the image, they looked back at their PMM document. Using a black pen, the participants recorded any changes to their PMM after viewing the images. This included crossing out words, adding words, or adding phrases. Participants could also note 'no changes' after viewing the artworks. To conclude, participants returned the demographic data and the PMM to me for future evaluation.

The Protocol for PMM (Institute for Learning Innovation, 2006), like the Kalof study from 2011, was designed for conducting a PMM study in a museum context to assess visitor interpretation of a topic before and after viewing works. The sampling procedure outlined in Protocol for PMM indicates that the sample group should be composed of individual museum exhibit viewers, randomly selected- for example, choosing every fifth person as the interview subject. The author indicates that in many cases, the interview will be conducted with one person out of a group with other group members present (Institute for Learning Innovation, 2006).

In the case of my research on the National Mall and at the National Zoo – both in Washington, DC - I used slightly different research methods. The context of the PMM study in both locations was distinct from the use of PMM in museums in a number of ways. Firstly, the potential research subjects were not all at the study sites for the same reasons, as would be the case in a study at a single museum site. On the National Mall, people in that location could be tourists or locals visiting the historical and cultural sites, workers at these facilities, or simply individuals and groups passing through the public

spaces of a National Park. Likewise, at the National Zoo, people in the space could be zoo visitors, staff, or people walking through the space (uniquely, the zoo is free and it is possible to simply pass through without participating in viewing the animal exhibits). In addition to these differences, I used other criteria to randomize the people I spoke to. I decided to focus on soliciting participants who were walking by themselves or in pairs (it was possible for 1-2 people to take the survey simultaneously) to avoid the influence of other people's input on the respondents. In several cases, I also invited people from larger groups to participate and they voluntarily separated out of the bigger groups during the process of the study. Because these spaces – the National Mall and National Zoo - are not as controlled as the confines of museums, and because I was conducting research alone and had to stop frequently to change out the completed PMM for new documents, I did not select participants by order (i.e. every 5th person). Rather, I used the criteria mentioned above as well as several other criteria: I did not invite people who were on the phone or with headphones on; those who were running or appeared to be working; those with children (participants had to be over the age of 18); or those who were leading large tour groups. For these reasons I adopted a sampling procedure based on group size and omitting the behaviors mentioned. When I saw people who met these criteria, I asked them if they would like to participate in a survey about animals. If they responded affirmatively, I proceeded to explain the project as outlined in the following sections.

An additional complication for the Washington DC study sites was the weather. I conducted the interviews on the following dates: March 4th, 5th, 7th, and 8th 2018. During that period there were two historic Nor'easter storms in the region which caused windy and cold conditions on some days. At those times, it was too cold and windy to remain

stationary in a single location so I had to walk between interviews. Further, in order for me to conduct interview on the National Mall without applying for a demonstration permit through the National Parks Service, I did not provide a table and chairs for the interviewees. While doing so may have resulted in advantages, such as enabling participants to sit to participate in the study, the complications of applying for a permit as well as the fact that I was travelling to Washington DC from Seattle, Washington and would have had to rent or borrow equipment for seating and transport it to the study site, deterred me from using a table and chairs for the study. Alternatively, I organized the participant informational letter, demographic data sheet, PMM templates, and images on a clipboard for simplicity. When possible, weather permitting, I sat on park benches or stood near benches in both locations to provide participants with the option of sitting down. Of the many people asked to participate in the research I was able to solicit the participation of 14 people between the two study sites.

My purpose in conducting research in Costa Rica was two-fold: to obtain data from residents of a country outside of the United States, and to assess whether there were any notable variations in perceptions before and after viewing artwork, between the groups of research participants in the US and in Costa Rica. While I was able to solicit international participants as part of the study in Washington DC, I had hoped to collect data from a bigger respondent pool of non-US nationals by doing the project in another country entirely. This international perspective is especially important, given the global scope of wildlife trafficking and the nuances of cross-cultural interpretation of visual art.

In Costa Rica, my survey methods varied from those in Washington, DC for several reasons. The first and most important was the need to follow the guidance of local

community members and station staff to determine where and with whom it would be most appropriate to conduct the research. Because wildlife trafficking is a sensitive topic, due to its criminality and scope, and because two of the research sites were located adjacent to National Parks and within biological stations, it was entirely feasible that individuals interviewed and surveyed would have first-hand knowledge of trafficking or know participants in the trade- indeed, this proved to be the case, as will be expressed in the results and discussion sections.

Additionally, the consideration of language and interpretation proved to be more of a challenge that I had initially anticipated. While I was prepared for the interviews/surveys with documents translated into Spanish, including the informational letter, demographic data form, and key word sheets, the process of answering and responding to questions was somewhat different than I expected. My Spanish is basic so in most cases, I was supported in translation by peers, faculty, or station staff. In instances where I conducted the surveys on my own, the participants were bilingual, so we did parts in English and Spanish, also using Google Translate in some cases. More significant than language was an unanticipated difference in cultural interpretation concerning the purpose of the survey. I noticed that most participants were concerned about providing 'right' answers to the PMM, which was not the case with the Washington, DC surveys. Staff at one of the research stations indicated that respondents might wish to provide a socially appropriate response (i.e. a response reflecting the assumption that everyone should consider wildlife trafficking to be bad). A different Costa Rican field staff person described the generalization that there is a desire to be polite and respectful, and not 'lose face' within Costa Rican culture and that these

attitudes may have impacted people's desire to give a 'correct' response. Whatever the cause, these combined experiences made conducting the surveys more complex logistically in Costa Rica than in the United States.

A final consideration was the location of the interview and survey sites. Because two of the study locations were at scientific research stations, I wanted to avoid biasing the samples by excluding biologists who may have professional knowledge about wildlife trafficking. After discussing this with faculty and station staff, I specifically interviewed people at the stations who were either visiting vendors, administrative staff, or guest services staff. In the town of San Vito, I talked to vendors at the farmer's market, first approaching people randomly, and then – after these people indicated they didn't have time to be interviewed- approaching specific vendors that we were directed to speak with by those who did not participate. Additionally, I surveyed two veterinarians: one small animal specialist and one large animal specialist. Although these individuals were scientific professionals who may have specialist knowledge about wildlife trafficking, I considered them to be appropriate sources because they work with domestic animals (not wildlife as would be the focus of station professionals).

Following the PMM survey, the results were categorized following guidance from the literature. In the PMM literature I reviewed, participant's responses are frequently categorized by the terms *breadth*, *depth*, and *mastery*. These three terms were originally developed as content- analysis categories for scoring PMM (allowing qualitative data to be converted into quantitative data) by the first US study Falk et al. (1998). In that study, *Breadth* refers to changes in the range of the participant's understanding of the topic; *depth* describes the complexity and detail of a response; and *mastery* evaluates the range

in respondent understanding from novice to expert (Falk, et al., 1998). Other words/concepts may take the place of or be added to the categories, depending on the goal of the researcher; for example, the categories *extent* and *emotion* are used instead of *mastery* in the Kalof research (Kalof, et al; 2011, 2016). These categories provide a way to rank participant responses on a scale, assigning a numerical value from low to high for responses grouped in each of these categories. This numerical ranking provides a systematic approach for assessing quantitative data qualitatively (Falk, et al., 1998, Kalof, et al; 2011, 2016). Additionally, quantitative values may be assigned to the percentage of respondents who fall into the emergent categories developed by the researcher in response to the content of the PMM results. These assigned values reflect changes in the categories that participants are grouped in before and after viewing the artworks (Kalof, et al; 2011, 2016).

Although PMM surveys can be a source for both qualitative and quantitative data, in my study I chose to assess the PMM qualitatively, rather than looking at the statistical significance of the results, because of the limited sample size for both individual PMMs for each image and key word and the combined total of all images and key words used in my study. I followed the process outlined in the literature on PMMs, by assigning emergent categories to participant responses based on content. This minimizes the influence of the researcher and allow participant responses to convey information directly (Falk, 1998; Kalof, et al. 201, 2016). To this end, I reviewed the PMM and developed the following categories of emergent responses, across all groupings of images and key words, based on survey participant responses:

Lists and Descriptions of Animals

Expression of Feelings

Call to Action

Knowledge of Wildlife Trafficking

The PMM from both study locations were placed in these categories.

Additionally, I looked at differences and similarities across the two locations. Outcomes from these methods are described in the subsequent chapter.

Chapter 6: Personal Meaning Mapping Results

In conducting the PMM research, I interviewed a total of 22 people; 14 in Washington, DC., and 8 in Costa Rica. The table below describes the data collected in each location, with the combined totals for both locations. In each demographic data category, individuals were given a blank space to self-identify Gender, Nationalities, and Ethnicities, allowing for a range of possible descriptions. The Age Categories listed included the age groups in the table below, as well as categories for 65-75, 75-85, and over 85, but as no individuals in these groups participated in the study, in the table I omitted those categories and replaced them with an 'Over 65' category. Respondents were also given a 'no response' option for each demographic data question. While no participants marked 'no response,' in some instances they did leave spaces blank, so I reflected this by including a 'Left Blank' category in the table. Finally, in one instance, a response to 'Ethnicities' was illegible, so this is also represented.

| Demographic Data | Washington, DC | Costa Rica | Combined Totals |
|----------------------|----------------|------------|-----------------|
| Gender | | | |
| Male | 8 | 3 | 11 |
| Female | 6 | 5 | 11 |
| Nationalities | | | |
| USA/America | 8 | 0 | 8 |
| Costa Rican | 0 | 6 | 6 |
| Indian | 1 | 0 | 1 |
| Belgian | 0 | 1 | 1 |
| Chinese | 1 | 0 | 1 |
| Left Blank | 4 | 1 | 5 |
| Ethnicities | | | |
| White/Caucasian | 7 | 0 | 7 |
| African-Asian | 1 | 0 | 1 |
| Indian | 1 | 0 | 1 |
| Chinese | 1 | 0 | 1 |
| African-American | 1 | 0 | 1 |
| Left Blank | 3 | 7 | 10 |
| Illegible | 0 | 1 | 1 |
| Age Category | | | |
| 18-25 | 7 | 0 | 7 |
| 25-35 | 5 | 5 | 10 |
| 35-45 | 1 | 0 | 1 |
| 45-55 | 1 | 1 | 2 |
| 55-65 | 0 | 1 | 1 |
| Over 65 | 0 | 0 | 0 |
| Left Blank | 0 | 1 | 1 |

Table 1. Demographic Data

Because of the small number of study participants, evaluating responses for specific demographic categories would not have yielded generalizable information. With this in mind, I gleaned several pieces of information from this data. The most important in terms of fulfilling the study design goal of surveying a cross section of national and

ethnic identities was that the participants represented a minimum of 5 nationalities, with additional representation possible given that 5 total participants left this category blank. Another interesting piece of information from the data is that the age of 77% of the respondents was under 35. This causes me to question the dynamics of the selected study sites. In the case of the Washington DC National Mall and National Zoo, it would seem that a larger number of willing participants were available from the younger age categories. For future research, parsing responses by age would be a useful consideration, in terms of the presentation of visual projects that represent wildlife trafficking. Perhaps a project could be designed which considered the age group most likely to consume artworks in a specific context. For example, evaluating the age group of people likely to attend gallery shows or view works online side by side with an assessment of the images most likely to impact each age category. This might yield information about the kinds of works best used in a given context.

In the case of my research, study participants viewed six of the twelve images shared by the artists interviewed, including several of my own works. For the six images, the following key words were used on the PMM: *Exotic Pets, Wild Animal, Endangered Animal, Rhinoceros, Tiger*. The figures below represent the works, and the captions describe the keywords used with the respective images.



Figure 6. Bali mynah (*Leucospa rothschildi*), illustration by Jeanne Dodds. This representation depicts a critically endangered bird species endemic to Bali, Indonesia, trafficked in the illegal pet trade. The key words associated with this image for PMM were *Exotic Pets*.



Figure 7. Scarlet macaw (*Ara macao*), photograph by Jeanne Dodds. This photograph shows a caged Scarlet macaw, a species endemic to Mexico, Central, and South America.

This species is impacted by the illegal pet trade. The key words associated with this image for PMM were *Exotic Pets*, *Wild Animal*, and *Endangered Animal*.



Figure 8. Cotton top tamarin (Saguinus oedipus) with tamarin spp., photograph by Jeanne Dodds. This image shows a critically endangered endemic primate species (Cotton top tamarin) endemic to Colombian and another tamarin species. Tamarins are trafficked in the illegal pet trade. The key words associated with this image for PMM were Exotic Pets.



Figure 9. Fauna Portrait, Margay (Leopardus wiedii) digital illustration by Emily Schnall. This image represents a feline species impacted by the illegal fur trade. The key words associated with this image for PMM were Wild Animal and Endangered Animal.



Figure 10. Rhino Rapine, mixed-media painting by Sara Everett. This image depicts a Black rhinoceros, (*Diceros bicornis*) a critically endangered species threatened by poaching. The key words associated with this image for PMM were *Wild Animal* and *Endangered Animal*.



Figure 11. Hands Off, digital illustration by Emily Schnall. This image was created as a Facebook ad to raise awareness of the Big Cat Public Safety Act, for the International Fund for Animal Welfare. The endangered Tiger (*Panthera tigris*) is a target for poaching for the trade in parts for medicinal and other uses. The key word associated with this image for PMM was *Tiger*.

In analyzing the qualitative information represented by the PMM, I followed the process outlined in the literature, which described methods for analyzing participant responses. Emergent categories for the PMM responses are created based on content, minimizing the influence of the researcher and allowing the responses to demonstrate participant understanding (Falk, 1998; Kalof, et al. 201, 2016). To this end, I reviewed the PMM, developing response categories across all groupings of images and key words.

These are defined below with relevant examples from both study locations. Within these descriptions and examples, I refer to the artwork by species depicted rather than title, so the relationship between key words and species showing in the image is clear. These categories were applicable for the PMM responses before and after viewing the artwork. In some cases, responses could have fallen into more than one category, so when this was the case, I selected the category that had the most listed responses for that category. In some cases, for the post-image PMM, I placed the response into a category when a new word related to that category was added.

Section 6a: PMM Category Descriptions and Examples

Lists and Descriptions of Animals: Participant records a list of animals or concepts associated with the key words or image. There is no or little elaboration about the key words or image aside from the list. An example is listed below of a PMM from the category of Lists and Descriptions of Animals from Washington, DC, PMM 10, key words - Exotic Pets, image - Bali Mynah.

Before: “snakes, tigers, birds, frogs, lizards, savannah cat, sugar gliders, foxes, skunks.”

After: “no changes.”

Expression of Feelings: The words in the PMM demonstrate emotion in response to the key words or the image. Examples from across the PMM which listed feelings after viewing the images included: “love”, “happiness”, “helpless”, “sad”, “spiritual”.

Call to Action: The participant recorded an action to take, or ideas for how the problem might be addressed, in response to the key words or image. An example for this category is from Costa Rica, PMM 38, key words -Wild Animal, image- Margay.

Before: “Vulnerable and in need of total protection”

Knowledge of Wildlife Trafficking: The participant responses demonstrated awareness of the problem of wildlife trafficking, either generally, or as it relates to the species listed in the key words or image. The following is an example of this category from Washington, DC, PMM 11, key words - Exotic Pets, image - Bali Mynah (before viewing artwork).

Before: “Need more law enforcement and background checks to own”

After: “Set it free”

Additionally, I developed two other response categories for the post-artwork viewing PMM responses.

Refers to artwork: This category refers to a response by the participant about the actual artwork itself. The sole example of this was from Washington, DC, PMM 19, key word- Rhinoceros, image Rhinoceros

After: “nice visual”

No changes: The participant recorded ‘no changes’ after viewing the artwork.

To organize the data, I looked at several variables, including aggregate responses from both locations to the key words before and after viewing the image, and individual responses from each of the two study sites to the key words before and after viewing the image. The results are reported in the table below.

| Personal Meaning Map Responses | Aggregate Before | Aggregate After | Washington, DC Before | Washington, DC After | Costa Rica Before | Costa Rica After |
|--|------------------|-----------------|-----------------------|----------------------|-------------------|------------------|
| <i>Lists and Descriptions of Animals</i> | 15 | 5 | 13 | 5 | 2 | 0 |
| <i>Expression of Feelings</i> | 0 | 6 | 0 | 4 | 0 | 2 |
| <i>Call to Action</i> | 4 | 3 | 0 | 0 | 4 | 3 |
| <i>Knowledge of Wildlife Trafficking</i> | 3 | 2 | 1 | 1 | 2 | 1 |
| <i>Refers to artwork</i> | n/a | 1 | n/a | 1 | n/a | 0 |
| <i>No changes</i> | n/a | 5 | n/a | 3 | n/a | 2 |

Table 2. PMM responses: both sites combined and each location individually

In aggregate, the majority of respondents to the pre-image PMM fell into the *Lists and Descriptions of Animals* category, with 68% of participants in this group. The categories with the most post-image PMM responses were *Lists and Descriptions of Animals* and *No changes* each with 23% of the responses. While lists of the characteristics the respondent associated with the keyword were present both before and after viewing PMM, the drop in the number of responses in this category after seeing the artwork suggests that viewing the image sparked new, more nuanced ways of thinking

about the key words. Additionally, the response percentages are not descriptive of changes that occurred within the lists recorded before and after the image was seen. In several cases, there was a shift between the adjectives used in response to the keywords from an unfavorable description before viewing the image, to a descriptive term highlighting positive traits after the image was seen. An example of this change from Washington, DC PMM 21, keyword-Tiger, image-Tiger:

Before: “Maneaters”

After: “Pretty,” “Graceful”

A second example of this shift from Washington, DC PMM 14, keyword-Exotic Pets, image-Bali Mynah:

Before: “Dangerous”

After: “Beautiful Bird”

Because the sample size for this project was small, it is illuminating to mention that a similar before and after image viewing shift in terminology was likewise noted in the Kalof studies (2011, 2016), where it is suggested that these changed perceptions demonstrate new understandings and a feeling of connection between humans and animals among audiences, as a result of the impact of viewing artwork (Kalof, et al. 2011, 2016). In my research, notably, there is an increase between the total number of people recording a feeling in response to the key word before and after viewing the image. Before seeing the image, zero respondents best fit the category *Expression of Feelings*; after the image was viewed, 32% of respondents fell into this category, by adding one or more feeling terms to their PMM. This finding touches an important focus of my research: understanding which images are most likely to impact people’s

perceptions of wildlife trafficking and generate a pro-conservation mindset. While the number of responses to each set of images in the PMM was too limited to make recommendations about the efficacy of specific image types, that people were made to feel upon viewing the images is indicative that images do access people's emotions. This suggests the utility of images in influencing and changing feelings and beliefs about wildlife trafficking and conservation.

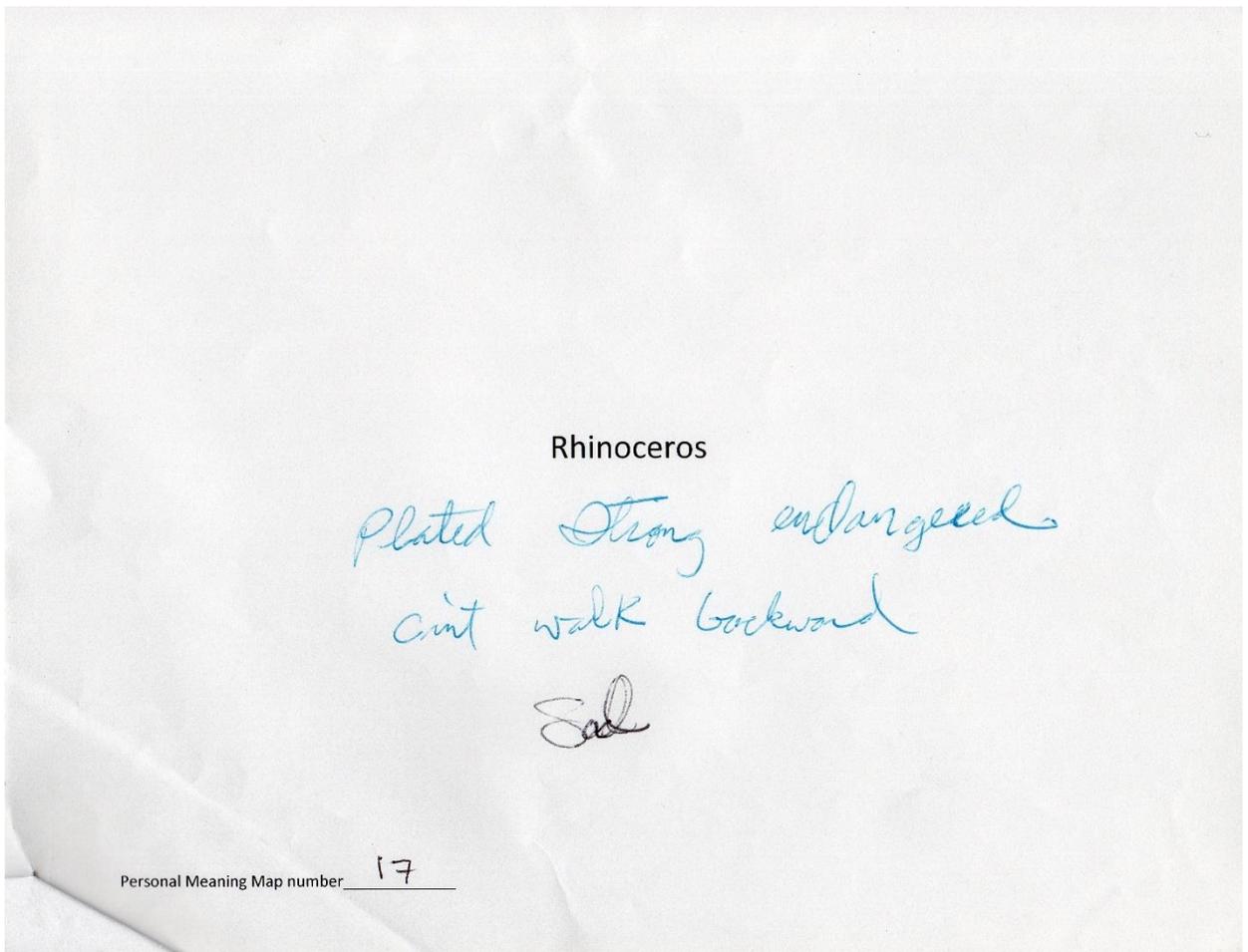


Figure 12. PMM 17, Washington, DC Key word- Rhinoceros, image- Rhinoceros. Before image viewing text in blue, after image viewing text in black. This respondent was in the *Lists and Descriptions of Animals* group before viewing the image and the *Expression of Feelings* category after. In our post-PMM conversation, he noted being particularly upset by the image and that the guns in the image evoked people shooting and killing Rhinoceroses, saying, “That is terrible.”

Another noteworthy point not revealed by the data included in the tables is that the most common terms used in response to key words and images are the terms “almost extinct” and “endangered”, or some variation of these, such as “extinction”. These terms came up independently 8 times in the Washington, DC, PMM, representing the appearance of these words in a total of 57% of the responses for that location. These terms did not appear in the PMM surveys for Costa Rica; other differences between the two study sites will be subsequently addressed. The words “almost extinct” and “endangered” appeared before the image was seen in association with the following key words: Rhinoceros, Exotic Pets, and Tiger. In post-artwork viewing PMM, the term “endangered” was recorded once, in association with the image - Tiger. In this instance, the word was recorded with a question mark afterwards, e.g. “Endangered (?)”. There are several possible interpretations concerning the frequent use of these terms.

That participants saw the key words Rhinoceros, Exotic Pets, and Tiger, and responded with language which reflects conservation status may be seen as heartening. This response indicates awareness, at some level, that the continued survival of these species, the Rhinoceros and the Tiger, is imperiled. Or, in the case of the key words “Exotic Pets”, the use of this language indicates understanding of some aspect of the problem of keeping wild animals in captivity as pets. The one respondent who followed up viewing the image of the Tiger by adding the word “Endangered (?)” reveals that the artwork sparked a question for the participant; something about the image presentation made them question whether this species is, in fact, endangered. The emphasis on these terms -endangered and extinct - exclusively in the Washington, DC responses causes me to wonder about the possible influence of the Endangered Species Act (ESA) as a

prominent and visible piece of legislation that is a part of United States culture. Perhaps the presence of these terms in the United States PMM responses mirrors the visibility and importance of endangered species protection, and the current, ongoing, and concerning debates about the value and relevance of the ESA. These possibilities open a rich area for additional research, particularly in light of the added pressure that endangered species face from the illegal trade in wildlife, and the need to develop images which educate and inspire, rather than discourage, audiences to support conservation.

In general, the responses in Washington, DC and at the various study sites in Costa Rica showed differences between the two countries in the range in participant awareness of problems facing wildlife, and the issue of wildlife trafficking specifically. In Costa Rica, the responses as a whole demonstrated more sophisticated prior knowledge of these issues. For the response category *Call to Action*, zero Washington, DC participants fell into this group, but in Costa Rica, 50% of respondents were in this category in response to the PMM key words before viewing the image, with 38% of respondents in this category after viewing the image. The language used by the respondents in this category included the responses below.

From Costa Rica (Piro Biological Research Station), PMM 30, key words-Exotic Pets, image-Tamarins; this respondent was in the *Lists and Descriptions of Animals* category before viewing the image, and after, in the *Call to Action* group

Before: “jaguar,” “monkeys,” “coatis,” “snakes,” “birds”

After (participant created a bulleted list):

- “monkeys”
- “It is not correct”
- “Obtaining exotic pets that have been taken from their environment is penalized”

- “It is not appropriate to feed them”
- “They are more beautiful and happy free”
- “Never take them from their natural environment”

This participant went from listing species associations for the key words Exotic Pets to providing moral and ethical statements about keeping wild animals – specifically, monkeys- as pets. One concern about this particular response, however, is that the translator provided the respondent with suggestions for possible responses in an effort to clarify the project, perhaps unintentionally biasing the response. Regardless, the participant demonstrates awareness of the problem of taking and keeping illegal wild pets. She also reveals engagement with the image content, i.e. remarks about feeding exotic animals in response to the image, which shows people feeding watermelon to unwanted illegally trafficked pet tamarins released by their owners in an urban park in Cartagena, Colombia. In our post-PMM conversation, the participant specifically mentioned that such practices, when wild animals are inappropriately fed by humans and dependent on people for the food source, are harmful and should not be done.

Another example from the *Call to Action* group, Costa Rica (San Vito Farmer’s Market), PMM 35, key words-Endangered Animal, image-Scarlet Macaw:

Before: “It is important to end the practice of capturing wild animals”

After:

- “It is important to plant seedling trees for the birds and terrestrial animals in general”
- “We could keep domestic love birds or parakeets and others”

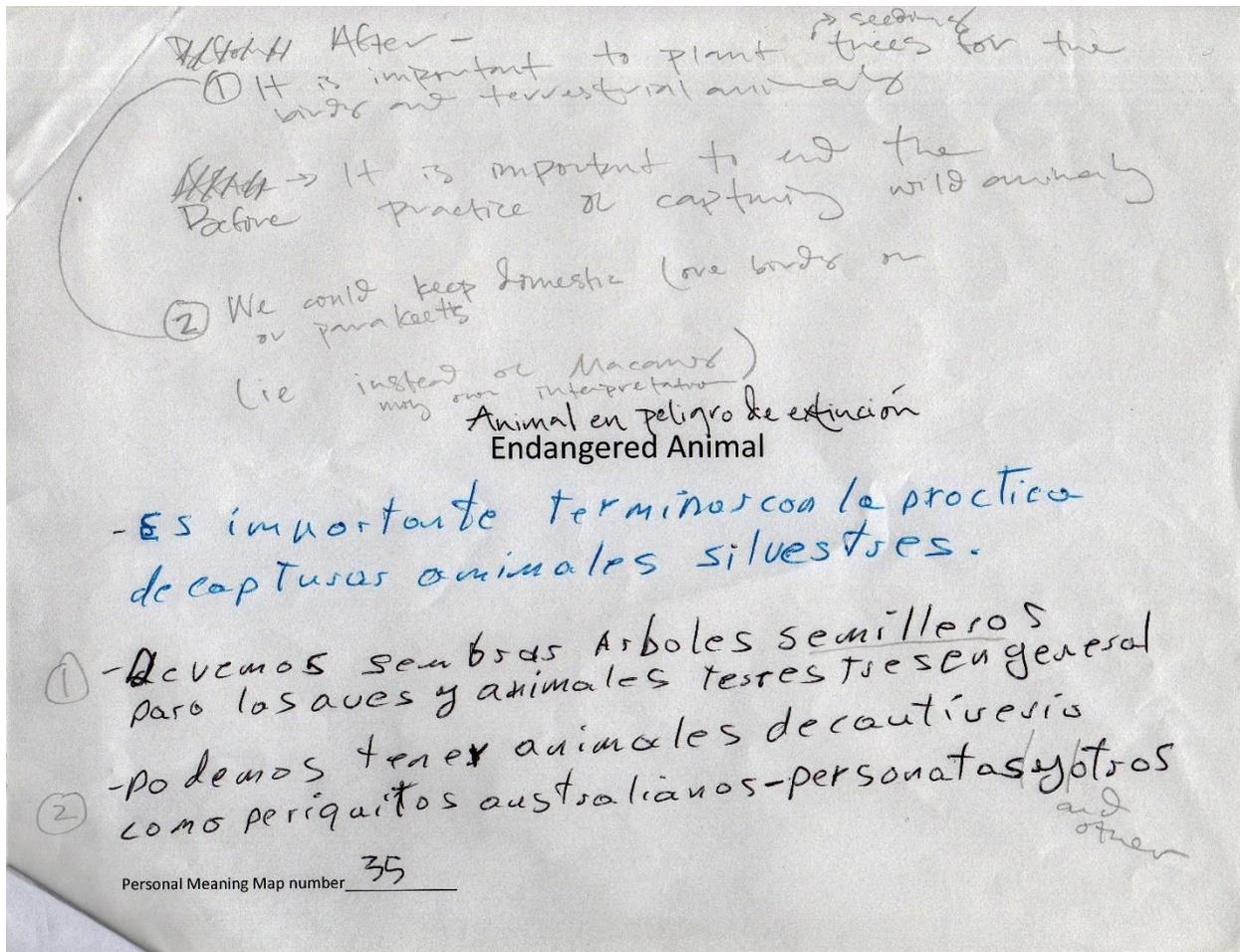


Figure 13. PMM 35 from Costa Rica (San Vito Farmer's Market), key words- Endangered Animal, image-Scarlet Macaw. Before text is in blue ink, after text in black ink, and my notes/translation are in pencil. PMM translation provided by Rodolfo Quiros, Organization for Tropical Studies, Las Cruces field Station Resident Biologist; interview translation by Dr. Marc Hayes, Faculty, The Evergreen State College.

The responses for PMM 35 are particularly salient to the category *Call to Action* because in both the PMM text and post-PMM conversation, the respondent was clear about his interest in the subject and desire to make suggestions about what could be done to help to address this problem. I was directed to speak to this participant, a vendor at the San Vito Farmer's Market who was selling plants and domestic birds, by another vendor who recommended approaching him. He was very passionate about the subject of illegal

trafficking, indicating that he personally knew people who participated in the trade at various scales, from collectors to middlemen and dealers. He mentioned knowing some people who planted trees with fruits attractive to specific bird species, in order to capture the birds and sell them in the illegal pet trade. He was emphatic that taking and keeping wild animals is wrong and suggested that domestic birds were equally good pets, both for the qualities of song and for beauty, indicating and displaying the chickens he was selling to explain this last desirable trait.

In Costa Rica, there were several respondents who fell under the *Knowledge of Wildlife Trafficking* category; the participant who completed PMM 36 at San Vito Farmer's Market, key words -Endangered Animal, image- Margay, was noteworthy for being the only participant in the study as a whole to be placed in this group with responses in this category both before and after viewing the image.

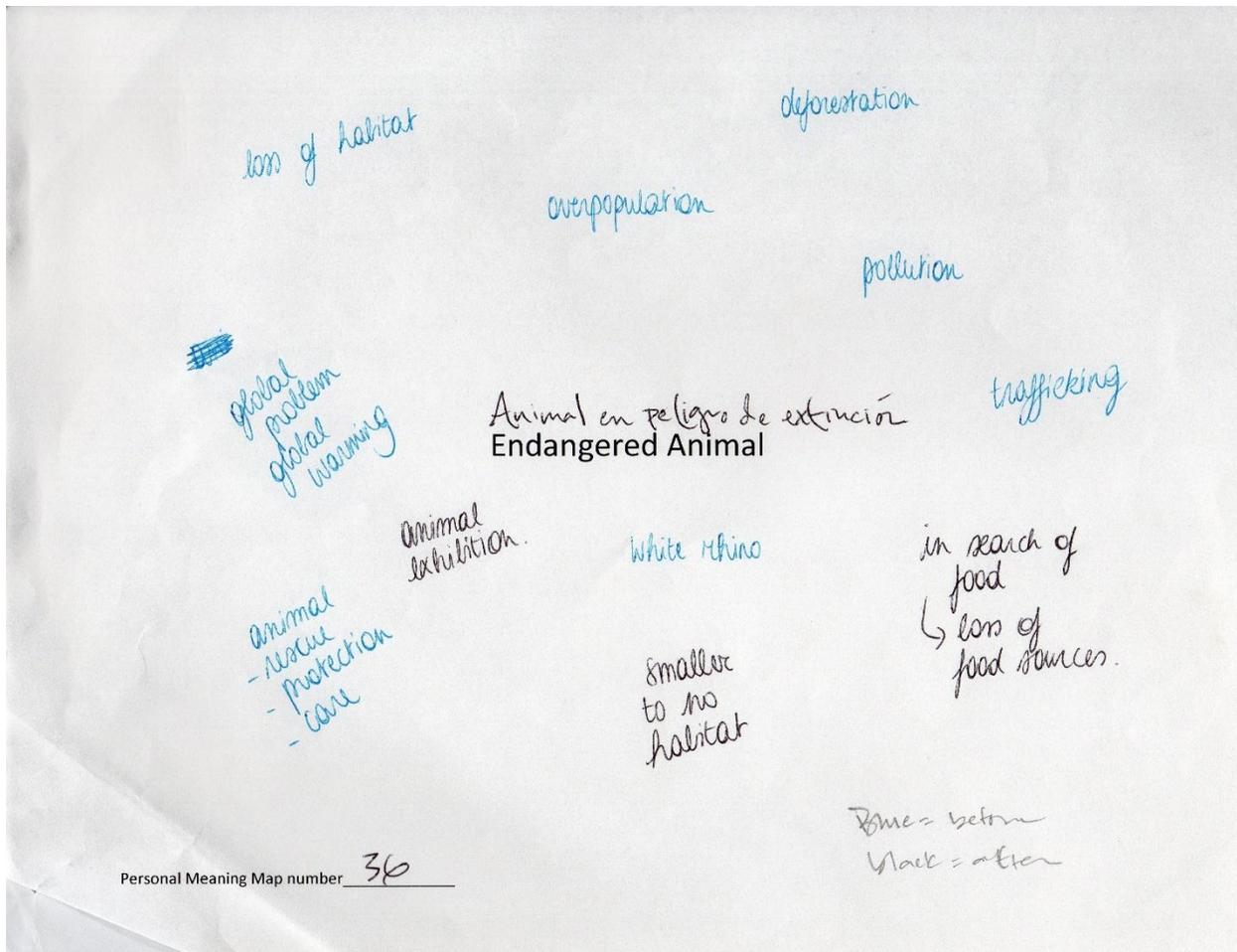


Figure 14. PMM 36 at San Vito Farmer’s Market, key words -Endangered Animal, image- Margay. Blue ink indicates responses before viewing image, black ink after. Note: participant indicated on the Demographic Data that she was of Belgian nationality and responded to the PMM in English.

This response is unique to the aggregate PMM results, because the participant demonstrated a broad range of knowledge in response to the term Endangered Animal. She cites factors such as pollution, global warming, habitat and food source losses, and trafficking as contributors to the endangered species crisis.

Chapter 7: PMM Discussion

Introduction

In this chapter, I express insights generated by the Personal Meaning Mapping research, including themes and challenges revealed by the process of conducting PMM studies. In addition, I suggest ways that a future, similar study might be conducted. These include possibilities for more effectively assessing the impacts of specific kinds of images, thoughts on conducting additional studies in ways that reduce confounding variables, ideas for effectively conducting international research, and speculation about the impact of access to art education on participant responses.

Section 7a: Evaluation of and Suggestions for Personal Meaning Mapping Research

As described in the PMM Results chapter, my initial intention was to capture participant responses to artworks depicting the same species in different ways. Because the research process necessarily involved using images of numerous species (as described in the PMM Discussion chapter), I believe that the variation in the images impacted the outcome of the study. The main impact I experienced was the challenge of cross-comparing results. Comparing results was problematic, because each participant only looked at a single image/animal and therefore, their responses were specific to that image/animal. This presents a challenge in comparing responses side by side, because the participants are fundamentally responding to different input. Nevertheless, I believe that my study yielded useful data through the general comparison of cross-cultural responses as well as in showing a clear trend, across the images, that people responded with greater emotion to the key words after viewing the image.

Although other PMM studies I modeled my research after also used many different images showing a range of species, I believe that a study using a range of depictions of the *same* species would yield useful information. I speculate that if the images used in the PMM were variations on the same animal, insights from the responses might include: more information about how to effectively show a specific animal; better ability to interpret responses to upsetting, neutral, or positive images of one kind of animal; and the opportunity to observe differences between how people respond to images of an animal vs. images of the trafficked product (i.e. an image of an elephant vs. an image of carved elephant tusks). Pursuit of a study where a range of images are used to evaluate wildlife trafficking visual messaging would inform and add to the body of PMM research.

Another observation relating to my selection of artworks concerns the images chosen for the PMM research in Costa Rica. For the studies in that country, I chose to evaluate responses to species native to Central and/or South America. I question whether the use of species may have resulted in post-artwork viewing responses that were overall more informed about the topic of wildlife trafficking than the responses gathered in the United States, perhaps because participants had familiarity with trafficking issues affecting the species represented. I have a related question concerning the Washington, DC results, where the species I chose for the PMM were exotic animals from outside of the United States. The species represented are either generally well-known animals, or charismatic, iconic species. Sample sizes for both locations were small, and I did not have a pool of participant responses to images of non-native (or less familiar) species in Costa Rica or exclusively endemic US species in the Washington, D.C. study. Because of

these limitations, it is not possible within my evaluation of the research to be certain whether these depictions influenced how participants demonstrated knowledge on the topic of wildlife trafficking.

A tactic I am interested in exploring for future research in the US involves using images representing only native species. This would be done to address participant knowledge of the problem of trafficked endemic species and develop understanding of audience responses to images showing the impacts of this problem locally. Another approach that could be taken nationally or internationally would be to select a study site and use imagery of species that are impacted by regional trafficking -either because that species is poached or actively trafficked in that area, or because it is locally in demand as a pet or consumed as a product in a given place. A third possibility would be a study of non-charismatic species in comparison to charismatic species (an approach I originally considered adopting in this thesis). The uncertainty of outcomes from these kind of studies reveal worthwhile questions to pursue. Do people care more about the impact of the illegal wildlife trade on species known intimately and locally, or do they have more concern for the trafficking of exotic and high profile charismatic megafauna located elsewhere? Clearly these are rich and complicated question meriting further research and examination of the literature.

As mentioned elsewhere in this thesis, the opportunity to conduct research outside of the United States was both extraordinarily useful in developing my sense of the scope and impacts of wildlife trafficking, and also challenging in unforeseeable ways. Should it be possible to conduct similar international research concerning wildlife trafficking and the use of visual art as a conservation tool, there are several adjustments I would make to

my research process. One objective would be to increase the level of familiarity with possible cultural biases or influences which may impact responses, in advance of a study. This includes developing a more thorough understanding of the history of similar research in the country of interest. It also means developing a clear sense of standards for where and how projects that engage with interview and survey participants are typically pursued. Although I addressed these concerns to the best of my time and ability in this project, deepening this knowledge for future research endeavors is both desirable and attainable. To do so will mandate a longer period of time to conduct research, along with adequate funding, resources, and local contacts who willingly offer guidance and provide invaluable context. An essential component is the importance of having good translation support, ideally by a person or people who understand the purposes of your research.

A challenging aspect of evaluating the PMM for my research is that I did not have the benefit of additional perspectives in assigning groups to the responses. Other PMM studies referenced in the literature gathered input from several people when developing response categories and cross-checking the categories for congruency. Because I conducted the research as an individual, I did not experience the benefit of additional people's viewpoints in determining respondent groupings. However, in spite of this challenge, I view the assigned categories as successful, as they provide useful insights into respondents' views of the images, as detailed in the PMM Discussion chapter. In the future, however, I would ideally wish to adopt the model of cross-checking response categories as practiced by studies noted in the literature, to ensure accuracy and lack of bias in response evaluation.

An outcome absent from my research is the evaluation of long-term attitudinal and/or behavioral change among the PMM participants. Because of limitations of time and other factors in completing thesis research examining lasting differences in participant attitude or behavior as a result of seeing the PMM images was simply not possible. The question remains: does the experience of seeing artwork about wildlife trafficking have lasting results? More longitudinal studies tracking emotional responses and actions on a longer time scale are needed to determine lasting impacts. Core topics to evaluate over time include: what are the short and long-term attitude and/or behavior changes that occur among audiences after viewing artwork about wildlife trafficking; do artworks describing and commenting on wildlife trafficking have the short and long-term impact on audiences intended by the artist; and what kinds of artworks result in changes in attitude or behavior toward wildlife trafficking over the greatest span of time.

Several other studies after which my PMM research was modeled collected data from audiences who experienced a series of images or participated in additional experiences augmenting the artwork. Neither of these variations were applicable to my study. The image sets and experiences incorporated in other PMM studies included: viewing a complete show with numerous works in a gallery setting; seeing a slideshow with multiple images by an artist; and viewing artworks of animals concurrent to reading related poetry. My concern with these examples is whether the additional experiences may have introduced confounding variables, detracting from understanding the impact of individual images. By designing a study that presented the audience with single works of art, I'd hoped to isolate specific images which were the most impactful in generating viewer emotion or eliciting awareness about the problem of wildlife trafficking.

However, because of limited sample size for each image, this goal remains elusive. For future studies, a larger sample size, images of a single animal shown in different depictions, and a more controlled context or location for the study would perhaps be more apt to elicit an understanding of the range of impacts for specific, single images.

Another approach to subsequent PMM research would be to conduct a study using work more stylistically similar to the art applied in the Kalof studies (2011, 2016). In that research, the responses of participants to photographs by Joe Zammit-Lucia were evaluated; these works are animal portraits meant to invoke stylistic parallels and comparison to human portraits. The images were chosen for their PMM study to determine participant responses to animals represented in a fashion (portraiture) more commonly associated with people. The purpose was to learn whether these kinds of images generated positive associations with animals among audiences; see the Literature Review chapter for additional details of these studies (Kalof, et.al, 2011, 2016). I would be interested in conducting a PMM study using portrait-style depictions of animals in illustration or other non-photographic media, to determine the efficacy of image types other than photography in conveying a sense of human-animal kinship.

Another issue that arose in my study related to aesthetics (one also described in other research), was that participants occasionally commented on the aesthetics of the artwork itself. A nagging issue that has been present throughout the study is the ability of this research to capture a baseline of participant visual interpretive skills and whether the degree to which the person understands visual arts frameworks impacts interpretation of the PMM visuals. This could potentially be addressed in future studies by including interview questions that ask participants things like: how many years of formal or

informal art education have you completed; does this training include art history, studio art, etc.

Based on my career as a Teaching Artist, which has afforded me the opportunity to teach visual art in over 60 educational settings, I anecdotally, professionally, and personally understand that students in the United States have limited access to arts education. While a review of the literature and scholarship on the topic of arts education access is outside of the scope of this thesis, it is certainly a consideration worth examining in a PMM study of greater scope and duration. Without art education to support foundational interpretive understanding of works, people may default to a binary like/dislike of images. The educational and persuasive power of images is great and the degree to which study participant knowledge of visual art limits or expands interpretation of wildlife trafficking visuals is a consideration that I strongly recommend be embedded in future research on this subject.

A remaining and related confounding question out of the PMM research for this thesis is: how do the styles of specific artists impact audience responses. Does a given artist's work cause people to be primarily involved with stylistic qualities, or be left grappling with the conceptual meanings of the work – to the extent that they miss the message of the piece altogether? Because visual art is inherently subjective, interpreted through the lens of culture, and decoded depending on the knowledge and experience of the viewer (among other interpretive possibilities) that audiences will respond in variable ways to a given style is a legitimate concern. Surely these stylistically motivated responses must be considered in the design of visual materials or projects representing wildlife trafficking.

It is necessary to establish balance between works that are compelling and engaging but refrain from becoming solely aesthetically fascinating or losing the audience to incomprehension. To do so will require nuanced understanding of one's audience and thoughtful effort on the part of artists, scientists and conservationists. The possibility of descriptive texts about the work or artists themselves serving as an interpretive guide are fine additions and may add to the power of artworks but these clarifying additions may not always be practical or possible. However, work that challenges audiences must not be avoided for the sake of appealing to known consumer sensibilities. This is part of what makes visual art so powerful, and so challenging, as a communication method: because aesthetic sensibilities and stylistic trends are constantly in flux, maintaining currency and being innovative in one's approach is essential to attracting, engaging, and maintaining the interest of audiences.

Chapter 8: Conclusion

Throughout the process of writing this thesis, my objective was to acquire a better understanding of the multi-faceted problem of the illegal wildlife trade. To develop a broad understanding of this issue, I looked at the impacts of trafficking on animal welfare, endangered species, and ecological systems. Concurrently, I explored the human dimensions of the trade, including motivating factors, economic causes and systemic global impacts of trafficking. By examining wildlife trafficking impacts on animals, natural systems, and humans, I acquired foundational knowledge that served as a base of exploration for identifying ways visual art can be applied to these nuanced and thorny problems. Yet, in spite of the complexity of this topic, I ultimately see one aspect of the illegal wildlife trade as absolutely clear-cut: wildlife is enduring terrible suffering and ongoing or permanent harm as a consequence of trafficking.

The illegal wildlife trade must be urgently addressed, with stricter and more consequential legal enforcement, increased attention and funding for conservation and animal welfare, and individual and collective ethical and moral will to act on this problem. The stakes for failing to do so are being dearly paid in the coin of irretrievable losses. These losses include the extinction of species and the disruption of whole and functioning ecological relationships. This impoverishment of natural systems is one consequence of the illegal wildlife trade. Another is our collective failure to live in a reasonable and sustaining way within the limits of balanced human-non-human animal systems. Wildlife trafficking must be tackled by a host of solutions including economic parity, new opportunities that address poverty and make the trade less attractive financially, increased legal enforcement capabilities and penalties, improved

governmental cooperation, and attention to the corruption that is facilitating the existence of trafficking.

In addition, consumers play a leading role in stemming the illegal trade in wildlife. Because consumers exist at the apex of the pyramid of actors in the illegal trade, they are inherently in a position of power over the quantity, value, and type of animals trafficked. Reducing or halting consumer demand for animals and animal parts will put pressure on the other components of the trade. Education is required to forward the process of increasing knowledge of this issue among consumers who propel demand for trafficked wildlife. As consumers in one of the top markets for trafficked goods, the United States audience is ideally positioned for increased exposure to wildlife trafficking via educational campaigns concentrating on domestic and international consumption of trafficked goods. Images will be pivotal to educational communication because of their ability to succinctly describe the problem and scope of wildlife trafficking.

Visual art can serve as a magnet to draw consumers into consideration of the realities and challenges present in the illegal wildlife trade. Some might consider it naïve to focus on artist communication when the reality is that wildlife trafficking is enmeshed in poverty, lack of opportunity, inequity of wealth distribution, corruption, denial of the harm and suffering of animals, lack of law enforcement and appropriate penalties, global resource mis-use, consumer demand, and other overlapping and confounding problems. However, I believe this thesis makes a strong case for the contributions of artists and the use of art as a tool for communication and social change concerning the illegal wildlife trade. If cultural transformation is to be made, art, as a cultural agent, must be used to voice and urge for these changes.

The emotional and narrative qualities of visual art can capture attention and generate feelings about the wildlife trade that transfer to changes in attitude about this issue. Through art, wildlife trafficking can be expressed in culturally unique, meaningful, and profound ways. The artists creating this work have the opportunity to serve an essential function: informing audiences about this issue and reinforcing ecologically responsible attitudes which, ideally, generate pro-conservation behaviors.

More research should be undertaken concerning how art on the subject of wildlife trafficking influences audience attitudes on the topic and what kinds of imagery generate the greatest impacts. Perhaps among the best models for conducting additional research will be the creation of visuals developed through collaboration with conservationists, scientists and artists, and subsequent assessment of these images to evaluate audience responses. Art shares common approaches to problem solving with science; art-science-conservation partnerships that leverage these common frameworks have immense potential to communicate the problem of wildlife trafficking in innovative ways. The process of collaboration will allow for the creation of informative, creative, and scientifically accurate visuals on the topic. These artworks can be designed with an embedded assessment method (such as PMM or another appropriate method) to support understanding audience interpretation of images.

The research and ideas outlined in this thesis only scratch the surface of possibilities for the use of visuals confronting the crisis of wildlife trafficking and the extraordinary collaborative potential that exists between artists, scientists and conservationists. Leveraging the power of artists as communicators and collaborators with scientists and conservationists can not only increase the visibility of the illegal

wildlife trade, but also support a growing culture that values cross-disciplinary interaction as fundamental to our ability to tackle global conservation challenges, such as trafficking. There is significant interest among all three professional groups in expanding these emerging artist-scientist- conservationist collaborative efforts. New structures that serve to develop and support these connections, such as the organization Creature Conserve and the artist residency program at NRDC are pivotal in creating networks for these professionals to collaborate.

The level of engagement between artists, conservationists, and scientists is developing rapidly. Groups and individuals invested in presenting scientific findings to audiences beyond readers of peer-reviewed journals and attendees of academic conferences recognize that art is a means of reaching people who would otherwise be left out of the discussion. These transformations and cross-disciplinary innovations in communication have the power to strengthen and intensify presentation of the wildlife trafficking crisis. I realized through the unfolding of this project that there are still many missing strands concerning the use of images to communicate the problem of the wildlife trade. A complete picture of the problems tackled in this research has yet to be revealed.

Suggestions for next steps to further research on the topic of collaboration include investigating the perspectives of scientists on the role of arts communication. Interviews with scientists researching the dimensions of wildlife trafficking will provide needed insight around the most pressing information to communicate about this problem, as identified by experts in this field. Further, these interviews can shed light on what scientists believe is beneficial or possible out of collaborations with visual artists. Conversations with scientists will also yield ideas for species to depict which are not

currently in the conservation spotlight. More information about how scientists presently regard the status of communication of the illegal trade, ways it could be better expressed, and ideas for fostering collaborations with artists would add needed perspective on the path toward increased interdisciplinary collaboration.

Another aspect that requires consideration in order to forward this collaborative work is the part that audiences play in driving the kinds of images used to express wildlife trafficking. Why is there a lack of urgency in the public sphere about wildlife trafficking and a lack of willingness to support artists who work in this area? I suggest it is because, for many consumers, the problem is invisible. In the US and other top markets for trafficked goods, there is a significant lack of awareness this problem. Audiences and those developing images are equally culpable in driving the selection and content of visuals. Organizations motivated to increase visibility or funding for campaigns by choosing to mainly or exclusively represent charismatic species in order to appeal to audiences have an expressive pallet limited by viewer response. Audiences who respond with disinterest or negativity to pictures of non-charismatic species contribute to their absence in portrayals. Additionally, audiences who interpret depicted charismatic or better-known species as secure in their conservation status are a part of an interpretive problem that diminishes the message of wildlife conservation.

The use of well-intentioned images that lean heavily on these flagship animals are, in some cases, failing to educate viewers about the realities and scope of wildlife trafficking. Being attentive to the possibility that the use of charismatic or endangered species can be problematic, as well as intentionally selecting animal imagery to convey the massive number of species impacted by trafficking, are objectives that arose

repeatedly in my thesis. The importance of making well-considered choices in animal depictions should not be underestimated. The potential for images to create a hyper-focus on alarming problems while neglecting to raise dialogue about foundational causes or long-term challenges suggests a need for images that portray the underlying causes of the wildlife trade- not just those creating emotions about transient topics or charismatic species.

In developing visual projects to express and tackle the problem of wildlife trafficking, strategic knowledge of successful tactics from consumer advertising applied to conservation visuals will be useful. Strategies such as repetition and branding, which engage the mental schema of consumers, may be useful provided that the representation of the animal or the problem of wildlife trafficking is grounded in a commitment to show non-human animals naturally and altruistically. Images communicating wildlife trafficking can apply strategies from the advertising tool box with the caveat that these images be created intentionally to portray animals without anthropomorphizing, using them as a means to promote a brand or as a tactic to sell an object. I advocate that wildlife trafficking visuals adhere to these guidelines and other recommendations for humane portrayals as outlined in this thesis and in authoritative frameworks presented in the literature. Additionally, and critically, more research is needed into the kind of appropriate portrayals of trafficking which elicit the greatest pro-conservation response within audiences.

One notable impression out of my review of the literature, interviews with both sets of professionals, and career experience as a Teaching Artist and Environmental Educator, is that there is a need to increase visual awareness through art education to

empower audience knowledge of the foundational and technical underpinnings of art. Audiences with fundamental arts knowledge, supporting stronger interpretative skills, will be better able to assess artist representations of wildlife trafficking. This foundational arts knowledge should not be a prerequisite to understanding a work of art about wildlife trafficking but it would be useful to help audiences develop more nuanced interpretations as well as increase overall support for and appreciation of art projects that tackle wildlife trafficking. Visual art that is designed to interact with audiences in new, surprising ways may be able to circumvent an audiences' pre-existing viewpoint and increase concern around the problem of wildlife trafficking. Understanding and appreciation of art are entry points that increase the likelihood that viewers will become involved with the message of an image.

Although the problem of wildlife trafficking is global and impacts a massive diversity of species, the systemic violence and long-term implications of species extinction are often invisible. Greater visibility of this problem is vital. Currently there are not enough altruistic and influential images depicting animals and the problem of wildlife trafficking. Non-human animals shown in images are often marginalized and othered. There is an urgency and moral imperative to communicate about and change the way that people regard wildlife trafficking. Interdisciplinary alliances expressing messages of science and conservation through art must be forged to produce impactful, game changing visual works. As the losses of species grow ever greater, there is a compelling need for intervention in problems, including wildlife trafficking, which increasingly and exponentially diminish animal diversity. Art, as a uniquely human

signifier, can express the biological and spiritual connection we have with other beings, awakening the sense of kinship between human and animal.

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Appendices

Appendix A Conservation Organization Interviews

The interviews I conducted with representatives of conservation organizations provided me with a snapshot of how various groups presently use visual art in their campaigns in general, and how they use artwork in relationship to wildlife trafficking, specifically. In talking with organizations on this topic, I was also interested in understanding their views on developing more effective and mutually fulfilling partnerships between conservation groups, artists, and scientists. Appendix A presents edited remarks from each in-person or telephone interview with a conservation organization representative, ordered chronologically by interview date.

Interview 1

David Robinson, Education Director, The Endangered Species Coalition (ESC),
Washington, DC

Edited from typed transcription of telephone interview, 30th August 2017

Currently, The Endangered Species Coalition uses artwork in various ways, such as the Saving Endangered Species Youth Art Contest for K-12 students, poster artwork in our Missing Species Reports (MSR) curriculum, images in social media -Tweets or Facebook postings- and images that we have gathered from people and have the rights to use in various ways. Our current travelling photo exhibit, *Our Vanishing Future: Photographs and Illustrations*, is an excellent way to engage communities. We have also exhibited the work by the art contest semi-finalists at US Botanic Gardens for a few years as an event. We have goals and objectives that are fulfilled directly and indirectly by projects like the art exhibit and the art contest. The art contest engages young people on a long-term basis. We know that visual images will help them to do that. We look for ways to engage – for example, the art contest grand prize winners’ ceremony. His or her art is displayed, and the award/public display may be an incentive for teachers. It can be the first introduction to endangered species issues for the students and others. But in other cases, the use of art is more indirect. For example, an MSR poster display is a more subtle event.

These are our goals: we want to encourage behaviors that support endangered species and gain support for our campaigns. People come out and look at the shows, then they can sign up and participate in the Coalition and its campaigns. We want art to inspire people, create support, awareness, and get people to take action. We have used art creatively, such as presenting art to senators' offices. The goal is to have the senator and staff react- realizing that the constituent is concerned. All of these projects have been successful for what we are trying to do. Even simply making contact with artists is useful for future projects. It's harder to measure the impact of the use of art in social media though.

Art creates attention about endangered species. Sometimes it's people first awareness of these issues. Some people are more visually aware than others. Whether or not people would say that we are influenced by visual images - they might or might not agree - but using art is a key part of the mosaic that helps achieves ESC organizational goals and agendas. If you were to survey people who have responded with either money or support, whatever it might be- are they responding to a visual message? They wouldn't necessarily be able to answer that question.

Images of species like grizzly bears, wolves, these pictures direct attention to our campaigns. If people see an image with mother grizzly with babies on her back, it makes them think differently about the animal. It makes people feel inspired or think differently than in past. I definitely think that visual art can impact an audience in different ways from other kinds of communication. The cliché that a picture is worth a thousand words- if it's the right picture it's really true. If you think of pictures you have seen of endangered species, like a picture of a bald eagle feeding chicks and how that made you feel. You can write 5 paragraphs about what it's doing but the impact is different with an image. It's a more immediate way of grabbing attention. Any copy you would read is an addition to that. The photos or illustrations that capture the emotion really make a difference.

Everyone in the Coalition has an appreciation of visual art and to various degrees would use art in their work. There are specific goals in mind about how to use the art, how can we use art to make our campaigns better. It evolves. We don't necessarily have a goal up front. Art has always been part of the organization in some form but I think it has advanced dramatically in the last 5-8 years. Leda (Leda Huta, ESC Executive Director) is very visually oriented. She has an appreciation of art and understands art principles. As other people have joined the staff, that have brought their own experiences. Think about art directors at ad agencies- their whole goal is to grab your emotions. It's even more so with our goals and objectives. Pictures of animals, ecosystems- when you see pictures of the environment being leveled it has an impact.

I know some of the images that impact me are ones like the grizzly and the cubs; the eagle, the American symbol, flying majestically; the wolf pups cradled

together. Those somehow show the family connection. People love dogs. The leap between a dog picture and a grizzly bear isn't that big. I think some animals are a little harder. The great white shark, the orca, are a little harder. The almost human-seeming ones connect emotionally. You have a continuum. At one end you have an elephant. At the other you have poisonous snakes that are endangered, it's harder to get that empathy. It's the web of life, they are part of the environment. It's harder to get that action- to donate to great white shark vs a panda bear.

Interview 2

Alex Alberg, Graphic Designer, Animal Welfare Institute (AWI), Washington, DC.

Edited from typed transcription of in-person interview, 6th October 2017

AWI focuses on wildlife trafficking through a number of campaigns such as working to end the killing of endangered sharks used for shark fin soup. With sharks, the images that I find really powerful are scenes that show the sheer number of fins that have been harvested. Informing the public about the actual number of animals dying is a powerful way to educate people on the magnitude of an issue. Working to end trafficking can also be more complex than just banning certain practices. In certain communities, whaling exists as the sole sustaining industry. How can we replace it with something that still allows people to survive? Implementing eco-tourism is one way to bring industry to a community while simultaneously protecting the wildlife. Beyond cultural cuisine, medicinal traditions like the use of tiger blood or bear bile, also impact wildlife populations. Educating communities using science is an important component in the fight against wildlife trafficking.

Separate from our work on wildlife trafficking, we have also found success using graphics to educate the public about the endangered vaquita. Because of our campaign, Trader Joe's agreed to stop selling Mexican shrimp in their stores. One communication issue we dealt with regarding the vaquita was a lack of existing photographs, which happens often with highly endangered species. Our first choice, when available, is to source free high-quality photographs from Flickr Creative Commons and scientific galleries. Purchasing wildlife photography through a stock website comes after that but can be expensive. As a last resort, we rely on illustrations, like we did for the vaquita. They can also be expensive but are a medium we would like to utilize more often in situations like the vaquita. In some cases, seeing reality in a photograph (like the shark fins) is important to the impact of the campaign. Accuracy can sometimes be compromised when using illustrations, but an upside is that the subject matter might be more comfortably viewed in terms of disturbing content. At AWI, we try to use gory or disturbing

images sparingly, more often highlighting the beauty of wildlife in its natural habitat.

When selecting images, the “cuteness factor” also plays an important role in our choices of imagery. Using images of beloved companion animals caught in leghold traps connects the public to trapping on a personal level, more so than an opossum. We generally always choose charismatic species because they gather a better response. People are more apt to show interest in species like furbearers, elephants, and pandas when compared to bats or rats, which some people might be turned off by.

Scientists aren’t as swayed by good looking graphics when compared to the public as they care most about the data. Many of our reports are not designed for the public but for a scientific audience but still include graphics. Reporting scientific findings could be of interest in the public sphere and art could help to do this. At AWI, we require that scientists who we provide grants to include photos of their field work in hopes of generating more attention from the public on these issues.

Our current approach to using graphics still focuses heavily on print materials like our magazine, which is how we communicate with members and subscribers most often. We also create children’s books like our graphic novel about ivory poaching in order to reach a broader audience. Connecting with and interesting younger people is important, but with that comes identifying what is appropriate for each age group. We use social media to gauge what people are most interested. Including facts in text format with photographs or illustrations is useful if the graphics themselves don’t convey the entire message, which is often the case. Graphics can also be helpful in educating the public about species they wouldn’t otherwise know exist. Social media and the sharing of these graphics is changing how people get information with more exposure through sharing. But even with all the sharing that is happening today, I think we have yet to see the full impact. Just because people are sharing more information, does not necessarily mean they are taking action to help protect animals.

Interview 3

Arnica Luther, Office Manager, Snow Leopard Trust (SLT), Seattle, WA.

Edited from typed transcription of telephone interview, 30th October 2017

Anyone who has the privilege of sight can access visual art, and it transcends national borders. Wildlife trafficking and poaching are international problems. Although the idea I’m about to mention is not necessarily relevant to the communities we work with, art is also a good strategy for communicating with lower literacy communities.

Snow Leopard Trust doesn't use art in a concerted way, such as in a formal art program. We do have artist partners who contribute their artwork to our silent auction dinner. Art is tricky to include in auctions, because people have their opinions about art and you can't pigeon hole what might be appealing. Art is so subjective. Sometimes the art has done surprisingly well and other times not. We also utilize photography in products i.e. calendars, cards, snow leopard photos in magnets, and other donor giveaways. We use images online, in print distributions, as part of appeals or in communications to other partners. One thing our donors respond to is beautiful images.

We have photographs from our long term- 9 years- ecological study on snow leopards in the Gobi, Mongolia, and from cameras also in Kirgizstan and India. So we have gotten some stunning images of leopards in the field. One anecdote comes from the images used in the calendar that we sell each year. The Oct. 2017 photo is in a zoo, a leopard crouching/predatory stance. A woman called recently and complained at our choice of using the image when an animal looks cornered, afraid. It's interesting how people anthropomorphize and project emotions onto an animal. Big cat supporters are very passionate. We have such dedicated and fervent supporters. It's not the only example of people responding; they care deeply about the species.

In terms of other art forms, I think it would be interesting to look at using street art/graffiti- it's a very much a 'for the people' art form. It's accessible to all people, and I really respond to that. We had an artist a couple of years back in Europe who did some pieces (murals) in the town where he lived about our organization. We have different kinds of supporters, some who love big cats, some love our work on international development, and some appreciate our work with women. I think some new audience would be drawn in by working with visual art and artists. It's not something that's been done by our organization, but it would be valuable to explore.

Interview 4

Janice Girardi, Founder of Bali Animal Welfare Association (BAWA), Bali, Indonesia.

Edited from typed transcription of in-person interview, at BAWA offices near Ubud,

Bali, February 1st, 2018

The primary use of visuals by BAWA is social media images. Photos are the most important and useful tool to address and engage our social media following. Seeing photos and videos of BAWA's cases and programs allows people to have a clearer understanding of the animal welfare issues present in Bali and all that BAWA is doing to create a better future for Bali's animals.

BAWA uses images, accompanied by text, to share our work, to raise awareness, and to drive traffic to our website where people can learn more about BAWA's programs and also make donations. Showing, instead of telling, is crucial. For example, photos let you see the pain and sorrow in an abandoned dog's eyes, they allow you to look at the dog's raw skin, open wounds, and emaciated body – things that words cannot always accurately portray.

Additionally, images allow you to see remarkable transformations post-treatment. These before and after photos, in addition to all of our photos, play an important role in organizational transparency by allowing our donors to see the impact of their donations and where they are being used.

Visuals are especially important to overcome language barriers in Bali, where many languages are spoken. On social media, images can also be used as an education tool. For example, if BAWA shares a picture of a dog with a specific skin condition and explains the dog will make a full recovery after receiving treatment, someone with a dog suffering from the same condition may now understand what their dog has and seek treatment instead of misinterpreting the condition as rabies and dumping the dog on the street.

Outside of social media, BAWA uses visuals in a variety of ways. BAWA is always open to new ideas about how to use art. If people approach us, or we see their work online- we are open to new ways for getting messaging across in the best way possible. BAWA holds many education days and community events where visuals play an important role in interactive animal welfare education. BAWA has partnered with artists, like one who creates pet portraits and gave commissions from that work to BAWA. BAWA also worked with young students who drew pictures of animals, which were then printed on BAWA t-shirts and sold to raise money for BAWA's programs. We also sell animal themed jewelry online at NOVICA, a National Geographic company. BAWA uses photos at fundraising events to show our programs in action. The point is to really illustrate what we are doing as an organization, to be able to see the work, and not just hear about it.

Interview 5

Dr. Lucy Spelman, Veterinarian, Author; Faculty, Rhode Island School of Design;

Founder, *Creature Conserve* (CC). Edited from typed transcription of telephone

interview, April 8th, 2018

When you teach what's happening to biodiversity, you teach that all animals are in trouble. You explain that the rate of extinction is at an all-time high and that we (humans) are the problem. The drivers of extinction are habitat loss, agriculture, the global wildlife trade, overhunting and overfishing, and climate change.

Humans are responsible for all of these problems, and they are all connected. This also means the solutions are connected.

For example, people in the United States think the wildlife trade is happening in other parts of the world, but it is largely driven by our economy. Wealthy Americans are among the top consumers of ivory and rhino horn. The wildlife trade has rapidly accelerated as the world has become more and more global. But how do you make someone feel close to a rhino or a tiger – an animal whose future depends on our ability to curb the wildlife trade – which they will never have an association with? We need to find new ways to engage the public what is happening to animals today, new ways of connecting them, and of sharing the solutions.

Science is fundamental to conservation. But we also need to feel connected to the animals. We have to feel we can do something. This is the goal of my teaching and my work as a zoo and wildlife veterinarian. I am interested in helping people understand how everything is connected. In my view the only way we can do this is if we work together in a more interdisciplinary way than we have been. For my part, I think scientists need to work with artists and encourage them to explore the connections between people and animals.

But how do you work with an audience, like a group of art students, who do not have the scientific literacy that you do? Artists need to be given the chance to learn the science first, and then encouraged to use their unique skill sets to share what they have learned, to help people feel connected. In my experience, when we do this the resulting artwork is more powerful, has more emotional impact, than if they had not learned the science. For example, lions are in trouble for many reasons, including being poisoned. Artists can make someone care about this problem in a way that I cannot.

The reason I started working with artists was that I realized that for the most part science understanding was missing from their work. I feel that it is important to allow the artist to do their own research into the science of conservation, give them the space and the chance to choose what they want to learn more about, and then create work in response to what they discover. Most of what is out there in terms of conservation or scientific use of art is content driven by the scientific experts. I am interested in creating space for artists to make work that is relevant to a wider audience and therefore has the potential to be more powerful. We do have corporate use of visuals by conservation groups but most of this is graphic art. There are many creative people who could be involved in addition to the graphic artists working for these organizations.

The creative process is what I am especially interested in. My goal is to help artists raise their own science literacy and apply it as they wish. Science literacy can be social justice literacy. The reason I work with visual artists is that I know

there are solutions to saving species and that the only way we are going to take action is that if more people get involved.

When I give a talk for my colleagues, everyone says to me: we would love to work with a visual artist, find me one! Many scientists are also artists. Scientists get the value of these collaborations very quickly, but few have enough funding for their own work let alone the funding to pay for artist-scientist collaboration, which is why I started a non-profit (Creature Conserve, Inc.). We raise funds so artists can afford to spend time with scientists who work in conservation. This could be an aquarium, zoo, lab or field research station, for example.

I think scientists are very receptive to the idea of working with an artist. My experience so far is that they cannot envision how the collaboration will actually work until it happens. It may also be that my colleagues - veterinarians - are more receptive than others; we a little different in terms of communication- we can't do our work without a lot of communication with a lot of people. With other sciences there are is not as much communication required to carry out their work, although all scientists today are required to share their work with the public. My experience may not be representative of all scientist's perspectives, but I find that art helps people get to an understanding of scientific concepts more quickly. An effective piece of artwork also reaches us subconsciously. That's the talent artists have – they connect with people and in that way can help them understand.

An example is a project we funded at an aquarium; the artist shadowed the trainers. The artist became very interested in human-animal bond and how that affected the health of the animal, by observing the deep care expressed by the keeper toward the animals. The work she created was stunning, and it helped the trainers and the administrative staff of the aquarium share some of what goes on behind the scenes with aquarium visitors. This is a different approach, rather than giving artists an assignment such as “make artwork about training penguins” or “can you fix this website?”

When I was in Africa working with mountain gorillas I was invited to work with an artist who was using art to teach conservation education. I talked to the school kids about the gorillas; we wanted them to understand why not to take them out of forest. The kids did some drawings in response to my classroom visit. What they drew showed me that they did not want to go out the forest; they were afraid of it. They wanted to go to the city. So to them saving the gorillas meant putting them in a safe home in a town, not putting them in the forest. Over time, in working with this artist and looking at the art the kids made, I learned more about gorilla conservation than I would have had I not worked with the artists. Saving gorillas mattered to them, but it was more important that they water and trees and a safe home. They would help the gorillas if they got these things. There were a dozen conservation groups working to help the gorillas at the time, and none of them were in touch with the community the way this artist was; her work helped me understand the community's needs. My focus was the health of the world's only

mountain gorillas and yet these animals are connected to the health of the community. I realized that I needed to take what I understood about health and animals and collaborate with others to protect the gorillas. Conservation requires a multi-faceted approach to be successful. I learned from the artist and her school program that even with all my training and background I had no real idea what the community thought about the gorillas. That got my attention. It was the reason I started teaching non-majors interested in biology and zoology, and the reason I jumped at the chance to teach at RISD when the opportunity arose (in 2010.) It is also the reason I continue to work with artists and, as I said, why I started the non-profit.

The possibilities are out there, we just have to create a strong enough network. I think the real potential is to create a space where scientists and artists meet each other early in their careers; a way for them to benefit from the other's creativity. For my part, I work with an artist studying wild giant otters. The way we work is different than if I worked alone. Our plans are more visual, we ask questions that I might not have come up with on my own, and the same for her; and we stress community engagement. As time goes on, you can imagine all kinds of things that would occur. Better ways of organizing the data and presenting it; a better more relevant set of questions.

This type of collaboration is possible because art and science are both very visual. Both disciplines involve feedback and criticism. Their purpose is also similar: what is happening in the world around us; what is our place in the world? The difference is what is produced. Scientists create technical works that add to our body of knowledge. Artists create what they want; what they feel inspired to make; they make art to make art. This is also where scientists as communicators get into trouble. We think what we are studying is the most important, the most interesting, and that we are excellent communicators. But our language is a technical one. And we have trouble finding the pieces of our work that are most interesting and relevant to the average person. Artists can help. Climate change science is a good example. There is a lot of great visual art out there now about climate change.

But animal extinction and the loss of biodiversity loss is more abstract and harder to quantify. In my view, much of the art about the fate of nature today is either very sanguine or over the top upsetting, showing gory details and trying to make a statement. These images are all fine, but we need something in between, art that is informed by science that makes what is happening today more accessible, meaningful, and relevant. Only then will we be inspired to act.

Appendix B: Artist Interviews

The interviews with artists gave an overview of select ways in which artists respond to the problem of wildlife trafficking and communicate issues relating to biodiversity conservation. The artist interviews revealed understandings of how artists and conservation groups can work together with increased efficacy and demonstrated a desire amongst artists to engage in and sustain partnerships with conservation groups and scientists. Appendix B presents edited remarks from each in-person or telephone interview with artists, ordered chronologically by interview date.

Interview 1

Sara Everett, Visual Artist, Seattle, WA

Edited from typed transcription of in person interview in Seattle, WA on November 15th,

2017

I had been creating animal portraits artist for a long time, and it was a natural progression from being a portrait artist to wanting to paint all the endangered animals.... I realized, I'm never going to paint them all in my lifetime. There are too many. My knee jerk response was- I don't want to do this, it's too daunting. For my show, *There are Too Many* I did quite a bit of research to find out who was listed as endangered. I remembered from when I was a kid the list was like a dozen. I was thinking at the time maybe it would be like thirty. The extent of the list gets glossed over. I don't think that how extensive the list is list part of people's general awareness. Most people don't know. I combed through the IUCN Red list. That was my eye-opening moment. Looking through their website and data- it's a lot of very well-articulated data. I would be 300 years old if I painted all of the creatures that resonated with me the most. It was a balance between what resonates and what I wanted to picture. For example, the pika lives in our own backyard, but many people don't know about it, or understand just how threatened it is by rising temperatures.

For the show, I ended up printing out in tiny font the IUCN (International Union for Conservation of Nature) Red List of endangered animals, including amphibians reptiles, birds, mammals, fish. I left out the plants to reduce paper, but it still ended up as such a physical presence...it was close to 100 pages, at 8 x 11 inches. About ¾ of an inch thick. I didn't get comments on it, but I observed people going through it and being surprised. I did go to WWF to do research for

this show, using their information to narrow down my list. I remembered WWF from childhood advocacy, and then looking at it now, I was kind of disheartened how dumbed down it was. It's geared toward the lowest common denominator. When I started narrowing my categories, I went to WWF to see what's resonating with people. Their website is just so slick and polished. Their stat sheets of the animals are almost like baseball trading cards.

More collaborations between conservation groups, scientists and artist are needed as a way to reach the public. Stats don't always get through. The right visual can mean more than a paragraph. It would be helpful if an organization could actually respond if an artist reaches out. It often goes to the wayside. I'd like to see organizations reach out to artists directly- not be afraid to reach out to pursue a particular campaign. I think a lot of artists that would be interested in putting their effort into a collaboration. Once I produce work I want it to go somewhere. I want to keep spreading the impact. I would love to partner with organizations. Even if it was just for a special edition piece that the organization puts out. I've thought about reaching out to organizations to have the exhibition travel. I'd like to pursue partnerships.

My goal with this show was to spread awareness. I attempted to raise funds for IUCN. I had a designated amount of funds to share from profits of the work that was sold. The political climate was not conducive- it was right after the Trump election. This is the first show I have had in eight years that didn't make any money. The gallery didn't make any money, the galleries around the area didn't make money. Having done the work and put a good body of work out there- the response that I have gotten is that I am making connections. Those connections are being sparked to make other people think about these issues. I showed the work and then I got a lot of feedback from people being thankful that I brought that work to the space. It's motivating. Hopefully it will carry forward...maybe it will cause someone to give a donation, bring that kind of awareness forward.

Interview 2

Chris Huss, Photographer, Port Townsend, WA

Edited from typed transcription of telephone interview, November 20th, 2017

A friend of mine and I wanted to show sharks in a friendly light and educate the general public. There are hundreds and hundreds of shark species, most of which don't harm humans. We wanted to help people understand that, and how important sharks are as a top predator. They are being slaughtered, for shark fin soup and out of fear. When we pitched our State of the Sharks show at G2 gallery- their mission is to put out a message of conservation- they gave us all the help they possibly could. The response from the general public was, "I had no idea we were a danger to sharks or that sharks were endangered" More than half

the species I'd photographed could not be photographed anymore because their population had so declined.

That was when I understood the value of my image collection. All the images represent some point in time. I realize that 80% of the images can't be taken anymore. The earliest photo shown in the shark exhibit was from the late 1980s. Many of the species have become endangered and listed since I started shooting. Part of the timing of our exhibit was the next big CITES selection. We thought the timing was great. The hammerhead shark was up for listing and we wanted the general public to pay attention and advocate.

It's tough because of the current state of affairs. It can be very difficult to keep going. With the changes in photography, so many photographers I know have changed careers. The way I look at it is- this is how I want to spend my life. I have a huge body of work behind me. I'm not struggling to start out. It's relatively easy to share the work. The exhibits are fun and high energy. The idea is to do the exhibit, and set an optimistic tone, so that people walk away feeling motivated. I have tried to reach out to organizations- often there is too much bureaucracy, and too many hoops to jump through. You have to search out people who are very willing and supportive. There are not a lot of people out there who want to pay for art on endangered species. For example, the shark exhibit- people were so complementary of the photographs, yet very few people are willing to pay gallery prices for the images. They will spend that much for a sunset picture or a dog picture. That's just one example of part of the challenges in doing this kind of work.

Interview 3

Jaime Nunez, Senior Art Director, Spain and London, England

Edited from typed transcription of in-person interview at Friends of the National Park

Foundation, Nusa Penida, Bali, Indonesia on January 19th, 2018

How you get people to become interested in buying a product? If you are Coca-Cola, you have media that is like a bazooka and media like a sniper, and they work together. It works like a funnel. The client has a certain budget he or she might have – they give it to an ad agency and then see what they will do with that money. We have a marketing director that will work with a planner to set up a calendar or a structure of where to spend the budget. The marketing director mediates between client and agency. The planner will study the situation and try to find an audience that will be sensitive to the subject.

I think about the project for 2-3 days. Hopefully the client will select one of the ideas I come up with.

Then we get to produce the art and then I control the team of photographers and designers for the ad. Then it goes to a producer. He is the one that talks to media. I need to put the ad in Sept – probably when the people we want will see it. In the communication, timing needs to be foreseen. The communication needs to be relevant. If it is manta season in Komodo you talk about mantas at that time. You need to connect it to the problem. In a way it's like creating as many different sorts of opportunities to reach the right person, using the right words. Like a sniper. All the aspects, timing, etc. makes it work.

When it comes to digital there is a thing called personal precognition. It's the apps you are using, your location. They know where or how you are going to do before you do it. The message is triggered by your behavior. It could be at a level that you are going to an airport, your husband's birthday is in one day. In this airport there is a photography shop. Remember it is your husband's birthday. In personal precognition, we are ahead of you. It is really tailored to your needs. We know you have been shopping with Canon before. It is very convenient. That is the power and the scary thing. You are in your bubble of comfort and we are feeding you there. You are going to get something that is very personal to you.

For example: maybe there is an NGO that does work in Egypt with wildlife. If they are in a hurry, they will try find a fan base that is more wealthy. Then they try to understand: where can we find these people? These people might be directors of companies, they have money to spend on sports, scuba diving; maybe they have a jet and money to spend on luxury services and indulge themselves on holiday. Where do they hang out? They would be flying on Emirates. And then you can get even more specific. They will be in the Emirates lounge. Then you create a profile of them. If you decide airports are a good place. That idea will take you to the champagne bars, the pop ups, the expensive duty-free shops. Once you have created a road map of the places these people will be, then you check what you can afford as a media buy. I can get a pop-up stall in the airport, I can advertise on a coaster in the bar, if I can afford one ad in the airline magazine, they may be able to buy media there.

Now we know who they are, where they are, when the planner considers it will be the most effective moment to give them the message. We consider it will be the magazine on the airline. They will be pampered, they will feel good about it, they will be in a positive state of mind. It's almost like dressing up in the mind. I see myself in the situation. For me, as a creative, what I am trying to get is a role-feeling that is quite basic. First, I could make them feel good: I am super pampered here, I am doing so well. The charity can make them feel guilty. You might consider that people will have a negative reaction to that. I think I would go more for the empowering feeling. If you are doing well in your life, you understand that you are going to enjoy a country, nature, you have the power to make it better. It's sort of like an ego massage. You are awesome, you can be more awesome. These people have a lot of power and you are showing them: you could do good.

I believe that these numbers -like millions of birds dying everyday- it doesn't move people. In the UK 1/3 of bird species have disappeared. When it comes to wildlife it is a harder case to sell. I worked for RSPB (Royal Society for the Protection of Birds). The idea is that when you are walking around the city, you might see some birds, and notice they are there one day and not the other. It is really hard to picture the impact. If you show them a beautiful bird, they say it looks quite happy. If you show them a dead bird they might walk away. My line for the project was: "Birds are irreplaceable, don't wait until they are gone." Instead of showing actual birds I showed ways of replacing birds. I made origami birds and placed them in parks, everywhere. You could open up the origami and read a letter about the issue. Especially parents- that want their kids to enjoy nature, and they may be sensitive to birds. You could put those birds in schools and parks where kids play. We had the idea of having bird kites. You could have 3 or 4 kites in the sky. You could say birds are irreplaceable. How would people replace birds when they are gone?

In a world where people are dying it is almost like birds are a luxury: who would you rather save? When it comes to creative campaigns, rather than giving people scary numbers or making them feel like the world is going to end, positive, tangible acts are the most important. People can understand where the money is going (direct marketing) in the sort of advertising when you are looking for a direct reaction in that moment. You are looking for a response there and then. Call this number and save the tiger from extinction. In direct marketing it is very simple to know that people are responding. How much money has been raised? Text works really well. The more people text the more you know people are responding. For trafficking you will have to find what is the tangible thing people can relate to. It is a symbol of your project. For elephants, you can help pay for the people who protect the elephants. It makes it more tangible. If you say '3000 elephants left in the wild' you just cry. If you say 'this guy will protect the elephants', that will make you feel good.

Interview 4

Jenny Kendler, Visual Artist, Chicago, IL

Edited from typed transcription of telephone interview, February 14th, 2018

This interest in making art about endangered species goes way back for me. I have always been really passionate about the natural world. There was never a separation between me and the natural world as a kid. At this point in our capitalistic system, we are more disconnected. It's not like I read an article on NPR or something that made me care. It seemed really unfair to me that we didn't see other animals as having equal rights. Human exceptionalism is deeply wrong. Endangerment is an issue I feel passionate about. I actually don't think that is special in any way, I just think that most people are not paying attention. I always

wanted to be an artist. I struggled whether I should become a conservation biologist, but this is where my skill set lies, and to be the most impactful, I chose art. This is so urgent and so important. Day to day it feels like people aren't thinking about whole other lifeways. It's counter-intuitive that we can't extrapolate this to other species- that they have different ways of perceiving the world. It's this sense of urgency. I was trying to show people this moment I had imagined, which was: waking up and realizing elephants are extinct. I was trying to put people in an emotional space where they could feel it. Conservation Biology is one way, activism is another way, and art is a third way to get under people's skin. Time is short, and I am motivated that I might be able to make a small impact.

I am definitely a very research driven artist. It's maybe a newer mode, working cross-disciplinarily, but it's very important to me. I was raised with the scientific method and raised as a researcher. I am driven by unending curiosity. I was looking for a baseline inspiration and found that Carl Safina's work (*Beyond words: What Animals Think and Feel*) was very motivating. I looked at MIKE (Monitoring the Illegal Killing of Elephants) and PIKE (Proportion of Illegally Killed Elephants) data monitoring illegal killing of elephants, data coming out of various places in Africa. I tried to get non-public data and reached out to scientists to get more information. I needed to get actual algorithms to create a mathematical model. I was looking for numbers: what is the rate of poaching per year, what is the birth rate, subtract those. I couldn't find any data more recent than 2012. It was very data driven.

I hope that my art will help audiences engage with an issue that they have maybe been skating over that's unbearable. It makes sense to me that the public will want to shy away from it. The images of the faces of rhinos and elephants hacked off- you never forget them. With an art experience, you can take people on a trip with you to maybe get somewhere they wouldn't get on their own. I want people to feel enrolled in the fight and be engaged.

I partly allow myself to feel the grief for all of the loss that has happened and all the loss that is inevitable. I try to think about that as a motivator. To not let grief be a dead end. I go through modulating thoughts: if we have climate change, we will become extinct, and the planet will regenerate in 10 million years. I am not a misanthrope. Just like other species we have many gifts. There are some special and beautiful things about our species. I'm a pragmatic optimist. I try to be realistic in what I am looking for. When I look back over history, what we have done has been devastating for the environment. But what we have done for gay rights, civil rights... maybe we can extend another olive branch. Will we be fast enough to save other species?

I wish I had metrics for you about the best and worst responses I've received to my work, but I can give some anecdotal things that might be helpful. At the time I did *Music for Elephants* at the MCA (Museum of Contemporary Art Chicago), I

spoke to a woman who was a Chinese-American citizen and we had a really meaningful conversation. In the piece I call out the west, not just identifying Asia as the problem. It was meaningful to her to not be othered and she expressed deep empathy with the issue. The strangest conversation I had was with the grandmother of a 10-year-old who came to me and told me her grandson wanted to kill an elephant. When it's a 10-year-old boy, it's sensitive. He was milling about in the background and I was talking to her. I asked: are you willing to do some work to turn this attitude into something more positive? It's an unusual desire for a kid to express. A lot of it is about ego and dominance and social performance. In children it seems more cruel. I had this very awkward and touchy conversation. I hope I left the woman with something educating. Other positive responses were that 99.9 percent of the kids there were like 'I love elephants!' They wanted to touch the piano and were so empathetic. The adults were more reserved. I am not a performance artist, but I participate in my work as a guide or interlocutor. I want to have lots of points of entry. I am really interested in engaging people about the work behind it.

The NRDC (Natural Resources Defense Council) partnership has been a great relationship for both of us, myself and the staff. It basically happened because I met an individual, Elizabeth Corr, who was thinking about how art can connect to people more deeply. White papers are important, but don't we need to leverage all the tools in our arsenal? Hopefully the organization can understand what she is doing. People in the Chicago office have been very supportive. The head of the water department he has been very supportive and open minded. He has been our gateway to work on a lot of habitat and wildlife issues. It took a long time to even get the right modest support we had initially. I think it will grow and get bigger. Elizabeth has been working on an arts and environment initiative.

Many funders support art, or activism, but they are not funding something in between.

With NRDC, I was given a stipend for two years. That's the specific way things have worked with that organization. I also did a project in Costa Rica with a community driven book project, quite a generous grant, with a stipend. I have found money in a lot of different ways. There is money from museums for large-scale public art projects. I am sometimes digging into my own pocket. I keep my own account for this work to at least try not to go into debt. In partnership with University of Illinois Chicago, I am doing a public art project on climate change with a grad student. Most of that money is not coming my way but I am not paying for things myself. It is an important thing to advocate for. Do you have money to support the work? Do you have a stipend? Most artists feel this is taboo, but it disempowers us and causes us to be pushed around.

One thing conservation organizations and scientists can do is let artists be artists. It's not about making a white paper, or a big media spectacle. That is not art because it is totally instrumentalized. Art is not something you can instrumentalize. The work that I am doing does not get instrumentalized. I am not

trying to make pretty pictures. We have to show the metrics, prove that it works. She has let me be an artist. I am an environmental policy wonk and it's really interesting to me, so I am comfortable thinking very practically how we can make the impact.

I want to keep one foot in the artworld and one that goes other places. There are effective dissemination points in the art world for culture. I am interested in cultural change and at the same time I think many people are not interested, don't know they are welcome, or don't want to pay. The most effective means of communicating is probably television. There might be a more effective big media strategy. There is something wonderfully insidious about the way art can stick in your mind and continue to influence you. Most trafficking campaigns hit you over the head – I think that can be counter effective. I want my work to be seductive and beautiful.

Interview 5.

Emily Schnall, Visual Artist, Northeastern United States

Edited from typed transcription of telephone interview, February 14th, 2018

I have been interested in animals, the environment, and biology, since I was a kid- spending all my time drawing animals and watching wildlife documentaries. It was natural, once I became an adult, to take the problems faced by animals and do something with those concerns as a visual artist. I'm not good at forcing uncomfortable issues to the back of my head. Even though I feel hopeless at times about specific issues- giving up hope is not an option.

I have spent a lot of time thinking and researching about these issues, and while I've never had any graduate level science, I have a passable level of scientific literacy, so in different teams and groups I often find myself translating between scientists and artists. There is science jargon and art jargon, as well as different priorities and ways of digesting information. The role of translation is always critical to these kinds of relationships. Before I went to art school, I was either the science person among artists and the art person among scientists. I began study at the Rhode Island School of Design (RISD) in 2012; at that time there was a burgeoning interest in STEAM (Science, Technology, Engineering, Art and Math) and in artists working with scientific ideas. They are continuing to introduce more STEAM-related programs and investing in facilities to support that. I think Lucy Spelman, a science professor at RISD, is responsible for generating a lot of interest in these topics among the student base. She co-founded an organization called Creature Conserve dedicated to facilitating collaboration between artists and scientists. I was one of the first artists to work through Creature Conserve, and it has given me the opportunity to get involved in that space of science-art collaboration in a very real way.

I believe an important consideration when making this kind of work more effective is to be more specific- casting a wide net in terms of the issue you are tackling or the audience you're speaking to is often not a great strategy. During my time as an art student a lot of my work was made with a gallery in mind - made for an audience of art consumers. Now I most often consider making art for a social media setting. Both this and gallery work bring up the issue of preaching to the choir. Recently, I've become most interested in working with underserved demographics. A lot of conservation messages are only for a specific set of people and it turns everyone else off. In the non-activist side of my artistic life I've had some recent involvement in the world of professional wrestling; it brings together such a wide range of people- almost all of whom are outside the typical eco-preaching demographics. The types of messages that are used in conservation would totally turn these people off. I'm interested in working with the medium of professional wrestling, which is at its core about storytelling, to reach these audiences that are not being effectively engaged with. Environmental messaging can be preachy, and it tends to just preach to the choir of those already onboard and likely to donate: it's for white, middle aged, middle class people. Other audiences would look at it with sarcasm or annoyance. If people are not already onboard it seems like it's not for them.

If an audience for my work gets the right read of a piece that's a success, if not, that's a failure. The *Snare* piece was for a gallery and I made it to be hung at eye-level. I put a lot of focus on rendering the eyes. I wanted people to turn from across the gallery and make eye contact with the piece and see that this animal was in pain. It was very successful and created the impact I intended.

I always have a goal with what I am trying to communicate. One of the problems I ran into was not having a great read of the average person on the street and knowing what they understood about this topic (wildlife trafficking). I think this is one of the biggest challenges. You have to be knowledgeable about what your audience knows, but also highly knowledgeable about the topic you're communicating. I've dealt mostly with people who have walked into a gallery show about wildlife trafficking, which maybe represented higher knowledge than what the average public knows. I'm sure they had a vague understanding of trophy hunting and traditional Chinese medicine using rhino horn, and the problems of elephant ivory, so I had to be conscious of that when conceiving of this gallery piece.

I think that between my experience with IFAW and an experience I had with WWF as part of a trip to Guiana, I learned that it will be helpful for artists to be very clear up front about what their skills are and the type of work they do. What can offer as an artist is not necessarily something others might understand or think of i.e. doing conceptual work. Being very clear up front to discuss all the ways you can contribute is vital- explaining what resources you need, etc. to avoid

disorganization. This can be overlooked when there is excitement on both sides- once things are in motion it's too late if you haven't already made it clear what you can offer. Having one or two people from either side- people who can bridge that scientist- artist gap are pretty key. Besides just that gap, you never know who you might be working with, maybe someone from a marketing background. Having representative from all key roles can foster better art/science collaborations.

I think the current most effective medium to communicate about endangered and trafficked species are documentaries, for example *The Cove*, and *Blackfish*. Documentaries have proven that they can help with a groundswell for social change. Social media is good but tricky- so much competition, you have to find a way that sets you aside from a general level of background noise. I'm interested in going into uncharted territory with audiences, such as audiences of professional wrestling, and making a show that conveys salient information through the storytelling conventions of professional wrestling narratives. There's a lot of art that feels very general and at that level it feels just like 'oh no there is a problem and we need to help'. It's not actionable. We need to be as specific as possible about a problem and assign people a simple task to do. Getting into a very specific niche is a much more effective thing for artists to do than just working in a general way about environmental problems.

I can say from my end as an artist that if I had funding and the resources to do the work I think is important, I would be doing way more. I'm volunteering my time- so it's basically an area of work where I'm doing it because I want to. I hope to see grants and resources for this type of work become more available. I am absolutely limited by funding, and so I have to limit how much time and energy I can put toward it. As artists we have to be wary of people trying to get free work or undervaluing our work, yet we also make choices to do work because it is important. If there was more value on this kind of work, we would be able to create many new kinds of collaborative projects.

Interview 6.

Deirdre Hyde, Visual Artist, Costa Rica

Edited from typed transcription of in-person interview at the Organization for Tropical Studies Las Cruces Field Station, on March 23rd, 2018

I've always been interested in wildlife, but I'm only good at art! Six months after coming to Costa Rica, in 1979, I started volunteering for the National Parks Service here making panels for park interpretation. I interviewed biologists about what they wanted to represent and became a consultant to the National Parks. The work I was doing was for environmental education purposes- the art was to

educate. Thereafter, I was a consultant in interpretation for WWF and IUCN contracted me to develop an interactive painting for a travelling exhibition on wetlands. The target audiences for my work are different every time. For example, selling works as posters, for people to buy and give to children. A poster series made from my paintings are used by different generations to understand ecosystems and wildlife- this is a resource that wasn't previously available. I have recently produced artworks where each piece can be sold in blocks. The audience is the general public. Biologists have supported my work (for example in painting mangroves, I worked with a shell specialist and a bird specialist for accuracy). The work must be biologically correct, but my work is not for the biologists because if you show work at an environmental organization, you are preaching to the choir.

An ideal venue for the kind of work I do is schools and similar places, where you have the attention of a lot of people. For example, in Costa Rica there are civic meetings in municipalities that would be good places to show work. Dialogue with other professionals is key to developing successful projects. It's important to get ideas from others and ask for feedback. One biologist I know was developing a book on climate change with a group of teachers and biologists, but the project collapsed because the topic was too large and complex. It's shocking that people believe Trump on climate change; if this issue could be represented better visually, he wouldn't be able to get away with it.

The world isn't getting better. These topics of wildlife and ecological conservation are like a motor in my creative life. I don't like the art world but working with biologists puts fuel in my tank. Artist residencies, like the one I am doing at OTS (Organization for Tropical Studies) nourish me. This place has fabulous natural, cultural, and landscape diversity. A primary forest makes me happy, a secondary forest makes me less happy, a pasture makes me unhappy, and an empty field makes me really unhappy. Most of us live in such depleted landscapes that we can't afford to feel.

Right now, the best minds in visual design are working in advertising. What we are talking about here is anti-advertising, to be the counterpoint of this gigantic world of advertising. Art is traditionally about the artist's personal agenda. I am an activist on the feeling side of environmental issues, not the political side. When you look at a mangrove, it's fantastic! And then, look at how we are messing it up. Most biologists are now talking about genetic mechanisms and intangible aspects. It worries me that these are concepts that are harder to express than the shape of a bill. The challenge is to be able to interpret what these people are talking about and also to capture the feeling side of these issues.

Appendix C: Informational Letter to Artists

Dear Artist,

Greetings from Jeanne Dodds; I am a student in the Master of Environmental Studies Program at The Evergreen State College. I am conducting interviews with artists for my thesis research on the topic of the use of visual art to communicate anti wildlife-trafficking, pro-conservation messages. The purpose of these interviews is to gather information about how artists are currently using their work to express and address the problem of wildlife trafficking, and to provide insight into ways that artists might develop effective partnerships with conservation organizations to promote conservation messaging. The interview process will take approximately 20-30 minutes; we will talk in person, via phone, or by Skype. The interview will be typed, and no audio recording will be made. You will be able to review the questions you will be asked prior to the interview. In addition, I would like to request permission for the use of one or two pieces of your artwork for another phase of my study. Your artwork will be used to evaluate how people perceive different pro-conservation, anti-trafficking imagery. This will be done through Personal Meaning Mapping (PMM), where participants provide a word or phrase about trafficked animals before and after viewing an image. The purpose is to determine changes in perception pre and post viewing of the artworks. Additionally, participants will assign a number ranking related to their perception of the emotional impact of the piece. The artwork will be printed out as a color copy for participant use during the study, and also printed in the thesis publication.

Any risks to you are minimal, aside from possible feedback contrary to the goals of your work from participants viewing images. There will be no compensation of any

kind available for your participation, which is completely voluntary. In both the thesis and the PMM research your work will be credited including your name, artwork title, and year of completion. You may withdraw your participation at any point, skip any question you do not wish to answer, or decline allowing the use of your artwork in the context of PMM research or thesis publication without penalty. I will keep the written file of our interview and image/s files in a password protected computer. At your request, I will provide you with a copy of the final draft prior to thesis publication. The completed thesis will be available online via The Evergreen College website, and as a hard-bound copy at the Evergreen Library. I also plan to submit my thesis for presentation at conferences including but not limited to the International Conference on Environmental Humanities in Madrid, Spain, 2018, and the International Society for Conservation Biology Conference in Malaysia, 2019. If my thesis abstract is accepted by these or other conferences, my presentations may include your artwork, which will be fully credited. If you have any questions about this project or your participation in it, please feel welcome to contact me by email at dodjea09@evergreen.edu. The person to contact if you have questions concerning your rights as a research subject or experience problems as a result of your participation in this project is John McLain, IRB administrator at The Evergreen State College, Library 2211, Olympia, WA 98505; Phone 360.867.6045.

Your participation in my thesis research is deeply valued and appreciated.

Thank you,

Jeanne Dodds

Master of Environmental Studies Graduate Candidate

dodjea09@evergreen.edu

Appendix D: Informed Consent Agreement for Artists

Informed Consent Agreement (name of artist)

Seeing Animals as Kin: The Role of Visual Art in Preventing Wildlife Trafficking

I, _____, hereby agree to be interviewed for the research project titled *Seeing Animals as Kin: The Role of Visual Art in Preventing Wildlife Trafficking*.

I, _____, hereby agree to allow the use of one (or more) works of art for research and publication in the thesis *Seeing Animals as Kin: The Role of Visual Art in Preventing Wildlife Trafficking*.

The agreed-upon artwork/s titles are listed here; if no work is to be used, this section is blank

It has been explained to me that its purpose the purpose of these interviews is to gather information about how artists are currently using their work to express and address the problem of wildlife trafficking, and to provide insight into ways that artists might develop effective partnerships with conservation organizations to promote conservation messaging. The research activity I will participate in is a 20-30 minute verbal interview, type recorded by Jeanne Dodds.

The purpose of the use of the artwork is for Personal Meaning Mapping (PMM) research, to determine changes in subject perception pre and post viewing of the artworks. The artwork will also be published in the thesis with full credit to the artist; use of the image in any presentations, re-publication of the thesis or at conferences will also be fully credited to the artist.

I have been informed that the information I provide will be used in the thesis written by Jeanne Dodds, student in the Master of Environmental Studies program at The Evergreen State College. In addition to written thesis copies online and in the Evergreen library, and her thesis presentation, my interview and images may be used at conferences where the thesis findings are presented. Identifying information (name and/or image title; date) will be included in the thesis and in presentations. Jeanne Dodds has agreed to provide, at my request, a copy of the final draft of her thesis. I understand that the risks to me are minimal, aside from possible feedback contrary to the goals of your work from participants viewing images. There will be no compensation of any kind available for my participation. I have been told that I may withdraw my participation at any point, skip any question I do not wish to answer, or decline allowing the use of your artwork in the context of PMM research or thesis publication without penalty. If I have any questions about this project or my participation in it, I can email Jeanne Dodds at dodjea09@evergreen.edu. Likewise, the person to contact if I have questions concerning my rights as a research subject or I experience problems as a result of my participation in this project is John McLain, IRB administrator at The Evergreen State College, Library 2211, Olympia, WA 98505; Phone 360.867.6045. I understand that my participation in this project is completely voluntary, and that my choice of whether to participate in this project will not jeopardize my relationship with The Evergreen State College. I am free to withdraw at any point before or during the interview. I have read and agree to the foregoing.

Signature_____ Date_____

Appendix E: Informational Letter to PMM Participants (English)

Dear Personal Meaning Mapping Study Participant,

Greetings from Jeanne Dodds; I am a student in the Master of Environmental Studies Program at The Evergreen State College. I am recruiting anonymous study participants for my thesis research. The title of my thesis is *Seeing Animals as Kin: The Role of Visual Art in Preventing Wildlife Trafficking*. I would like to invite you to participate in the creation of a Personal Meaning Map (PMM). The PMM will record your written responses to key words before and after viewing artworks on the theme of wildlife trafficking. The purpose of the research is to identify any changes in perception about wildlife trafficking before and after looking at artwork on this topic. The PMM study will take approximately 10-15 minutes and will include the following steps:

You will fill out an anonymous demographic data sheet gathering information about your self-assigned gender, nationality, ethnicity, and age group. All categories will provide a 'no response' option. The demographic data sheet will have a number on it and the same number will be used on your PMM to identify that these two documents were completed by the same person and assure your anonymity. No personally identifiable information will be collected at any time during the study.

Next, you will then be given a sheet of paper with key words in the center and asked to write down all of the words- nouns, verbs adjectives, etc.- that you associate with the key words. You will then be invited to add phrases to the PMM, expanding on the words you have written.

Next, you will be shown a series of artworks by artists who create images on the theme of wildlife trafficking. After looking the images, your PMM will be returned to

you. Using a different colored pen, you will record any changes to your PMM after viewing the images. Changes may include crossing out words, adding words, or adding phrases. You may also note if there are no changes you wish to make. At the end of the study you will give your PMM to the researcher, Jeanne Dodds, for subsequent evaluation. She will look for changes the terms you use to describe the key word before and after study participants look at the artwork about wildlife trafficking.

Any risks to you are minimal, aside from possible emotional discomfort in thinking about wildlife trafficking or viewing images about this topic. There will be no compensation of any kind available for your participation, which is completely voluntary. You may withdraw your participation at any point or skip any question you do not wish to answer without penalty. I will keep the hard copy of your anonymous demographic data and PMM. The completed thesis will be available online via The Evergreen College website, and as a hard-bound copy at the Evergreen Library. I also plan to submit this thesis for presentation at conferences and/or inclusion in whole or in part in publication. If my thesis abstract is accepted by conferences or for publication, my conference presentations and/or publications may include your anonymous demographic data and PMM image. If you have any questions about this project or your participation in it, please feel welcome to contact me by email at dodjea09@evergreen.edu. The person to contact if you have questions concerning your rights as a research subject or experience problems as a result of your participation in this project is John McLain, IRB administrator at The Evergreen State College, Library 2211, Olympia, WA 98505; Phone 360.867.6045.

Your participation in my thesis research is sincerely appreciated.

Thank you,

Jeanne Dodds

Master of Environmental Studies Graduate Candidate

Appendix F: Informational Letter to PMM Participants (Spanish)

Estimado/-a Participante del Proyecto de Mapeado de Significado Personal,
Saludos de Jeanne Dodds; soy estudiante de Maestría en Ciencias Ambientales de la Universidad Evergreen State College. Le escribo por motivo del proceso que llevo a cabo para hallar participantes para mi proyecto de investigación. El título de mi tesis es *Animales como Familiares: el Papel del Arte Visual en la Prevención de la Caza Furtiva*. Con este fin, quisiera invitarle a participar en la creación de un Mapa de Significado Personal (MSP). El MSP registrará sus respuestas escritas a las palabras claves “tráfico de vida silvestre”, luego de haber mirado obras de arte sobre el tema del tráfico de vida silvestre. El propósito de la investigación es de identificar cualquier cambio en la percepciones sobre el tráfico de vida silvestre antes y después de presenciar obras de arte sobre el tema. La prueba de MSP tiene unos 10 a 15 minutos de duración, e incluye los siguientes pasos:

Usted llenará un formulario demográfico anónimo que reúne información sobre su género auto asignado, nacionalidad, etnia, y grupo de edad. Todas las categorías tendrán la opción a “ninguna respuesta”. La hoja de datos demográficos tendrá un número y este mismo número se utilizará en su MSP para asegurar que ambos documentos hayan sido completados por la misma persona y para asegurar su anonimato. Información de carácter personal identificable no será recolectada en ninguna instancia de la investigación.

Luego, se le dará una hoja con las palabras claves “trafico de vida silvestre” escritas al centro.

Entonces, se le pide que escriba todas las palabras – sustantivos, verbos, adjetivos, etc. – que usted pueda asociar con las palabras claves “tráfico de vida silvestre”. Luego, se le invita a añadir frases al MSP, relacionadas a las palabras que ha escrito.

Luego, se le mostrará una serie de obras de arte hechas por artistas que han creado imágenes sobre el tópico del tráfico de vida silvestre. Después de observar las imágenes, se le devolverá su MSP. Usando una pluma de color distinto, usted registrará cambios en su MSP luego de mirar las imágenes. Se puede hacer cambios al tachar, borrar, añadir palabras, o agregar frases. También podrá anotar si es que no desea hacer algún cambio. Al final de la prueba le entregará su MSP a la investigadora, Jeanne Dodds, para la evaluación subsecuente. Ella buscará cambios en los términos usados para describir “tráfico de vida silvestre”, antes y después que los participantes hayan observado el arte sobre el tráfico de vida silvestre.

Los riesgos de participar serán mínimos para usted, aparte de posible incomodidad emocional al pensar o al escribir sobre el tráfico de vida silvestre, o al mirar imágenes sobre este tópico. No habrá compensación disponible de ningún tipo por su participación, la cual es enteramente voluntaria. Podrá retirarse de participar en cualquier momento, o podrá saltarse cualquier pregunta que no quiera responder, sin penalidad. Yo guardaré la copia dura de sus datos demográficos anónimos y su MSP. La tesis completa estará disponible online vía el sitio web del Evergreen State College, y en copia impresa en la Biblioteca de Evergreen. Pienso entregar esta tesis para presentación en conferencias y/o inclusión publicada entera o en parte. Si el abstracto de mi tesis es aceptado para conferencias o publicación, mis presentaciones en conferencia y/o publicaciones podrán incluir sus datos demográficos anónimos. Si tuviera cualquier pregunta sobre este

proyecto o su participación en ello, por favor comuníquese conmigo a:

dodjea09@evergreen.edu. La persona de contacto para preguntas sobre sus derechos como participante en la investigación es John McLain, administrador de IRB del The Evergreen State College, Library 2211, Olympia, WA 98505; teléfono 360.867.6045.

Su participación en la investigación le será sinceramente apreciada,

Muy agradecida,

Jeanne

Jeanne Dodds

Candidata a Graduación del Programa Master of Environmental Studies

The Evergreen State College

dodjea09@evergreen.edu

Appendix G: Demographic Data Questions (English)

Demographic Data Questions

Personal Meaning Map Research Participants

Washington, DC

March____ 2018

Personal Meaning Map Number_____

Gender

Please indicate your preferred gender identification, by writing in the space below

or indicate 'no response'

_____ gender

_____ no response

Nationality

Please indicate your nationality(ies) and/or ethnicity(ies) by writing in the space below,

or indicate 'no response'

_____ nationality(ies)

_____ ethnicity(ies)

_____ no response

Age Category

Please indicate your age group by marking the appropriate category below, or indicate

'no response'

_____ 18-25

_____ 25-35

_____ 35-45

_____ 45-55

_____ 55-65

_____ 65-75

_____ 75-85

_____ Over 85

_____ no response

Appendix H: Demographic Data Questions (Spanish)

Preguntas de Datos Demográficos

Participantes de Investigación de Mapeado

Costa Rica

Marzo ____ 2018

Numero de Mapa de Significado Personal _____

Género (Sexo)

Indique por favor su identificación de género preferida, escribiendo abajo o indicando “sin respuesta”.

Genero _____

Sin respuesta _____

Nacionalidad

Indique aquí su(s) nacionalidad(es) o etnia(s), o indique “sin respuesta”:

Nacionalidad _____

Etnia _____

Sin respuesta _____

Categoría de Edad

Por favor indique su grupo de edad marcando la categoría apropiada, o indicando sin respuesta”.

_____ 18-25

_____ 25-35

_____ 35-45

_____ 45-55

_____ 55-65

_____ 65-75

_____ 75-85

_____ Más de 85

_____ Sin respuesta