



## Resident Perceptions of Whale Watching in the Dominican Republic

Aireona Bonnie Raschke



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Dominican Republic*

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Dominican Republic*

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Aireona Bonnie Raschke

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Watching in the Dominican Republic***

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## Foreword

The Global Foundation for Democracy and Development (GFDD) and its sister organization Fundación Global Democracia and Desarrollo (Funglode), are dedicated to promoting research and awareness in areas that are crucial for sustainable development both in the Dominican Republic and the world. GFDD and Funglode put together panel discussions, educational programs and support research that enables new perspectives, contributes to public policy and promotes transformative initiatives on a national and international scale.

The foundations are honored to present the publication series Research and Ideas, which offers the results of research projects that address critical international issues from local to global points of view.

This edition of the series showcases the work of GFDD Fellow Aireona Bonnie Raschke titled *Resident Perceptions of Whale Watching in the Dominican Republic*, which sought to highlight the social and environmental sustainability of whale watching, looking at the balance of perceived costs and benefits for the local community. In addition to offering a nuanced view of the opportunities and challenges associated to eco-tourism initiatives in the Dominican Republic, such as whale watching, Bonnie offers the reader some practical recommendations to insure the sustainability of this industry in the long-term, and to mitigate some of the negative impacts that were highlighted during her interviews with members of the local community.

This work embodies months of rigorous research and data analysis and provides practical recommendations on the topic of whale watching and associated cetacean (whales, dolphins and porpoises) conservation efforts. We hope it will contribute to a better understanding of the world, empowering readers to act in more informed, efficient, and harmonious ways.

**Yamile Eusebio Paulino**

NY Office Director

GFDD





## Preface

Whale watching is a billion-dollar industry, practiced in more than 87 different countries and territories worldwide, attracting over nine million participants per year. The Caribbean Sea itself covers 970,000 square miles and includes some of the deepest parts of the Atlantic Ocean, offering a diverse range of marine habitats to over 30 cetacean species. It is not surprising, therefore, that the region provides considerable opportunities for the development of whale watching.

Today, along with the Bahamas, the Dominican Republic stands as one of the pioneers of the whale watching industry, with a flourishing eco-tourist economy, thanks in part to the creation of the Silver Bank Humpback Whale Marine Sanctuary in 1986. In addition to the economic benefits, whale watching has also proved to offer major community benefits in the form of educational gains for local schools and colleges and a sense of pride that develops within whale watching communities. Islands that adopt a conservation policy around their whale watching industry have reported even greater gains through the appreciation and awareness of marine conservation and a platform for cetacean scientific research.

With this in mind, and in an effort to unveil the connection and potential synergies between conservation, human well-being and economic development, Aireona Bonnie Raschke, came on board as a GFDD Fellow in 2016. Ms. Raschke, who is a PhD candidate at Arizona State University studying urban ecology, ecosystem services, integrated conservation, and development projects, spent two weeks during March, and then again in the summer of 2016 in June and July performing this research for the Foundation.

Her investigation sought to shed light on the social and environmental sustainability of whale watching, looking at the balance of perceived costs and benefits in the community. Offering practical recommendations including the need for proper management of the whale watching, Ms. Raschke argued for effective management systems, that help conserve the cetaceans that the industry relies on, while educating the members of the local community and ensuring the industry remains economically beneficial to them. Despite these hurdles, her findings have helped to confirm that the Dominican

whale watching industry has supported conservation and community economic development, and could therefore serve as a role model for other countries with similar industries.

The Fellows Program provides opportunities to Masters and Doctoral candidates to undertake high-level research in the Dominican Republic on issues related to democracy and development. During their studies, researchers work in close coordination with GFDD and Funglode teams as well as with national academic advisors to guide their search for information and data. In this study, Ms. Raschke worked closely with GFDD/Funglode staff to develop her work including Gabriela Márquez, Omar Shamir, Marc Jourdan and Yamile Eusebio.

Her research was carried out in the Samaná Península and the city of Santo Domingo in the Dominican Republic. During her time in the country, Ms. Raschke carried out numerous interviews with various organizations on the condition of anonymity, and will therefore not be named.

However, several organizations did support her in developing the study and we would like to thank them. They include: CEBSE (Center for the Conservation and Eco-Development of Samaná Bay and its Surroundings) and FUNDEMAR (Fundación Dominicana de Estudios Marinos, inc). Both organizations helped expand Ms. Raschke's understanding of the history of whale watching in the Dominican Republic. Other organizations which provided Ms. Raschke with support include the Rufford Foundation, USAID Global Research and Development Fellowship at ASU (Arizona State University), ASU's Center for Biology and Society, ASU's School of Life Sciences and the EcoServices Lab.

We hope that this report on the sustainability of the whale watching industry will encourage debate on economic, democratic and social development, not only in the Dominican Republic but also in other Latin America countries.

**Marc Jourdan**

UN Programs & Outreach Manager

GFDD

## Acknowledgements

I would like to express my gratitude to Omar Shamir Reynoso for his guidance and assistance in the field. My interviews would not have been possible without his help and knowledge. I would also like to thank Dr. Ann Kinzig and Dr. Ben Minter for their in-depth comments for the revision of my work here; I am also thankful to the rest of my PhD committee for helping me to design this project. Finally, I would like to deeply thank GFDD and Funglode for their support. The opportunity to interview people in the Samaná community was key to the success of this project, and it also allowed me to grow as a researcher and further develop my skills as an interdisciplinary scientist.



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## Abbreviations

CEBSE	Center for the Conservation and Eco-development of Samana Bay and its Surroundings
FUNDEMAR	Dominican Foundation of Marine Studies
Funglode	Fundación Global Democracia y Desarrollo
GFDD	Global Foundation for Democracy and Development
ICDP	Integrated Conservation-Development Project
IFAW	International Fund for Animal Welfare
IUCN	International Union for Conservation of Nature
IWC	International Whaling Commission
MPA	Marine Protected Area
NGO	Non-Governmental Organization
PA	Protected Area
SET	Social Exchange Theory
USD	United States Dollar
WDC	Whale and Dolphin Conservation



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## I. Executive Summary

Whale watching is often seen as a sustainable form of tourism that can support coastal communities, while also protecting cetaceans (whales, dolphins and porpoises) from some human pressures. The Dominican Republic is home to one of the oldest and most unique whale watching industries in the world, both in terms of the experiences that it offers travelers, and due to its innovative co-management strategy. However, since whale watching relies on healthy cetacean populations continued sustainable management is necessary for the long-term success of the industry. Furthermore, whale watching itself can have negative impacts on the animals that it targets, meaning that regulations to mitigate or avoid this risk are also necessary.

The sustainability (economic, environmental and social impact) of whale watching depends on the support of the local community. Thus, local perspectives on the Dominican whale watching industry and associated cetacean conservation/protective regulations were examined in this study to understand the current state of the industry's sustainability in relation to the community. To do this, qualitative interviews were administered in key Dominican, whale watching communities, with a particular focus on local people not employed within the industry, as well as whale watch operators. Key government, NGO and historic figures were also interviewed during this study.

These interviews revealed that local people had very positive perceptions of the whale watching industry, and emphasized both the direct and indirect economic impacts of whale watching on the community. Whale watching's benefits were more widely understood and described, and most people did not appear to perceive many (if any) costs to the community. Whale watching also appeared to play a role in creating positive perceptions of the whales themselves for local people, as well as garnering support for necessary conservation actions. However, there was one notable response by a local that expressed frustration with whale watching boat limits in the Silver Bank Sanctuary (Santuario de Mamíferos Marinos Bancos de La Plata y La Navidad). This is concerning due to the fact that such restrictions are essential to limiting the negative impacts of whale watching on target animals.

However, most local respondents did not appear to be aware of the fact that whale watching is a risk to cetaceans.

Whale watch operators were more aware of this risk, and overall, expressed support for protective regulations. That being said, the interviews identified problematic conflict between operators concerning the specific shape of these regulations. Some industry respondents also expressed frustration with the Ministry of the Environment in terms of current management. There was a perception of inaction in terms of fisheries and cruise ship industries, and some respondents believed that the government was undermining the established code of conduct in risky ways. This perception of the Ministry carried over to local interviewees as well, as many respondents felt that entrance fees for the Silver Bank Sanctuary were not being used for conservation or invested into the community.

Interview data concerning resident perceptions of whale watching in the Dominican Republic illustrate that many of the positive claims for whale watching (e.g. support for coastal communities, and cetacean conservation) are being accomplished by the industry. However, these benefits cannot be maintained if the conflicts identified by community members are not addressed. First, it appears that increased government transparency about its use of entrance fees is needed by both local people and industry professionals, and the Ministry of the Environment would also benefit from educating the community about its conservation activities in the Silver Bank Sanctuary. Second, there is a need for increased educational opportunities and human capacity building in the community surrounding the whale watching industry; as well as continued and increased financial/practical support for the local NGO, CEBSE. Finally, protective regulations must be maintained within the Silver Bank Sanctuary (most importantly boat number restrictions, specific behavioral restrictions, and a continued emphasis on local businesses rather than large-scale operators from all-inclusive resorts or cruise-lines). Thus, local people should be informed about the necessity of these industry limitations, and a positive relationship between the Ministry of the Environment and the whale watch operator community must be maintained. Co-management has been the goal of the Silver Bank Sanctuary, and it has been exemplary so far, but this can only be continued if there is a balance between top-down and bottom-up management, as well as trust between the governing body and industry professionals.

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## II. Study Introduction

The goal of this research was to reveal the general perceptions of local people in whale watching host communities concerning this ecotourism industry as well as perceptions of associated cetacean (whales, dolphins and porpoises) conservation concerns. To determine this, local people were interviewed in several key locations in the Dominican Republic, as well as whale watch operators, and government and NGO officials to gather information on the way that whale watching was functioning within the community. This investigation was meant to shed light on the social and environmental sustainability of whale watching, looking at the balance of perceived costs and benefits in the community.

### 2.1. Whale Watching, Conservation, and Sustainability

Whale watching is a nature-based tourism industry that developed in the United States during the 1950s, and which is based on the viewing of cetaceans (dolphins, whales and porpoises) in their natural habitat (Hoyt, 2009). While there is some debate over whether whale watching can be considered a form of ecotourism (Stamation, Croft, Shaughnessy, Waples, & Briggs, 2007), its proponents assign it many characteristics that relate it to ecotourism and conservation projects designed to connect social and economic development with biodiversity preservation. Thus, it is believed to have benefits for both the environment and people, but it is also faced with many of the same problems and complexities that are common to both ecotourism and conservation development programs. Specifically, there is a high potential for social conflict within this industry, which can undermine its sustainability (Ris, 1993; Silva, 2015). There are also issues with harassment of target cetaceans, which is known to have a variety of negative impacts on specific animals, and some of the behavior known to cause these problems (e.g. fast and close approaches) is thought, by some whale watch operators, to be desired by visitors (M. B. Orams, 2000; Parsons, 2012).

Modern efforts to conserve biodiversity have led to a variety of different strategies, but most common is the establishment of protected areas (PAs) around the world (West, Igoe, & Brockington, 2006). As of 2014, per the United Nations Environment Program, PAs cover 15.4% of the Earth's terrestrial and inland water area, and 8.4% of marine areas within national jurisdictions (Juffe-Bignoli et al., 2014). However, in many of these places, human habitation is not allowed, although

visitation by tourists is encouraged (Adams & Hutton, 2007; West et al., 2006). Described as a "fines and fences" approach, this form of conservation has led to conflict in many countries, where impoverished locals are pitted against conservation efforts as local people struggle to attain the resources they need to survive, and/or native peoples are removed from their ancestral lands (Wells & Brandon, 1992). Due to these conflicts, concepts such as Integrated Conservation-Development Projects (ICDPs) and ecotourism were developed to provide win-win strategies for conservation and local economic development. These were meant to address increasing concerns for the long-term viability of conservation projects in areas where local people were seen to be undermining protection efforts, as well as ensuring the welfare of local people faced with conservation engagement in their communities (Gossling, 1999; Wells & Brandon, 1992).

Whale watching's major proponents, such as environmental NGOs like the International Fund for Animal Welfare and Whale and Dolphin Conservation, believe that there is potential for whale watching to support coastal communities while creating economic incentives for the protection of cetaceans and their environment, much like ecotourism in general (IFAW, 2013; WDCS, 2013). As of 2010, whale watching tourism provided 2.5 billion USD in global revenue and 15,000 jobs worldwide, and there is a strong potential for future growth of the industry in developing countries (Cisneros-Montemayor, Sumaila, Kaschner, & Pauly, 2010). Whale watching has the potential to increase incentives for the protection of the animals (or other word) upon which the industry depends. This industry can further support cetacean conservation by serving as an alternative to whaling. Although large cetacean hunting has widely been stopped due to collapses in cetacean resources and an international moratorium through the International Whaling Commission (IWC), it remains a threat through continued scientific whaling permits, and each year plans for reintroducing the industry are debated in the IWC (Burns, 1997; Hoyt & Hvenegaard, 2010). Outside of whaling, many threats to cetaceans are not well understood, because cetacean research is difficult and expensive. In fact, as of 2008 there were so little data available on cetaceans that more than half of these species were classified as Data Deficient by the International Union for Conservation of Nature (IUCN) (IUCN, 2008). Whale watching may serve as a partial solution to this problem, as operators have already helped expand current knowledge on whale and dolphin distribution,

abundance, and behavior by gathering data during their tours, and providing cheaper alternatives for cetacean researchers (Alie, 2008; Hoyt, 2005b). Finally, with properly designed educational programs, whale watching can also play an important role in educating locals and visitors about cetaceans and their conservation needs (Higham, Bejder, & Williams, 2014; M. B. Orams, 1997).

Much like ICDPs and ecotourism in general, whale watching is not a simple win-win situation. The industry may also pose risks to cetaceans and their environment, especially in the case of boat-based activities. Some common detrimental effects that have been observed in connection with whale watching include: behavioral changes of cetaceans resulting in less resting and feeding, and shifts in habitat use; disruption of cetacean communication by boat-caused noise pollution; and exposure to increased levels of chemical pollution (Parsons, 2012). While many of these impacts are short-term, there is concern that high and growing levels of whale watching may make many of them persistent enough to have long-term, population-level effects on target species (Arcangeli, Crosti, del Leviatano, & Rome, 2009; Bain, Trites, & Williams, 2002; Constantine, Brunton, & Dennis, 2004). There are also considerable conflicts of interest between whale watching operators' (whale watch operators) short-term economic goals, and the welfare of the cetaceans. Many whale watch operators assume that tourists want to get as close to the animals as they can and this is a common cause of disturbance. Competition between whale watch operators can also encourage aggressive boat maneuvering or pressure operators into taking part in swim-with practices even when they may be concerned about the safety of the visitors and cetaceans (Garrod & Fennell, 2004; M. B. Orams, 2000; Williams, Bain, Ford, & Trites, 2002). As with other forms of tourism, mismanaged whale-watching industries can also have negative social consequences, restricting local people's use of marine areas, and in some cases, streaming revenue out of the local community to foreign investors and international tourism companies, otherwise known as the Leakage Effect (Lacher & Nepal, 2010; Peterson Jr., 1993).

Both conservation, in general, and whale watching, specifically, involves closely tied human and natural systems. Conflicts of interest between these systems make the economic, social, and environmental success of ecotourism like whale watching uncertain, and at times the industry can even be counterproductive for conservation and/or

local development. Due to these shortcomings, many researchers have rightfully called for more precautionary measures in implementing whale watching industries, and multiple strategies are needed to address these complex issues. However, the industry should not be entirely ruled out as a strategy for cetacean conservation and human development. In regions such as the Caribbean, studied here, tourism is a vital part of many national economies, and whale watching can offer an opportunity for local people to start their own businesses, and utilize skills from other professions to their advantage (Hoyt, 2005b). The impacts of whale watching on local knowledge of cetaceans can also be profound, especially in places such as Haiti, where fishermen feared cetaceans because they believed these animals were giant fish (Vail, 2015). Furthermore, there remain substantial gaps in the research being done on whale watching, as many studies have focused on a narrow subset of questions pertaining to the industry, such as the immediate impacts on cetaceans, and visitor experiences (Higham et al., 2014).

The benefits of the whale watching industry in ideal conditions are tempting, and these benefits are needed in many developing countries. Without proper management, however, whale watching can be a threat to the cetaceans it relies on, as it may fail to develop and utilize effective educational tools, and may not be economically beneficial to local communities or socially sustainable. In order to improve whale watching's conservation and development benefits, it is essential to have a more multi-dimensional understanding of the industry, and its effects on both humans and cetaceans.

## **2.2. The Community and Whale Watching: Resident Perceptions**

Much of the research on whale watching has focused on the environmental and economic impacts of the industry. However, tourism often has social impacts that extend well beyond the economy, as it can commoditize the local culture, exasperate criminal activity, and cause overcrowding, among other things (Mbaiwa, 2005; Zambrano, Broadbent, & Durham, 2010). In turn, residents of host communities can perceive those impacts in a variety of ways. Local perceptions of tourism impacts may not reflect what is actually occurring in the community, as the costs and benefits of the industry may be more or less apparent to them depending on the circumstances (Hunt & Stronza, 2014; Jurowski, Uysal, & Williams, 1997; Muganda, Sahli, & Smith,

2010; Sirakaya, Teye, & Sönmez, 2002). Whether these perceptions are correct or not, however, will play a role in defining the relationship that local people have with the tourism industry in their community. An understanding of this relationship is necessary to substantiate claims that this kind of ecotourism supports coastal communities. Furthermore, for whale watching to be an effective tool in the long-term for either the economic enhancement for the local community or cetacean conservation, residents must support the industry (Adams et al., 2004). Without this backing locals can undermine tourism by creating circumstances that make visitors uncomfortable, and these residents can make conservation difficult by disobeying environmental protection measures and being disinterested in future maintenance of intact ecosystems (Nicholas, Thapa, & Ko, 2009). In this section, the importance of local support for conservation and the role of ecotourism as an incentive for such connections will be discussed first. Finally, current evidence on how social characteristics determine whether resident perceptions of tourism, and current data about local relationships with whale watching itself will be reviewed.





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## III. Background Information

### 3.1. Ecotourism: Linking Local People to Conservation

The mainstay of modern biodiversity conservation is protected areas (PAs), or areas of land or water set aside to protect some aspect of biodiversity. The PA concept is often attributed to the invention of national parks in the United States (Spence, 1996). In the developed world, these PAs not only safeguarded natural landscapes from wide-scale development, but also created recreational areas. On the surface, this seems to be a win-win situation, and if anything, its importance to biodiversity conservation is inarguable. In fact, the concept of protected areas is currently used around the world and is considered to be biodiversity's last line of defense by some biologists (Miller, Minter, & Malan, 2011). However, this concept has another characteristic that traces its roots back to the original American method, the removal of people from the landscape. While there are alternative models that have been developed for environmental conservation, this original concept of a "wilderness" to be protected was a landscape free of a resident human presence (although visitors such as tourists were allowable, along with the associated development needed to support them) (Miller et al., 2011; Pallemmaerts, 1986). In order to accomplish this, those people living in the areas that were to be protected were moved elsewhere. In fact, in Yellowstone, the world's first national park, treaties were used to force native people out of the area and into surrounding reservations, and the story is similar in many of the United States' national parks (Hirst, 2006; Spence, 1996).

America's strategy of preserving wilderness through the designation of PAs devoid of permanent human residents was eventually adopted by much of the world, and the costs and benefits of this system became more apparent over time (Brown, 2002; Buscher & Dietz, 2005; Pallemmaerts, 1986). These exclusionary PAs were often designed to be safeguarded by physical walls, fences, and other legal actions, and have been commonly referred to as the "fences and fines" or classic conservation approach (Brown, 2002). While the first PAs were terrestrial, marine protected areas (MPAs) began to be established in the early 20th century, primarily focusing on coastal areas (Agardy et al., 2003). Glacier Bay, the first MPA to protect important cetacean habitat, was established in 1925, and the first MPA to specifically focus on the protection of cetaceans was Laguna Ojo de Liebre (in in the northwestern Baja California Sur

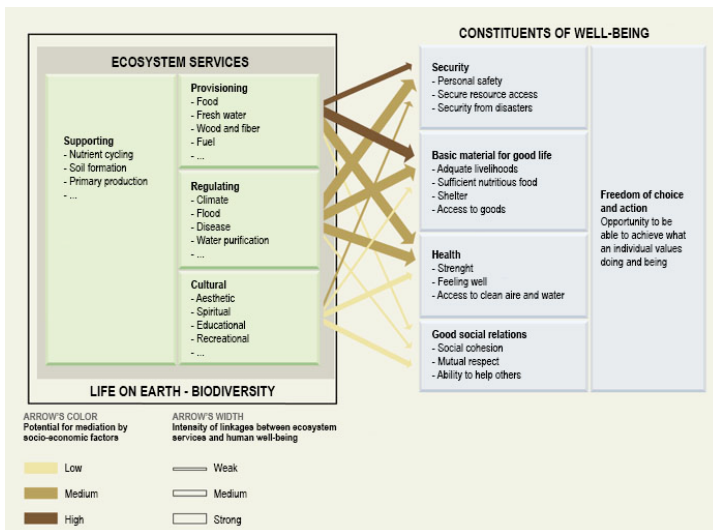
state of Mexico) which was established in 1972 to protect gray whale breeding habitat (Hoyt, 2005a).

While this system has attained worldwide popularity, there are a set of environmental and social conditions that tend to make PA's more or less successful. Areas with lower population densities have better potential as a PA because less people rely on the area of interest and therefore less people will need to be removed or change their use of natural resources in the park area after its establishment. Furthermore, places where residents have alternative resources easily available to them can lessen hardships when strict PAs are designated (Blom, Sunderland, & Murdiyarsa, 2010; Wells & Brandon, 1992). Research has shown that in several instances this classic conservation approach has resulted in increased local poverty, and in many problematic cases, local people are not afforded participation in the decision-making process either in terms of the formation of the park or its eventual management (Baral, Stern, & Heinen, 2007; Berkes, 2007; Buscher & Dietz, 2005; Newmark & Hough, 2000; Wells & Brandon, 1992). The conditions of this conservation method has resulted in resistance from local people, which can and often does undermine conservation efforts, and raises very real concerns about the ethics of biodiversity preservation at the apparent cost of human well-being (Ma, Li, Han, Chen, & Watkinson, 2009; Miller et al., 2011; Wells & Brandon, 1992).

There has been much less research on conflicts of human and biodiversity conservation interests in the context of marine protected areas. However, stakeholder support for protected areas is just as necessary for the long-term success of the biodiversity goals of marine protected areas as terrestrial, and there are some known areas of concern in regards to social conflict for marine systems. In particular, "conflict often stems from the marginalization of artisanal fisheries by other forms of resource utilization..." (Christie, 2004). In many cases, there is the perception or reality that resource access for fishers is at risk when marine protected areas are designated (Agardy et al., 2003). In some cases, even when fishing is allowed in marine protected areas, tourism interests take precedence, and while this use is often seen as non-consumptive, there is plenty of evidence that marine tourism can damage sensitive coastal habitats, especially reefs (Brown et al., 2001; Zakai & Chadwick-Furman, 2002). That being said, marine protected areas that are properly managed can also benefit fisheries as fish stocks may become healthier when important habitats are protected. In fact, in New Zealand, when

marine protected areas were first in the process of being designated in the 1970s, there was strong opposition within the fishing community, but after a decade of successful management, the majority of fishermen supported further designations (Agardy et al., 2003).

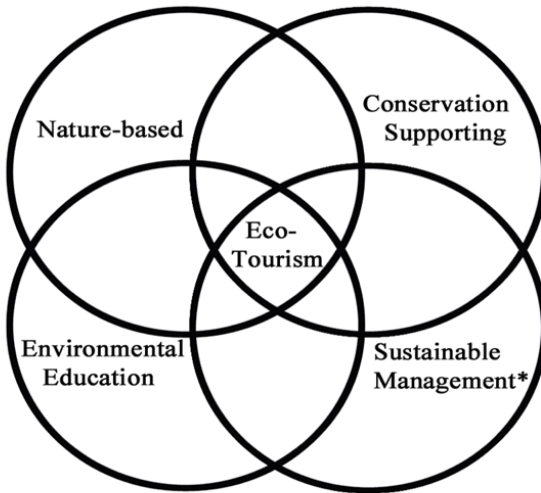
Negative social consequences, as well as the difficulty that these PAs have faced in attaining their long-term conservation goals has led to the development of alternative forms of PAs and new methods for encouraging local support for conservation, such as ecotourism and payments for ecosystem services (Berkes, 2007; Brown, 2002; Kareiva, Chang, & Marvier, 2008; Salafsky, 2011; Tallis, Kareiva, Marvier, & Chang, 2008). Of particular interest here is ecotourism as a kind of ecosystem service, as this is the most relevant to the role that whale watching is said to play in enhancing cetacean conservation efforts. The framework of ecosystem services is used to ascribe human value to different aspects of the ecosystem based on the functions or services that they provide to humans. The kinds of values encompassed by this framework includes practical services like clean water and food provision as well as intangibles like spiritual and aesthetic values. The hope is that by realizing the worth of functioning ecosystems there is more incentive for the global community to preserve biodiversity (Millennium Ecosystem Assessment, 2005).



**Figure 1.1:** Depiction of ecosystem services (Millennium Ecosystem Assessment, 2005).

Ecotourism is an environmentally sustainable form of nature tourism, and it can be considered a product of the cultural services of the environment (Millennium Ecosystem Assessment, 2005). Ecotourism is reliant on natural landscapes and charismatic megafauna, and it needs to support both conservation and local people. Whale watching is undoubtedly a form of nature tourism, but its benefits for the environment and host communities are less certain (Larson & Herr, 2008). Thus, the ecotourism framework is a valuable method of examining whale watching, as a tourism industry cannot be truly considered a form of ecotourism unless it attains some specific goals. Outside of its focus on nature, there are differing definitions of what ecotourism should accomplish, but there is a general consensus that it should enhance conservation efforts while involving local people in the decision-making process and streaming benefits to the host community (Buckley, 1994; Khan, 1997; Powell & Ham, 2008; West & Carrier, 2004). More restrictive definitions of ecotourism say that tourism ventures included in this description should also provide environmental education to tourists and residents (Buckley, 1994; Powell & Ham, 2008).

### CHARACTERISTICS OF ECOTOURISM (RESTRICTIVE DEFINITION)



\*Ecological, social, and economic sustainability.

**Figure 1.2:** Definition of restrictive ecotourism; modifying from Buckley 1994.

As with the other strategies described above, ecotourism is a mechanism by which it is hoped that local people will be encouraged and incentivized to support conservation due to the importance that associated natural landscapes, wildlife, etc. play in their livelihoods (Nyaupane & Poudel, 2011; Tisdell, 2012). Employment in this industry can also lessen resident reliance on the consumption of sensitive natural resources, and such employment also lessens the time that locals have for illegal activities within PA boundaries (Nyaupane & Poudel, 2011; Wunder, 2000). In cases of economic viability, ecotourism may also serve as a mechanism for advocating for nature protection through the interests of both tourists and invested residents, and as an argument opposing extractive industries that rely less on the preservation of the environment (Clarke, 1997). However, this form of tourism must be designed to lessen tourism revenue leakage by focusing more explicitly on connecting with and involving the local community, or the proposed social and economic enhancements will be limited (Wall, 1997). When ecotourism is well-planned and managed effectively there are a variety of social and environmental benefits that may be realized. These can include higher levels of local knowledge about the natural resource, higher local incomes, and increased levels of local environmental protect in ecotourism areas due to the increasing value of an intact habitats to the community (Zambrano et al., 2010).

Ecotourism has the potential to accomplish many desirable objectives, however, there is no guarantee that businesses labeling themselves as "ecotourism" are striving for or attaining these goals. As with other products marketing themselves as being sustainable or "green," ecotourism has a problem with green-washing, i.e., the practice of companies misleading their customers about the negative and positive impacts of their product on the environment (Delmas & Burbano, 2011; Honey & Stewart, 2002). Even well-managed, legitimate ecotourism confronts a variety of challenges. There are many cases in which the industry does not provide enough economic support to cover the operating costs of associated protect areas (Gossling, 1999; Muganda et al., 2010). It is not always socially or financially feasible to charge entrance fees, and usually when fees are charged, a relatively low percentage of the money made goes to conservation actions. For tourism to avoid damaging the environment, which is essential for ecotourism, tourist carrying capacities should be utilized. However, this limits the number of visitors to a site, and thus restricts the economic

impact of the industry in comparison to mass tourism (Clarke, 1997; Wall, 1997). Within the community, especially in developing nations, there is often only a small group of elites that benefits the most from the tourism/ecotourism industry (Gossling, 1999; Muganda et al., 2010; Tosun, 2000). Those members of the community that are already marginalized are likely to remain so due to a lack of educational and financial resources which would allow them to participate (Coria & Calfucura, 2012; He et al., 2008; Muganda et al., 2010). These barriers to local participation often necessitate foreign expertise and money, which can further alienate residents from the decision-making processes of the industry (Coria & Calfucura, 2012; Tosun, 2000).

There are often other social consequences of ecotourism, and tourism development in general that must be considered if this form of tourism is to benefit local people and encourage support for conservation efforts. Tourism is known to increase certain kinds of crime within communities, such as prostitution and theft, and it can also create inflation and increase in property values that can exclude local people from the use of popular tourism areas (Freitag, 1994). Furthermore, although ecotourism is meant to create respect for local cultures and help preserve them, it helps spread market-based economies because its benefits are primarily monetary. While this is widely beneficial, there are some cultures, such as sharing cultures, in which monetary systems can undermine key social relationship-building practices, and thus change essential characteristics of traditional life (West & Carrier, 2004). Western concepts of the natural world being devoid of humans also tends to encourage ecotourism-associated protected areas to remove local people from "wild" spaces (West & Carrier, 2004). Together, these economic and social limitations can impact the ability of ecotourism to garner local support for conservation, which, as discussed above, is concerning due to the integral importance of community involvement in successful biodiversity preservation projects.

Whale watching itself has been defined as a form of ecotourism by prominent whale watching scientists such as Erich Hoyt (2005), and many of the claims that environmental non-governmental organizations (NGOs) make about the benefits of this industry fall along similar lines to that of ecotourism (Greenpeace, 2004; IFAW, 2013; WDC, 2016). Whale watching is also discussed as a win-win solution to issues of both social justice and cetacean conservation efforts. However, there

is extensive and growing knowledge about the negative impacts of whale watching on cetaceans, from noise disturbances to ship strikes (Parsons, 2012). In recent years, environmental NGOs such as Whale and Dolphin Conservation (WDC) have become more specific in their stipulations that only "responsible" whale watching should be supported. This indicates increasing concern for the welfare of cetaceans targeted by this industry, but describing the possible negative impacts of whale watching and listing some good whale watch operators is not sufficient (WDC, 2016). In terms of social and environmental sustainability, whale watching host communities should receive a considerable portion of the benefits generated by whale watching, as cetaceans are a local resource that may need to be actively protected in order to maintain good whale watching conditions (Ministerio de Medio Ambiente y Recursos Naturales, 2015; Moyle & Evans, 2008; Ris, 1993). If local communities are not well supported it is likely that whale watching-associated conservation actions will struggle due to lack of local support as described above. Unfortunately, information about the relationship that local communities have with the whale watching industry is not readily available, as research focusing on this issue is generally lacking.

### **3.2. Resident Perceptions of the Tourism Industry**

Social Exchange Theory (SET) has played a key role in research concerning the formation of relationships between local people and the tourism industry, and particularly in research concerning resident perceptions of the industry. This is due to the fact the SET allows researchers to account for the development of resident perceptions on tourism based on both tangible and intangible costs and benefits of the industry. In a nutshell, this research seeks to understand why and how residents of host communities perceive the tourism industry to be a positive or negative force in their communities. In turn, these perceptions influence the ways in which local people interact with the industry, and can support or undermine its long-term success in a location (Ap, 1992). The findings of such research, as will be covered below, have clearly highlighted the complexities of the global tourism industry in relation to a large variety of cultures, environments, and economic situations. There are some trends in relation to demographic data, local relations to the environment and their communities, economic reliance, and power dynamics that have been discovered, but substantial amounts of uncertainty remain.



Starting with demographics, research does not agree on the influence that this has on resident perceptions of tourism, but there are several findings worth discussing. Several studies have found that women hold more negative views of tourism than men (Harrill, 2004; Mason & Cheyne, 2000), and similarly, minority groups also tend to have less positive perceptions of the industry (Harrill, 2004). Since the balance of benefits and costs is so central to the formation of positive or negative perceptions within the SET framework, it is likely that these patterns are due to the disadvantaged nature of these groups (Nicholas et al., 2009). Age can also play a role, although there are conflicting results regarding the role of this trait. Some researchers have reported that older residents had more negative perceptions of tourism than younger people (Harrill, 2004; Rasoolimanesh, Jaafar, Kock, & Ramayah, 2015). This could be due to the tendency of younger community members to interact more with visitors, so that they develop a better understanding of tourist cultures (Doğan, 1989). This may also be due to a general openness among younger members of the community for change, as well as better opportunities for employment in the industry (Huh & Vogt, 2008). Others found that general levels of support for the industry were equal among ages, but that younger residents were more sensitive to negative environmental impacts (Látková & Vogt, 2012). Finally, there are many studies that have found demographics to be very bad predictors of either positive or negative perceptions of tourism (Johnson, Snepenger, & Akis, 1994; King, Pizam, & Milman, 1993; Lankford, 1994; Liu, Sheldon, & Var, 1987; Madrigal, 1993; McCool & Martin, 1994; McGehee & Andereck, 2004; Mok, Slater, & Cheung, 1991; Perdue, Long, & Allen, 1990; Sirakaya et al., 2002; Tosun, 2000).

The philosophies that individuals and communities hold regarding the social, economic, and environmental changes caused by tourism will influence their perceptions of the industry as well (Brida, Osti, & Faccioli, 2011; Rasoolimanesh et al., 2015). For instance, those people who value the integrity of their environment strongly (i.e., have preservationist values) will be more sensitive to the impact of tourism on the environment. By definition tourism development must have a negative effect on the environment through the construction of buildings, destruction of natural attractions such as coral reefs, and increased access to formerly isolated areas, etc. So, the more concerned a person is with the protection of the environment, the more negative their perception of tourism development tends to be. That being said,

most people still prioritize improvements in the local standard of living over environmental concerns (Jurowski et al., 1997; Rasoolimanesh et al., 2015).

An example of the impact of an environmental philosophy on support for tourism can be found in a 2009 study looking at the development of a world heritage site in St. Lucia. Here it was found that the type of tourism development plays a considerable role in shaping the perceptions of locals with different philosophical stances. People who had been classified as ecocentric through their survey answers were, in fact, supportive of the development of a world heritage site surrounding the Pitons mountains. This was likely due to the fact that ecotourism was the assumed connection here, and as a world heritage site, the mountains would be afforded greater protection than otherwise (Nicholas et al., 2009). Furthermore, residents are often more supportive of tourism that can provide new recreational resources for locals (Gursoy & Rutherford, 2004; Jurowski et al., 1997; Látková & Vogt, 2012; Wang & Pfister, 2008). Attachment to the environment plays a role in determining the characteristics of resident perceptions in a location, but it is not the sole determinant.

Tourism can have a myriad of different impacts on the local social structure as well as the environment, and thus, an individual's commitment and connection to the community can shape their attitudes toward tourism. Those people that are deeply integrated into the local society (e.g. birthplace, familial ties, and long-term residence in the area) tend to view tourism more negatively. In many cases, people that value the community highly will be more perturbed by the negative impacts of tourism than those people who are less invested (Harrill, 2004; Jurowski et al., 1997; Lankford & Howard, 1994; Látková & Vogt, 2012; Rasoolimanesh et al., 2015; Sirakaya et al., 2002). It is also understood that the introduction and development of tourism in a community can change the culture of the area, and increase stratification between different social classes (Doğan, 1989). Still, as with other aspects of this body of research, there are situations in which this common trend is not maintained. The state of the local economy can play a role in shaping positive perceptions in people closely tied to the community, because many see tourism as a way to improve the economic situation. Thus, destinations experiencing economic downturns are the most likely to contain people with strong community attachments that also

support tourism development (Gursoy & Rutherford, 2004). This is supported by research in Ghana that showed that local people that were a part of community organizations were more supportive of tourism development. Although Ghana has been relatively stable and prosperous relative to other countries in the region, many of its people are still living in conditions of poverty, and thus, tourism is a potential tool for development (Sirakaya et al., 2002). The location of people in regard to such development can also make a difference, as those people that live closer to core areas of development tend to experience more tourism costs, and thus establish less positive views (Harrill & Potts, 2003; Perdue et al., 1990; Sheldon & Var, 1984; Sirakaya et al., 2002). In another example in Arizona, tourism heightened community pride, and provided an increase in knowledge about local heritage (Andereck, Valentine, Knopf, & Vogt, 2005). Finally, as with demographics, there have been several studies that failed to find a link between community attachment and resident support for tourism (Davis, Allen, & Cosenza, 1988; Gursoy, Jurowski, & Uysal, 2002; McCool & Martin, 1994; McGehee & Andereck, 2004). This may be due to a variety of variables including, cultural support for specific forms of tourism, overlap of tourist and local recreational activities, and community involvement in the development among other things.

These things aside, the principles of SET would tell us that one of the primary determinants of an individual's support for tourism is the extent of the benefits he or she perceives themselves receiving from the industry (Nicholas et al., 2009). Those people that are economically dependent on some aspect of the tourism industry tend to be supportive of its presence and development within their community (Harrill & Potts, 2003; Harrill, 2004; Látková & Vogt, 2012; Madrigal, 1993; Perdue et al., 1990; Pizam, 1978; Rasoolimanesh et al., 2015). However, this support is not ubiquitous and a linear relationship should not be assumed. For example, in Arizona it was found that people who were benefiting economically from tourism were more aware of its positive impacts, but their experience of tourism costs did not appear to be different from the rest of the study population (Andereck et al., 2005). However, as should be clear from the previous discussion, culture and circumstance influence these common trends, and developed and developing countries often exhibit differing patterns. For instance, in Ghana, unemployed people were the most supportive of tourism development, because it represented the potential for future employment. In this case, the

prospect of economic benefits was enough to inspire support (Sirakaya et al., 2002). In a qualitative analysis of resident perceptions of tourism in Nicaragua, it was found that employees of the tourism industry were more informed about both its positive and negative impacts, and appeared to be more critical of its structure than other people in the community (Hunt & Stronza, 2014). So, while economic benefits are important to the formation of positive or negative resident perceptions, it is once again clear that many different aspects of the situation must be considered to understand why and how these opinions form.

One key characteristic that plays a potentially important role in whether tourism perceptions are positive or negative is the power of different individuals within the community. It is most common for the more powerful members to control whether or not tourism development starts and continues, and it is they that also tend to benefit the most (Ap, 1992; Doğan, 1989; Gossling, 1999; Muganda et al., 2010; Nicholas et al., 2009; Tosun, 2000). Power, in the case of social exchange and tourism, comes from an individual's jurisdiction over resources required by the other member of the exchange process (Kayat, 2002). So, it makes sense by the principles of SET that power should also help determine whether resident perceptions are positive or negative. Research has supported this conclusion. Demographically, as covered above, marginalized groups such as women and minorities tend to have more negative perceptions of tourism (Harrill, 2004; Mason & Cheyne, 2000; Nicholas et al., 2009). Powerful groups also tend to have a better understanding of Western tourists due to their increased ability to travel, and they have better access to education, which would allow them to learn languages common among tourists. Being able to relate to and communicate with visitors not only enhances the enjoyment of the tourism industry by the powerful, it also further positions them to start and maintain successful tourism businesses (Doğan, 1989). Perceptions of the power of the industry in relation to the power of the people also play a significant role in the development of resident perceptions. The more a community believes that the tourism industry has political power, the more negative their perceptions of the industry will be. On the other hand, if local people have the power to influence the tourism industry more positive perceptions are likely to develop (Madrigal, 1993). Due to these characteristics, the political/power structures of different countries and communities can shape perceptions by defining the ways in which tourism and the host community share

power (Doğan, 1989). Once again, however, these findings cannot be considered in isolation from culture and the environment itself. Kayat's 2002 study in Malaysia found that people classified as having and not having power in the community were both equally supportive of tourism. However, for people of the "no-power" category, tourism gave them opportunities to avoid hardship, while individuals of the "power" group were found to simply have their already acceptable situation improved (Kayat, 2002).

Finally, one of the more complex variables that play an essential role in the development of resident perceptions of tourism is time (Ap, 1992; Cropanzano & Mitchell, 2005; Jurowski et al., 1997; Ko & Stewart, 2002). The nature of tourism in any community changes as the industry matures. In cases where tourism is successful, changes in the community will become more apparent or more pervasive over time. Often, this leads to diminishing community support (Allen, Long, Perdue, & Kieselbach, 1988; Doğan, 1989). It is theorized that in the earliest stages of development, residents commonly embraced tourism, because they have high hopes about what the industry can provide. Tolerance often becomes the common response as development begins picking up. This is the stage at which costs also become more apparent, but residents are often willing to put up with these costs to maintain their access to the benefits of the tourism industry. Adjustment occurs when locals begin changing their behavior to mitigate costs. A common example of this is rescheduling activities to avoid crowds. Finally, when the industry is fully established, withdrawal can occur, in which residents remove themselves from the community on a temporary or permanent basis (Ap & Crompton, 1993; Hunt & Stronza, 2014).

Hunt and Stronza synthesize several prominent tourism stage theories, as well as their own data in order to develop a framework that hints at the complex relationship that time and development status may play in resident perceptions of tourism. They found that different segments of the local population may be experiencing different stages of tourism development and related perceptions at the same time, depending on their role in the tourism industry. Those individuals that were more directly involved in tourism appeared to be experiencing a more advanced stage of the tourism development cycle than those who relied less on the industry (Hunt & Stronza, 2014). This appears to contradict other studies that have suggested those most directly

involved in tourism are the most supportive members of the community (Harrill & Potts, 2003; Harrill, 2004; Látková & Vogt, 2012; Pizam, 1978). The findings of a 1993 study in Arizona, which compared resident perceptions in two rural cities (Sedona and Safford) with different levels of tourism development, may provide some insight here. It was found that the stage of tourism development was the most important factor in determining a resident's perception as generally positive or negative. In fact this explained "42% of the variance in negative perceptions" among the study participants, while social exchange factors, such as employment in the industry, only accounted for 4% (Madrigal, 1993). So, it may be that the tourism environment is playing a much larger role in forming resident perceptions than economic dependence on the industry, and this trait is not analyzed as often as economic dependence. A level of realistic complexity is lost when we examine these traits in isolation from one another, as they are all likely to shape perceptions to varying degrees.

There is much that has been learned about the relationship between local people and the tourism industry. However, as the discussion above should indicate, there is also much uncertainty. There are many examples of conflicting information, and a need for a clear evaluation of environmental and cultural areas that have not been studied extensively. There are many possible variables that could create the uncertainty that has arisen in this body of research, including the type of tourism, the environment of the surrounding area (both natural and built), and the level of development in the area. In many past studies, there has not been an emphasis on the characteristics of the local culture as well as the history of the tourism industry in study locations. These are both unique aspects of any destination, and both are likely to play a major role in shaping the way that tourism fits into the community. Finally, observing the changing relationships between host communities and the tourism industry over time is clearly important, although it is not always feasible.

### **3.3. The Social World of Whale Watching**

While there is a large and growing body of research focusing on the general relations between tourism and local people, there has been little to no such work for whale watching. In part, this is likely since many tourism studies consider the entire industry, including whale watching where it occurs, but it is useful to narrow the focus of such research in this case in order to investigate the claim that whale watching supports

local communities. What social research has been done on whale watching tends to focus on tourists, and very few researchers have considered local opinions about this form of ecotourism. Since visitor satisfaction has already been discussed in detail, the focus here will be on other whale watching stakeholders and will cover the following topics based on the research available: marine tourism's influence on local perceptions of cetacean conservation in the Caribbean, whale watch operator perceptions of the benefits and short-comings of whale watching, and several cases of social conflict owing to the value divisions between whale watching and whaling.

As with resident attitudes for tourism more generally, stakeholder values and the history of the area can shape specific relationships with the whale watching industry. In the Dominican Republic, for example, the area of Bayahibe is a popular ecotourism destination. In 2002, several dolphins were captured in the area for use in the domestic dolphinarium Manati Park, which became a point of concern for local residents. Bayahibe is reliant on nature-tourism, particularly marine tourism, and its tourism industry has consistently partnered with international and domestic NGOs to maintain high standards of sustainable development. Due to this atmosphere of environmental sensitivity, local people were unhappy with the harvesting of their local dolphin population. Tourists to the area were also unsupportive of this action and expressed that they preferred to view dolphins in the wild rather than in captivity (Draheim, Bonnelly, Bloom, Rose, & Parsons, 2010). In the southern Caribbean country of Aruba, both local people and tourists were questioned about their support for marine mammal conservation in the area, and their interest in whale watching. Both groups of participants believed that marine mammals needed more protection in Aruban waters, and residents were very supportive of the notion. The overwhelming majority of both groups (81.5%) were also interested in marine mammal tourism in Aruba, and preferred to view these animals in the wild. In conjunction with these primary findings, it was noted that both groups of participants were not particularly well informed about marine mammals or the specific threats that these species may be facing in Aruban waters (Luksenburg & Parsons, 2014).

Whale watch operators in the Valdes Peninsula of Argentina identified the perceived benefits of whale watching in a 2004 workshop. These included whale watching's ability to attract more tourists to the

region, to provide jobs to local people, to stream revenue to companies and the government, and to promote the region by showcasing the unique whale watching conditions. There were also conservation benefits mentioned by whale watch operators, which included those benefits that are so often touted by environmental NGOs; whale watching provides a platform for research, it is an economic alternative to whaling, and it gives people a chance to experience whales and learn more about them. However, this study also found that the majority of whale watch operators in this area did not comply with regulations, and there was an emphasis on economic/tourism demands by participants over the known needs of target animals in relation to harassment and safety (Sironi, Schteinbarg, Losano, & Carlson, 2005). Based on this information, it would appear that the balance between the needs of the tourism industry and those of cetacean conservation are weighted towards tourism. This supports the need to question common claims about the benefits of this industry.

This is not the only social research to identify such problems with whale watching. In Tonga, a country that has become a classic study site for the economic benefits of whale watching and its positive impact on the tourism industry, whale watching has played a role in the displacement of whaling traditions. In this case, it was noted that whaling was an essential component of this culture's traditional lifestyle, and it also offered healthier food options for the local community than outside imports, which they are currently forced to rely on due to the limited resources of the island (Moyle & Evans, 2008). Furthermore, although whale watching experienced steady growth during the study period (M. B. Orams, 2002), there are legitimate concerns that competition between Tonga and other Pacific island states for a relatively small pool of tourists will limit the ability of this industry to support the community in the future. Thus, it may be concluded that whale watching is not an alternative to whaling, but may be more beneficial when it is a component of a diversified economy, which may still need to utilize small-scale whaling (Moyle & Evans, 2008).

In the Azores, another community that had whaled in the past and currently has a whale watching industry, competition for stagnant numbers of tourists was also found to limit the economic and social benefits of whale watching. Research here found that a clear tension existed between those whale watch operators viewed as foreigners and those who had family histories linked with the island (and often



with whaling as well) (Neves-Graca, 2004; Silva, 2015). The rivalry that developed encouraged increasingly bad behavior among the boat captains, who used fast and close approaches to the target cetaceans to satisfy visitors (Neves-Graca, 2004). In 2011, there was insufficient implementation of regulations, and discussions about solving this problem were thwarted by competition and disagreement. Furthermore, whale watching in the Azores was found to only be lucrative for a small group of business owners. The industry does employ other people, but the community perceived the earnings of those employees to be low (Silva, 2015). This is in contrast with whaling, which was viewed by the community as being a more open and equal industry (Silva, 2015).

Finally, a case from Norway will be examined, as it illustrates how the conflict between whale watching and whaling became even more poignant when a whale watching project openly sought to displace traditional whaling with the introduction of cetacean tourism. However, this was not culturally acceptable among the local people, and the project itself failed to employ and involve residents. In this case, whale watching became insular from the host community, and thus failed to benefit the local people, while also failing to change resident attitudes toward whaling and the whales themselves (Ris, 1993). The relationships between any tourism industry and the local people has been shown to be complex and variable, but in the case of whale watching, this complexity is further deepened when the host community has whaling roots. Despite hopes that whale watching can serve as an alternative and obstacle to whaling, it appears that the community perspective on this matter is likely to disagree on which industry is preferable, or if they are mutually exclusive.

While there are several narratives from around the world being told about the role of whale watching in communities, there has been an apparent focus on locations that are also connected to whaling as a historic or modern practice. While this is interesting and relevant due to the posed conflict between whale watching and whaling, this has limited the scope in terms of what we know about the whale watching industry and its relation to host communities. This case study, on the other hand, will examine whale watching within the context of the Dominican Republic, a Caribbean country that has no strong ties to historic whaling, and Dominica, one that only engages in opportunistic small-cetacean hunts. Furthermore, perceptions of both whale watch

operators and local people not directly employed by the whale watching industry will be examined. Not only will this shed light on the social context of whale watching in new environments, but it will help illustrate the differences that culture and environment can play in shaping resident perceptions of and experiences with a particular tourism industry. Finally, my data will also begin to shed light on the extent to which whale watching is actually supporting residents and local cetaceans.



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## IV. Study Methods

### 4.1. Study Site Selection

The Dominican Republic was selected for this research due to its prominence as a whale watching destination in the Caribbean, as well as its innovative management strategies. While whale watching as an industry was conceived in the 1950s along the coast of California, the world-wide industry did not begin to develop at a large scale until the 1980s (Higham et al., 2014; Hoyt & Hvenegaard, 2010). Whale watching in the Dominican Republic was developed within this early period, and it established the marine mammal sanctuary of Silver Bank and Christmas Bank (Santuario de Mamíferos Marinos Bancos de La Plata y La Navidad, henceforth referred to as the "Silver Bank Sanctuary") in 1986 for the protection of the country's primary whale watching target species, the humpback whale (*Megaptera novaeangliae*) (Ministerio de Medio Ambiente y Recursos Naturales, 2015; O'Connor, Campbell, Cortez, & Knowles, 2009). At the time of the last global whale watching survey in 2008, the country had 33 whale watch operators and 28,000 whale watchers, making it one of the top five largest whale watching industries in the Caribbean (O'Connor et al., 2009). Thus, the Dominican Republic is key to Caribbean whale watching in terms of both its historic experience with the industry, but also the size of the whale watching industry, which has only grown since the global survey (Ministerio de Medio Ambiente y Recursos Naturales, 2015).

The structure and management of whale watching within the Dominican Republic also makes this nation a prime study location. As will be discussed in more detail in the following sections, the primary historic participant described the process of regulation within the Silver Bank Sanctuary to be a form of co-management. Within the environmental management literature, this means that the sanctuary and the whale watching within it is regulated by both the government and the stakeholders (Carlsson & Berkes, 2005). This is represented in the Silver Bank Sanctuary management plan, which says the following in its executive summary: "The formulation of the management plan was based on broad and active participation of different actors, which... conducted 8 workshops, meetings..." (Ministerio de Medio Ambiente y Recursos Naturales, 2015). While there is some debate as to how successful relationship-building has been in this process, as will be illustrated by the interviews examined in the following sections, this

focus on partnerships between the state and community actors is fairly unique in terms of whale watching regulations (Carlson, 2012), but it represents a promising method of addressing conflicts between top-down and bottom-up management strategies.



**Figure 2.1:** Study site locations in the Dominican Republic, with the whale watching base-of-operations highlighted for my Skype interview with a Puerto Plata whale watch operator.

Specific study locations within the Dominican Republic were selected with the help of a gatekeeper (a person with strong connections in and knowledge of the community, who helps guide and facilitation social research), and on the basis of their importance to the whale watching industry in the country. The primary study site was located in Samaná Village, where the vast majority of whale watching tourists pass through for observational tours of the humpbacks that visit Samaná Bay in the winter and early spring. Local people, as well as whale watch operators, CEBSE employees, and government officials from the Ministry of Tourism and the Ministry of the Environment were interviewed on-site here. The neighboring towns of Carenero and Las Galeras were also visited for interviews with locals and small-scale whale watch operators of Samaná Bay. Swim-with tours are carried out

on Silver Bank north of Puerto Plata, and thus, a whale watch operator from this part of the Dominican Republic's industry was interviewed as well, although that particular discussion was done over Skype due to time limitations. Finally, interviews with my informant on historic issues as well as ecotourism practitioners were carried out in Santo Domingo, and the Bayahibe/Dominicus area, since this is home to the marine NGO FUNDEMAR.

## **4.2. Interview Protocol and Administration**

In order to gather data on the resident perceptions of the Dominican Republic whale watching industry and associated cetacean conservation/protective measures, semi-structured qualitative interviews were designed and administered. The qualitative method was selected due to the scarcity of social information having to do with whale watching, especially in terms of the host community. Qualitative interviews are particularly helpful in gathering in-depth data on little-studied subjects, while also removing some elements of researcher bias which are inherent in survey methods (Creswell, 2013; Saldaña, 2013). These interviews were designed for three major groups of participants, (1) local people (not employed in the whale watching industry), (2) whale watching operators (whale watch operators), and (3) other (government officials, NGO managers, historic figures, and researchers). Local people and whale watch operators are the focus of this analysis, because of their importance to the social and environmental sustainability of whale watching (Carlsson & Berkes, 2005; Wells & Brandon, 1992). Information from government as well as NGO officials and key historic figures was used to add context to the information gathered. The questions included in the interviews for each of these groups varied, but overall the key areas of focused inquiry were (1) the perceived costs and benefits of whale watching to the community and individuals, (2) perceptions of cetaceans and measures potentially needed to protect them from human threats (whale watching and otherwise), and (3) questions that sought to gather more detailed information about the structure and management of whale watching in each respective whale watching location.

Interviews were carried out during the spring and summer of 2016, both in person and with the use of Skype. It should be noted, however, that many key interviews were carried out in the same day or on consecutive days, due to the limited whale watching season. Most

interviews were administered in Samaná village, with some others being carried out in Carenero, Las Galeras, Bayahibe, Dominicus, and Santo Domingo, as well as Skype. Participants were obtained with the help of a gatekeeper, and after an initial set of interviews, a snowball method was utilized to select further local respondents. This method was utilized because it introduced an element of randomness to the sampling that was not possible with the sole use of participant identification by the gatekeeper, and because it allowed the researcher to utilize the social networks of several people, rather than one (Biernacki & Waldorf, 1981; Kvale & Brinkmann, 2009). Interviews in English were then directly transcribed, and Spanish interviews were translated and transcribed with the help of Funglode.

### **4.3. Interview Analysis**

The data gathered by the interviews was analyzed with qualitative coding and the use of (Ap, 1992) and phenomenological philosophy (Converse, 2012), which is meant to aid researchers in removing their biases from the data. However, before the coding process started, the interviews were reviewed to get an initial grasp of the narrative, and word clouds were utilized to evaluate the prevalence of words in the responses of the primary study groups, local people and whale watch operators. For the coding analysis, descriptive coding was utilized first, which attaches an identifying code to a relevant section of interview transcript based on its content. This initial analysis helped define the narrative, and led to the use of conflict coding (Saldaña, 2013).

The creation of social conflict can be considered a cost that the whale watching industry imposes on the local community, which is relevant because tells us that resident attitudes towards tourism are shaped by perceptions of costs and benefits (Ap, 1992; Jurowski et al., 1997; Látková & Vogt, 2012; Rasoolimanesh et al., 2015; Wang & Pfister, 2008). Such negative interactions are also important from an environmental sustainability standpoint, because conservation conflicts (defined here using Redpath et al's 2013 definition: "situations that occur when two or more parties with strongly held opinions clash over conservation objectives...") are to be expected, but undermine the ability of conservation projects to attain results (Redpath et al., 2013). In the case of whale watching, past social research has illustrated that conflict over protective measures for target cetaceans is relatively common,

and this can prevent the development and implementation of effective measures to prevent harassment (Moyle & Evans, 2008; Neves-Graca, 2004; Silva, 2015; Sironi et al., 2005). Such regulations or guidelines are integral to whale watching's ability to function as ecotourism, as limits on whale watch operator behavior is key to preventing negative impacts on target animals (Dans, Crespo, Pedraza, Degrati, & Garaffo, 2008; Erbe, 2002; Jensen, Wahlberg, Bejder, & Madsen, 2008; Matsuda, Shirakihara, & Shirakihara, 2011; Nowacek, Wells, & Solow, 2001; Parsons, 2012; Stamation, Croft, Shaughnessy, Waples, & Briggs, 2010). On the other hand, cooperation can be considered a social benefit of whale watching, and it is key to the Dominican Republic's ability to utilize co-management as a means of management (Carlsson & Berkes, 2005). Due to this, the conflict coding method was modified to include both instances of conflict and cooperation. Instances of these interactions were also examined not only between stakeholders, but between key concepts like conservation, as well as some actions of interest (e.g. building a road, investing in the community).

For the third round of coding, pattern coding was utilized to help condense the descriptive codes and conflict/cooperation codes into salient themes (Saldaña, 2013). Finally, after condensing the codes into themes, the data was used to construct a diagram of the whale watching industry's structure in the Dominican Republic as described by participants, and diagrams of perceived conflicts and cooperation between people, actions, and concepts (e.g. conservation, tourism, etc.) by respondent groups were created. Since the total number of interviews was 21, and each respondent group was smaller (with the smallest group being the two government officials), all mentions of relationships were included in these diagrams even if they were described only once. These visual representations were then used to further examine interviewee perceptions of relations within the Dominican Republic whale watching industry system, and shed light on the differences in perceptions among groups, particularly locals and whale watch operators.

Once these tools for analysis were developed, the groups of locals and whale watch operators were examined the most closely to develop an understanding of resident perceptions of both the whale watching industry and protective measures for cetaceans. While local people were the primary focus of this inquiry, due to the role that they



play in the social and environmental sustainability of any potential ecotourism venture, whale watch operators themselves became a key informant group through the process of interviewing. While regulations attempting to address the potential negative impacts of whale watching have emerged throughout the world, it has been found that voluntary guidelines developed by the whale watch operators themselves have become quite common (Wiley, Moller, Pace III, & Carlson, 2008). In the case that regulations are eventually put into place, past whale watching social research would also suggest that the participation of whale watch operators in determining what these regulations are is key to the success of those regulations (Parsons & Woods-Ballard, 2003; Silva, 2015). Of course, there are clearly cases in which the incentive is for whale watch operators to ignore such rules, due to the impression the clients want to get up close and personal with the whales (M. B. Orams, 2000), but on the other hand, there are cases in which whale watching professionals act first to protect the cetaceans that their businesses rely on (Higham et al., 2014). So, they are integral to protecting cetaceans from their own industry, but they can also enhance conservation outcomes by providing great educational opportunities, as well as research platforms (Hoyt, 2005b; Hoyt & Hvenegaard, 2010). Their business models can also impact the ways in which whale watching does or does not support the community (Ris, 1993; Silva, 2015), so the perceptions of the industry and potential conflicts and sources of cooperation are also important when considering this industry's ability to continue existing into the future due to its economic, social, and environmental impacts.

## V. Interview Results and Discussion

### 5.1. Interview Information

Over the course of this study, 21 individual interviews were administered. Eight of these were with local people (not employed in the whale watching business), and they came from a variety of backgrounds, with jobs in a variety of fields such as science, law, education, and tourism. 50% of these local respondents were directly involved in the tourism industry, either being employed as a guide, or a souvenir seller. Six interviews were with whale watch operators working in Samaná Bay, in both Samaná Village and Carenero, and one interview was done over Skype with an operator that had worked in the swim-with industry off Puerto Plata. Officials from the Ministry of Tourism and the Ministry of the Environment were also interviewed, as were representatives from the NGOs of FUNDEMAR in Bayahibe and CEBSE in Samaná Village. Other information was gathered from a scientist working on ecotourism in the Dominican Republic, as well as a central historical figure in the Dominican Republic's whale watching history and development.

### 5.2. Word Prevalence in whale watch operator and Local Responses

The first word cloud represents the responses of local people in Samaná concerning the costs and benefits of whale watching to their community, as well as associated conservation. The largest word in this cloud is "whales" with 75 occurrences (108 if you count "whale" as well), and words such as "people" (46 occurrences), "think" (39), and "see" (38) were common as well. Words with positive, beneficial connotations were prevalent, as were social words, both of which are listed in the table below (Table 3.1). Words with negative connotations occurred less, with "problem" being used 10 times, and "difficult" only 7. Environmental descriptors included "whales"



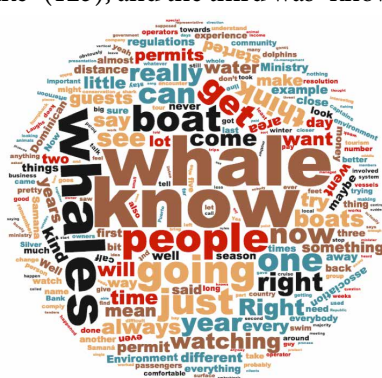
Figure 3.1: Word cloud for local responses to the interview protocol.

(108), "environment" (17), and protection (5), while regulatory mentions included things such as "ministry" (10), and "invest" (9), which was described in connection with the Ministry of the Environment.

**Table 3.1: Summary of positive and social words in local responses to the interview**

Positive/beneficial words (count)	Social words (count)
money (23)	people (46)
good (21)	Samaná (28)
pay (14)	community (14)
tourists (10)	children (11)
work (8)	everyone (9)
economic (5)	students (7)
	Dominican (7)
	industry (7)
	person (6)
	school (6)

The second word cloud represented here illustrates the most prevalent words used in the responses of whale watch operator's to their interview protocol. Here the most common word was "whale(s)" with 220 occurrences, the second was "like" (123), and the third was "know" (123). The prevalence of the word "know" as opposed to "think," which appeared more often in the interviews with locals not working for the whale watching industry, is not unexpected, but it is interesting to note. This result illustrates, to some extent, that whale watch operators are confident in their answers, and seek to express their knowledge of their industry. Furthermore, the variance in words was higher for whale watch operator interviews, since these were more often more



**Figure 3.2: Word cloud for whale watch operator responses to the interview protocol.**

technical and detailed than interviews with local people. Due to this, the summary of word occurrences includes only words with more than 5 appearances in the participants' responses. Though local and whale watch operator interview responses should not be compared as they were asked different questions, similar categories of words were analyzed and include words in the following table with a positive connotation or indicating a benefit, words with a negative connotation, as well as social, environment and regulatory words. Several names from key leaders in the whale watching community (both operators and government officials) also showed up in the initial word clouds, but they were edited out as per IRB protocols.

**Table 3.2: Summary of word occurrences in whale watch operator responses**

Positive/Benefit	Negative	Social	Environmental	Regulations
money (17)	nothing (9)	people (70)	whale(s) (220)	permit(s) (55)
better (13)	stop (9)	guests (30)	Environment (30)	regulations (19)
pretty (13)	difficult (8)	association (18)	calf (16)	ministry (28)
pay (11)	less (7)	everybody (15)	conservation (8)	association (18)
understand (10)	end (7)	passengers (13)	humpback (8)	season (18)
remember (10)		community (13)	shark (8)	resolution (11)
tourism (10)		operators (12)	animal(s) (13)	stay (11)
good (10)		person (11)	protect (6)	comply (10)
interesting (7)		talk (11)	threat (6)	government (7)
income (7)		business (10)	song (6)	supposed (7)
gave (7)		captains (10)		representative (6)
knowledge (6)		owners (10)		co-management (6)
together (6)		group (10)		minister (6)
nobody (6)		guy (10)		managed (6)
work (6)		operator (9)		control (6)
paid (6)		company (7)		
job (6)		members (6)		
		meeting (6)		

### 5.3. General Codes and Themes Produced by Interviews

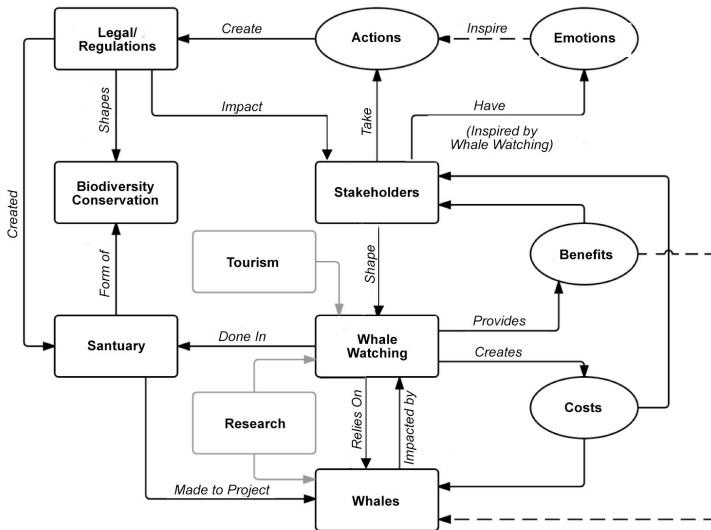
The coding process revealed several key areas of interest, most due to the design and focus of the interviews (such as those themes that focused on whale watching details and structure, knowledge of cetacean conservation, and perceived costs and benefits), but the codes and themes concerning conflict and cooperation were emergent. The most interesting result of this first look at the codes, other than the discovery of the importance of positive and negative relationships/interactions with the whale watching industry, is the difference in the detail of perceived costs and benefits. The benefits of whale watching include environmental, economic and education themes, which support claims by environmental NGOs about the industry (IFAW, 2013; WDC, 2016). Only social and environmental costs were described, and to a much lesser extent than the benefits. The following sections will examine these themes in detail for both locals and whale watch operator.

**Table 3.3: Themes and Codes**

<b>Whale Watching Themes</b>	<b>Conservation Themes</b>
Benefits	Actors
Characteristics	Characteristics
Costs	Protective Measures
Stakeholders	Threats
<b>Benefit Themes</b>	<b>Cost Themes</b>
Economic	Social
Experience/Education	Environmental
Environmental	
Social	
<b>Conflict/Cooperation Themes</b>	
Conflict/cooperation with conservation or environmental issues	
Conflict/cooperation between stakeholders	
Conflict/cooperation with actions	

### 5.4. Perceptions and Knowledge of Whale Watching

While the structure of the Dominican Republic whale watching industry is described in various forms in the literature (Carlson, 2012; Ministerio de Medio Ambiente y Recursos Naturales, 2015; O'Connor et al., 2009), interviewing whale watch operators and local people (as well as gathering information through supporting interviews) about its structure sheds light on the overall perceptions of the industry, as well as local understanding of how the industry is run, which may be different from its management on paper. The narrative surrounding the Dominican Republic's whale watching structure, and general perceptions of the industry will be explored in the following section.



**Figure 3.3:** Structure of the Dominican Republic whale watching system as per descriptive coding.

The descriptive coding analysis was used to develop a diagram depicting the structure of the whale watching industry in the Dominican Republic. The results of this exercise are not surprising, but it illustrates the relationship between different entities in the system (e.g. whales, the whale watching industry, stakeholders, etc.) and less tangible concepts such as costs, benefits, actions and emotions. In this case, dotted lines indicate connections that were determined based on indirect references within the interviews, as well as support from the literature, such as the benefits of whale watching for whales (e.g. education for tourists

and serving as an economic alternative to whaling) (Hoyt, 2005b). A connection was also created between emotion and action, as this is intuitive. Overall, the interviews illustrate how whale watching costs and benefits to both humans and whales influence the actions of stakeholders, and the roles of conservation tools utilized in the Dominican Republic.

In terms of whale watching's history, there are two slightly different stories that were told by different respondents. The first emphasized the role of the government and of scientists in discovering and understanding the activities of humpback whales in the Silver Bank and in Samaná Bay. In this telling of the story, whale watching was utilized as a tool to incentivize the protection of Silver Bank, one of the first protected areas of its kind. In this case, the original guidelines for whale watching appear to be top-down, although co-management has long been the goal of the Silver Bank Sanctuary protected area. However, the other story told implied a bottom-up approach, in which a year of the humpback's late arrival convinced the whale watch operators themselves that they needed to create rules to prevent the harassment of target animals, due to the fear that they were being driven away. Whale watch operator respondents in both Samaná and Puerto Plata stressed the importance of industry involvement in the protection of the animals, which appeared to lead to both official and unofficial ways of attempting to lessen the stress that whale watching caused for the animals.

Since co-management seems to be the management strategy utilized in the Silver Bank Sanctuary, these two stories suggest that state and industry stakeholders have both felt deeply involved in the process of management (Carlsson & Berkes, 2005). The described structure of whale watching monitoring and regulation at the time of my interviews also suggests that co-management has been successful thus far in the Dominican Republic. Firstly, and perhaps most important when considering the potential for whale watching to have positive economic impacts on the community, interviews indicated that all whale watch operators in Samaná Bay (as of the time of the interviews) had to be part of the Boat Owner's Association, and their boats had to be registered in the Dominican Republic. This meant that all whale watch operators were local people themselves, and this strategy had thus far prevented large companies (e.g. cruise and resort companies) from running their own tours, which would lessen the indirect economic

impact of the industry (Jayawardena, 2002). Since many of the tourists whale watching in Samaná Bay come from mass tourism areas such as Punta Cana, there are both large-scale companies and middlemen involved that end up taking cuts of the ticket price. According to respondents, the understanding of how whale watching was regulated was as follows: Rules have been established by the Ministry of the Environment with the help with whale watch operators (which are organized in Samaná Bay through the Boat Owner's Association), the Navy supports enforcement. The local NGO CEBSE is also key, as it trains students from the Samaná community to gather data on whale and whale watch operator behavior, and partners with whale watch operators to get these students onto whale watching trips where they can gather data and interact with tourists. This not only improves human capital within the community, but enhances tourist experience on the whale watching tours, and provides the Ministry of the Environment with data on whale watch operator behavior on the water for potential use in enforcement.

The structure of the Puerto Plata whale watching industry is somewhat different, due to the way in which this whale watching tourism is run. Of course, since these tours are still within the Silver Bank Sanctuary, they are subject to the same regulations, but whale watching here is a swim-with experience, rather than observational. Furthermore, these tours take place over the span of a week, when whale watching boats are out over Silver Bank proper, so fewer tourists are involved, and the closest community of Puerto Plata is not as involved as Samaná Village. Finally, whale watch operators working in this part of the industry are not local as they are in Samaná Bay. While partnerships between the government, and research NGOs was apparent from interview data, there does not appear to be a community NGO like CEBSE that exists for the Puerto Plata whale watching industry.

The first thing that is apparent from these codes is the difference in detail between local descriptions of whale watching, and that of whale watch operators. Not unexpectedly, the professionals in this industry know a great deal about it, while local people know much less. That being said, the details that are clear in the codes that emerged from the interviews with local people illustrate a fairly good understanding of the industry over all. The only theme that has an equal number of codes between the two groups (although they are different codes) are those describing the



<b>Local</b>	<b>Whale Watch operator</b>	<b>Local</b>	<b>Whale Watch operator</b>
<b>Characteristics</b>	<b>Characteristics</b>	<b>Costs</b>	<b>Costs</b>
Advertising	Attraction	Conflict	Conflict
Charge/Fee	Charge/Fee	Harm	Disturbance
Land-based	Commercial	No investment	Intrude
Price	Eco-friendly/ Sustainable	Over-reliance	No Investment
Season	Ecotourism	Stress	Stress
Tourism	Fair	Vessel Traffic	Vessel Traffic
	Family Business		
	History	<b>Stakeholders</b>	<b>Stakeholders</b>
	Petting Zoo	Boat Association	Boat Association
	Philosophy	CEBSE	Captains
	Schedule	Children	Community
	Season	Community	Everyone
	Tourism	Everyone	Fishermen
	Unique	Fishermen	FUNDEMAR
		Government	Government
<b>Benefits</b>	<b>Benefits</b>	Min. Environment	Guide
Beauty	Amazing	Operators	Middle Class
Cooperation	Beauty	People	Navy
Economics	Cooperation	Students	NGO
Fun	Development		Passengers
Indication	Economics		People
Indirect benefits	First time		Private Vessels
Jobs	Fun		Tour operators
Knowledge	Impactful		
Personal gain	Indication		
Public Awareness	Indirect benefits		
Research	Jobs		
Whaling (Anti-)	Knowledge		
	Money		
	Public Awareness		
	Research		
	Visitor Satisfaction		
	Whaling (Anti-)		

costs; this theme also has the least amount of detail describing it. On the other hand, descriptions of the benefits that whale watching provides to the community were extremely detailed, and included all three themes (economic, environmental, and experiential) in both groups.

As it stands, local perceptions of the whale watching industry appear to be primarily positive. Many respondents were emphatic about the economic support that this industry provides to the community, both directly and indirectly. The word cloud from local participants shows a strong abundance of words with positive connotations, many of which are linked to economics (e.g. money and jobs), and very few negative words were common in these interviews. Overall, it appeared clear that the benefits of this industry were far more apparent than the costs, especially in terms of the common economic costs of tourism (e.g. rising property prices, increased traffic congestion, etc.) (Duval, 2004; Jackson, 2006). It is possible that this is due to the nature of the whale watching in the Dominican Republic as evidenced by the interviews. Whale watching in Puerto Plata caters to smaller groups of tourists, who spend most of their time off-shore, and the larger observational industry in Samaná Bay is run by local people and caters primarily to tourists from major destinations such as Puerto Plata and Punta Cana, but they come only for the day. This limits the potential negative impacts that whale watching tourism can have in the local community by decreasing exposure to tourist bad-behavior, and mitigating some level of traffic and property price increase (Duval, 2004; Jackson, 2006). Thus, through the lens of the social exchange framework, it makes sense that positive attitudes would be established for the industry overall. If local people do not perceive the costs of the whale watching industry, but they are well aware of both the direct and indirect economic benefits, it makes sense that they would support it (Ap, 1992).

## **5.5. Community and Industry Perceptions of Cetaceans and Cetacean Conservation**

As has been mentioned previously, whale watching's long-term viability (like all forms of ecotourism) relies on its ability to be both socially and environmentally sustainable. It is clear that while there are some costs to whale watching (to be discussed in further detail in the following sections), the perception among local people is positive. However, whale watching can and often does have negative impacts on target cetaceans, and the only way to mitigate this is through effective management

plans (Parsons, 2012). So, support for regulations among the public and especially among whale watch operators, is key. Furthermore, whale watching is believed to be a conservation tool due to its ability to teach people about the threats that cetaceans face, while also inspiring a love for these animals (Higham et al., 2014). This mechanism is clear for tourists, but as was discussed in this introduction, there must be local buy-in to conservation in order for it to work on-the-ground, so understanding resident perceptions of whales and their support for conservation is central to our ability to understand the role that the Dominican Republic's whale watching industry is playing in conservation. The following section will examine perceptions of cetaceans, understanding of and support for conservation, and support for whale watching regulations.

In terms of the whales themselves, local people felt positively; they liked these animals and associated good things with them. They focused on the beauty of the animals in many cases, mentioning the common delight that most feel at the sight of whales and dolphins. One participant said, "and for about 19 years now, and every time I go to see the whales, I am... crying because for me it is beautiful" (personal interview dated 3/4/16). Another explained, "because they are beautiful animals and very innocent, and they have life as we. They need something, like an institution that will defend them from anything. I really like watching them!" (personal interview dated 3/7/16). Here there is also a reference to the innocence of these animals, which did not appear to be widely associated with conflicts with anyone, even though sanctuary regulations as well as the some cetaceans themselves (particularly dolphins, rather than whales) can interfere with fishing industry (Kerosky, Munger, & Hildebrand, 2008; Mann, Connor, Tyack, & Whitehead, 2000). "The whales... there are only benefits. They don't eat the fish in the bay; it is not a problem" (personal interview dated 3/4/16). It should be noted, however, that no fishermen outside of those that may have been included in the whale watch operator group were interviewed, so problems with resident dolphin species competing for catches would likely be under-reported here. It would appear that whale watching has played a role in supporting positive perceptions of cetaceans among local people, especially when they are aware of the benefits that whale watching brings to the community, and the whales themselves don't require resources that local people need.

Table 3.5: Comparison of local and whale watch operator codes for conservation themes			
Local	Whale Watch operator	Local	Whale Watch operator
<b>Characteristics</b>	<b>Characteristics</b>	<b>Protective Measure</b>	<b>Protective Measures</b>
Environment	Environment	Education	Alternatives
Feasible	Know Better (whale watch operator)	Monitoring	Distance
Habitat	Middle Ground	Protection	Eco-friendly/Sustainable
Last Longer		Public Awareness	Education
		Regulations	Management
<b>Actors</b>	<b>Actors</b>	Research	Monitoring
CEBSE	FUNDEMAR	Respect	Protection
Community	IWC	Responsibility	Public Awareness
Cruise	Ministry of Environment		Regulations
Everyone	Ministry of Tourism		Research
IWC	Tourism		Respect
Ministry of the Environment	Whale watch operator		Responsibility
NGO			Sanctuary
People			Vision
		<b>Threats</b>	<b>Threats</b>
		Death	Detrimental
		Entanglement	Disturbance
		Harm	Entanglement
		Noise	Intrude
		Pollution	Noise
		Predators	Stress
		Sediment	Threats
		Ship Strike	Vessel Traffic
		Stress	Whaling
		Whaling	

Of course, it is expected that whale watch operators also have positive feelings about cetaceans, in particular, the whales that their businesses rely on. One whale watch operator told me the following, "I'm a whale fanatic. Yes, and I have probably stayed in the Dominican Republic for 33 years just because of the whales" (personal interview dated 3/6/16). Of course, there were specific aspects of whales that fascinated the people that make a livelihood out of bringing people to visit them. "They're very large. They're very charismatic. They are amazing creatures, and it's extremely... apart from being fun, entertaining... introducing people to humpback whales is really exciting. So, I think that's what keeps me excited" (personal interview dated 3/6/16). Here, it is not only the whales themselves, but the experience of getting other people excited about the animals that enhances the fondness that operators have for the humpbacks. Furthermore, there was an idea that some whale watch operators felt that they had a deep understanding of the whales, as individual, thinking beings. "I mean, the whales... they are all different, they are like people" (personal interview dated 4/6/16).

The threats to cetaceans listed by local people included entanglement in fishing nets, predators, increased sediment in the bay, ship strikes, and whaling. While whale watching itself was not commonly cited as a problem for the whales, there was one respondent who found it problematic and said the following: "The problem to me is that there are many trips at the same time when they go whale watching... [if] there are many trips at once with two or three whales and then they get scared and may have problems. ... The people instead of throwing their trash in the trash can, they throw it in the sea. The same boats that go see the whales throw the bags in the sea instead of bringing them here" (personal interview dated 3/4/16). So, this local is not only concerned about the potential harassment of the whales by whale watching boats, but believes that whale watching visitors may actually make the pollution problems worse. On the other hand, some informants were unaware of any threats to whales at all in the Samaná area. "Well, here in the country there's no factors; here in Samaná there are no factors that could threaten the whales" (personal interview dated 3/7/16). So, while there is a thoroughness here, education level likely plays a role in varying impressions of threats. Thus, there is a need for increased education on this topic, which whale watching is well-suited to do. While whale watch operators are already doing some of this on their own, further support for such initiatives would be beneficial for the community, the

industry, and conservation as well, as long as the educational value of whale watching trips or support for CEBSE's museum highlight concerns for the whales.

Similar threats were described by whale watch operators, although there were some differing concerns. Outside of the potential problems that whale watching itself might have for target animals, entanglement in fishing gear, noise pollution, vessel traffic, and whaling were all discussed as issues, although whaling is not done in the Dominican Republic and is more of a threat abroad. Here, there was more often a sense of conflict among whale watch operators, perhaps because their livelihood is at stake. One respondent described the following in reference to cruise ships: "The captains in Samaná have a fable, it is like when the cruise enters, the whales are very hard to see. We feel that they run away from the area when the cruise approaches" (personal interview dated 3/7/16). In regards to the threat of entanglement, one whale watch operator expressed clear frustration that little was being done to protect the whales. "The Ministry of the Environment has not made any effort to edit the fishing gear in Samaná Bay... The Ministry did not even notify the fishermen, or make them move out of the place, or find another alternative..." (personal interview dated 3/3/16). There is a realization among whale watch operators that their industry itself can threaten the whales, which is a positive sign in terms of willingness to act in order to protect target animals from these impacts. "I know we do, drain the whales... but when you have 8 hours of observation towards a single whale, the whale has to feel stressed at the end of the day, but that is inevitable" (personal interview dated 3/3/16).

When it came to actions that would need to be taken to protect whales from the threats that they described, the local people that participated in the study were supportive concerning protective measures. Whale watching had helped people realize that the whales of Samaná Bay needed to be protected in order for them to continue to support the industry. "Here, I learned that the whales are productive, economical, and cultural. More or less they come every year. Economically because they leave money and it's a way to earn some money. Part of that, we also have to protect them and all of that" (personal interview dated 3/7/16). That being said, there were those who were more hesitant in their support, calling for actions that were feasible. "Well, if it [protective measures] is feasible, then I think so. I think so, we can [protect

cetaceans from the threats that they listed]. Within what's possible, we can" (personal interview dated 3/7/16). In conjunction with responses about the threats to cetaceans, these interviews indicate a highly positive attitude among local people, but also, the need for further education and involvement of the community. CEBSE is working on this involvement, again, but other programs might include community beach clean-ups, or citizen science, as with FUNDEMAR's relationship with fishermen in the Bayahibe area. It is worth noting, that those interviewed did not appear to be aware of potential trade-offs between whale watching/conservation actions and fisheries.

The discussion about whale watching regulations among local people revealed few results, as most of the people that participated were not all that aware of what whale watching can do to whales. However, in discussing the costs of whale watching to the community with one participant an intriguing concern arose about whale watching regulations. This respondent was dissatisfied with the way in which smaller boats were not allowed to run their own whale watching businesses. "Do not impose rules such as the catamarans can go while the smaller boats can't go, but everyone should have the ability to go and watch the whales. It's very bad that the small ones can't see the whales, and all the big ones can see them" (personal interview dated 3/7/16). In this case, the quote is up for some interpretation, but based on the sentiment here, as well as what the researcher observed while visiting the area in which this was described, it would seem that this description of "big" and "small" refers not only to boat size, but to power and establishment within the whale watching industry of Samaná Bay. In this way, those whale watch operators that are most established or best equipped monetarily to break into the modern industry are the only ones able to fully benefit. These limitations are a key method of preventing undue stress on whales, however, and limits on the number of boats whale watching is called for by nearly every researcher that has examined the negative impacts of whale watching (Arcangeli et al., 2009; Bain et al., 2002; Barr & Slooten, 1999; Beaubrun, 2002; Blane & Jaakson, 1994; Constantine et al., 2004; Erbe, 2002; Jelinski, Krueger, & Duffus, 2002; Lachmuth, Barrett-Lennard, Steyn, & Milsom, 2011; Lusseau, 2005; Matsuda et al., 2011; Ritter, 2004; Schaffar, Garrigue, & Constantine, 2010; Stensland & Berggren, 2007; Visser et al., 2011; Williams & Ashe, 2007). On the other hand, day-to-day survival and fairness are natural concerns for anyone, and thus, this sort of

impression is important to address. In the case, there are likely two potential solutions to improve sustainability if there are others with this concern, and these would be based on information from the whale watch operators themselves as well. The first is to educate local people about the risks that whale watching poses to cetaceans, as it was not a common theme among local respondents when they were asked about threats to cetaceans. Furthermore, any increase in human capital for Samaná and its communities would be beneficial, due to human welfare concerns as well as conservation (Birdsall & Londoño, 1997; Lloyd-Jones & Rakodi, 2014; Oldekop, Bebbington, Brockington, & Preziosi, 2010). CEBSE is working on this with its students, and continued and increased efforts to aid local people in this way is very important.

The focus of the discussion with whale watch operators surrounding protective measures fell on whale watching regulations, due to the expertise of these respondents. So, general protective measures were not discussed in detail, although a few suggestions arose in connection with the concerns listed above. In particular, there was a desire to see fishermen change the kinds of gear that they use, or move them out of areas used by whales, in order to address the issue of entanglement. For the problem of vessel noise, particularly that of cruise ships, the following was said: "Samaná benefits from the cruises and many businessmen from the area, as well as the whale's presence. If the whales and cruises were on different intervals it would have been great and less threatening" (personal interview dated 3/7/16). Seasonal restrictions are certainly one way to address this problem, especially if cruise lines are unwilling to modify their behavior or equipment to lessen the impact of their vessels on cetaceans in the sanctuary (Richardson et al., 1995).

When considering whale watching regulations, whale watch operators were widely supportive of measures that were needed to protect their whales from bad behavior. "The regulations are very specific, and what we try to see is that our captains like all of the other captains of the association, to try to keep the regulations and see that the whales are not disturbed at its best expression" (personal interview dated 3/3/16). In fact, several whale watch operator even mentioned their willingness to help police other operators that might attempt to ignore these regulations while in the vicinity of the whales. This support makes sense, considering that the whale watch operators feel that they have played a central role in developing their own standards of behavior



while working around the whales (Parsons, Warburton, Woods-Ballard, Hughes, & Johnston, 2003). "Our whales are worth this to us, if we scare them away we're not going to have this, and... we went out onto the *Malecón* (seafront) and measured distances and talked about numbers of boats, and how far we could see and look... and we came up with the regulations on our own" (personal interview dated (3/6/16). Likewise, in Puerto Plata, whale watch operators were integral in determining the kinds of behavior that would need to be controlled in order to keep the whales safe from their human visitors. In reference to one of the main whale watch operators in Puerto Plata, a historical informant said the following: "And he developed a way of watching... of whale watching which was very very safe, because... you don't go after the whales" (personal interview dated 3/10/16). That being said, there was also a sense of arrogance in some respondents, as they mentioned that they had a better sense of when the cetaceans were being harassed, essentially, that they knew better than the regulations. "I'm not going to force an encounter with an animal that has given me every indication that they don't want an encounter" (personal interview dated 4/6/16). However, it has been established that the negative impacts of whale watching is not always apparent in the behavior of the animals (Bejder, Samuels, Whitehead, & Gales, 2006; M. Orams, 2004, so this idea of being able to see the impact of whale watching on whales needs to be discussed. Sensitivity to the whales is likely key to successful swim-with ventures, but without an indication of physiological stress levels, behavioral cues are likely unreliable (Bejder, Samuels, Whitehead, Finn, & Allen, 2009; M. Orams, 2004). So, while the meetings meant to develop the Silver Bank Sanctuary Management Plan have already been completed, it would seem that an ongoing conversation about emerging attitudes of whale watch operators and negotiations on how to balance these perceptions with scientific findings will be key to on-going conservation success in the sanctuary (Olsson, Folke, & Berkes, 2004).

Overall, the results from this discussion on conservation are positive, because although there is a need for more community involvement and education, as well as ongoing conversations with whale watch operators about the practical applications of whale watching regulations, whale watching appears to have inspired support for the protection of whales, as well as an appreciation of their existence in the Dominican Republic.

## 5.6. The Benefits of Whale Watching and Associated Cooperation

As discussed previously, residents perceived the benefits of whale watching far more than the costs, and this is believed to have contributed to the positive attitude that they have towards the whale watching industry in the Dominican Republic. Economic benefits, both direct and indirect, were the most common benefits listed, but the two primary groups of focus, also describe experiential and environmental positive impacts as well. Finally, while social benefits were not explicitly described, discussions of cooperation were considered to be evidence of such positive effects, because these cooperative interactions are necessary for conservation (Carlsson & Berkes, 2005; Redpath et al., 2013). It bares saying that although benefits were more widely perceived than costs, the networks of cooperation were far less complex than those of conflict for all respondent groups. The following section will explore the general benefits described by local people and whale watch operators, and then focus on discussions of cooperation surrounding the whale watching industry.

**Table 3.6: Comparison of local and whale watch operator codes for benefits themes**

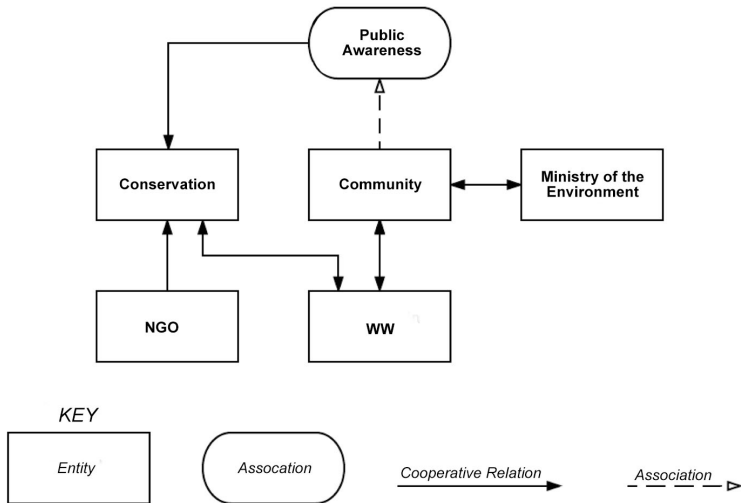
Local	whale watch operator	Local	whale watch operator
Economics	Economics	Experience/Educational	Experience/Educational
Economics	Economics	Beauty	Beauty
Indirect Benefits	Indirect Benefits	Education	Education
Jobs	Jobs	Fun	Fun
Personal Gain	Money	Knowledge	Impactful
	Worth	Public awareness	Knowledge
			Public awareness
<b>Environmental</b>	<b>Environmental</b>		
Public Awareness	Alternatives		
Whaling	Public awareness		
	Whaling		

Many local people spoke about the economic support of whale watching for the community. Saying things like the following: "We have a lot of people that directly or indirectly depend on the whale watching season" (personal interview dated 3/3/16). "There are a lot of excursions and money can be earned. There are more people when there are whales around!" (personal interview dated 3/7/16). "For us it is very valuable because when the time of whales is back, there's a lot of people that come. It's good for all the restaurant and people who work on boats, for the people that sells and the hotels" (personal interview dated 3/7/16). "Because through the whale watching industry there are many people that have resources and every year we wait for the whales because it gives us more income" (personal interview dated 3/7/16). This was the most common thread of discussion when looking at the benefits of whale watching with local people in Samaná, and it is good to see that there is a realization that this industry provides both direct impact in the form of jobs, as well as indirect through the extra flow of tourists and thus money, into the community. This may be further supported by the fact that Samaná's whale watch operators are local, as this is known to lessen the loss of tourism revenue to foreign entities (Chirenje, Chitombe, Gukurume, Chazovachii, & Chitongo, 2013; Lacher & Nepal, 2010). One respondent also mentioned that they believed that whale watching enhanced the image of Samaná village. "I like it personally. I like it because it's very fun; these are things that I do not see every day and for the occupation, it makes my job, it makes people outsiders come and meet both the whale watching and Samaná. It's advertising Samaná" (personal interview dated 3/4/16). In this way, whale watching may also lay the groundwork for repeat visits by tourists, further enhancing the indirect impacts of the industry on the community.

Experiential benefits of the industry stemmed from the very real enjoyment that local people experienced when they were able to go WWing. The specifics of this were covered in the conservation section above, in which locals expressed a love for whales in connection with seeing them. As these previous quotes illustrate, these experiences also encouraged local people to care about the protection of cetaceans overall. These enjoyable experiences also prompted the community to act in the past, in particular, pushing the Ministry of the Environment to act on issues of protection for these cetaceans. "When the public awareness was made, people complained- oh, nobody is going to save the whales! Then the Minister said- ok, ok, let's do it" (personal interview dated 3/3/16). Besides this impression that public pressure is needed

to encourage government action, there was also the implication that the government was unable to properly protect whales without the support of the community. "We all have to protect the whales because the Ministry of the Environment might have 2 or 4 employees that are somewhere, but we are a lot" (personal interview dated 3/7/16).

### Local Perceptions of Cooperation



**Figure 3.4:** Local perceptions of cooperation within the whale watching system.

While local people describe the benefits of whale watching in detail, the occurrence of descriptions of cooperation is much lower than that of conflicts (to be explored in the next section). It would appear that local people are not as aware of connections being formed in the community around whale watching. However, conservation came out as being fairly central to the links being formed, having connections with NGOs, whale watching, and public awareness. Likewise, whale watching both supports and is supported by conservation and the community. It should be noted here that there was not a connection described by interviewees between the Ministry of the Environment and conservation, and this is due to the quotes explored in the last paragraph. Based on local feedback, actions by the Ministry of the Environment was unclear, motivated by the public, or needed support from the entire community. In this way, the connection between this government industry was interpreted as being stronger to the community than conservation itself. Most importantly,

it is clear from this that local people did believe that whale watching benefits both the community and conservation.

Whale watch operators were similarly enthusiastic about the economic benefits of whale watching, which is to be expected, considering that they are the people benefiting from this industry most directly. In fact, for some whale watch operators, the income that they make during the whale watching season is substantial enough to support them throughout the year. "He makes all the money that he makes during those three months [whale watching season], so it is obviously very profitable for him" (personal interview dated 4/6/16). But the benefits of money were also connected to human capital and culture by one whale watch operator. "We live from that here, a number of people considerably in the province. For a long time it has been part of the pillar for the economy of Samaná. Especially in recent years because before it was an agricultural economy..." (personal interview dated 3/3/16). Another respondent mentioned the benefit of Samaná's whale watching industry hiring mostly local people. "Benefits of the company for the community. Well, apart from all the employment that we have is local; all of our employees are Dominicans and the decision of the manager who already has 20 years with us is also from Samana. So basically what we do is to employ staffs who are from Samaná" (personal interview dated 3/3/16). This is an important point, as mentioned previously, giving local people jobs lessens the loss of tourism revenue from the community (Chirenje et al., 2013; Lacher & Nepal, 2010). Whale Watch operators considered their industry to have a wide array of positive impacts. In terms of community benefit, whale watch operator respondents described the direct monetary benefits of the industry "...more direct because the money is left here in the community" (personal interview dated 3/6/16), the indirect benefits ("Indirect benefits. Hotels fill up, car rentals, souvenirs, taxis, guides..." (personal interview dated 3/6/16)), as well as whale watching being a source of community pride. "... it should be a thing of national pride. Those humpback whales are born here, they are Dominican citizens. You know? They should be proud that those animals are there, and understand that they are born in Dominican waters, the majority of them" (personal interview dated 3/6/16).

As with local people, whale watch operators connected experiential and environmental benefits. One whale watch operator explained that as long as tourists choose responsible whale watch operators, they are helping to provide an alternative to whaling, which is a commonly cited conservation benefit of whale watching (Herrera & Hoagland, 2006). "... We try to leave people with a message. It's like, ok, so, what can we do? You can go whale and dolphin watching and be responsible about it. Like, choose somebody that gives you information, that behaves well around the whales, and is respectful, and you are providing an economic alternative to whaling" (personal interview dated 3/6/16). Furthermore, one whale watch operator explained that the whale watching industry professionals had played a key role in sending representatives from the Dominican Republic to the International Whaling Commission, which has played a key role in determining whether or not whaling will continue to be disallowed on an international scale by those countries that have signed onto the commission. Likewise, whale watching can teach people to avoid frequenting places that benefit from captive cetaceans, which is a highly contentious form of tourism. In describing this message, a respondent said this, "Don't go to dolphinariums. Go watch dolphins and whales in the wild, don't go to aquariums" (personal interview dated 3/6/16).

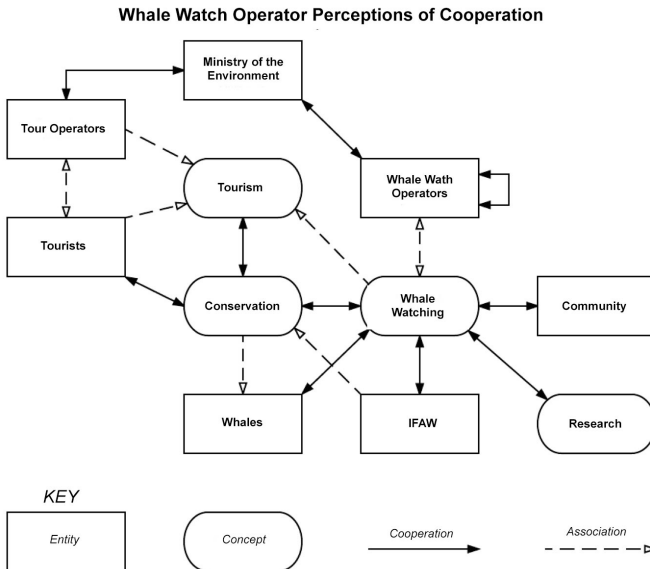
Whale watching serving as a research platform is another environmental benefit to this industry that is cited by environmental NGOs and others, but there are typically few whale watch operators that actually participate in research efforts (Hoyt, 2005b). In the case of whale watching in the Dominican Republic, this is not true, as CEBSE has been gathering data with the help of whale watch operators for several years, and whale watch operators in Puerto Plata explained that they had helped with a variety of research projects in the past as well. "... we did, in the five years that I was there we did two whale tagging, uh, experiments. The second one was more successful than the first, but of the two, um... oh sorry, both of them were done by the whale experts at NOAA" (personal interview dated 4/6/16). Considering the expense of cetacean research, this help is invaluable to our understanding of these cetaceans and our ability to protect them (Mann et al., 2000).

Whale watch operator descriptions of cooperation are far more complex than those described by local people, and this may be colored by their knowledge of the industry, as well as the fact that whale

watching is their livelihood and cooperation supports this in many ways. In looking at this diagram, whale watching itself is central to this cooperative system, with the industry assisting the community, research, whales and conservation, and having close, beneficial ties with the operators themselves and tourism as a whole.

### 5.7. The Costs of Whale Watching and Associated Conflict

All respondents were highly positive about whale watching, but there were some aspects of the industry that both local people and whale watch operators were concerned about, and these included environmental issues, and social problems in the form of conflict. While direct discussions about the negative impacts of whale watching were not particularly detailed, the networks of conflict that were described by participants were complex and contained a variety of actors. Environmental costs here are focused specifically on those of whale watching, and there were covered in section E during the discussion of conservation codes, so this section will focus on the analysis of conflict that resulted from the interviews.

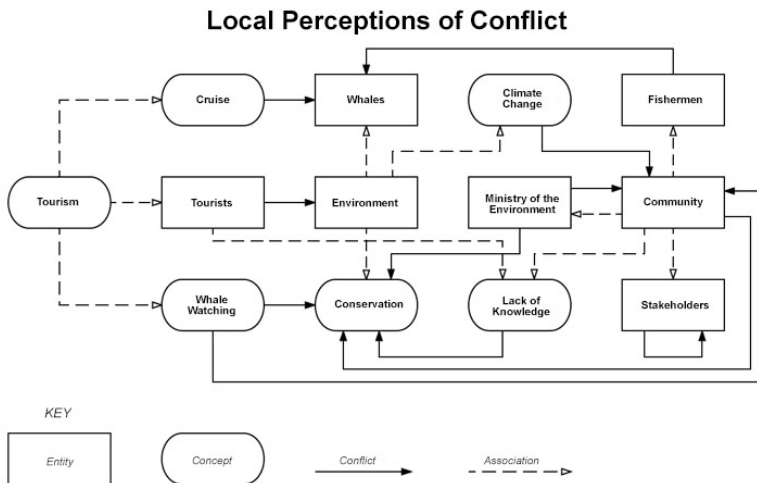


**Figure 3.5:** whale watch operator perceptions of cooperation within the whale watching system.

The system of conflicts within whale watching appear to be complex from this image, especially when compared to the diagram for cooperation that stemmed from local interviews (Figure 3.4). This indicates that conservation efforts have the most conflict directed at them, as described by locals. This contention comes from the Ministry of the Environment ("And for example, to the participation of the International Whaling Commission, the government never has funds to assist" (personal interview dated 3/3/16)), the lack of knowledge that both community members and tourists have about the conservation ("And I think the people... don't know these kinds of things here.

**Table 3.7: Comparison of local and whale watch operator codes for conflict themes**

Local	Whale watch operator
<b>Environmental</b>	<b>Environmental</b>
Consequences	Intrude
Noise	Noise
Stress	Vessel Traffic
	Disturbance
	Stress
<b>Social</b>	<b>Social</b>
Competition	Competition
Conflict	Conflict



**Figure 3.6:** Local perceptions of conflict within the whale watching system.

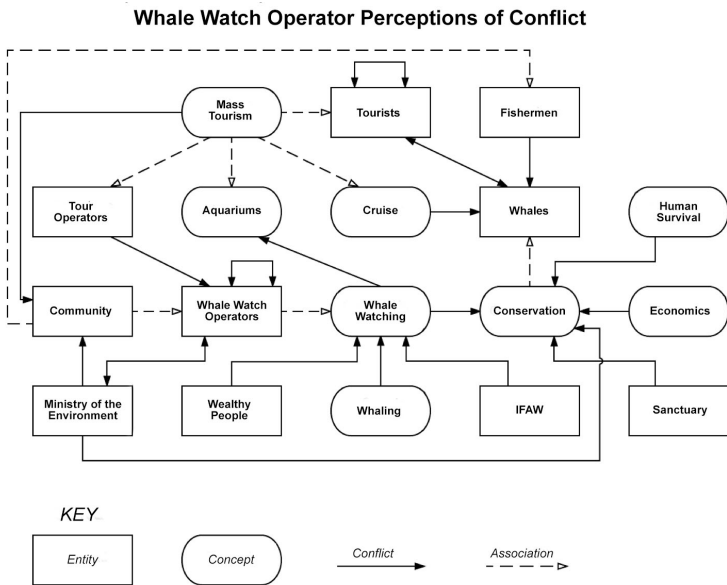


They don't know that every year, they need to send people to say... we don't want to kill whales" (personal interview dated 3/4/16), directly from the community itself ("Maybe not 100% protected as it should be because sometimes there's fishing out of season" (personal interview dated 5/21/16), and from whale watching, as discussed previously. Of course, issues of entanglement and noise pollution from cruise lines is also evident here.

As would be expected from past social research on whale watching (Neves-Graca, 2004; Silva, 2015), there are also indications that local people perceive increasing levels of competition due to whale watching within the community, as it was noted that the local stakeholders do conflict with one another at times. "Like I said before, the economic factors and what we call competition [are issues] because... there are several people that want to do it simpler, appropriating a small boat or a yacht without any type of discipline. So that could affect [the whales] and we can try to regulate it" (personal interview dated 3/4/16). This respondent's discussion of competition has several clear implications, that there are groups that are looking to ignore whale watching regulations and a group looking to enforcement, and this mindset appears to be completely opposite of that participant that believed keeping smaller operators out of the industry was unfair.

This is especially poignant when one considers another informant's concerns that whale watching tourism focus is shifting out of Samaná village for a community much closer to the Dominican Republic's tourism capital, Punta Cana. "But the thing is- things are changing. They built a brand -new road... In the other side of the bay, so. The majority of the tourists came [to Samaná] from Punta Cana. They came by plane or they came by bus. But now it is cheaper to operate it [with the road]" (personal interview dated 3/3/16). Over-reliance on a single form of tourism makes the community vulnerable to such changes, which is then further exasperated by climate change. "... there is something that worries me and I think it's not only me, if not the world that is the climate change. That's practically something that is of a concern to all of us and we understand that if this affects us, it also could affect the activities of the whales in our province. That is very worrying!" (personal interview dated 3/7/16). Again, these concerns highlight the need for support of human capital development in this area in order to create means of adapting among the local people (Birdsall & Londoño, 1997; Lloyd-Jones & Rakodi, 2014; Oldekop et al., 2010).

Besides these conflicts with conservation and the community itself, several local respondents expressed dissatisfaction with the Ministry of the Environment's involvement in whale watching due to a lack of communication on the part of the government. Specifically, local people were not aware of what the Ministry's whale watching fees were being used for, and expressed a desire to see some of it invested in the community itself. "For example, the taxes that are paid. Each person that goes sees the whales pay \$100 (Dominican Republic pesos) of taxes to the environment ministry, but that money does not stay in the community, instead, it goes directly to the ministry" (personal interview dated 3/4/16). Another local said the following in reference to the \$100-pesos fee that tourists pay to the Ministry of Environment for whale watching: "...we pay something for nothing" (personal interview dated 3/4/16). Local people would like to understand what the fees are being used for, but it was not only the Ministry that local people wished would invest the surrounding area. "The only thing I see wrong is that the whales come and everyone thinks to benefit from money and this, but they do not invest some money in the community. If they said, well, let's do something like a small park for the children to benefit



**Figure 3.7:** Whale Watching perceptions of conflict within the whale watching system.

from the money they generated from the whale, you know" (personal interview dated 3/7/16). Here, the whale watching professionals, as well as the government are implicated, and when the potential for the whale watching industry to move across the bay is considered, it becomes even more key to invest in Samaná Village now, while there is this stream of income here. This will be a lasting, and needed impact of the whale watching industry on this community, and it will help enshrine the benefits of whale watching here.

As with the local interviews, whale watch operator impressions of conflict within the industry appear to be relatively more complex than that of cooperation. In terms of conservation itself, there are a variety of things that were described by whale watch operators as problematic. A common topic of discussion in regards to this was the Ministry of the Environment, which as described previously, had not lived up to whale watch operator expectations about dealing with issues of whale entanglement. However, the Ministry said the following on the matter: "We regulate the resource, not the equipment, but the equipment hurts the resource" (personal interview dated 3/4/16). So, there appears to be an issue of communication here, a vagueness to what the Ministry can and cannot do for conservation. Other issues with conservation included the size of the humpback sanctuary, which makes it difficult to enforce regulations within. "The sanctuary is absolutely enormous. So, it had to encompass everything from Silver Bank, to Puerta Plata, all the way along the coast here to Samaná. And every area is different, and there are all kinds of other issues going on in the area. And it was... an almost insurmountable task to even do..." (personal interview dated 3/6/16). The pressing needs of local people, and economics itself were also mentioned as problems for conservation. "Unless you give people an alternative and make them... and unless they understand... why that's [biodiversity conservation] important, they don't understand it" (personal interview dated 3/6/16). Once again, a call for education and increasing human capital is clear among respondents.

Conflict between various stakeholders was also explored by the respondents, including disagreement between different government ministries, struggles between whale watch operators, as well as issues with wealthy boat owners, and mass tourism. "You're battling economics all the time, but whenever you get like a head-on collision between like the Ministry of Tourism and the Ministry of the Environment- economics

versus the environment, economics wins" (personal interview dated 3/6/16). This second point is often the case with conservation, but it should be noted that under the right circumstances, whale watch operators and others in the Dominican Republic have advocated for protective measures based on the economic success of the whale watching industry, suggesting that a balance can be struck, although it must be maintained. It will likely be difficult to maintain if the whale watch operators themselves fall prey to in-fighting, which one participant described as being a recent problem. Since this discussion contains too many identifiers to be utilized anonymously, the issue is posed here as being conflict between those whale watch operators that support whale watching regulations and those that believe they can make more money by ignoring them.

This internal struggle is made all the more concerning when the many fishermen trying to start whale watching businesses are considered, as well as wealthy boat owners and mass tourism sources. As has been explained previously, limiting the number of boats are target animals in the most widely supported means of lessening negative impacts on the animals (Arcangeli et al., 2009; Bain et al., 2002; Barr & Sloten, 1999; Beaubrun, 2002; Blane & Jaakson, 1994; Constantine et al., 2004; Erbe, 2002; Jelinski et al., 2002; Lachmuth et al., 2011; Lusseau, 2005; Matsuda et al., 2011; Ritter, 2004; Schaffar et al., 2010; Stensland & Berggren, 2007; Visser et al., 2011; Williams & Ashe, 2007), and keeping whale watch operators local allows more economic support to stream to the community (Lacher & Nepal, 2010). One whale watch operator respondent described the struggle with individual boat owners acting illegally, saying: "So, they would try to come out and... freelance on their own... but there were only three permits that were given by the Dominican government. He would approach them... and say- hey, do you have a permit to be here? They would say no, and he would say, you gotta leave" (personal interview dated 4/6/16). Another respondent explained some of the perceived (and scientifically supported) problems with allowing mass tourism companies to run their own whale watching, by examining the current relationship between hotel reps and whale watch operators. "Like, the cruise ship, for example, charges \$99 to go whale watching and pays \$18 to the whale watch supplier" (personal interview dated 3/6/16). There was a concerning impression that these companies would exploit the growing conflict between the whale watch operators and the Ministry of the Environment to gain access to whale watching permits. "They are going to be the first in line for

four whale watch permits. And they have political clout and they have lots of money" (personal interview dated 3/6/15). In this case of co-management, it does not appear that trusting relationships are being formed among key stakeholders.

In fact, the most poignant conflict described was a growing point of tension between whale watching professionals and the Ministry of the Environment in Samaná. This kind of conflict is extremely concerning in the case of whale watching in the Dominican Republic, as co-management's effectiveness is limited when key groups can't trust one another or struggle to work together (Berkes, 2007; Carlsson & Berkes, 2005). Although there is now a new Management Plan describing regulations in the Silver Bank Sanctuary, there was a feeling by one respondent that the whale watch operators were not involved enough, although, they admitted that they did not attend as many meetings as they should of during the development of this document. "...an almost insurmountable task to even do... come up with that and involve other people in the program, because... because, I mean, I remember, they attempted multiple times to get us to participate and other people. But it was just so enormous, and overwhelming. I mean, we would make it to maybe one or two meetings" (personal interview dated 3/6/16).

Communication between the government and whale watch operators was made increasingly difficult during the period of investigation due to negative impressions that whale watch operators got while trying to negotiate on regulations. There was a feeling that they were being ignored, and that there was the sentiment that government officials were looking down on the whale watch operator community, believing them to be more interested in benefiting themselves, than looking after the whales. "And they always treat us like... we're like only interested in money, we're completely commercial..." (personal interview dated 3/6/16). Unfortunately, if these things have been experienced by many whale watch operators, an environment is being created in which effective co-management and conservation is likely very difficult to attain (Carlsson & Berkes, 2005; Redpath et al., 2013).

## **5.8. Study Limitations**

There are a variety of limitations that must be taken into account when considering the outcomes of this research. First, qualitative research is not meant to establish sweeping generalities, but in this case, gathering

specific data about local perceptions without coloring that information by the researcher's pre-conceptions was key. This turned out to be extremely important to the findings as the conflicts described by the interviews were not those that the researcher would have expected. This does mean that if there is a need for generalizations, a quantitative method should be used to further examine the findings here, in a larger group of people. Second, the experience in the Dominican Republic has led the researcher to suspect that there was an impact of her being an outsider on the kinds of answers that she received. While it makes sense that an off-shore activity like whale watching, with few apparent conflicts with fishing, would have limited costs that would be perceived by local people (Ap, 1992), the researchers is hesitant to accept that most people were truly as happy with the industry as their answers suggest. It is possible that, to some extent, people provided her with the answers that they believed that she wanted to hear, or which they felt would help her.



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## VI. Conclusions and Recommendations

Overall, the findings of this study suggest that whale watching is playing a positive role in the community, and enhancing conservation efforts. However, the data here suggests several key areas for improvement to insure the sustainability of this industry in the long-term, and to mitigate some of the negative impacts that were highlighted by respondents. Such findings are supported by targeted evaluations of the Silver Bank Sanctuary (León, 2003).

As is shown in the previous section, local people had a positive view of the whale watching industry overall. They were well aware of the jobs that it provided directly, as well as the economic support that it created for the community indirectly. There was also a sense from several of the interviews that whale watching was part of the culture and spirit of Samaná Village, as well as some of the surrounding towns, and that it was a tool for shaping the international image of the community. On the other hand, they did not appear to perceive any of the potential negative costs of the industry. Whale watch operators also widely expressed happiness with their business, and some expressed continuing support for hiring locally, which is key to the ability of tourism to have a strong, positive economic impact on the community (Lacher & Nepal, 2010). Furthermore, this industry does, in fact, appear to have played a role in getting local people as well as whale watch operators to care about the health of whale populations in the Silver Bank Sanctuary, and due to the expansion of this marine sanctuary, this conservation support has continued over time. These findings support the claims of e-NGOs and others about the benefits of whale watching (Hoyt, 2005b; IFAW, 2013; WDC, 2016), and the Dominican Republic as thus far done a good job of balancing many needs in order to accomplish this.

That being said, such a system can only be maintained with an attention to addressing emergent problems, and there are some suggestions that arise from these interviews that could be used to ensure that whale watching in the Dominican Republic remains sustainable. In regards to the local people, it seems that there is a need to increase the community's opportunities to learn more about the whales and their relationships to the humans observing them. Supporting CEBSE may be one relatively easy way to do this, as this NGO is already entrenched in the community, has long-term projects getting local students involved in



science and industry monitoring, and they run a small museum about the whales. These programs should be continued, and increased funding could help continue development of the museum, and allow CEBSE to increase their reach to the community. Alternatively, there is a need for the Ministry of the Environment to increase their transparency in terms of the use of fees in a way that is accessible to local people, and in doing so, they may have the opportunity to connect to the community more closely and offer local people educational opportunities as well. Partnerships between whale watch operators, the Ministry, and CEBSE in this regard may also be key, and may help the community see that whale watch operators and the Ministry of the Environment are giving back to local people.

It was also made clear during this analysis that co-management has been a key method of management in the Silver Bank Sanctuary, but there is evidence that the key players in the implementation of this strategy experienced some particularly severe tensions in the past year. Whether or not these problems continue to persist into this whale watching season, the relationship between whale watch operators and the Ministry of the Environment must be maintained. The Ministry must be transparent in its use of developed regulations, continue to include whale watch operators in the process of developing and implementing management, and respect on both sides is key as well. Whale watch operators, for their part, should continue to support strong leaders that seek to balance the safety of the whales that their industry relies on, as well as respect the limitations that must be placed on them to preserve the natural resource that they are utilizing in the long-term.

Key to this, based on issues raised in the interviews, as well as whale watching impact research, is the commitment to keeping the number of boats allowed to whale watching at its historic level. While this does disadvantage small operators that would like to break into the industry, many whale watching researchers agree that high numbers of whale watching boats is detrimental to target cetaceans (Arcangeli et al., 2009). The humpback whales in the Dominican Republic are particularly vulnerable since they are breeding there. Furthermore, allowing large companies (resorts or cruises) to run their own whale watching tours would lessen (or completely remove) benefits to the local community (Duval, 2004; Lawton & Butler, 1987; Matias, Nijkamp, & Sarmento, 2011). While restrictive whale watch operator permitting is only one

of the many regulations that the Dominican Republic has developed for the protection of its whales, it is integral to the country's ability to maintain the beneficial form that whale watching has had in the Silver Bank Sanctuary so far, and it was specifically mentioned by locals and whale watch operators as being under attack.

In the end, these interviews indicate that the whale watching industry in the Dominican Republic has been a positive force for conservation and community economic development, and thus, the Dominican Republic model of whale watching may serve as a good model for other Caribbean countries with whale watching industries. However, these benefits cannot continue without addressing issues such as those revealed by this study.



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## **Aireona Bonnie Raschke**

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Aireona Bonnie Raschke conducted in-country field research over the course of a few months in the spring and summer of 2016 in the area of conservation and economic development. She graduated from the University of Arizona (UA) with a B.S. in Ecology and Evolutionary biology in 2011. As a student there, Bonnie coupled her studies with exploratory research on conservation and ecology topics. She studied communication in honey bees, and size polymorphism in bumble bees, as well as ant social networks. Bonnie also worked on a project studying seed propagation of an invasive grass. After obtaining her degree, she took a summer position as an assistant wildlife biologist in UA's Mt. Graham Red Squirrel Project. Although her involvement with this project was ecology and conservation-based only, the relationships between conservation efforts and local people inspired Aireona to shift her focus to interdisciplinary work and seek a PhD.

Bonnie is currently a PhD candidate at Arizona State University, working with Dr. Ann Kinzig as her supervisor. She is interested in studying the connection and potential synergies between conservation, human well-being and economic development. Urban ecology, ecosystem services, integrated conservation, and development projects are topics that Aireona has studied during her time at ASU.

Her PhD dissertation focuses on whale watching ecotourism development in the Caribbean, and its effect on native cetacean species and local communities. During the course of this project, Bonnie has investigated local perceptions of the whale watching industry, the relationship between various country characteristics and whale watching's economic success, and the varying vulnerability of different cetacean species to the impacts of whale watching.

As a GFDD/Funglode Fellow, Aireona has focused on gathering data on local perceptions of the whale watching industry through the use of qualitative interviews in the Dominican Republic. During the course of this work she interviewed local people in communities with whale watching businesses, as well as whale watching operators, relevant government officials and NGO employees. Mixed, qualitative methods were then used to analyze the interviews and produce a narrative about the current state of local relationships surrounding whale watching in the Dominican Republic. The potential for collaboration and conflict was highlighted during the course of this work, and then coupled for comparison with information from a preliminary study looking at the same thing in Dominican Republic.

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## GFDD

[www.globalfoundationdd.org](http://www.globalfoundationdd.org)

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GFDD is a non-profit, non-partisan organization dedicated to the advancement of global collaboration and exchange relevant to Dominican professionals, general audiences and institutions in the homeland and abroad by implementing projects that conduct research, enhance public understanding, design public policies, devise strategies, and offer capacity building in areas crucial to social, economic, democratic and cultural sustainable development.

GFDD promotes a better understanding and appreciation of the Dominican culture, values and heritage, as well as its richness and diversity, in the Dominican Republic, United States and worldwide.

GFDD creates, facilitates, and implements wider scope international human development projects, building on its own experience, expertise and strong national and international networks.



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## Funglode

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Fundación Global Democracia y Desarrollo (Funglode) is a private, nonprofit, and pluralistic organization devoted to conducting high-level research, and committed to academic excellence and the promotion of culture and art.

The organization formulates public policies aimed at strengthening democracy, and fostering respect for human rights, sustainable development, creativity and the modernization of the Dominican Republic. Through the design of policy proposals and strategic action plans aimed at creating interdisciplinary solutions to national problems, Funglode seeks to become a knowledge center with a large range of world-class academic programs and exchanges with internationally renowned universities and research centers.



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## Fellows Program

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The Fellows Program, an extension of the internship and academic exchange program InteRDom, was developed in 2009 to respond to the desire of GFDD and Funglode to develop a community of scholars that contributes to the Foundations' growing body of research on matters of international concern that directly impact the Dominican Republic. The Program complements the overall mission of GFDD and Funglode to promote academic exchange, generate scholarship, and influence the creation of public policy related to economic and social development both at the national and international levels.

Through the Fellows Program, GFDD and Funglode seek to generate scholarship on issues at the forefront of the United Nations' agenda in order to give voice to national and regional concerns and offer viable solutions to domestic and international challenges.

The Fellows Program provides opportunities for MS., MA., and PHD candidates interested in conducting high-level research in the Dominican Republic on issues related to sustainable development. The final output of the investigation is a comprehensive report, which includes empirical data. Fellows do their research in coordination with GFDD and Funglode staff, National Academic Advisors, and their university professors. Fellows who produce exemplary work have the opportunity to present their findings before the United Nations community on behalf of GFDD and Funglode.





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