Putting the "eco" back in "eco-tourism": Environmental sustainability in Bocas del Toro

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Executive Summary

English

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The Bocas del Toro Archipelago undergoing rapid change and expansion. The "eco-tourism" industry is demonstrably destroying the environment off which it thrives. We can also observe a shift in the demographic of tourists coming to these islands. Tourists are on average, younger and more interested in partying than biodiversity. Hotels, hostels and lodges are influential in terms of the environmental trajectory of the islands. They account for much of the demand for inputs to the island as well as providing for tourists, a large proportion of those on the island at any given time. It is thus important that these accommodations are sustainable in their practices.

Research was conducted on Isla Colon, the center of activity in the Archipelago. The project aims to better understand what is limiting accommodations from better protecting the environment and find solutions to foster environmental sustainability. I aimed to discover which types of conservation projects the owners and managers were willing to partake in.

Identical interviews were conducted on accommodation owners and managers on Isla Colon. Interviews were conducted from March 15th to 20th 2011.

Generally respondents demonstrated great knowledge and concern about the degraded environment. They the strongest interest in a community based fund raising program and an environmental stewardship incentivization program, using awards. There was little discrepancy among interviewees in terms of their willingness to participate in some way, almost all were eager.

It is archaic public infrastructure and poor decisional coordination that leaves Isla Colon on its unsustainable path. This is most poignant in the community of La Solución, where a poorly designed and over-capacitated sewer system leaves its residents living in raw sewage. Working collectively allows the Islands inhabitants to reduce environmental damage while finding appropriate solutions to the many collective problems.

First, I recommend that awareness be spread about the dire situation in La Solución to help those trapped in the ever worsening environment. Second, a community-

based fund should be institutionalized to help fund sustainability projects. I suggest a new approach to the previously unsuccessful schemes. Third, I would implement a simple awards program, by which environmentally sustainable hotels are granted a certificate, which they can proudly display to clientele. This is a comfortable first step towards more binding or formal auditing. Moreover, it helps set a precedent of 'eco-friendly' attitudes on the islands, raising environmental awareness and eyebrows if unsustainable business emerges.

Versión española

Devolviendo 'el Verde'en el sector Turismo Verde: lasostenibilidadambiental en Bocas del Toro

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El archipiélago de Bocas del Toro en plena evolución y expansión. El "turismo ecológico" de la industria es demostrable destruyendo el medio ambiente fuera de la que prospera. También podemos observar un cambio en las características demográficas de los turistas que vienen a estas islas. Los turistas son, en promedio, más jóvenes y más interesados en la fiesta que en la diversidad biológica. Hoteles, hostales y posadas son influyentes en cuanto a la trayectoria ambiental de las islas. Ellos representan la mayor parte de la demanda de insumos a la isla, así como proporcionar a los turistas, una gran proporción de los de la isla en un momento dado. Por tanto, es importante que estas adaptaciones sean sostenibles en sus prácticas.

La investigación fue realizada en Isla Colón, el centro de la actividad en el Archipiélago.El objetivo del proyecto es mejor lo que está limitando el alojamiento de una mejor protección del medio ambiente y encontrar soluciones para fomentar la sostenibilidad del medio ambiente. Apunté para descubrir qué tipos de proyectos de conservación de los propietarios y gerentes estaban dispuestos a participar.
Idéntico entrevistas se llevaron a cabo los propietarios y gestores de alojamientos en la Isla Colón. Las entrevistas se realizaron del 15 al 20 de marzo de 2011.

En general los encuestados demostraron un gran conocimiento y preocupación por la degradación del medioambiente. Que el mayor interés en un fondo de base comunitaria programa de recaudación y un programa de incentivación cuidado del medioambiente, con premios. Hubo poca diferencia entre los entrevistados en cuanto a su voluntad de participar de alguna manera, casi todos estaban ansiosos.

Es la infraestructura arcaica pública y la coordinación de toma de decisiones

pobres que deja Isla Colón en su camino insostenible. Esto es lo más conmovedor en la comunidad de La Solución, donde un sistema de alcantarillado mal diseñado y más capacitado-deja a sus residentes que viven en las aguas negras. Trabajo en conjunto permite a los habitantes Islas para reducir los daños ambientales, mientras que la búsqueda de soluciones adecuadas a los problemas colectivos numerosos.

En primer lugar, recomiendo que el conocimiento se extendió por la penosa situación en La Solución para ayudar a las personas atrapadas en el medio ambiente cada vez peores. En segundo lugar, un fondo basado en la comunidad debe ser institucionalizado para ayudar a financiar proyectos de sostenibilidad. ¿Puedo sugerir un nuevo enfoque a los regímenes anteriormente sin éxito. En tercer lugar, me gustaría poner en práctica un programa de premios simple, por el cual el hotel ambientalmente sostenible se les concede un certificado, que puede mostrar con orgullo a la clientela. Este es un paso cómodo hacia la primera auditoría más vinculante o formal. Por otra parte, ayuda a establecer un precedente de 'ecológicos' actitudes en las islas, la sensibilización ambiental y las cejas si el negocio no sostenible emerge.

1. Host Organization

The Alliance for Conservation and Development (ACD; *La Alianza para la Conservación y el Desarrollo)* is a non-governmental and non-profit organization founded in 2002 by founding fathers Ruben Orlando Gonzales and Osvaldo Jordán. The organization works to promote environmental conservation and empower marginalized Panamanians. The organization battles both social injustice and short-sighted environmental attitudes using alternate development strategies for the common good of all Panamanians. ACD emphasizes community decision making and participatory investigation to understand and improve the contexts in which they are involved.

2. Eco-Tourism: Context

The majestic Bocas Del Toro Archipelago is rapidly growing tourist destination(Solimar).The area specializes in "eco-tourism"; however with this growth, threat to the environment off which the tourist sector strives, is paramount.

In 1980 Cancun, Mexico did not look terribly different than Bocas Del Toro today. With unsustainable expansion of the tourist sector, Cancun is no longer a Caribbean hideaway appreciated for its beautiful environmental setting and culture (Cancun.bz). Today massive resorts sit carelessly on what is left of reefs and Cancun's natural beauty, its customers more often than not appreciate their "all-inclusive" bracelets and alcohol themed T-shirts over respecting and enjoying the environment they temporarily occupy. Massive infrastructure projects saw hundreds of square kilometers of land dredged and

dug (Cancun.bz). Among a long list of grave environmental mistakes, over 272,000 kilometers ofCancun's Mangrove was dredged, suffocating the areas biotic filters and eliminating the regions' natural defense from coastal disasters (Farnsworth and Farrant). At this dynamic time in Bocas' development, it is important it be sustainable, as to not make the irreversible and shortsighted mistakes (Bohdanowicz et al.) of Cancun. Evidence of environmental threat is apparent in the region, as we will see, it is important that we set sustainable regional precedents to ensure against socially sub-optimal outcomes. The Panamanian government is actively working to attract tourists arriving in San Jose, Costa Rica and to divert tourists from nearby Porto Viejo, accelerating the growth of the industry (Pablo, Juan). Thirty miles from the Archipelago in the Ngobe Bugle Comarca ,Between Rio Cañaveral and Alligator Creek, lies Panama' s longest, one of its most pristine beaches and a crucial migratory ground for the leatherback turtle (Gonzalez, Ruben Orlando). Forbes Magazine's world's wealthiest man, Mexican Carlos Slim, has his eyes on the area for over capacitating (Rivera, Jorge) and large scale development. The region is on the verge of rapid and potentially catastrophic change. Herein we will discuss how we can about trying to understand the tourist sector in the area and provide a healthy outcome.

In my research I encountered a wide range of successful "green hotels". In terms of my research, these help understand what sorts of projects we should gage the interest of hotel operators' in Bocas on. Nordic Europe's largest hotel chain, Scandic Hotels was on the brink of collapse in 1990 when CEO Ronald Nilsson turned the company around by introducing sustainable development (Goodman, Ann). The program saw employee

training programs, providing a sense of environmental stewardship for its employees and community members, as trainees often found themselves later leading sessions as trainers. This is also a good example of profit motives creating sustainable solutions. Start-up costs were quickly compensated for with hauling costs being cut by 40% (Goodman, Ann). Benchmarks were also used to understand the environmental progress made. "When you start benchmarking you improve". The firm saw its progression from producing 1,000 grams of unsorted waste per guest per night and is now selling off sorted waste and now 180 grams per night. We should recognize that hotels, like any firms are part of a complex supply chain and if sorted waste cannot be sold, there is not the same incentive to take, for example, this specific action. There is probably no other economic activity which cuts across so many sectors, levels and interests (Cater, Erlet). Hotels occupy a dominant and central role in the supply chain; they are large scale consumer and suppliers. If hotels begin to demand low energy light bulbs in the area, such products will be provided, and with scale, at lower and lower prices. If Bocas Del Toro is on the brink of massive expansion, it is especially important that the local firms set up green infrastructure now, as it is cheaper to have "green" cooling systems and expand them with growth *vis a vis*replacing the whole cooling system with a "green" one later. This is an important time in the decision making of these consumers, which could afford long-term sustainability and profitability or consequential mistakes. Moreover the tens of thousands of people, for whom they "produce", tourists, are influenced by the environmental decisions of their abode in paradise and will certainly take environmental lessons from their accommodations either formally or through observation of sustainable practices. Nordic is a massive hotel chain, the epitome of the big bad irresponsible firm,

indeed it was a subsidiary of Exxon Mobil. I have found that there is room for responsible corporate acts whether they are profit motivated or otherwise. I have experienced employees of large firms willing to make sacrifices, such as provide free hamburger buns for a BBQs for the homeless. These individuals return home tell their family and sleep well knowing they did something good. Bocas nests particularly small hotels, which are largely not responsibly to bodies like shareholders. We might find that those in charge are freer to make short-term sacrifices. Moreover, even shareholders should be interested in these green endeavors which have proven to provide long term profits which over time cancel out start up costs (Forsyth, Timothy).

One of the most common means of incentivizing firms to be environmentally sustainable is certification. Certification is often criticized, as to some it suggests that firms are "doing it for the wrong reasons". Irrespective of motive if good is done for the environment, I am not particularly concerned why. However it is the case that we should be weary of "fungibility"(Stiglitz, Joseph) among those who operate solely under the profit motive, that is to say that firms will do just enough to get the certificate and perhaps be more wasteful in other ways to recover the possible loss. Evidence from Canada (Forsyth, Timothy)to Costa Rica (Rivera, Jorge) suggests that these campaigns can be successful, however largely due to heavy government oversight. This corresponds with increasing demand for green accommodations from consumers (Bader, Elana E). Hotels may be more welcoming of a certification which moves away from a traditional rubric, for example, one the heath inspectors might use. One project in the UK awarded firms with certifications for things like "Cleanest Beach", creating a race to the top

among firms with a clear objective (Phillips et. al.). Evidence from Costa Rica suggests that the variable which most directly effects likelihood participation in quality environmental projects is the hotel owner's level of formal education and environmental expertise (Rivera, Jorge and de Leon, Peter)

Auditing has too seen tourism firms engage in more sustainable practices (Forsyth, Timothy; Nitkin, David and Leonard J. Brooks; Bohadanowicz, et al; Cader, Ertlet; Ayuso, Silvia). Firms often take the small steps like providing walking maps to tourists or bikes to cut down on $C0_2$ emissions when environmental auditing is offered (Goodland, Robert). It was however observed that this, aside from the example above, did little to change the behavior of the tourists themselves (Goodall, Brian). It is possible that tourists feel greater environmental responsibility at a "certified hotel" compared to one that was able to "pass the audit"(Cater, Erlet).

One of the main reasons developing countries have lacked ability to adopt green practices is lack of capacity (Turnbull, Jane). It is thus important that we evaluate what capacity hotel operators *think* they have and that they understand what capacity they *could* have, especially collectively (Globalstewardship.org).

My goal is to conduct quality research on the tourist sector in the Bocas Del Toro Archipelago with respect to the environment, in terms of both its current state and trajectory. An understanding of how to create a self-reinforcing sustainable tourist sector, generally and specifically in Bocas, and the obstacles to this, is antecedent to any attempt

to guide the trajectory of the sector. After evaluating the most practical and effective forms of fostering an environmentally friendly tourist sector, we will act on that which we deem to be most effective and begin developing an appropriate auditing and/or environmental certification programs and what I will discover to be appropriately structured conferences. In my findings I hope to enable ACD to lay a strong foundation for an environmentally conscious tourist sector in the area. Being surrounded by environmentally sustainable firms applies pressure to all firms to be responsible. By understanding the decision making of hotel owners in the area we will better be able to aid even the choices of the most self-interested actors.

3. Study Site

The Bocas del Toro Archipelago is made up of 9 Islands, 52 keys and some 200 Islets. Of the approx. 9,000 inhabitants of the Archipelago over half live on the 98 kilometers squared Isla Colón. The formal field research in this investigation was conducted on Isla Colon, which also hosts over 80% of Bocas' hotels and restaurants. After the 1991 earthquake, government relief helped spawn the tourism industry (Pablo, Juan**).** Although in 2007 most investment was in

real estate, this subsided after the 2008 US financial crisis (Pablo, Juan). Since then, the business trend has seen more and younger tourists.

Locals

The islands are demographically highly diverse. Large Gnobe, Latino, Afro-Caribbean and Expatriate communities mark a stark and dynamic landscape in terms of identity.Cultural animosity is ever-present. Recently a speeding tourist motorboat tipped a 15 person Gnobe canoe, leaving 4 dead (Gonzales, Ruben Orlando). Moreover, within each group is a complex and nuanced dynamic, for example, there are 4 different Gnobe groups, each with a unique language(Gonzales, Ruben Orlando). International influence is expanding; most notably Chinese investors are emerging dominant in the region(Pablo, Juan). A very high proportion of residents were not born in the Archipelago, thus common identity and cooperation is challenging.

Isla Colón

The principal island is roughly 76 square kilometers.Almost all of the restaurants and accommodations are in Bocas Town south of the island'sIsthmus. The corals around Isla Colon have been

thoroughly degraded and most are dead. Thus it serves largely as a jump-off point for eco-tourists who stay on the island but venture to nearby islands to enjoy biodiversity.

La Solución

An optimistic sign [Photo 1] greets tourists on their way from the air port to the main streets of Bocas Town. 200 meters away from this sign is a community ofcalled La Solución.

Photo 1

This community rests on the low lying northwestern corner of Bocas Town.Isla Colón is serviced by an antiquated sewage pipe system which feeds directly into this impoverished community of 200. After heavy rains even more sewage runs into the community from overflowing sewer canals. La Solución hosts record levels of hepatitis, stomach flu, diarrhea, skin infections and worms due to sewage exposure (Suman, Daniel). With increasing activity on the Island the harms have only compounded. Moreover, the environments capacity to regulate or mitigate the effects of waste is increasingly degraded. Mangroves, [Photos 2,3] which once sequestered carbon, decreased erosion, provided natural hazard regulation and regulated the flow of water are unable to

Photo 2

Photo 3

sustain life in the conditions.This means the incoming flow of toxic contaminants increases while the environmental ability to accommodate it is degraded, accelerating the many problems. Surrounding fish populations have too suffered because of very high levels of nitrogen and phosphorus in the water. (Grigg, RW) Most residents do not continue school passed grade 2 (Suman, Daniel).The community is forced to live with the inexorable potent stench of sulfur filling their nostrils. Development on the islands means consumer goods on the island are increasingly expensive; indeed all parts of wellbeing in La Solución have been devastated by Boca's "eco-tourism" industry.

Photo 3

Travel in the community is limited to precarious balancing on precarious wooden planks [Photo 3]. This is, if they exist at all.On one visit to the community I saw a young man come from the far side [Photo 4] and wade through raw sewage to leave from his house. When I returned to the community in April, the bridge remained broken.

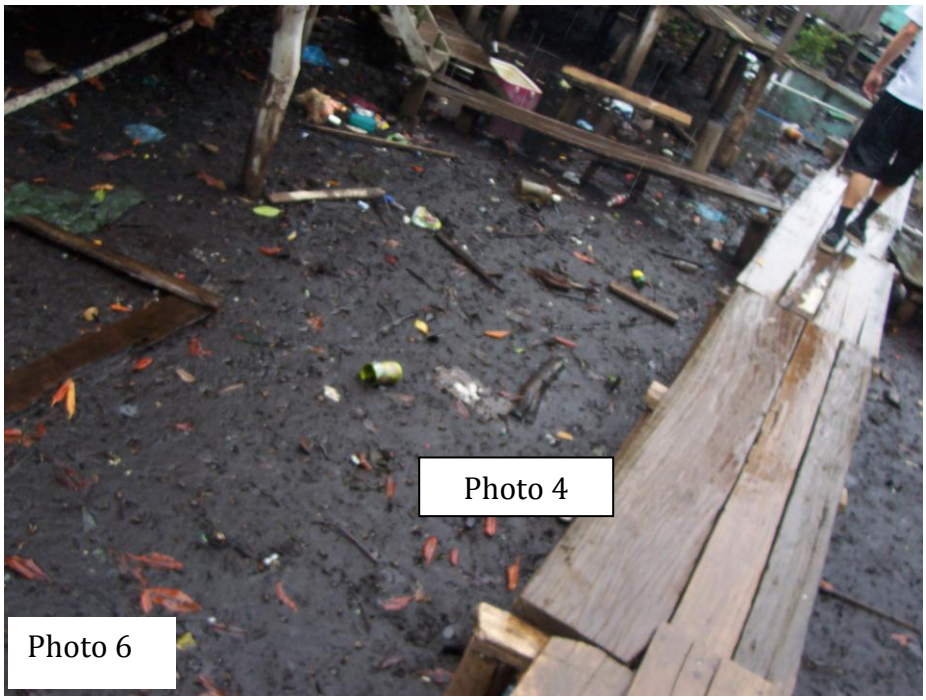

Photo 4

Photo 6

Heavy rain means slippery paths, in conjunction with increased flow of pollutants and amplified stench [Photo 6].

4: Aims and Hypothesis

Herein, I aim to discover the impediments to an eco-tourism industry in Bocas. With an understanding of what *can* and *has* been done to diminish accommodations' environmental footprint worldwide as well as an understanding of this with respect to the nuanced situation, the interviews conducted with hotel operators will help answer my research question of:

What is preventing accommodations from being environmentally sustainable on Isla Colon?

With this we can best act on bettering the future of this precious environment in conjunction with these stakeholders by understanding what is limiting them from functioning sustainably.I will get an idea of the hotel operators' conception of their own clientele. I aim to understand the degree to which hotel owners think their guests flock because of the natural beauty of the islands or good parties and if they are more or less environmentally responsible as a result. I will find whether they think that customers are proud to pay a bit more stay at a "green hotel" and are happy to on some level "give back" to the natural beauty they have been fortunate to appreciate or are they simply looking for the cheapest spot with a pool. We will find if hotel owners are aware of the aforementioned possibilities of maximizing profits by going green, especially in the long run. I will gain an understanding of my interviewees' attitudes towards other businesses and actors who are important in solving the islands collective problems. I posit that what is important in determining the level of environmental stewardship on part of the hotel is not clientele base,management structure, hotel size or nationality of owner, rather their understanding of the environment around them. I hypothesize that personally invested and environmentally conscious owners and managers will be more likely to participate in environmental stewardship. Through interviews I will evaluate the understanding of hotel owners in regard to the environment and their conception of its importance to their business and beyond. I posit that those who demonstrate greater understanding will also be more susceptible to buying into and enacting sustainability projects, or continuing them.Using findings from other similar projects who aimed to investigate which factors influenced "green business" decisions, we will gain an understanding of the appropriate approach to promote sustainability in this unique context.

Month:	Non-primary Research Days:	Field Research Days:	Total:
January	6	1	7
February	6	0	6
March	4	5	9
April	12	0	12

5: Methods

In my research I employed both Primary and Secondary research. I first conducted a thorough literature review. And from March 15 through the 20th, I conductedface to face interviews with all available accommodation owners and managers on the island. The exact same questions were asked to each accommodation[Appendix. II]. I also attended a number of meetings regarding environmental sustainability on the islands, including one with the Bocas Sustainable Tourism Association, three with Daniel Suman of the University of Miami, one with Juan Pablo from the Bocas chamber of commerce and another with Ruben Gonzales. Given the limitations of difficult to categorize nominal data, analysis was most effective quantitatively.

I looked at the relationship between variables of X (Willingness to Engage Environmental Sustainable Action) and Y (Hotel operators level of knowledge on these issues).

I recognized that itwas important that I not only carry out empirically sound interviews but have a keen eye and do my best to observe the accommodations and context firsthand. Collective action on environmental issues is a very polarizing and complex issue as I learned at the "Comision del Corridor Marino del Pacific Este Tropical" during my first weeks with ACD. Seemingly petty arguments about wording made this event a "Commission for a commission". This is to say that people often have ambitious expectations in terms of conservation, but when it comes down to action fall short. My findings will not be looked at without this and the variables that effect following through and collective action, in mind.

My research was wholly within accordance with McGill Universitycode of research ethics. Before engaging research I familiarized myself with the document. To ensure I had subjects' free prior informed consent I asked if I could use the information given in my report both before and after the interviews and only used the information from those who said yes. I was explicit and truthful on how the information would be used. I was sensitive to the interviewees continued willingness to participate, if it seemed they wanted to stop the interview for any reason, I politely asked if they would like to stop. I respected each person's willingness to do the survey in their preferred language (English/Spanish) in order to ensure that they were most comfortable in the way they represented their thoughts. Respondents were not selected on any discriminatory basis.

Each person was treated with the utmost of respect. I did nothing to limit the degree to which they could speak freely and truthfully.

6. Results

In order to compare the level of interest in environmental sustainability with other factors, it is important to have varying levels of interest. It was the case that in my interviews there was overwhelming concern about the environment and interest in doing something about it. The impediments to environmental sustainable actions of the owners and sustainability on the island were not different for any owner or manager. Each interview identified environmental problems and personal concern. The very few instances where interviewees deviated in any way from doing their best to be sustainable could not be linked to any aforementioned variable.Some identified fiscal incentives for their concern; “City Beach”, known better as “Shitty Beach”, the closest beach to Bocas Town has become incredibly polluted, hurting these businesses. Others demonstrated a more intrinsic relationship with their natural environment and in their willingness to preserve. Either way, all accommodations with the one exception were willing to raise money for environmental management using donation boxes at the front desk and were willing to participate in an “environmental award” program. The one owner who refused to be a part of any fund raising scheme has arguably the most sustainable business on the island, thus we can see from the interview that for each actor interest and knowledge about sustainable action was high. With these results my focus shifted from

understanding which factors influence likelihood of sustainability to the impediments for these owners and the island at large. Here I found that every single owner recycled, but recycling infrastructure is limited to a single man and a bicycle. Moreover, the work that some accommodations did in separating different plastics goes largely wasted because of the limited recycling capacity. They found that their guests were generally, like them, interested in recycling and did their best to pitch in. All hotel owners expressed interest in using florescent light bulbs and environmentally friendly soaps, but many did not. Analysis proves that this discrepancy is not accounted for in management idiosyncrasies or anything hotel specific. The island is powered by a single dirty diesel generator, which often short circuits. This makes the use of florescent light bulbs dangerous as they often explode during shorts. Additionally florescent light bulbs are particularly expensive because of the, resulting, low scale of demand. Moreover the diesel generator means Bocas' hotels are unsustainable because of their energy source. Biodegradable soap use is too limited by factors out of the accommodations*individual* control. The inconsistent importation of this soap to the islands and low demand means prices are unreasonably high and the uncoordinated owners and managers are often willing to front these costs if available. Finally I found that the outdated sewer system is the largest impediment to a sustainable eco-tourism industry. The over capacitated sewer system was unanimously criticized. Rainy days see raw sewage in front of their businesses, often creeping into their accommodations. Moreover, this untreated sewage sits atop nearby corals around the island. Of course this is also the cause of the incredible travesties of La Solución.

The demographic trajectory of tourists is increasingly younger. Increasingly more beers are bought per annum than rainforest tours; it appears however not to be the

attitudes of the guests which sees grave environmental degradation in the islands. Younger guests were reported to often engage in beach cleanups and demonstrated environmental stewardship, based on the conceptions of the owners/managers and the responses I received in over 75 informal interviews with tourists. We need not fear that Bocas del Toro will become the next Cancun because of this demographic trend, indeed it was collective and public action that saw the destruction in Yucatan. The government was absent in preventing environmental degradation and uncoordinated actors allowed for the character of the islands to change rapidly. Of the last 5 mayors of Bocas del Toro, 3 have ended up in prison(Bini, Sabrina), all interviews and meetings highlighted that they have been absent in providing and reasonable public infrastructure. They have failed to effectively distribute information, on even the most serious environmental concerns like La Solución. If at all, public information is distributed with a megaphone and bicycle (Gonzales, Ruben Orlando).The governments have done three things to improve the environment in Bocas. In 2003 the 20 member tourism chamber was founded, a vehicle which could help deal with collective environmental problems, by 2005 is had only 3 members and is now virtually non-existent (Pablo, Juan). As part of the recent marketing surge to try to bring even more tourists to over-capacitated Isla Colon, they have advertised "Eco-volunteer" programs (Kimball, Renée). I doubt someone flying from New York City could do enough environmental good to offset 1100 Kg of $C0_2$ in flights. This is probably largely symbolic and unspecialized tourists could probably do little to meaningfully 'improve' the environment at hand. Finally, the government has installed garbage bins to improve the aesthetic of the island. Although the grounds remain thoroughly littered around Bocas Town, the little disposal is probably doing worse for the

environment. The garbage is poorly managed and ends up in landfills causing massive environmental scars, disrupting eco-systems within the whole watershed. If anything this hides the embarrassing infrastructure from tourists and diffuses concern and reform. Government action has not been helpful.

Although the interviewees were well informed and interested in engaging in the sustainable practices, incentive programs and fundraising, the environmental problems that plague the islands were largely out of each individual stakeholder's hands. Public infrastructure and coordination need to be improved before the actions of these accommodations can have a meaningful effect on sustainability.

7. Discussion

Collective Action

Theoretically environmental protection is done because the free market will fail, if everyone acts self–interestedly. That is to say, when we consume anything we incur the private costs, but not necessarily the full cost to society today, moreover the future. Eco-tourism is often criticized for the reason that it is profit driven, thus as long as the environment is around for the existence of the firm, profits will be maximized at a point that is not socially optimal (CobrunIssaks, Jack).Coordination and collective decision making helps us account for this social cost and increase average welfare. Many locals operate dolphin tours to locals off Isla Colon in motorboats. Many of the tours fail to see a single dolphin and as a result the tour is poorly reviewed and profits are limited. Here we see an example of 'the tragedy of the commons'. This is not because there are not

dolphins in the water, it is instead because tour operators suggest ‘crowding’ (Suman, Daniel) is how they should go about best viewing the animals. Moreover, simultaneous tours means that instead of perhaps five tours a day seeing five dolphins forty tours see one. If dolphin tour operators were able to coordinate they could see more profits, especially in tips. They might agree on assigned tour times or pool resources to do a research initiative on dolphin behavior. Unfortunately to solve the Islands’ collective problems we need a collective solution that involves a much larger and complex range of stakeholders.

Community Level Decision Making

In light of government failings and the nuances of Isla Colon, a community based solution is most appropriate to create responsible management. With integrated community level decision making sustainability is fostered two ways. First when stakeholders are part of the solution they are more careful about causing further problems. Brining a wide range of actors into environmental decision making makes them interested and responsible. Secondly solutions are more likely to be durable and well informed with a wide range of stakeholder input (K, Redford).Conservation projects are notoriously short lived (Kimball, Renée) local decision makers not only grounded mentally but physically in Bocas and will be there to Sheppard their programs. If there is something that best foreshadows Bocas being ‘the next Cancun’, it is the 117 room Playa Tortuga resort on Isla Bastimentos. The owners live in Panama City and it does not have local managers. Although the hotel owners on Isla Colon were of various nationalities, all of them lived in Bocas. Their environmental concern is a function of the fact that they

regularly deal with the consequences (TCH, Sunderland). However Isla Colon's residents almost exclusively live directly or indirectly off eco-tourism, and they would all benefit from sustainability. Since all these actors are involved in and affected by the problem, with more stakeholders involved in solutions, the problem is better understood and thus better dealt with.

INBOCA Fund

The INBOCA fund has been described as "Pretty dusty" and "A dead man walking"(Orlando Gonzales, Ruben). For the past few yearsINBOCAhas proven a failure. Very little money was raised and no serious programs were started. Nonetheless it serve could serve as a central component of a sustainable eco-tourism industry in Bocas. Locally raised funds are combined with donations from organizations like FundaciónNATURA to fund local conservation projects to preserve the 'golden egg' that is Bocas (Orlando Gonzales, Ruben). The fund would help unite stakeholders and funds to solve the collective action problems that haunt sustainable development. Participating in the fund alone would improve cooperation. I spoke with owners of 2 hostels who were both interested in environmental management but also said they don't think the other would be. If some of our coordination problems are the result of a misunderstanding of the other stakeholders involved, the simple knowledge of a hotel's involvement in the program could foster sustainability. For example, two hostels do a joint beach cleanup with their guests, because they have the understanding that they are both concerned about the environment. With the understanding that this feeling is widespread, these simple projects could be larger and more effective. The INBOCA fund fits well into Bocas'

context. One hostel owner told me “I would donate $1,000 right now if someone was getting serious about the sewer system”. Surely many other owners feel similarly, the problem is they have no one to give this money to.

Public Infrastructure

The unprecedented number of people on Isla Colon cannot be supported by the present infrastructure. There are no systems in place for garbage and sewage management or energy generation that can sustainably service the local and tourist populations. The islands wanting physical infrastructure can be fixed with sufficient money and coordination. The INBOCA fund both unites actors in community level decision making and provides the expertise of ACD, to use the money effectively. Uniting these stakeholders could help deal with other collective action problems like eco-friendly imports by providing unified and substantial demand.

Environmental Leadership

Currently there are too many organizations trying to simultaneously lead projects and this group of actors. For example, although very well intentioned, the Bocas Sustainable Tourism Initiative aims to do much of what US Aid projects does and the INBOCA fund could do, but without NGO status (pending since 2009). Instead of using resources to sustain another organization, without the capacity or scale to effect change, actors need to unite behind a single community level organization. “Everyone wants to be the head of a mouse instead of the tail of a lion” (Bini, Sabrina). ACD and BSTA have very similar goals, but ACD and the INBOCA fund are better equipped to deal with them.

ACD is run by Panamanians who speak Spanish and have a thorough understanding of the complex ethnic, social, economic, political and historical nuances of the area. ACD can also receive grants as an NGO and has experience working with the various donors involved. Although the INBOCA fund was initially largely failed to unite the stakeholders or raise money for projects, I suggest a number of reforms that would make the fund more appropriate and successful.

Recommendations

I have compiledthree main recommendations for ACD. 1) Raise awareness about La Solución. 2) Restart a revitalized INBOCA fund and 3) Start an accommodation "awards" program.

After I discovered the community of La Solución I began to ask hotel owners and tourists if they had heard of it. Of the 6 hotel owners and managers not one knew what lied just west of the airport on their island. Adjudicating standards of living and development is very sensitive. We should always be careful to recognize ones cultural context when understanding the livelihoods of others. This situation however, seems to be unquestionably and objectively abhorrent. There is no question that people should understand and rectify the problems in this community. This is an explicit and worthy cause, with awareness, support should garner naturally.

The INBOCA fund should and can be done right. First, the collection boxes were not widespread enough. The only box that remains is in the airport [Photo 7]. After I explained how was a fund for community based conservation and development projects all but one accommodation agreed to install an INBOCA collection box. Fundraising would be bolstered with an increased presence of donation boxes. Second, the boxes should be redesigned. The box in the airport was mostly filled with garbage. The message on the box is vague [Photo 7]. Over the past 8 years I have learned that effective fundraising must explicitly tell the donor where their money is going. Hotel owners had a hard time telling their guests where the money was going(Kimball, Renée). There are two ways to solve thus. One is that eachaccommodations' box is for a different project, hotel's can champion their respective projects and owners are likely to get behind their initiative. Alternatively, it might be better to raise money for one project at a time to ensure a more predictable sequence of project initiation. Either way, ACD is well aware of the long list

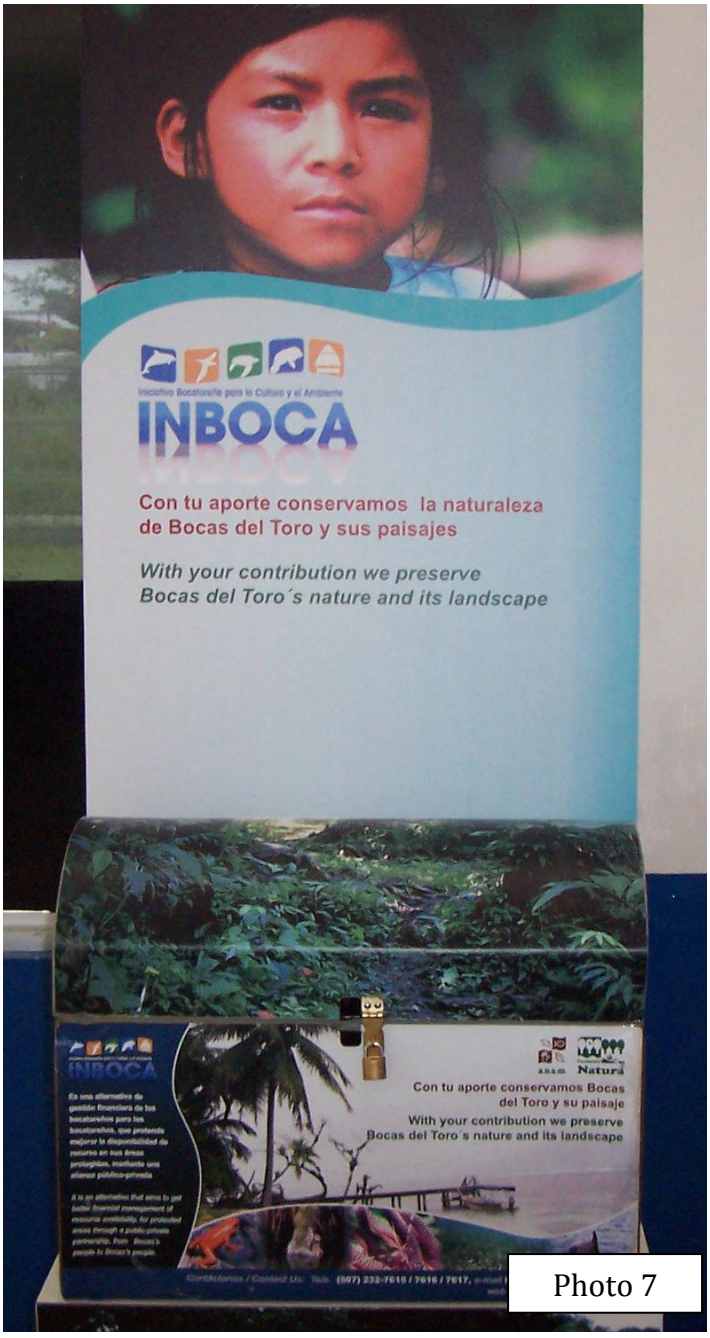

Photo 7

of potential improvements on the Island. From preventing boats from anchoring on coralsby placing a set a buoys around to building a sustainable sewer system, there are projects of every size that will help better the environmental and thus economic sustainability of the tourism sector.

People like to donate when they feel they are contributing to something tangible.I also suggested to Sabrina that they could even have interactive donations [Photo 8],although she was quite receptive, my observations of the local demographic suggests that they might not be terribly popular.

Photo 8

The central fund and projects bring these stakeholders together to help prevent further environmental problems and solve those at hand. I created a mission for the revised INBOCASfund which can be found in the Appendix. Fig 4

The hotel “awards” program was accepted by each and every hotel owner and manager I spoke with. Although auditing or a strict criteria certification program might be effective, they were less well received;the “awards” program is an appropriate first step towards a greener Bocas. The idea is simple; ACD would identify which accommodations have, for example: “The cleanest beach” and give a certificate the hotel to display by the front desk or online. This incentivizes individual businesses to be responsible. Although a better sewer system might make the area as a whole more beautiful and attract tourists, there would be no greater effects on any individual businesses. These accommodations are in competition with each other and this is another

incentive for the firms to be sustainable. The program is quite feasible andall interviewees said they would proudly display it. They could be as simple as “This Hotel Recycles”, meaning many hotels would “win” an award and be involved with ACD’s program. Hotel owners and managers emphasized that the tourists are generally very environmentally conscious, thus they believe that winning these awards would be a good business decision. Moreover, the environmental attitudes of the owners/mangers and discussions about the award systems made it clear that they would be personally proud to display these awards and thus work to gain them.

8. Limitations

Unfortunately I did not have the time and resources to speak with as many hotel owners and managers as possible. Two of the hostels ACD and I targeted before my trip were not available for interviews. Most troubling, is that as a result, my data may select for the owners who are more likely to be present on the islands, and perhaps have a stronger interest in the environment and are thus more positive about it. The understanding of the tourism sector in the Archipelago limited to that on Isla Colon, while growth is most rapid on Isla Bastimentos. Although my discussions gave me insight into the tourism sector’s development generally, I was not afforded face to face interviews off the island. My observations are subject to social desirabilitybias, peoplemay want to come off as more green than they really are or modestly keep their sustainable achievements to themselves.Many of the questions I asked had a ‘socially desirable’answer; this might mean that some of the responses I got werenot genuine. I

worked actively to observe body language, comments and ask questions that might reveal the sincerity of my interviews. For example, when I asked if they would install an INBOCA donation box, most owners had follow up questions, indicating sincere interest. People's interest in the environment was gauged through their response to "What do you think are the major environmental problems?" not "Do you care about the environment?". My analysis is also limited to qualitative observations, although I recorded everything that was said in the interviews, sensational or unusual comments can dominate the understanding of the situation at large. I was careful to take each account with equal weight, but even subconsciously we tend to highlight sensational comments or hear that which we wish.

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enough to talk to during my time in Bocas. Finally, I would like to thank professors Roberto Ibañes, Rafael Samudio and teaching assistant Kecia Kerr for their unrelenting guidance and support throughout the semester.

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Appendix. I

Isla de Bocas Accommodations

Name	Website	Contact	E-mail	Telephone #	Enviro Info
Hotel Bocas del Toro	http://www.hotelbocasdeltoro.com/		h_bocasdeltoro@hotmail.com	(507) 575-9771	http://www.hotelbocasdeltoro.com/tourism.htm
Limbo on the Sea	http://www.ellimbo.com/		ellimbo@hotmail.com	(507) 757-9062	
Swan´s Cay Hotel	http://www.swanscayhotel.com/	Operative Manager: AgosthinoMonteiro	swanscayisla@cwpanama.net	(507) 757 9090/ (507) 757 9316	
Tropical Suites	www.bocastropical.com	Jamie: Owner	info@bocastropical.com	(507) 757-9880	
Punta CaracolAcqua Lodge	http://www.puntacaracol.com/		puntacaracol@puntacaracol.com.pa	Management:(507) 6676-7186	See ¨Concept¨ on website -Solar Panels, bio digestor, gas cooling, micro-processing waste - Many say surrounding reef dead
Playa Mango Resort Hotel	http://www.playamango.com/index.htm	Manager: Michael	reservations@playamango.com	(507) 6788-9191 (507) 6679-3956	-Boast pristine environment - Daily maid service
Garden of Eden Resort	http://www.gardenofedenbocaspanama.com/		gardenofbocas@aol.com	1-(561)-531-6966	
La Coralina	http://www.lacoralina.com/		“contact” on website.	(507) 6788-8992/(507) 6967-0110	
Popa Paradise Beach Resort	http://www.popaparadisebeachresort.com/	Owner: Peter Winn	peterjwinn@aol.com info@popaparadisebeachresort.com	(507) 6550-2505	Owners “realization of a long held dream to create an eco-friendly resort”
Hotel Palma Royale	http://www.palmaroyale.com/		reservations@palmaroyale.com	(507)757-9979	

Hotelito Del Mar	http://www.hotelitodelmar.com/		tashmoo@cwpanama.net	(507)757-9861	
Bahia del Sol Managed Properties / Koko Resort	http://kokoresort.com/		info@KoKoResort.com / info@ThePinkHouses.com	(507) 669-56286	
Hotel Caribbean View	http://www.bocas.com/caribbean-view.htm		hotelcaribbeanview@yahoo.com	(507) 757-9442/(507) 6600-9163/(507) 6576-5791	
Hotel Angela	http://www.hotelangela.com/		hotelangelabocas@yahoo.com	(507) 757-9813	Advertise a few interesting activities: http://www.hotelangela.com/angela-activities.htm
Hotel Olas	http://www.hotelolas.com/			(507) 757-9930	
Blue Marlin Resort	http://bocasbluemarlin.com/		bluemarlin@cwpanama.net	(507) 757-9853	
Buccaneer Resort	http://bocasbuccaneerresort.com/		stay@bocasbuccaneerresort.com/ Contact form on site	(507) 757-9042	
Hotel Los Delfines	http://www.bocasdelfines.com/bocas.htm				
Hotel MaccaBite	http://www.hotelmaccabite.com/index.html		hotelmaccabite@yahoo.com	(507) 264-5255/(507) 6673-5155	
Bluff Beach Retreat	http://www.bluffbeachretreat.com/		paradise@bluffbeachretreat.com	(507) 6677-8867.	
Hotel Cala Luna	http://www.calalunabocas.com/		info@calalunabocas.com calalunabocas@hotmail.com	**(507) 757-9066**	

Careening Cay Resort	http://www.careeningcay.com	Stephen or Joan		(507) 757-9803 / (507) 757-9157	
Bocas Caribbean Paradise Hotel	http://bocascaribbean.bocas.com/		bocascaribbean@yahoo.com	(507) 757-9538 / (507) 6670-3325	
Playa Tortuga Hotel & Beach Resort	http://www.hotelplayatortuga.com/		Eco-tourism tours: jramirez@unesa.com	(507) 300-1983	Received the Blue Flag award with 2 stars
Al Natural Resort	http://www.alnaturalresort.com/index.htm		alnaturalbocas@cwpanama.net	(507) 757-9004 (507) 657-686-05	http://www.alnaturalresort.com/site/concept.htm
Bocas Jungle Lodge	http://www.bocasbound.com/		info@bocasbound.com	(507) 836-5281 (507) 6949-0330	See: ´´Sustainability at Bocas Bound¨ section on website.
Bocas Paradise Hotel	http://www.bocasparadisehotel.com/	Owner: Peter Winn	peterjwinn@aol.com bocasparadisehotel@yahoo.com	(507) 757-9170/(507) 757- 9728/ (507)678-0063	Owners "realization of a long held dream to create an eco-friendly resort"
Casa Acuario	http://www.bocas.com/casa-acuario.htm		casaacuario@aol.com	(507) 757-9565 / (941)3304 887	
Casa Blanca Hotel			info@casablancabocas.com	(507) 757-9758 // 6689-7650 / 6638-1703	
Casa Verde	http://bocaswaterfrontrentals.com/	Kristin and Chris	cvbocas@gmail.com	(507) 6633-8050	
Casa Selva del Mar	http://casaselvadelmar-panama.com/default.aspx		casaselvadelmar@gmail.com	(507) 6652-4195 / (507) 6977-0255	"We are green" - http://casaselvadelmar-panama.com/WeareGreen.aspx

Cayo Del Sol Lodge	http://www.cayodelsolbocas.com/	Susie Hallman	cayodelsolbocas@aol.com	(507) 6915-2040 / (507) 6684-2065	
Cocomo on The Sea	http://www.cocomoonthesea.com/	Owner: Douglas Ruscher	cocomoonthesea@yahoo.com	(507) 757-9259	
Coral Cay Cabines	http://www.bocas.com/coralcay.htm		cayocoral@hotmail.com	(507) 6626-1919	
Coral Paradise Hotel	http://coralparadise.bocas.com/		coral.paradise@yahoo.com	(507) 6686-3129	
Dolphin Bay Hideaway	http://www.dolphinbayhideaway.com/	Erika and Jose	erika@dolphinbayhideaway.com.	(507) 6618-2020	
Doña Mara	http://www.hoteldonamara.com/		donamara10@hotmail.com	(507) 757-9551	
Eclypse de Mar	http://www.eclypsedemar.com/#	MalenaTrevisan and Chango Castro	eckyosedemar@yhahoo.com	(507) 6611-4581	"Committed to the environment and Biodiversity"
Gran Kuhuna Hotel	http://www.grankahunabocas.com/		info@grankahunabocas.com	(507) 757 9038	
Hacienda Del Toro	http://www.haciendadeltoro.com/			507 6 612 9159 /	
The Hotel Laguna	http://www.thehotellagunabocas.com/		hlaguna@cwp.net.pa	507 757-9091 / 507 6529-7699	
Laguna Azul Eco Lodge	http://www.hotelagunazulpanama.com/		info@hotelagunazulpanama.com	(507) 836-7239	

La Coralina	http://www.lacoralina.com/		hotellacoralina@gmail.com	(507) 6491-8185	
Hotel La Rumba	http://www.hotellarumba.bocas.com/		hotellarumbapanama@gmail.com	(507) 6400-8512	
Los Balones Hotel	http://www.losbalcones-hotel.com/		info@losbalcones-hotel.com / reservas@losbalcones-hotel.com	(507) 757 97 97 / (507) 660 037 14	
Los Delfines Hotel	http://www.bocasdelfines.com/		delfines1@cwp.net.pa	(507) 757-9963	
M&M's Residencias	http://www.bocas.com/hoteles/m&m-residencias/m&m-residencias-bocas.htm		alnaturalbocas@cwpanama.net	(507) 757-9004 / (507) 6496-0776.	
Natural Lodge	http://www.naturallodge.com/		reservations@naturallodge.com		
Palma Royale Hotel	http://www.palmaroyale.com/		reservations@palamaroyale.com	(507) 757-9979	
Hotel Tierra Verde	http://www.hoteltierraverde.com/		info@hoteltierraverde.com	(507) 757-9903	
Tranquillo Bay	http://www.tranquilobay.com/	Renee Kimball	Renee@TranquiloBay.com	(507)6620-4179 / (507) 380-0721	"Sustainable Adventures in Nature" see website.
Yellow Jack	http://www.yellow-jack.com/main/yellow-english-main.htm		yellowjackbocas@yahoo.com	(507) 6908-3621 / (507) 6806-4190	
Azucar Surf Retreat	http://www.azucarsurf.com/site/index.html	Jessica or Mike	Contact form on website		

Brisas Surf and Sport Lodge	http://www.brisasbocas.com/			(507) 757-9549	

Tio Tom's Guesthouse	www.tiotomsguesthouse.com		tiotomscabin@gmail.com	(507) 757 9831	
MeriGnobe Community Tourism Project	meri-ngobe.org			(	
Naso Ecotourism Community Orgarnizatio n	http://ocen.bocas.com/	Raul Quintero	ecoturismo_naso @yahoo.es raulquintero_1@ hotmail.com	(507) 6569-3869	
Solarte del Caribe Inn	http://www.solarteinn.com/	Dave	senddave2@com cast.net stay@solarteinn.c om	(507) 6588 7555	
Soposo Rainforest	http://www.soposo.com/		info@soposo.com	(507) 6631-2222 (507)6640-7622	

Isla de BocasTouristActivites and Transport

Name	Website	E-mail	Telephone #	Enviro Info
Bocas Marine Tours	http://www.bocasmarinetours.com/ http://www.bocasmarinetours.com/Schedule.html	alirio@bocasmarinetours.com	(507) 757-9033	
Panama Trails (Boat Tours, Various Trips, ATV Tours etc…)	Ex. http://www.panamatrails.com/packages/elValle.htm	info@panamatrails.com	(507) 393-8334 (504) 393-8335	http://www.panamatrails.com/aboutus/environmentalpolicies.htm
Red Frog Express Water Taxi			(507) 757-7260	Proceeds go to beach cleaning
Nature Air	http://www.natureair.com/	info@natureair.com	1-800-235-9272 / (507) 757-9963 / (506) 2299-6000 / (506) 2549-7500 / (506) 2299-6074	http://www.natureair.com/natureair-social-responsibility.aspx
Aeroperlas	http://www.aeroperlas.com/	info.aeroperlas@aviancataca.com	(507) 378-6000 Albrook: (507) 378-6024 BDT: (507) 757-9236 / (507) 757-9341	Aeroperlas Regional neutralizes its carbon emissions
Bocas Water Sports Dive Shop and Rentals	http://www.bocaswatersports.com/	info@bocaswatersports.com	(507) 757-9541	
Starfleet Scuba	www.starfleetscuba.com	info@starfleetcuba.com / Scubastar@hotmail.com	(507) 757 9630	

Caribe Shuttle	http://caribeshuttle.com/	info@CaribeShuttle.com	(506) 2750-0626	
Soposo Rainforest Adventure	www.soposo.com	info@soposo.com	(507)6631-2222 / (507) 6640-7622	"Focus on sustainability"
Bastimentos Sky Canopy Tour	http://bastimentossky.com/ http://www.redfrogbeach.com/bocas-del-toro-zipline.html		(507) 836-5281	

Catamaran Sailing	www.bocassailing.com	info@bocaswatersports.com	(507) 757-9541	
Discover Bocas del Toro	discoverbocasdeltoro.com	info@starfleetcuba.com / Scubastar@hotmail.com	(507) 757 9630	
Jet Boat Explorer	www.panamajetboatexplorer.com	info@CaribeShuttle.com	(506) 2750-0626	
La Buga	www.labugapanama.com	info@soposo.com	(507)6631-2222 / (507) 6640-7622	"Focus on sustainability"
Panama Sailing & Diving	www.panamasailing.com		(507) 836-5281	

Timorogo Community Project	www.timorogo.org		507 6726-0969	
Institute for Tropical Ecology and Conservation	http://www.itec-edu.org/			
Bocas Shuttle	www.bocasshuttle.com			
La Buga Surf School	http://bocasdeltorosurfschool.com/	info@bocasdeltorosurfschool.com	(507) 757 9534	

Appendix.II

A	Mondo Taitu Hostel
B	Gran Kahuna Hostel
C	Hostel Hansi
D	Coconut Hostel
E	Hostel Heike
F	Hotel Laguna
G	Hotel Angela
H	Hostel Luego
I	Cayena

Interview Questions:

1) *What do you think are the most important environmental problems? What can you tell me about the environment in Bocas?*

A)

- Sewer system is miserable, whole town on one 4 inch drainage tube, raw sewagebacks up into the street, wide open sewer, raw sewage in street.
- Other islands no sewage system. Septic systems Basitmentos shit right in the ocean.
- Whole town under served by one diesel generator
- Someone tried to build localized water treatment facilities.
- Power generation is dirty and loud
- Garbage backed up into surf spot, called “dumpers” now.
- New site for a landfill, landfill on an island = horrible even though in and off its unsustainable.
- Private recycling, not really anything official.
- Major industry is nightlife tourism; they serve in disposable cups, plastic cups. 1000 yrs lasts 30 sec. Styrofoam, Plastic silverware. Part of waste problem, feels responsible.
- Tiendas all use plastic bags, 5 or 25 c per bag imitative suggests.

- Mayor has exclusive control over everything doesn't give a shit, bocas breeze, almost all of the franchised survivor shows, in protected wildlife habitats, burn garbage, right on the brink of "ecological cluster fuck". "Shamefully wasteful business."
- Bocas del teranians are poorly educated, burning it. Take shit out window.
- Huge line voltage fluctuations, old light bulbs, luminescent, CFL's power kills them all. HUGE. Electronics have terrible half-life because power is shit. Cannot use environmentally friendly light bulbs as much as he would wish as a result.

B)

- The water, the garbage, garbage first.
- Aesthetics, also environmental problem also, plastics, only one man who collects plastics. Leave them at beach, surf spot.
- The reef gets destroyed with plastic. Bad for main clientele which is surfers.

C)

- Garbage is biggest problems, mierda, dirty water.

D)

- La basura, ruido, Agua
- Water treatement, sewage

E)

- Garbage and water treatment. Sewer system

F)

- Two most important things are sewage and garbage.

G)

- I think there has been lots of improvement, with garbage, need to make more strides. Getting kids to go out and pick up garbage. It's important for kids to learn. Adults accustomed to throwing things out the window. We ought to be, not taking these plastic bags. Burn them, bad to have plastic bags.
- need reusable bags.

H)

- Garbage and recycling, rainwater huge potential, education is a problem, education stops in 6th grade. They don't teach people not to throw garbage in water, doesn't decompose right, beach he used to surf at is problem is it LOCALS who are problem. Tourists are respectful. Locals leave beers, we take them back when we surf. Inefficient beer cans filled with sand, account for it etc. then filling no reason if they account for this.

I)

- Oceanographer by trade. Garbage is biggest problem. Education of kids, kids throw garbage in the street, parents do the same following in the patterns of their parents.

2) *Do you have any initiatives to try and be environmentally sound?*

A)

- Quarterly beach cleanup initiatives, try to make it monthly, plastic cups is a big thing try to use glassware. Tried to have reusable shopping bags, get stolen. Rainwater catchment, "wish we could say more"
- Should have a solar farm ITS PERFECT, 9 degrees and shape of Isla Colon is idea for this.
- Do not partner with other organizations, we have goodwill. 40 guests, city beach. Interested in partnering. We provide labour. Coordinated with Heike for beach cleanup.

B)

- The only one is sometimes we clean the beach with school kids..
- Recycle, beach cleanup with school kids, and clean street out in front of hostel, nothing directly with tourists.

C)

- "There are some initiatives but no one is doing anything."
- They recycle, they don't have dryer, very active, regulate the garbage and separate it, don't change sheets every day, every three nights.
- Energy safe light bulbs AS MUCH AS possible, BUT they are expensive and the life term is short BECAUSE of the power grid. Chinos sell them. 10x more expensive for these bulbs. Don't use bleach. They have a very extensive composting system. Observation proves a very internally environmentally responsible enterprise.

D)

Recycle, poor setup.

E)

Recycles and does beach cleanups.

F)

- Try to minimize cleaning, the sheets have schedule, don't waste everyday. Use biodegradable soaps, big problem with environmentally friendly soaps distributor, they don't always have, so scale would help. Sometimes use bad soap, but want to use good.

G)

- Nothing really, wish he could do something, wants to be told what he can do. Try to recycle. Axiom. Threshold?

H)

- Love to have solar panels, just opened, they have a white roof and contains het and reflects it out. Less AC needed.

- Never been to la solution, no idea.

I)

- Recycles aluminum and plastic.

- Never head of la solucion

3) Are you educated in environmental sustainability practices or the environment generally?

A)

- Very well.

- Custom made sandals out of car tires, on 6th street.

- Plastic garbage, we use for parties.

- Would love to go to a conference

B)

- Si. Plastic bottles, no washing clean beds programs.

- Plastic programs, brigns them to recycling

- Try to use environmentally friendly soaps, but Chinos do not have, have to get them on land.

- Would attend conference

C)

- Feel they are educated. Looks like it's the case

- Would not bother with conference

D)

- Do not claim to know a whole lot about sustainability.

- Yes I would go to this meeting, learn lots.

- Educated to some extent, would go to conference, would be cool.

E)

- Decently, would go to conference to learn more probably.

F)

- More or less educated, would go to conference.

G)

- Recycle, aluminum, nothing else. Would like to know what else he can do. Use Axiom, non-biodegradable soap for laundry.
- Not interested in conference, does not have the time for that. Too busy, would be happy to receive a letter to learn what he can do to be more sustainable.

H)

- No formal environmental education, he is fairly well educated. Would be willing to do formal training/conference.

I)

- Does nothing with tourists
- He is educated thinks that Americans and Europeans know about recycling.
- Would not himself go to a meeting or conference, but is happy to work with other hotels. Does not need to learn any more.
- Wansa is picking the recyclables up and brining them to David, metals and plastics, he participates, wants to show me his recycling piles.

4) *Do you do anything with the tourists in terms of conservation campaigns or education? What kinds of guests do you have? Do they express interest in the environment?**

A)

- Beach cleanup.

- Took business over, engineer by training.

- “No systems in place for me to do more”, no financial incentive to use cups.

- One apple get a bag at stores its terrible.

- Merchant class, govt bad, people 2 days.

- Guests are young, here mostly to party, drink.

- Express big interest in enviro, you entice them with free beer. He gives free bber

- Lots of groups in meeting up clique of 12 all go. Plus staff

- Hieke gets involved.

- Gran Kahuna wouldn’t participate, “different culture” information asymmetry?

- He says “people here are lazy”, this attitude is self-fufillingprophcy we saw here assuming. He says its cultural

- ONE TOO. We fix collective action problems.

- We reuse the bottle we find on cleanup

B)

- The guests are not too interested, ask about “is this recycling” “is this garbage” “only one beeach cleanup and guests go”, no free beer.

C)

- Do nothing with tourists. Tourists don’t cooperate. Offered reusable shopping bags, tourists did not use.

D)

- Interested in turtle conservation and recycling, do nothing with tourists, they are on vacation.

E)

- Mostly backpackers, no education or anything. If tourists have questions we do our best to answer.

F)

- Nothing with tourists.

G)

- Are they educated environmentally. Do not do anything with them.

H)

- Nothing with tourists, they are on vacation.

I)

- Nothing with tourists, they want to recycle, that's about it.

5) Are you interested in participating in environmental conservation?

Fund with owners contributing. (perhaps some formal recognition, certificate), Would you voluntarily participate in auditing if there were a certification program (Discuss both a rubric based certificate and the ex. "best beach" system from UK study), Are you willing to help raise tourists money, INBOCA box, explain?, What conservation would you be interested in? (provide further examples from research if necessary)

A)

- I think many would be interested.
- Waste management and sewer and power generation would be something he'd buy into.
- "If I saw someone getting serious about sewer reform I'd donate "$1,000"- MondoTaitu Owner.
- Make switch to solar. He hates corn, same lasting. Knows so much. Needs to see action. Beer bottles are great. Only one with glassware of bars on the island.
- LOVE AWARD SYSTEM. Absolutely. 10/10
- Interested in having a box, but it poses a security risk. Not a concrete wall.

B)

- Yes I am interested in funds.

- Cool with inboca box.

- Cool with certification awards.

C)

- We don't believe in funds, they steal. We don't trust anyone no funds. We do what we can do for ourselves.

- No fund, nothing. No results.

- We do for next generation, if someone gave us award, not for publicity, we do this for the next generation.

- Would be proud to display award but no INBOCA box. Would not join organization or anything, only if they won an award for say composting or being environmentally friendly would they display, not really willing to but anything towards any group effort.

D)

-If it is reliable organization they want to work together, cooperatively.

-Ok with box. For sure

-Like awards system for wall, because many tourists here want to help out too!

-Very interested in something between the hotels and hostels.

E)

- Would work with other hotels.

- Really likes idea of certificate

- Would totally put a box up, happy about fund to get something done together.

- Should someone fill void govt has left? Basura is obviously an apparent and aesthetic problem, but is it the most serious? Are landfills any better, do we instead need an attitude change.

F)

- Participate in BSTA, if we evaluate it to be good, what makes it good, if it will have positive consequence. Want to be good for environ and what is in best interest of hotel.

- Happy to put in box

- Happy to do awards

G)

- Nothing, what they could do is put a letter in the room to speak to that.

- Would like a letter instead of a conference of what we should be doing. We don't have time for that. Put in a letter.

- Box, owner fund, or certificate. Great with all of them.

- Box fund..Very happy put up box.

- Happy to display award.

- They do work together, we all have same concerns you don't want to coordinate, not enough time, for meetings.

- Government, should be doing something

H)

- Interested in working with other hostels interested in conservation, someone needs better recycling, drive by and pick up instead of walking it.

- Cool with Box absolutely.

- Red Cross volunteers stay here, volunteers they stay here they do rainwater stuff, this became home. The rainwater guys.

- Very good to give awards, or t-shirts.

- Would totally put up huge sign or award.

I)

- Hard to get environmentally friendly soaps, a lot easier in costa rica, not here. Brings his own sack, Panamanians always want plastic bag.

- Wants to work with other hotels but not interested in meeting, doesn't need more info

- Cool with box, foreigners will appreciate that, happy to work with others to lose information asymmetries, we should work together to try and change dumpers, Panamanian surf association helped fix it, now its jungle w/ monkeys and better.
- "Would be fucking amazing to have this award, I would be proud of that"

6) Accommodation Size

A)-70 beds

B) 36

C) 23

D) 30

E) 60

F) 65-70

G) 40 (Avg. Occupancy 25-30)

H) 24 (Avg. Occupancy 10, in high season)

I) 22 (Avg. Occupancy 10)

7) Owner ship nationality

A) DC, USA.

B) Spanish

C) Panamanian/German

D) Nicaraguan

E) USA

F) (Felix, unknown)

G) USA, Claudio

H) USA, Alex Graves

I) Venezuela/Portuguesa, Ruben

8) Guest/Profit Composition

A) Bar/nightlife.

B) Mostly surfers, money off bed rates.

C) 50/50 who cares about environment, mostly not eco-tourists however.

D) Backpackers on central American trail. Profits from room fees.

E) Party-ers, younger.

F) Mix, many families who come, older crowd.

G) Mostly Europeans, Middle aged… Not as much partying, not so many teenieboopers.

H) Not so party, eco tourists, have careers want to see other side of island, respectful land take care of environ and stuff. They are good responsible, environmentally.

I) Backpackers, Surf and sleep. Not to loud.

If little interest is shown.

- Why?
- What if there was an opportunity to see profits?

Appendix. III

INBOCA Fund: Mission

General Objective

Conserve, protect and enable the invaluable biological and cultural environment of Bocas. Recognizing that conservation is everyone's business, programs aim to develop the tools and understanding to employ a wide range of actors in sustainability efforts.

Situation and Solution

Funding is provided by NATURA and USAID, within the Central American Watershed Conservation framework. Bocas del Toro is on the brink of commercial expansion with serious implications on the trajectory of the region. Steps must be taken at this point to ensure that precedent; understanding and accessibility all ensure a sustainable and socially optimal future for Bocas. Funds are allocated to local and integrated projects and ensure environmentally sound practices from the smallest to largest scales. This can create "Bocas wide" mutually reinforcing environmentally responsible attitudes and actions towards environmental stewardship.

Specific Objectives

- Scientifically based ecosystem management and monitoring.

- Strengthening the institutional, synergetic, technical and scientific capacity of partner organizations.

- Education initiatives for all stakeholders, from tourists to hotel owners to local fisheries.

Desired Results

- Available funds for community based conservation initiatives.

- Strengthened long-term conservation of the biotic and cultural life in Bocas.

- A socially conscious community who works together to better their environmental trajectory.

A precedent and attitude of environmental stewardship in Bocas: Wherein

- Environmental practices are seen as the norm and thus further pursued.
- Environmental practices are easier to pursue through increased market demand with scale and knowledge diffusion. (ex. More demand for halogen light bulbs to the islands makes them cheaper to import)

- The strong foundation and respect for the environmental beauty, which Bocas would epitomize, is carried back to the countries of the tourists, recognizing too that more tourists will be enjoying Bocas in the coming years.

Associated Organizations

Fundacion NATURA
Autoridad Nacional del Ambiente (ANAM)
Autoridad de Turismo Panama (ATP)
Smithsonian Tropical Research Institute (STRI)