



**A Willingness to Pay Study for Park Fees:
Quill/Boven National Park
St Eustatius Marine Park
St Eustatius, Netherlands Antilles**

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Abstract

Organisations designed to manage and maintain Protected Areas are often faced with limited financial resources to maintain and monitor protected areas to their fullest potential. Methods, such as “Willingness To Pay studies” (WTP) are used to assess the park visitors’ views and opinions towards fee systems and the potential of paying more in order to sustain an organisation’s role in nature management and conservation of national park resources.

The St Eustatius National Parks Foundation (STENAPA) is the non-governmental organisation with legal mandate from the Island Government of St Eustatius for management of the two protected areas on St Eustatius: the St Eustatius Marine Park (established 1996) and the Quill/Boven National Park (established 1997). There has been little change in the visitor fee structure since their introduction (Marine Park diving and yacht fees in 1998 and National Park hiker fees in 2001). Due to the dated fee structure, and the fact that income from fees has not yet covered park operation costs, STENAPA discussed a change in fees with the Executive Council of the Island Government in June 2006 and subsequently carried out a Willingness to Pay study in late 2006 using an Economic Tourism Survey. This survey was designed to ascertain the views and opinions about fees by tourists visiting National Parks in St Eustatius. The objective of the study was to find out whether tourists would be willing or not to pay a higher user fee in order to sustain the National Park system’s marine/terrestrial conservation objectives.

A total of 100 divers, 1 yacht and 50 hikers were surveyed during a four month period (10 August until 7 December 2006). The results from the surveys received from divers demonstrated that a clear majority (72%) are willing to pay more for the entry fee to dive in St Eustatius Marine Park. Most of the hikers surveyed (70%) were willing to pay more for the Quill/Boven National Park entrance fee; 26% were not willing to pay higher than the current price and 4% did not respond to the question. Insufficient yachters (1 yacht only) responded to the survey to allow this park user to be included in the analysis of results from the survey. A majority of park visitors would prefer a Multi-Pass system.

As a result, this Study proposes that fees should be increased for diving and hiking park users in St Eustatius. The recommendations for new fees in comparison with existing fees are shown in the following table.

Protected area	Fee type	Fee amount	
		Existing	Proposed
St Eustatius Marine Park	Dive- Single	\$3	\$4
	Dive- Annual	\$15	\$20
	Yacht- Nightly	\$10	\$10
	Yacht- Weekly	\$30	\$30
Quill/Boven National Park	Hiking- Annual	\$3	\$6
Combined Park fee	Multi pass (Diving/Hiking)	-	\$25

The WTP survey identified a problem with visitor awareness of park fees. The questionnaire interviews indicated that confusion over the existence and price of park tags was common amongst both hikers and divers. In particular, divers were not well informed about the existence and price of diving entry fees. This is related to the fact that divers pay for fees through the dive centres. It is hoped that existing plans to display new signage with information about park passes at the airport, park visitor centre and Quill National Park trail head will address this confusion. It is acknowledged that additional signage and brochures at dive centres and hotels is probably needed to fully address the problem, and ensure that park users are aware that they are paying a fee towards the national or marine park and know how much they have paid.

This study will be presented to the Executive Council of the Island Government of St Eustatius in January 2007 for their review and endorsement of the proposed new fees, as outlined above.

Introduction

The tourism industry brings in millions of visitors each year, who flock to coastal resorts, hotels, and retreats to visit transparent aquamarine shorelines, white beaches, and coral reefs, amongst other aesthetically pleasing attractions. The tourism industry is comprised of people seeking anything from eco-tourism activities, such as hiking or diving, to tourists out for relaxation. This mass industry ultimately brings in enormous amounts of revenue to regions around the world. The Global Coral Reef Monitoring Network's (GCRMN) report says tourism is considered the "fastest growing major industry in the world and ecotourism is growing at 10 to 30% per year and accounts for 20% of world-wide tourism" (Forward, 2004).

Significant drivers of coastal tourism are coral reefs, which are said to represent 85 percent of the tourism industry worldwide thus contributing significantly to the US\$385 billion industry (Coral Reef Alliance, 2003). For example, reefs in the Caribbean face enormous pressure from several industries, but no other manages to bring in more revenue than tourism (Burke and Maidens, 2004). In fact, according to Burke and Maidens, Caribbean tourism revenue brings in over 25 billion dollars and contributes, via supporting and related services, up to US\$105 billion annually.

Clearly tourism brings in enormous revenue for nations possessing coastal resources, but a mass economy as this can produce detrimental effects if not managed properly. Therefore, governments and local non-governmental organisations have developed policies and approaches to limit ecological destruction through the education of local people and tourists, as well as establishment of marine protected areas (MPAs) and terrestrial protected areas (TPAs) which restrict user access or activities in designated areas. Both types of protected areas (PAs) have high potential to generate more revenue and employment, as well as provide incentive to manage and protect natural ecosystems. According to a pilot analysis on global ecosystems, "parks and protected areas in the Wider Caribbean are major factors in attracting tourists and tourism" (Tourism and Recreation, author and year unknown). However, organisations designed to manage and maintain PAs are often faced with limited financial resources to maintain and monitor protected areas to their fullest potential. Specifically allocating revenue funds from

tourism fees into conservation and protection can greatly improve management efficiency and conservation effectiveness (p. 31, Spergel and Moye, 2004).

Methods, such as “willingness to pay studies” (WTP) are used to assess the visitors’ views and opinions towards potentially paying more in order to sustain an organisation’s role in nature management and conservation. “However, underdeveloped countries with MPAs often charge far less than what tourists are willing to pay” (Spergel and Moye, 2004). This type of study is designed and conducted to raise awareness of the fullest potential tourism carries for coastal organisations and nations. For example, moderately raising park entrance, yachting, and diving fees are ways for local organisations to significantly increase financial support when faced with monetary issues. The most common type of income generating fee is “entry”, which has been known to generate enough revenue to cover operating costs (Spergel and Moye, 2004). For example, The Great Barrier Reef Marine Park, which is the largest in the world, established an “environmental management charge”. In 2002/2003, approximately US \$5 million received from the charge covered 20% of the park authority budget. The environmental charge allows the park to allocate more resources for park management (Skeat, 2003 cited in Spergel and Moye, 2004).

Other user fees, such as yachting and diving contribute significantly to sustaining an organisation’s finances as well. International studies have shown divers were willing to pay larger fees (US\$20 to US\$30 per trip) for marine ecosystem protection (Robert and Hawkins 2000 cited in Spergel and Moye, 2004). Scuba divers alone contribute a large percentage of revenue while seeking out marine parks in coastal regions. An estimated 3.6 million tourists visited the Caribbean for scuba diving alone according to statistics in the year 2000. In addition, scuba divers contribute on average close to US\$2,100 per trip compared to the general tourist who spends US\$1,200 dollars per trip (Burke and Maidens, 2004). Major economic statistics lead one to assume that a large percentage of divers spend their money in countries with marine protected areas, like Saint Lucia and Bonaire, which offer world class diving.

The Soufriere Marine Management Area (SMMA) of Saint Lucia carried out a WTP study between December 2000 and September 2001, which produced the results needed to increase user fees to sustain their operations. SMMA had originally collected a

daily fee of US\$4 and an annual fee of US\$12 for divers in the marine park. However, the WTP study was administered to 327 visitors visiting SMMA and showed 75% were willing to pay US\$6, and 50% were willing to pay a US\$7 daily fee. In addition to these outcomes, 75% of divers were willing to pay at least US\$20 for an annual fee and 50% were willing to pay US\$30 (Reef valuation study, St. Lucia, 2001). Barker and Roberts (2001) state:

Using the maximum amount that 75% or 50% of visitors were willing to pay would increase annual revenue by 62% or 128%, bringing it to US\$41,550 and US\$58,475 respectively. Such increases in revenue could pay for higher management standards and support the park's conservation efforts.

Other leading examples include Cozumel, Mexico's Marine Park which established a user fee in 2002 for divers, snorkellers and other water sporting enthusiasts. In the first year of the newly established fee system's operation, it produced revenues three times more than the Mexican government's annual operating park budget for 2001. The revenues totalled from the established fee in that year were US\$600,000 which enabled the park to establish program monitoring and purchase the necessary equipment to enforce park rules (Carothers 2003, cited in Spergel and Moye, 2004).

An example which is more closely related to St. Eustatius National Parks is Bonaire National Parks (STINAPA), which is a leading example in MPAs. Bonaire National Marine Park, much like Statia Marine Park, struggled in earlier years to generate sufficient financing for its operations. In 1991, a WTP survey was conducted that demonstrated that tourists were willing to pay a proposed rate of US\$10. The revenue collected from the sale of park entry fees were used for the management salaries, transportation, maintenance and operational costs of the park (The Conservation Finance Alliance, 2004). However, STINAPA still had to rely on grant funding for specific projects. De Meyer points out the increase in Bonaire's diving tourism from 19,500 in 1992 to 28,000 in 1998 created a demand for larger staff and more park equipment, but the income results were still not meeting the financial costs that STINAPA was incurring (MPA News, 2001). Suggestions were made to sustain STINAPA's financing via

increasing revenue in the late 1990s, but significant policy changes were not made until recently.

In the beginning of 2006, changes were made to the user fees as a result of another WTP study conducted in 2001 which revealed that tourists were willing to pay far more than the established 1991 rate. For example, the study concluded that STINAPA could receive double the revenue received from annual dive tags sold (original annual tags were \$10 and the new rate is now \$25). In addition, STINAPA also receives substantial financing from a US\$10 Nature Fee for all those engaging in all other marine activities, such as snorkelling, surfing, and sport fishing. A US\$10 Day pass fee and US\$2 Day pass non-diver fee also substantially contribute to STINAPA National/Marine Park operations

Clearly WTP's are effective methods to improve both PAs and the financing required to manage them. However, establishing the "right" price can greatly affect whether or not PAs will be successful. Depondt and Flumerfelt (2006) state:

If the fee is too high, visitors may be reluctant to visit the MPA and decide to visit other MPAs with a lower or no fee. If the fee is too low, cost of collecting and monitoring the fee may end up being higher than the revenue generated by the fee.

St Eustatius National Parks Foundation (STENAPA) is currently faced with an ongoing deficit in operational finances: income from each type of park user fee does not meet expenses for the relevant park sector. Since the establishment of the parks in 1997/8, STENAPA has had to rely on island government subsidies and special grants which are by no means secure and resulted in park closure in October 2003 when no grants were available.

The objective of this study is to find out whether park users (divers, yachters, hikers) are satisfied with current fee levels with respect to their personal experience of environmental quality in the parks.

The secondary level objective is to ascertain whether, if satisfied, park users are willing to pay an increased level of park user fee.

This study has been designed with reference to other WTP studies and different types of fee charged by other national and marine parks including Bonaire, St Lucia and Cozumel, Mexico which give a basis for alternative fee structures that are considered in this study.

Methods:

Survey Description:

The St Eustatius National Parks Foundation (STENAPA) Economic Tourism Survey (see Appendix 1) is designed to reflect the views and opinions of tourists visiting Statia who would be willing or not to pay a higher user fee in order to sustain STENAPA's marine/terrestrial conservation objectives. Section 1 in the survey deciphers each tourist's demographic information: nationality, age, annual income, and whether or not they consider themselves to be concerned about environmental issues.

The information gathered in this section provides STENAPA with a general description of who is more willing to pay higher user fees based on the demographic information. In addition, the question posed in regards to being concerned about environmental issues allows Management to conclude whether or not those interested in paying more are generally concerned about the environment as well.

The questions in Section 2 elicit the type of tourist filling out the survey and the activity(ies) they are/will be engaging in. Section 2 consists of three questions, of which the first two describe the method of transportation used to arrive Statia with, and how many nights that individual plans stay. The 3rd question draws out each individual's purpose for visiting the Island by providing three subsections which define the specific park tag/fee purchased for their desired activities. The fourth subsection of question 3 is designed to allow tourists the opportunity to voice concern/objection to national/marine park fees, or whether or not they understood it was required of them to do so.

The purpose of section 3 is to assess the relationship between the respondents concern for the quality of the environment and their willingness to pay for it. The questions ask respondents to rate their experience based on the quality of the environment on Statia in order to assess the importance of environment quality to them and considers how much more they would be willing to pay to maintain this quality.

Question 4 conveys whether or not each tourist is concerned about the marine/terrestrial ecology of Statia. And from this deduction, STENAPA can rightfully assume that those not interested in Statian ecology would not be willing to contribute

more via a higher single/annual entrance fee. Question 5 takes this further by asking whether they would be willing to pay more to sustain the objectives of STENAPA, and in 5A by asking the amount above the current fee they would be willing to pay. The respondents are given a choice of increased user fees that has been raised by small increments above the existing fee. Alternatively the respondents may put forward their own suggested fee. In 5B the respondents that answered no to question 5 are then given the opportunity to explain the reason why they are not willing to pay a higher fee.

Questions 6 and 8 ask the respondent to rate their experience of diving/snorkelling and hiking respectively, and then the subsequent questions 7 and 9 ask then whether they would be willing to pay more to maintain the parks, in order to keep the same level of experience.

Question 10 gives respondents the opportunity to say whether they would be interested in the option of a multi-pass which would give access to both the marine park and the national park and if not then they are asked to give a reason. The respondents are also asked what level of fee they would be willing to pay for it. This will assess whether there is demand for a multi-pass and what level of fee people are willing to pay for it.

Phase 1: July – August 2006, Literature Review and Survey Development:

During the literature review phase, consultations and enquiries were made with several professional individuals in the Caribbean Marine Park Conservation and Financing field (see Acknowledgements). In addition, published literature and documents were reviewed and cited according to their relevance to the topic. A reference list of cited material has been provided at the end of this report.

The STENAPA Economic Tourism Survey was gradually designed during this period. The design of the survey was based, but never directly quoted, from previous surveys conducted in Marine Parks. An unpublished Tourism Fee Manual written by The Coral Reef Alliance was used as a reference for designing questions relative to demographics as well as Tourists' experience(s)¹. Additional survey ideas came from a Willingness to Pay Survey conducted in Bonaire by Steven Thur in 2001 as well as a

¹ At the time of designing and writing this report, the Coral Reef Alliance Tourism Fee Manual was unpublished. STENAPA did receive approval from the Authors to cite this manual.

survey conducted in the Samililan Islands, Thailand². The survey was then designed and reviewed, alterations to questions were made for clarification and accuracy, and the final document was completed (see Appendix 1).

Phase 2: August – December 2006, Questionnaire interviews:

This phase of the WTP survey included conducting surveys with tourists in Statia. The objective was collection of at least 100 surveys from divers, 40 from yachts and 50 from hikers. In order to conduct the surveys, all three on-island dive centres and one visiting live-aboard boat were targeted: Golden Rock Dive Centre, Dive Statia Dive Centre, Scubaqua Dive Centre, and The Caribbean Explorer (Live Aboard Boat visiting on a weekly basis). The dive centres were randomly targeted based on the given amount of divers/tourists they had each week. STENAPA was only capable of conducting surveys once a week with Caribbean Explorer tourists due to the timing of its weekly visit of the Statia Marine Park. Additionally, hikers, divers and yachters were surveyed as they visited the National Park Visitor Centre or during chance meetings in the Quill National Park or at the Botanical Garden.

Phase 3: November- December 2006, Data analysis and report writing:

The data collected from questionnaire surveys were entered onto a spreadsheet for comparative analysis and review of trends. Data analysis was carried out using Excel and is presented in the results section as well as in Appendix 2.

² Please see “References”

Results:

Survey Statistics:

A total of 100 divers, 1 yacht and 50 hikers were surveyed in the period August 10th – December 7th 2006. Table 1 shows the statistics for divers from the questionnaire surveys and Table 2 shows the statistics for hikers. It is important to note that park users were more or less randomly targeted.

Table 1: Location and Date of Divers' Surveyed

Dive Centres on the Island			Visiting boats	
Dive Statia	Golden Rock	Scubaqua	Caribbean Explorer	Polynesia
5 (Aug 18 th)	8 (Aug 11 th)	2 (Aug 8 th)	10 (Aug 10 th)	3 (Sept 9 th)
4 (Oct 18 th)	2 (Aug 17 th)	3 (Oct 18 th)	11 (Aug 15 th)	1 (Nov 28 th)
1 (Nov 3 rd)	5 (Nov 14 th)	2 (Nov 3 rd)	9 (Aug 23 rd)	
2 (Nov 14 th)	2 (Nov 23 rd)	8 (Dec 7 th)	3 (Nov 8 th)	
3 (Nov 14 th)	3 (Nov 28 th)			
2 (Nov 22 nd)	7 (Dec 5 th)			
4 (Nov 27 th)				

Table 2: Date of Hikers Surveyed

5 (Aug 16 th)
2 (Aug 18 th)
8 (Sept 12 th)
1 (Oct 3 rd)
5 (Oct 18 th)
1 (Oct 20 th)
19 (Oct 31 st)
2 (Nov 13 th)
3 (Nov 14 th)
2 (Nov 22 nd)
2 (Dec 5 th)

In the survey period, only one survey was received from a yachter on 11 August 2006, 20 yachters were given surveys in the period from August to November 2006, however only one returned the survey. Many yachters visiting the National Park Visitor Centre also promised to return with the completed survey but did not.

Descriptive Statistics

The tables below outline the typical characteristics of the survey respondents for both hiking and diving.

Table 3: Characteristics of Divers Surveyed

<i>Mean Individual Characteristics</i>	
Age (years)	44
Nationality- American	54%
Annual Household income	\$71,000
Concerned with environmental issues	92%
No of lifetime dives- 100+	59%
Certification- Advanced open water or above	61%
<i>Mean Trip Characteristics</i>	
Arrival by plane	63%
Length of trip (nights)	6
Primary purpose of trip was diving	81%

Table 3 profiles the divers, they are all experienced, the majority are certified to advanced open water or above and 59% have logged over 100 dives. Most divers (85%) purchased annual dive passes with the remainder purchasing single dive passes.

More than half of the divers questioned (54%) were American and the rest were of British, German, Swiss, Dutch, French and Canadian nationality. The divers varied in age from under 20 to over 60 but the majority of divers were in their 30s, 40s and 50s.

The respondents were generally high earners with an average income of about \$71,000. Over 92% are concerned about environmental issues.

The majority arrived by plane and the average stay was about 6 days, nearly everyone (81%) was visiting St Eustatius for the primary purpose of diving.

The majority of both divers and hikers are concerned about marine ecology, 97% divers and 82% of hikers.

Table 4: Characteristics of Hikers Surveyed

<i>Mean Individual Characteristics</i>	
Age (years)	27
Nationality- American/ Dutch	56%
Household income	\$52,000
Concerned with environmental issues	78%
<i>Mean Trip Characteristics</i>	
Arrival by boat	64%
Length of trip (nights)	4
Primary purpose of trip was hiking	24%

Table 4 shows the hikers are mainly of Dutch and American nationality, with just under a third (28%) of respondents belonging to each nationality. Hikers range in age across the spectrum from under 20 up to 60 years of age, but the majority are young with an average age of 27. Hikers have a lower average income than divers at around \$48,000 and 78% of hikers are concerned with environmental issues.

Most of the hikers arrived by boat, had an average stay of 4 days and only 24% visited St Eustatius for the primary purpose of hiking, with the majority 44% citing other reasons as their purpose of visiting St Eustatius.

Divers responses

The survey results show that a clear majority of divers surveyed (72%) are willing to pay more for their dive passes. (See Figure 1)

Figure 1: Percentage of Divers Willing to Pay More for a Dive Pass

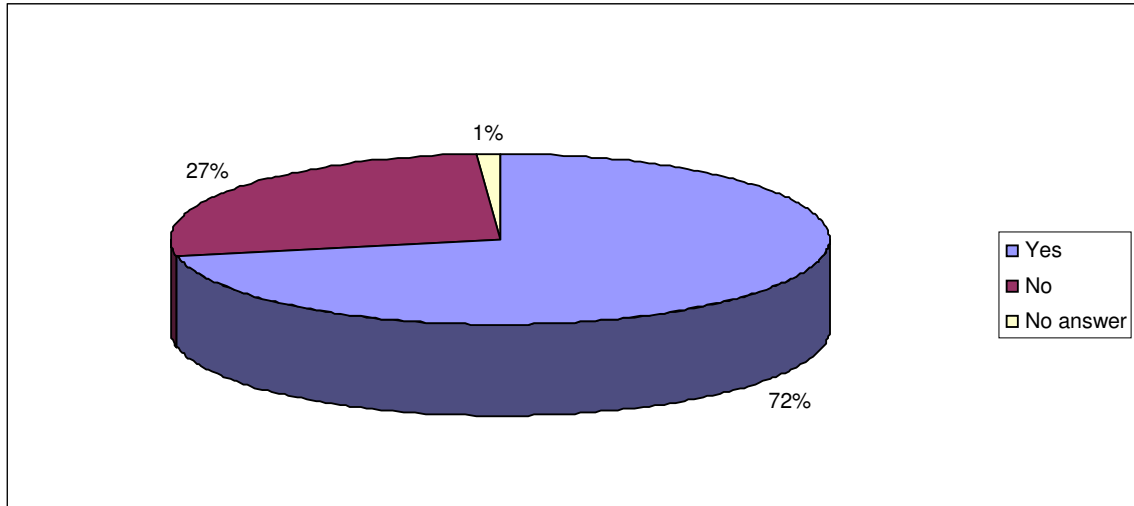
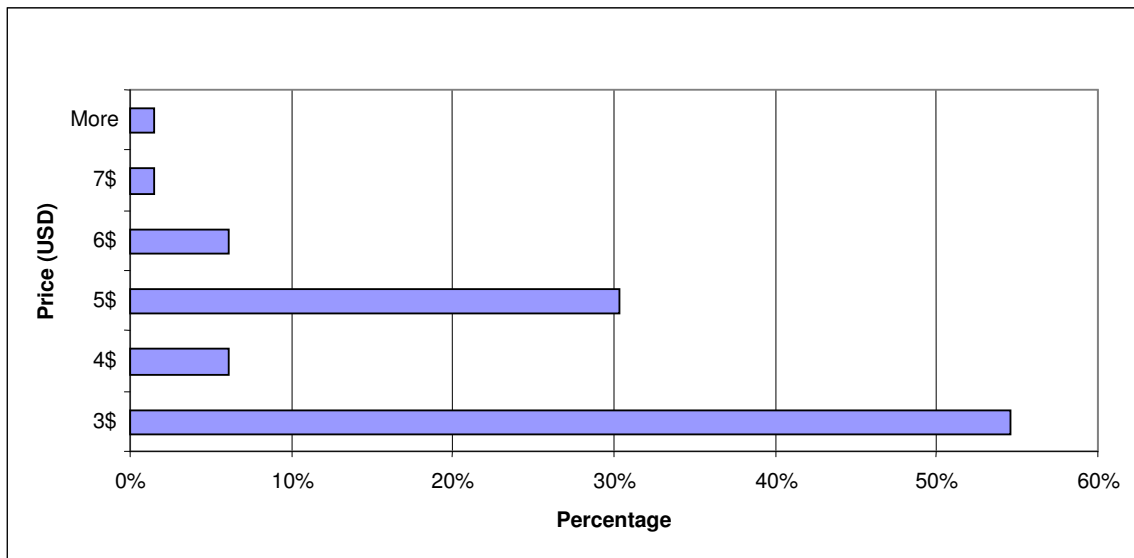


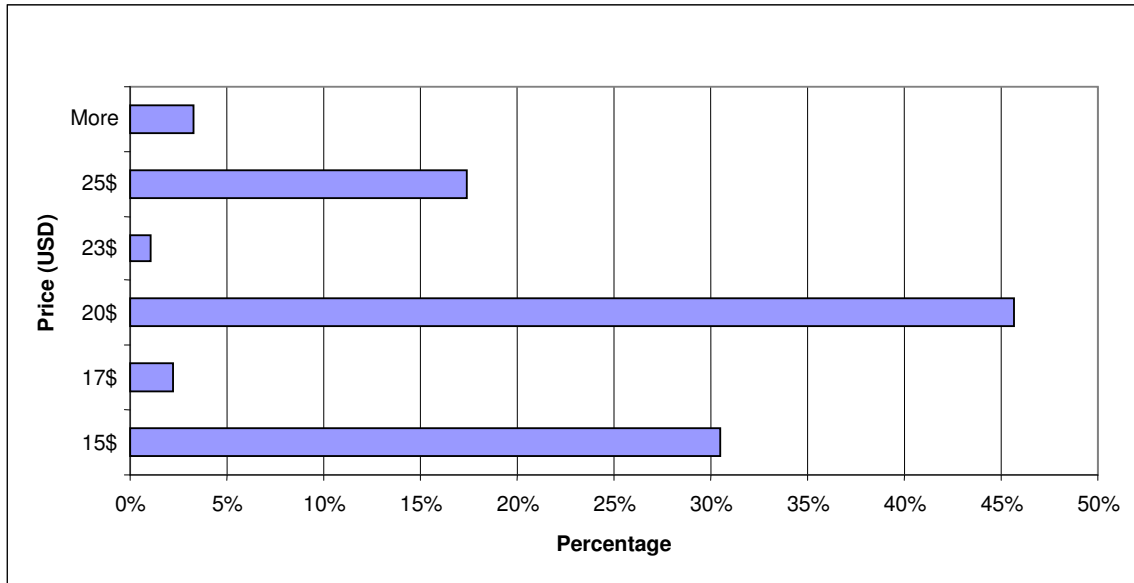
Figure 2 shows that most divers weren't willing to pay more for a single dive pass. This is made evident by the most popular (modal average) price that divers were willing to pay, which was \$3 for the single dive pass. However the mean average price that divers were willing to pay was \$4.

Figure 2: Price Divers are Willing to Pay for a Single Dive Pass



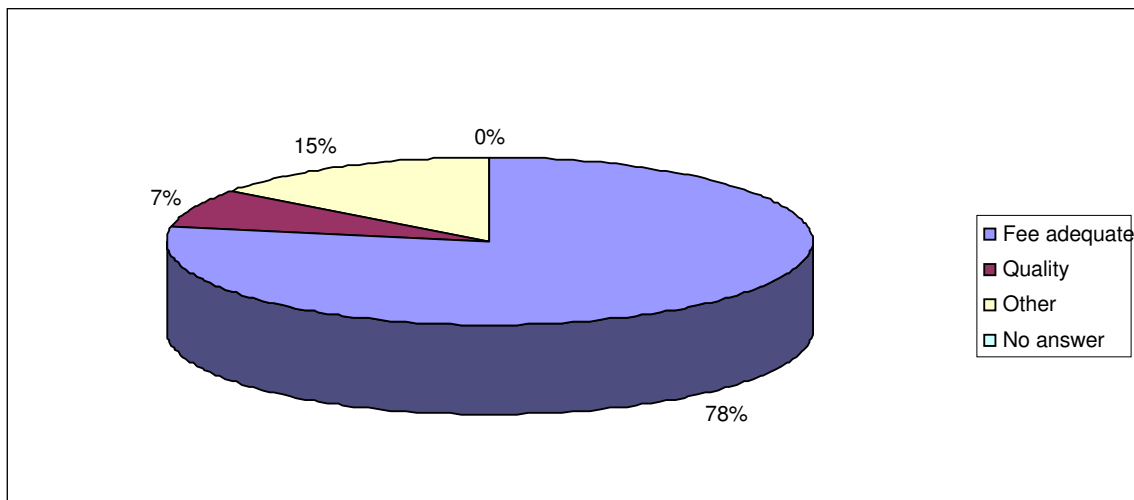
As Figure 3 shows, the most popular price that divers were willing to pay for an annual dive pass was \$20, just under half (46%) of divers choose this as the price they would be willing to pay and this was also the mean average price that divers were willing to pay. Significantly no one said they would want to pay a lower fee.

Figure 3: Price Divers are Willing to Pay for an Annual Dive Pass



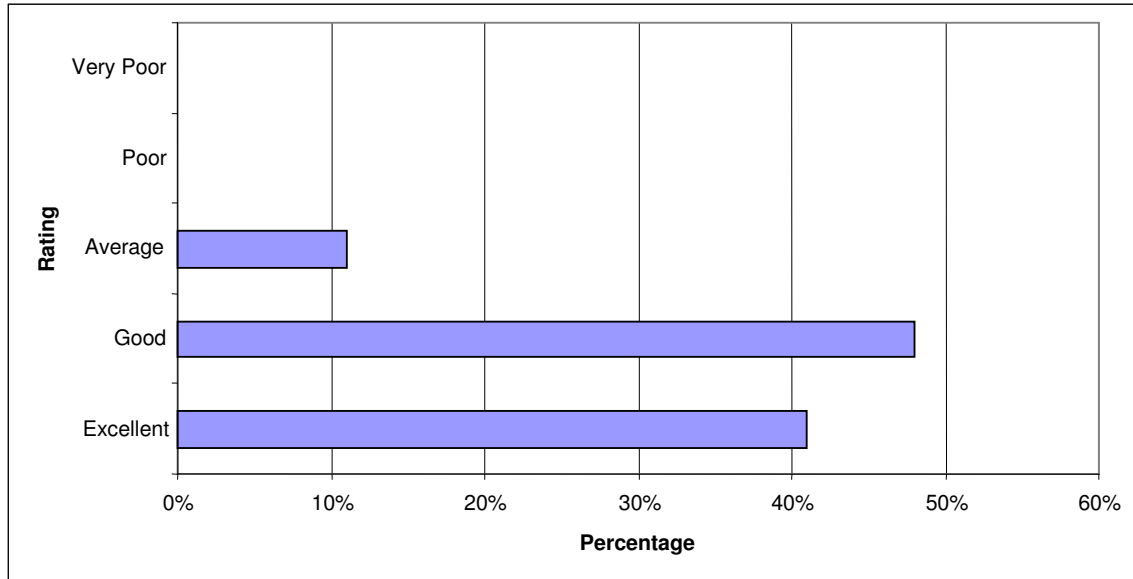
The 27% of divers who were not willing to pay more for their dives passes gave their main reason (78%) as the existing fee being adequate, as shown in Figure 4.

Figure 4: Why Divers Were Not Willing to Pay More for a Dive Pass



Nearly all the divers surveyed (89%) rated their diving experience on St Eustatius as either good or excellent as shown in Figure 5, and all the divers questioned rated their diving experience as at least average. As a result, 72% stated that they would be willing to pay more for their dive tags in order to help maintain the park and consequently the quality of their experience.

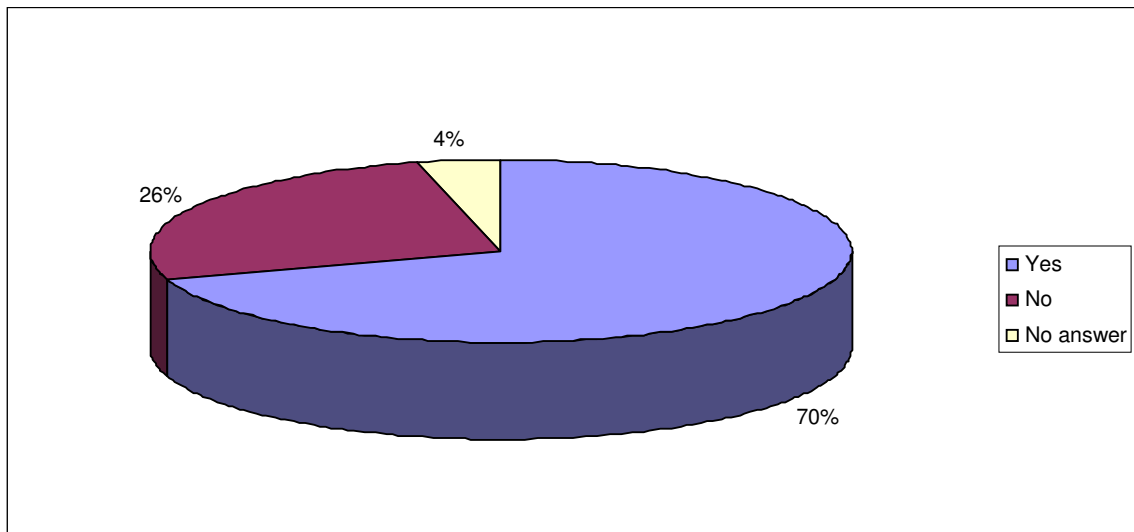
Figure 5: Divers Rating of Their Diving Experience



Hikers responses

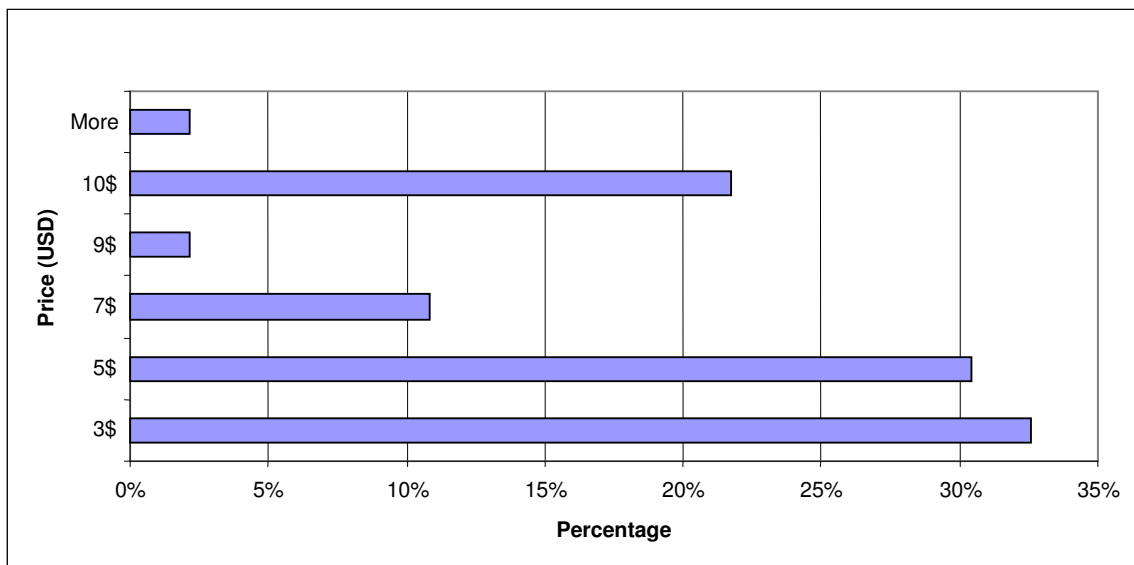
As Figure 6 shows, most of the hikers surveyed (70%) were willing to pay more for the hiking trail tags, 26% were not willing to pay higher than the current price and 4% did not respond to the question.

Figure 6: Percentage of Hikers Willing to Pay More for a Hiking Pass



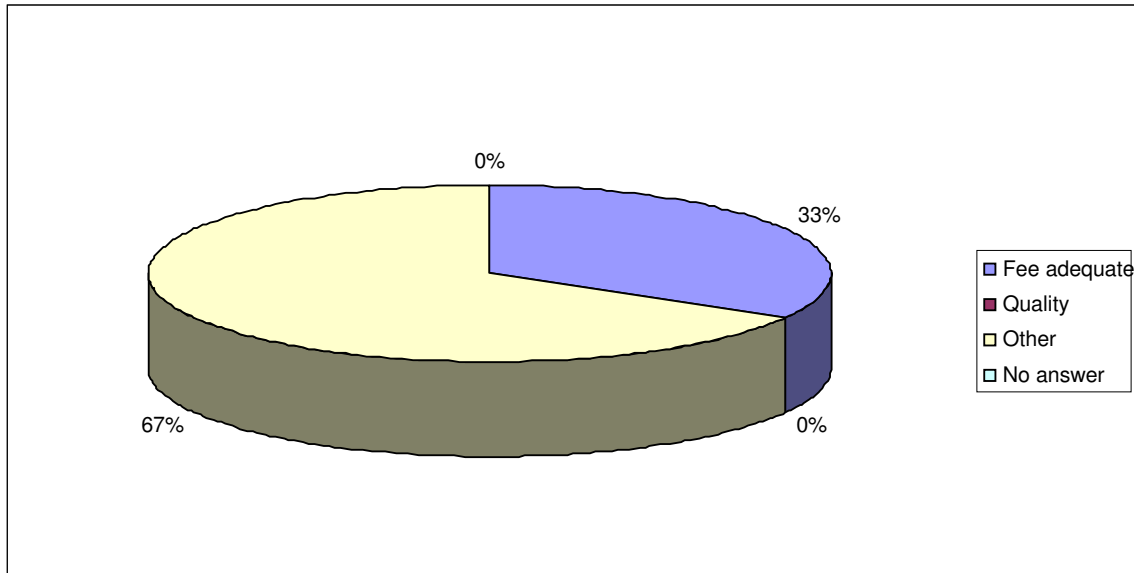
As Figure 7 shows, of the hikers that were willing to pay more for a hiking tag the most popular (modal average) price that hikers were willing to pay was \$5, 33% thought this option was the most appropriate. The mean average price that hikers were willing to pay for an annual trail tag was slightly higher at \$6.

Figure 7: Hikers Willing to Pay More for an Annual Hiking Pass



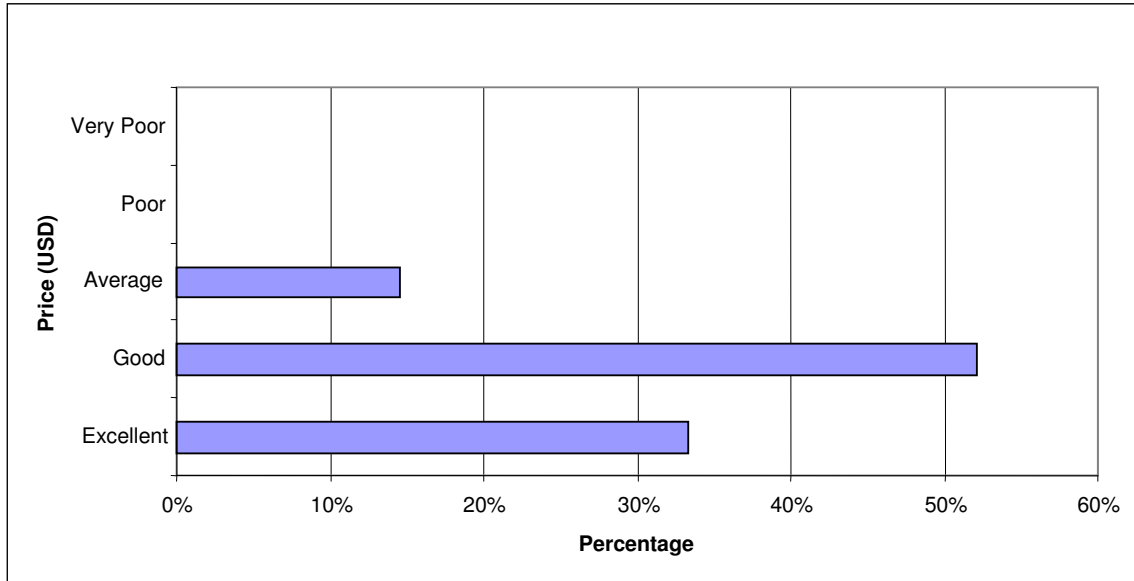
There were 26% of hikers who were not willing to pay more for an annual hiking tag and their reasons for this can be found in Figure 8 below. The majority stated ‘other reasons’ why they would not be willing to pay more for their hiking pass, but did not provide further explanation as to what these reasons were, and a third thought that the current fee was adequate and were therefore not willing to pay any more for their hiking tag.

Figure 8: Reasons Why Hikers Were Not Willing to Pay More for a Hiking Pass



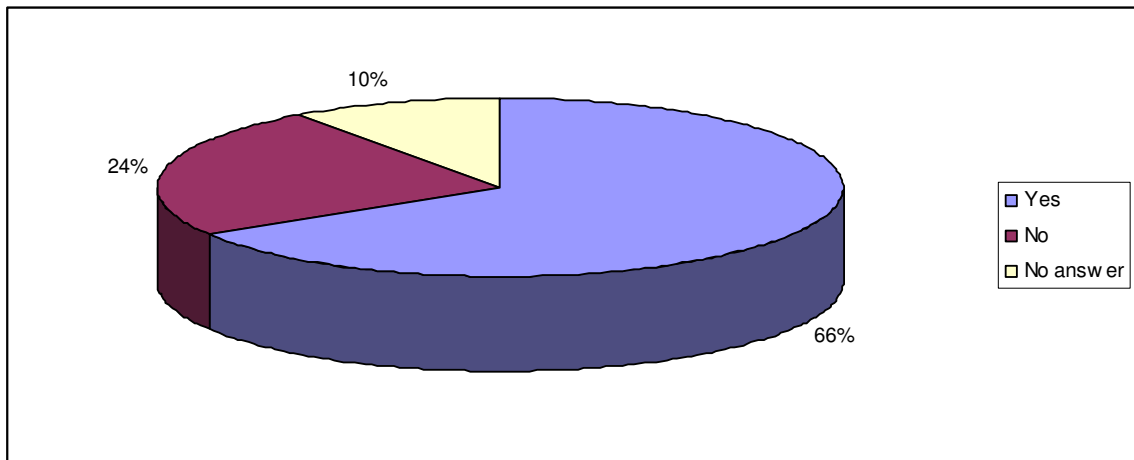
As shown in Figure 9, the hikers surveyed largely (82%) rated the hiking as good or excellent with the remaining 14% rating the hiking as average, no respondents thought that the hiking deserved a poor or very poor rating.

Figure 9: Hikers Rating of their Hiking Experience



Again, as Figure 10 shows, the majority (66%) thought that it was worth paying an increased park fee in order to maintain the park and the quality of their experience.

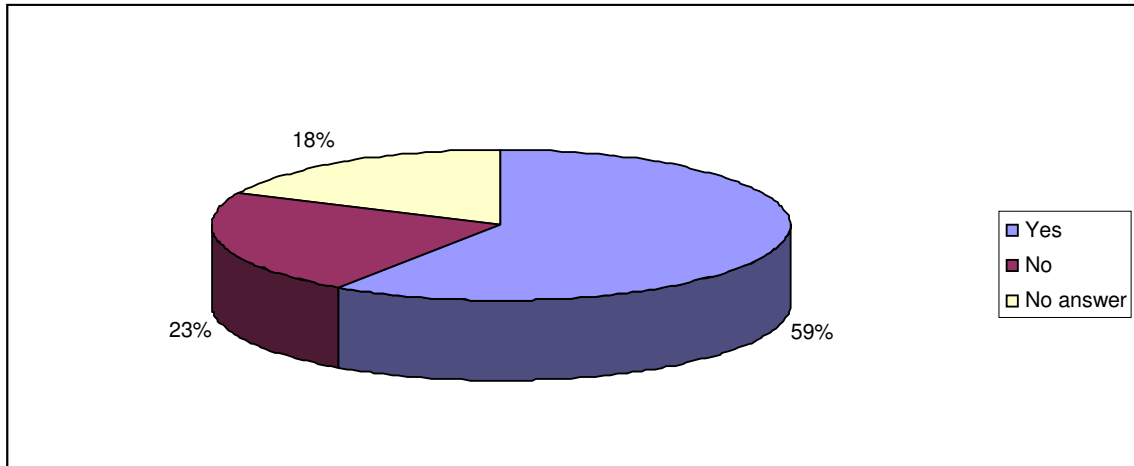
Figure 10: Willingness to Pay More for a Park Fee in Order to Maintain Quality of Experience



Multi-pass

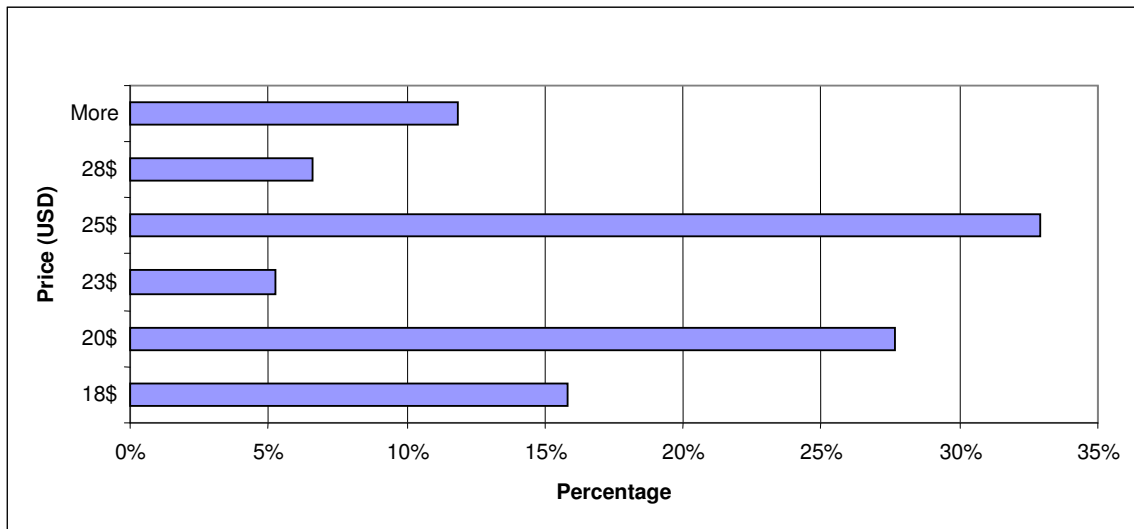
More than half (59%) of divers and hikers surveyed would be willing to pay for a multi-pass which would provide access to both the marine park and the national park as shown by Figure 11.

Figure 11: Percentage of Hikers and Divers Willing to Pay for a Multipass



As Figure 12 shows, the most popular price which divers and hikers selected as the amount they were willing to pay for a multi-pass was \$25 and the mean average price was \$23.

Figure 12: Price Divers and Hikers Were Willing to Pay for a Multi-pass



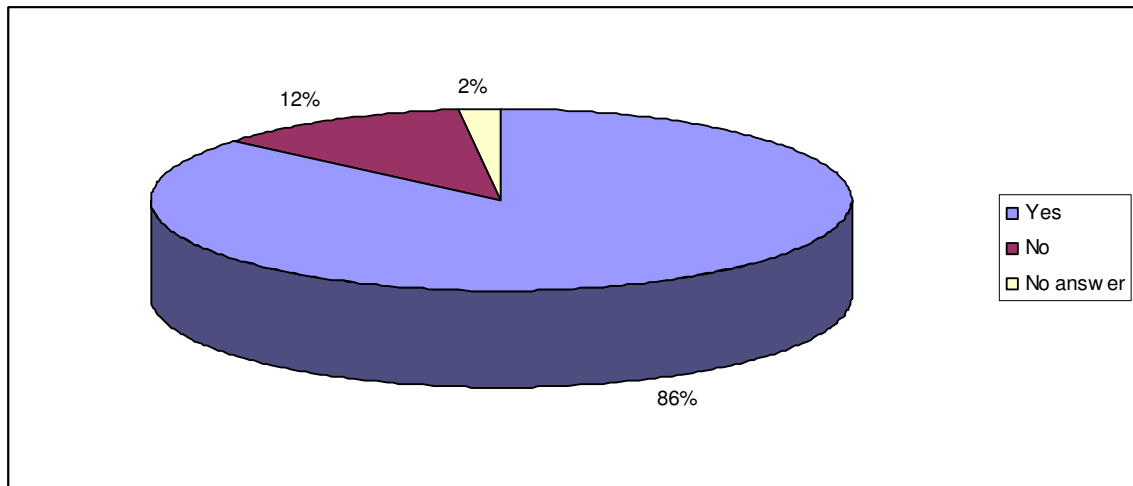
Awareness of the park fees

The questionnaire interviews indicated that confusion over the existence and price of park tags was common amongst both hikers and divers.

As Figure 13 shows, the majority (86%) did purchase hiking tags, however this may give a false impression as many hikers were approached whilst on the Quill trail and were first asked if they had purchased a trail tag before being given a questionnaire to complete.

It was also evident during the questionnaire interviews that divers were frequently unaware of the price that they had paid for both single and annual dive passes. Many of the divers asked the interviewer to indicate what the current price was, in order to be able to complete the questionnaire. The divers in these instances had purchased the dive passes as part of a diving package from one of the dive centres on the island and were therefore sometimes unaware of the proportion of the price that they had paid which constituted the marine park fee.

Figure 13: Hikers Who Purchased an Annual Trail Tag



Discussion and Recommendations:

Level of fees

The results from this survey show that there is clear evidence that a high proportion of visitors to St Eustatius purchasing dive and hiking passes are willing to pay more for their experience. When asked to state whether they were willing to pay more for their diving and hiking passes, 72% of divers and 70% of hikers answered with a yes. In addition when divers and hikers were asked to select the amount they were willing to pay 62% of hikers and 64% of divers (when asked about the annual diving pass) gave an amount higher than the current fee.

A large number of the tourists who were surveyed (86%) indicated that they were concerned about environmental issues and an even higher number (91%) expressed concern about the marine ecology of St Eustatius. The fact that such a high proportion of divers and hikers are willing to pay more for their diving and hiking passes is probably largely due to this high level of environmental awareness amongst visitors. The tourists visiting St Eustatius value the environment and are therefore willing to pay more in order to conserve it.

The survey showed that almost all divers (89%) and hikers (82%) thought that their experience was either excellent or good in terms of environmental quality and everyone surveyed rated it as at least average. The high ratings given for the quality of experience both diving and hiking shows that people feel STENAPA is accomplishing its objective of protecting natural resources. The fact that 75% of divers and 73% of hikers were willing to pay more in order to maintain the quality of their experience also confirms this and shows that they are willing to pay more in order to sustain STENAPA's role in nature management and conservation.

It is important to highlight that fact that no one stated on the survey itself that they thought the fees should be decreased. However during the discussions that arose as the interviews took place, a few divers made comments which suggested that they thought the fee should be eliminated.

The suggested new fees are also in line with the fees already charged by other Caribbean national and marine parks. For example Bonaire charges \$25 and St Lucia charges \$20 per diver for annual dive passes.

Unfortunately, only one result was available for a visitor from the yachting sector. This sample size is insufficient for analysis or discussion purposes. The general response from yachters about yacht fees in 2006 has been largely negative due to the significant increase in harbour fee at the beginning of the year, and it is not felt that there should be any change to yacht fee at this time.

As a result, the findings show that fees should be increased for diving and hiking park users in St Eustatius. The recommended figures are shown in Table 5.

Table 5: Proposed Diving and Hiking User Fees

Protected area	Fee type	Fee amount	
		Existing	Proposed
St Eustatius Marine Park	Dive- Single	\$3	\$4
	Dive- Annual	\$15	\$20
	Yacht- Nightly	\$10	\$10
	Yacht- Weekly	\$30	\$30
Quill/Boven National Park	Hiking- Annual	\$3	\$6
Combined Park fee	Multi pass (Diving/Hiking)	-	\$25

Enforcement Issues

STENAPA currently operates a dual collection system whereby it collects park fees both directly from the user and indirectly via other parties, depending on the type of pass. Dive fees are collected via dive centres, yacht fees are collected by a ranger visiting each yacht and hiking fees are either collected at the park visitor centre or via another party such as taxi drivers, hotels and tourism office.

The key factors to consider for an effective fee collection system are cost-effectiveness and simplicity. Currently the system for collecting yacht fees is not cost

effective. As a ranger is required to visit each yacht, it is labour intensive, requiring an average of 20-30 minutes of ranger time for each yacht visited. It is also expensive as it uses a high volume of fuel for dinghy operation. A much better method of collecting the fees, which would maximise revenue generation, would be if the harbour office was able to instruct yachters to go to the visitor centre and purchase their passes there.

STENAPA continues to have difficulty with collecting trail fees from hikers going directly to trails from the airport. It is suggested that closer contact take place with the Tourism Office and taxis to ensure that trail tags are sold to all hikers and thus increase revenue collection.

It is also important, regardless of how the fee is collected, that visitors are provided with sufficient information about the fee, such that they can feel informed, both about the nature of the park fee and about its purpose.

The WTP study identified a problem with visiting divers' awareness of park fees. Divers are not well informed about the existence and price of dive passes, for example they frequently did not know the current price of a dive pass. It is important to ensure that STENAPA addresses this problem, by taking steps to raise visitors' awareness about the dive passes, both the fact that they exist and the level of fee. Current signage containing information about park passes that is going to be displayed at the airport, office and trail head should help. However additional signage at diver centres, hotels and brochures is probably needed to fully address the problem, and ensure that divers are aware that they are paying a fee to the national park and know how much they have paid.

Fee collection also provides an opportunity to monitor visitors. For example at Bonaire National Marine Park, visitors are asked to fill out a receipt, which records certain details, in this case, name, date of purchase, country of origin, and which tour operator they are using. This information can be used to track trends which may provide management with information which may be useful for planning considerations. STENAPA currently collects information about divers (nationality, number of dives, dive operator used) and no information about hikers.

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Appendix 1 Survey instrument

Economic Tourism Survey

Our National and Marine Park are managed by a non-governmental organisation that is mostly self-funding. In order to maintain and increase our national and marine park conservation operations, we are assessing tourists’ willingness to pay for increased fees, which are allocated towards operating costs, marine/national park maintenance, and conservation projects. The current single/annual fees (U.S. Dollars) are \$3/15 for diving in the Marine Park, \$10/night/30week environmental fee for yachts and \$3 for an annual hiking fee in the National Park.

Please take time to read this questionnaire carefully and answer all questions accordingly. If at any time you feel these questions are unacceptable please feel free to disregard the question/survey if you deem it appropriate and let the surveyor know. In addition, please make sure that all questions have been answered properly (circle/ check one answer when applicable).

Section 1:

Nationality:

Age:

Level of annual Income (U.S.Dollars):

< 25,000	26,000 – 50,000	51,000 – 75,000	76,000 – 99,000	100,000 +
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Do you consider yourself to be concerned about environmental issues? Yes No

Section 2:

1. How did you arrive to St. Eustatius? A.) Boat B.) Plane
2. How many nights are you staying in St. Eustatius?
3. What is your purpose for visiting St. Eustatius?
 A. Diving/Snorkeling B. Hiking C. Yachting D. All E. Other (state) _____
- 3A. (If Diving) Did you purchase a **single** or **annual pass**? (circle one)
 - i. Certification Level/Number of Dives:
- 3B. (If Hiking) Did you purchase an **annual pass (trail tag)**? Yes No
- 3C. (If Yachting) Did you pay an **overnight environmental fee**? Yes No
 or a **weekly environmental fee**? Yes No
- 3D. If you answered ‘no’ to any questions above and you **did** visit either the National or Marine Park, please state the reason why you did not pay the fee?

Section 3:

4. Are you concerned with the terrestrial/marine ecology of St. Eustatius? Yes No

5. Are you willing to pay more for a single/annual pass in order to sustain the efforts and objectives of STENAPA? **Yes (Go to 5A)** **No(Go to 5B)**

5A.) [If you answered yes to #5] Please check the amount in each section you are willing to pay? (U.S. Dollars)

Current fee						
Dive – single	\$3	\$4	\$5	\$6	\$7	Suggested \$
Dive – annual	\$15	\$17	\$20	\$23	\$25	Suggested \$
Hiking – annual	\$3	\$5	\$7	\$9	\$10	Suggested \$
Yacht – nightly	\$10	\$12	\$15	\$17	\$20	Suggested \$
Yacht-Weekly	\$30	\$35	\$40	\$45	\$50	Suggested \$

5B.) [If you answered no to #5] What is the reason you are not willing to pay a higher fee?

- A.) Established fee listed in the introduction is adequate
- B.) Quality of diving/trails/mooring
- C.) Other reason(s)

6. How would you rate your diving/snorkeling experience in terms of marine environment quality: 5-Excellent, 4-Good, 3-Average, 2-Poor, 1-Very Poor, 0-Did not dive/snorkel

7. Based on answer to question 6, would you be willing to pay more for a park fee in order to help maintain St. Eustatius Marine Parks if the quality of the experience was (your answer from #6)
 Yes No

8. How would you rate your hiking experience in terms of terrestrial environment quality: 5-Excellent, 4-Good, 3-Average, 2-Poor, 1-Very Poor, 0-Did not hike

9. Based on answer to question 8, would you be willing to pay more for a park fee in order to help maintain St. Eustatius National Parks if the quality of the experience was (your answer from #8)
 Yes No

10. Would you be willing to pay for a multi-pass which would provide access to both the national and marine park?

If yes, then please check the amount you are willing to pay.

Current fee					
\$18	\$20	\$23	\$25	\$28	Suggested \$

If no, please explain why you would not be interested in this option?

Thank you