

The benefits of the Festival of Nature: An evaluation of the impact of the festival

July 2011

Introduction

This evaluation is a study of the benefits of the Festival of Nature (FoN). In contrast to an economic impact study which mainly focuses on the money spent by festival organisers and goers, this evaluation also attempts to capture the value of FoN to the different stakeholders, including festival goers and the partnership. Many of the benefits are intangible and potentially hard to value but the study used standard survey-based techniques to elicit a range of information including monetary valuations and social benefits.

Estimation of attendance at the festival

Our approach to estimate attendance is detailed in Appendix 1. From the data collected we estimate the attendance at the festival to around 13,155 people. Details are provided in Table 1. The approximate 95% confidence interval for the total number of attendees is between 13,042 and 13,268.

Table 1: Estimation of attendance at the Festival

UoB Tent	Proportion of people exiting that stated they visited UoB tent (P)	Hard Count UoB Tent(X)	Estimate (X/P)
Day 1	0.457	2172	4753
Day 2	0.368	3092	8402
Total			13155

Views of the festival-goers

An exit survey of festival-goers was used to find out how they heard about the festival, where they came from, what they thought about the festival, as well as how much they typically spent. The survey was carried out by volunteers organised by the University of Bristol's Department of Management and was conducted over the two days of the festival. The survey was targeted at Visitors. Details of the survey is provided in Appendix 2

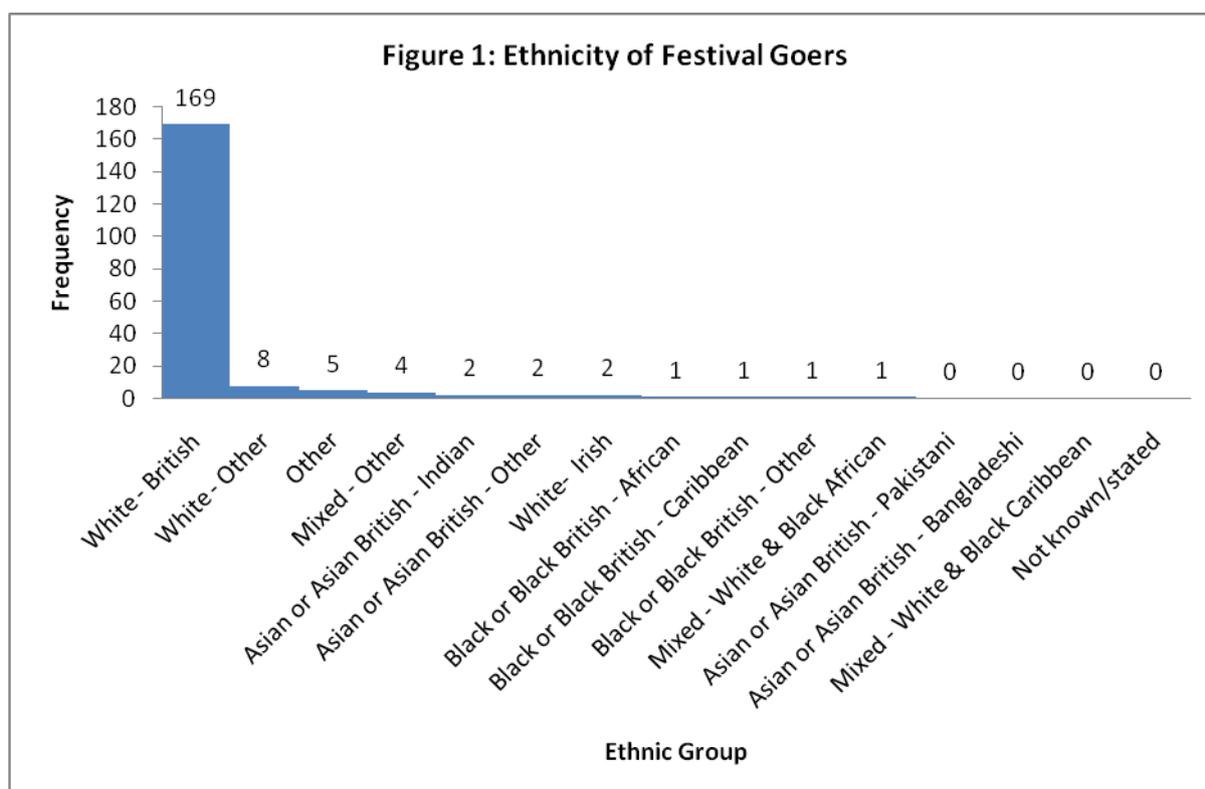
Overall, there were 242 responses, of these 42.7% had attended the festival previously.

Background of the respondents

55% of the respondents to the potential visitor survey were female, 44.4% male (0.6% chose not to say). 4.7% were aged 16-24, 27.3% were 25-34, 35.3% were 35-44, 14% were between the ages of 44-54, 12% were 55-64, and 6.7% were 65+. This age profile may reflect the tendency for families as a whole to attend. In terms of ethnicity 2.6% of respondents were Asian, 1.8% were Black African or Black Caribbean, and 13% were mixed race (see Figure 1). We assume that the profile of the survey respondents is fairly representative, at least in terms of their observable characteristics.

Table 2: Age profile of visitors

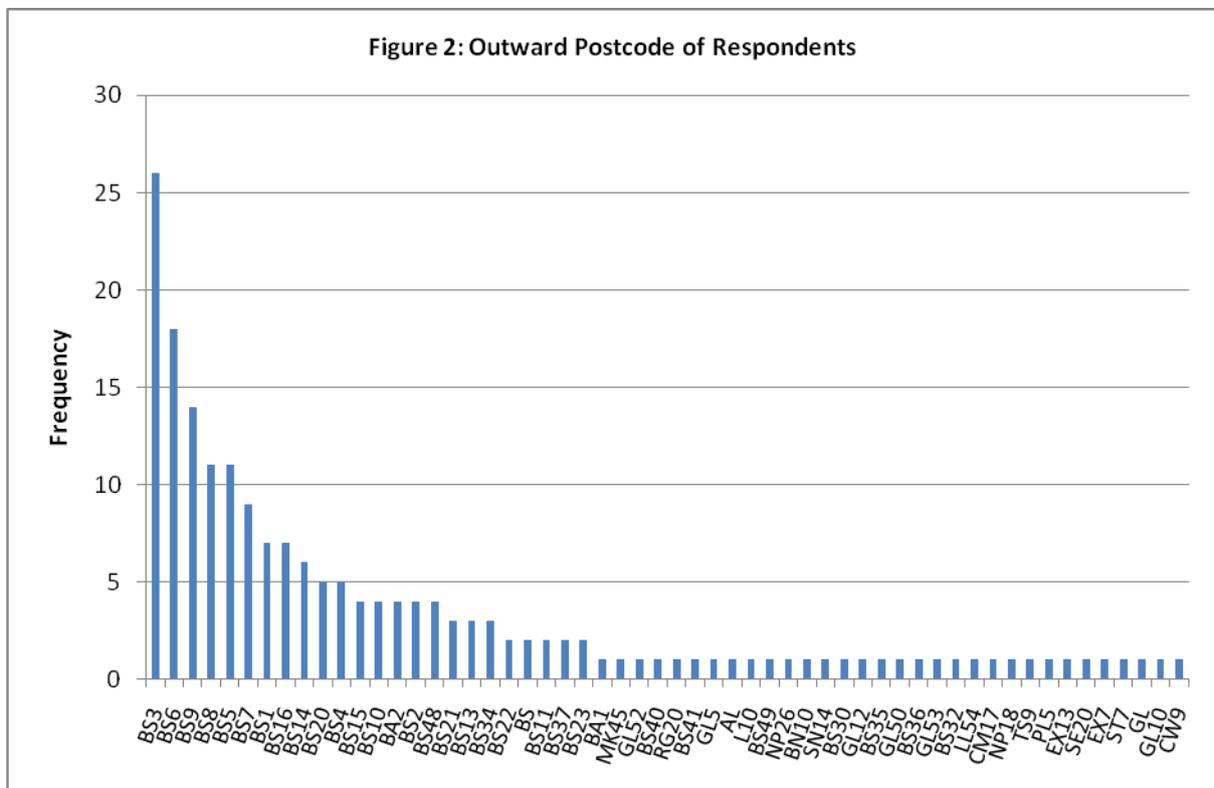
Age Group	Proportion of sample	Proportion of Bristol Population (16+)
16-24	4.7%	21%
25-34	27.3%	22%
35-44	35.3%	17%
45-54	14.0%	13%
55-64	12.0%	11%
65+	6.5%	16%

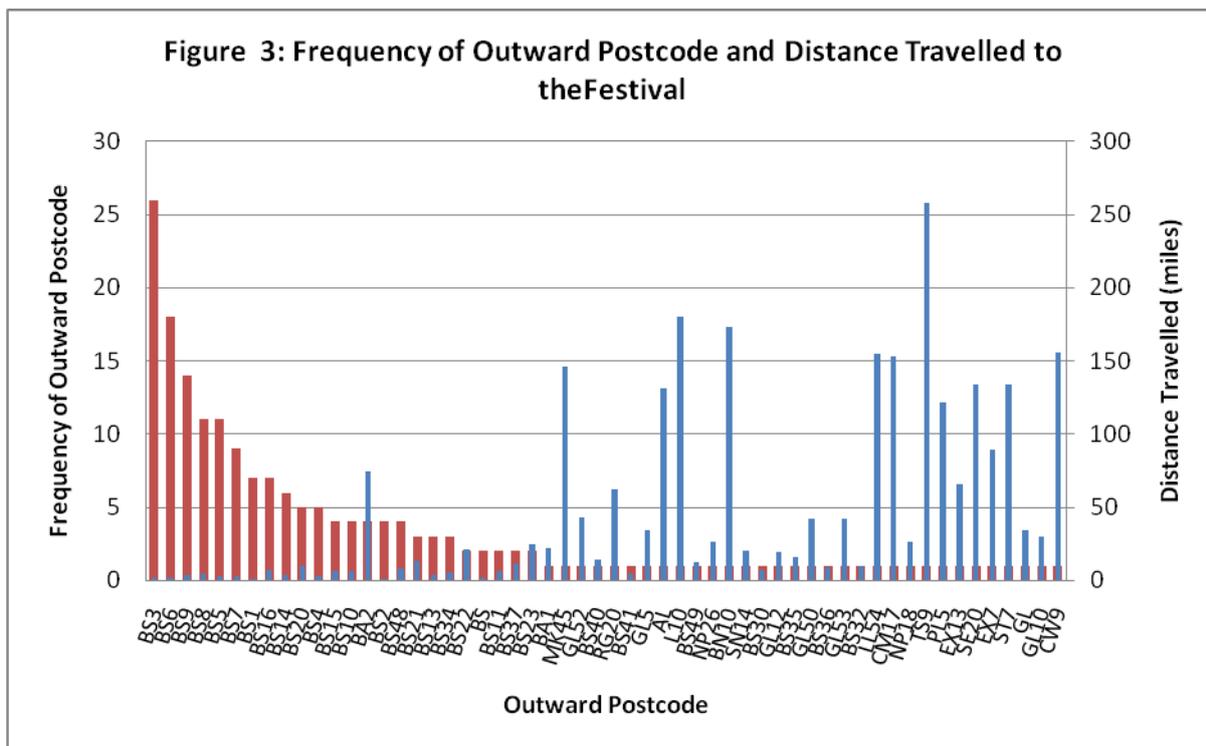


It was observed that there was only one case, out of the 242 surveys, in which the children who attended the schools day had returned. This could be a strong indication that families with children who had attended the schools day were reluctant to visit the festival. This may suggest that parents in general see the festival as something that is more important to their children than to themselves.

84% of the festival goers were from the Bristol area (indicated by the BS postcode). Of these 16% of the respondents were from BS3 (Southville/Bedminster) and 11% were from BS6 (Bishopston) (See Figure 2 below) .

The Figure 3 below shows the distance travelled by festival goers superimposed on the frequency of the outward postcode in the surveys. It is clear that the majority of people came from outward postcodes located within Bristol. The further people had to travel, it seems, the less likely they were to attend the festival. However, one anomaly is the BA2 postcode which indicates that the festival attracted many people from Bath, the next major city closest to Bristol. Perhaps the propensity for people from Bath to visit the festival could be exploited through a stronger marketing campaign in that city. It is important to note that there is some potential bias in these findings, as some outward postcodes will contain more inhabitants than others.





Which parts of the festival people visited?

The most visited site at the festival was the BBC Natural History Unit (62.4%) followed by the UoB tent (Millennium Square tent), the Bee tent and the Bristol Zoo tent. 29.3% of the respondents visited the Green Forum on Anchor Square (See Table 3)

Table 3: Areas people visited

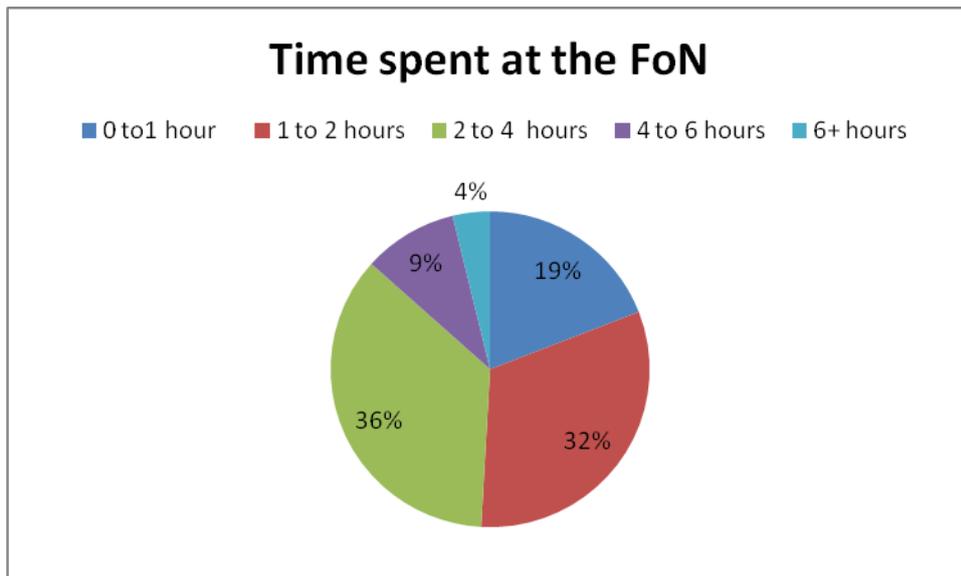
Exhibits and Provisions	% Visit
<i>Amphitheatre</i>	
Bee tent	52.2
Garden tent	45.2
Wild about Trees	45.9
Wildlife Garden	44.6
<i>Millennium Square</i>	
Avon Wildlife Trust	47.1
BBC Natural History Unit	62.4
Bristol Zoo Gardens	52.2
Clifton College	33.1
Natural England	36.3
RSPB	39.5
University of Bristol	56.7
University of the West of England	39.5
Wildfowl and Wetlands Trust	43.9
<i>Anchor Square</i>	
Green forum	29.3
<i>Market Area</i>	
Food	63.1
Bar	37.6
Provision	36.3
Green Market	43.9

Time spent at the festival

From Table 4, it can be seen that 86.6% of the respondents spent up to 4 hours at the festival. On average they spent 2.37 hours.

Table 4: Time spent at the festival

Time spent at the festival	Frequency
0 to 1 hour	19.1
1 to 2 hours	31.8
2 to 4 hours	35.7
4 to 6 hours	9.6
6+ hours	3.8
Average time spent	2.37 Hours



Reasons why visited Festival

The survey was also used to get an estimate of how much festival goers value FoN. Table 5 summarizes the responses people gave for why they go to the festival. The main reasons focus on the view that it is something to take the whole family to and enjoyment that people get from the festival (i.e, fun and to a degree atmosphere), also the sense that festival focuses on nature and conservation issues.

Table 5: Reasons why people visited the festival

	Not important	Important	Somewhat important	Very important	Don't Know
Because it is in the city I live in	17.2	30.6	19.1	31.2	1.3
The atmosphere	3.2	43.3	21.0	29.9	2.5
The sense of nature/ conservation issues	3.8	29.9	19.1	45.9	1.3
The educational programmes	13.4	27.4	21.7	35.7	1.9
The range of exhibits	1.3	29.9	26.8	35.5	2.5
It is a lot of fun	1.9	32.5	20.4	44.6	0.6
It is something to take the whole family to	10.8	20.4	10.2	55.4	3.2
Shopping	52.2	17.8	15.9	10.2	3.8

What people got from the festival?

Table 6 details the findings of the response to question on what they got from visiting the festival. Respondents were also asked if they would be disappointed if FoN was discontinued, over 91% of the sample either strongly agreed or agreed with this statement, and 98% of the respondents agreed with the statement that they thought the festival was an enjoyable way to learn about green issues.

Table 6: What visitors got from the festival	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I think that the Festival is an enjoyable way to learn about conservation/sustainability issues?	46.5	51.0	1.3	0.6	0.6
I feel I've learned a great deal from the Festival?	16.6	51.6	26.1	5.1	0.6
Before I came to the Festival, I did not know much about conservation/nature celebration/green issues or sustainability	11.9	13.4	27.4	40.1	17.2
I would be disappointed if the Festival of nature was discontinued next year	58.6	33.1	6.4	1.3	0.6
The Festival has changed the way I feel about conservation/nature celebration/green issues or sustainability	4.5	25.5	45.2	27.4	1.9

The survey also asked whether at the Festival, they take part in any discussions or debates, 22.3% said that they did. 66.2% said they would be prompted to discuss the issues raised at the festival outside the Festival. 96.2% said they would you come again next year. 63.7% stated that the festival was very good (see Table 7).

Table 7	Very Good	Quite Good	Neutral	Quite Bad	Very Bad
How would you rate the Festival?	63.7%	34.4	1.9	0	0

The survey also picked up qualitative impressions of the festival from the festival goers and suggestions for how the festival could be improved. Generally, it was viewed that the FoN had something for everyone and was enjoyed by young, old and all age groups in between and there were some aspects that were enjoyed more

than others. In particular, the Bristol zoo tent and the BBC tent, were praised most often by the festival attendees. Particularly it was their “interesting” and “interactive” nature that captured the attention of the children, and the endearment of the parents, at festival. To a lesser degree, the Bee tent and the University of Bristol tent were also enjoyed, for similar reasons. The “delicious” and “wide variety” of food was also complimented by many, although a few mentioned that it was “expensive”. There were also positive comments about the weather (on the Sunday), the location, and the staff and the general atmosphere at the festival. In fact the vast majority of respondents stated that there was “nothing” they didn’t enjoy, or enjoyed least, at the festival. However, a few issues were raised by the minority including concerns about the difficult and expensive parking, queues for the cash point, crowds, and tents containing uninteresting mediums of information transfer (e.g. posters with lots of words). There were many recommendations by attendees as to how the festival could be improved, some of these are listed here:

- More promotion before the event
- More visible programme of events
- Talks tent could be better advertised
- More talks
- Hold the festival more often
- Wildlife presenters
- Steve Backshaw all the time
- Maps and signposts
- Child-free section
- More free stuff
- More interactive activities
- Playground
- Free bus service
- No screen in millennium square
- More music
- More animals
- Longer duration
- More regional activities other than in city centre
- More open air exhibitions
- Cooler tents
- More seating
- Have some baby changing facilities
- Having more for the adults
- More student run tents

Broader Impact of the festival on the festival goers

Although there has been some research into the economic impact of events such as festivals where some studies have developed frameworks for measuring more intangible effects, there has been little published discussion of methods for measuring the intangible social constructs such as civic pride, quality of life and social belonging related to events. These were therefore incorporated into the study (see Table 8).

Table 8: Social Impact of the Festival	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1. Community Benefits					
The festival enhances the image of the City and the organisations involved.	50.3	47.1	1.9	0	0.6
The festival contributes to a sense of community well-being.	45.2	48.4	5.1	0.6	0.6
Having the festival helps to improve the quality of life in my community.	33.1	36.9	22.9	6.4	0.6
The festival contributes to my personal well-being.	21.7	45.2	24.8	7.6	0.6
I feel a personal sense of pride and recognition through participating in the festival.	15.3	41.4	36.3	5.1	1.9
The festival allows for the sharing of ideas among community groups.	28.7	59.9	8.9	1.3	1.3
Organisations work together to achieve common goals through the festival	29.9	54.8	14.0	1.3	0
2. Cultural/Educational benefits					
Children who participate in the festival have the opportunity to learn new things.	61.8	34.4	3.2	0.6	0
The festival provides opportunities for local residents to experience new activities.	22.9	65.0	10.8	0.6	0.6
Local residents who participate in the festival have the opportunity to learn new things.	24.8	67.5	7.0	0.0	0.6
The festival acts as a showcase for new ideas.	31.2	59.9	7.0	1.3	0.6
The festival provides my children with an opportunity to discover and develop new skills and talents	40.8	36.3	20.4	1.3	1.3
I enjoy meeting festival workers	30.6	49.7	17.8	1.3	0.6
Friendships are strengthened through participation in the festival.	16.6	41.4	37.6	3.2	1.3
The festival leaves an ongoing positive cultural impact in my community.	26.1	52.9	19.7	0.6	0.6
3. Quality of life concerns					
The festival is an intrusion into the lives of community residents.	1.3	6.4	10.2	42.7	39.5
Environmental damage is increased to unacceptable levels during the festival.	1.3	2.5	11.5	52.9	31.2
In general, there is a decreased sense of public involvement in the festival.	2.5	9.6	36.3	35.7	15.9

The festival goers in the main felt that the festival provided some community benefits particularly around improving the image of the city and supporting community well-being. There was an overwhelming support for the festival in supporting children's

education and learning. Very few people felt that the festival caused concern for their own quality of life or the community.

Cost-benefit analysis

Economic benefits have been the subject of much discussion and a variety of measurement frameworks have been devised. For comparison, the direct cost of staging the festival was £ **53,384.61**¹. There are a number of groups that may derive benefits from FoN – including festival-goers, local residents, volunteers and exhibitors. The evaluation did not attempt to provide estimates of the value of FoN to volunteers or exhibitors, primarily for practical reasons (including the time constraints on the study and the lack of easily-available data). For both volunteers and exhibitors, there is a cost of being involved (the value of the time that they give up). But, since the decision to participate is voluntary, it seems likely that the festival generates net positive benefits to both groups, in addition to the estimated benefits to festival-goers presented here.

When estimating impact to local businesses it is important to consider that the FoN benefits local businesses to the extent that festival goers spend money while they are at the festival. However, in the case of local visitors from Bristol, this spending is likely to be displaced from other businesses within the city (i.e. if the money was not spent at FoN, it is likely that it would have been spent elsewhere in Bristol). Strictly, only spending by visitors from outside Bristol would count as a net benefit to the local economy.

The respondents were also asked how much they spent per day at the FoN, focusing on three different categories – food, bar and miscellaneous – in each case choosing from a set of banded amounts. The responses are summarized in Table 9.

At the event, 82.8 per cent of attendees spent less than £10 per person on food, 96.2% spent less than £10 per person on drink, and 90.4% spent less than £10 per person on miscellaneous items. However, the majority of the expenditure was on food and drink which will have had a positive impact on traders and temporary businesses providing these services.

Table 9: Details of expenditure of visitors

Expenditure	Food %	Drinks %	Misc %
Nothing.	29.9	51	69.4
£1 - £5	26.8	33.1	15.9
£6 -£10	26.1	12.1	5.1
£11 – £20	10.8	1.9	7.6
£20 - £30	5.7	1.9	1.3
£30 - £40	0	0	0.6
£40 - £50	0	0	0
Above £50	0.6	0	0
Average Spend	£6.26	£2.72	£2.56

¹ This figure was provided by the BNHC

We show estimated mean spending levels for each expenditure type. These are based on the midpoints for each band and a fairly conservative value of £53 for those who anticipate spending £50 or more. Average total spending per day by visitors is £11.54. On the basis of these responses we estimate the following benefits:

(a) Value of total spending by festival-goers

This is equal to total average spending on the three categories by all respondents, i.e. £11.54, multiplied by our estimate of total number of visitors which is 13,155.

Total spending by festival goers = £11.54×13,155 = £151,809

To take account of secondary benefits from spending (i.e. the fact that the local businesses will themselves spend some of this money in the local economy and benefit other businesses) we apply a spending multiplier. Taking a conservative estimate of 1.26 from a range from previous studies, the total value of the spending by festival-goers to the local economy is therefore equal to £151,809×1.26 = £191,279.

We also asked the respondents to estimate how much they would spend on a normal Saturday/Sunday in Bristol. The mean spend per person was £10.03. Thus, on average, those people attending the festival spent £1.51 more than they would have spent on a normal Saturday/Sunday in Bristol.

(b) Value to the city

24.1 per cent of respondents came from outside a 8 mile radius to the event. This information was used to calculate the difference in expenditure for those people who would not normally have come to spend in Bristol if not attending the event. This could possibly be a gain in revenue to the city and needs to be taken into account to gain an accurate description of the economic impact of the event.

Table 10: Expenditure of visitors by distance travelled

Expenditure	Within 8 miles			Outside 8 miles		
	<i>Food</i>	<i>Drinks</i>	<i>Misc</i>	<i>Food</i>	<i>Drinks</i>	<i>Misc</i>
Nothing.	30.7	50.5	70.3	28.1	40.6	59.4
£1 - £5	26.6	33.7	17.8	28.1	46.9	15.6
£6 -£10	23.8	12.9	4	34.4	6.3	9.4
£11 – £20	13.9	1	5.9	6.3	6.3	15.6
£20 - £30	5	2	2	3.1	0	0
£30 - £40	0	0	0	0	0	0
£40 - £50	0	0	0	0	0	0
Above £50	0	0	0	0	0	0
Average Spend	£6.04	£2.69	£2.24	£5.13	£2.87	£3.56

The mean expenditure per person of festival goers from inside a 8 mile radius was £10.97. Their normal expenditure for Saturday or Sunday per person was £9.42. On average they spent £1.55 more than they would have spent on a normal Saturday/Sunday. For those outside the 8 mile radius, they spent on average £11.73 per person at the festival and they would have spent on a normal Saturday/Sunday on average £8.59

Value of additional spending by visitors from outside Bristol is equal to the total of average spending on the three categories by visitors, i.e. £11.73, multiplied by the estimated number of visitors (= $0.241 \times 13,155 = 3170$). Total spending by visitors from outside Bristol = $\text{£}11.73 \times 3170 = \text{£}37,184$. Applying the same multiplier value of 1.26, the value of this additional spending to the local economy is equal to $\text{£}37,184 \times 1.26 = \text{£}46,851$.

The value of the festival

We used stated preference methods to obtain measures of how much festival-goers value the FoN. Essentially, this involves asking people to give the maximum amount they would be willing to pay to go to the festival. This is a standard approach to try to obtain values for intangible goods in cost-benefit analysis, based on the idea that people's willingness to pay for things conveys some information about how much they value them. However, it is not without its potential problems – most obviously that since the question is purely hypothetical (individuals are not tied to their answer in any way) individuals may not answer in a truly meaningful way, particularly since the festival is free. We tried to avoid potential bias by emphasising that the question was a purely hypothetical one.

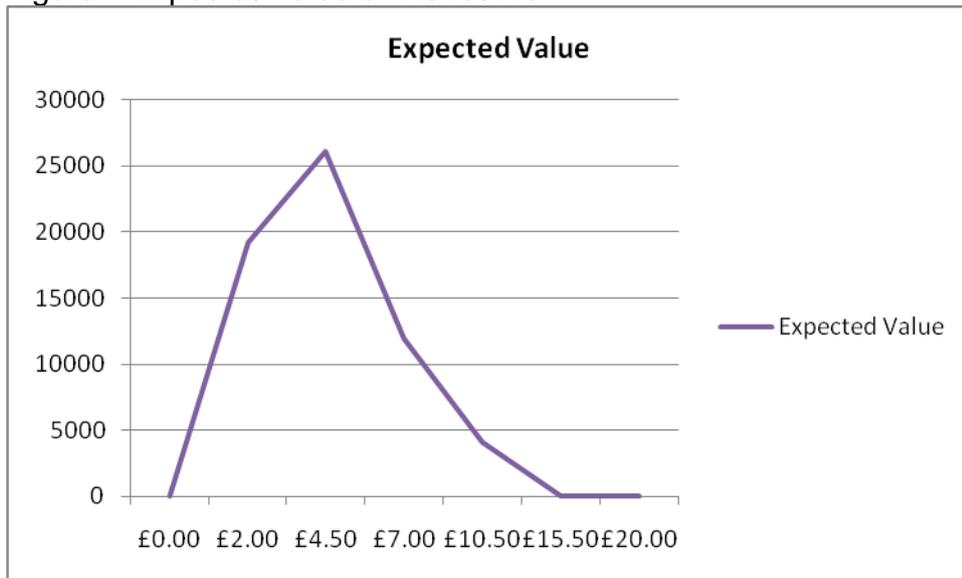
The responses are summarized in table 11. If people take the question as intended, this suggests that there is little scope to charge. The responses indicate that, on average, festival-goers would be willing to pay £6.88. This average is based on the mid-point of each band. Based on this average willingness-to-pay, the estimated value of FoN to festival-goers is equal to $\text{£}6.88 \times 13,155 = \text{£}90,506$.

The responses also suggest that charging could lead to a fairly large reduction in demand (Figure 4). Charging around £4.50 would maximise the expected value for the festival

Table 11

Maximum willingness to pay	Mid-point (M)	Frequency (%)	Likely attendance	Expected value (MxCxVisitors)
£0	£0.00	27	1.0	0
£1-£3	£2.00	29	.73	£19206.30
£4-£5	£4.50	31	.44	£26046.90
£6-£8	£7.00	10	.13	£11971.05
£9-£12	£10.50	4	.03	£4143.83
£13-£18	£15.50	0	.0	£0.00
£19+	£20.00	0	.0	£0.00

Figure 4 Expected value of the festival



Appendix 1

Method for estimating the attendance at the FoN

To estimate the number of people attending the festival we focused on three definable actions which were the number of people who attended the UoB tent on Millennium Square, the number of people who attended the talks tent and the IMAX. The second piece of required information was attained by sampling a proportion of people leaving the event, where we asked a question relating back to the definable actions. I.e., "Did you attend or visit the XXX" This question was asked to a manageable percentage of people leaving the event. By asking these questions, the proportion of people that visited XXX while at that event can be calculated.

The number of people attending the event was then estimated by taking the "hard count" of those attending XXX (X) and dividing it by the proportion of people who attended XXX (P) estimated by the exit sample. This simple estimation method, which combines a count and a measure of people's involvement in the activity, was used to generate an estimate of the total number of people attending the event, as well as a statement of how accurate that estimate is. Thus, in addition to estimating the total number of attendees, it is also important to estimate the variance of the total number of people attending the event. This allows an accurate estimate of the total attendance figure to be given with some measure of how good this estimate is.

For the UoB tent, the number of people attending was recorded throughout the two days of the festival. The count was made of people exiting tent. For the talk and the IMAX, the number of people attending was recorded at the beginning of each event.

Two locations were identified where a majority of the attendees would be expected to exit. We adopted an activity sample approach, i.e sampling a random selection at fixed times during the days². The results from the UoB tent count are shown in Table 1.

In terms of the confidence limits, from UoB tent

- TOTAL = 13155
- $V(Y) = 13155(1-0.422)*0.422 = 3208.7$
- Confidence interval = square root of $3208.7 * 2 = 113.3$

Thus, the approximate 95% confidence interval for the total number of attendees is between **13042 and 13268**

² Note: Saturday rain in morning and Sunday sunny and it was also the 1st day of opening of the M-Shed

Appendix 2 Survey instrument

Questionnaire No.
Comments

Festival of Nature Evaluation: Exit Interview Schedule

Interviewer Name.....

Introduction: Approach over 15 years of age

Hello, I'm a volunteer from the University of Bristol and we are conducting an evaluation of the Festival of Nature. We are interested in your opinions about this year's Festival. The interview will only take a few minutes and we'd like your help. Your comments will help us plan future events.

Date

Time of Interview

1. How many hours did you spent at the Festival?

0 to1 hour	1 to 2 hours	2 to 4 hours	4 to 6 hours	6+ hours

2. Which parts of the Festival did you visit?

Amphitheatre	Millennium Square	Anchor Square	Market Area
Bee tent	Avon Wildlife Trust	Green forum	Food
Garden tent	BBC Natural History Unit		Bar
Wild about Trees	Bristol Zoo Gardens		Provision
Wildlife Garden	Clifton College		Green Market
	Natural England		
	RSPB		
	University of Bristol		
	University of the West of England		
	Wildfowl and Wetlands Trust		

3. Did you attend last year's festival?

Yes		No	
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4. Which part of the Festival have you enjoyed the most? Why?

Why?

7. Which part of the Festival have you enjoyed the least?

Why?

Could you sum up your Festival experience in 3 words?

6. Please rank the following reasons for attending the Festival of Nature

	Not important	Important	Somewhat important	very important	Don't Know
Because it is in the city I live in					
The atmosphere					
The sense of nature/green /conservation issues					
The educational programmes					
The range of exhibits					
It is a lot of fun					
It is something to take the whole family to					
Shopping					
Others(please specify)					

7. How far do you agree with the following statements?

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I think that the Festival is an enjoyable way to learn about conservation/sustainability issues					
I feel I've learned a great deal from the Festival					
Before you came to the Festival, I did not know much about conservation/ nature celebration/green issues or sustainability					
I would be disappointed if the Festival of nature was discontinued next year					
The Festival has changed the way I feel about conservation/nature celebration/green issues or sustainability					

8. Whilst at the Festival, did you take part in any discussions or debates?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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9. Will you be prompted to discuss any of the issues raised at the festival outside the Festival?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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10. How much did you spend today at the festival on the following:

	Nothing.	£1 - £5	£6 - £10	£11 – £20	£20 - £30	£30 - £40	£40 - £50	Above £50	Above £50
Food									
Drinks									
On miscellaneous items (e.g. crafts, posters t- shirts e.t.c									

10 b Can you estimate how much your group/family would spend on a *normal* Saturday/Sunday in Bristol. _____

11. How far do you agree with the following statements?

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Children who participate in the festival have the opportunity to learn new things.					
The festival enhances the image of the City and the organisations involved .					
The festival contributes to a sense of community well-being.					
Having the festival helps to improve the quality of life in my community.					
The festival contributes to my personal well-being.					
I feel a personal sense of pride and recognition through participating in the festival.					
The festival allows for the sharing of ideas among community groups.					
The festival is an intrusion into the lives of community residents.					
Environmental damage is increased to unacceptable levels during the festival.					
In general, there is a decreased sense of public involvement in the festival.					
The festival provides opportunities for local residents to experience new activities.					
Local residents who participate in the festival have the opportunity to learn new things.					
The festival acts as a showcase for new ideas.					
The festival provides my children with an opportunity to discover and develop new skills and talents					
I enjoy meeting festival performer/workers					
Friendships are strengthened through participation in the festival.					
The festival leaves an ongoing positive cultural impact in my community.					
Organisations work together to achieve common goals through the festival					

12. How would you rate the Festival?

Very Good	Quite Good	Neutral	Quite Bad	Very Bad

13. Would you come again next year?

Yes		No	
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14. How do you think that the Festival could be improved?

Now some questions about yourself...

15. Which of the following age brackets do you fall in?

<18	18-24	25-34	35-44	45-54	55-64	65+

16. Gender

Male		Female	
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17. Ethnicity

Asian or Asian British - Pakistani	
Asian or Asian British - Bangladeshi	
Asian or Asian British - Indian	
Asian or Asian British - Other	
Black or Black British - African	
Black or Black British - Caribbean	
Black or Black British - Other	
Mixed - Other	
Mixed - White & Black African	
Mixed - White & Black Caribbean	
Not known/stated	
Other	
White - British	
White- Irish	
White - Other	

18. How many people are in your party (including yourself)?.....

Adults _____

Children (Under 15) _____

19. What is your occupation?

20. What is the first part of your postcode?.....

And finally, would you be willing to be contacted at a later date for a possible follow-up interview or questionnaire?

If so, name.....

Phone Number/s.....

E-mail.....

Postal Address

.....
.....
.....

Preferred form of communication

Phone	E-mail	Post
-------	--------	------

Thanks!