Guidelines for Measuring On-Site Spending At Gated and Ungated Events and Festivals Appendices I - IV

Submitted to:

Richard Porges, Tourism British Columbia

Chair, Economic Value of Festivals and Events Project Steering Committee

Submitted by:

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APPENDIX I. SUPPORTERS & PANEL OF EXPERT MEMBERS

A. Supporters

Financial support for this project from the following organizations is gratefully acknowledged.

Canada — Tourism British Columbia

Canadian Tourism Commission

Ontario Ministry of Tourism

Nova Scotia Department of Tourism, Culture and Heritage

Alberta Economic Development

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Tourism Prince Edward Island

Government of Yukon – Department of Tourism and Culture

Government of the Northwest Territories – Department of Resources, Wildlife, & Economic Development

USA — Texas A&M University

B. Panel of Experts

Canada

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Judy Rogers, Research Resolutions & Consulting Ltd.

USA — Texas A&M University

- Dr. John Crompton
- Dr. James F. McNamara
- Dr. Joseph O'Leary
- Dr. James Petrick
- Dr. Douglass Shaw

*Canadian Association of Fairs and Exhibitions (C.A.F.E.) Representative

APPENDIX II. MARGIN OF ERROR TABLE

Table of Margin of Error at 95% Level of Confidence

	SURVEY STATISTICS									
	5.0%	**10.0%**	**15.0%**	**20.0%**	**25.0%**	**30.0%**	**35.0%**	**40.0%**	**45.0%**	**50.0%**
SAMPLE SIZE										
20	9.6%	13.1%	15.6%	17.5%	19.0%	20.1%	20.9%	21.5%	21.8%	21.9%
40	6.8%	9.3%	11.1%	12.4%	13.4%	14.2%	14.8%	15.2%	15.4%	15.5%
60	5.5%	7.6%	9.0%	10.1%	11.0%	11.6%	12.1%	12.4%	12.6%	12.7%
80	4.8%	6.6%	7.8%	8.8%	9.5%	10.0%	10.5%	10.7%	10.9%	11.0%
100	4.3%	5.9%	7.0%	7.8%	8.5%	9.0%	9.3%	9.6%	9.8%	9.8%
120	3.9%	5.4%	6.4%	7.2%	7.7%	8.2%	8.5%	8.8%	8.9%	8.9%
140	3.6%	5.0%	5.9%	6.6%	7.2%	7.6%	7.9%	8.1%	8.2%	8.3%
160	3.4%	4.6%	5.5%	6.2%	6.7%	7.1%	7.4%	7.6%	7.7%	7.7%
180	3.2%	4.4%	5.2%	5.8%	6.3%	6.7%	7.0%	7.2%	7.3%	7.3%
200	3.0%	4.2%	4.9%	5.5%	6.0%	6.4%	6.6%	6.8%	6.9%	6.9%
220	2.9%	4.0%	4.7%	5.3%	5.7%	6.1%	6.3%	6.5%	6.6%	6.6%
240	2.8%	3.8%	4.5%	5.1%	5.5%	5.8%	6.0%	6.2%	6.3%	6.3%
260	2.6%	3.6%	4.3%	4.9%	5.3%	5.6%	5.8%	6.0%	6.0%	6.1%
280	2.6%	3.5%	4.2%	4.7%	5.1%	5.4%	5.6%	5.7%	5.8%	5.9%
300	2.5%	3.4%	4.0%	4.5%	4.9%	5.2%	5.4%	5.5%	5.6%	5.7%
320	2.4%	3.3%	3.9%	4.4%	4.7%	5.0%	5.2%	5.4%	5.5%	5.5%
340	2.3%	3.2%	3.8%	4.3%	4.6%	4.9%	5.1%	5.2%	5.3%	5.3%
360	2.3%	3.1%	3.7%	4.1%	4.5%	4.7%	4.9%	5.1%	5.1%	5.2%
380	2.2%	3.0%	3.6%	4.0%	4.4%	4.6%	4.8%	4.9%	5.0%	5.0%
400	2.1%	2.9%	3.5%	3.9%	4.2%	4.5%	4.7%	4.8%	4.9%	4.9%
420	2.1%	2.9%	3.4%	3.8%	4.1%	4.4%	4.6%	4.7%	4.8%	4.8%
440	2.0%	2.8%	3.3%	3.7%	4.0%	4.3%	4.5%	4.6%	4.6%	4.7%
460	2.0%	2.7%	3.3%	3.7%	4.0%	4.2%	4.4%	4.5%	4.5%	4.6%
480	1.9%	2.7%	3.2%	3.6%	3.9%	4.1%	4.3%	4.4%	4.5%	4.5%
500	1.9%	2.6%	3.1%	3.5%	3.8%	4.0%	4.2%	4.3%	4.4%	4.4%
520	1.9%	2.6%	3.1%	3.4%	3.7%	3.9%	4.1%	4.2%	4.3%	4.3%
540	1.8%	2.5%	3.0%	3.4%	3.7%	3.9%	4.0%	4.1%	4.2%	4.2%
560	1.8%	2.5%	3.0%	3.3%	3.6%	3.8%	4.0%	4.1%	4.1%	4.1%
580	1.8%	2.4%	2.9%	3.3%	3.5%	3.7%	3.9%	4.0%	4.0%	4.1%
600	1.7%	2.4%	2.9%	3.2%	3.5%	3.7%	3.8%	3.9%	4.0%	4.0%
620	1.7%	2.4%	2.8%	3.1%	3.4%	3.6%	3.8%	3.9%	3.9%	3.9%
640	1.7%	2.3%	2.8%	3.1%	3.4%	3.6%	3.7%	3.8%	3.9%	3.9%
660	1.7%	2.3%	2.7%	3.1%	3.3%	3.5%	3.6%	3.7%	3.8%	3.8%
680	1.6%	2.3%	2.7%	3.0%	3.3%	3.4%	3.6%	3.7%	3.7%	3.8%
700	1.6%	2.2%	2.6%	3.0%	3.2%	3.4%	3.5%	3.6%	3.7%	3.7%
720	1.6%	2.2%	2.6%	2.9%	3.2%	3.3%	3.5%	3.6%	3.6%	3.7%
740	1.6%	2.2%	2.6%	2.9%	3.1%	3.3%	3.4%	3.5%	3.6%	3.6%
760	1.5%	2.1%	2.5%	2.8%	3.1%	3.3%	3.4%	3.5%	3.5%	3.6%
780	1.5%	2.1%	2.5%	2.8%	3.0%	3.2%	3.3%	3.4%	3.5%	3.5%
800	1.5%	2.1%	2.5%	2.8%	3.0%	3.2%	3.3%	3.4%	3.4%	3.5%
820	1.5%	2.1%	2.4%	2.7%	3.0%	3.1%	3.3%	3.4%	3.4%	3.4%
840	1.5%	2.0%	2.4%	2.7%	2.9%	3.1%	3.2%	3.3%	3.4%	3.4%
860	1.5%	2.0%	2.4%	2.7%	2.9%	3.1%	3.2%	3.3%	3.3%	3.3%
880	1.4%	2.0%	2.4%	2.6%	2.9%	3.0%	3.2%	3.2%	3.3%	3.3%
900	1.4%	2.0%	2.3%	2.6%	2.8%	3.0%	3.1%	3.2%	3.3%	3.3%
920	1.4%	1.9%	2.3%	2.6%	2.8%	3.0%	3.1%	3.2%	3.2%	3.2%
940	1.4%	1.9%	2.3%	2.6%	2.8%	2.9%	3.0%	3.1%	3.2%	3.2%
960	1.4%	1.9%	2.3%	2.5%	2.7%	2.9%	3.0%	3.1%	3.1%	3.2%
980	1.4%	1.9%	2.2%	2.5%	2.7%	2.9%	3.0%	3.1%	3.1%	3.1%
1000	1.4%	1.9%	2.2%	2.5%	2.7%	2.8%	3.0%	3.0%	3.1%	3.1%

APPENDIX III. ASSIGNING SPENDING TO CATEGORIES

A. Only "Total" provided

Distribution of "total only" spending will depend on whether the respondent did or did not identify whether money was spent on various items (checked at least one of the "spent any" boxes).

1. Checked some "Spent Any" boxes

Calculate average spending per category for records that supplied the full array of detailed spending. Use these averages to generate ratios for the "mix" of items on which the respondent claims to have spent money but did not provide an amount. The ratios will guide how you distribute the respondent's "total spending" to each category on which the respondent claims to have spent money but did not provide an amount. To the extent that the data can support it, different sets of ratios would be calculated for major origin groups since *locals* and *tourists* may have different spending patterns.

We recommend that averages be based on cells (segments) with at least fifty (50) records of respondents who *do* provide a complete spending profile.

2. Checked no "Spent Any" boxes

Calculate average spending per category for records that supplied the full array of detailed spending. Use these averages to generate ratios to assign the respondent's "total spending" to *each* category. To the extent that the data can support it, different sets of ratios would be calculated for major origin groups since *locals* and *tourists* may have different spending patterns.

B. No Total Provided and Some Items Marked with "Don't Know" Amount

If respondent did not know (DK) how much was spent on a specific item, the average amount for an analogous visitor on a per person or per household party would be used to attribute dollars to the DK categories.

C. Total Provided and Some Items Marked with "Don't Know" Amount

Subtract itemized values from total. Assign the remainder to categories marked as "don't know", using ratios from the calculated average spending per category for records that supplied the full array of detailed spending*. These ratios would only include the "mix" of items marked "don't know" by the respondent.

*To the extent that the data can support it, different sets of ratios would be calculated for major origin groups.

D. No Spending Information Provided

Calculate average spending per category for records that supplied the full array of detailed spending.* Assign these averages on a per person/per household party basis to each category.

As an alternative to calculating and assigning average spending to non-responders, you can exclude records that provide no spending information as *unusable* (see above). This option should be selected *only* if you have met your target number of completions per cell (e.g., 400 or 200).

*To the extent that the data can support it, different sets of ratios would be calculated for major origin groups.

E. Guidelines for Calculating Average Spending for Allocation/ Ascription

Item	**Unit**	**Type Of Averages To Be Used For Assignment/Allocation of Spending**
ON-SITE SPENDING		Assumes at least 50 records in each cell for calculating averages.
Admission	Per Person	Total Attendees
Other on-site tickets/ admissions (rides, movies, etc. on the event site)	Per Person	Total Attendees
Food & beverages at restaurants, fast food outlets, concessions	Per Person	Total Attendees
At lounges, bars, clubs	Per Person	Total Attendees
Souvenirs	Per Person	Total Attendees
Other shopping/retail	Per Person	Total Attendees
Parking	Per Household Party	Total Attendees

APPENDIX IV. ANNOTATED LITERATURE REVIEW

A. Gated Events

Brown, M.D.; Var, T.; Lee, S. (2002) Messina Hof Wine and Jazz Festival: an Economic impact analysis. *Tourism Economics* 8 (3) pp 273-279.

This article studies the economic impact on a community during a wine and jazz festival. The study uses IMPLAN PRO software to analyze the data gathered at the festival. Brown et al. focus on two questions: "Is the event economically feasible?" and "What economic impacts will the event or festival have on the surrounding community?" Brown et al. defined the regional economy structure as including production, income distribution, trade, consumption of goods/services, saving and investments. Brown et al. did not collect original data, but rather used secondary data. It is also noted that Brown et al. used "ball park" figures (276). The Jazz Festival was expected to produce $892,981 in sales output in the Brazos County area. The results of the input-output analysis were that the sales output was $581,298. Indirect sales output was $139,323 with induced sales output of $172,360.

Crompton, J.L.; Lee, S.; Shuster, T.J. (2001) A Guide for Undertaking Economic Impact Studies: The Springfest Example. *Journal of Travel Research* Vol. 40 pp. 79-87.

This article focuses on a generalized model for studying the economic impacts of a festival on a community. The article discusses the why and why not to include local residents, "time-switchers" and "casuals", use of income rather than sales output, and proper or accurate interpretation of employment multipliers. Crompton et al. discusses the rationale and provides a model for communities to invest in the production of festivals as an economic benefit to the community. Crompton et al. suggest that economic impact studies are not bottom line, but rather are "best guesses" of the impact of money being spent at a festival. The authors give examples of how the numbers from an impact study can be manipulated in order to bring about a certain outcome. The authors briefly give reasons on why not to include local residents, "time switchers" and "casuals". A brief discussion takes place in regards to the use of income rather than sales measures as well as the need for interpretation of employment measures needs to be done carefully.

The authors give the instrument and calculations in collecting data and why each question was asked. The authors discuss in their conclusion the importance of estimating the total attendance. They emphasize the importance of identifying local residents, "time-switchers" and "casuals" and the importance of interpreting the output numbers especially in income multipliers and job creation.

Tyrrell, T.J. & Johnston, R.J. (2001) A Framework for Assessing Direct Economic Impacts of Tourist Events: Distinguishing Origins, Destinations, and Causes of Expenditures. *Journal of Travel Research* Vol. 40 pp. 97-100.

The authors of this article discuss a standardized method in which to measure tourism events. This is not a tool to measure tourism, but rather a single or series of short-term events. The authors argue that a framework must be created to account for "1) the source of expenditure, 2) the geographic starting point 3) the destination or end point of the expenditure, and 4) the reason for the expenditure" (p.94). The purpose for the framework is for practitioners not to make mistakes that are common in assessing net economic impacts from a tourist event. The authors include anyone and everyone that attend the tourist event from the local residents, media, performers,

sponsors, organizers and the vendors of the event in their economic impact analysis. The authors point out that it is important for practitioners to be able to accurately estimate the tourist expenditure at an event and distinguish between and tourist event, site or just tourism.

Yoon, Y.; Chen, J.S.; Gursoy, D.; (1999). An investigation of the relationship between tourism impacts and host communities' characteristics. *Anatolia; an international journal of tourism and hospitality research.* 10 (1). pp. 29-44

The authors of this article mailed a survey to an urban area in Virginia in order to identify residents' perceptions of tourism development. Two questions were developed to address this issue:

1) "How do host community residents perceive and categorize the impacts of tourism development?"

2) "Are there any relationships between the host communities characteristics and perception and categorization of tourism impacts?" (p. 29)

Economic benefits, social costs, cultural enrichment, environmental deterioration, and physical enhancement were identified as impact factors through factor analysis. These were the main factors identified that affect residents' attitudes toward tourism development. The methodology used was a self-instructed questionnaire collected by a stratified sampling method (the questionnaire is given in table format in this article). It was concluded in the article there is a relationship between community characteristics and perceived tourism impacts. It is also noted that the results of this survey were different from two other studies done in rural communities and that stakeholders in the urban area were more sensitive to the impacts than rural stakeholders. The authors suggest that a possible reason for this is due to a larger dependence in the rural community on tourism. Some other characteristics identified as having a larger impact on perceptions of tourism development were "community attachment, length of residency and birth place" (p. 42).

Gratton, C.; Taylor, P.; (1986) Arts festivals. *Leisure management.* 6 (11) pp. 20-22

This article discusses research by Vaughn (1980) (also reviewed in this bibliography). The authors discuss the economic viability of art festivals in Edinburgh and take the reader through Vaughn's methodology of how the analysis was conducted and to whom. The authors specifically address whether or not the festival was justified in having government subsidies. It was concluded that indeed the government subsidies were justified and that the economic benefit from the festival was extremely fruitful to the local communities.

The author also concluded that for small towns or communities with small festivals, the financial return in sales, income, and employment had as great if not a greater impact on the community than would have been found in a larger city.

Vaughn, D.R. (1980) Does a festival pay? *Economic policy for the arts.* pp. 319-331.

This is the study discussed by Gratton and Taylor (1986) [see above]. Vaughn conducted interviews with 660 groups of visitors to the events of which 360 gave details regarding the groups' expenditures. Vaughn gives details into the formulas for deriving multipliers.

He argues that success of a festival must be defined by the stakeholders and that economic gain is not necessarily the primary arbitrator for success, but rather there are social implications as well. Vaughn states that managers not only need to count how many visitors attend a festival, but what types as well; thus providing better or different accommodations for guests and visitors to the festivals. This analysis gives guidance on how tourism should be developed. Vaughn concluded that "festivals [are]…major economic assets which produce a measurable financial return" (p. 329).

Auld, T.; McArthur, S. (2003). Does event-driven tourism provide economic benefits? A case study from the Manawatu region of New Zealand. *Tourism economics; the business and finance of tourism and recreation.* 9 (2) pp. 191- 201.

This article discusses whether or not events in the Manawatu region of New Zealand are economically beneficial. The authors used incremental analysis and estimated the "changes to costs and revenues arising from an event compared with the no-event situation" (pp193). The authors discuss opportunity costs and define two economic costs:

1) *explicit costs,* which involve monetary exchange when they are incurred (these are the ordinary payments identified by most people as costs, such as wages or payments for printed advertising) and

2) implicit or 'invisible' costs, which involve no monetary exchange when they are incurred (these include items such as foregone incomes or depreciation on assets).

The authors used a self-administered 'tick the box' survey as means for data collection. A problem arising from this is double-counting of expenditures as several events were being held at the same time. Flaws within their questionnaire were not taking day trippers into account and "failure to ask respondents the number of people accounted for in their expenditure estimates" (p 196). However, in conclusion the authors state that the events did generate economic benefits to the region, but discuss problems with time switchers, and locals.

Gratton, C; Taylor, P; (1986). Economic impact study. Hayfield International Jazz Festival. *Leisure Management.* 6 (10), pp. 19-21

This article gives a brief view of the economic impacts to a small village, Hayfield – outside of Manchester, from a jazz festival held annually. This article gives a chart of the total expenditures directly associated with the festival along with the total expenditures.

The authors then give a brief account of multipliers and discuss the information obtained from the festival. The authors point out that during the festival the local hotels, motels, and campsite were completely full, the authors recommend that a study be done of the locals in order to discover the negative affects such as dissatisfaction with the event and amount of visitors to the local area. The authors do, however, conclude that the overall economic impact to the area was an increase from previous years.

Mitchell, C.; Wall, G.; (1986). Impacts of cultural festivals on Ontario communities. *Recreation Research Review.* 13 (1). pp. 28-37.

The objective of this article was to offer evidence that festivals and events attract outside visitors, increases sales of local businesses and attract new enterprises to the community. The authors, through Dun and Bradstreet Analysis, identify nine business types or groups which are relevant to the Blyth festival in Ontario, Canada. These are the following: agriculture, communications, construction, finance, manufacturing, retail, service, transportation, and wholesaling (p. 30). The authors found that prior to the era of festivals, agriculture, construction, financial, and transportation increased while retail (-9), service (-4) and manufacturing functions (-3) all declined. However, wholesale, transportation, service and retail functions increased during the festival period (tables and charts are given – p. 31).

The authors distributed a survey to the local businesses in the area in August of 1985 in order to evaluate which businesses rely heavily on the festival. Through this survey which netted a 95% response rate from retail, accommodations, and dining establishments found that three businesses had been formed as a direct result from the festival. The authors concluded that while the economic impact to the rest of the community was minimal at best, the overall impact of the festival was positive.

Felsenstein, D.; Fleischer, A. (2003). Local Festivals and Tourism Promotion: The Role of Public Assistance and Visitor Expenditure. *Journal of Travel Research.* Vol. 41 pp. 385-392.

The authors of this study of two festivals in Northern Israel discuss the rationalization for public assistance for these festivals. The authors present a method in order to account for increases in local income. The authors argue that most economic impact studies of festivals do not go far enough in their evaluation process and do not show how the income of the festival is distributed to the locals that are not directly involved with the festival.

In the authors methodology they separate local expenditures from local residents and non-local residents. The authors give a formula for calculating the economic growth which is represented by an increase in private and public income as a result of the festival. How they derived this formula and methodology is discussed at length by the authors. The conclusions of this article show that there is a net growth in personal and local income, but it needs to be kept in proportion. This is done by "accurately representing their full effects, avoiding double-counting and the inclusion of expenditures that would have occurred in the absence of the festival" (391).

Kim, K.; Uysal, M. (2003) Perceived Socio-Economic Impacts of Festivals and Events Among Organizer. *Journal of Hospitality & Leisure Marketing.* 10 (3/4) pp. 159-171.

The authors of this article discuss and argue two areas of interest "(1) to delineate the organizers perception of socio-economic impacts of the festival and event tourism, and (2) to compare these results with those of attendees from the literature" (p 159). The authors discuss at length that while economic impacts are relatively easy to study and understand and give direct input and results back to the community, impacts such as noise, pollution, and congestion and are not easily measured and can result in negative attitudes within the community towards a festival, event or tourism in general.

The authors discuss the methodology, the instrument, and results (with charts and graphs) used in collecting and analyzing data from event organizers in the Commonwealth of Virginia. The authors concluded from

the survey that organizers perceived four socio-economic impacts and discuss the results of the following: community cohesiveness; economic benefits; social costs; and social incentives. The survey concluded that negative impacts such as crime, congestion, social costs and pressure on local services increased substantially. Policy considerations are suggested by the authors in order to give a more positive view of the event to the local communities.

Burgan, B; Mules, T.; (2001) Reconciling cost-benefit and economic impact assessment for event tourism. *Tourism Economics: the business and finance of tourism and recreation.* 7 (4) pp. 321-330.

The authors of this paper discuss the differences and benefits of economic impact analysis vs. cost-benefit analysis (CBA) approach to tourism events and festivals. The authors argue that there is "common ground" in regards to economic impact analysis and cost-benefit analysis. The authors discuss in detail the principles of CBA and the benefits the spending has on the community and region.

The paper concludes that economic impact analysis is an appropriate way to measure the costs/benefits of an event for a community.

Bernthal, M.; Regan, T. (2004). The Economic Impact of a NASCAR Racetrack on a Rural Community and Region. *Sport Marketing Quarterly.* 13, pp. 26-34.

The authors study the economic impact of multiple events at a NASCAR Racetrack to the region. Methodology of the study and results from using the IMPLAN model are discussed and charted. The authors determined the "amount of dollars that circulates" in the region as a result of the raceway. The authors give characteristics of those sampled and included locals in their study. Using IMPLAN the authors were able to determine the economic impact of the events to the region as well as where the attendees spent their monies. The authors discovered that more money was spent outside the track than inside and concluded that economic impact studies are "extremely valuable" as a marketing tool for NASCAR. The study also concluded that the impact to the area in direct, indirect and induced impacts were remarkable.

Stynes, D. J., Sun, Y. (2004). *Economic Impacts of National Heritage Area Visitor Spending: Summary Results from Seven National Heritage Area Visitor Surveys.* East Lansing, Michigan; Department of Community, Agriculture, Recreation and Resource Studies, Michigan State University.

The authors of this report summarize survey results to seven National Heritage Areas. They specifically look at four types of visitors: local residents, day trips from outside the local area, overnight trip stays in the local hotels and motels and overnight trip stays with friends or relatives. The authors discuss the methods of collecting the surveys, response rates and non-response bias for the mail back survey, and the economic impact methods. The authors used the MGM2 (money generation model) model.

The authors discuss the survey results which include the following: trip characteristics and awareness, lodging segments, spending profiles, and economic impacts of National Heritage Areas.

Stynes, D. J., Propst, D.B., Chang, W., Sun, Y. (2000). *Estimating national park visitor spending and economic impacts: The MGM2 model.* East Lansing, Michigan; Department of Community, Agriculture, Recreation and Resource Studies, Michigan State University.

Chhabra, D.; Sills, E.; Cubbage, F. (2003). The Significance of festivals to Rural Economies: estimating the Economic Impacts of Scottish Highland games in North Carolina. *Journal of Travel Research.* 41 pp. 421-427.

The authors of this paper discuss the economic impact of two Scottish festivals in North Carolina and how the impact depends on different characteristics of the festival and local economy (other attractions). The method used was self-administered surveys at the site of the festival. Analysis of the data collected was done with IMPLAN. The authors noted that lodging had the greatest economic impact on the area for multi-day festivals, whereas beverages and food had the greatest impact on single day festivals.

The authors noted also discussed the reasons behind the different multipliers for the festivals. They argue that this is due in part to the magnitude of each festival and area of leakage.

Snowball, J.; Antrobus, G. Valuing the arts: Pitfalls in economic impact studies of arts festivals.

The authors of this article argue that in the case of arts festivals economic impact studies do not quantify or estimate the value of such festivals and that the willingness to pay should be added into the survey.

The authors study the 'pitfalls' of economic impact studies. Theses include the following: defining the area of study, including local spectators, including time switchers and casuals, determining the size of the multiplier, and employment multiplier. It is further argued by the authors that economic impact studies do not take into account opportunity costs.

The authors concluding remarks argue that the true value of an arts festival cannot be measured using economic impact studies; rather contingent valuation methods should be used in order to discover the value or worth of an arts festival.

Dwyer, L.; Forsyth, P.; Spurr, R. (2005). Estimating the Impacts of Special Events on an Economy. *Journal of Travel Research.* 43 (4). pp. 351-359.

The authors of this article argue that the widely used Input-Output analysis in special events or festivals is rejected in other areas of economic impacts. The authors discuss and contrast comprehensive computable general equilibrium (CGE) as the alternative to the traditional I/P models. The authors argue that the CGE model gives a better description and broader base of the impact by increase tourism to an area.

The authors argue that the CGE model best illustrates the impact of an event on the economy as a whole and that this will allow the government agencies to do a better cost analysis and benefits of such events.

Jackson, J.; Houghton, M.; Russell, R.; Triandos, P. (2005). Innovations in Measuring Economic Impacts of Regional Festivals: A Do It Yourself Kit. *Journal of Travel Research.* 43 pp. 360-367.

The authors of this article have developed a tool in which festival and event organizers can use a "do it yourself" kit to measure the economic impacts of a festival or event to the region. This kit is designed to be inexpensive, duplicated, and replicated. The article discusses the importance of festivals and the importance of evaluating the festival impacts. Discussion of how the team disseminated the kit to the region and managers is discussed.

Results of the case study showed that the response rate was close to 100% and was used by small and large events and festivals. Reception of the kit was good as several organizers requested to use again in the future.

The authors concluded that this kit would help to standardize the criteria for evaluating the economic impact or significance of an event. This would help organizers to better market their festival or event.

B. Ungated Events

Brothers, G.L., & Brantley, V. (1993). Tag and Recapture: testing an attendance estimation technique for an open access special event. Festival Management & Event Tourism, Vol. 1, pp. 143-146.

The authors of this article discuss a standardized methodology of estimating number of visitors at open access festivals and events. They tested the "tag and recapture" method which is used in counting the population of wildlife. The authors discuss the methodology behind "tag and recapture" and give formulas to utilize.

The authors concluded that the "tag and recapture" method was fairly accurate in the estimation of the visitors to the event, but said that the number of visitor tagged should have been increased to further increase accuracy.

Caughley, G. (1974). Bias in aerial surveys. *The Journal of Wildlife Management.* Vol. 38, pp. 921-933.

The author argues that in large mammal aerial census there seems to be some bias. The accuracy deteriorates with larger transect width, speed and altitude. He discusses the weaknesses with aerial surveys and how to decrease bias. The author suggests techniques in which bias can be eliminated from the study. Caughley gives a method in which the bias can be measured and correct the estimates. The author concludes with a seven step process in which to decrease or account for bias in estimation.

Hofstee, P. (1984). Simple and cheap do-it-yourself technique. *Cities*. 1 (3) pp. 243-247.

This author discusses the economically viable method of small format aerial photography used to approximate maps of cities. The author states that it only requires a single engine airplane, pilot and photographer. This method is used when "no precision mapping is required". The author discusses how the light aircraft do not need airports but can take off from pastures, roads, football fields, etc.

Myers, R.A., & Bowen, W.D. (1989). Estimating bias in aerial surveys of Harp Seal production. *Journal of Wildlife Management.* Vol. 53, pp. 361-372.

This article suggests ways in which to reduce bias in aerial surveys. However, this article primarily discusses the inability of aerial photography to locate all whelping grounds of the Harp Seal. The authors do provide equations in which to reduce bias in aerial photography.

Ralston, L.S. (1992). The Application of Systematic Survey Methods at Open Access Special Events and Festivals. *Visions in Leisure and Business*, 11(3), 18-24.

This article discusses and attempts to validate the use of self-administered surveys at an open access event. The author talks about previous literature in regards to this method. Un-gated and multi-entrance events and the method in which to distribute the survey materials are discussed.

Raybould, M., Mules, T., Fredline, E., & Tomljenovic, R. (2000). Counting the herd using aerial photography to estimate attendance at open events. *Event Management.* Vol. 6, pp. 25-32.

The authors discuss the need for researchers estimating attendance to open access daytime events in which economic impact studies are being conducted. The researchers discuss other methods such as tag and recapture, parade counts, entrance and exit counts, and finally aerial photography. The conclusion from these authors is that no one method is right for all applications. However, the authors suggest that for daytime, open air events aerial photography is the most cost effective method.

Sutherland, W.J. (1996). Mammals In W.J. Sutherland (Ed). *Ecological census techniques: A handbook*. pp. 260-278. Melbourne, Australia: Cambridge University Press.

The author of this chapter discusses the problems with counting mammals that are secretive or "out of view" of the counter. Methods are suggested along with advantages and disadvantages for counting large mammals in wildlife as well as bias. Strip and line transects, aerial strip and line transects are discussed in some detail and examples given. One method described in counting practices in the call method. This is where the vocalizations of mammals can be recorded and then counted. Advantages, disadvantages and bias are given for this method as well.

Other methods such as trapping and counting footprints and runways are discussed but the author suggests that counting footprints only gives the observer a sense of how dense the population is.

Trenkel, V.; Buckland, S.; McLean, C.; & Elston, D. (1997). Evaluation of Aerial Line Transect Methodology for Estimating Red Deer (*Cervus elaphus)* Abundance in Scotland. *Journal of Environmental Management.* 50, pp. 39- 50.

The authors of this article compare three studies performed in Scotland on Red Deer. The authors argue that aerial line transect surveys were adequate in estimating the number of deer in the population as well as stags, hinds and calves. The authors discuss the efficiency of the aerial line transect versus conventional ground based census. The authors find that the aerial line transect greatest us is when a large area is being censused and the population is large. Whereas, a ground census is better for small populations.

Tyrrell, T.J., Williams, P., & Johnston, R.J. (2003). How Many Visitors Were There? Presented to the 53rd AIEST Congress. Athens, Greece. September 10.

This article discusses ways in which to identify at a multi-event where ticketed patrons may come and go to several different venues. Survey data are discussed as to what should be collected and how. A visitor count model is diagrammed in order to estimate the number and types of visitors to a multi-venue event.

Vaughan, D.R., Farr, H. & Slee, R.W. (2000). Estimating and interpreting the local economic benefits of visitor spending: an explanation. *Leisure Studies*. Vol. 19, pp. 95-118.

This article discusses the use of economic impacts of visitor spending and addresses the issue of validity, relevance, and interpretation as well as data collection and analysis. The authors discuss the methodology of a three year study from Exmoor National Park. This paper discusses various ways to collect data through sampling and how to develop questionnaires. Discussed at length is direct, indirect and induced impacts and how to analyze these.