# Event Impact Assessment Instructor's Manual

# 7 Ecological Impacts

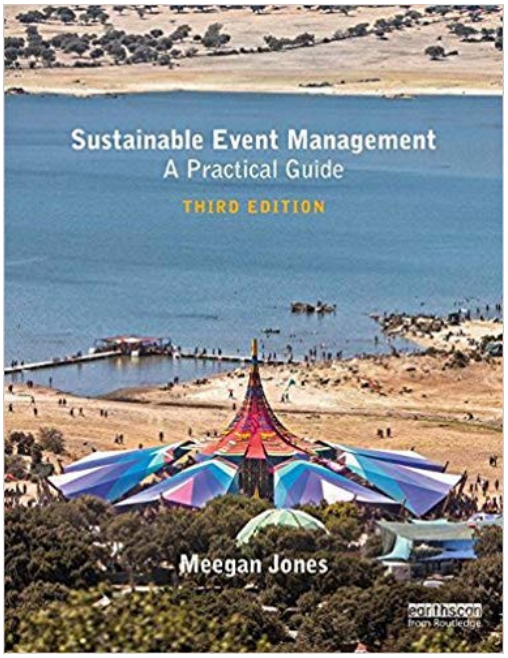
This is the instructor's manual produced to accompany the book *Event Impact Assessment: Theory and Methods for Events and Tourism*, by Donald Getz, 2018, published by Goodfellow Publishers.

Many urban dwellers do not have much access to, or appreciation of nature or ecological processes, so it might not be immediately obvious to students that events and event tourism have potentially major impacts - not the least of which is to climate change.

# Lecture 13

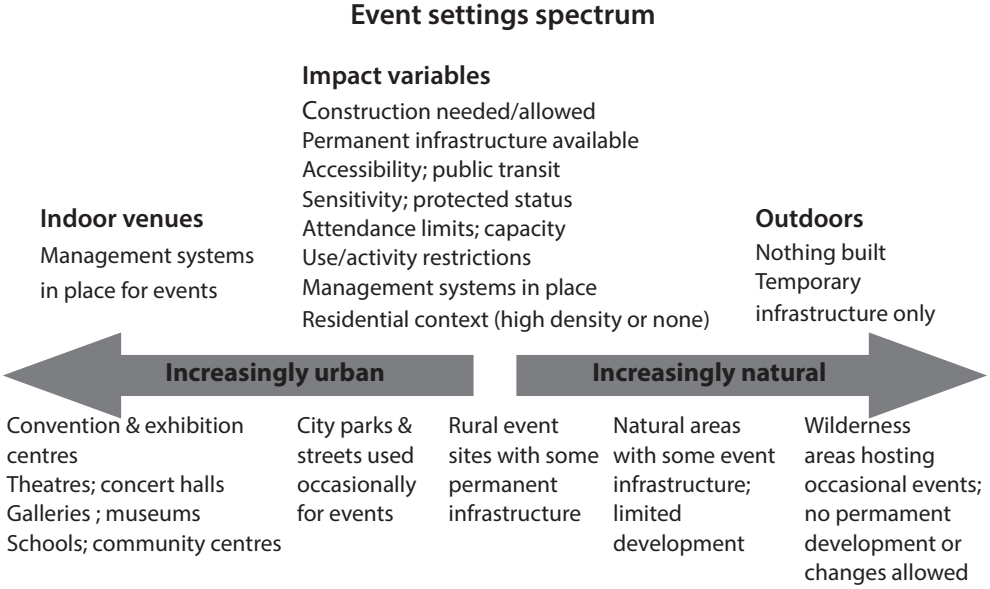
## 7.2 Nature and Ecology

After some definitions and examples, this chapter turns to the greening of events and the related concept of sustainability. I think its important to distinguish between the two, as greening is directed at ecological sustainability, whereas a triple-bottom-line approach requires that we also think equally about social, cultural and economic impacts. My 2017 article in *Event Management* lays out a framework for events to become a positive force in the greening of cities and sustainable cities. What it does not do is provide the tools such as Theory of Change models to guide planning, IA and evaluation. Another source is the Megan Jones book (2018, 3d edition).




## 7.3 Environmental Impacts *of* and *on* Events

Drawing upon the work of Robert Case, Figure 7.1 ("Event Settings Spectrum and Key Impact Variables") shows key variables to be considered when examining ecological event impacts, linked to indoor or outdoor locations and venues.



**Exercise:** A useful discussion would be to compare events held in the country and nature parks versus ones held in city parks and arenas. Since students are likely to be familiar with large-scale music festivals held in the countryside, and perhaps some in the city, that could be the starting point. Have they even thought about their personal impacts as event tourists? I recently saw a video on TV about the mess left behind by attendees at an outdoor music concert, including hundreds of abandoned tents. What does that say about environmental education and responsibility? What should the event do about it?

Find appropriate websites, like *sustainable event alliance* to obtain the latest news and ideas. Compare indoor, outdoor, and events in nature. Even if there are no direct, permanent impacts on the environment, how are attitudes toward nature and sustainability shaped by events in different settings? A number of articles have been published about the Voss, Norway, extreme sports festival (picture below, right), and similar events in nature occur all over the world. Those references are provided a bit later.


## 7.4 Subjects and Objects of Ecological Impact Assessment

Work through Figure 7.2 (A-H). Note that sample goals are expressed as goals for ecological impacts on… This requires some explanation, and to a degree this applies to the other subjects and objects figures. Think of it this way: events and tourism affect the environment (i.e. nature and ecological systems) and in turn these impact on people and organisations. We therefore want to plan, mitigate costs and negatives and to achieve improvements, then evaluate through IA. Take for example Figure 7.2 A for individuals and families (see below). The goals are expressed as things to achieve that will enhance the environment, including education, social marketing for more responsible behaviour, and improved access.

| Sample Goals for Ecological Impacts on Individuals and Families (Residents) | Sample Methods and Indicators |
|---|---|
| -Provide opportunities to learn about environmental issues and practices<br>-Encourage attitude and behavioural changes (e.g., in consumption, recycling, voting) through event experiences<br>-Ensure that all residents have access to nature and nature interpretation | -Consultations and surveys to reveal knowledge, perceptions of impacts, attitudes towards sustainability, and changes in eco-friendly behaviours<br>-Observe behaviour at events to evaluate conformity with policies and practices such as reducing waste and water/energy consumption<br>-Measure access to parks and nature reserves<br>-Evaluate the reach and effectiveness of information and educational efforts |

Events can educate (i.e., tools for social-marketing) and some events have environmental themes, like Earth Day, which are intended to be agents of change.

EARTH DAY - 3 Volunteer Events

Saturday, April 23 - 9am-12pm

Beach Park/Des Moines Creek Trail Ivy Removal

Meet at the Beach Park turn-around inside the park at 9am. Remove ivy and other invasives within the creek buffer to enhance wildlife habitat. Led by ecologist Laura Hortsma and Friends of Des Moines Creek. More information: Janet Best at 206-870-6547 or jbest@desmoineswa.gov. Dress for the weather, wear stable shoes and bring work gloves and your favorite hand tools.

Sonju Community Garden

Meet at Sonju Garden - 24728 16th Avenue South at 9am. Rescue overgrown apple and pear trees, spiff up the gardens for the new growing season, and improve the walking trail. Sponsored by the Friends of Sonju Park, led by Kim Redmond. For more information, contact friendsofsonjupark@hotmail.com. Dress for the weather and bring work gloves.

Marina District and South 216th Street Clean Sweep

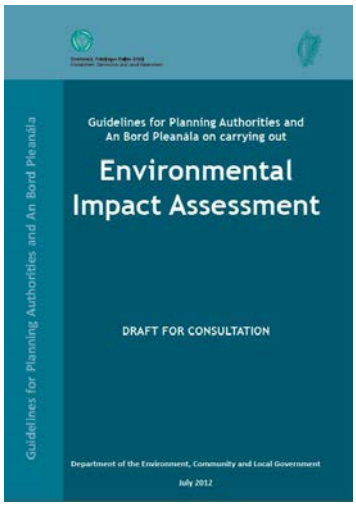
Meet at Big Catch Plaza - South 216th Avenue and Marine View Drive South at 9am. Litter removal along planting strips and roadways to beautify the City's walkable environment. Sponsored by the Rotary Club of Des Moines and Normandy Park. For more information, contact Dan Johnson at the Print Place 206-878-1380 or go to dan@printplace.net Dress for the weather and bring gloves. Collection bags will be provided and safety vests for volunteers on 216th.

*Volunteer's ages 14 years and older are encouraged to participate. Younger children must be accompanied by an adult.*

# Lecture 14

## 7.5 The Process of Ecological Impact Assessment

EIA's in many countries are governed by laws and regulations that specify when they are to be done, for what kinds of projects, and how. The steps are generally similar. But it will be rare to find EIAs done for events, other than mega-events. Although the Olympics claim to stress sustainability, it should be obvious that any major construction project is going to have ecological consequences, and that any amount of tourism will contribute to climate change, so this quandary is worth discussing.




Practitioners without a background in ecology or environmental management cannot possibly do an EIA, given the complexity of ecological processes, but every student should be able to relate to some of the issues such as pollution, climate change, impacts on wildlife habitat and changes to parks and natural areas. Media reports should be available, and there are research papers on carbon emissions and the ecological footprint to consult.

Locate the most applicable legislation and guidelines for EIA and see what, if anything, applies to events and venues.

## 7.5 EIA Methods

Figure 7.4 ("Forecasting Environmental Impacts for a New Arena and an Indoor Event") is intended to help with applying the FPSIR model to different situations. In this example an indoor event is compared with the construction of a new arena, and it is likely part of a feasibility study. Physical development, event tourism, activities of users, land use changes, individual and community involvement and media coverage are all considered to exert pressures on the environment. For a physical development, construction and operations have to be considered separately. Where this approach differs from the Leopold Matrix is in considering responses, including possible mitigation.

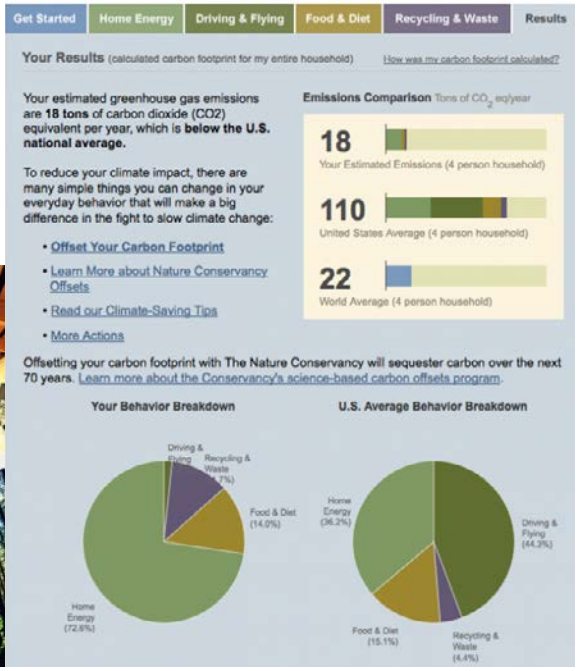
| Stressors or Causal Forces | Potential Ecological Impacts | Possible Responses (systems to be put in place) |
|---|---|---|
| **Physical Development**<br>(A) New Arena: large cost; possible public-private partnership; large site with huge footprint (arena, parking, bus/rail access); multi-year project with considerable risks; temporary construction jobs and permanent operational jobs<br>(B) Indoor Event: existing venue; rental costs only; venue management systems in place; no new venue jobs created, but possible event jobs | (A) New Arena Construction Stage: traffic, noise, emissions, earth moving, energy and resources consumed (e.g., steel, concrete, wood, water); possible drainage alterations, tree removal, habitat loss or impacts on movement<br>Operational Life: altered land use, economic and traffic patterns; energy consumption and generation of wastes from arena activities; urbanization process accelerated; urban design and community life altered<br>(B) Indoor Event: Each event in the venue will have predictable environmental impacts; evidence accumulates | (A) Policies and Regulations are needed for development and land use changes: avoid sensitive areas; enforce green venue and sustainable development standards<br>-impose full life cycle accounting<br>-use development to clean up damaged areas<br>-impose design standards<br>Mitigation: Construction almost always causes negative impacts that have to be monitored and mitigated (e.g., redesign of drainage system; restoration of ponds; tree protection and planting)<br>(B) Ideally, the green certification of venues assures that each event is in compliance |

**Exercise**: use the FPSIR model to compare two different types of existing events on environmental impacts (you can include the built environment and nature, if possible).

For example, what are the observable or documented impacts of a large, multi-day outdoor music festival compared with a spectator sport held at an urban arena? You can work backwards from observed impacts, or start with the pressures. In both cases, one obvious pressure is that of transport to the sites.

*Carbon Calculators* are available online, although you have to examine them carefully to see exactly what they measure and what data are needed as input. But *ecological footprint calculators* are not widely available. That is why I recommend starting with carbon emissions and then adding other available data on ecological impacts to come up with a composite footprint - albeit not as complex as the real thing.

Students should understand how these 'footprints' are defined, and the possible components, even if they never get access to them.

# Assessments for Lectures 13 and 14

## Short Answers

♦ **Learning Objective:** Distinguish between nature, ecology, and ecological processes

Q: Why is 'nature' important in IA for events and tourism?

A: 'Nature' is not just wilderness, it can also be found in cities; most cities have policies to preserve natural areas and provide access to them. The 'natural' world is all around us, in all living things and ecological processes like weather, the hydrological cycle, and conditions that sustain us by permitting agriculture. The sustainability paradigm requires that events and tourism respect ecological processes and strive for continuous improvement by minimising consumption, emissions and waste, and by contributing in a positive way to comprehensive sustainability policies.

Q: How does the 'event settings spectrum' link with LAC in providing guidance to impact assessment for events.

A: Imposing limits, or capacity constraints on events and venues is increasingly important in an age of over-tourism and the necessity for adoption of sustainability principles. In the spectrum are variables to consider depending on the relationship of the event or venue or tourism to wilderness on one end, and highly urban on the other. Regulations for rural and natural areas will have to be quite different from those applying to urban settings. This means the LAC is relevant, with its considerations of capacity, thresholds, and standards. The precautionary principle is also pertinent here.

♦ **LO:** Know how to assess the 'greening' of events and 'event sustainability'

Q: Are greening and sustainability standards the same thing when applied to events and venues?

A: The terms are often used synonymously, but I prefer to think of 'greening' as a set of standards for reduction (of energy, water, waste, emissions), re-use of materials (including life-cycle accounting) and recycling. 'Sustainability is more of a process of continuous improvement and a triple-bottom-line approach has to be taken (economic, environmental and social/cultural). The ISO standards can be mentioned.

♦ **LO:** Learn how events impact upon, and are affected by the natural environment and ecological processes

Q: Describe the major ways in which events, venue development and tourism impact upon the natural environment and ecological processes.

A: This Q also relates to the settings spectrum, but here the emphasis should be on the 'pressures' that events, venue development and tourism can impose on the natural environment and ecological processes. Carbon emissions should be noted, and the various components that go into estimating the ecological footprint should be mentioned. Using the FPSIR model will help shape a good answer. As well, consideration of spatial and temporal variables will yield a better answer.

♦ **LO:** Understand the subjects and objects of EIA for events and tourism

Q: How are individuals and families impacted by changes to the natural environment arising from events and tourism?

*This is one of many Qs that can be based on combinations of objects and subjects. It might just as well ask about impacts on events, social/cultural groups, destinations, etc.*

A: The series of figures (7.2) provides the material for answers.

♦ **LO:** Know how to plan and conduct an EIA

Q: In a comprehensive IA to forecast the impacts of a proposed mega event, how and when will it begin, and how and when will it end?

*Rather than ask for the typical steps in the IA (section 7.4.1), which is an option, this tricky question asks the student to consider the beginning and end.*

A: The initiation stage could be a matter of regulations, as major development proposals in many countries must conduct an IA (but events are often excluded). It might come about when a feasibility study is commenced and it is realised that there are potential negative impacts, unknown costs and risk, or it is unclear how to maximise benefits. This is likely for bids on mega events and major new venues. Another trigger to initiate an IA might be discontent by residents or other stakeholders, or obvious problems with the state of the economy or environment (i.e., a retroactive IA), and of course the strategic IA model refers to IA being conducted to weigh alternatives. The end will normally be some sort of report, but there is often a need for on-going monitoring of the implementation of mitigation, or life-cycle evaluation.

## Long Answers

1) Use the FPSIR model to assess how a mega event could impact on nature and ecological processes. Discuss appropriate mitigation methods.

A: By focusing on a mega event the question of whether or not they can ever be deemed 'sustainable' comes to the fore. Mega events cost too much, consume too much, waste resources that could be applied elsewhere, and generally perpetuate the 'bigger is better' mentality that runs counter to all principles of sustainability and social responsibility. And the evidence is clear, mega events seldom if ever keep to budget or deliver on all the imputed benefits. As to ecological impacts, the answer has to mention consumption (of energy, water, fossil fuels, food), waste (including what to do with packaging) and emissions (the carbon footprint). A really good answer would define the ecological footprint and show how mega events have an enormous footprint by virtue of the scale of investment, the spaces required, and the life-cycle of the venues or re-developments. As to the FPSIR model, the 'force' in question could be the decision to bid, or the awarding of the event. Pressures on the environment will include construction, consumption, travel, media coverage, and visitor activities. The state of the natural environment and ecological processes is likely to be defined by urban conditions, as that is where most mega events occur, but there are widespread (spatial) and long-lasting (temporal) implications to consider as well. Impacts are likely to include social disruption for certain communities, but we are focused on the ecological impacts in this question: air pollution/carbon emissions, drainage alterations, wildlife habitat and movements, consumption of energy, water and

food, and more traffic and human activity that could affect natural areas. Responses are likely to include some form of adhering to greening standards, but political pressure is most likely to mean that full cost-benefit evaluations will not be undertaken, meaning that certain negatives and costs will not be dealt with. Typically, the long-term sustainability questions are ignored completely,

2) Events are held indoors in urban venues, outdoors, and even in the wilderness. How does the setting affect the event, and in turn what kinds of IA methods are needed for events in different environments?

A: The events settings spectrum has to be explained, and an illustration would help. The underlying idea is that events are affected by, and in turn impact the environments in which they occur - especially where venues are constructed. Key variables for IA are related to setting, and examples should be given. For example, in wilderness areas there can be, by definition, no construction and no direct access. But there are wilderness events featuring extreme sports (see my cases of the TransRockies, for example, and the Voss Extreme Sports Festival - references below). This has implications for IA methods and measures, which will obviously be quite different from IA for events and venues in big cities. Capacity constraints in natural areas will be high, with limits set by conservation/park agencies, while in cities big facilities and events are the norm, with infrastructure and management systems in place to handle them (this does not mean that bigger is better). In natural areas wildlife and other experts will be needed to forecast and monitor impacts, whereas in cities residents and other stakeholders are major input sources. Really good answers might also consider rural areas and small towns where a 'mega event' by definition will be anything that meets or exceeds various capacity constraints, including social/cultural and ecological.

3) Explain the concepts of 'carbon calculators' and 'ecological footprint' and the main problem areas for events and tourism. What are the best solutions?

A: Students do not need to know how to do the estimations, or use the calculators (not that ecological footprint calculators for events are readily available), but they should understand what is involved and why they are important. The link between event tourism and carbon emissions should be clear to all, as well as possible solutions - especially reducing mass tourism (average visitor yield is much more important than large volumes), and reduction of private auto use (provide alternatives). Reducing the number and/or scale of events and related consumption (of food, energy, water, waste) is a goal for cities and countries that will meet with resistance, but when it comes to sustainability, 'small is beautiful'. Substitutes, or partial ecological footprints can be estimated using available carbon calculators plus key impact indicators for consumption and waste.

# Some additional references

Gyimóthy, S. (2009). Casual observers, connoisseurs and experimentalists: a conceptual exploration of niche festival visitors. *Scandinavian Journal of Hospitality and Tourism*, **9**(2), 177-205.

Mykletun, R. (2009). Celebration of extreme playfulness: Ekstremsportveko at Voss, *Scandinavian Journal of Hospitality and Tourism*, 9(2), 146-176.

Getz, D. and McConnell, A. (2011). Serious sport tourism and event travel careers. *Journal of Sport Management*, **25** (4), 326-338.

Getz, D. and McConnell, A. (2014) Comparing trail runners and mountain bikers: motivation, involvement, portfolios, and event-tourist careers, *Journal of Convention & Event Tourism*, **15**(1), 69-100.

Also see the case study of TransRockies events in my book *Event Tourism* (Cognizant: 2013).