How much is too much ? : a review of the literature concerning the management of visitors to national parks and protected areas.

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Introduction

"Parks management would be easy if it wasn't for people".
Pigram and Jenkins (1999:101)

Mathieson and Wall's seminal text of 1982 established the idea that any evaluation of the long-term effects of tourism must necessarily consider the consequences of visitor activity under three key headings – the impact of visitation on the destination's economy, on its environment and on its society. This approach has subsequently generated a common perception of tourism as an economic benefactor, an environmental threat, and a societal influence of uncertain direction.

If there is any substance to these widely held perceptions, then two related issues emerge as an obvious consequence – first, that the design and implementation of an appropriate visitor management regime is a necessary step towards addressing such a mixed bag of plusses and minusses; second that, even in a 'best-case' scenario of efficient and effective management, there is a constant threat of tourism's accumulated negatives overtaking its accumulated positives. In this paper, I argue that these issues are especially apposite in relation to tourist activities in natural parks and protected areas.

Tourism has long been recognised as a significant user of the natural environment in many destination countries, as visitors continue to be attracted by scenic beauty, wilderness exploration, and man-made recreational opportunities. These activities are frequently located within statutorily designated parks and reserve areas, or are otherwise accorded special significance by destination governments, and their management philosophy is accordingly based on the potentially conflicting principles of resource protection and recreational enhancement (Marion and Farrell, 1998). It is therefore unsurprising that professional park managers have, for many years, been aware of the threats to environmental integrity posed by an excessive volume of visitation. However, since Thabit (1959) first highlighted the essential conflict between what users want and what resources are able to provide, academics and practitioners alike have struggled to find an appropriate method of quantifying exactly what that 'excessive volume' might be.

In the ensuing 44 years, the issue of visitor-environment conflict has continued to engage tourism researchers, and various management models have been proposed to address that relationship. The intent of this paper is to review the development of the relevant literature over these four decades, a time frame in which the scope and scale of international tourism has grown exponentially, and in which the consequent importance of sustainable tourism development has been continuously highlighted.

For reasons of convenience and clarity, the review is presented in four parts :

1. Carrying Capacity Analysis
2. Limits of Acceptable Change
3. The LAC Based Models
4. Some Thoughts and Conclusions

Carrying Capacity Analysis

In an early attempt to predict a quantifiable maximum visitor volume for any given destination, the concept of carrying capacity was first applied in the field of outdoor recreation management in the 1960s (Wagar, 1964, 1966). In a common circumstance where a wilderness area was becoming threatened by overuse and overcrowding, carrying capacity analysis was for a considerable period touted as a useful management tool. However, scepticism in terms of its relevance to tourism grew steadily, with the general tone of criticism summed up by Australia's Resource Assessment Commission - "the problem with the carrying capacity concept lies in its demand for a technical solution to a subjective question" (RAC, 1993:8).

In this respect, Mathieson and Wall's definition (1982:21) of tourism carrying capacity as "the maximum number of people who can use a site without an unacceptable alteration in the physical environment, and without an unacceptable decline in the quality of experience gained by visitors" is important :

1. it focuses on the condition of the physical environment at destination
2. it acknowledges a parallel need to measure customer satisfaction in terms of the quality of visitor experience
3. it implies that there is a finite and calculable 'magic number' of visitors that the resource can accommodate before environmental damage becomes evident

Even though the physical-ecological bias of the Mathieson and Wall definition tends to understate the importance of those economic and socio-cultural issues that the authors themselves identify as at least equally important, there is a distinct aura of appeal in a concept of carrying capacity as presented in these terms. The idea that we can somehow quantify a level of visitation that will simultaneously protect the resource and preserve the experience is persuasive, and one that would be of immense value if it could be successfully operationalised. Unfortunately, this is where the problems begin.

In an influential article, published just four years after Mathieson and Wall, O'Reilly (1986) attempted to build on the original concepts by proposing two parallel carrying capacity definitions. From a supply perspective, he proposed that carrying capacity is best defined as "the capacity of the destination area to absorb tourism before the negative impacts of tourism are felt"; and, from a demand perspective, that carrying capacity is "the levels beyond which flows will decline because tourists believe there are too many tourists" (O'Reilly, 1986:254). The interesting part about this approach lies with the implied suggestion, made explicit in a later work by Wahab and Pigram (1997), that the quantification of carrying capacity is very much an individual value judgement.

For example, the number of visitors that the destination's ecology can physically absorb may be different from the number that the host community is willing to tolerate, or indeed from the number that visitors themselves believe to be acceptable. When the so-called 'magic number ' can apparently be determined from multiple perspectives, and each perspective results in the generation of a different numeric answer, perhaps the resulting number isn't so magical after all.

In any case, according to O'Reilly (1986), destination managers will never actually know what the elusive capacity level is until it has been reached and exceeded, at which point it becomes valid to question the practicality of using the concept at all - if we do not become aware of an illness until it has become all but fatal, then there is limited value in an accurate diagnosis provided at that time. Indeed, criticism of carrying capacity's relevance to tourism has grown steadily (e.g. McCool, 1994; Roe, 1997; Wight, 1998; Price, 1999), with the key components of criticism summarised in an incisive commentary delivered by Lindberg, McCool and Stankey (1997). According to these authors, the three critical limitations that negate any possible practical value in striving towards carrying capacity determination are :

1. carrying capacity definitions provide little guidance for implementation and/or control
2. carrying capacity is presented as an objective and scientific construct, when it is in fact neither of these
3. carrying capacity focuses on user inputs, when outcomes of use are of infinitely greater concern to managers

Mathieson and Wall themselves concede that capacity calculation is extraordinarily difficult in practice, influenced as it is by supply issues such as site specific ecology, economic status and social structures, and by demand factors such as tourist demographics and lifestyles. It may be more valuable, as McCool (1994) has argued, to seek to identify and manage for future resource conditions rather than for optimum visitor numbers; rather than ask how much usage a destination can absorb, it may be preferable to ask what economic, environmental and social outcomes are desired and how tourism can best be managed to achieve those outcomes. These are the types of question that the 'Limits of Acceptable Change" approach strives to answer.

Limits of Acceptable Change

As early as 1979, Clark and Stankey had designed and published their Recreational Opportunity Spectrum, a device intended to enable classification of individual American forest parks in terms of the recreation activities that would prove most appropriate to the characteristics of each park. This approach was notable for its acknowledgement of both resource protection and experience enhancement as valid management issues, and for its subsequent selection of six key site criteria to consider - as a result of ratings determined for each of these criteria, the site could be classified on a continuum that ranged from pristine wilderness to high density urban.

The opportunity spectrum approach was successful in arousing considerable interest amongst tourism academics, and a number of derivations of the original model emerged in ensuing years. Butler and Waldbrook's *Tourism* Opportunity Spectrum appeared in 1991, with a focus on classifying sites according to their suitability for adventure tourism – like the earlier Clark and Stankey model, the TOS sought to provide a context and framework within which decisions could be made in terms of those activities that would be permitted and those that would be disallowed. Similarly, Boyd and Butler (1996) presented the *Ecotourism* Opportunity Spectrum, a model whose focus and ambitions are clearly self-evident from its name. A comparison between these three complementary approaches is shown in Table 1 below.

Table 1 : The Opportunity Spectrum Models

Evaluative Criteria		
Recreation Opportunity Spectrum Clark & Stankey, 1979	**Tourism Opportunity Spectrum Butler and Waldbrook, 1991**	**Ecotourism Opportunity Spectrum Boyd and Butler, 1996**
Access	Access	Access
Other non-recreational resource uses	Other non-adventure resource uses	Other resource-related Activities
Onsite management	Tourist plant	Existing infrastructure
Social interaction	Social Interaction	Social interaction
Acceptability of visitor impacts	Acceptability of visitor impacts	Acceptance of impacts and Controls
Acceptable level of regulation	Acceptable level of regulation	Type of management required
		Attractions offered
		Level of user skill and Knowledge
Continuum Poles		
Recreation Opportunity Spectrum Clark & Stankey, 1979	**Tourism Opportunity Spectrum Butler and Waldbrook, 1991**	**Ecotourism Opportunity Spectrum Boyd and Butler, 1996**
Pristine Wilderness	Passive Soft Adventure	Eco-specialist activities
Highly Controlled Urban	Active Hard Adventure	Eco-generalist activities

All of these models seek to move away from trying to find a limiting number of visitors, and towards an attempt to manage the destinational resource with an eye towards formulation of ideal future conditions.

There is an acceptance of the idea that user satisfaction can be sourced to a wide range of competing factors, dependent on site distinctiveness and usage characteristics, and of the corollary that a formulaic limitation of user numbers is of little value. On the other hand, the acknowledged flaw in each of these approaches is the need for substantive survey work (or wildly subjective estimates) to assess the nature of visitor demand for specific opportunities, otherwise there is a serious risk of maximising an array of opportunities that no-one actually wants.

Perhaps the single greatest advance in thinking at that time was represented by the development of what has become known as the 'Limits of Acceptable Change' approach (Stankey et al, 1985). As with so many relative innovations in visitor management, LAC was developed by the US Forest Service, in this instance for use in relatively isolated and wilderness situations (a frequently forgotten caveat that can impact the model's effectiveness in alternative scenarios). Nevertheless, the introduction of LAC philosophies represented a radical shift in emphasis when compared with carrying capacity analysis, and a significant enhancement of the foundational principles first propounded by the Recreational Opportunity Spectrum. The key elements of LAC are :

- Acceptance that *any* human use of the environment will result in some degree of change, and consequent emphasis on the results of human intervention rather than its scope and scale.
- Contention that each environment is entirely individual in terms of its natural and social circumstances, to the extent that the acceptability of change will be predominantly site-specific.
- Site specificity demands a similarly flexible management response that is able to accommodate both technical planning elements and subjective value judgements. Thus, the LAC approach includes a fairly conventional strategic planning process, accompanied by a parallel and intensive stakeholder involvement programme.
- Focus moves away from a measure of the number of visitors and their associated behaviours, and towards assessment of the environmental outcomes of these behaviours. Here, environment is visualised in an inclusive sense, and is held to embrace ecological, economic and socio-cultural elements.

A summarised version of this approach is presented in Table 2 below.

Table 2 : The Limits of Acceptable Change Planning System

1. **Identify the site's special values, issues, concerns**
2. **Identify and describe recreation opportunity classes (ROS often used here)**
3. **Choose appropriate indicators to measure resource and social conditions**
4. **Compile an inventory of current resource and social conditions**
5. **Establish ideal or desired standards for resource and social conditions**
6. **Identify alternatives for the allocation of opportunity classes**
7. **Identify appropriate management actions for each alternative**
8. **Evaluate and select preferred range of opportunity classes**
9. **Implement actions and monitor alternatives**

The LAC Based Models

The LAC approach is clearly distinguishable from carrying capacity analysis in terms of its focus on ends rather than means, and has generally been welcomed for its focus on quality maintenance, both in terms of the site itself and in terms of the visitor experience at that site. In its frequent implementations since 1985, the model has proved to be valuable in its strategic and holistic long-term future orientation, but has sometimes been open to undue influence by vocal lobby groups, both commercial and non-profit. It was partially in response to those concerns that a number of LAC-based variations on the visitor management theme were subsequently introduced.

Visitor Activity Management Programme (VAMP)

Like many similar agencies world-wide, the Parks management system within Environment Canada is required to both protect the integrity of natural areas and to encourage recreational use of these same areas - again like many sister organizations, Parks Canada has traditionally been much better at 'protect' than they have been at 'recreate' (Graham, Nilsen and Payne, 1988). Offered as a somewhat simplified version of the original nine step LAC model, VAMP is a management framework that seeks to incorporate the twin pillars of strategic management and stakeholder involvement, In this respect, Graham et al (1988) comment that VAMP represents an acknowledgement that a bias towards protection over recreation existed, and that it was thus necessary to adjust Parks Canada's focus by moving away from being a product driven organization and towards being a customer driven organization - in essence, away from WE know best and towards THEY know best.

VAMP is regarded as a framework to reconcile resource protection with visitor use, and was designed as a visitor management bolt-on to an already existing natural resource management process. It bears a close resemblance to a conventional strategic planning model, incorporating a portfolio of objectives, terms of reference, data analysis, options, recommendations, and provision for implementation, and seeks to generate strategies based on both ecological and social considerations.

Visitor Impact Management (VIM)

The United States National Parks Service has a statutory obligation to consider maximum carrying capacity of the environments entrusted to its management. In response, the National Parks and Conservation Association has been influential in the preparation of a management framework known as VIM (Graefe, Kuss and Vaske, 1990). Like Canada's VAMP approach, VIM is conceptually based on the LAC philosophy, and also incorporates a staged planning process - the eight stages of VIM planning are shown in Table 3 below.

Table 3 : The VIM Planning System

1. **Conduct a pre-assessment database review**
2. **Review management objectives**
3. **Choose appropriate indicators to measure key impacts**
4. **Establish ideal or desired standards for impacts indicators**
5. **Compare desired standards with existing standards**
6. **Identify probable causes of negative impacts**
7. **Identify appropriate management strategies in response**
8. **Implement strategies and monitor results**

VIM is, like LAC, an extension of the opportunity spectrum approach, and seeks to assess, control and ameliorate the impacts of visitors on a resource and recreation experience. In this respect, the eight stages shown in Table 3 combine to firstly describe relationships between specific conditions of use and the impacts resulting from these conditions, and secondly to evaluate acceptability of each range of impacts. However, by adopting a somewhat negative focus, on resolving negative impacts rather than achieving ideal conditions, VIM seems to be almost resigned to the idea that environmental damage is going to occur - the subsequent focus then appears to be on limiting damage, rather than preventing or repairing it, a perspective that can be seen as either realist or defeatist, dependent of course on the eye of the beholder.

Visitor Experience and Resource Protection (VERP)

The VIM model may be seen as one manifestation of a move away from the "limiting numbers" philosophy of carrying capacity analysis, and this was probably inevitable given the 30% increase in visitation to US national parks in the 1970s, and a 35% increase during the 1980s (Hof et al, 1994). The VERP model, also designed for

use by the US National Parks Service, owes its origins to the same logic that drives both LAC and VIM, but is significantly different in that it is intended for use across a much wider spectrum of natural environments - as such, its principal benefits are seen as equally appropriate to high-profile visitor destinations, as opposed to isolated wilderness areas, and this distinction is clearly evident in the planning stages proposed by the VERP framework (US Department of the Interior, 1997).

Table 4 : The VERP Planning System

1. **Assemble a project team**
2. **Develop statements of park purpose, significance and primary theme(s)**
3. **Map and analyse resources and visitor experiences**
4. **Establish a spectrum of desired resource and social conditions**
5. **Use a zoning model to identify proposed management plan**
6. **Choose appropriate quality indicators for each zone**
7. **Compare desired conditions with existing conditions**
8. **Identify probable causes of desired-existing discrepancy**
9. **Develop or refine management strategies in response**
10. **Implement strategies and monitor results**

Tourism Optimisation Management Model (TOMM)

An interesting, and relatively recent, adaptation of LAC principles is evidenced by the Tourism Optimisation model developed and implemented in a number of Australian visitor sites (Manidis Roberts Consultants, 1997). TOMM seeks to rectify what its authors believe are significant weaknesses in the previously discussed frameworks - LAC's lack of consideration of tourism industry viability, VIM's focus on minimising negative impacts - and seeks to present a framework that meets the needs of four key vested interests :

1. the ecological health of the visitor resource
2. the perceived quality of the visitor experience
3. the economic sustainability of the visitor experience
4. the continued endorsement of the host community

Though TOMM's authors acknowledge their model's origins in the LAC philosophy, they claim to better meet the needs of multiple stakeholders rather than a single decision authority. As such, it places a much stronger emphasis on the consultative process suggested by the first two steps in the LAC planning model (Table 2), and specifically includes the relevant tourism industry operators in the consultation process.

Some Thoughts and Conclusions

Greatly increased volumes of visitation to national parks and other protected areas has probably been inevitable, given the continued urbanisation, congestion, and pollution faced by citizens of the world's more industrialised countries. In response, as their day-to-day existence becomes increasingly stressed and harried, these citizens are increasingly attracted to the perceived tranquillity and solitude of the natural world. In addition, recent years have seen the emergence of a greater generic concern for environmental issues, a growing realisation of the extent to which individual floral and faunal species are becoming extinct, and a consequent upsurge in demand for nature-based visitor opportunities. However, because demand for recreation space is increasing, and supply is not, protected area managers cannot avoid a future in which ever higher quality of recreational experience is demanded by an ever higher quantity of visitors (Buckley and Pannell, 1990). Thus, the site manager whose dominant concerns have historically been centred around resource protection must now accept a parallel requirement to demonstrate competence in people management - arguably a much more complex task.

For example, perceptions of what constitutes an 'outdoor experience' varies wildly amongst user groups, who can seek a range of activities from an afternoon picnic in a grassed area close to the highway, to an extended tramping expedition to remote and untouched wilderness - in between these extremes are a plethora of single-interest user groups, motivated by (amongst others) a need for education, a need for social interaction, or a need to pursue a specific sporting or recreational interest. This multiplicity of use phenomenon is important, because it is the things that visitors do, rather than how many of them there are, that principally determine the nature and extent of visitor impacts (Wallace, 1994). Thus the fatal flaw in the carrying capacity approach, and the rationale for the outcome-based models discussed in the previous section.

In these circumstances, it seems clear that appropriate natural area management requires a balanced approach, taking into account both the supply constraints associated with the nature of the outdoors resource, and the demand characteristics implied by various visitor segments' choice of specific experience opportunities. As Boyd and Butler (1996) observe, a necessarily central platform of all management frameworks is the idea that both the resource and its users have to be managed for, in any given protected area environment, each needs the other to support its continued viability. It is therefore reasonable to question the extent to which 21st century park managers have adopted and implemented an appropriate visitor management framework in response to the twin demands of resource protection and visitor experience enhancement - in this respect, I believe that four key questions are especially valid :

1. What are the central principles that permeate each of the management frameworks discussed in this paper ?
2. What are the primary options available to managers in terms of determining visitor management strategies for a given outdoors recreation site ?
3. To what extent have visitor management principles and strategies actually been implemented ?
4. What are the future prospects for sustainable management of these vitally important natural resources ?

Visitor Management Principles

Initial enthusiasm for the inputs-based carrying capacity approach to visitor management has significantly subsided over the years, and natural area managers are now more likely to favour the type of outcome-based approach exemplified by LAC and its derivatives. The foundation principles of LAC have been separately identified earlier, as have the (explicit and implicit) modifications introduced by subsequent models. However, it is useful to offer a summary of these principles, in the form of the set of key elements of an outcomes-based management approach proposed by Wight (1998).

Table 5 : Key Elements of an Outcomes-Based Visitor Management Framework

1. **Primacy of ecologically sustainable development**
2. **Continuous stakeholder involvement in the planning process**
3. **Recognition of the existence of multiple viewpoints and acceptance of the need to reconcile intersectoral conflict**
4. **Adoption of an integrated and holistic approach to resource management**
5. **Due regard for social and ethical values throughout the planning process**
6. **Identification of a wide spectrum of key indicators, selection criteria based on considerations of ecological, social, and economic sustainability**
7. **Adoption of an appropriate spatial and temporal scale for the planning process**
8. **Incorporation of an effective implementation and monitoring provision**

Source : Wight (1998).

Consideration of Wight's eight components suggests that effective management of a natural resource may require an extraordinarily broad approach, both in terms of the range of stakeholder involvement sought and the 'big picture' approach to strategy formulation. In addition, her multi-faceted requirement for strategy assessment and evaluation is reminiscent of Kaplan and Norton's (1992) 'balanced scorecard' approach, in the sense of valuing economic and social criteria on an equitable footing with the more conventional ecological concerns. Such an advocacy of wide consultation, long-term perspective and multiple evaluation criteria is hardly new, for it is an approach that enjoys considerable academic support - however, I believe it is fair to say that examples of successful implementation are much more difficult to find in the literature.

Visitor Management Strategies

The national parks environment offers considerable scope for the introduction of a formalised and outcomes based visitor management regime, a concept that is often much more difficult to establish in a private sector for-profit situation (Boyd and Butler, 1996). Often, a 'protected area' designation means that resource and visitor management responsibility rests with a single parks authority, one that is frequently staffed by an ecologically aware workforce and charged with a range of 'public good' objectives. From that apparently solid foundation, the authority is then required to determine those strategies that will best maximise the interface between resource protection and experience enhancement. Borrie, McCool, and Stankey (1998) have suggested a list of eleven principles that might assist managers to select the most appropriate strategies.

Table 6 : Eleven Visitor Management Principles for Natural Areas

1. **Diversity of characteristics, within and between resources, is both desirable and inevitable**
2. **Human use of a natural resource will inevitably impact on resource and social conditions**
3. **The relationship between use and impact is site-specific, influenced by multiple variables, and non-linear in structure**
4. **The majority of management problems are but marginally related to use density**
5. **Establishing limits to usage is just one of many management options**
6. **Impacts may be temporally or spatially discontinuous**
7. **An appropriate goal for management is to influence human-induced change**
8. **Appropriate management requires explicitly stated objectives**
9. **Decision makers must recognise the distinction between technical solutions and subjective value judgements**
10. **Consensus amongst involved stakeholders is vital to successful strategy implementation**
11. **Effective monitoring is essential for professional management**

Source : Borrie, McCool and Stankey (1998).

On the basis that Borrie et al's principles may function as useful aids to choosing between strategic alternatives, it is then valid to consider just what these alternatives might be. Borrie et al note that 'limiting use' is just one of the many options open to managers, and this is an especially important consideration in view of the fact that visitor management is just one (albeit important) factor in the overall park management picture - in this respect, and as early as 1987, Cole, Petersen and Lucas had identified eight possible strategies that could be used to manage visitor impacts on the resource so visited :

1. reduce visitation to, and/or usage of, the entire area
2. reduce usage of 'hot spot' sites within the area
3. change the location of visitor activity within 'hot spot' areas
4. modify the timing of visitor usage
5. modify the type of use and associated visitor behaviours
6. modify visitor expectations

7. increase the resistance of the resource to usage
8. maintain or rehabilitate the resource to permit greater usage

Perhaps the most interesting implication to be drawn from the Table 6 principles, and the range of available strategies that flows from these principles, is that the set of conditions deemed to be desirable will change over time (Williams and Gill, 1998). Park management strategies do of course need to incorporate due consideration of the supply characteristics associated by the resource base, but the eventual opportunity spectrum is more likely to be a function of the wishes of both the relevant visitor segments and the resident host community. These wishes will be by no means consistent, but will be subject to frequent revision and amendment as the destination evolves.

In this respect, Buckley and Pannell (1990) describe what they call the 'principle of recreational succession', an evolutionary model of site development that can be summarised in seven main stages :

1. The initial remoteness and isolation of the site appeals to a small group of wilderness aficionados
2. Visitor satisfaction with the remote experience leads to an increased volume and density of visitation
3. As the visitor statistics intensify, site characteristics change in consequence
4. As site characteristics change, so too do the type of visitors, their expectations, requirements and enjoyments
5. Those who love wilderness move elsewhere, to be replaced by those who prefer a more social experience
6. Visitors may still express satisfaction with the experience offered - but they're not the same visitors.
7. Thus a pernicious deterioration in site quality can sometimes go un-noticed.

The Ideal World and the Real World

The material offered in earlier sections in this paper is believed to offer a compelling case for the adoption of some form of holistic, integrated strategy for the management of visitors to national parks and other protected areas - the powerful cost-benefit equation that applies to such an approach is virtually unchallenged in the literature, at least in terms of 'what we ought to do'. Why, then, does it seem that so few examples of integrated and holistic visitor management actually exist in the world's national parks and protected areas ?

In an extensive world-wide survey conducted in 1994, Giongo, Bosco-Nizeye and Wallace found that less than 10% of the 319 responding park managers used LAC in their strategic planning activities, and less than 20% used any one of VIM, VAMP or ROS. In fact, just on 50% of respondents undertook any impacts monitoring of any description, while no more than 40% of parks made any effort to measure visitor satisfaction levels. As a result, the authors were able to conclude that park managers world-wide were considerably more adept at operational planning than they were at strategy, a finding which was much more pronounced in developing countries than in developed - and this against a backdrop of an annual visitation increase of 28% in developing countries, as opposed to a comparative rate of 6% in more developed counterparts.

Yes, the results of this survey are now nearly ten years old, and a replication study is by now well overdue. However, I would argue that the literature since 1994 remains strong on theoretical discourse and weak on empirical investigation, to the extent that it is tempting to conclude that the topic has lost its lustre in the eyes of the research community - just as the need for effective visitor management in natural areas has never been higher.

Where To From Here ?

Wallace (1994) notes that protected area management can only prove successful when tourist activities are aligned with management strategy, and management strategy is similarly aligned with resource capability. Thus, there is a strong potential for positive symbiosis, between the needs of park managers and visitors, tourism concessionaires and host community, that needs to be carefully monitored to ensure that an

appropriate balance is maintained. The review presented in this paper suggests that the tools to implement such a monitoring regime are readily available, albeit imperfectly tested, but that park administrations are noticeably lacking in the ability or the desire to take full advantage of the tools available.

As the world market for nature-based experiences continues to rapidly expand, the character of destination areas will inevitably change in response to variations in the demand curve - Butler and Waldbrook (1991) note that, as markets expand, so do experiential possibilities, and effective and efficient management is necessary if only to ensure that a destination area is able to maximise its ability to service several contrasting market segments simultaneously. At the same time, the growing world-wide influence of market forces economics seems likely to result in reduced government funding for ecological conservation, with parks management increasingly expected to fund conservation operations from a user-pays approach to visitor management. There is little in the literature to suggest that park management is adequately equipped to meet these expectations.

As a prelude to any recommended interventions, further research is justified into current world-wide demand figures and the management strategies typically used in response to that demand. As previously noted, the most intensive piece of descriptive research available in relation to this topic (Giongo et al, 1994) is now almost ten years old, and the dangers of reliance on that vintage of baseline data should be self-evident. A necessary first step towards a more reliable assessment is therefore a replication of the Giongo et al survey, with minor amendments to incorporate changing global circumstances. To quote the objewctives of that original survey :

1. To generate descriptive information for the following :

    - protected areas' establishment, size, staff, budget, and indicators of management direction
    - the number and types of visitors, and the infrastructure and visitor management techniques being utilised
    - the nature and extent of protected areas' involvement with local people
    - the level and sources of revenue for resource protection and visitor management

2. To compare similarities and differences between developed and developing countries in terms of the variables described above.

This is the project that is set to engage the author's attention over the next eighteen months or so !

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