ANZECC BEST PRACTICE/BENCHMARKING PROGRAM

National Data Standards on Protected Areas

1996

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Steering Group Members

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- Meg Bishop, Manager Interpretation, ACT Parks and Conservation;
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- Bob Hoey, Qld. Department of Environment;
- Luisa Liddicoat, Vistat Coordinator, Department of Conservation and Land Management, Western Australia;
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- Dino Zanon, Melbourne Parks & Waterways;
- Dr Graham Cuskelly, School of Leisure Studies, Griffith University;
- Dr. Chris Auld, School of Leisure Studies, Griffith University.

Research Assistants and Report Preparation

- Richard Mills, Beth Plowman and Esther Sun, Centre for Leisure Research Griffith University.

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1.   INTRODUCTION

This benchmarking and best practice study has been compiled to compare processes used by various protected area agencies in Australia & New Zealand in collecting visitor use data.

The best practice processes defined in this study have been specifically developed to enable agencies to choose which process is the best practice (most relevant) process for their protected area system and budgets.

Before an agency decides which process it plans to use a number of questions must be asked.

- What types of visitor use information does the agency need;
- Why does the agency need this information;
- How will this information be used and integrated into park management.

This report deals specifically with how visitor use information can be gathered to best practice standards. It is important for agencies to view the collection of visitor use data as only part of their total management plan.

The commitment to developing a visitor use system must be long term and the system must have a practical purpose and produce tangible results that are part of the agencies overall park management objectives.

2.   AIMS AND BROAD OUTCOMES

This study sought to collect data on current practice in the collection and management of visitor data throughout the protected area system in Australia and New Zealand. Further, data was collected from a variety of other organisations both in Australia and overseas which shared the need to collect data on visitors. These included theme parks, urban parks, tourism organisations, State Forests and overseas protected agencies.

A model of best practice (relevant practice) in collecting and managing visitor data was developed based on the information received from this diverse group of organisations. The model was applied to individual protected area agencies with a view to enabling evaluation of internal practice against the best practice model. Profiles of most common practice and average practice within ANZECC agencies were also developed to facilitate comparisons between agencies and with other organisations to reveal opportunities and constraints in current practices.

The study has revealed a high level of practice in many individual agencies and organisations within Australia and overseas which provides a fund of detailed implementation information for future study in improving practice in visitor data collection and management in protected areas.

3   DATA COLLECTION PROCESS

The first stage involved the compilation of a data base on current practice in collecting visitor data in the three areas of visitor use, characteristics and satisfaction. A comprehensive questionnaire survey of the Protected Area Agencies in Australia and New Zealand provided an overview of the diversity of visitor data collection processes currently utilised. A data base in Microsoft Excel was compiled from the survey data. All nine protected area agencies within Australia and New Zealand provided responses.

A second stage of the data gathering process involved the collection of similar data from overseas protected area agencies, particularly Parks Canada and BC Parks, which have been a world leaders in this field and from other agencies and commercial operations which shared similar needs for data on visitors e.g. Melbourne Parks & Waterways, theme parks, State Forestry Departments and tourist resorts. A total of eleven (11) other organisations both within Australia and overseas were contacted for information on their visitor data collection processes.

4.   DEFINITIONS

Visitor Number Definitions

A central consideration in the development of a national data base on protected areas is the question of what is used to estimate attendance at protected areas. For attendance figures to be useful, they must relate in some way to protected area functions, particularly, workload and yet make sense when accumulated at a national level or transferred from one agency to another. The relationship between workload and visitor numbers is complex and not readily demonstrated but can be approximated by a combination of absolute numbers of visitors and duration of stay.

Work by Beamann and Stanley (1991: Volume 2: Appendix 8) in Parks Canada suggested that three measures of attendance are necessary to accurately reflect both workload and performance across a protected area agency. These measures incorporate both purpose and duration of visit:

- the person-entry: this occurs whenever a person enters a protected area for any purpose;
- the person-visit: this occurs when a person visits a protected area for the first time on any given day or on the first day of the stay for the purpose of participating in protected area related activities;
- the person-visit day: occurs when a person stays in a protected area for a day or part-day; each day the person stays counts as an additional person-visit day.

A survey of the main 'visitor' definitions used in protected area agencies in Australia indicated that the concepts of trip purpose and duration are already recognised as being useful measures of attendance. However, consistent definitional criteria for these parameters are lacking, as is the realisation that a number of measures is required for accurate assessment of performance. The study by Beamann and Stanley provides a defensible argument for the general adoption of the three proposed attendance measures across the protected areas in Australia.

Park Type Definitions

Protected areas vary in their physical characteristics in terms of visitor numbers, seasonality of visitation, access, distance from centres of population, staffing, entrance exit controls etc. These characteristics severally and jointly will make difficult the development of a standardised system suitable for all types of protected areas.

Despite this wide variability in character, it might well be possible to 'cluster' protected areas into a small number of similar groups based on a combination of relevant criteria e.g. visitor numbers, staffing and entrance/exit control and on this basis develop a series of data collection and management strategies which accommodates the individual but not necessarily unique characteristics of each protected area. The first stage of this process was implemented through the recognition of two main types of protected areas:

- High Visitation Parks (Type 1) those parks that cater for high volumes of visitor traffic and account for a large proportion of an agency's park visits (approximately 80-90%
- Low Visitation Parks: (Type 2) those parks that cater for low volumes of visitor traffic and account for a small proportion of an agency's park visits (approximately 10-20%).

5.   BEST PRACTICE MODEL

A three-stage process was used to develop the best practice model.

Stage 1: Classification of Visitor Data Collection and Management Processes

Three major processes were identified:

- Data Collection/return;
- Data Input and Analysis;
- Information Input into Management.

Each of the individual sub-processes provided by the protected area agencies in response to the survey (Volume 2: Appendix 1) were classified under these main headings. This provided a list of sub-processes which could be applied across the broad areas of visitor satisfaction and use.

Stage 2: Development of Best Practice Criteria

The overall aim of a Visitor Data Management System is to provide reliable data which can be analysed and made available to inform decision making at all levels in a protected area agency. On this basis, a list of Best Practice Criteria for such a system were developed.

The Visitor Data Management System should have the following general characteristics:

- it should provide data that is:
- compatible with other sources at state and national level e.g. tourism data; ABS data;
- able to be aggregated at regional, agency and national levels;
- available at all levels within a protected area agency.
- adopt methods that:
- are acceptable to staff;

- are able to be integrated into protected area operations;
- are automated;
- minimise impact on visitors;
- improve customer consciousness.
- uses standardised terminology.

In addition, the data COLLECTION process should:

- aim to quantify appropriate market segments within the visitor population and use these as a basis for collection of information on visitor satisfaction and specific management issues;
- be sensitive to the individual characteristics of the protected area
- optimise the frequency of data collection;
- optimise the return rate of surveys;
- be sufficiently flexible:
- to evolve as needs and data requirements change;
- to accommodate a variety of methods of data collection

The methods of ANALYSIS, PRESENTATION and STORAGE should:

- use appropriate and compatible computer hardware and software for analysis and storage of data which includes standardised reporting functions (tables, graphs, summary statistics etc.);
- provide secure long-term data storage and retrieval and the information derived from visitor data should be readily integrated into the MANAGEMENT DECISION MAKING PROCESS and should:
- be available in a time frame that enhances decision making; be effective in problem recognition and resolution;
- be in a form that is accessible at the various levels of decision making i.e. system, strategic and operational;
- be linked to management procedures and policy development.

Stage 3: Relative Ratings for Sub-Processes

The criteria derived above were used to rate the various sub-processes provided by the agencies on a 5-point scale within the three broad categories of Data Collection/Return, Data Input, Analysis and Storage and Information Input into Management.

A number of assumptions underlie the scalar quantities that have been attached to the various sub-processes. Where appropriate, the guiding assumption is included under each practice (For full details refer to Volume 2: Section 3.3). A major underlying assumption is that the highest score represents 'best practice' in a protected area that has a high visitation, adequate staffing and relatively controlled access. The fact that many protected areas deviate from this 'ideal' indicates the need for flexibility in the system of managing visitor data. Such flexibility necessitated the development of a Best Practice Model that incorporated a broad spectrum of processes which could be mixed in various combinations to provide the necessary match between the processes and scale of data gathering and management purposes.

The Best Practice Model is detailed in Volume 2: Sub-Section 3.3 and explanatory notes on the various sub-processes are provided in Volume 2: Appendix 3

Best Practice Processes

Figures 1, 2 and 3 summarise the proposed Best Practice processes as derived from the Best Practice Model (i.e. sub-processes rated as 5 in the Model). Best Practice as illustrated in these figures is derived from a combination of Australian, industry and overseas practice.

Figure 1 illustrates in flow-chart form the processes suggested as representing best practice in the measurement of visitor satisfaction using a survey methodology.
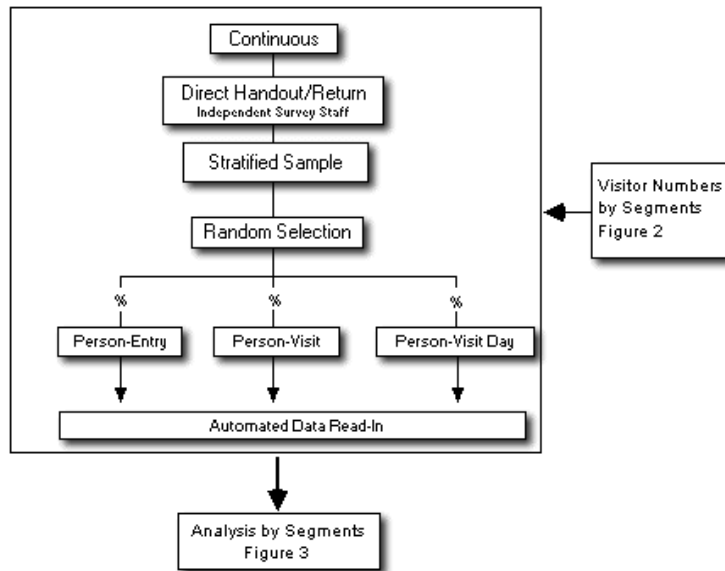

Figure 2 details these same processes for the assessment of visitor numbers using automatic counters (vehicle), fees and ranger observation.
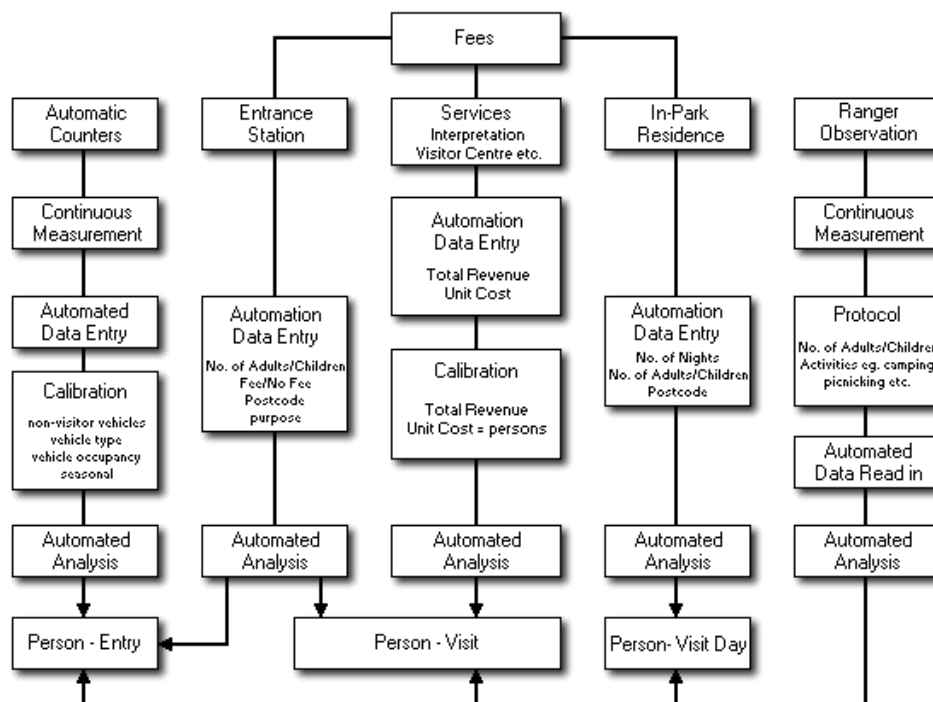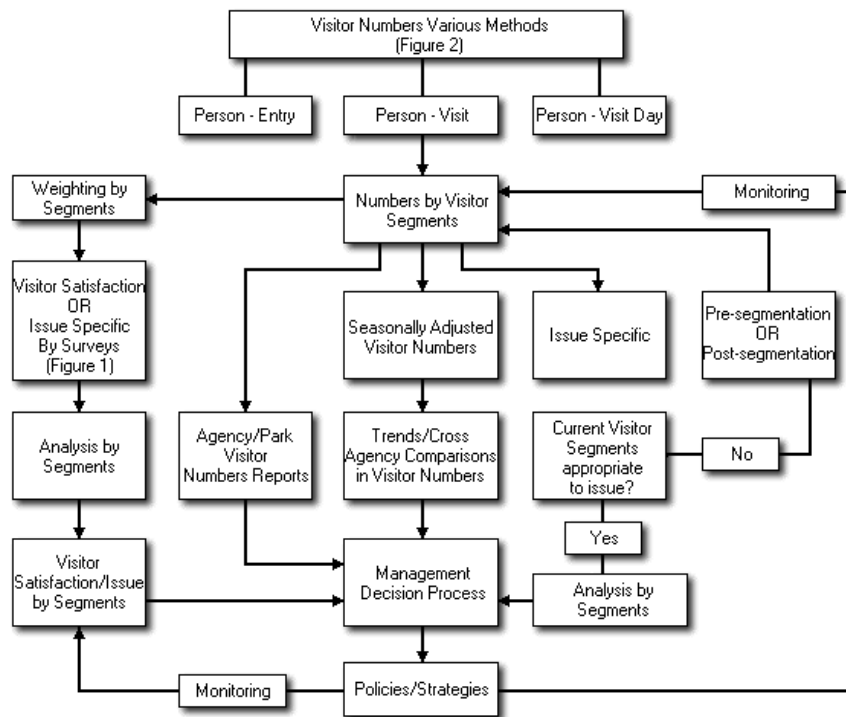
Figure 3 details the integration of satisfaction measures and visitor number assessments into the management decision process.

The assessment of visitor satisfaction or, indeed, any measure of visitor opinion, is viewed as a two-stage process. The initial stage is an estimation of visitor numbers which provides the basis for appropriate sampling of visitor opinion on the issue in question. A central consideration in this assessment is the derivation of appropriate visitor segments either on the basis of pre-segmentation (e.g. activity groups) or on some derived variable of interest (post-segmentation into 'experience' groups e.g. 'nature lovers'). For the purposes of illustration the major proposed visitor number segments (Person-entry, visit and visit day) are used in Figures 1 through 3.

A second characteristic of the proposed best practice is the use of 'automation' for data entry and analysis. The increasing availability of desk-top computers, internet systems, automated survey readers, sophisticated point-of-sale systems etc. can remove much of the routine tasks from the data management process, enhance the real-time availability of information at all levels and allow managers to become increasingly sophisticated and creative in the use of information in managing protected areas.

While Figures 1 and 2 are self-explanatory, two specific aspects of Figure 3 require some elaboration. The first is the use of the idea of 'Seasonally Adjusted Visitor Numbers'. This draws on the concept of 'seasonally adjusted employment figures' and indicates the need to take into account variations in the calendar from year to year and the effect on park visitor numbers of 'floating holidays' (e.g. Easter weekend) and 'special events' (weather, environment days etc.) (Beaman, Vaske and Stanley; in press). For example, variations in the numbers of weekends in a month from year to year can cause as much as 20% change in visitor numbers in any one month. Thus the use of raw figures can be deceptive when examining trends in visitor numbers over a period of years. On the positive side, the use of 'seasonally adjusted figures' can also reveal the effects of specific promotional events on visitor numbers and hence cost effectiveness.

The second point relates to the use of the '20% rule'. Experience in Parks Canada (Beaman, pers. comm.) indicates that the use of such a criterion in assessing the significance of changes in visitor numbers provides an appropriately sensitive indicator of the need for management response.

6. PRACTICE IN AUSTRALIAN PROTECTED AREA AGENCIES

Current Data Collection/Return, Data Input and Analysis and Input into Management processes for assessing *visitor satisfaction* by survey methods and estimating *visitor numbers* by use of automatic counters, fees and ranger observations are summarised in this section for all nine Australian protected area agencies.

Most Frequent and Mean Best Practice Ratings for Type 1 and Type 2 Parks in Australian Protected Area Agencies

These data are summarised in graphical form in Appendices 1 (Type 1 Parks) and 2 (Type 2 Parks) of this Volume.

Mean Rating of Current Performance in Type 1 and Type 2 Australian Protected Area Agencies

Visitor Satisfaction

A mean rating of current performance chart was compiled for the Australian agencies (Figure 4). The results indicate that performance is high with regard to handout and collection of surveys i.e. mostly direct handout and return of short survey questionnaires. However, the frequency with which such surveys are undertaken, the method of selection of respondents and the processes for analysis are all relatively low. The frequency of integration into management which is also low, reflects the 'occasional' nature of the data collection. While, in general the ratings of the processes are lower in Type 1 than in Type 2 protected areas, the overall pattern is very similar, indicating that agencies are perhaps making little distinction between the two areas in terms of the allocation of resources to data collection.

Figure 4: Best Practice Ratings for Satisfaction Assessment Practices in Type 1 & 2 Protected Areas
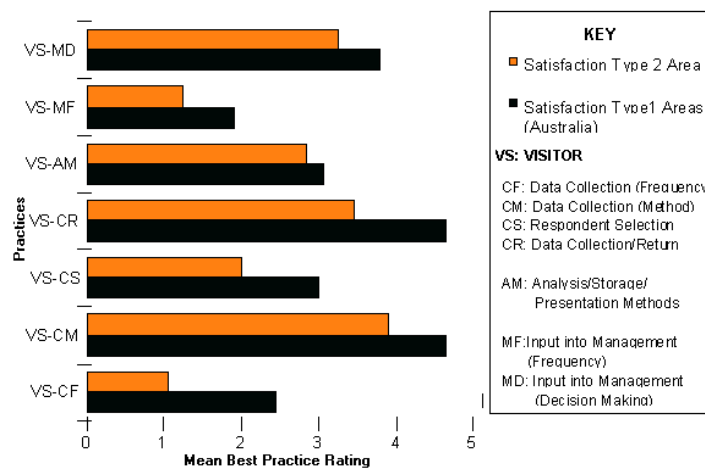
Visitor Numbers by Use of Automatic Counters (Traffic)

An analysis of mean best practice rankings (Figure 5) of the estimation of visitor numbers by automatic (traffic) counter in Type 1 protected areas at the present time indicates the following practice: continuous reading using full calibration (non-visitor traffic, vehicle type and conversion), read manually on a weekly patrol, analysed by standard software and report with monthly and annual entry to mainly operational and strategic management. Practice in Type 2 protected areas reflects a use more consistent with a monitoring function.
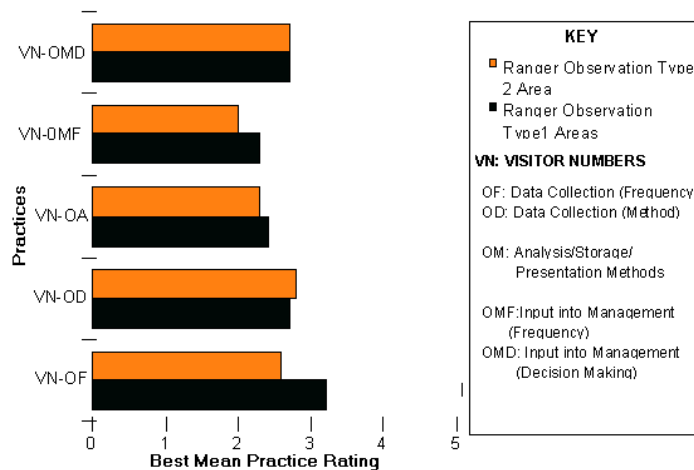
Figure 5: Best Practice Ratings for Visitor Use Assessment by Automatic Counter in Type 1 & 2 Protected Areas
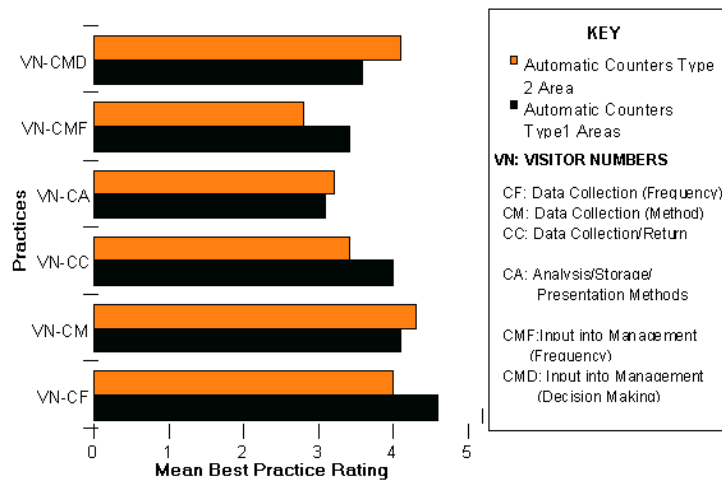
Visitor Numbers by Use of Ranger Observations (Figure 6)

All agencies use Ranger Observation to some extent. Mean practice in the use of observation in Australian Protected Areas may be summed up as follows: occasional informal observation of numbers and activities using no standard procedure for analysis or presentation. This data is integrated into management as needed on an issue specific basis. There is little difference between practice in Type 1 and Type 2 areas.

Figure 6: Best Practice Ratings for Visitor Use Assessment by Ranger observation in Type 1 & 2 Processed Areas.

Visitor Numbers by Use of Fees

All but one of the nine agencies collect fees of some kind and use them in estimates of visitor numbers. Figure 7 shows the mean best practice ratings for assessment of visitor use by fee collection for Type 1 and Type 2 Protected Areas. The generally high levels of fee collection and management practice is consistent with audit requirements. Relatively high levels of calibration and integration into management are evident in Type 1 areas. In general, the practices in Type 2 areas are scaled down with ranger collection and self-registration dominant combined with minimal calibration (numbers) and manual, unstandardised analysis and reporting. There is more emphasis on information integration on an 'as needed' basis, principally in an issue specific context.

Figure 7: Best Practice ratings for Visitor Use Assessment by Fee Collection in Type 1 & 2 Protected Areas.
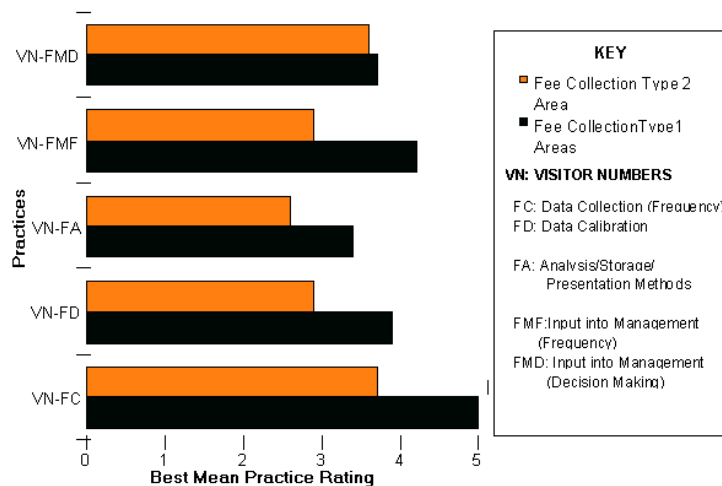
7.   PRACTICE IN AUSTRALIAN PROTECTED AREA AGENCIES AS COMPARED TO COMMERCIAL ORGANISATIONS AND INTERNATIONAL PROTECTED AREA AGENCIES

A number of Australian commercial companies (theme parks, resorts and a State tourism body), overseas protected area agencies (Parks Canada, British Columbia (BC) Parks and the Department of Conservation, New Zealand) State Forest Department (Queensland and Tasmania) and a metropolitan urban park system (Melbourne Parks & Waterways) were approached to provide information on the processes used to collect visitor data

Visitor Satisfaction

Comparisons of average performance were conducted with commercial ventures, overseas protected areas and other 'park' agencies. Average performance of Australian protected areas in the individual practices was generally lower than in the other organisations. Key deficiencies lay in frequency of administration and use in management. Overseas protected agencies undertook surveys more frequently and had more highly automated data entry and analysis systems than was typical in Australia. It was also evident that practice varied markedly with park type in overseas agencies but was quite uniform across types in Australian protected areas.

Automatic Counters

The average level of practice in the collection and management of automatic counter data within protected areas in Australia is high (Mean rating 3.8) although lower generally than both overseas and metropolitan park practice except in the more stringent calibration used in the Australian protected area context. Practice in Type 2 protected areas appears to reflect a lower level of practice consistent with management needs for information from this type of area.

Ranger Observation

Ranger observation is used by all Australian agencies and by two out of the three overseas agencies. Practice was dominated by informality in both data collection and management.

Fee Collection

Fee collection is widely used both in Australia and overseas as a means of assessing visitor use. The average practice of Australian protected area agencies is lower than that of commercial enterprise and comparable with practice in overseas protected areas. In both overseas and Australian Type 2 protected areas the practice is lower than in Type 1 areas. However, Australian practice is significantly higher than overseas in the Type 2 areas and higher overall with regard to the conversion of fees ($) into visitor numbers. A deficiency is perhaps evident in the level at which revenue collection from protected areas is integrated into management. Few agencies integrate at the policy and strategic level where increasingly the economic contribution of protected areas to the community needs to be recognised.

8.   CONCLUSIONS

Best Practice Criteria
1. the best practice criteria and ratings be endorsed as appropriate targets for the development of visitor use monitoring systems within high-use protected areas;
2. each agency consider the diversity of the protected areas within their system and develop proposals as to the combinations and levels of practices which would be acceptable across the spectrum of protected area types;
3. standardisation be sought with regard to acceptable systems of collecting and managing visitor data across the diversity of the protected area estate in Australia

Visitor Use Measures
1. three measures would seem to be appropriate in assessing visitor use namely *person-entry*, *person-visit* and *person visit-day*. In high use protected areas all three measures should be used to provide an estimate of variation in workload on an annual and seasonal basis. In more lightly visited parks, person-entry measures based on traffic counters and/or fee registration and/or ranger observation may be more appropriate;
2. these three measures should form the basis of a standardised system of assessing visitor numbers to protected agencies throughout Australia;
3. where visitor numbers are quoted an indication of the basis on which they have been derived, based on the best practice criteria, should be available;
4. the use of a standard self-registration and/or permit with key visitor characteristics across all protected area agencies should be explored;
5. a standard ranger observation protocol be developed for use across the protected area estate;

Visitor Satisfaction Measures
1. measurement of satisfaction (performance) should be developed as phase 2 of a two phase data collection process. The first phase of such a system is a good understanding of the numbers of visitors and their basic characteristics (i.e. visitor use data). This is an essential prerequisite, as success of the Phase 2 performance data collection depends on representativeness of the visitor sample;
2. appropriate segmentation of visitor populations should form the basis of sampling visitor satisfaction;
3. the areas of frequency of assessment and integration into management of visitor satisfaction data and sample selection need to be addressed;
4. the efficiency of the current practices for the measurement of visitor satisfaction in Type 2 protected areas should be examined.

Analysis and Reporting
1. standardisation of analysis and reporting of base visitor number data across the protected area estate in Australia should be a priority;
2. Management
3. automation of data collection should be a priority in protected areas, especially in the use of automatic counters and fee collection;
4. it is critical that visitor use and satisfaction and economic data be structured to be useful in decision-making i.e. it must be available quickly, easily used (available on a PC at the office on the internet and intranet within the protected area system) and designed to meet the needs of a diversity of users and uses e.g. planners, public relations, ministerials, comparisons and further analyses.