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INTRODUCTION

A Note from the Guest Editors

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The seed for producing this special issue was planted at the 1998 Interpretation Australia Association (IAA) Conference, held in conjunction with the Biennial Heritage Interpretation International Congress in Sydney. Interpretive researchers and academics at the conference discussed the need for supporting and facilitating research about interpretation in Australia and disseminating its findings to a wider international audience.

The seed germinated with the help of the 1999 IAA Conference Planning Team and, in particular, some fertilizing and watering by IAA leadership, including Cathie Plowman, Rachel Fagggetter, Rosemary Hollow, and others who supported our proposal for a special call for research papers in conjunction with the 1999 IAA conference. In turn, the National Association for Interpretation (NAI) along with the Journal of Interpretation Research (JIR) editor, Ted Cable, enthusiastically agreed to the idea that wider dissemination of research on interpretation in Australia would serve the interests of JIR’s increasingly international readership and continue to nurture the growing cooperation and collaboration between the IAA and NAI. This special issue of JIR represents the fruition of those exchanges.

In keeping with JIR editorial policy, each of the research papers and briefs in the following pages emerged successfully from a double-blind refereeing process. Prior to acceptance, each manuscript passed through at least two critical reviews and corresponding revisions. A total of 10 manuscripts were submitted. Choosing which to include was a difficult task, but thanks to a team of hard-working reviewers, we ultimately were able to settle on the articles contained within this volume. Our sincerest thanks and gratitude go to these reviewers: Roy Ballantyne, Cem Basman, Larry Beck, Alan Bright, Ralf Buckley, Warwick Frost, Michael Hall, Elery Hamilton-Smith, Kevin Markwell, Simon McArthur, Bob McHercher, Martha Monroe, Gianna Moscardo, Wei Paradise, Gail Vander Stoep, Carolyn Widner, and Heather Zeppel.

The 10 manuscripts submitted by 15 authors and co-authors revealed a surprising range of interpretive research in a nation where the meaning of the word
interpretation is largely unknown outside of national park agencies, heritage sites, and museums. Those submitting manuscripts were from the states of Queensland, New South Wales, Victoria, and South Australia. Not surprisingly, most authors were based at universities, including faculties and departments of environmental studies/science, tourism, business, and education. The remainder were private consultants.

The papers appearing in this special issue range from reports of individual site-specific research projects and regional projects using multiple data sources and methods, to papers that draw on the findings from numerous studies and published literature.

Elizabeth Beckmann draws on evaluative research spanning a 10-year period and, in particular, compares the results of a multimethod study in Kakadu National Park to the findings of a study that administered self-completed questionnaires to park visitors in several national parks in the state of Victoria. The author capitalizes on the opportunity to reflect on evaluative research in interpretation in the context of societal changes in order to comment on interpretive research needs and directions.

Gianna Moscardo’s article is a site-specific study of interpretation for tourists visiting one of Australia’s best-known natural attractions—the Great Barrier Reef. The research examines alternative distribution methods and evaluates the effectiveness of an interpretive brochure, as well as visitors’ level of satisfaction with the brochure.

The article by Yojana Chadhokar and Lynette McLoughlin provides an overview of the interpretive objectives, facilities, and programs at five wetland sites in the greater Sydney region. The authors use a qualitative analysis involving multiple data sources and methods to illustrate the gaps in the range and depth of interpretive foci and messages from a regional perspective.

Roy Ballantyne and David Uzzell provide a thought-provoking review of international trends as a basis for identifying research issues and priorities for interpretive research in Australia. Much of what they have to say is pertinent to interpretive research in places such as the United States, Canada, and the United Kingdom. Indeed, there are lessons in all four of the papers that have international relevance.

The first research brief, by Jane James, examines the role of researchers in the interpretive planning process, providing an important perspective on the process and issues involved in researching Aboriginal culture. It is a timely illustration of the interpreter/researcher as an active participant in interpreting controversial issues and facilitating reconciliation of those issues.

In the second research brief, Betty Weiler reports on an investigation of quality in ecotour guiding and the role of interpretation in guiding excellence. Grappling with methodological and conceptual issues about what quality guiding is and how to measure it, this research promises to kick-start the important but politically charged process of guide certification in Australia.

We hope that these papers are just the first of what will be a steady flow of research publications reporting on not only Australian interpretation but also an Australian perspective on interpretation and interpretive research throughout the world. The subset of us who identify ourselves with the interpretive profession is a
small segment of humanity. It is high time we begin in earnest to share our perspectives in the global arena. Toward that important end, we are pleased to have been the editors of this special international issue of the *Journal of Interpretation Research*. May NAI, IAA, and like-minded professional societies of interpreters around the world continue what has been started here.

—Betty Weiler and Sam H. Ham
EVALUATING VISITORS’ REACTIONS TO INTERPRETATION IN AUSTRALIAN NATIONAL PARKS

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Abstract:
Interpretive services are accepted elements of recreational experiences in natural areas. But what do we really know about the effectiveness of interpretation? By evaluating their services through well-planned visitor research, interpreters can better focus on enriching visitors’ experiences. This paper presents findings from three Australian studies into visitors’ reactions to interpretation. At Kakadu National Park, guided activities provided more immediate responses to visitors’ questions on Aboriginal art and culture than on-site signs, while a well-designed interpretive mural mitigated people’s disappointment at visiting a wetland area when no birds were present. Two studies of guided activities in Victorian national parks showed that participants were neither the “converted” nor the “same old faces,” and that they valued the very elements that make guided interpretation so special. This paper also demonstrates how variety and innovation in evaluation techniques can enhance the quality of interpretation research.

Keywords:
Interpretation, evaluation, visitor research, Australian national parks, Kakadu National Park, Victorian national parks, guided activities.

EVALUATING INTERPRETATION
Along with picnic tables and walking tracks, interpretive services are generally accepted as de rigueur elements of recreational experiences in natural areas in Australia. But while the effectiveness of picnic tables is clear, what do we know about the effectiveness of interpretation?

Note: Accepted August 1999. The author would like to thank Sue Olsson, David Huxtable, and Dr. Linda Young for their special encouragement and support of her research over many years. She would like to thank them again, as well as Rachel Faggeter and two anonymous reviewers, for valuable feedback on a draft of this paper.
The most common approach to evaluating interpretation has always been to assume the best: “You do not have to be a park naturalist long to learn that interpretation actually does what it is designed to do...results are easily seen in any good program that has been operating for a few years” (Edwards, 1973, p. 27). But by the 1970s and 1980s the benefits of more rigorous and objective evaluation were well understood (e.g., Putney & Wagar, 1973; Moses, Epstein, & Wiseman, Inc., 1977; Propst & Roggenbuck, 1981; Uzzell, 1985; Ham, 1986; Marsh, 1986; Beckmann, 1987a). Aldridge (1974) argued that evaluation for the purposes of improvement was fundamental to established interpretation philosophy, whereas Field and Wagar (1982) believed that effective interpretation required a working knowledge of relevant audiences and that evaluation would ensure that the “limited set of time-honored [interpretive] techniques” were still relevant.

All interpreters have an intrinsic interest in assessing their success by answering the (deceptively) simple questions (e.g., Did the visitors enjoy that?) as well as the more complex (e.g., Am I convincing people to support nature conservation?). Objective evaluation can begin to answer such questions and may help convince an executive hierarchy of the value of interpretation. But despite some extensive evaluation studies by enterprising individuals in the United States, Canada, and Britain as early as the 1970s, organizational commitment to evaluation has been slow to make its impact. Even in the mid-1980s, for example, some eminent interpretation specialists in the U.S. National Park Service were still arguing that informal feedback was all that was necessary (Machlis, 1986).

Perhaps the goals of interpretation provide the perceived difficulty with its evaluation. Goals such as “revelation” and “provocation” (Tilden, 1977) are not readily accommodated by standard evaluative measurement. While arguing for more objective approaches to assessing interpretive effectiveness, Aldridge (1975) insisted that evaluators recognize that some intended outcomes of interpretation are largely inaccessible to standard methodologies. Enjoyment, inspiration, and thoughtful reflection, for example, are less easily measured than factual recall. He viewed subsequent developments with dismay: “The real tragedy is that evaluators are now designing evaluation around what is easy to evaluate when the whole point of evaluation for the interpreter is to encourage more creative interpretation” (Aldridge, 1989, p. 86). Although some might argue that evaluation has many “points” for the interpreter, evaluating the higher orders of interpretive objectives is undeniably difficult.

**Evaluation and Visitor Research in Australian National Parks**

A 1987 review of Australian agencies providing interpretation in protected areas found that most relied solely on intuition and informal feedback and gave evaluation a low priority overall, reasoning that their limited funds should be spent on providing new, rather than evaluating old, interpretation (Beckmann, 1987b, 1989a). Nevertheless, a few agencies were willing to lay their work open to external scrutiny, thus beginning an era of Australian interpretive research and evaluation.

As well as the healthy natural skepticism applied to anything “new,” evaluating Australian interpretation in the mid-1980s faced practical difficulties. Written
objectives for exhibits or signs were rare, and those for face-to-face programs had often been devised post hoc (Beckmann, 1991). The evaluator’s first task, therefore, was generally to make the implicit objectives explicit. The lack of an established peer review ethic in the Australian interpretation workplace, unlike the peer critiquing already then common in North America (Lewis, 1989) made it more acceptable for “things” (e.g., signs, exhibits, activities) to be evaluated rather than “people” (i.e., individual interpreters), although it was often the face-to-face programs that were under the greatest scrutiny.

The techniques of evaluation also had to be considered carefully. The primary goal of interpretation in Australia’s protected areas has long been to “increase visitor awareness and understanding of park/site values” (Beckmann, 1987b, 1989a; Department of Natural Resources and Environment, Victoria, 1999). Such awareness and understanding can be more directly related to learning than to enjoyment. And, although enjoyment is an important objective, it is not necessarily the most indicative of successful interpretation: “It would be surprising to discover that people learn if they are not happy, but experience...suggests that people are entirely capable of being happy without learning” (Miles et al., 1982, p. 137).

If interpretation is an “educational activity” (Tilden, 1977), and if its objectives are educational in intent, then evaluation must clearly reflect the extent to which education, or learning, is achieved. Interpretation is a special kind of educational activity, however, and in Australian parks it usually also encompasses recreational objectives (e.g., enhancing visitor enjoyment), management objectives (e.g., promoting appropriate visitor behavior or awakening a desire to contribute to environmental conservation), and promotional objectives (e.g., increasing community support) (Beckmann, 1991; Hocking, Leverington, & Carter, 1995; Department of Natural Resources and Environment, Victoria, 1999). Evaluating interpretation therefore requires a multidisciplinary framework with reference to education, recreation, resource management, social science research, marketing, visitor studies, and psychology, among others. Most importantly, the evaluation of interpretation in natural areas must be conducted within the functional contexts of Australian management agencies and their immediate needs, and within the logistical constraints of recreational settings (Beckmann, 1993a).

So what can evaluation tell us about the effectiveness of interpretation in Australian settings? After more than a decade of independent interpretive research and evaluation in Australian national parks, this researcher has found that some results are so often repeated that they provide good object lessons for interpreters. This paper, therefore, focuses on just a few findings that highlight the depth and complexity of information that evaluation and visitor research can provide. These findings come from a study at Kakadu National Park (a World Heritage Area in the Northern Territory, covering 20,000 square km of wet-dry tropical wilderness, extensive floodplains, and rocky escarpments, with some of the world’s greatest rock-art sites, managed jointly by the Aboriginal traditional owners and Environment Australia) and two studies spanning a spectrum of national parks in the state of Victoria (ranging from coastal regions of high use to alpine parks).
EVALUATING INTERPRETATION IN KAKADU NATIONAL PARK

Diversity of Methods

One way of accommodating diverse elements in interpretive research is to use triangulation, in which a range of data-collection techniques allow for improved internal validity (Burns, 1997). Applying this approach allowed data from 2,150 visitors to be incorporated in the evaluation of interpretive services at Kakadu National Park in 1990 (Beckmann, 1990), described by McArthur (1994) as “one of the most progressive in Australia.”

Formal (checklist) and informal observations ($n=1,255$) allowed assessment of the effectiveness of roadside displays, signs at Aboriginal rock-art sites, and visitor center exhibits. Structured interviews ($n=259$) allowed follow-up at the art sites and the visitor center, as well as assessment of the Kakadu Visitor Guide (an orientation/information brochure/map), the Manngarre monsoon forest self-guided walk, and an interpretive mural in the Mamukala wetland observation building. Visitors’ self-administered questionnaires ($n=636$) provided feedback on guided talks, whereas informal visitor interviews ($n=430$) after observations provided data matching and further insights into visitors’ overall impressions.

Although many of the specific findings (Beckmann, 1990, 1991) have been superseded by subsequent developments in Kakadu (new visitor center, more refined interpretive planning, and greater commitment to visitor monitoring), some remain relevant because they provide important evidence of the effectiveness of interpretation.

Special Considerations

How do you interpret a complex and dynamic natural environment to largely first-time, short-term, interstate/overseas visitors? The Mamukala wetland observation building—one of the first interpretive facilities encountered by the many visitors entering Kakadu from the north—allowed visitors to view one of the numerous wetlands for which, among other things, Kakadu is justly famous. Although spectacular aggregations of waterfowl (e.g., up to 25,000 magpie geese [Anseranas semipalmata]) occur during the late dry season, visitors at other times see few birds, and the “wetland” may comprise swaths of green grass or just dry, cracked earth. So the “Window on the Wetlands” interpretive mural sought not only to explain the importance of Kakadu’s wetlands but also to answer a visitor question that applies for much of the year, namely, “Why aren’t there any birds here?” The mural itself—hand-painted and screen-printed, spread over several meters of back wall in the rectangular observation building—was the primary interpretive material, with minimal but cogent text inserts.

The research at Mamukala showed the importance of evaluators having a feel for what they are evaluating. This particular project needed small-scale but highly focused research, carried out when few birds were present and accomplished through a combination of formal observations ($n=45$), semistructured interviews with largely open-ended questions ($n=27$), and informal observations and interviews ($n=34$).

Visitors found the display visually attractive (on average spending almost 3 minutes looking at it) and pleasantly different from others they had encountered (in
Kakadu or elsewhere). They appreciated the information, especially about identifying the birds they might see, and showed evidence of learning about the area’s seasonal changes. Most importantly, the majority of visitors had satisfying experiences (about 64% rated the visit “very good” or “excellent”) despite the potentially great disappointment of not seeing any birds (about 35% had seen no birds at all). This satisfaction was best demonstrated by the visitors’ comments:

- “We’re impressed with this display—a lot of places don’t tell you anything. This tells you about the seasons and why there aren’t birds here.”
- “I don’t normally look at signs, but this being painted makes it a lot more inviting to read.”
- “The display was great, especially for people who don’t know what’s going on. I didn’t really realize that birds suffered from stress and the seasonal change.”

The Manukala display was highly effective, despite employing relatively low-tech, low-cost techniques (Beckmann, 1990). Moreover, the results showed that highly specific interpretive objectives can be achieved with careful design and that evaluation can demonstrate this, giving the interpretive planner and designer confidence for their next project.

NEED FOR LARGE-SCALE EVALUATION

For other interpretive services, evaluation on a much larger scale may be needed. Face-to-face interpretive programs, for example, are often the first to feel the threat of budget cuts or outsourcing; objective evaluation can demonstrate the value of such programs. Kakadu visitors used the guided talk program to complement their use of other interpretive services. Of the 640 participants surveyed at guided talks at Ubirr and Nourlangie (major rock-art sites), more than 80% had a Kakadu Visitor Guide, almost 75% had been to the visitor center, and about 50% had attended at least one other guided activity during that visit (Beckmann, 1999).

The guided talks enhanced visitors’ experiences of the art sites while passing on various cognitive and affective messages about Aboriginal culture in the past and present. Detailed evaluation data from guided talks and interpretive signs at the same sites suggested that the talks had been more effective in enhancing visitors’ appreciation and understanding of the Aboriginal context (Beckmann, 1990). For example, at Nourlangie questions such as “How did they paint so high up?” remained unanswered (and therefore somewhat frustrating) for visitors using just the interpretive signs but were easily raised during the guided activities. The identification of cultural parallels, an important technique in cross-cultural interpretation, was also accomplished much more effectively face to face (personal interpretation) than through signs (nonpersonal). The relatively few cases of dissatisfaction with guided talks generally reflected disappointment that the interpreter had not been an Aboriginal person. (Visitors’ expectations had been raised by photographs of Aboriginal rangers at the visitor center, in the Kakadu Visitor Guide, and on some
Evaluating Guided Activities in Victorian National Parks

A Diversity of Questions

Though valuable, research by triangulation can be expensive and/or impractical, so that often using just one evaluation technique may be more cost effective. However, the richness of collected data then often depends on asking questions that are both diverse and innovative. This was the rationale in two evaluations of the face-to-face Visitor Interpretation Program (VIP), a popular and well-established holiday feature of Victoria’s national parks.

The VIP evaluations in 1988–89 and again in 1992–93 (after user fees had been introduced), covered about 30 national parks and a range of activities, and surveyed almost 1,600 participants overall. Information was collected via self-administered questionnaires that were carefully designed to assess visitors’ knowledge, attitudes, and background toward conservation and park management through questions that provided variety of structure, purpose, and visitor interest. (Three of these questions were subsequently identified as examples of best practice in visitor research, with one adopted by Forestry Tasmania evaluators [McArthur & Hall, 1996].)

In the 1992–93 study, the evaluation instrument was redesigned. What it lost in originality it gained in being more applicable to guided activities throughout Victoria and in becoming as useful for immediate feedback to interpreters as it was for statistically valid, large-scale data collection (S. Olsson, personal communication, 1993). Moreover, by still covering the range of activities but focusing on the two most popular—Night Walks and (daytime) Rockpool Rambles—it allowed more effective comparisons of visitors’ reactions.

These studies (detailed in Beckmann, 1989b, 1991, 1993b; Beckmann & Olsson, 1994; Huxtable & Beckmann, 1989) demonstrated convincingly that VIPs provided effective, and relatively inexpensive, achievement of many of the agency’s goals for visitor education. Most importantly, the results quashed some of the internal agency misconceptions about VIP participants and the impact of user fees (which were all significantly below cost-recovery levels).

Discovering Who Our Visitors Are

One reason for the VIP evaluations was to investigate the concerns of some non-interpretation yet budget-responsible agency staff who thought the programs attracted “the same old faces again and again,” were “preaching to the converted” (in terms of participants’ commitment to parks and environmental conservation), and were easily replaceable by cheaper leaflets or signs. Both quantitative and qualitative data were sought to test these hypotheses.

First, were the participants all the “same old faces?” The answer was a resounding no. The 1988–89 study found that a quarter of the respondents were first-time visitors at the relevant park, and more than a third were attending their first-ever guided activity. In 1992–93, almost half of the Night Walk (NW) partici-
pants (n=351), and almost a third of the Rockpool Ramble (RR) ones (n=162)
were on their first visit; many had never previously attended a guided event (38%
NW, 31% RR). Clearly, though the VIPs did have excellent and consistent return
rates (a well-known measure of satisfaction in itself), they were also attractive to
newcomers. (Most companies selling consumer services would be thrilled with
such a mix of both new and loyal customers.)

Second, were the participants all “converted?” Although this phrase is value-
laden, in this context managers seemed to imply that VIP participants were probably
members of outdoor recreation or environmental groups possessing a great
awareness of park-related issues. Again the perception was shown to be generally
unfounded. In the 1988–89 evaluation, 92% of surveyed participants (n=542) had
seen at least one of the listed television series (e.g., In the Wild with Harry Butler, Life
on Earth), and 63% read a relevant listed magazine (e.g., National Geographic,Austra-
lian Geographic) at least occasionally. However, only 16% were affiliated with any
kind of outdoor group (e.g., bushwalking, gardening, conservation). So most par-
ticipants were obviously interested in the environment (not unexpected in those
attending a ranger-guided walk), but were they “converted?”

A more specific question in the 1992–93 study provided more data: About half
of the respondents identified themselves as “very interested in the environment
and a bit active, i.e., try to do some environmentally conscious things,” whereas a
quarter rated themselves as “not active, but with some interest.” The results consist-
tently implied that VIP participants were far from “converted” but, rather, the per-
fect fertile ground on which effective interpretation could sow seeds aimed at
fostering a community knowledgeable in, and supportive of, nature conservation
ideals and practices—a common goal of park interpretation in general and always
an implicit goal of the Victorian VIPs (Beckmann, 1991, 1993b; Beckmann & Olsson,
1994).

QUANTITATIVE MEASURES:

EXPECTATIONS, ENJOYMENT, AND VALUE FOR MONEY

In the first VIP study, most people (81%) identified “to learn” as their primary
reason for attending, ahead of “to have fun” or “to meet people.” In the second
study, despite more response choices, the reasons why people attended guided ac-

divities were fairly consistent across different types of activities. Adults tended to
emphasize learning and family activities, whereas children’s priorities lay in seeing
animals and having fun—as well as learning.

For example, only the reasons (expectations) of “seeing animals” and of “doing
something different” showed significant differences between Night Walks and
Rockpool Rambles, for obvious reasons: Many of Australia’s animals, including
many mammals, are nocturnal, and Night Walks usually involve looking for these
with special spotlights (Table 1). This difference in expectations became relevant
when enjoyment ratings were considered. While 66% of Rockpool Ramble (RR)
participants rated enjoyment at the maximum 5 (very happy), only 43% of Night
Walk (NW) participants did so; Mean ratings also differed significantly (4.6 RR,
4.3 NW).
Table 1. Participants’ reasons for attending Night Walks or Rockpool Rambles, National Parks Visitor Interpretation Program, Victoria, 1992–93

<table>
<thead>
<tr>
<th>Reason for attending this guided interpretation activity (two reasons per participant)</th>
<th>% of Night Walk participants (n=351) giving this reason</th>
<th>% of Rockpool Ramble participants (n=162) giving this reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>To see live animals*</td>
<td>70</td>
<td>42</td>
</tr>
<tr>
<td>To have a family activity</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>To learn more</td>
<td>42</td>
<td>41</td>
</tr>
<tr>
<td>To do something differentb</td>
<td>20</td>
<td>33</td>
</tr>
<tr>
<td>To have fun</td>
<td>25</td>
<td>24</td>
</tr>
</tbody>
</table>

*Significant difference t=6.1, df=511, two-tailed p<0.01.

bSignificant difference t=3.1, df=511, two-tailed p<0.01.

Note: Column totals vary from the expected 200 because of rounding errors and because some Rockpool Ramble participants gave only one reason.

This disparity was almost certainly related to the greater likelihood of disappointment inherent in Night Walks (i.e., not finding any animals, finding only the more common species, or being in a large or noisy group). Although the problem of participants’ possibly unrealistic expectations of seeing animals had long been identified by interpreters (indeed this type of activity had been renamed Night Walk specifically to reduce the expectations associated with the more common and nationally well-established title of Spotlight Walk), this was the first time it was detected by an objective measure.

Another possible reason for the difference in enjoyment ratings was that all Night Walks had user fees, whereas only some Rockpool Rambles did. However, there was no significant difference between mean enjoyment for Rockpool Rambles with fees and those without (about 4.4 for both). Value-for-money ratings did show significant differences; adult participants rated free Rockpool Rambles higher (mean 4.9, maximum 5) than Rambles with fees (4.6) or Night Walks (4.2). (Although useful as a test of the questioning technique, these results were not unexpected: Other things being equal, people attending a free activity can be expected to consider it better value for money than the same activity with a cost, which in turn would be better than a more expensive activity with more chance of disappointment. As always, evaluation must be considered in the context of visitor psychology (Beckmann, 1996).

Overall, 99% of all fee-paying participants (n=690) surveyed in 1992–93 were satisfied with value for money (i.e., rated it 3 or above on a scale of 1 to 5). Moreover, of the 485 relevant comments, only 22 (<3% of fee payers) were at all negative. In those early days of Victoria’s “user pays” interpretation, these findings were
important. Of course, the VIP study did not sample people disinclined to pay the fees. So a contemporaneous study at Wilsons Prom National Park (one of Victoria’s most visited) was conducted, with both participants and nonparticipants being interviewed (Beckmann, 1993c). The Wilsons Prom study showed that, though prepared to pay for VIP activities, visitors wanted rangers as the interpreters rather than commercial guides (Beckmann, 1993c). Subsequent trial outsourcing of VIP programs was successful at some parks but not at others (including Wilsons Prom). These mixed outcomes, together with some intense high-level lobbying from interest groups and a perception by rangers that they were forgoing an effective management tool, have seen the return of free ranger-guided events to some Victorian parks (R. Mason, Parks Victoria, personal communication, 1999; R. Faggeter, personal communication, 1999).

**Indirect Learning: Knowledge and Attitudes**

As an educational activity, interpretation involves the passing on of knowledge, and most interpreters expect to “teach” a few facts during a guided activity. But what about indirect learning? In the 1988–89 VIP study, a pretest/posttest research design examined this aspect: Some participants (n=120) were questioned immediately before an activity, and others (n=422) were questioned in the same way immediately afterward. For example, one question asked participants to identify, from a given list, “pests requiring control in national parks.” Cats and rabbits were identified as pests more frequently (significant at p<0.05) post-participation. While no activity had the specific theme of “pests,” all had planned to include “reference to domestic cats becoming feral,” and rabbit damage was evident in most of the relevant environments, so was likely to be remarked upon by visitors or interpreters. Thus, the apparent changes in knowledge related directly to those species most likely to be mentioned by the interpreter.

Another question sought to examine participants' knowledge of park behavior without introducing bias through words such as permitted or prohibited. A short story related the activities of the fictitious “Ted” during his visit to a national park: Participants were asked to underline “anything you would do differently from Ted.” The story encompassed six appropriate and six inappropriate behaviors as well as an attitude-related behavior. As this question was designed to investigate indirect learning, these behaviors were not included in the interpretive messages planned for the guided activities.

Awareness of inappropriate behavior was significantly greater (p<0.05) among people who had previously attended ranger-guided events (mean of 5.7 behaviors identified) than among first-time participants (mean of 5.4). There was also high awareness overall of some individual inappropriate behaviors (e.g., picking wildflowers, driving through a revegetation area, taking a shortcut on a trail, running over a snake with a vehicle deliberately; respectively, 93%, 89%, 81%, and 73%, n=542).

However, awareness of other inappropriate behaviors (e.g., burying garbage, feeding animals, collecting dead wood for a campfire) was relatively low (respectively, 68%, 65%, and 40%). Although increasingly considered unacceptable over the past decade, until fairly recently all three of the latter behaviors were allowed,
even encouraged, by park staff. For example, collecting dead wood for campfires is still formally permitted in various park management plans; feeding wild animals, especially birds, has been encouraged in some national parks in the recent past; and “burn, bash, and bury” used to be the slogan of good bush etiquette (notably, older participants were significantly more likely to consider it acceptable to bury rubbish).

Interestingly, being glad about running over the snake was considered “something I would not do” by 38% of participants before the activity and by 50% afterward ($p<0.02$). Had these participants indirectly absorbed a more caring attitude toward all wildlife from their interpreter? Monitoring visitors’ understanding of appropriate behavior can be an effective guide for interpreters in deciding what to emphasize.

**Qualitative Measures—In Their Own Words**

Interesting and valuable as quantitative measures are, they cannot ever tell the whole story. Qualitative data (e.g., visitors’ responses to open-ended questions) are unsurpassed for fleshing out the numbers and providing the human touch that is as relevant to the evaluation of interpretation as it is to the interpretation itself. As all interpreters know, different kinds of events, and different aspects of those events, appeal to different people, or even to the same people at different times. In the VIP evaluations, therefore, what was especially valued in the responses to open-ended questions on “discoveries” and “most enjoyable aspects” was not the statistical preponderance of any one category of response but rather the great diversity of responses. Participants’ discoveries covered the full range from simple cognitive learning (facts/understanding) to more complex affective (feelings, empathy) and psychomotor (skills) learning. Many responses indicated powerful learning experiences that interpreters could directly relate back to specific objectives.

In both VIP studies, the most common “most enjoyed” features were specific components of the events themselves, such as being out at night, finding out about rockpools, and especially the presence of a ranger-interpreter to inform and answer questions. In 1992–93, seeing nocturnal animals (particularly the charismatic possums but also nonmammalian vertebrates, spiders, and insects) was the most common “best” feature of Night Walks (not surprisingly, as this fulfilled participants’ expectations). Also popular was being encouraged to use all of one’s senses. Participants of Rockpool Rambles liked seeing animals, having a family-centered activity, and being encouraged to have “hands-on” experiences. Both VIP studies demonstrated that participants’ enjoyment was most enhanced by the very settings, leadership, and level of involvement with the environment and the interpreter that are the fundamental features of guided interpretation.

The whole vexed issue of the relationship between direct and indirect learning, knowledge, attitudes, and behavior is far too complex to tackle in this paper, but it is one that evaluators of interpretation cannot afford to ignore. Undoubtedly the most difficult interpretive objectives both to achieve and to assess are those associated with long-term attitude and behavioral changes, yet these are often fundamental to interpretation in natural areas (Beckmann, 1991). An objective common to all VIP activities was “to relate the experience to the visitor’s life at home and
encourage the visitor’s further involvement in conservation.” In the 1992–93 study, about half of the participants identified a range of possible changes in personal behavior stimulated by the activity, including

- Changes in specific park-related behavior (e.g., taking more care not to disturb habitats when walking, or not removing shellfish)
- An increased general appreciation of the environment
- General changes in related activities (e.g., a stated desire to visit the park more often)
- An intention to make better use of all their senses in being aware of the environment
- Being encouraged to involve children with nature more often

Many of these changes reflected general goals for environmental interpretation as well as specific activity objectives. Of course, the careful evaluator must consider these results with caution: Obviously there are significant limitations in asking people directly to identify possible changes (the risks of direct questioning about behavior are familiar to educational and social science researchers, as respondents may give “socially acceptable” answers even when these do not correspond to their true feelings (Maldague, 1976; Beckmann, 1996). Nevertheless, it is heartening to realize that at least the first step in awareness raising has been achieved with many, and perhaps a deeper understanding accomplished in a few.

CONCLUSIONS

Evaluation and visitor research are rich mines for interpreters willing to dig deep. Whether focusing on specific media, specific audiences, or wide-scale visitor research for interpretive planning, this researcher has learned many lessons through talking to visitors. The first, of course, is that there are always more questions than answers.

Second, most visitors are extremely appreciative of any interpretive services—so much so, that they are often reluctant to voice criticism. Only when dissatisfaction is coupled with real discomfort are visitors likely to complain, and even then they prefer to do so anonymously.* So evaluators must take special care to search for truthful, and ideally verifiable, records of visitors’ experiences and must allow visitors socially acceptable means of telling that truth (Beckmann, 1996). Sometimes this requires imaginative and innovative strategies.

Third, evaluations can provide objective evidence, even of some of the more subjective aspects. The Kakadu and Victorian studies demonstrated how interpre-

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*Consider the visitor comment book at the beginning of a trail in Kakadu National Park. As each visitor commented on the tree-blocked view from the lookout at the trail’s end (accessible only after a steep and, in the heat and humidity, very uncomfortable walk), the comments became more and more extreme, from “very disappointed” and “a hot and sweaty walk for a view we almost couldn’t see” to “a waste of taxpayer’s money” and “another national park farce.” But the comments had their own interpretive impact. An international visitor noted, “After reading these comments, I didn’t feel like going up there,” whereas another recorded that the book made “entertaining reading!”
tive services can be effective both in reaching first-time visitors and in attracting high levels of repeat participation across all age groups. Quantitative and qualitative measures showed that interpretation, and especially guided activities, can be excellent vehicles for communicating basic site-related orientation and management messages, as well as specific interpretive messages to enhance visitors' experiences and to explain potentially disappointing situations, such as the lack of expected wildlife. There was strong evidence that guided activities can reinforce existing interest in the environment, communicate subliminal affective awareness as well as obvious cognitive learning, and encourage behavioral changes related to greater awareness of the natural environment. There was even evidence that some VIP participants had been inspired to contribute more actively, at both personal and community levels, to environmental conservation and management (Beckmann, 1989b, 1991, 1993b; Beckmann & Olsson, 1994).

Finally, for interpretive planners, evaluation must also be about making the right choices at the right time. Audience research, along with front-end and formative evaluation in the early stages of producing interpretation, is essential. In interpretive planning especially, less information given at the right time is far better than too much information given too late (Ramsey, 1976). But evaluation cannot measure what is not measurable—neither interpreters nor evaluators can do much with interpretive objectives that are grandiose, bland, or boring.

Effective, thoughtful evaluation can tell interpreters a great deal about both their visitors and themselves. By evaluating their services and by knowing what their audiences value in those services, interpreters can keep their focus on the ultimate goal, that is, to enrich visitors’ experiences of the interpretive setting. Interpreters who continually reappraise what they are providing in the context of visitors’ reactions—what visitors are seeing, hearing, feeling, and doing—are more likely to produce effective interpretation that uses appropriate media, sets realistic expectations, and achieves successful outcomes.

In 1987, Australian interpreters found evaluation “too hard” (Beckmann, 1987b). Sadly, 12 years later a national review of best practice in Australian interpretation has found that few park management agencies have yet implemented an effective evaluation program: “Most existing formal monitoring and evaluation in parks relate to visitor demographics and satisfaction with facilities rather than satisfaction with interpretation services” and only “occasionally probe visitor understanding of key messages” (Department of Natural Resources and Environment, Victoria, 1999, p. 39). May the next 12 years tell a different story.

References


COMMUNICATING WITH TWO MILLION TOURISTS:  
A FORMATIVE EVALUATION OF AN INTERPRETIVE BROCHURE

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Abstract:  
Despite the widespread use of brochures in tourism, there is little published information on their effectiveness. This paper reports on a formative evaluation of a brochure designed to communicate messages about the Great Barrier Reef World Heritage Area to the estimated 2 million tourists who visit it each year. The study involved surveying 673 tourists about their knowledge of this unique natural environment. The use of the brochure was also examined under different distribution conditions. The results raised two issues of concern. First, the use of brochures as an interpretive tool may be problematic in settings where tourists are likely to experience brochures only as a form of promotion. Second, the main feature of the study brochure was a map, and it seemed that the map may have had too many levels of abstraction and hence created confusion. Despite these problems, most of those who read the brochure were positive in their evaluations.

Keywords:  
Brochures, Great Barrier Reef, tourists, maps, graphics.

INTRODUCTION

Each year an estimated 2 million people take a trip with a commercial tour operator to visit the Great Barrier Reef (GBR), which stretches for more than 2,000 km along the northeastern coast of Australia. This popular tourist attraction is a World Heritage Area (WHA), which was listed because of its size, evolutionary history, spectacular beauty, rare and endangered species, and pristine condition. Major emphases of the government agency responsible for this protected heritage area are public education and interpretation. Interpretive support involves many activities, including providing training to tour staff, videos to be shown on larger boats.
reference material for cruises, and exhibitions and visitor centers on islands and along the coast.

Given the size of the area to be covered, the numbers of places visitors can travel, and the overall magnitude of tourism in this region, it is difficult to find places where large groups of visitors can be reached. One solution suggested by tour operators was to develop a brochure that could be given to every visitor on the tour boats and that would be available at information and booking centers. The challenge was to design an interpretive tool that would give all visitors the basic messages that operators and management staff believed were necessary to encourage visitors to understand, appreciate, and care for this unique and special living place. This paper reports on a formative evaluation of the draft brochure designed to meet this challenge.

*The Great Barrier Reef Brochure*

The version of the brochure that was evaluated consisted of an A3-sized sheet (30 cm by 42 cm) printed on both sides. On one side was a map of the region with the GBR running alongside it. This map was located on the left of the page with a small map of Australia and the world to indicate scale in the top left corner. On the far right was an enlarged cross-sectional view of the reef. In the middle of the page was a series of small, round pictures of animals and habitats that can be found within the WHA. The intention of these graphics was to highlight the range of different types of habitat included in the WHA and to suggest some of the species found there. The land was covered with coastal and marine photographs intended to depict the many activities and features available in the GBR region.

The opposite side of the brochure was divided into three sections. One section contained 10 paragraphs explaining the area’s World Heritage and Marine Park designations and encouraging its protection and conservation. The second and major section repeated the small, round pictures from the map, and each was accompanied by some explanatory text. Finally, there was a title section with a graphic illustration of a reef environment. The brochure was printed in full color and was folded in half across the middle and then letterfolded into three sections to create a standard brochure format.

**AIMS OF THE STUDY**

The first aim of the formative evaluation of the GBR brochure was to examine the effectiveness of different methods for distributing the brochure. The second aim was to test its effectiveness at communicating its intended messages. The intended messages of the brochure were to increase

- Awareness that the GBR is a World Heritage Area and a Marine Park
- Support for its conservation and protection
- Perceptions that the GBR is extremely large
- Knowledge of the range of environment types common to the area
- Knowledge of the range of species that live in the area
- Awareness that there are many different types of coral reef
The final aim of the study was to assess visitor satisfaction with, and perceptions of, the brochure.

**Literature Review**

**What Is Known About the Effectiveness of Brochures?**

The few authors who have addressed the question of brochure effectiveness agree that little is known. Another common conclusion is that brochures used in tourism promotion are generally not very effective (Hodgson, 1993; Gilbert & Houghton, 1991; Wicks & Schuett, 1991). Hodgson estimated that in the United Kingdom 90% of the tourist brochures produced were wasted, and Wicks and Schuett (1991) suggested that as few as 10% are actually taken and used by tourists. These figures are based on situations where many brochures compete for visitor attention, such as in travel agencies. Wicks and Schuett studied a situation in which brochures had been specifically requested by people contemplating travel. In this instance, they found that use of the brochures to assist in travel decisions was high, with 62% of those using a brochure eventually traveling to the place being promoted by that brochure. They also found that 19% of their sample still had the brochure 6 months after their trip.

Baas, Manfredo, Lee, and Allen (1989) studied an informational rather than promotional brochure that was designed to encourage tourists to the Oregon coast in the United States to take a charter cruise. They conducted a field experiment in which a sample of tourists who were handed a brochure was compared to a sample who were not given a brochure. In this case, 60% of those given a brochure recalled having received the brochure, but few went on to actually take a charter cruise. These authors reviewed several studies evaluating the effectiveness of informational brochures designed to alter the behavior of specific target groups, such as wilderness hikers or campers. They noted that in those cases where the brochures did appear to have some success, the target groups and behaviors were specific and the brochures were given to each targeted individual.

**What Is Known About the Effectiveness of Interpretive Text?**

Many of the authors mentioned in the previous section noted that the design of a brochure was likely to have a major impact on its effectiveness but that little research had been done in this area (Hodgson, 1993; Gilbert & Houghton, 1991; Baas et al., 1989; Wicks & Schuett, 1991). One parallel area in which a great deal of research has been done is that of the effectiveness of the interpretive text used in labels or panels in museums and exhibitions or with interpretive signs. These research results can be seen as falling into three main categories: (a) features that attract attention, (b) features that interfere with reading, and (c) features that motivate reading and understanding. Much of the research into features that attract attention is concerned with having to attract the attention of visitors as they move past a fixed point, such as a part of a display or a sign. A brochure represents a different situation as in most interpretive settings, including the one under study, the brochure is usually handed to the visitors. In some cases, however, visitors may have to pick up the brochure, and for these cases it is worth noting some of the features that appear to attract visitor attention. The two key features that appear to
have the most influence are the type of title used and whether color and graphics are used. The available evidence suggests that both color and the inclusion of graphics are attractive features (Borun & Miller, 1980; Knudson, Cable, & Beck, 1995; Bitgood, Finlay, & Woehr, 1986). Titles that are novel, surprising, humorous, or questions have all been shown to attract visitor attention (Rand, 1985; Kanel & Tamir, 1991; Moscardo, 1996).

The second set of research results in this area includes features that interfere with the reading of interpretive text. In this instance, the research results indicate that use of too small a type size (Bitgood & Patterson, 1993; Wolf & Smith, 1993), light text on a dark background (Wolf & Smith; Knudson et al., 1995), glossy surfaces (Kool, 1985; Serrell, 1983), and unfamiliar or technical words (Korn, 1988; Bitgood et al., 1986) all make text more difficult to read.

Finally, there are factors that appear to encourage reading and understanding. One simple starting point in this instance would be to eliminate as many of the hindrances listed above as possible. They not only interfere with people's ability to read the text but also discourage people from attempting to read the text. In addition, the research also suggests that

- Less text will encourage more reading (Bitgood & Patterson, 1993; Bitgood et al., 1986).
- The use of headings and subheadings will encourage reading and enhance understanding (Kool, 1985; Hartley & Truman, 1983; Serrell, 1996).
- Emphasizing important points will enhance understanding (Volkert, 1991; Serrell, 1996).
- Using a conversational style encourages reading (McManus, 1989; Serrell, 1996).
- Making connections to what people already know through analogies and metaphors assists understanding (Volkert, 1991; Moscardo, 1996).
- Encouraging readers to use their senses and/or to do things supports messages (Rand, 1985; Serrell, 1988; Moscardo).

What Is Known About the Effectiveness of Maps?
Because the major feature of the GBR brochure was a map, it is useful to consider what is known about map effectiveness. First, it is important to recognize that a map is not a reproduction of a place but, rather, an abstract representation of the mapmaker's perception of a place (Wandersee, 1990; McCleary, 1979; Liben & Downs, 1997). The following quote from a cartography textbook expresses this argument well:

Maps are powerful tools, and have been for centuries because they allow us to see a world that is too large and too complex to be seen directly. The representational nature of maps, however, is often ignored—what we see when looking at a map is not the world, but an abstract representation. (MacEachren, 1995, p. v)

When cartographers design maps, they choose various features to include, and they translate these selected features into symbols, such as contour lines for eleva-
tion and dots for towns. To use a map, the reader has to be able to understand and locate the symbols and translate these symbols back into the reality of the place they are in, understand that the map does not include all of the features of the place, and find the features they need.

These mental steps are important in understanding the success, or lack thereof, of maps. This idea of mental energy or effort is an important one in Black and Pearce's (1995) theory of cognitive steps and in Levine's (1982) concept of cognitive operations. These researchers believe that every translation or abstraction from reality requires the user to expend mental effort. The more transformations in the map and, hence, the more cognitive steps the user has to take, the harder the map is to use. Black and Pearce put this hypothesis to the test selecting real tourist maps that were three-dimensional, color, and had text on the map and pictures of landmarks (least cognitive steps). These were compared to two-dimensional black-and-white maps with legends and no pictures (most cognitive steps). Their sample of users clearly preferred the maps with the least steps. Tests of map use, however, did not favor the least-steps maps. One of the problems was that in the sample of real maps, the least-steps maps were also the largest and tended to be maps of whole regions rather than single sites and so contained much more information. This need to keep maps simple is clear in two studies in which visitors were asked to comment on varied map designs. Talbot, J. F. Kaplan, Kuo, and S. Kaplan (1993), for example, found that visitors clearly preferred simpler maps that contained less information. Lockett, Boyer-Tarlo, and Emonson (1989) found substantial support from visitors for adding pictograms, color, and additional place names. But this was only the case when the numbers of added features was not too great.

Method
The evaluation consisted of a field experiment conducted with tourists taking a day trip on a large boat (more than 100 passengers) from one of the major tourist centers in the region. This is statistically the most common experience for reef visitors. The number of visitors taking a day trip in this region on a similar vessel is estimated to be 105,000 annually (GBRMPA, 1998). Four conditions were established for the field experiment. The first was a control, or baseline, condition in which visitors were given a survey on day trips when no brochure was available. Three other conditions were designed to test the effectiveness of the different brochure distribution methods: (a) a condition in which a brochure was handed to every passenger, (b) a condition in which a brochure was handed to every group of passengers, and (c) a condition in which brochures were left for passengers to collect from key locations throughout the vessel. Brochures were distributed at the beginning of the day trip, and surveys were conducted on the return journey. Visitors who chose to participate were given a questionnaire to complete and return to the research staff. Upon returning a completed questionnaire, the visitors were given a postcard as a token of appreciation for their assistance.

Within each of the three distribution conditions, passengers who recalled receiving, or who had picked up, a brochure and who stated they had read it were included in the major experimental condition. Responses from visitors in this experimental condition were then compared to those gathered in the control
condition to test the impact of the brochure on tourist knowledge and satisfaction. Tourists in this experimental condition were also asked to evaluate the brochure on a series of dimensions. The total sample size was 673, with a response rate of 86%. Nearly two thirds of those who refused to participate stated that they did not speak English sufficiently to complete the questionnaire. No information is available for the other nonrespondents.

The Questionnaire
The questionnaire contained four major components. One component was a set of questions designed to provide sociodemographic information and information on the patterns of reef travel. A second component measured knowledge of the World Heritage and Marine Park designations of the GBR, images of the GBR, questions about the GBR, knowledge of aspects of the GBR, and expectations of animals they might see on a GBR trip. A combination of open-ended and structured questions was used in this component, and these questions were the key variables to be compared with the experimental condition. A third set of questions measured satisfaction with the GBR trip, and these questions provided both feedback for the operator assisting the project and another point of comparison for the experimental and control conditions. Finally, the questionnaire used on days when brochures were handed out included questions that asked visitors if they had received and read the brochure and that evaluated various aspects of the brochure. The questions were specifically designed with the assistance of the management agency staff to measure the variables of most interest to them.

The Sample
Table 1 provides a sociodemographic profile of the total survey sample and information on patterns of reef and regional travel. The total sample comprised a relatively even spread of respondents across gender and age categories, with the most common travel parties being couples and the most common length of stay being a week or less. Another noteworthy feature of people in the sample was that 73% were international tourists.

RESULTS
Comparing the Samples
The first step in any field experimental study is to examine the samples in the different conditions for any differences that may create a problem in estimating the effect of the intervention. A series of chi-square and ANOVA analyses were conducted to investigate potential differences between the samples for the various conditions. The significance level for all analyses was set at $p<0.05$. There were no statistically significant differences between the various conditions in terms of gender distribution, time spent in the region, usual place of residence, sources of information about the GBR, or previous GBR experience. There were, however, significant differences in the age distributions and whether respondents were part of a tour group. Table 2 provides the details of these differences and, as can be seen, the sample in the control condition was significantly younger than that of the
Table 1. Sociodemographic profiles and travel patterns of the total sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total sample (n=673)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>44</td>
</tr>
<tr>
<td>Female</td>
<td>56</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>&lt;21</td>
<td>5</td>
</tr>
<tr>
<td>21 to 30</td>
<td>20</td>
</tr>
<tr>
<td>31 to 40</td>
<td>15</td>
</tr>
<tr>
<td>41 to 50</td>
<td>14</td>
</tr>
<tr>
<td>51 to 60</td>
<td>21</td>
</tr>
<tr>
<td>61 to 70</td>
<td>18</td>
</tr>
<tr>
<td>&gt;70</td>
<td>7</td>
</tr>
<tr>
<td>Usual place of residence</td>
<td></td>
</tr>
<tr>
<td>Total overseas</td>
<td>73</td>
</tr>
<tr>
<td>USA/Canada</td>
<td>29</td>
</tr>
<tr>
<td>UK/Ireland</td>
<td>27</td>
</tr>
<tr>
<td>North Europe</td>
<td>7</td>
</tr>
<tr>
<td>Total interstate</td>
<td>19</td>
</tr>
<tr>
<td>NSW</td>
<td>8</td>
</tr>
<tr>
<td>VIC</td>
<td>8</td>
</tr>
<tr>
<td>Total Queensland</td>
<td>8</td>
</tr>
<tr>
<td>Local residents</td>
<td>4</td>
</tr>
<tr>
<td>Travel party size</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>48</td>
</tr>
<tr>
<td>3 to 5</td>
<td>23</td>
</tr>
<tr>
<td>6 to 10</td>
<td>8</td>
</tr>
<tr>
<td>&gt;10</td>
<td>18</td>
</tr>
<tr>
<td>Traveling with</td>
<td></td>
</tr>
<tr>
<td>Children 12 and under</td>
<td>5</td>
</tr>
<tr>
<td>Children over 12</td>
<td>7</td>
</tr>
<tr>
<td>A tour group</td>
<td>14</td>
</tr>
<tr>
<td>Length of stay in the region</td>
<td></td>
</tr>
<tr>
<td>&lt;8 days</td>
<td>76</td>
</tr>
<tr>
<td>8 to 14 days</td>
<td>15</td>
</tr>
<tr>
<td>15 to 28 days</td>
<td>3</td>
</tr>
<tr>
<td>&gt;28 days</td>
<td>1</td>
</tr>
<tr>
<td>Number of GBR trips</td>
<td></td>
</tr>
<tr>
<td>1 only</td>
<td>48</td>
</tr>
<tr>
<td>2 or more</td>
<td>52</td>
</tr>
<tr>
<td>Type and location of previous GBR trips</td>
<td></td>
</tr>
<tr>
<td>Larger boat</td>
<td>69</td>
</tr>
<tr>
<td>Smaller boat</td>
<td>14</td>
</tr>
<tr>
<td>Dive trip</td>
<td>5</td>
</tr>
<tr>
<td>Fishing trip</td>
<td>7</td>
</tr>
<tr>
<td>Port Douglas</td>
<td>54</td>
</tr>
<tr>
<td>Cairns</td>
<td>39</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
</tr>
</tbody>
</table>
experimental condition and less likely to include respondents traveling with a tour group. Within the three distribution conditions, there was also a difference with the first two samples being older and more likely to be in a tour group. Not surprisingly, age and tour group membership were themselves significantly related ($\chi^2=80.6, p<0.05$). Older respondents were more likely to be traveling with a tour group. These results suggested that age needed to be taken into consideration in all subsequent analyses. For further investigations, age was collapsed into three categories: <31, 31 to 60, and >60 years.

**How Effective Were the Different Distribution Methods?**
The effectiveness of the distribution methods was tested by asking respondents on the return section of their GBR trip whether they had received a brochure and, if so, whether they had read it. The answers to these two questions can be found in Table 3. The most effective method for distributing the brochures was giving one to every passenger. Even in this situation, 17% of the sample and 32% of the younger members of this group reported that they had not been given a brochure. When left for collection by passengers, 55% of the sample reported collecting one. Across all three conditions, younger respondents were consistently less likely to state that they had received or collected a brochure. Furthermore, only just over half of those respondents reporting that they had received a brochure were likely to have read it by the return portion of the trip. In this instance, those who reported receiving a brochure were more likely than others to actually read the brochure.

**How Effective Was the Brochure at Communicating Its Intended Messages?**
Three sets of indicators were used to investigate potential differences between the control and experimental samples. These included a series of true/false questions that asked about features of the GBR (see Table 4), a checklist of types of environ-

**Table 2. Differences in age and tour group membership between the conditions**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control (no brochures) (%)</th>
<th>Distribution everyone (%)</th>
<th>Distribution every group (%)</th>
<th>Distribution left for collection (%)</th>
<th>Experimental (read the brochures) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;21</td>
<td>11</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>21 to 30</td>
<td>24</td>
<td>14</td>
<td>18</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>31 to 40</td>
<td>12</td>
<td>11</td>
<td>18</td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td>41 to 50</td>
<td>14</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>51 to 60</td>
<td>18</td>
<td>22</td>
<td>19</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>61 to 70</td>
<td>18</td>
<td>22</td>
<td>19</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>&gt;70</td>
<td>4</td>
<td>11</td>
<td>9</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

| Member of a tour partyb | 5 | 23 | 25 | 5 | 17 |

---

$\chi^2=28.9, p<0.05.$

$\chi^2=49.9, p<0.05.$
Table 3. Percentage of sample in different distribution conditions receiving and reading a brochure

<table>
<thead>
<tr>
<th>Answers</th>
<th>Age groups</th>
<th>Brochures given to everyone (%)</th>
<th>Brochures given to every group (%)</th>
<th>Brochures left for collection (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, I received/collected a brochure</td>
<td>&lt;31</td>
<td>68</td>
<td>55</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>31 to 60</td>
<td>80</td>
<td>73</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>94</td>
<td>62</td>
<td>63</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>83</strong></td>
<td></td>
<td><strong>66</strong></td>
<td><strong>55</strong></td>
</tr>
</tbody>
</table>

Of those that received it, how many said they read it?

|                                      | <31        | 47                              | 53                                | 52                               |
|                                      | 31 to 60   | 52                              | 53                                | 59                               |
|                                      | >60        | 53                              | 42                                | 67                               |
| **TOTAL**                            | **52**     |                                 | **50**                            | **59**                           |

Portion of total group sample who reported reading the brochure: 43 33 32

\[ \chi^2 = 27.9, p < 0.05. \]

\[ \chi^2 = 16.6, p < 0.05. \]

ments included within the Great Barrier Reef World Heritage Area (GBR WHA) (see Table 5), and some measures of satisfaction. No significant differences were found between the conditions for overall satisfaction with the GBR experience and satisfaction with the amount or quality of interpretation available. Only three significant differences were detected between the control and experimental conditions in the other questions. These results indicated the brochure did seem to be associated with an increase in the awareness of the World Heritage status of the GBR among the oldest group. It was also associated with an increased likelihood among those aged 31 to 60 years to state that coastal river systems are included in the WHA and a decreased likelihood that those aged <31 would state that coastal and river systems are included in the WHA. The significance level set for all the analyses was \( p < 0.05 \).

**What Did the Tourists Think of the Brochure?**

Respondents who stated that they had read the brochure (\( n = 167 \)) were also asked a series of questions designed to measure their perceptions and evaluations of the brochure. First, they were asked how likely it was that they would keep the brochure as a souvenir and how likely it was that they would show the brochure to others. Table 6 contains the responses to these two questions. Overall the majority of people stated that they were very likely to keep the brochure and to show it to
Table 4. Responses to true/false statements about the GBR by age group

<table>
<thead>
<tr>
<th>Statement</th>
<th>Age groups</th>
<th>Control (no brochure)</th>
<th>Experimental (read the brochure)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>The GBR is the world’s largest coral reef system.</td>
<td>&lt;31</td>
<td>93</td>
<td>100</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>31 to 60</td>
<td>92</td>
<td>96</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>94</td>
<td>96</td>
<td>NS</td>
</tr>
<tr>
<td>The GBR is important because it is a home for many rare and endangered species.</td>
<td>&lt;31</td>
<td>100</td>
<td>93</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>31 to 60</td>
<td>99</td>
<td>99</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>94</td>
<td>100</td>
<td>NS</td>
</tr>
<tr>
<td>The GBR is a Marine Park.</td>
<td>&lt;31</td>
<td>85</td>
<td>89</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>31 to 60</td>
<td>89</td>
<td>95</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>88</td>
<td>93</td>
<td>NS</td>
</tr>
<tr>
<td>The GBR is a World Heritage Area.</td>
<td>&lt;31</td>
<td>83</td>
<td>96</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>31 to 60</td>
<td>92</td>
<td>98</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>84</td>
<td>98</td>
<td>p&lt;.05, $\chi^2$=4.2</td>
</tr>
<tr>
<td>Over 90% of the GBR is not coral reef.</td>
<td>&lt;31</td>
<td>10</td>
<td>21</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>31 to 60</td>
<td>23</td>
<td>37</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>32</td>
<td>39</td>
<td>NS</td>
</tr>
<tr>
<td>Coral reefs are all basically the same.*</td>
<td>&lt;31</td>
<td>81</td>
<td>68</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>31 to 60</td>
<td>72</td>
<td>58</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>&gt;60</td>
<td>77</td>
<td>67</td>
<td>NS</td>
</tr>
</tbody>
</table>

*The correct answer was 'false."

friends and family. In both cases, increasing age was associated with a greater likelihood of keeping and showing the brochure. These visitors were also asked to rate the brochure size. Eighty-five percent of the respondents stated that the brochure was the right size, only 1% believed it was too big, and 14% stated that it was too small. There were no differences between the age groups in the responses to this question.

Those who had read the brochure were also asked to rate it in terms of how interesting, informative, easy to read, well laid out, and visually appealing they thought it was (see Table 7). The mean ratings for the total sample were high for all of the rating scales. The youngest age group gave the brochure significantly lower ratings for interest and information. Finally, the respondents were asked two open-ended questions about the main messages and the best features of the brochure (see Table 8). As with the question about size, all age groups agreed about the main messages of the brochure. The two most common replies were that the reef needs protection and that the brochure provided general background education about
Table 5. Responses to statements about what is included in the Great Barrier Reef World Heritage Area, by age group

<table>
<thead>
<tr>
<th>The GBRWHA includes...</th>
<th>Control (no brochures)</th>
<th>Experimental (read the brochure)</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangroves</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;31</td>
<td>53</td>
<td>52</td>
<td>NS</td>
</tr>
<tr>
<td>31 to 60</td>
<td>54</td>
<td>56</td>
<td>NS</td>
</tr>
<tr>
<td>&gt;60</td>
<td>42</td>
<td>63</td>
<td>NS</td>
</tr>
<tr>
<td>Islands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;31</td>
<td>81</td>
<td>78</td>
<td>NS</td>
</tr>
<tr>
<td>31 to 60</td>
<td>67</td>
<td>80</td>
<td>NS</td>
</tr>
<tr>
<td>&gt;60</td>
<td>58</td>
<td>70</td>
<td>NS</td>
</tr>
<tr>
<td>River estuaries*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;31</td>
<td>23</td>
<td>22</td>
<td>NS</td>
</tr>
<tr>
<td>31 to 60</td>
<td>32</td>
<td>45</td>
<td>NS</td>
</tr>
<tr>
<td>&gt;60</td>
<td>39</td>
<td>49</td>
<td>NS</td>
</tr>
<tr>
<td>Mainland beaches*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;31</td>
<td>30</td>
<td>18</td>
<td>NS</td>
</tr>
<tr>
<td>31 to 60</td>
<td>24</td>
<td>37</td>
<td>NS</td>
</tr>
<tr>
<td>&gt;60</td>
<td>29</td>
<td>37</td>
<td>NS</td>
</tr>
<tr>
<td>Coastal river systems*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;31</td>
<td>40</td>
<td>19</td>
<td>(p&lt;0.05, \chi^2=3.9)</td>
</tr>
<tr>
<td>31 to 60</td>
<td>26</td>
<td>44</td>
<td>(p&lt;0.05, \chi^2=5.5)</td>
</tr>
<tr>
<td>&gt;60</td>
<td>52</td>
<td>56</td>
<td>NS</td>
</tr>
</tbody>
</table>

*These are not included in the GBRWHA.

Table 6. Respondents' likely future use of the brochure

<table>
<thead>
<tr>
<th>Variable</th>
<th>&lt;31 years</th>
<th>31 to 60 years</th>
<th>&gt;60 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood of keeping brochure as souvenir*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not sure</td>
<td>25</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Not at all</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Somewhat</td>
<td>36</td>
<td>24</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Very likely</td>
<td>36</td>
<td>63</td>
<td>66</td>
<td>59</td>
</tr>
<tr>
<td>Likelihood of showing brochure to friends/family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not sure</td>
<td>18</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Not at all</td>
<td>18</td>
<td>8</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Somewhat</td>
<td>21</td>
<td>37</td>
<td>21</td>
<td>30</td>
</tr>
<tr>
<td>Very likely</td>
<td>43</td>
<td>48</td>
<td>64</td>
<td>52</td>
</tr>
</tbody>
</table>

*\(\chi^2=19.7, p<0.05\).
the reef. The best feature for the two younger age groups was the colorful pictures, whereas the best feature for those older than 60 was the information. The youngest age group was more likely to list a wider range of best features than the other two groups. These other features included the small, detailed sections of information; the collage of reef tourism images on the map border; and that the text was easy to read.

Additional Information About the Brochure

Two other sources of information about the brochure are worth noting. The first source was informal observations of visitors using and discussing the brochures made by the survey staff during the day while waiting to distribute the questionnaires. The second was the responses of 45 participants in a workshop on the design of interpretive maps, which included a discussion of the brochure as an example of using a map to interpret a place. In both cases, the information was not empirical, but the convergence and content of the information warrants some discussion. Specifically, in each of these cases a number of the same misconceptions about the GBR were noted, and these appeared to be common to a large proportion of those observed.

Many of those observed failed to recognize that the cross-sectional reef diagram at the far right of the page was intended to be an enlargement of the reef, which was also shown in black in its actual location closer to the coast. In other words, this abstraction was missed by the readers, who assumed the enlargement was in the appropriate place and so perceived the reef to be farther away from the coast than it is. Second, many of those observed believed that the circles with pictures of animals and habitats were placed in the locations where that animal or habitat could be found. Again, the symbolic nature of the circles was not recognized by the readers. If a circle included a picture of a turtle, for example, then the readers assumed that turtles could be found in that location and no other. For many of the circles, this is not an appropriate conclusion. It was also apparent that few readers found or used the scales in the top left corner.

Table 7. Respondents' rating of the brochure

<table>
<thead>
<tr>
<th>Mean ratings</th>
<th>&lt;31 years</th>
<th>31 to 60 years</th>
<th>&gt;60 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interesting</td>
<td>7.4 (2.0)</td>
<td>8.1 (1.5)</td>
<td>8.5 (1.5)</td>
<td>8.1 (1.6)</td>
</tr>
<tr>
<td>Informative</td>
<td>7.5 (2.2)</td>
<td>8.0 (1.5)</td>
<td>8.6 (1.5)</td>
<td>8.4 (1.6)</td>
</tr>
<tr>
<td>Easy to read</td>
<td>7.9 (2.1)</td>
<td>8.4 (1.5)</td>
<td>8.4 (1.8)</td>
<td>8.3 (1.7)</td>
</tr>
<tr>
<td>Well laid out</td>
<td>8.0 (1.4)</td>
<td>8.1 (1.7)</td>
<td>8.5 (1.4)</td>
<td>8.2 (1.5)</td>
</tr>
<tr>
<td>Visually appealing</td>
<td>8.2 (2.1)</td>
<td>8.3 (1.6)</td>
<td>8.5 (1.5)</td>
<td>8.3 (1.7)</td>
</tr>
</tbody>
</table>

*aScales were from 0 (not at all) to 10 (very).
*bSignificant differences between age groups based on one-way ANOVAs at *p* < 0.05.
*cFigures in parentheses are standard deviations.
DISCUSSION AND CONCLUSIONS

The first aspect of the brochures that was examined was the effectiveness of different distribution methods. The original intention of those developing the brochure was that a brochure would be given to every passenger on a commercial tour operation. Discussion with tour operators suggested that for many of the larger operators this would not be possible because of the way tour groups arrived and the other departure activities staff had to complete. In addition, both managers and operators were concerned about the potential for waste if all members of a travel party, such as a family group, received a brochure. For these reasons, two other possibilities were examined. The major conclusion that can be drawn from the comparisons between the different distribution methods is that none was effective at getting the brochure read by visitors. One possible explanation is that in this setting the majority of brochures available are promotional and so the tourists may not have recognized that the study brochure was an educational or informational tool. It is also the case that, though the cover was colorful, the title “The Great Barrier Reef Marine Park and World Heritage Area” did not provide any clues as

<table>
<thead>
<tr>
<th>Table 8. Respondents’ perceptions of main messages and best features of brochure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td><strong>Main messages</strong></td>
</tr>
<tr>
<td>Reef needs protection/conservation</td>
</tr>
<tr>
<td>Reef education in general</td>
</tr>
<tr>
<td>Tell us about diversity of the reef</td>
</tr>
<tr>
<td>Tell us that the GBR is a WHA</td>
</tr>
<tr>
<td>To help us enjoy our day</td>
</tr>
<tr>
<td><strong>Best features</strong></td>
</tr>
<tr>
<td>Colorful pictures and graphics</td>
</tr>
<tr>
<td>Information</td>
</tr>
<tr>
<td>Design/layout</td>
</tr>
<tr>
<td>Explanation of marine life</td>
</tr>
</tbody>
</table>
to the nature of the contents and did not adhere to any of the suggested title formats described in the interpretive literature.

The comparison of the control and experimental groups on the measures of knowledge also indicated problems with the brochure's effectiveness. One reason for the lack of change was that there already existed high levels of awareness of the World Heritage and Marine Park designations of the area, the size of the area, and its importance as a home for rare and endangered species. This reinforces the need for interpretive designers to investigate existing levels of knowledge in target audiences before completing interpretive tools or services.

Another possibility that must be considered is that although the experimental condition sample was made up of visitors who said that they had read the brochure, it is not possible to determine how much of the brochure was read and with what level of concentration. Given that the majority of respondents stated that they would keep the brochure and show it to others, it may be possible that it will be read in more detail at a later time and so may have some longer term effects on visitor knowledge. If this is so, it is worth considering whether the information contained is suitable for such a posttrip situation. If the intention is to influence people while they are at the GBR, then the brochure did not work with this sample. If it is possible that the brochure might influence people at some later stage, then perhaps the content could be changed to include more take-home or at-home messages.

One of the limitations of this structured survey methodology was the exclusive focus on the variables that the GBR brochure was intended to influence. That is, the current field experiment examined whether the brochure communicated its intended messages; it did not examine the potential for unintended messages. It was originally planned to conduct unstructured interviews with tourists to supplement the field experiment. The results of the field experiment, however, showed such clear problems with the intended messages that it was deemed unnecessary to continue this component. The informal observations suggested, however, that this procedure would have been theoretically valuable even though in the applied situation it was already clear that the brochure needed to be reconsidered.

In particular, the informal observations suggested that many readers of the map made literal translations of the features of the map and failed to recognize the symbolic nature of the two main features—the reef enlargement and the pictures of animals and habitats. This is consistent with Levine (1982) and Black and Pearce's (1995) theories on map use. The obvious conclusion is that any use of maps as interpretive tools needs to take into consideration the number and types of abstractions and symbols used.

The results also indicated that age was an important variable influencing responses to the interpretation. In particular, it appeared that younger visitors were less interested in the brochure and less likely to take one and read it. Those who did take and read the brochure were also less positive about it. The age differences could be explained by two variables. First, it may be that younger people are more likely to engage in a wider range of activities available on a reef day trip and so had less time to take and read a brochure. This is certainly supported by the results of other studies of reef activity participation (Moscardo, Pearce, Woods, Murphy, &
Ross, 1997). This factor does not, however, explain less positive evaluations of the brochure. A second factor may be that younger visitors prefer alternative forms of interpretation, and this is an area for further study.

It should be remembered that, despite these problems, the majority of those who read the brochure were positive about it and particularly noted that the colorful pictures and information were important features. In addition, the majority of those who read the brochure did get the message that the GBR was a special place that deserved protection and care.

Finally, it is important to consider the limitations of the sample. In this particular case, the research resources required that the field experiment be limited to a single operator. It was also decided that keeping the experiment within one operation would remove the potential influence of different operational procedures and activities on visitor knowledge. A large day-trip operation was chosen because this is the most common form of reef tour available. Data available from the GBR Marine Park Authority indicates that 49% of all reef tours are taken in the same area as the field experiment and that 51% of all reef tours are taken on a large day-trip boat similar to that used in this study. It should be noted, however, that the results and conclusions of this study must be limited to this type of operation in this region. One issue of particular concern is that larger operations usually provide a variety of interpretive activities, whereas smaller operations have fewer staff and resources available to provide interpretation to their guests. It may be that the brochure could play a more important role in these cases. This is especially the case if the smaller operators used the brochure as part of their presentations about boat safety and trip information.

The value of conducting a formative evaluation is that it is done before significant resources have been expended to produce and/or present an interpretive product or service. Thus, it allows for the possibility of the results being used immediately to improve the product or service. This study provides some clear directions for the redesign or reconsideration of this interpretive action.

REFERENCES


INTERPRETATION AT WETLAND SITES IN THE SYDNEY REGION

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Abstract:
Interpretation of wetland issues and values for the broader community, as well as for students, is regarded as an important strategy toward achieving better wetland management, reversing past degradation, and halting wetland loss along the east coast of Australia, where population pressure has heavily affected these systems. This paper presents the results of a review of interpretive and educational facilities and programs at five wetland sites across the Sydney region to gain a regional perspective on the provision of wetland education and interpretation of wetland ecology and conservation. This review considered goals, range of facilities and programs, wetland themes covered for the general public and in formal educational programs, and evaluation methods. The results are discussed in light of the overall goal of wetland conservation and more detailed goals at individual sites. Goals were found to focus primarily on “public awareness” of wetlands, a goal inadequate to meet the broader goal of long-term protection and conservation. At sites most accessible to the majority of the Sydney population, a considerable discrepancy existed between the aspects of wetland ecology and management presented to school groups and those presented to the general public, making it difficult to meet even the goal of public awareness.

Keywords:
Conservation, community environmental education, interpretive programs, regional interpretive planning, wetlands education, wetland values.

INTRODUCTION
Most interpretation, by nature, is site-based, as is interpretive planning. Evolution of the preservation of sites of natural and cultural heritage within any one region

*Contact author.
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has generally resulted in the control of heritage by a plethora of autonomous administrative bodies, including local, state, and national government authorities, as well as community-based organizations and trusts, which mitigates against broad-based planning. In Australia and New Zealand, where even site-based interpretive planning tends to be lacking or ad hoc (McArthur & Hall, 1996a), regional planning of interpretation may be a distant goal.

Yet interpretation is being increasingly called on to do more than simply explain the history or features of a particular site. It is now asked to play a far broader role in fostering appreciation and conservation of both natural and cultural heritage. It would thus seem that it is time to broaden the interpretive outlook beyond the individual site and consider regional planning of interpretive messages and their integration with environmental education.

While each heritage organization or site management may develop interpretation and target audiences individually, those audiences may be visiting many sites in a region, intensively as tourists or over a longer period as local residents. On the other hand, children may only visit one site on a school field visit, or adults may consistently visit just their favorite local park. Is there a boring repetition of information and messages at similar sites? Will the single-site visitors receive the important messages regardless of the site they visit? Are some issues rarely covered, leaving important information gaps? Are visitors encouraged to visit other sites to find out more? Can better regional planning reconcile the needs of single- and multiple-site visitors to build knowledge, appreciation, and conservation behavior?

A first step to answering any of these questions is a review of existing interpretive and educational provision for any given heritage type or heritage issue. This study has chosen to examine provision of interpretation and environmental education regarding wetlands for Sydney as such a first step toward exploring the issue of regional planning for wetland education.

In Australia, coastal wetlands have been under considerable pressure due to the concentration of population along the wetter coastal fringe of the continent. High demand for land and aquatic resources has been responsible for loss of many wetlands (McComb & Lake, 1990). They have been drained for grazing land, filled to create land for development, dammed to create permanent fresh water, or modified into canal residential estates in estuaries. Approximately 60% of coastal wetlands in the state of New South Wales (NSW) have been destroyed or degraded (Pressey, 1979). Although most NSW coastal wetlands could be considered threatened, those in the Sydney region, where population pressures are greatest and land values highest, have been most vulnerable. Despite destruction or modification of many of its wetlands, however, Sydney possesses a diversity of small but valuable wetlands, some located quite centrally but most on the outskirts of the metropolitan area (Gilligan et al., 1990).

Given the scale of wetland destruction along the coast, wetlands have been increasingly a focus in formal environmental education programs and the subject of interpretive programs and facilities. This focus is grounded in a belief that failure of landowners and the general public to appreciate wetlands for conservation values has contributed to their destruction and loss; thus, an informed population may result in a significant increase in their conservation (Adam, 1984) and a reduction
in harmful behavior toward wetlands (New South Wales Department of Land and Water Conservation, 1996). Knowledge and attitudes are not the only limiting factors to conservation behavior, but they are generally a necessary component. Using media such as television and newspapers for community education is a valuable strategy because a large number of people can be reached (Hill & McArthur, 1996). However, “People who form attitudes based on direct experiences are thought to hold their attitude with greater clarity than an individual who forms an attitude based on indirect experience” (DeYoung, 1993, p. 488). This implies that if community members have positive firsthand wetland experiences, they can become more aware of and appreciative of wetlands than they would if they had not had these direct experiences (Gilligan, 1987; Maddock, 1991). However, if changes in behavior toward wetlands off site is also a general goal of wetland interpretation and education, site goals and programs must address the more complex range of factors influencing behavior.

The Sydney region contains the largest population agglomeration in the nation. It has a variety of accessible wetland sites close to population concentrations in the region. Thus, great potential exists to educate many through direct experiences in formal and informal programs. Although the general goals of wetland education for both students and the public may be the same, the methods used to achieve them often differ (Screven, 1996). Differences in approach arise primarily because the public visits a site voluntarily, usually for recreation, whereas students generally do so as part of a prescribed curriculum (Veverka, 1994; Young, 1995). For this reason, learning activities for the public need to be coordinated with recreation and are more often categorized as “interpretation.” Program provision for both sectors is equally important in achieving wetland conservation so that this study examines and compares provision to both students and the public.

Interpretive/educational facilities at five wetland sites in or close to Sydney were reviewed in late 1995 and early 1996 to determine their goals, range of facilities, and wetland themes covered in informal and formal education programs. Effectiveness of facilities and programs was not evaluated, though methods used by the sites to evaluate their own programs or measure visitor use and satisfaction were also briefly reviewed. The results presented in this paper provide a snapshot of wetland interpretive coverage in the Sydney region in early 1996. This overview can assist in planning new wetland education sites in Sydney or in extending and improving programs at existing sites.

Five wetland sites were chosen for this study. Four sites are located in the immediate Sydney region: Centennial Park in inner urban Sydney, Bicentennial Park at Homebush Bay on the Parramatta River adjacent to the Sydney Olympics site, Towra Point Nature Reserve on the southern shores of Botany Bay, and Longneck Lagoon near Pitt Town in far western Sydney (Figure 1). The fifth site, Shortland Wetlands, is located outside the immediate Sydney region but within the NSW greater metropolitan area (New South Wales Department of Planning, 1995), near Newcastle, 170 km north of the Sydney central business district. The sites were chosen because they include wetland interpretive/educational facilities for both formal education and the general public and could be reached on a day-trip basis by most of Sydney’s population.
Figure 1. Location of wetland interpretive sites. Four sites are within the immediate Sydney region, bounded by the Hawkesbury-Nepean River. One site is located in the greater metropolitan region, near Newcastle. Sites 3 and 4 represent one site with the wetlands located at Towra Point and the interpretive facilities at Kurnell.
The selected sites include a range of wetland types, both freshwater and estuarine, and most of the sites include wetlands considered significant at a state, national, or international level (Table 1). The general aim of wetland interpretation at all sites is increasing visitor awareness and appreciation of wetlands, though programs and facilities at each site have been developed in the context of different sets of general site goals (Table 2).

**The Sites and Their Objectives**

Centennial Park is located in the center of Sydney, about 3 km from the central business district. Created to commemorate the centennial of Australia’s first European settlement in 1888, it is listed on the Australian Register of the National Estate for its historic, not conservation, values. The register describes the park as “an important example of the response to the need for areas of public recreation adjacent to the increasingly crowded city suburbs and as an expression of late nineteenth-century nationalism.” The park was once part of an extensive belt of heath-covered dunes interspersed with a complex series of freshwater wetlands stretching from the northern boundary of the park to Botany Bay. The landscape was modified in laying out the park in grand late 19th-century landscape style with grassed slopes, curved drives, and nine lakes. However, these lakes are remnants of the original freshwater wetlands that provided Sydney’s early water supply. Site objectives relate to recreation and enjoyment of the park and fostering appreciation of its diverse values.

Bicentennial Park covers an area of 56 ha at the head of Homebush Bay, adjacent to the Sydney Olympics site. Estuarine/intertidal flats of mangroves, salt marsh, and artificial shallow ponds occupy almost two thirds of the park. The salt marsh and waterbird refuge pond were originally created as dredging ponds in the 1950s but are now valuable habitats. The southern third, formerly filled with domestic and industrial waste, has been developed into picnic areas and walks and includes an artificial lake with freshwater wetlands. The park’s estuarine wetlands are the largest remaining intertidal wetlands on the Parramatta River and provide habitat for rare and threatened flora and fauna species (Australian Nature Conservation Agency, 1996). Original site objectives focused on protection of wetlands, recreation, and increasing wetland understanding and awareness with quality visitor experiences through a range of interpretive programs. More recent documents

<table>
<thead>
<tr>
<th>Table 1. Wetland site significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statement</strong></td>
</tr>
<tr>
<td>Register of National Estate</td>
</tr>
<tr>
<td>Environment Australia— Important Wetlands</td>
</tr>
<tr>
<td>Ramsar Convention</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Statement</strong></th>
<th><strong>Centennial Park</strong></th>
<th><strong>Bicentennial Park</strong></th>
<th><strong>Towra Point</strong></th>
<th><strong>Longneck Lagoon</strong></th>
<th><strong>Shortland Wetlands</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Register of National Estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment Australia— Important Wetlands</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Ramsar Convention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 2. Site objectives

<table>
<thead>
<tr>
<th>Site</th>
<th>Visitor numbers (&amp; year)</th>
<th>Objectives</th>
<th>Date set up</th>
<th>Ownership or management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centennial Park, Randwick, Sydney</td>
<td>&gt;3.5 million (1995)</td>
<td>Encourage use &amp; enjoyment of park, Promote and increase recreational, historical, scientific, &amp; educational values of park, Protect environment within park</td>
<td>1888</td>
<td>Centennial Park and Moore Park Trust</td>
</tr>
<tr>
<td>Bicentennial Park, Homebush, Sydney</td>
<td>684,000 (1993)</td>
<td>Encourage use &amp; enjoyment of park, Promote and increase recreational, historical, scientific &amp; educational values of park, Protect wetlands, Increase knowledge, understanding, awareness &amp; appreciation of wetlands, Provide suitable passive recreation with respect to wetlands</td>
<td>1988</td>
<td>Bicentennial Park Trust</td>
</tr>
<tr>
<td>Towra Point Nature Reserve/Botany Bay National Park, Sydney</td>
<td>(BB) 500,000 (1995)</td>
<td>Conservation and protection of indigenous plant &amp; animal communities &amp; their habitats (TP), Encourage scientific research compatible with conservation objectives (TP), Provide opportunities for educational use (TP), Protect natural attributes found in the national park (BB), Provide suitable recreational &amp; educational opportunities (BB)</td>
<td>1982</td>
<td>NSW (TP) National Parks &amp; Wildlife Service</td>
</tr>
</tbody>
</table>

TP = Towra Point Nature Reserve; BB = Kurnell section of Botany Bay National Park.
indicate that the park intends to adopt a more formalized and structured approach to providing education programs (Preston, 1998a).

Towra Point Nature Reserve, Towra Point Aquatic Reserve, and associated estuarine wetlands on the southern shore of Botany Bay include approximately 600 ha of sea grasses, 400 ha of mangroves, and 161 ha of salt marshes, representing one of the few large remnant wetland systems near Sydney. The mangroves and salt marshes of the low-lying sand peninsula of Towra Point are an important bird feeding, roosting, and nesting site for migratory waders and waterfowl. The nature reserve is listed under the international Ramsar Convention for its value as migratory wader habitat (Australian Nature Conservation Agency, 1996). As a nature reserve, however, the primary site objectives are conservation and scientific research. There are no facilities, and access to the area by vehicle is restricted by a locked gate. The Kurnell section of Botany Bay National Park is located 6 to 7 km away, and interpretive and educational facilities relating to the Towra Point wetlands are located there, including a Department of Education field-study center. Due to the physical separation of the wetlands and the interpretive facilities, the following discussion and the tables of results include both Towra Point and Kurnell as appropriate.

Longneck Lagoon is a small semipermanent floodplain lagoon in a 25-ha reserve on the Hawkesbury–Nepean floodplain 8 km northeast of Windsor in the far west of the Sydney region. Once, like many similar lagoons or ponds across the Cumberland Plain, its water level fluctuated and it supported a variety of wetland vegetation. Dammed with a weir, it now is mainly open water with little emergent vegetation, and its significance derives mainly from its use as a field-study site by the Department of School Education. Site aims relate to protection and interpretation of the remnant vegetation communities of the whole reserve and provision of facilities for formal education and passive recreation.

Shortland Wetlands is 45 ha of remnant floodplain wetlands on the edge of Hexham Swamp in the suburbs of Newcastle, consisting of semipermanent/seasonal freshwater ponds and marshes, and freshwater swamps. The forests are used as a heronry by 2,000 breeding pairs of four egret species and as an evening roost for approximately 4,000 ibis. Shortland also has two waterfowl conservation projects: reintroduction of the magpie goose and captive breeding of the freckled duck (Australian Nature Conservation Agency, 1996). A canal connects the site to nearby tidal Ironbark Creek, which is lined by estuarine wetland vegetation, including mangroves. The canal and creek are actively used as part of the recreational facilities associated with the center. The Shortland Wetland Centre is dedicated to creating awareness and appreciation of wetlands among the public and aims to present on-site education and facilities that will help wetland conservation (Wildfowl and Wetlands Trust, 1992).

All sites have common objectives of conserving the natural features of the park or reserve and providing recreational facilities for the public. Shortland Wetlands, Bicentennial Park, and Longneck Lagoon specifically aim to interpret wetlands to increase public awareness of wetlands and their values. In 1996, however, none of the sites included specific objectives relating to on- or off-site visitor behavior related to wetlands.
METHODS

A literature search for each site provided general information about the site, its goals and objectives, administration and management, as well as descriptions of the nature and significance of wetlands present at the site.

Surveys of site staff, including education officers, tour guides, and general staff, were conducted in person or by telephone to obtain the following information: annual visitor numbers; general facilities; types of interpretive and educational facilities; details of the content, themes, and topics covered by school programs and guided tours; and methods of program evaluation used by the sites. Where not covered by existing site documentation such as a plan of management, details of site goals and objectives, administration, and management were also requested.

One of the authors then visited each site to review interpretive facilities for the general public in detail. The length of each visit depended on the size of the site and the number of facilities and activities provided, and each visit varied from half a day to a full day. All static interpretive facilities on site were visited to record in detail the type of facility and the themes covered.

Summaries of site interpretive and educational facilities and themes covered by these facilities were compiled from both site observations and results of the staff surveys (Tables 3, 4, and 5). The themes were derived by collapsing topics observed as presented in interpretive programs/facilities, as well as those noted by staff as covered in school programs and guided tours, into general categories. The themes were assessed against themes presented by Serendip Sanctuary, a major wetland education site near Geelong in Victoria as an interstate comparison to determine whether there were themes presented elsewhere but not covered at any of the study sites. This resulted in the addition of two management themes (Table 5).

Reduction to general themes, however, can mask great variation between sites in aspects and details covered within these themes. Preliminary results indicated that one of the most consistently presented general themes for both school programs and the general public was that of wetland birds but that coverage within this general topic was highly variable. To demonstrate this variability, the birds theme was further analyzed by topic. These topics (Table 6) were derived from topics as presented by the sites.

A schedule of evaluation techniques used by sites to assess their programs and facilities was derived from Beckmann (1991), and the data for each site (Table 7) was compiled from staff surveys or interviews.

After compiling the data, the authors sent all tables to site staff to confirm that details were correctly represented for each site or to amend as necessary. Sites were then compared on the basis of their goals and the programs through which they attempt to achieve these goals.

RESULTS

Interpretive Programs and Facilities

The Shortland Wetlands Centre provided the widest range of interpretive facilities, whereas Longneck Lagoon provided the fewest facilities (Table 5). Three of the study sites had visitor centers with a range of interpretive media including audio-
**Table 3. Site interpretive and educational facilities**

<table>
<thead>
<tr>
<th>Facility</th>
<th>Centennial Park</th>
<th>Bicentennial Park</th>
<th>Towra Point</th>
<th>Kurnell</th>
<th>Long-neck Lagoon</th>
<th>Shortland Wetlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>VISITOR CENTER</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Displays</td>
<td>•</td>
<td>•</td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books and publications</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Computer display</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Video/film</td>
<td>•</td>
<td>•</td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>View over wetlands</td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNSUPERVISED/SELF-GUIDED</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor interpretive signs</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>Outdoor display</td>
<td></td>
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<tr>
<td>Captive breeding enclosures w/signage</td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brochures covering wetland themes</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking trail w/signs, brochures</td>
<td>•</td>
<td>•</td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycle trail w/signs, brochures</td>
<td></td>
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<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canoe trail w/signs, brochures</td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lookout, bird hide</td>
<td>•</td>
<td>•</td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boardwalk/trail through or near wetland</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td>•</td>
</tr>
<tr>
<td>SUPERVISED/GUIDED (PUBLIC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field-study center program</td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guided tours:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canoeing</td>
<td></td>
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<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycling</td>
<td></td>
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<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Train</td>
<td></td>
<td></td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCHOOL FIELD-STUDY CENTER</td>
<td>•</td>
<td>DSE</td>
<td>DSE</td>
<td>DSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programs for school students</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>

DSE=Field-study center run by Department of School Education.
Table 4. Ecological wetland themes presented at the wetland sites

<table>
<thead>
<tr>
<th>Theme</th>
<th>Centennial Park</th>
<th>Bicentennial Park</th>
<th>Kurnell Lagoon</th>
<th>Shortland Wetlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are wetlands</td>
<td>•</td>
<td>s</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>History of local wetlands</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Wetland values</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Wetland type at site</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Wetland food chain</td>
<td>•</td>
<td>s</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Mangroves</td>
<td>n/a</td>
<td>•</td>
<td>n/a</td>
<td>•</td>
</tr>
<tr>
<td>Salt marsh</td>
<td>n/a</td>
<td>•</td>
<td>n/a</td>
<td>•</td>
</tr>
<tr>
<td>Mudflats</td>
<td>n/a</td>
<td>s</td>
<td>n/a</td>
<td>•</td>
</tr>
<tr>
<td>Seagrasses</td>
<td>n/a</td>
<td>n/a</td>
<td>s</td>
<td>n/a</td>
</tr>
<tr>
<td>Plant adaptations</td>
<td>s</td>
<td>•</td>
<td>s</td>
<td>•</td>
</tr>
<tr>
<td>Animal adaptations</td>
<td>s</td>
<td>•</td>
<td>s</td>
<td>s</td>
</tr>
<tr>
<td>Birds</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Other wetland fauna</td>
<td>•</td>
<td>s</td>
<td>s</td>
<td>•</td>
</tr>
<tr>
<td>Underwater characteristics</td>
<td></td>
<td>•</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*=Themes presented to general public and students. 
s=Themes presented to students only. 
n/a=Not applicable because features not found at site.

visual facilities (mainly videos), displays, books, and other materials. The Shortland Wetlands Centre also provided an interactive computer software package, “Window to Wetlands,” to introduce visitors to wetland values, as well as an expansive view over the wetlands from the visitor center. A view, under normal circumstances, would not be considered a facility, but at a visitor center it can be used as a “living display,” assisting visitors to understand the information provided about the wetlands in the center. Integration of interpretation in visitor centers with the environment being interpreted has been suggested as ideal (Webb, 1980) but is nevertheless frequently ignored in the design of visitor centers (McLoughlin, 1997). By contrast to Shortland, the visitor center and field-study center for the Towra Point wetlands are situated several kilometers away from the site, and access to the wetlands is restricted so that most visitors to the center do not visit the wetlands. Most probably also miss the lookout over the wetlands on the main road into Kurnell.

The Shortland Wetlands Centre has the greatest number of self-guided activities, including a canoe trail and captive-breeding enclosures with signage that en-
Table 5. Management-related themes presented at the wetland sites

<table>
<thead>
<tr>
<th>Theme</th>
<th>Centennial Park</th>
<th>Bicentennial Park</th>
<th>Kurnell Lagoon</th>
<th>Shortland Wetlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal use</td>
<td>s</td>
<td>s</td>
<td>•</td>
<td>s</td>
</tr>
<tr>
<td>Human impact/degradation</td>
<td>s</td>
<td>•</td>
<td>•</td>
<td>s</td>
</tr>
<tr>
<td>Law and government</td>
<td></td>
<td></td>
<td>s</td>
<td>•</td>
</tr>
<tr>
<td>Catchment management</td>
<td>s</td>
<td>s</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Water quality/pollution</td>
<td>s</td>
<td>s</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Current wetland issues</td>
<td>•</td>
<td>s</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes toward wetlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

able visitors to understand the nature of these research programs, helping “demystify” research (Lindenmayer, Tanton, Linga, & Craig, 1991). Such displays also help visitors realize that the site has important functions other than to provide facilities for them. All sites except Towra Point have interpretive walking trails with wetland themes. Only Centennial Park and Shortland had a brochure specifically created for the walk. Other sites had general brochures about wetlands but utilized wayside signs for interpretation. Both Shortland and Bicentennial Parks have an interpretive cycling track.

The Shortland Wetlands Centre offers two types of supervised activities: walking and canoeing tours. This site also uses its field-study center to prepare educational programs for the public. The other sites in Sydney limit the use of their field-study centers to student groups. Bicentennial Park provides the greatest variety of guided activities, including two supervised activities that are not found at any of the other sites: cycling “bird” tours and a mini-train tour. Longneck Lagoon does not provide any supervised/guided activities for the public.

All sites provide programs for the formal education sector, most based in a dedicated field-study center. Three of these centers are run by the NSW Department of School Education, whereas Bicentennial and Centennial Park programs are run by the managing trusts for the parks.

Wetland Themes and Topics

Themes presented at the sites can be divided into two subsets: ecological themes and management-related themes (Tables 4 and 5). The ecological themes include general information on wetland ecosystems and their flora and fauna, whereas management-related themes cover the relationship between wetlands and people, and the protection and management of wetlands.

Ecological themes covered naturally depended on the type of wetlands found at the sites. The Shortland Wetlands Centre covered the greatest number of ecological themes, and it was the only site to present all of the listed ecological themes to both
students and the public. All other sites presented at least some themes only to students. Shortland was also the only site to consider the underwater characteristics of wetlands in its interpretive programs.

Management themes were much less consistently covered than ecological themes, but the Shortland Wetlands Centre was again the only site to present all of its themes to both students and the general public. None of the sites covered the two themes of “attitudes to wetlands” and “rehabilitation/restoration,” which are presented at Serendip Sanctuary in Victoria. More recently, however, Centennial Park has developed a wetland interpretive trail with interpretive signage and varied art forms to highlight both ecological and management themes relating to wetlands in a highly urbanized catchment. Preston’s (1998b) study at Bicentennial Park indicates that water quality and pollution issues are now reasonably consistently being presented on explorer tours for the public with values and attitudes discussed occasionally on tours and with school groups.

Comparison of topics covered within the general theme of “birds” across the sites (Table 6) shows that the Shortland Wetlands Centre provides the greatest range of topics to all of its visitors. For the other sites, the only topic to be covered by all sites for both students and the public was “resident birds.” As birds are one of the most conspicuous and attractive parts of wetlands, this was not surprising. Like the Shortland Wetlands Centre, Bicentennial Park covered all of the topics but presented only half to the public. The other three sites in Sydney covered all except two topics each, but a number were not presented in public programs.

Table 6. Topics presented in the “birds” theme

<table>
<thead>
<tr>
<th>Topic</th>
<th>Centennial Park</th>
<th>Bicentennial Park</th>
<th>Kurnell Lagoon</th>
<th>Shortland Wetlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident birds</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Migratory birds</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Beak characteristics</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Feet characteristics</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Specific habitats</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Food sources</td>
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<td>conservation</td>
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*=Topics presented to the general public and students.
$s$=Topics presented to students only.
**Evaluation**

Formal evaluation is a necessary step in measuring effectiveness of site programs and facilities in meeting objectives (Beckmann, 1991; Hood, 1996; McArthur & Hall, 1996b; Simmons, 1991; Veverka, 1994) and should be an integral part of a management plan.

The Shortland Wetlands Centre had several evaluation systems in place (Table 7). The center uses this information to evaluate visitor needs and in applying for funding grants (J. Ruming, personal communication, March 12, 1996). Bicentennial Park also has several systems in place. Botany Bay National Park and Centennial Park were the only sites in Sydney to have formal surveys particularly used for their formal educational programs. Longneck Lagoon had the fewest evaluation systems in place. Since this review, Bicentennial Park has undertaken a major evaluation of its field-study center programs (Preston, 1998a, 1998b) but only minor evaluation of its public programs (explorer tours).

**DISCUSSION**

This overview of education and interpretation at wetland sites near Sydney highlights issues in development of goals and objectives likely to lead to greater wetland

**Table 7. Evaluation systems at the study sites**

<table>
<thead>
<tr>
<th>Form of evaluation</th>
<th>Centennial Park</th>
<th>Bicentennial Park</th>
<th>Kurnell</th>
<th>Longneck Lagoon</th>
<th>Shortland Wetlands</th>
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<td>Reviewing existing data</td>
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conservation, and in program provision to meet goals and objectives. It also raises
the need for a regional view of provision of interpretation of specific heritage types
or issues, such as wetlands and their conservation.

Goals and Objectives
Programs provided at each wetland site covered by this review are influenced by a
different set of variables, so that goals and program provision will inevitably differ.
Those with explicit goals relating to wetland awareness, the Shortlands Wetlands
Centre and Bicentennial Park, provided the greatest range of facilities, programs,
and themes directed at this goal. There are considerable differences, however, in the
extent to which sites attempt to meet their stated goals through the facilities and
programs provided. Longneck Lagoon has specific goals relating to wetland inter-
pretation for the general public, but facilities and coverage of wetland themes for
the public at the site are poor. Despite its general goals, the focus at Bicentennial
Park is also strongly on formal education programs, with public interpretive pro-
grams “to increase awareness about wetlands” more limited.

Even goals that target awareness, however, are not adequate to meet the chal-
lege of changing attitudes and behavior, despite the attractiveness of Tilden’s
(1977) assertion of “through interpretation, understanding, through understand-
ing, appreciation, through appreciation, conservation.” The plight of wetlands can
be directly attributed to human attitudes and behavior toward wetlands. To reverse
the dominant trend in the European history of Australia of exploitation and loss of
important ecosystems, attitudes and behavior have to be addressed in a direct and
meaningful way and in the context of those factors likely to influence changes.

There is considerable reluctance among environmental educators and inter-
preters to address these factors directly, to develop goals perceived as confronta-
tional or “political” (Simmons, 1991), or to go beyond site-specific issues and
behaviors (Ballantyne, 1998). Research has demonstrated the complexity of factors
influencing behavior change (e.g., Gardner & Stern, 1996; Hines, Hungerford, &
Tomera, 1986; Newhouse, 1990; Orams, 1994), particularly commitment, empower-
ment, and personal responsibility. Yet interpretation and formal environmental
education often focus solely on information and “awareness.” A study of the goals
of 1,225 nature and environmental education centers in the United States (Simmons,
1991) illustrated the pervasiveness of the simple linear view of behavior change
mechanisms where nature study changes attitudes, and changed attitudes produce
conservation behavior. Despite strongly endorsing the general goal of encouraging
environmentally responsible behavior, specific goals that might develop those be-
haviors, such as development of self-esteem or skills in examining environmental
issues and solving environmental problems, were endorsed by only a small propor-
tion of centers in Simmons’ study.

Knapp, Volk, and Hungerford (1997) developed a set of goals for program de-
velopment in environmental interpretation from an intensive review of a broad
range of interpretive literature. Their hierarchy of goals, from entry-level goals of
resource and natural history knowledge through understanding and analyzing en-
vironmental issues, to higher level development and application of skills in envi-
ronmental problem solving, provides a strong theoretical framework for development
of goals for interpretation and education programs. The goals received strong endorsement, however, only at the lower levels from a panel of 18 leaders in interpretation. Issue investigation and development and application of solutions received much lower approval and, surprisingly, were seen as less related to visitor behavior change.

Sites examined in this study similarly focus on lower level goals such as knowledge acquisition and general appreciation with little development of higher level goals most likely to lead toward conservation behavior. This was reflected in differences in the coverage of ecological/natural history themes and management themes. If the ultimate reason for raising public awareness of wetlands is to promote protection and conservation, these sites’ fragmented coverage of management themes and issues of human interaction with wetlands is difficult to understand. The dominant focus on ecological themes is perhaps understood only in the context of the linear model of behavior change as described above.

It is important to note that the range of interpretive facilities or number of themes covered is not a measure of effectiveness in “getting the message across” to the public. This review did not attempt program evaluation but, rather, aimed at a broad-based snapshot of program provision. Evaluation of effectiveness of programs and facilities in achieving goals or objectives was found to be poorly developed at most sites, particularly of programs and facilities for the public. School programs provide a service that is “bought” by teachers (even where there is no fee for students at Department of School Education centers, there is a time and effort cost), and providers more frequently monitor client satisfaction.

Regional Provision and Planning for Interpretation
A detailed study of wetland education provision in Victoria (Beckmann, 1992) identified duplication of effort and resources across that state. In addition, many audiences were served inadequately, and there was evident “competition” or resentment among some centers. Regional planning for wetland education in NSW is also nonexistent and difficult to achieve under current management structures. Beckmann (1992), however, put forward a model for development of a structured network of existing Victorian education centers with wetland interests, as a cost-efficient and potentially effective means of improving wetland education in that state. As a first step, studies such as the one reported here may provide data that site management can use to improve individual site provision by taking into account the broader regional picture.

All four local Sydney sites exhibited a greater commitment to formal education programs than to interpretive programs for the general public. Yet current and continuing damage to wetlands results from the actions of adults for whom exposure to public programs is a key strategy in achieving behavior change. Shortland Wetlands has a depth of informal programs but is located some distance from the major population concentrations of Sydney, and visitor numbers are relatively low (Table 2). Bicentennial and Centennial Parks close to the population center have much higher visitation. Although many visit these latter sites purely for recreation, higher visitation presents more opportunities for delivery of positive messages about wetlands and for encouraging visitors to participate in interpretive programs. Of
the five sites, Longneck Lagoon is most conveniently located to the people of western Sydney, where wetlands still exist, some under threat, but Longneck provided minimal general and interpretive facilities to attract the public and enhance their understanding and appreciation of wetlands. This review would indicate considerable scope for improved public wetland education in the immediate Sydney region to meet any of the goals of understanding, appreciation, and environmentally responsible behavior.

Bicentennial Park has considerable potential to develop further as a wetland education center with both freshwater and estuarine wetlands on site, a central location, and a high profile given its attractions for recreation and associations with the Olympics site. It thus has the potential to reach large portions of the community, and the park’s history enables it to trace the changes in attitudes to wetlands from use, abuse, and development to conservation and rehabilitation.

CONCLUSIONS

This study has taken a first step toward a regional view of interpretation and environmental education in light of broad conservation goals in one ecosystem type. Given the range and complexity of factors influencing conservation behavior, the scope of goals set by programs wishing to influence attitudes and behavior toward wetlands is critical. This review of wetland sites in the Sydney region providing both formal and informal education programs has revealed considerable variation between sites in goals for their programs and in implementation of those goals. Differences are in part attributable to differences in general management goals and structures, but if education and interpretation have any role in the broader conservation goal of preservation of valuable ecosystems, programs at individual sites must be considered within this broader framework. Goals at most sites are expressed in general terms and focus on “public awareness” of wetlands or education about wetland values; such lower level education goals are inadequate to meet broader goals of long-term protection and conservation of wetlands.

Shortland Wetlands is the most focused on conservation outcomes, clearly reflected in its broad program provision for both formal and informal sectors, but at sites most accessible to the majority of the Sydney population, considerably fewer themes and topics were presented to the public than in formal education programs. This applied particularly to management issues, the very themes that might be expected to influence adult attitudes and behavior toward conservation. Whatever the management imperatives at individual sites, goals need to be explicit, and where conservation behavior is the ultimate objective, goals need to be developed to reflect the complexity of factors that influence behavior. Goals must then be supported by detailed objectives so that programs and their outcomes can be designed toward fulfilling those goals and objectives, and can be measured against them.

A review by individual sites of goals and objectives, and the most appropriate and affordable programs to meet those goals, might then lay the foundation for regional cooperation and networking. Such networking may then be able to develop integrated planning, provision, and marketing of accessible, high-quality wetland education and interpretation across the greater metropolitan region.
REFERENCES


INTERNATIONAL TRENDS IN HERITAGE AND ENVIRONMENTAL INTERPRETATION: FUTURE DIRECTIONS FOR AUSTRALIAN RESEARCH AND PRACTICE

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Abstract:
The past decade has witnessed enormous social, political, and economic change in places such as Africa, Eastern Europe, Asia, and the USSR. These changes have played an important role in focusing attention on the "why" and "what" rather than the "how" of interpretive practice. This shift in emphasis has been expressed in at least five international trends in interpretation: (a) a growing concern with theory in interpretive practice, (b) the rise of ecotourism and consequent changes in the interpretation of environmental issues, (c) reactions to globalization and the tension between homogeneity and uniqueness, (d) the need to interpret emotive issues and contested heritage, and (e) adopting a grassroots approach to interpretive planning. This paper discusses these international trends and focuses on three important areas in which future Australian interpretation research and practice could fruitfully contribute to the development of international "best practice."

Keywords:
International trends, heritage interpretation, environmental interpretation, "hot" interpretation, ecotourism, interpretation theory, Australian interpretation.

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THE GLOBAL CONTEXT
Internationally the past decade has been one of rapid social, economic, and political change. It is difficult to imagine that anyone could have predicted the momentous political events that unfolded in Europe, Asia, and Africa in the past 10 years. Could we have foreseen that in 1999 we would be watching a war on TV being conducted by NATO in an area most of us associate with World War I history lessons? Many of these changes have meant that issues of culture have taken center stage in heritage interpretation. Historical events, together with global economic change and the accelerated rate of technological progress, have combined to accentuate the process of globalization. Travel has become easier and more widespread, leading to an increase in tourism and leisure activities, as forcefully demonstrated by world tourism trends over the past five decades (World Tourism Organization, 1998; see Figure 1).

People are traveling farther, staying longer, and going to more exotic places. Only 40 years ago, traveling abroad for Europeans often meant going on a cheap package tour to the Mediterranean. It was typically only the wealthy, those visiting friends and relatives, or backpackers who went farther afield. Now there is hardly a place on the planet that is not a potential holiday destination. Between 1992 and 1996, there was a 55% increase in the number of tourists visiting Australia—from 3,659,000 to 5,694,000. This growth in numbers is matched by a growing diversity in the composition of tourist groups and their motivations, interests, and environmental attitudes. Many visitors are interested in natural and cultural heritage sites, and interpretation is an essential element of their experience. Interpretation thus plays an important role in providing visitors with a learning experience that is stimulating and rewarding as well as in managing sites to ensure that they are protected from the damaging consequences of large numbers of visitors. The impact of global change on the demand for interpretation has led to changes in the nature and practice of interpretation, which in turn has implications for the development of the profession both internationally and within Australia.

![Figure 1. Trends in world tourism](Source: World Tourism Organization, 1998)
International Trends in Interpretation

One can identify a number of trends in heritage and environmental interpretation over the past few decades that have led to not only a change in the objectives, content, and emphases of interpretation and the techniques employed to interpret, but also in the self-perception of interpreters themselves, particularly in relation to their role and responsibility in society.

Interpretation has always been seen as a tool for management as it attempts to raise visitors’ awareness and reduce inappropriate behavior on a voluntary basis through education. It thus provides an attractive alternative or adjunct to the use of physical controls such as barriers, paths, and boardwalks to “harden” or protect endangered areas (McArthur & Hall, 1996; Orams, 1996). In the past, the rationale for interpretation has been heavily loaded on its visitor management role (Alcock, 1991; Beckmann, 1988; Hall & McArthur, 1996). But as interpretation has become increasingly popular among the public, so has it become an attraction in its own right. Visitors may, for instance, attend sites to spend time in the visitor center, perhaps giving minimal attention to the resource the center is interpreting. Rather than being the inspiration and impetus for an enquiring visit to a heritage site, the visitor center becomes the centerpiece. Tourism developers and the commercial sector have not been slow to perceive this, with marketing techniques being employed to sell products. Thus, with a veneer of heritage education, it is possible to visit whiskey distilleries throughout the highlands and islands of Scotland and, having been told about the heritage, purchase bottles of scotch. Other industries such as pottery and glassware have employed similar strategies, with sales at factory outlets generating a significant income. If ever one wanted some evidence for the effectiveness of interpretation, then maybe this is it.

A decade ago, when two or more interpreters gathered, it was common for conversation to center on techniques and the latest display technologies. In more recent years, however, it is more likely for there to be discussion relating to the “why” and “what” rather than the “how” of interpretive practice. Personal experience indicates that many interpreters have undergone a noticeable change in relation to their perception of their role in society and the purpose of their professional practice. Having the technical knowledge and experience to design exhibits that communicate information and entertain visitors is less likely to be seen as the central characteristic of a competent interpreter. Increasingly, interpreters are vitally concerned with the content and appropriateness of their message as well as their impact on visitor behavior in society. The general shift in emphasis from a concern with the technical to a social perspective is demonstrated in the following five international trends in interpretation.

A Concern with Theory in Interpretive Practice

In the 1980s, if interpreters were challenged to discuss theory in interpretation, many would have had difficulty in thinking beyond Tilden’s “principles of interpretation” (Tilden, 1957). Today interpretive practice is informed by a broad, multidisciplinary theoretical base, with input from research in education, psychology, sociology, cultural studies, and tourism. It is important that this theoretical base be developed and extended if interpretation is to have a significant impact on
society (Uzzell, 1998a). Areas where theory is making an increasing contribution to interpretive practice include attitude change (Lee, 1998); a theory of place (Goodey, 1998; Stewart, Hayward, Devlin, & Kirby, 1998) and place identity (Uzzell, 1995); the role of social interaction in learning (Dierking, 1998; Falk & Dierking, 1992; Uzzell, 1992, 1993); gender issues (Holcomb, 1998); visitor motivation (Moscardo, 1996); social theory (Machlis & Field, 1992; Uzzell, 1998a); learning theory (Ham, 1992); constructivism (Ballantyne, 1998b); communication and visitor behavior (Hungerford & Volk, 1990; Knapp, Volk, & Hungerford, 1997); and behavior influence and modification (Cialdini, 1996; Ham & Krumpe, 1996).

Rise of Ecotourism and Interpreting Environmental Issues

Traditionally the interpretation of the natural environment has been an important aspect of interpretive practice with the ultimate aim of conserving and protecting the environment. In the past decade, ecotourism has built upon this tradition and, with its focus on conservation messages, has placed interpretation at the center of this rapidly growing tourist industry. Ecotourism thus provides both opportunities and challenges relating to the interpretation of sites, events, and objects. Opportunities result from the centrality of interpretation in ecotourism and the consequent resources made available due to growing tourist demand and visitation. A number of challenges, however, face ecotourist interpreters involving the aims and outcomes of interpretation (Markwell & Weiler, 1998). Should interpretive messages be designed to suit (a) the purposes of the provider whose bottom line usually relates to considerations of profit or achieving land management objectives; (b) the visitor, whose reason for visiting may be recreation, entertainment, or education; (c) the site/habitat itself that needs to be protected and conserved; or (d) the needs of the wider society for greater environmental awareness? A further challenge lies in the dilemma that visitation may contribute to the destruction of the site/habitat on which the experience depends. Accordingly, conservation needs and interpretive messages may conflict with the desire to increase visitation and thus profits. Alternatively, sustaining or increasing profits through increasing price and thus decreasing visitation and pressure on the environment leads to questions of equity. An outcome of this dilemma is that interpretation in ecotourism may become a tool of visitor and site management in which profit and visitor numbers are the arbiter of the interpretive experience rather than education and visitor satisfaction.

One final dilemma for the development of interpretive services in an ecotourism context concerns the interplay between nature and culture. Almost by definition ecotourists are seeking a natural world experience, but the natural and cultural world are—or should be—inseparable for the interpreter. Markwell (1997) illustrates this beautifully through an analysis of the photographs tourists took on an “ecotourist” experience. Coming across statues of Hindu gods in a cave system in Borneo, visitors carefully framed their photographs to exclude the statues’ presence because the effigies would have contradicted the “naturalness” of the caves. Likewise, photographs of wildlife in and around the ecotourists’ jungle camp excluded the satellite signal receiving dish in the center of the camp because the image of this modern technology didn’t coincide with the image they wished to record of an authentic jungle experience.
Reactions to Globalization—Emphasizing Uniqueness in Themes and Sites

The impact of globalization on individual consciousness throughout the world has increased as the new millennium approaches. Interpreters, like everyone else, have had to come to terms with the impacts of the coalescing of ideas and activities in time and space resulting in a move away from uniqueness toward “sameness” in culture, landscape, and sense of place. Because of increased efficiencies of communication technologies and travel, our personal “neighborhoods” expand and cultural differences and experiences recede as we increasingly share a more common heritage. Schimany (1997) argues that the resulting interplay between local and global cultures leads to the globalization of local attributes and the localization of global cultures.

The global move toward homogeneity has proven problematic for interpreters who, in order to attract visitors, generally emphasize the unique qualities associated with a site, event, or object. As Uzzell (1998a, p. 20) states, “The rationale of heritage interpretation is to focus on specialness and uniqueness. The supposed virtue of interpretation lies in its propensity to draw attention to and stress the differences rather than the similarities between people, places, objects and events.” It is somewhat ironic that interpreters benefit from increased visitation at the regional scale due to the forces of globalization while relying on the unique nature of the local culture and landscape to attract visitors to their interpretive experiences.

The tension that necessarily exists between parochialism and globalism operates both at the consumption and production level of interpretation. Europe is subject to conflicting pressures. On the one hand local, regional, and national groups attempt to assert their distinctiveness and identity by seeking autonomy, independence, and rights of self-determination, while on the other hand organizations such as the European Commission are attempting to promote harmonization and unity. These issues have a crucial importance for interpreters who will inevitably find themselves at the front line of the debate about the construction of a European heritage (Ashworth, 1998). As Ashworth writes:

It is important not to equate the creation of a European heritage with an all-encompassing, pervasive European identity. Above all, therefore, a European heritage must be manipulated as a mosaic of similarity but also difference, that reflects the political and cultural realities of overlapping layers of identity and empowerment…. The meaning and consequences of Europeanness is a challenge that the New Europe is beginning to face. The central importance of heritage interpretation, as well as its content and meanings, will be inescapable. (Ashworth, p. 130)

Australian interpreters face a similar dilemma as they are located within a diverse cultural context where it is sometimes difficult to find commonalities on a national scale. Defining what is truly Australian in terms of history and heritage is further complicated by the policy of multiculturalism, which values and encourages cultural heterogeneity within the population.

Heritage That Hurts—Interpreting Emotive Issues and Contested Heritage

Increasingly, interpreters are being called on to interpret controversial issues
(Anterio, 1998; Uzzell & Ballantyne, 1998) and to do so in such a way that the affective dimension of the interpretation has as much significance as the cognitive (Uzzell, 1989, 1998b). This is particularly the case in relation to interpreting past conflicts, the ownership of cultural heritage, and technological/environmental issues. Although it was common in the past to try to adopt a neutral approach to the interpretation of controversial issues (e.g., in war museums), this is not necessarily the case today. The problematic nature of the neutral approach was clearly illustrated at a presentation at the Heritage Interpretation International conference in Hawaii in 1991, when, during a heated debate on interpreting controversial issues, a prominent interpreter made the comment that he hoped that any visitor to his museum could leave without knowing who won the war. Clearly, from his description, interpretation at this museum revolved around the hardware of war—the thought that such an approach was noncontroversial and value-free was not entertained. It is unlikely that many of the statements made regarding the “neutral approach” at the conference would find such uncritical support among interpreters today. There is a growing acceptance that just about any message can be construed as contestable and therefore controversial. This is illustrated by a story about a group of French students who, when visiting Nelson’s flagship HMS Victory, cheered and clapped when told in reverent tones by the sailor interpreting that the brass plaque on the deck was where Nelson received his mortal wound.

A trend among interpreters of controversial issues and contested heritage is to use a “balanced approach.” A balanced approach seeks to present a number of differing interpretations of events and issues. It seeks to ensure that visitors are not presented with a sanitized or one-sided view of an issue but, rather, are challenged to engage and wrestle with the accommodation of different viewpoints and meanings. In this way, the interpretation should be able to refute any suggestion of bias or indoctrination. The balanced approach to the interpretation of controversial issues fits well with a postmodern view of meaning making—one that acknowledges the uniqueness of individual viewpoints and perspectives—as it relies on visitors taking responsibility for creating their own story. Unfortunately, when taken to extremes this approach can bewilder visitors due to the unstructured nature of the interpretation and the lack of any clear stories and messages. It is contended that postmodern museums such as The Museum of Sydney fall into this category, where the goal is allegedly to get away from the “master narrative” and allow the visitor to construct meaning from the bricolage of artifacts that provides the vestigial evidence of the past. For some, though, such an approach in which it seems that information is deliberately “hidden” only serves to obscure the past, making the creation of meaning by visitors difficult.

A tension, if not a contradiction, exists in the changing roles of interpreters in designing “hot” interpretation—interpreting controversial issues and events using techniques that involve emotional responses (Uzzell, 1989)—and “postmodern” interpretation. On the one hand, we have a situation in which the role of the interpreter has moved from being a neutral, “cold” communicator of the “facts of the past” to one who uses values and emotions to inform the interpretation. On the other hand, we have moved in the opposite direction from seeing the interpreter as providing a clear steer on the interpretation of the past to a situation in
which the interpreter should not interpret at all—rather, she should make available the building blocks for an understanding of the past but then leave visitors to construct and make sense of the past themselves. Both of these roles can be seen as requiring the interpreter to play either a passive or an active role in the interpretive process.

One can identify a further changing role for the interpreter as measured by this active/passive dimension with respect to contested heritage. Along with the role of the interpreter as being a neutral chronicler of the past, there are opportunities for interpreters to see themselves as agents in a reconciliation process. Such a role necessarily assumes a more active posture. Uzzell and Ballantyne (1998) argue that interpreters should play a positive role in leading and shaping public opinion. Interpretation should thus engage visitors emotionally as well as intellectually with “hot,” or controversial, issues. There is a danger that “hot” interpretation itself could lead to greater polarization of public opinion and, in some cases, conflict or that interpreters could be accused of bias and indoctrination in their presentation of an issue. On the other hand, to take a neutral approach in response to an emotive or contentious issue, such as interpreting the Holocaust, may be not only inappropriate but also a form of value judgment. Uzzell and Ballantyne (1998) suggest that the way through this dilemma is to confront, rather than avoid, emotive and contentious issues in interpretation. By presenting different perspectives and promoting personal reflection on these issues, interpreters can engage visitors in questioning their own values and beliefs, leading to a deeper appreciation and understanding of differing viewpoints, attitudes, and behavior. In this way, interpretation can contribute to healing, reconciliation, and community development. In dealing with emotive and contentious issues, interpreters need to consider carefully their professional responsibilities to society as a whole, to community stakeholders, and to individual visitors who may be affected by the interpretive experience.

Interpretive Planning “with” Rather than “for” Communities—
Adopting a Grassroots Approach

One significant outcome resulting from the incorporation of a social dimension to interpretive practice is a move toward the adoption of a grassroots approach to the interpretive planning process. This is particularly the case when interpreting cultural or controversial social and environmental issues. In such situations, interpreters have a responsibility to ensure that they are sensitive to the ideas and views of different interest groups and stakeholders. To achieve this, interpreters have begun to adopt and put into place planning processes that have been successful in the field of rural and regional development. Such approaches value the participation and incorporate the ideas of all stakeholders into the planning process. The purpose, themes, stories, messages, and techniques of presentation are negotiated with, rather than imposed upon, the community. Through this process, people come to feel that they own their heritage. It is expected that such an approach would be beneficial where interpretation is designed to generate economic development in declining or underdeveloped areas as well as where the aim is to educate the community about sensitive environmental or social issues.

A grassroots approach to interpretive planning should also incorporate a plan
for ongoing evaluation and improvement. In reflecting on the problems and prospects for heritage and environmental interpretation in the new millennium, Ballantyne (1998a) stresses that, in an era of increasing technological, political, and social change, interpreters need to engage in a continual evaluation process. They need “to question the relevance of their practice and how successful it is in addressing the needs of society and visitors…to explore their conceptions regarding their role as interpreters as well as to establish on an ongoing basis why visitors come to their interpretive sites and experiences” (p. 10). In other words, interpreters need to ensure that their planning processes incorporate communities and target audiences during the design, development, and improvement of interpretive experiences.

**Future Directions for Australian Research and Practice**

The five trends outlined above can already be discerned in Australian interpretive research and practice. Notwithstanding this, it is suggested that work in at least three of these areas could fruitfully expand in Australia and inform future interpretive practice and research. These areas are the application of education and socio-cognitive conflict theory, the interpretation of environmental issues, and the interpretation of emotive and contested heritage. The discussion below presents ideas regarding how these areas might be developed if Australian interpretation is to remain at the forefront of international “best practice” in these areas.

*Application of Education and Socio-cognitive Conflict Theory in Australian Interpretation*

The application of theory and knowledge from disciplines such as education and psychology can be expected to have an increasing impact upon the research and practice of Australian interpreters. As a “field of knowledge” (Hirst, 1965), interpretation can benefit from applying the findings and experience of many other disciplines to improving the nature and quality of practice in the field. For instance, it is suggested that Australian interpretive research and practice could benefit from the application of education and socio-cognitive conflict theory (Blud, 1990; Uzzell, 1993) in the design of visitor learning experiences.

Recent theory and research in education have postulated that learners play an active role in learning situations and construct meaning regarding such experiences (Australian Education Council, 1991; Driver, 1984). This “constructivist” approach to understanding the process of learning has important implications for interpreters concerned with the design of visitor learning experiences. Utilizing a constructivist approach in the design of visitor learning “extends the focus from the exhibition or experience itself to include the visitor who interprets, understands, and imposes meaning on the displays, often within a social context” (Ballantyne, 1998b, p. 84). From this perspective, meaning is not contained within an exhibit or object itself but is dependent on the interactions among the visitor, exhibit, or object and social context. Learning should be viewed not as the accretion of separate bits of information but, rather, as the ongoing development of an individual’s understanding and knowledge organization (Uzzell, 1993). Social interaction within an interpretive setting is found to facilitate such “meaning making,” particularly when visitors are encouraged to question their ideas and derive
their implications (Ballantyne & Bain, 1995; Blud, 1990; Doise, Mugny, & Perret-Clermont, 1975). As Uzzell (1998a, p.18) comments, “Exhibition designers assume, perhaps not unreasonably, that visitors learn as a consequence of reading their exhibition panels. However, most research in museums has demonstrated that people do not learn very much from reading exhibition panels.” The most effective exhibits for learning are those that encourage social interaction among visitors (Uzzell, 1993).

If interpreters are to apply constructivist and socio-cognitive conflict theory to the design of visitor learning experiences, they need to go beyond a consideration of themes, stories, and messages. This traditional approach, though tying learning to the visitor experience, generally fails to consider what visitors bring to the site in terms of prior knowledge, nor does it extend visitor learning to include future actions in the world outside the exhibit (Ballantyne, 1998b). The traditional approach also fails to consider the impact of visitor social interaction on learning. Australian interpreters could greatly improve the effectiveness of their interpretation by planning and designing learning experiences based on understandings of the prior knowledge of their visitors (Fothingill, Binks, Dower, Lee, & Stringer, 1978; Lee & Uzzell, 1980) as well as by incorporating social interaction and discussion in the interpretive experience (McManus, 1987).

**Interpreting Environmental Issues in Australia**

Tourism is one of Australia’s largest industries, and increasing interest in the natural environment in recent years has contributed to the rapid development of ecotourism. Indeed, ecotourism worldwide is generally regarded as the fastest growing segment of the tourist market (Atherton, 1994). Australia is the first nation in the world to develop and approve a national ecotourism strategy (Eagles, 1997), and individual states have also developed their own plans. Australia is thus at the forefront of ecotourism and the interpretation of environmental issues, and it is expected that work and research in this area will increase in the next decade. Accordingly, Australian interpreters have an opportunity to make a significant mark on future theory and practice in environmental interpretation at the international level.

In Australia, the increased interest in ecotourism has led to its expansion beyond national parks and forestry organizations into the realm of private operators and tourist resorts (Black, 1998). These providers must now equip themselves to meet the challenges inherent in accepted ecotourism principles and practice. For example, the definition of ecotourism used by the National Ecotourism Strategy emphasizes the important place of education and interpretation: “Ecotourism is nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable” (Commonwealth Department of Tourism, 1994, p. 17). Accordingly, tourist operators who have traditionally focused on providing for the entertainment of visitors must now turn their attention to issues of education and environmental interpretation. Clearly, this has created a major need for training and accreditation procedures that are only now beginning to emerge. The provision of initial and in-service interpretive training and professional development are thus a priority for interpretive bodies and academic institutions and will engage the profession in a significant way in the
coming years. One major problem relating to the provision of such training is the need to provide “flexible” delivery due to the location of many interpreters across the vast area of Australia. Consequently, one can expect that in the future a number of training packages will emerge in Australia designed around using the Internet or self-guided video training workbooks (Ballantyne, 1997; Ballantyne & Weiler, 1999).

Notwithstanding the need to provide training, Australian ecotourism faces two major challenges that can be expected to exercise the minds of those in the interpretive profession:

- Designing and providing programs that meet the needs of school groups for environmental education in the field
- Extending the focus of interpretation from site-specific to global issues, thus affecting general visitor attitudes and behavior toward the environment

Formal school environmental education programs are significantly enhanced by the opportunity to explore and experience environmental issues in the field (Ballantyne, 1995a; Ballantyne, Fien, & Packer, 1999; Ballantyne & Uzzell, 1994; Rennie & McClafferty, 1995), though it would be wrong to assume learning gains as well as attitude change are automatic (Uzzell, 1999). Ecotourism operators can contribute to this process, as well as expand their market, by providing student groups with access to environmental experiences within an educational context. However, some adaptations need to be made to the way interpretation is undertaken when it is designed for school groups (Ballantyne & Uzzell, 1994). Some simple steps can be taken before, during, and after the visit to ensure that the interpretive experience adequately meets the needs of a school group. Interpreters need to be aware, for example, that informal learning or recreational settings present a novel situation for school students, and this can hinder their learning to some extent (Falk & Balling, 1980; Falk, Martin, & Balling, 1978). Providing a previsit program that assists students to orient themselves to both the site itself and the content of educational and interpretive experiences will help to overcome the negative effects of novelty.

During the visit, interpretive experiences need to maintain a level of flexibility that enables them to be responsive to teaching aims, curriculum needs, and students’ level of understanding. Collaboration with the class teacher in this regard is important if the school group is to take the best advantage of the interpretive experience. Wherever possible, interpreters should attempt to see the world from the students’ perspective and adjust their materials, examples, and stories to ensure that they “connect” with the students’ life experience. “Hands-on” activities such as investigatory and practical work can help to engage students in environmental learning and bring home the reality of environmental problems (Ballantyne, Fien, & Packer, 1999). Postvisit follow-up activities are also important in helping to consolidate and reinforce learning, as well as in making connections with other aspects of student learning and maintaining the continuity between formal and informal learning environments. Given these many considerations, it may be desirable in some cases for Australian ecotourism operators to support a collaborative process with school groups by employing their own qualified teachers.
In light of this discussion, it is suggested that Australian research into interpretation of environmental issues could profitably focus on the interface between formal school environmental education programs and informal environmental interpretation. What factors contribute to the success of interpretive experiences in meeting school curriculum needs? How can formal school programs build on and extend the effectiveness of informal learning? What information and resources do teachers need to maximize learning by their school group? In attempting to investigate such questions, it will be important to build on research work undertaken elsewhere (Ferry, 1995; Paris, 1994; Price & Hein, 1991; Rennie & McClafferty, 1995).

Traditionally environmental interpreters have focused on influencing visitor behavior mainly in relation to their visit to a particular site. This is not surprising as interpretation in Australia has become an important management tool with the capacity to reduce inappropriate behavior through education (Black, 1998; Orams, 1996). Although it is important to maintain this function, Australian interpreters also need to extend their vision beyond the needs of the site itself to include “the development of an environmentally literate society” (Ballantyne, 1998b, p. 78). Interpretation that challenges visitors to examine their environmental attitudes and the environmental impacts of their actions can contribute to this ultimate goal. Australian interpreters could also contribute to developing visitors’ skills in identifying and analyzing generic environmental problems and evaluating and applying solutions. In this way, interpretation can begin to address some of the “ownership” and “empowerment” variables that have been shown to be poorly represented in interpretive practice (Knapp, Volk, & Hungerford, 1997).

The ways in which interpretive learning can be extended beyond site-specific issues needs to be investigated by Australian interpreters. What differences and similarities are there in the way visitors perceive and respond to local and global environmental issues? How can learning in relation to a specific site or issue be used to bring about a greater awareness of other more global environmental problems? To what extent can an interpretive experience bring about lasting changes in attitudes and behavior? These are some of the many questions relating to the interpretation of environmental issues that interpretive research and practice are well positioned to begin to address. In this regard, recent research into the role that environmental education programs can play in helping students act as catalysts of environmental change in their families may shed some light onto ways in which Australian interpretive programs might reach out to audiences beyond the on-site visitor (Ballantyne, Connell, & Fien, 1998a, 1998b; Ballantyne, Fien, & Packer, 1999).

Emotive Issues and the Interpretation of Contested Heritage

Australia is an appropriate setting for interpreting emotive issues and contested heritage. It should thus be expected that this will be a significant area for future interpretive research and practice. The importance of interpretation of this type in Australia is illustrated by the fact that the theme for the 1999 National Museums Conference in Canberra is “Negotiating Histories: Exploring the Negotiation of Diverse Histories in Contemporary National Museums.” Whereas other countries have interpreted “hot” issues regarding their national history (Uzzell & Ballantyne,
1998), Australians seem hesitant to do so. Why not consider interpreting issues of community concern such as multiculturalism, immigration, indigenous cultures, and environmental issues?

In addressing controversial issues, Australian interpreters must face the reality that the messages they present can “make a difference” in terms of visitor attitudes and behavior. Are Australian interpreters willing to take up the challenge to work for positive change in society, or will they retreat to the supposed “safe ground” of neutrality? Generally any interpretation that evokes emotions will more adequately convey the meaning and significance of issues than that which does not (Uzzell & Ballantyne, 1998). Many different frivolous issues and objects can be interpreted in this manner, however, perhaps just for the sake of entertainment. While not wanting to decry interpretation “for entertainment,” the case we are making in this paper is that Australian interpreters should use “hot” interpretation to address important national community development issues. A good illustration of the use of a “hot” interpretive approach to important environmental issues is found in the Strahan Wharf Centre, where the history of human involvement in West Tasmania is presented from many different perspectives, providing a starting point for visitor thought and discussion.

Perhaps one area that stands out as being in need of a “hot” interpretive approach is the interpretation of Aboriginal culture and heritage. In this regard, interpretation can have either a positive or negative effect upon community understanding and development. Although some research has been undertaken into interpreters’ conceptions and perspectives regarding the interpretation of Aboriginal culture and heritage (Ballantyne, 1995b), much more is needed. Some postcontact issues that would clearly benefit from a “hot” interpretive approach are those relating to the “stolen generation,” the role of mission stations in Aboriginal life, and massacre sites.

Although some Australian interpreters might wish to shy away from interpreting Aboriginal concerns due to the sensitivity of current issues, the salience of these issues is not diminished by their denial. There is, of course, a need to be careful that a “hot” interpretive approach is not used solely to shock or annoy visitors. The key is to ensure that education and community reconciliation are the underlying purposes of the interpretive experience when dealing with “heritage that hurts” (Ballantyne & Uzzell, 1993; Uzzell & Ballantyne, 1998). A “hot” interpretation of Aboriginal issues should also aim to interpret “with” rather than “about” Aboriginal people—an approach fraught with difficulties and which will involve interpreters in lengthy negotiations. This should, however, not deter interpreters who need to encourage visitors to think about different interpretations and futures when dealing with contested heritage.

**Conclusion**

This paper has attempted to map out major international trends in interpretation and suggest areas that Australian interpreters could fruitfully “mine” to ensure that interpretation keeps abreast of international “best practice” in the field. As the interpretive profession in Australia continues to grow, interpreters need to become
engaged with more than the technical dimensions of their craft and move toward a
greater consideration of the social antecedents and consequences, such as visitor
motivation and learning. They need to consider their choice of themes, stories, and
messages and their impact on the development of visitor knowledge, attitudes, and
action on both local and global scales.

In particular it is suggested that Australian interpreters are well placed to be able
to use their craft to address community needs through the use of site-based inter-
pretive programs in the areas of ecotourism and contested heritage. Such interpre-
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CULTURALLY SENSITIVE RESEARCH:
INTERPRETING UMEEWARRA MISSION

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A research program is being undertaken to aid in the strategic planning of an interpretive center based on the Umeewarra Mission in South Australia. A background to this research is outlined here.

Indigenous occupation of Australia for at least the last 60,000 years (Flood, 1995) was followed by European settlers in 1788. Matthew Flinders was the first European known to have explored Spencer Gulf, including the site of Port Augusta, in 1802 (Flinders, 1814), and by 1842 this area was one that was frequented by trading ships. Settlement in the area followed soon after. At the time, South Australia was the home of as many as 50 distinct Aboriginal groups (Hemming & Clark, 1992), and the area around Port Augusta had long been used as a meeting place for local Aboriginal people.

Early settlement in Australia was accompanied by a lack of understanding and appreciation of Aboriginal culture, land confiscation, and introduced disease, resulting in a negative impact on many Aboriginal groups. What also followed was a process of persecution, rejection, and destruction of much of the Aboriginal people of Australia and their culture. Their culture and beliefs were largely ignored, and their needs and rights, as the Indigenous people of Australia, were forgotten. Over the 200 years of white settlement, Aboriginal people have experienced rejection, a process of assimilation and, currently, moves toward reconciliation (Mattingly & Hampton, 1988).

Christian missions were established in the early part of the 20th century on the grounds that the Aboriginal children would have a better, more Christian upbringing if they were taken into the care of European settlers. Missionaries often removed Aboriginal children from their parents, families, and land and placed them in missions or homes. This program, involving the removal of children, was carried out with the approval, knowledge, and support of the government of the day. These Aboriginal children are known as “the Stolen Generations” (Bird, 1998).
One such mission was Umeewarra in South Australia. This mission was established in the 1930s by missionaries from the Open Brethren Assemblies church at Port Augusta in South Australia and existed until 1996. It catered generally to three groups of Aboriginal children: those removed from their families and land, wards of the state, and those placed at the mission by Aboriginal families on a temporary basis. Up to 45 Aboriginal children, both boys and girls, were accommodated at the mission at any one time and ranged in age from babies to teenagers.

These children included those removed from their families and land from areas throughout central Australia, including South Australia and southern Queensland. Children taken from these areas belong to a number of different Aboriginal groups, each with its own culture, beliefs, identity, and language.

Some of the former children who were raised at the Mission have established a committee—the Umeewarra Nguraritja (meaning “place,” or “home”)—to oversee the mission site. The Umeewarra Nguraritja wants to establish an interpretive center to tell the Aboriginal and missionary history of Umeewarra. The challenge is to uncover a way to preserve, conserve, and interpret the mission culture, which is part of their history, in an interpretive center that maintains the integrity of that history. Research will identify how to preserve the material culture from this time, how to record the oral histories and stories from former children of the mission, and, importantly, how to decide what to display and interpret for the visitor.

The Umeewarra Nguraritja approach has been strongly supported by the missionaries of the Brethren church who have been custodians of much of the material culture dating from the days of the mission. Both groups see the value in not only preserving the mission heritage but also interpreting that heritage to the broader community and to visitors as a reflection of part of the history of South Australia.

Research is in progress into the strategic planning for the site management and interpretation of Umeewarra. There is a particular need for the researchers to be sympathetic and culturally sensitive to both indigenous and missionary cultures, playing both supportive and leadership roles in order to give something back to the “stolen generations.” As two prominent researchers suggest (Ballantyne & Uzzell, 1999; Uzzell & Ballantyne, 1998), a balanced approach is necessary to present the different issues as part of the interpretation. The process of conducting the research is as important as the interpretive products that result from it. This means allowing considerable time for the Umeewarra Nguraritja committee members to discuss and work through issues in ways that are culturally appropriate.

One of the issues to be addressed by the researchers is the location of such an interpretive center and whether it should be housed, at least in part, in some of the old mission buildings. This will be considered as part of the development of the strategic plan, but in terms of offering an insight into life at the mission, there is an argument that supports development at the original site in order to establish an authentic “sense of place” (Carter, 1997).

The role of interpretation in telling the story of the Umeewarra Mission will be crucial in establishing the center as an authentic Aboriginal cultural enterprise and in maintaining both the integrity of the site and its people. The researchers need to ensure that the center and its interpretation is not only authentic but also is owned by the Aboriginal community that it represents.
Themes will be identified with a view to representing both the Indigenous and European aspects of the heritage of the site. These themes will encompass both the historical and cultural aspects of the place but will also need to include the concepts of Aboriginal culture as a living and contemporary culture that has moved forward from the days of European decision making that impacted so strongly on the lives of many Aboriginal people.

Interpretive media and techniques will be employed to most appropriately record and display the stories of Umeewarra. Something of the atmosphere of the place needs to be captured as the imagination at times makes the visitor feel, rather than hear, the presence of those Umeewarra children playing at the mission, as their spirit lingers in the buildings that remain. A variety of interpretive methods may be used to capture this spirit of the children, possibly utilizing photographs, artifacts from the days when the mission was in operation, or taped stories from the mission children.

The Umeewarra community has already acknowledged that the interpretive center may well have a significant role to play in the ongoing process of reconciliation between Aboriginal and non-Aboriginal people in Australia. The research and strategic planning process represent an early stage in this reconciliation.

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ASSESSING THE INTERPRETATION COMPETENCIES OF ECOTOUR GUIDES

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INTRODUCTION
What are ecotour guides supposed to do, and how good are they at doing it? These are two of the questions investigated in a recent 18-month national research project undertaken by this paper’s author along with Alice Crabtree, vice-president of the Ecotourism Association of Australia, and funded by the Australian National Training Authority (ANTA) Research Advisory Council (Weiler & Crabtree, 1998). The aims of this study were twofold:

- To develop, pilot-test, and evaluate a methodology for assessing the competencies and on-the-job skills of practicing Australian ecotour guides
- To critically evaluate the competencies of guides in the pilot study in relation to the job they are supposed to do, using as benchmarks the existing national tour guide competencies as well as visitors’ satisfaction with the guides’ performance

WHY THIS STUDY?
Quality ecotour guiding is a key factor in maximizing tourist satisfaction while protecting the natural and cultural resources on which ecotourism depends. Thus, ecotour guides play a critical role in achieving genuine ecotourism. Guides in Australia, however, are not required to be trained, qualified, or registered, nor are there any prescribed standards for selection, recruitment, promotion, or pay. The Australian ecotourism industry has demonstrated its commitment to increased professionalism, consistency, and quality control in tourism products and services through industry-based accreditation schemes but has only recently considered the need to assess the quality of individual tour guides and what they deliver to visitors.

Little research to date has examined ecotour guide performance or how it relates to visitor satisfaction. Our study explored the relationship between ecotour guides’ performance on the job (as measured by observations in the field) and tour clients’ satisfaction with the guide. It involved the systematic analysis of 23 ecotour guides conducting day tours in New South Wales, Queensland, and Victoria and 295 visitor–completed surveys from the same tours. Additional insights were gained
from posttour interviews with the guides. The study purposely focused on guides working for products accredited by the National Ecotourism Accreditation Program (NEAP) and others expected to exemplify “good” ecotour guiding practices.

**How Did We Do It? Assessing Performance of Ecotour Guides**

The knowledge and skills required of an ecotour guide are considerable and wide-ranging, including many behind-the-scenes activities (e.g., preparation, planning, setting up) that, while important, are not often observed by the visitor. Because it was not possible to assess all aspects of an ecotour guide’s on-the-job performance, only specific components were included. Selection was based on competencies that were deemed highly critical and those that should occur with high frequency in all nature-based tour guiding based on reference to national competency standards, published research, training needs analysis, and various industry studies. These key areas of competence were mainly elements relating to interpretation and communication skills. Competencies of unique importance to ecotour guiding—minimal impact techniques, sensitivity to local environments and culture, and an underpinning knowledge of ecological sustainability and conservation issues—were also examined. Competencies that are known to be critical but occur (it is hoped) with low frequency, such as application of first aid, evacuation, and operation of contingency plans, were not selected for evaluation.

The assessment was based on systematic observation of each guide’s performance during the tour. The guide was aware that the study was taking place. An observer’s checklist was used to help standardize measures of the guide’s performance, and this was supplemented by an analysis of audiotapes of their presentation. Measures of client satisfaction with the tour were analyzed through a visitor survey administered immediately following the tour. Finally, the guide was debriefed and asked follow-up questions after the tour.

**The Findings: Visitor Satisfaction**

Visitors expressed overwhelming satisfaction with their tours and their guide, with positive responses in terms of interpretation and communication skills, minimal impact techniques, and conservation messages (Table 1).

Regardless of type of tour, origin of the visitor, or experience of the visitor with previous ecotours, there were extremely high satisfaction levels when measured quantitatively, with both the tour and the guide. This is not an unusual finding in customer satisfaction research. When the responses to the open-ended questions were systematically recorded and analyzed, however, the results were valuable in identifying the few areas where visitors did show dissatisfaction. The three open-ended questions on the visitor survey were

- Was there anything in particular your guide said or did that you found really interesting or useful?
- Was there anything in particular you felt was left out?
- If you would like to comment on anything that stands out about your guide, please do so.
Table 1. Quantitative results from visitor surveys, n=295

<table>
<thead>
<tr>
<th>Visitors’ responses</th>
<th>Very satisfied (%)</th>
<th>Satisfied (%)</th>
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<tbody>
<tr>
<td>Interpretation and communication</td>
<td></td>
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<tr>
<td>How the guide spoke</td>
<td>63</td>
<td>30</td>
</tr>
<tr>
<td>How the guide presented</td>
<td>59</td>
<td>37</td>
</tr>
<tr>
<td>Encouragement to contribute and participate</td>
<td>36</td>
<td>56</td>
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<tr>
<td>Minimal impact/sustainability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What the guide did</td>
<td>41</td>
<td>48</td>
</tr>
<tr>
<td>What the guide said</td>
<td>40</td>
<td>46</td>
</tr>
<tr>
<td>What the guide suggested for long-term conservation</td>
<td>37</td>
<td>25</td>
</tr>
</tbody>
</table>

Again, there was a preponderance of positive responses (333 of 382 responses, or 87%) which related mainly to content (e.g., “He was extremely knowledgeable,” “Great local knowledge,” “Enjoyed aspects of Aborigines’ lifestyle”) or which made reference to the guide’s personality (e.g., “A pleasant, friendly manner,” “His enthusiasm was catching”). Although there were far fewer negative comments by visitors, the nature of the comments were quite specific and a large proportion (25% of all negative comments) related to the lack of environmental, minimal impact, or appropriate behavior or conservation messages by the guides (e.g., “I was dissatisfied that the guide did not suggest information regarding long-term conservation values,” “His approach to logging and wood chipping was ill-informed and inappropriate to an ecotour,” “Would have liked something about how to enjoy the area without impacting on it too much,” and “More about threats to our forests”). Clearly the visitors wanted to hear these messages.

The Findings: Assessors’ Evaluations

The assessors' evaluations of guide performance were more critical than that of the visitors, though most guides performed well with regard to content and knowledge. Guides tended to score less well on certain aspects of communication and interpretive skills. On a scale of 1 to 5 (where 1 is poor and 5 is excellent) the mean score of the guides was ≥4.0 on verbal communication skills and the use of audiovisual aids, 3.1 to 3.9 on nonverbal communication and the use of specific interpretive techniques, and ≤3.0 on organization and thematic interpretation.

Guides performed relatively poorly with respect to minimal impact, sustainability issues, and conservation messages, as shown by the average scores listed in Table 2.

Discussion

Although it appears that, as a group, the guides who were assessed in the pilot study performed well in terms of visitor satisfaction, objective measures by trained assessors suggests that guides working for “model” ecotour operators are not excelling
in the area of interpretation and are performing quite poorly on measures of minimal impact.

Methodologically, the results suggest that visitor surveys (especially survey instruments without open-ended questions) may be of little use as a primary indicator of guide performance and may be best used to provide validation of other forms of assessment. The pilot testing of the assessment tools has also proven useful. The assessment tools are now being refined (with detailed performance criteria to allow transparency of the process, consistency in evaluation, and reduction in operator bias) and expanded to other areas of tour guide competencies for the purposes of a national ecotour guide certification program for Australia.

The results also have practical value in helping to identify areas of weakness in the guide performance generally, which need to be addressed by both traditional training providers such as colleges and universities and in-house and private providers. They may also prove useful to the international community as a basis for the recruitment and selection of guides, to help identify gaps in training of guides, and as a basis for recognition and rewarding of best practice guiding.

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Information for Authors
Journal of Interpretation Research

The purposes of the Journal of Interpretation Research are to communicate original empirical research dealing with interpretation and to provide a forum for scholarly discourse about issues facing the profession of interpretation. In recognition of how difficult it is for interpreters to keep up with the growing and diverse body of relevant literature, the Journal publishes reviews of recent books, professional meetings and workshops, government publications, and original literature reviews and bibliographies dealing with interpretation. The Journal also includes a “Research Briefs” section. This section accepts reports of ongoing interpretation research. It also provides an outlet for summaries of research studies with limited scope. Much interpretation research consists of small “in-house” program evaluations and basic visitor studies. The purpose of this section is to communicate current research activities and allow readers to identify colleagues with similar interests. “Research Briefs” should be limited to 300 to 500 words.

The Journal of Interpretation Research takes a broad view of the field of interpretation and publishes manuscripts from a wide range of academic disciplines. The primary criterion for deeming a manuscript appropriate for the Journal is whether it offers new insights for interpreters or those who study interpretation.

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Manuscripts. Manuscripts will be accepted with the understanding that their content is unpublished and not being submitted elsewhere. All parts of the manuscript, including title page, abstract, tables, and legends, should be typed double-spaced on one side of 8–1/2” x 11” white paper. Margins should be 1 inch on all sides, and manuscript pages should be numbered consecutively in the top right corner. All papers must be submitted in English. Translations of papers previously published in other languages will be considered for publication, but this information must be supplied by the author when the manuscript is submitted.

Titles. Titles must be as brief as possible (6 to 12 words). Authors should also supply a shortened version of the title, suitable for the running headline, not exceeding 50 character spaces.

Affiliation. On the title page include full names of authors, academic and/or other professional affiliations, and the complete mailing address of the author to whom proofs and correspondence should be sent. An e-mail address and phone and fax numbers would also be helpful. As all manuscripts will be reviewed anonymously, the name(s) of the author(s) should only appear on the title page.

Abstract. Each paper should be summarized in an abstract of no more than 150 words. The abstract will preface the paper and should be a comprehensive summary of the paper’s content, including the purpose or problem, methods, findings, and implications or applications. It should enable the reader to determine exactly what the paper is about and make an informed decision about whether to read the entire paper.

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