

# How Wading through the Murk is FOR a Better Environment: Case Studies in Environmental Interpretation

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**R**ecognition of the relationship between education and interpretation has been widely attributed to Tilden (1977) in his definition of interpretation as:

*an educational activity which aims to reveal meanings and relationships through the use of original objects, by first-hand experience and by illustrative media, rather than simply to communicate factual information.*

The British interpreter Aldridge (1972) explained interpretation as:

*the art of explaining the significance of a place to the people who visit it, with the object of pointing [to] a conservation message.*

Australian interpreters have continued to build on this model of interpretation (O'Brien 1987, Beckmann 1991), acknowledging the intersection of interpretation and environmental education. Beckmann (1991) listed what she saw as major differences between the two fields, highlighting the informal, voluntary, opportunistic nature of interpretation, while identifying values as a major component of environmental education. This distinction however is not an absolute one. For example, Aldridge (1989) and Uzzell (1989a) acknowledged that the future of interpretation involves promoting values as an integral part of interpretation. Beckmann (1991) also argued that interpretation is:

*a management tool, an avenue for environmental education and a means of promoting ideas, values and behaviour.*

Most interpreters define interpretation in the context of

## A B S T R A C T

Interpreters have concentrated much of their attention on protected sites. A challenge exists for them to use their skills in relation to issues such as pollution and waste management. Examples of such a use of interpretive methods are presented.

natural/protected areas (Aldridge 1972, Beckmann 1991, Tilden 1977) or cultural sites (Aldridge 1989). Another kind of area now being interpreted which does not fit the mould of a natural or cultural site is the 'creative conservation' site (Uzzell 1989b), one that has been rehabilitated for the 're-establishment' of wildlife. Interpretation is now also being applied in parts of Australia to another category which deals with major conservation issues, such as pollution, waste management and water conservation. Currently most environmental interpretive programs are conducted in natural areas, which tend to interpret natural resources and local management issues, rather than general conservation issues. In his study of the impact of an interpretive program on attitudes towards the environment Ryan (1992) found that conservation was associated with "being outside with nature" and not with recycling, or saving energy or conserving water.

According to Tilden interpretation should be provocative and not merely instructional. To be provocative interpreters must deal with issues which means that values also have to be addressed. Aldridge (1972) and Uzzell (1989b) supported this provocative role for interpretation, with Uzzell advocating that to be effective interpretation must:

*move and excite and where necessary anger and shock people...in the case of issues such as...the pollution of the environment.*

It could be argued that interpretation by adopting this approach to values and issues has usurped the role of environmental education. However if interpretation is informal and opportunistic as suggested by Beckmann (1991) it cannot be directed in the same structured and directed processes as found in environmental education.

Examples of how interpretation can be employed to promote ideas, develop values and change behaviour are described in the following case studies.

### Blue-green algae

Recently the managers of some of Sydney's major urban parks such as Centennial Park and Bicentennial Park have found it necessary to erect at the Parks' most popular bird watching areas signs notifying visitors that toxic blue-

green algae have been found in the ponds associated with these areas. To overcome this serious problem the Centennial Park and Moore Park Trust engaged water quality consultants to investigate the blooms.

After researching the causes of the toxic blooms roles were identified for stormwater flow, European carp, sediment disturbance and nutrient levels. As some of these factors such as water quality and quantity were beyond the control of the Trust managers they decided that they needed to communicate the issues to the Park's users and neighbours.

According to visitor studies undertaken by the Park managers (P. Sandells pers. comm.) over 80% of visitors were tertiary educated and lived in the water catchment area for the Park. The high educational qualifications of visitors meant that the concepts presented and language level used in communication of ideas about issues in the Park needed to be appropriate to intellectually sophisticated users of the Park, yet still be relevant to educational groups such as schools. To achieve this an interpretive approach to the problem was selected because the blue-green algae issue is complex and a solution to this issue would be effected only if the Park's visitors and neighbours were motivated to change their patterns of behaviour to include actions such as:

- picking up their dogs' faeces in the park and/or on the nature strips outside surrounding houses
- washing their cars on grassed areas rather than roadsides and using minimal amounts of fertiliser in their gardens so that the dissolved nutrient load entering the Park's ponds through the stormwater system was reduced

The main goals that were set for the interpretation of the blue-green algae issue were to:

- raise awareness of the issue among visitors and neighbours
- provide a historical and natural context for the Park so that visitors and neighbours are encouraged to value the site
- provide experiences which were enjoyable and involving for visitors
- demonstrate how visitors and the local community could help solve the pollution problem

To achieve these goals, interpretive themes were chosen which illustrated:

- the historical significance of the site
- the history of pollution of the Park's water supply
- the ecology of the Park's wetlands area
- approaches to the management of the blue-green algae issue
- roles which need to be taken by members of the community and by Park managers if algal blooms were to be controlled

The interpretive medium chosen for the site was a self-guiding walk with a difference. Self-guiding walks permit visitors to engage in an informal, voluntary activity which they can undertake in full or in part at their own pace, 'dipping into' the experiences offered and choosing the ones which look interesting or amusing. For more structured educational groups provocative statements used to illustrate concepts can serve as a discussion point on-site or as a follow-up activity in a more formal setting. The site selected for the guided walk was the Duck Pond, a popular area which attracts many people who picnic, jog, walk or watch the water birds which gather there.

To interpret the series of complex messages associated with blue-green algae pollution of the ponds a 'maze' approach has been chosen providing a route which would weave in between planted beds of native heath and wetland plants. Aquatic features such as trickles, ponds and epiphyte beds provide opportunities to present both ecological and management messages as well as illustrating such concepts as the role of temperature, sediments and pond depth in contributing to blooms of blue-green algae. In keeping with Tilden's (1977) interpretive principles the choice of a maze means that visitors become involved in first-hand experiences and that through the use of objects and illustrative material they identify the problems and absorb messages presented, all within a recreational and informal interpretive structure. By coming to an appreciation of the significance of the natural and cultural heritage of the Park's wetlands and the threat posed to them by the blue-green algal problem visitors also build up a 'valuing' of the Park. It is intended that this be accompanied by appropriate changes to visitor and neighbour behaviours in the water catchment area of the Park.

The maze begins near an area in which birds often feed and then winds along the pond edge as well as the adjacent river bank which is lined with formal plantings of paperbark trees. Like all mazes there are many choices for visitors to make in following the direction of the path so visitors will take one of several possible ways. This means that all messages need to stand alone and be independent of previous exhibits and of signs providing information about context or explanation. Care has been taken to ensure that there is an easy visitor flow through the maze, using brief encounters where the path is narrow, and more involving ones such as a climbing sandstone 'food' pyramid where there is ample space.

To interpret some of the historical and ecological messages props such as animal and plant sculptures, totem poles depicting insects and local birds, cut outs featuring Aboriginal and non-Aboriginal motifs, slot signs and spy tubes have all been specified. To assist visitors to benefit most from their experiences a hierarchy of interpretive signs has also been developed with each sign varying in length according to the importance of the message and the location of the opportunity for involvement. By concentrating on features present at the site and highlighting everyday actions that exacerbate the pollution problem, such as over-fertilising lawns and gardens, the

issue of blue-green algae is interpreted through art, imagery and first-hand experiences some of which are briefly described below:

- visitors are encouraged to use their sense of smell, sight, sound and touch, as well as their sense of fun. Unlikely totem poles with bird, fish, frog and bullrush heads are sited to attract visitors to the start of the maze, as well as throughout the wetland. These timber totems are different heights and are also intended to be perching poles for birds
- old tap heads and bore pipes propped up on their end are used to introduce the historical scene for the 'murky past' of the area with its nightmare list of pollution acts. By depicting silhouettes and names of the common waterbirds around the pond, visitors are encouraged to observe and listen to these animals, building up a sense of how they fit into the ecology of the ponds
- large numbers of introduced carp which continually disturb sediments and reduce light availability to beneficial algae and other plant life constitute an important part of the problem of the ponds. Creative writing is used to present a picture of 'killer' carp and how the planting of macrophytes would enable native fish and insects to escape from these introduced predators
- the roles of macrophytes are explained through a series of pole 'filters'; visitors can weave their way between the poles, hiding behind or circulating around the oversized 'stems'. An explanation of this role is briefly presented through an interpretive sign, which uses a creative writing approach
- by looking through a spy tube, maze-users can see a mock-up of a common blue-green algae, magnified 400 times, which is set into the path in the form of a spiral of pebbles. It is intended that, in being able to see an image of the organism making up the blooms, visitors will be able more readily to form a picture of it, so that it is no longer just an amorphous greenish blob in a pond

Altogether there are a mixture of 21 interactive and passive exhibits which allow visitors to be involved through touch, sight, smell and sound, as well as thought-provoking written signs that use rich imagery and sculptural elements to support their messages. Specifications have been prepared for artists so that a series of sculptures and installations may be developed to interpret the main messages associated with this project. It is hoped that the changing nature of sculptural elements, accompanied by the regular seasonal patterns of nature, will provide visitors with an ongoing interest in the site. It is through involvement in these interpretive experiences that the behaviour of visitors and neighbours may be changed, so that a more pollution-free environment may be achieved in the Park.

At the time of writing this paper funding for the majority of the landscaping and interpretive work for this project was being provided by the Centennial Park and Moore Park Trust. To fully complete the sculptural and boardwalk elements approaches were being made to other sponsors such as Sydney Water.

### Waste management

The issue of waste management also presents a challenge for most interpreters who are more used to dealing with aesthetically appealing topics such as wildlife, endangered plant species or scenic geological features. As Sydney is fast running out of suitable landfill areas the management agency Waste Service NSW decided to use interpretation to communicate the issue of waste management to their customers. Accordingly, an interpretive strategy was devised which was intended for school students and householders, and for business and industry personnel.

The interpretive goals for the waste management project were to:

- raise awareness of the need to reduce, re-use and recycle
- provide examples of what materials need to be sorted for recycling
- develop an understanding of the waste management process
- encourage all members of the community—individuals, families, industries and businesses actively to sort their wastes

To achieve the above goals, the interpretive techniques used to involve the community included such first-hand experiences as:

- re-using, reducing, recycling and sorting materials in homes, offices and schools
- guided tours of a waste management facility so that people could 'see behind the scenes'
- a 3D exhibition of waste materials that have been recycled
- a display interpreting the value of re-using, reducing and recycling

A publication aimed at school children was designed and written to show why and how they should recycle as well as what happens to materials when they are taken to waste management centres. The publication was designed so that the typeface, colour, graphics, layout and writing would appeal to children ranging from year 5 to year 9. The interpretive publication served as an interesting newsletter and an attractive educational poster.

As indicated by Tilden (1977) first-hand experiences visitors receive in guided tours enable people to gain a better understanding of concepts. In this case the reasons for the importance of the strategies 'reduce' and 'recycle'


were presented to visitors who toured a waste management facility. Further interpretive media such as a 3D interpretive exhibition of the planning and research behind the facilities supplemented visitors' tour experiences. Most visitors on these tours were families who were curious about what went on in such centres and saw the experience as an informal outing, and one which also happened to be educational.

To take the interpretive message to businesses and households a mobile indoor interpretive display suitable for shopping centres and conference venues was prepared, featuring some of the recycling 'characters' who were depicted in the newsletter and on the side of recycling trucks. The display used everyday situations where recycling could easily be implemented, thus encouraging householders and offices to follow the examples depicted.

There was less use of first-hand experiences in the display and the publication. However an interpretive or creative writing approach was used to attract attention. The use of this form of writing seeks to ensure that audiences relate to a series of messages presented in an enjoyable and entertaining manner. The puzzles, word games and numerical brain teasers presented in the newsletter are intended to provide a little fun as they are completed but are based on familiar experiences that relate back to the issue at hand. There is an explicit attempt to promote the development of visitors' levels of knowledge, skills and understanding of waste management issues.

## Conclusion

It is hoped that monitoring the pollution levels of the Centennial Park ponds and the rate of recycling and resorting at the waste management centres will provide data allowing the effectiveness of these interpretive approaches to be evaluated.

As an interpreter who plans, develops and implements interpretive strategies I believe that the potential of interpretation to contribute to improvement in environmental management and of degraded environments will depend, to some extent on the degree to which interpreters are prepared to wade through the kinds of murky yet important issues discussed in this paper. 

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An interpretive specialist for over 20 years, Christine O'Brien has worked as a consultant for the last 11 years throughout Australia and overseas. She is President of Heritage Interpretation International, which is holding its 5th International Congress in Sydney in 1998.

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