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**Influence of varying intensities of natural area on-site
interpretation on attitudes and knowledge.**

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B.App.Sc., Grad. Dip. Nat. Res., MSc

A Thesis Presented for the degree of
Doctor of Philosophy

College of Science and Technology
University of Notre Dame, Australia

Environmental Science
Murdoch University

2004

I declare that this thesis is my own account of my research and contains as its main content work that has not previously been submitted for a degree at any tertiary education institution.

Michael Phillip Hughes

April 2004

Sections of this thesis have already been published as journal papers and/or presented at conferences as follows:

Hughes, M. & Morrison-Saunders, A.(2003) Tourist attitudes to a modified natural attraction. *Society and Natural Resources*. v16(3): p191-203

Hughes, M. & Morrison-Saunders, A (2002) Impact of Trailside Interpretive Signs on Visitor Knowledge. *Journal of Ecotourism*. v1(2): p133-148

Hughes, M. & Morrison-Saunders, A. (2002) Repeat and First Time Visitation in an Experience Specific Context: The Valley of the Giants Tree Top Walk. *Journal of Tourism Studies*. 13(1): p20-25.

Hughes, M (2002) Conservation messages in Ecotourism: significance of experiential context. *10th Annual International Conference Ecotourism Australia*. 25th October, 2002. Cairns, Australia.

Hughes, M. & Morrison-Saunders, A. (2001) Impact of trail side interpretive signs on visitor knowledge. *9th Annual National Conference Ecotourism Association of Australia*. 23 October 2001. Rottnest Island, Western Australia.

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ABSTRACT

Using interpretation as a means of influencing attitudes and knowledge is a core component of natural area management practice. However, this aspect of on-site interpretation is rarely assessed when evaluating natural area management success. This thesis examined the immediate influence of different intensities of on-site interpretation on attitudes and knowledge of visitors to natural areas. Measuring the immediate (short term) influence of a site experience enables clearer links to be made between survey responses and interpretation used at a specific site, something long term surveys are less able to achieve.

Two sites from Western Australia (the Tree Top Walk and Penguin Island) were selected to compare the influence of high and low intensity use of interpretation on visitors. Both sites were similar in being relatively small and environmentally fragile with controlled visitor access in combination with an entrance fee, and managed by the same agency. One site adopted a low intensity on-site interpretation strategy with limited visitor activities, while the other had a high intensity use of interpretation with a range of visitor activities.

The visitor survey methodology centred on immediate influences on attitudes and knowledge in the specific context of the selected sites. The survey instrument was based on the New Environmental Paradigm scale, which was modified to better reflect the specific environmental context of the respective natural area site experiences. Variables measured were as follows:

Independent Variables	Dependent Variables
<ul style="list-style-type: none">• Gender• Place of residence• Age group• Social group visiting with• Natural area visitation frequency• Reason for visit• Activities undertaken• Repeat/first time visitation	<ul style="list-style-type: none">• Knowledge• Environmental attitude• Attitude to site experience

Maximising data quality within a short survey completion time was essential to minimise disruption of visitors. This differs from common approaches of surveying using lengthy mail back or telephone surveys. A paired written survey format was adopted; completed by randomly selected visitors immediately before and after their experience of the site.

Both sites influenced respondents in different ways. The limited activity site experience at the Tree Top Walk combined with low intensity interpretive media appeared equally effective in knowledge transferal as diverse experiential opportunities combined with high intensity interpretive media at Penguin Island. At the low intensity site, respondents commonly requested more information be provided (eg. using trail-side signs). Addition of trail-side signs at this site did not influence knowledge but decreased complaints about inadequate information provision, suggesting sign positioning and quantity was a function of visitor satisfaction.

The magnitude of environmental attitudinal change was inversely related to the extent of past experience in natural areas. Interactive recreational experiences appeared to foster an anthropocentric conservation attitude while a passive observational experience seemed to promote an ecocentric conservation attitude. Attitude to the sites as natural area experiences appeared to be more related to visitor variables than interpretation. This research identified important natural area management issues regarding the experiential context of the site including design elements, use of interpretive media and the meaning subsequently conveyed to visitors. Recommendations for natural area managers and for further research are provided.

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