INFLUENCE OF WILDERNESS EXPERIENCE ON THE ADOPTION OF ENVIRONMENTALLY RESPONSIBLE BEHAVIOUR

by

Benita de Wet

Thesis presented in partial fulfilment of the requirements for the degree of MPhil (Sustainable Development Planning and Management) at the University of Stellenbosch

Supervisor: Mr Gavin Robertson
Co-supervisor: Mr Francois Theron

December 2007
Declaration

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature: __________________ Date: ________________________

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Abstract

Conventional environmental education programmes appear to have limitations in precipitating the radical change needed to solve major environmental problems. In this study the potential of wilderness experience (WE) as a catalyst for developing ecoliteracy and consequent adoption of environmentally responsible behaviour (ERB), are discussed. Attitudinal changes and adoption of ERB by adult participants, following a weekend WE conducted in the Pilanesberg National Park, located in the North-West Province of South Africa, were probed through group and individual interviews over a period of time. Results indicate that WE may be a significant catalyst in developing ecoliteracy, while effects on adoption of ERB are diluted by several factors – both personal and structural (societal). The role of the wilderness guide in facilitating effective re-connection with nature, and stimulating the development and growth of ecoliteracy in individual participants in the WE, is highlighted. It is suggested that WE provides a substantive addition to the mechanisms available for experiential environmental education programmes, in that it accesses different ways of learning that focus on the emotional and spiritual elements of the human connection to nature.
Opsomming

Konvensionele omgewingsopvoedingsprogramme blyk beperkings te hê ten opsigte van die bespoediging van die radikale verandering wat benodig word, om vername omgewingsprobleme die hoof te bied. In hierdie studie word die potensiaal van wildernisbelewenis (WB) as ’n katalisator vir die ontwikkeling van ekogeletterdheid en gevolglike aanneming van omgewingsverantwoordelike gedrag (OVG) bespreek. Deur middel van groeps- en individuele onderhoude oor ’n bepaalde tydperk, is veranderings in houdings by, en die aanneem van OVG deur volwasse deelnemers as gevolg van ’n WB naweek wat plaasgevind het in die Pilanesberg Nasionale Park, geleë in die Noord Wes provinsie van Suid Afrika, ondersoek. Bevindinge dui aan dat WB ’n beduidende katalisator in die ontwikkeling van ekogeletterdheid kan wees, terwyl die uitwerking op die aanneem van OVG verflou word deur verskeie faktore – beide persoonlik en struktureel (samelewingsgewys) van aard. Die rol van die wildernisgids in die facilitering van ’n effektiewe herverbintenis met die natuur, en die stimulering van die ontwikkeling en groei van ekogeletterdheid by individuele deelnemers tydens die WB, is sterk na vore gebring. Dit word voorgestel dat die WB ’n substantiewe toevoeging voorsien, tot die meganismes wat beskikbaar is vir ervaringsgewyse omgewingsopvoedingsprogramme, in soverre dat dit verskillende wyse van leer betree, wat op die emosionele en spirituele elemente van die menslike verbinding tot die natuur fokus.
Dedicated to my mother, Antoinette, whose love of nature and wildness was the seed of my own. I am deeply grateful to her for this gift.

I regret that she did not get to read this work.
“I wanted to run away from man’s world, to hide in this shelter of wilderness that I had so recently been introduced to. For what could I, a grain of sand compared to time, a single droplet in relation to space, what could I possibly contribute to a scheme for a better world? And then I remembered the spark that had been kindled (or rekindled) within myself, the love I had for wilderness after only catching a glimpse of it. If I could convey even a fraction of the influence my experience had on me to others, I’m sure I could get them just as concerned about our future as I am.”

Unsigned reflection by a young person after participating in the Umfolozi Wilderness Trail  (from: ‘South African Passage - Diaries of the Wilderness Leadership School’, edited by Elizabeth Darby Junkin, 1987)
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Acronyms used in the Text

ERB  Environmentally Responsible Behaviour
FGD  Focus Group Discussion
SSI  Semi-Structured Interview
WE   Wilderness Experience
WLS  Wilderness Leadership School

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<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gavin Robertson</td>
<td>Supervisor (external) Lecture in Ecopsychology, Psychology Department, University of Stellenbosch</td>
<td>Research and technical supervision of this study</td>
</tr>
<tr>
<td>Francois Theron</td>
<td>Co-supervisor (internal) Senior lecturer in the School of Public Management and Planning, University of Stellenbosch</td>
<td>Introduction to research methodology and technical supervision of this study</td>
</tr>
<tr>
<td>Lee Dormer</td>
<td>Wilderness guide and coordinator of the Inland Branch of the Wilderness Leadership School</td>
<td>Facilitation of field research and insightful discussion</td>
</tr>
<tr>
<td>Douwe van der Zee, Ian Gould, Uli Goëbel and Danny Danielson</td>
<td>Wilderness guides of the Inland Branch of the Wilderness Leadership School</td>
<td>Facilitation of the research trails</td>
</tr>
<tr>
<td>Research participants (respondents) including those participating in the pilot test</td>
<td>An undertaking of confidentiality was made with the participants in this study. They are accordingly not named here or in the thesis.</td>
<td>Voluntary participation as research subjects</td>
</tr>
<tr>
<td>San-Marie Aucamp</td>
<td>Research psychologist</td>
<td>Verification of data interpretation</td>
</tr>
<tr>
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<td>Graphic design and desktop publishing specialist</td>
<td>Electronic presentation of figures</td>
</tr>
<tr>
<td>Bill Petrie</td>
<td>Clinical psychologist with The Ecotherapy Institute and wilderness guide with Wilderness Trails Limited</td>
<td>Exploratory discussions regarding the definition of the research question and guidance on initial literature search</td>
</tr>
<tr>
<td>Name</td>
<td>Role/Position</td>
<td>Contributions</td>
</tr>
<tr>
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<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dr Ian McCallum</td>
<td>Psychiatrist, wilderness guide with Invent Africa, and author of <em>Ecological Intelligence</em></td>
<td>Exploratory discussions regarding the definition of the research question</td>
</tr>
<tr>
<td>Wayne Elliott</td>
<td>Past-Executive Director of The Wilderness Leadership School</td>
<td>Exploratory discussions regarding the definition of the research question and introduction to Inland Branch of the WLS</td>
</tr>
<tr>
<td>Gary May</td>
<td>Ex-CEO of The Wilderness Leadership School, Cape Town</td>
<td>Exploratory discussions regarding the definition of the research question</td>
</tr>
<tr>
<td>Dr John Hendee</td>
<td>Retired professor and director of the University of Idaho Wilderness Research Centre</td>
<td>Guidance on initial literature search</td>
</tr>
<tr>
<td>Dr Guy Palmer</td>
<td>Specialist Technician with Cape Nature Conservation, Stellenbosch</td>
<td>Loan of personal literature from World Wilderness Congresses</td>
</tr>
<tr>
<td>Prof Johan Hattingh</td>
<td>Department of Philosophy and Director of the Centre for Environmental Ethics in the Department, and co-presenter of the Leadership and Ethics module at the Sustainability Institute, University of Stellenbosch</td>
<td>Exploratory discussions regarding the research question</td>
</tr>
<tr>
<td>Henriette Swart and Sarie Wilbers</td>
<td>Library, University of Stellenbosch</td>
<td>Assistance with literature search</td>
</tr>
<tr>
<td>Jennifer Saunders</td>
<td>School of Public Management and Planning, University of Stellenbosch</td>
<td>Assistance with literature search</td>
</tr>
<tr>
<td>Peter Esser</td>
<td>Clinical psychologist and student in environmental ethics in the Department of Philosophy, University of Stellenbosch</td>
<td>Exploratory discussions regarding the definition of the research question</td>
</tr>
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</table>
1. Research Problem

Reliable and durable interventions for the development of ecoliteracy and in turn, the entrenchment of Environmentally Responsible Behaviour (ERB), have become a matter of urgency if humans are to prevent irreparable damage to the earth's life support systems, and a consequent deterioration in human quality of life.

Many existing environmental education programmes and interventions attempt to engender care for nature, but they commonly deal with nature as an object separate from humans - something which affects our lives, but of which we are not necessarily a part. Interventions that are founded on developing an understanding of our place in nature, as one animal in the ecosystem, are needed. Only once this foundation is established in the minds of people, can durable changes to specific ERB be expected to materialize.

Many of the existing interventions are also palliative and do not teach people about the root cause of the environmental crisis. Since the crisis has been caused by human behaviour, the source of the solution is a change in human behaviour, and interventions must focus on human actions to make a significant difference to the status quo. Once people are exposed to the system of nature, and their place in and dependencies on it, it can reasonably be assumed that positive behavioural change will be more likely.

The challenge is therefore to develop interventions that address the issue of reconnection with nature in the human mind, and through the heart and soul. Some existing interventions already have this as their goal. Guided wilderness experience (WE), is a case in point, although traditionally these experiences have been used for personal growth purposes rather than for the development of ecoliteracy and ultimately ERB.

Conventional environmental education programmes commonly apply mass approaches with heterogeneous groups of people, who are often not in a position to make a significant difference (e.g. children), in the short time available to solve the environmental crisis. It is also unlikely that participants in these programmes will be able
to influence attitudinal change, let alone behavioural change, amongst significant numbers of people around them. Further interventions are needed over and above these conventional programmes, which will reach people in leadership positions or other positions of influence, who can in turn influence others around them in a short period of time. They include opinion leaders and executive leadership in for example, business and politics, government, and community based organizations. However, given the necessary insight and resources, the ability of individual adults in any context, to influence those around them, should not be underestimated.

The overwhelming majority of environmental education programmes are directed at children and youth, and there are very few interventions accessible to adults. Since adults are the people most likely to be causing significant environmental impact through their lifestyles in the present, and make lifestyle decisions on behalf of their children and others, this is a substantive gap. The challenge is to find, and/or develop, interventions that will be accessible to adults and also provide significant experiences which, over a short period of time, will provide the necessary catalyst for behavioural change.

Investigation of the personal effects of WE on individuals is widely documented in the literature, e.g. Kaplan and Kaplan (1989), Russell (2000), Friese, Pitman and Hendee (1995), and Borrie and Roggenbuck (2001). However, there appears to be a gap in research on how such experiences might affect people’s *behaviour* towards nature, and in turn, how this change might influence other people around the affected individual. This progression is explored in this study, specifically how a significant personal experience in wilderness, can effect not only attitudinal change in an individual, but also cause that person to change their behaviour as it affects nature. Whereas the many methods used to enhance or create ERB, on the whole address the *symptoms* of the environmental problems facing humanity¹, a consideration of the relationship with nature and the corresponding behaviour that has caused and exacerbates our problems, goes to the *root cause* of those problems.

¹ Examples are attempts to reduce global carbon emissions though establishing international protocols such as the Kyoto Protocol; environmental education programmes aimed at reducing water use or preventing contamination.
In this study the performance of one such intervention in changing adult ecoliteracy and ultimately, ERB, has been investigated. The objective of the study was to establish whether experience in wilderness will cause the necessary psychological adjustments in an individual, to begin the process of developing ecoliteracy, which in turn will spawn a change to ERB. In other words, will a wilderness experience begin the process of developing ecoliteracy and a change in ERB, rather than one or the other? Implicit in this question is that ecoliteracy is a prerequisite or pathway for the adoption of durable and reliable ERB (the outcome).

It was hoped that deeper insights might emerge from the findings regarding not only whether WE might be a catalyst to the development of ecoliteracy and ultimately the adoption of ERB, but also how this process of catalysis works and what its essential elements are. It may then be possible to influence the manner in which WE programmes are designed and facilitated.

2. The Basis of the Enquiry

Underlying the focus of the study, is a deterministic relationship between nature, the person (self), and their behaviour. These relationships are illustrated in Figure 1, in which the relationship of a person with nature, is shown to determine the person’s relationship with themselves in nature (knowledge and or perception of self), which in turn determines the behaviour of the person towards nature.

The fundamental relationship of a person with nature is influenced by the history of interaction with nature from early childhood onward. The origins of the relationship are rooted in the succession of experiences of nature in the life of the person, which may be positive or negative, inducing feelings of say, happiness or serenity in the case of the former, or fear or revulsion in the case of the latter. The perception of nature is formed over time, based on these experiences. Other people can influence the development of a person’s perception of nature, as will characteristics such as the cultural, religious and social context of the person.
Figure 1: Relationship between nature, person and behaviour
The resultant relationship with nature then forms the basis of the person’s direct or indirect behaviour towards nature, including decisions based on what is considered acceptable and what is not, and actions which are considered desirable, and which should not be taken. Although an exploration of the origins of individual relationships with nature is outside the scope of this study, the linkages described above must necessarily be borne in mind when considering the potential influence and effectiveness of various environmental education interventions, including in this case, the influence of an experiential educational intervention in the form of a wilderness experience.

3. Research Design and Methodology

The study was conducted as a qualitative case study incorporating field research. It was intended to construct a thick description of individual development of ecoliteracy, and subsequent change in ERB, based on a WE and measured before, immediately after, and 3-4 months after the completion of the experience. The intention was to observe a process of change of behaviour of the participants towards nature, over a period of time. The analysis included consideration of the motivation for and barriers to, the development of ecoliteracy and subsequent change in ERB, and influences of participants perspectives and behaviours, as suggested by Babbie and Mouton (2001:281) in their discussion of qualitative research using case studies. In particular, attention was focused on the emotional and self-interest motivations evidently stemming from the unique stimulus of the WE.

The Wilderness Leadership School (WLS) of South Africa, runs a weekend adult wilderness programme in the Pilanesberg National Park, north west of Johannesburg, South Africa. The study focused on the performance and effectiveness of this programme and respondents were selected from the programme, for voluntary participation in the research. The researcher entered into a formal partnership with the WLS to conduct the study. See Appendix A for the letter of agreement from the WLS to this effect.
3.1 Research design

The study was conducted in four phases, viz.:

- **Preparation**, involving consultation with wilderness guides and participation by the researcher in a weekend wilderness trail\(^2\) in the Pilanesberg National Park, and the design of the field instruments.
- **Pilot testing of** preliminary field instruments with a pilot group and refining for field use.
- **Field work** comprising focus group discussions and individual interviews of three groups of participants in the WE, immediately before a weekend trail and immediately on exiting the trail, and via individual interviews 3-4 months after the trail.
- **Analysis and synthesis of findings** from interview transcripts to identify common themes, changes in ecoliteracy and adoption of ERB by individual participants.

3.1.1 Phase 1: Research preparation

- **Consultation with wilderness guides**

  The researcher informally interviewed a number of wilderness guides who guide trails for the Inland Branch of the WLS, to obtain an understanding of the programming, structure, content, duration, and level of facilitation of wilderness trails conducted in the Pilanesberg National Park. Particular attention was focused on the wilderness guides responsible for guiding trails from which case study participants would be selected.

- **Participation in a wilderness trail**

  The researcher participated in a wilderness trail guided by one of the guides who would conduct the case study trails. It was intended through this participation, to gain personal experience on the trail, and insight into the process of learning in wilderness. Insights gained from this experience were used, together with the knowledge obtained from the literature and from consultation with the wilderness guides, to inform the design of the

\(^2\) The terms “wilderness trail” and “wilderness experience” (WE) are used interchangeably and have the same meaning in this study.
field instruments for use in the fieldwork, and to provide a foundation for the interpretation of the findings.

- Literature review

An in-depth literature review of current relevant research, was conducted to inform and focus the research process and also to provide material for incorporation into the field instruments.

Informal discussions were also held with key informants in the wilderness industry in South Africa, notably wilderness guides and those who are involved in the management and development of this industry in South Africa. Additional insight into WE in general was gained through these discussions, and the researcher was also exposed to the personal experience of wilderness guides and their responses to the research question. According to Mouton (2001:6) the literature review is rather a “review of existing scholarship” than a review of material in academic texts only. In this context, the experience and insights of the wilderness guides is pertinent.

- Design of field instruments

Using the information and insights obtained from the tasks and interactions described above, and led by the fundamental concept outlined in Figure 1, field instruments were designed to facilitate Focus Group Discussions (FGDs) and Semi-Structured Interviews (SSIs), to be conducted with research participants. A list of questions for participants in the research to ponder while on trail, was also formulated in line with the core concepts addressed in the field instruments for participant interviews. Questions in the three field instruments were centred around two groups of issues, those probing the relationship of participants with nature intended to establish levels and depth of ecoliteracy, and a second group probing behaviour towards nature i.e. levels of ERB.
3.1.2 Phase 2: Pilot testing and refinement of field instruments

The FGD and SSI field instruments were pilot tested with a voluntary group of trail participants, who took part in a weekend WE in the Pilanesberg National Park. Participants were interviewed as a group immediately prior to departure for their trail on the Friday afternoon, again on exiting their WE in the Pilanesberg National Park on the Sunday afternoon two days later, also as a group, and interviewed individually approximately 3 months after their trail. The field instruments were then refined and revised based on insights gained by the researcher, and the functionality of the interview guides and schedule, and the interview process.

The final version of the interview guides used for the FGD1 and the follow up FGD2, and the interview schedule used for the individual SSIs, are provided in Appendices B1, B2 and B3 respectively.

3.1.3 Phase 3: Field work / data collection

- Sampling

Three sample groups were selected randomly from the annual trail schedule of the Inland Branch of the WLS. A 50% sample was selected at random from each group of 8 trailists i.e. 4 out of the group of 8. Each of the trailists in the selected sample, were then invited in writing, to participate voluntarily in the study. A research partnership was established with each participant who accepted the invitation. David and Sutton (2004:153) indicate that “sampling techniques...are most often associated with quantitative approaches to research” and that in qualitative case study research, the selection of samples is commonly dependent on the “specific requirements of the research”. The number of samples selected for this case study was small, in direct proportion to the small population size of trail groups in the annual trail schedule. The number of samples selected, and the number of trailists interviewed in each sample group, was also delimited by the time resources available for interviewing and transcription of data. Since the intention of the study was to construct a thick description of “what is going on”, rather than to conduct a statistical analysis of findings, the sample
size was considered to be sufficiently representative of the population. Merkens (2004:167) encourages maximum variation in sampling for qualitative studies. In this study, the distribution of race and gender mirrored the distribution of these variables in the population of trail participants in the normal trail schedule of the Inland Branch of the WLS.

- Interviews and group discussions

The three groups of research participants were interviewed on three separate occasions, via a FGD immediately prior to a weekend trail and immediately on exiting the trail, and via individual interviews 3-4 months after the trail. The first FGD was conducted at a venue in Johannesburg, prior to departure and travel to Pilanesberg National Park. The second FGD, was conducted in the Pilanesberg National Park, prior to the participants leaving the reserve to return home after their WE. Each participant was then interviewed individually, 3 to 4 months after they completed their WE.

The FGDs were used to determine, in a broad sense, the range of issues and themes evident in the attitudes and behaviours of all the participants, towards nature, and common changes that may occur as a result of the WE. The individual SSIs were used to probe in more depth, the nature and extent of individual changes in attitude and behaviour. This is consistent with the assertion made by Robson (2002) that different types of interviews are designed to produce different depths of response. In general, the more structured the interview, the greater the depth of response that could be expected (Robson, 2002:269). Conversely, the less structured and more informal the interview, such as in a FGD, the more flexibility there is, for respondents to develop a conversation on the topic of enquiry. FGDs have been shown to be useful in studies where participants have been randomly selected and do not know each other prior to the study (Bohnsack, 2004:215). It was therefore considered appropriate to use this technique for data collection in the current study.
3.1.4 Phase 4: Recording, analysis and synthesis of findings

- Recording and transcription of FGDs and SSIs

All contact sessions with research participants were digitally recorded with the permission of the participants, and transcribed verbatim, to minimize the risk of bias in recording the responses of participants. Some additional data were gleaned from the diaries of individual participants, although only two of the participants used their diaries during and after the WE, leading up to their final interview.

- Analysis and synthesis of data

Transcripts of the FGDs and SSIs were analysed using grounded theory (Glaser and Strauss, 1967). Issues and trends were identified in each of the interview transcripts, relating both to the content and the story of the individual participant. Using a process of constant comparison, several themes and sub-themes were extracted from the interview data and interpreted. The individual interviews were primarily used to determine individual changes in ecoliteracy and adoption of new ERB as a result of the WE. These changes were analysed using the framework provided by the themes that emerged from the FGDs.

The meaning and implications of the findings were then considered in relation to the theoretical framework provided by related research in the literature and recommendations made for changes and improvements to the weekend wilderness programme offered by the WLS.

3.2 Introduction to the research methodology

Braud and Anderson (1998:280) warn of weaknesses of the case study method, viz. that “there are possibilities of subjective distortions, omissions, additions, or inaccuracies resulting from biased recall, observation, or reporting”. The researcher endeavoured to overcome these weaknesses by doing thorough preparation for the field work through a personal learning experience on a wilderness trail (action research), and using this
learning and insight as the basis for recording the proceedings of each contact with participants, transcribing digital recordings of the interviews verbatim, and obtaining verification from an independent party (“peer review or debriefing”) of the interpretation of the data, as suggested by Babbie and Mouton (2001:276-277). MacPherson et al. (2000:49) on the other hand, believe that case study research can provide “rich understandings of social contexts” and can have broad relevance.

3.2.1 Preparation for case study

The researcher conducted action research whilst participating in a WE, recording her own learning experience throughout the WE. Braud and Anderson (1998:273) describe this process as “doing what one is studying” to obtain a more direct and improved understanding of what is being studied. Insights were gained into the WE and the basis for potential questions to be included in the field instruments, from personal observation and experience, and interaction with the fellow trailists and the wilderness guide. The purpose of this task, was to provide a foundation for the design of the field instruments, the conduct of the field work, and the interpretation of the findings, in an attempt to reduce any personal bias, that may be introduced without the insights gained through the personal learning experience.

3.2.2 Sampling

Three sample groups were randomly selected from the annual trail schedule of the Inland Branch of the WLS. Potential research participants were then randomly selected from within each group and invited to participate. In each case, 50% of the sample group was invited to participate. Once participants accepted the invitation to participate, they were asked to sign a commitment and consent form, to formalise the research partnership for the duration of the study.
3.2.3 Research techniques

Braud and Anderson (1998:280) state that the most commonly used research techniques for case study research, are in-depth SSIs that could be conducted individually or in groups. These techniques are suited to case study research in a qualitative context, since the process of research is about gathering information and gaining insights into what is learned from those involved in the case under scrutiny, i.e. the context of the information is important (Babbie and Mouton, 2001:282). These techniques enable the researcher to access the nuances of the context, through the perspectives and insights of the participants.

Semi-structured interviews (SSI) and facilitated focus group discussions (FGD) were used to conduct the field research in this study. In addition, participants were asked to keep a diary / personal journal, during the WE. Data were thus sourced through multiple techniques, and also multiple contact sessions with participants, as recommended by Babbie and Mouton (2001:275), to ensure that trends or themes emerged from the research and that the findings were tested for reliability (triangulation). The value of triangulation as a validation strategy is also highlighted by Flick (2004:178).

- Interviews of key informants

General exploratory interviews or discussions were held with key informants such as wilderness guides and leaders in as well as outside of, the WLS. The purpose of these discussions was to obtain general background information on the content and structure of wilderness trails and what the programmes entail, the level of facilitation and so on. This information was used to help to focus the design of the field instruments on core issues.
• Field research techniques

  o Action research – participation in WE

The researcher participated in a wilderness trail prior to the completion of the design of the field instruments or any field work being done. This participation provided an opportunity to personally encounter the WE and the manner in which it might influence the motivation for and barriers to the development of ecoliteracy and subsequent ERB. Bless and Higson-Smith (2000:56) refer to an ongoing learning process that is at the core of action research. During the personal participation in the WE, the researcher learned from the wilderness guide, from fellow trailists, and through personal experience of the wilderness context. The guide and the other trailists were actively, but informally engaged in identifying key issues and insights into the experience, effectively becoming co-participants in the study. Insights and knowledge gained were used to inform development of the field instruments.

The above approach was used to address at least in part, the potential for bias in the study, since the researcher designed the field instruments, conducted the field work and interpreted the data.

  o Focus group discussions

One FGD was held with each participant group immediately prior to departing for their WE, to gauge attitudes, opinions, motivations and current states of ecoliteracy and ERB. A second FGD was held immediately on exit of each group from the WE, while still in the wilderness context, to record key elements of the experience and potential changes to the attitudes, opinions, motivations and current thought on ecoliteracy and ERB.

The researcher facilitated all FGDs. Bless and Higson-Smith (2000:111) note that the success of FGDs is dependent on the skill of the group facilitator. The researcher had prior experience in facilitating group discussions and in workshop management, that provided her with the background and skills to be able to facilitate the FGDs. Knowledge and insight obtained through the literature survey, action research during personal
participation in the WE, and pilot testing of the field instruments, further supported her ability to facilitate the FGDs.

- **Personal diaries**

Participants were asked to keep a diary to respond to a specific set of questions during their WE. The participants could use the entries in their diaries to contribute to the post-trail FGD and individual SSIs. In addition, it was intended to use the diary entries as a source of data triangulation in conjunction with the data emerging from the interviews and group discussions.

- **Semi-structured interviews**

A series of individual SSIs were scheduled with participants 3-4 months after the completion of their WE. The purpose of the SSIs was to identify changes in attitudes and actions taken, in response to growing ecoliteracy, as well as the consistency of behavioural change linked to any growing ecoliteracy, since completion of the WE. Where participants continued to use their diaries, these were also referred to in the individual interviews.

### 3.2.4 Interpretation of the data

The data collected, were analysed using *grounded theory*, which embodies the creation of theory from a systematic analysis of the research data (Glaser and Strauss, 1967). This method is appropriate for the analysis of data in this study, since it involves drawing inferences from the data i.e. it is inductive. In this study, inferences have been drawn from the data to see whether a single contact WE might bring about improvements in ecoliteracy and consequent changes in ERB, in the participants in the case study. According to Mouton (2001), grounded theory is one of the two most commonly used approaches to data analysis in case studies.

“what’s going on”, i.e. to try to understand. The unit of analysis is an “incident”\(^3\), rather than the person talking or writing about an incident. Incidents are grouped according to similarities to enable the main issues or themes to emerge. This process of grouping is systematic, and includes the coding of data (assigning of themes), memoing of insights and ideas that emerge from the coding process, sorting the data and then writing up the memos in a cohesive story, with reference to the literature. Coding is effectively a process of labeling incidents, so that similar incidents can be grouped together. In Glaser’s version of grounded theory, (Wikipedia, [http://en.wikipedia.org/wiki/Grounded_Theory_Glaser.html](http://en.wikipedia.org/wiki/Grounded_Theory_Glaser.html), 21/02/2006) every line of data in transcripts, field notes, diaries and other sources, is studied to identify incidents and then code them.

Dick (2005, at [http://www.scu.edu.au/schools/qcm/arp/grounded.html](http://www.scu.edu.au/schools/qcm/arp/grounded.html), 19/02/2007) provides a simple overview of the process of grounded theory, which has been applied in the data analysis for this study. The process is summarised below and has been adapted from that outlined by Dick:

<table>
<thead>
<tr>
<th>Data collection</th>
<th>Collecting data via interviews or other methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>↓</td>
<td></td>
</tr>
<tr>
<td>Note-taking</td>
<td>Recording general observations on the data and incidents</td>
</tr>
<tr>
<td>↓</td>
<td></td>
</tr>
<tr>
<td>Coding</td>
<td>Searching for similarities or categories, from interview to interview by constant comparison(^4) and labeling the similarities (finding common themes and sub-themes). In some respects this is a process of visual or conceptual gathering.</td>
</tr>
<tr>
<td>↓</td>
<td></td>
</tr>
<tr>
<td>Memoing</td>
<td>Making a commentary on what appears to be going on, based on the coding e.g. links between themes, causative factors, core issues and so on.</td>
</tr>
</tbody>
</table>

\(^3\) An incident in the context of this study, could be for example, emotions experienced by a trailist whilst doing the night watch, or a new insight gained into how different components of the ecosystem interact in symbiosis.

\(^4\) Constant comparison involves analysing the first interview for codes or themes, and then using these themes as a framework for the analysis of all subsequent interviews, adding new codes or themes to the list as the analysis proceeds, until no new codes or themes emerge. This point is called saturation.
Sorting
↓
Grouping of memos (relating to themes and sub-themes) and creating a logical sequence that best describes an emergent theory about the data / research focus.

Writing
Describing the theory emerging from the data in writing

The above steps are shown to be sequential, but in reality comprise an iterative process of overlapping steps, with some tasks (e.g. coding and memoing) being conducted simultaneously. Dick (2005:3) asserts that “data collection, note-taking, coding and memoing occur simultaneously from the beginning”.

Three types of coding are identified by Böhm (2004), viz. open, axial and selective coding. Open coding is generally used first on the “raw” data i.e. short passages of text, paragraphs or sections of text that logically form a single story. The basic set of codes emerges from open coding. Axial coding is a process of refinement and linkage, where groups of codes are formed from those which logically fit together. The third type of coding is selective coding, by which the core category (theme) is identified, and which will lead to the emergence of the theory.

In the grounded theory method, the theory is discovered in the data and the method therefore does not test a hypothesis (Dick, 2005). In a description and discussion of Glaser’s grounded theory method, Hildenbrand (2004:18) explains that “theoretical concepts…are discovered in the data and have to prove themselves in the data: there are no other criteria”. Böhm (2004:270) identifies grounded theory as an art, stating that its procedures cannot be learned in the form of prescriptions. There is thus an element of creativity in working towards the emergence of the theory, and Hildenbrand (2004:23) explains that the method pushes the research process forward rather than to reflect the research process, i.e. proceed according to a predetermined process.

4. Clarification of Concepts

Key terms and concepts used in the study are defined below.
• Ecoliteracy

Orr’s (1992:92-93) definition of ecoliteracy has been used in this study, i.e. a way of being that incorporates components of comprehension of interrelatedness, an attitude of care and stewardship, an ability to act on the basis of knowledge and feeling, understanding how people relate to each other and to nature, knowledge of how the physical world works, where we fit in the story of evolution, a knowledge of the nature, extent and speed of our ecological crisis (the details of losses and damage), and a knowledge of the dynamics of our modern world and how we think about it.

• Ecological intelligence

As defined by McCallum (2005a), ecological intelligence is a combination of three phenomena, an evolutionary mindedness (understanding our context as humans in an evolutionary continuum), knowing human nature and cultivating an authentic and nurturing (eco)literacy.

• Environmentally responsible behaviour (Conservation behaviour) or ERB

Behaviour of individual persons that is beneficial or benign towards the earth’s ecosystem, or the best available option of all alternatives. ERB occurs at different levels. At the household or individual level, it includes energy and fuel saving, reduction in water use, waste minimization and recycling, and changing to sustainable food sources. At the level of governance, it includes actions such as policy making that incorporate elements of ecoliteracy and take a long term view. ERB is behaviour that supports sustainable society (Monroe, 2003).

• Environmental education

Davis (2003:14) identifies three levels of environmental education. The first imparts knowledge about environmental science, natural history, and wilderness skills, i.e. knowledge of how to survive in the outdoors, the bush, or wilderness. The focus here is on teaching ecology and environmental sensitivity. The second level, focuses on using the outdoors and wilderness in particular, for personal and psychological growth in areas
such as improving self esteem, confidence and leadership abilities. Orienteering programmes are a good example. The third level, comprises wilderness rites of passage and related wilderness based programmes, which focus on building knowledge of the natural world, personal growth and development, discovering a relationship with the natural world, and facilitating a sense of coming home. This study centres around the third form of environmental education.

- Praxis

Praxis is defined by Dictionary.com (http://dictionary.reference.com/browse/praxis.html, 26/06/2007), as “practice as distinguished from theory; application or use, as of knowledge or skills” and in The American Heritage Dictionary of the English Language (Dictionary.com, at http://dictionary.reference.com/browse/praxis.html, 26/06/2007) as, “Practical application or exercise of a branch of learning”. Praxis therefore suggests action, and that this action is based on knowledge or skills.

- Sustainable development

Classical definitions of sustainable development have been contested and debated since the appearance of the original definition in WCED (1987:8) – the so called “Report to the Brundlandt Commission”: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The concept is currently defined by DEAT (2007:20) in South Africa, as follows: “Sustainable development means the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.” The basis of the debate around meaning, concerns the varying definitions of “development” and the consequent implications for a single definition of sustainable development (Dresner, 2002:63).

At its most basic level, sustainable development is economic growth that can be maintained indefinitely. In the context of this study, sustainable development is interpreted as equivalent to reform environmentalism, translating into improved efficiency
in economic development, rather than radical change to the global economic development paradigm.

- **Sustainability**

The ability to be sustained. In the context of this study, “sustainability” refers to the sustainability of natural life support systems on earth, or ecological sustainability.

The same problems that plague the search for a universal definition of sustainable development, are present in the debate about the definition of sustainability. The two terms are often used interchangeably, reflecting the subjectivity of the assignment of meaning to the concept of sustainability (Mebratu, 1998).

- **Wilderness**

Wilderness is the highest form of conservation category that a protected area can achieve. It is defined by the World Conservation Union as "a large area of unmodified or slightly modified land and/or sea which retains its natural character and influence and which is protected and managed so as to preserve its natural condition".

In The Wilderness Charter (WLS, at [http://www.wildernesstrails.org.za.html](http://www.wildernesstrails.org.za.html), 06/08/2007), “wilderness” is defined as follows:

“Wilderness is the landscape, which contains only the plants and animals native to it. Where people are alone with the living earth. Where there is neither fixed nor mechanical artifact. Once this environment was everywhere, now only relics remain. Yet in these places are the original bonds between mankind and the earth. In these are the roots of all religion, history, art and science. In renewing these links lies the enduring value of wilderness. Neither expediency nor immediate appetite can justify their final extinction…”

In the context of the WLS (WLS, at [http://www.wildernesstrails.org.za.html](http://www.wildernesstrails.org.za.html), 06/08/2007), it is in these untouched areas that trails are led and people afforded the opportunity to embark on their journey of self-discovery and revel in the awe of nature; develop a sense
of belonging and deep respect and humility in recognition of the shift in consciousness that occurs whilst on trail in the wilderness. In South Africa, very little true wilderness remains outside of formally protected areas. For the most part, the only way to access wilderness is within these areas.

- Wilderness experience

Any experience, facilitated or unfacilitated, structured or unstructured, in a wilderness area. More particularly, a wilderness trail is defined by the Wilderness Leadership Foundation (2005) as: “a unique experience: a physical, mental, spiritual adventure during which trailists discover a sense of wonder and re-examine their priorities”.

5. Theoretical Framework

**Introduction**

Diamond (2005:328) makes the following statement: “Severe problems of overpopulation, environmental impact, and climate change cannot persist indefinitely: sooner or later they are likely to resolve themselves,…if we don’t succeed in solving them by our own actions”.

This study is based on the premise that our human ways of life, are determined by our relationship with nature and the extent to which we consider ourselves a part of, or separate from it. Since our behaviour (our direct and indirect actions) towards nature is determined by our relationship to it, exploring the quality of this relationship, is important to understanding environmentally responsible behaviour, or ERB (conservation behaviour), i.e. whether peoples actions are motivated by whether they contribute to the sustainability of natural life support systems, or are not motivated by a perceived connection to these systems. The study explores a tool that potentially provides a means

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5 For the purposes of this study, nature is defined as the natural life support systems we depend on for survival and quality of life.

6 See Section 4 for a definition of Environmentally Responsible Behaviour (ERB), also referred to as conservation behaviour in the literature, for the purposes of this study.
of transcending the personal background or circumstances of individuals in the process of creating ERB.

There are several mechanisms that are used to develop ERB, but these mechanisms do not commonly deal with our relationship with nature, at the core of the behaviour. The majority of these mechanisms fall within the ambit of formal environmental education programmes presented within the school curriculum and by non-governmental environmental organizations. Less commonly used mechanisms often include an experiential element, where people do not merely accumulate knowledge (“learn about”), but use experience in and of nature, as a pathway to gaining understanding, with knowledge accumulation occurring within the context of this understanding.

**Education for sustainability and wilderness education**

In the literature dealing with *education for sustainability*, Orr (2004) makes an urgent case for a complete overhaul of the formal education system, which currently prepares people for careers that support economic development and “progress”, rather than imparting an understanding of our place in nature and our dependency on natural life support systems. Orr (2004:8) states that “education is no guarantee of decency, prudence or wisdom” and illustrates this point by using the example of how highly educated people have been responsible for the large scale environmental destruction at local, regional and global levels, through the promotion of the economic development model of western society, and the policies that support it. He therefore insists that only a different kind of education will save us. Such a new approach should be based on the creation and promotion of biophilia\(^7\), or the love of life, acknowledging the importance of emotion and feelings of affinity for life, in finding solutions to our problems. Orr (2004:126) emphasizes that humanity currently is not educated with long term survival in mind, and that “nothing less than the re-education of humanity” (Kennedy, cited in Orr, 2004:126) is required. This re-education is education for sustainability, and includes everyone, children, youth and adults alike. It is sobering to note that Leopold (1966)

\(^7\) The term biophilia is attributed to Wilson and is the subject of his book co-authored with Kellert, entitled *The Biophilia Hypothesis*, 1993.
appealed for such a re-evaluation of the content of education almost 60 years ago in 1949, but positive changes made since that time are barely perceptible.

Mechanisms for such radical action are beginning to emerge. Tilbury et al. (2002) have compiled a range of examples of education initiatives for sustainability. Contributions to this publication were made by researchers in many countries and describe initiatives from the fairly conventional environmental education approach focused on children, through to an adult environmental education programme, and a paper questioning education in the same vein as Orr (2004) does. Both the concepts sustainability and sustainable development are used throughout, raising the importance of the distinction between the two.

Keen et al. (2005:2) record the outcomes of a process of designing a social learning approach to environmental management. The approach deals with adult learning for sustainability, comprises the formation of learning partnerships and platforms, and incorporates learning about ethics as support mechanisms for “collective action towards a sustainable future”. Systems orientation and thinking are core to the social learning approach.

The literature on wilderness education most often addresses issues of the training of wilderness guides, or for the purposes of informing and empowering people to preserve and manage wilderness. Examples include Ewert and Shellman (2003), who discuss the contribution which tertiary educational institutions can make to the preservation of wilderness, through partnerships with wilderness initiatives, while at the same time their students benefit from their experience in wilderness. Similar examples of the development of partnerships to educate different parties about wilderness management and preservation are documented by Hendricks and Miranda (2003:21). These initiatives effectively promote a joint stewardship ethic, and participants benefit from the usual personal rewards of WE at the same time. Participants are therefore involved in a “service-learning” arrangement. Koesler (1995) discusses the role of continued outdoor experience, in the development of leadership in wilderness skills and experiences of guides.
Some of the literature deals with the nature and design of wilderness programmes, for example Sibthorpe *et al.* (2003), discuss the value of intentional programming of different kinds of WE to create specific outcomes. They argue that without intentional design of programmes for purposes of *inter alia*, particular types of education, participants may benefit personally in spiritual, emotional and physiological ways, but that they may not take away with them new knowledge, understanding or skills.

In this study, no examples of literature were found, that deal with wilderness education of participants in trails, for purposes of developing ERB. Most of the literature appears to focus on improving knowledge of wilderness *per se*, and the inclination to protect demarcated wilderness areas, rather than earth, nature and wildness in general.

**Wilderness experience, values and benefits**

*Wilderness experiences* encompass a range of activities from adventure seeking on the one end of the spectrum, to vision quests by individuals at the other extent. Interactions with wilderness within the context of the adventure seeker, include organized orienteering (the classic example is the Outward Bound programme operating worldwide), other organized adventure pursuits such as the international Eco-Challenge adventure race (Raid Gauloise) where national teams race against each other through wild country, adventure cycle racing and so called “self-adventure” expeditions (Meier, 2003). In all these contexts, individuals pit their skills *against* nature in a quest to win or survive.

At the other extent, is the vision quest, an intensely personal physical, emotional and spiritual encounter in a wilderness setting, a portion of which is usually conducted alone or “solo”. In the context of wilderness programmes the vision quest is a western adaptation of a ritual practiced by many traditional and first, or nature-based peoples. Plotkin (2003) defines a vision quest as a wilderness–based fasting rite, intended to create conditions including solitude or isolation, wherein the participant gains insight into their relationship with themselves and the world, for a number of days or even weeks. In its original context, vision quests have always been used to assist people to pass from once life stage to another or at other critical junctures in the life of the individual. The
experience is entirely nature based and unfacilitated (during the time of isolation) and therefore comprises an immersion in nature which could initiate feelings of reconnection to nature i.e. feeling part of nature, rather than being pitted against it.

Friese, Hendee and Kinzinger (1998) conducted an analysis of the WE programme industry in the United States, to identify common characteristics and categories of different programmes. They surveyed 700 such programmes looking at characteristics such as the type and number of experiences offered per year, characteristics of the organizations running the programmes and their longevity and where the programmes are run. A key finding was that the WE programme industry is primarily focused on youth, rather than adults, although some programmes are orientated towards adult participation.

Guided wilderness trails or other guided WE, are expressly designed to facilitate learning about and understanding of our place within nature, through a process of immersion in a pristine natural setting. These experiences can take different forms. Sibthorpe et al. (2003:2) compare programmes that are designed without any specific and clear intention and where the outcomes are “haphazard” as a result, with those that are outcome orientated and designed to achieve explicit educational goals.

Andrews (1999:35) describes the “wilderness expedition (as) one of the most intensive forms of experiential education” and conceptualizes the experience as a personal rite of passage. During the experience participants are facilitated in their process of connecting with nature and exposed to ways of thinking that enable them to identify and consider alternatives to their current way of life. Andrews (1999:41) provides the following synopsis: “Beneath the lessons in outdoor skills, natural history, communication, teamwork, and leadership, participants also come to know …a sense of community, a sense of self, and a sense of place – from which they return to society empowered by renewed creative energy, an expanded worldview and a greater sense of hope…”.

Friese, Pittman and Hendee (1995) have produced an annotated bibliography and evaluation of “Studies of the Use of Wilderness for Personal growth, Therapy, Education, and Leadership Development” in the United States and South Africa. The bibliography includes more than 200 entries which record the many benefits of WE and the values
derived from wilderness. Ewert and Shellman (2003) identify four groups of benefits, viz. biological/physiological, personal, societal and educational/research.

The World Wilderness Congress is held every four years to provide a platform for the presentation of research results that reflect, *inter alia*, the values of wilderness to society. The proceedings of a symposium held in parallel to the 7th World Wilderness Congress held in Port Elizabeth, South Africa, record the following streams within the symposium: Traditional and Ecological Values of Nature, Spiritual Benefits, Religious Beliefs and New Stories, as well as Personal and Societal Values of Wilderness (Watson and Sproull, 2003). In their contribution to this symposium, Krall *et al.* (2003) refer to the spiritual, biological / ecological and aesthetic value of wilderness. Other important values include psychological (healing) value and the opportunities that wilderness offers us for experiential education and learning about sustainability.

The Wilderness Leadership School (WLS) in South Africa runs wilderness trails that are open to the general public – the citizens of the world, as it were – and are made accessible to people from all walks of life as well as of different means. The purpose of these trails is described as a “walk in search of a deeper spiritual understanding of nature and of our place in the universe” (Wilderness Leadership Foundation, 2005, at http://www.wildernessfoundation.co.za.html, 10/12/2005).

Some of the values and benefits derived from WE are inherent in the experience. Sibthorpe *et al.* (2003) believe that value and benefit can be enhanced and broadened by intentional and careful design and facilitation of wilderness programmes.

Kellert and Durr (1998) conducted a study to identify the impact of outdoor WE in the United States. They refer to a number of physical, emotional, intellectual, environmental and moral-spiritual impacts of WE which they group into effects on participants’ environmental interest, knowledge, attitude and behaviour in one category of benefits, and personal and character development in the other. The paper incorporates an extensive annotated bibliography of research, reflecting on the nature and experience of the various programmes evaluated in the study.
**Ecoliteracy and ecological intelligence**

McCallum (pers. comm., 2005a) defines ecological intelligence as comprising three components: an evolutionary mindedness (understanding our context as humans in an evolutionary continuum), knowing human nature, and cultivating an authentic and nurturing (eco)literacy. It is therefore more than ecoliteracy on its own, but ecoliteracy is a key foundation for ecological intelligence. Most writers have focused on the development of ecoliteracy, rather than ecological intelligence. McCallum (2005b) describes our inherent connection to the earth and other life forms, in human physiology, but also in the development of our culture and society. He emphasizes the importance of our understanding that we are but one animal in the ecosystem, vying for survival like all others. We need to remember who we are and where we have come from, is the way in which Cullinan (2002:87) expresses this process.

Ecoliteracy is about a deeper understanding of the system within which we live and about the ways in which our actions affect that system. It is also about the ways in which we are supported by this system. Orr (2004:32) suggests that developing ecoliteracy is the only hope we have in dealing with the “ecological emergency” we have created. He asserts that this emergency is “about the failure to comprehend our citizenship in the biotic community…we cannot see how utterly dependent we are on the ‘services of nature’ and on the wider community of life”. Although he does not refer to it as such, Orr (2004:212) also refers to an ecological intelligence, which he describes as follows: “But part of the truth cannot be told; it must be felt”. It is our “affinity for life”, our love of life (biophilia) which must be grown.

Orr (1992:92-94) gives a description of ecoliteracy, incorporating components of comprehension of interrelatedness, an attitude of care and stewardship, an ability to act on the basis of knowledge and feeling, understanding how people relate to each other and to nature, knowledge of how the physical world works, where we fit in the story of evolution, a knowledge of the nature, extent and speed of our ecological crisis (the details of losses and damage), and a knowledge of the dynamics of our modern world and how we think about it. Even more fundamental, is the way we see nature and whether we are therefore connected to or disconnected from it.
McKibben (2003:184) has written about how we see ourselves vis-à-vis nature and our apparent inability to see our relationship to the natural world clearly. He describes the necessity for humanity to learn that we “don’t necessarily belong at the top in every way” and that we need to begin to see ourselves as “just one species among many”. For McKibben (2003), ecoliteracy involves active rebellion against our current way of life, thereby introducing a component of radical action, into the definition of ecoliteracy.

Capra (2003:201) defines being ecoliterate as “understanding the principles of organisation of ecological communities and using those principles for creating sustainable human communities” Like Orr (2004), Capra (2003:201) asserts that ecological principles must form the basis of everything we do in “education, management and politics”. He also believes that ecoliteracy incorporates an acceptance of human communities as living systems, but with consciousness that ecosystems do not have. He identifies values and the taking of responsibility, at the core of ecoliteracy, adding to the dimensions of love of life, emotion and feeling, identified by Orr (2004).

Ecoliteracy and ecological intelligence are therefore far more than an understanding of the science of ecology and ecosystems.

**Environmentally responsible behaviour**

ERB occurs at two levels – at the level of the individual and household or community, and at the level of governance, the law and policy making, including in business, and in the media. Monroe (2003:114) defines ERB, or conservation behaviour, as “those activities that support a sustainable society”. These activities can be direct or indirect. There are complexities attached to selecting ERB’s in different contexts, since one form of ERB may require an environmentally damaging behaviour elsewhere. Monroe discusses several complexities, for example differences in perspectives on ERB in different geographical locations, when the frame of reference is local. She concludes that selecting ERB is context specific and based on the best information available to the decision maker at the time, and may not always be environmentally benign, but merely the best alternative there is.
Other researchers cited by Monroe (2003:115), have defined ERB as “an approach to seeking information, making decisions, and valuing a stewardship ethic”. This moves us closer to putting ecoliteracy into practice. Monroe makes a distinction between ERB that comprises specific behaviour and ERB that comprises the cultivation of ecoliteracy. The latter is not elaborated upon further here, but is discussed in section 5.4 above. Monroe (2003:114) refers to a number of direct actions that people can take at an individual household level, including taking fewer trips by car, eating less beef, installing compact fluorescent light bulbs, eliminating the use of pesticides in domestic gardens, and installing water saving devices.

Stern (2000:408) identifies two different interpretations of what he terms environmentally significant behaviour. In contrast to Monroe (2003), he first takes a different approach to discussing ERB, by defining environmentally significant behaviour as that which is defined by its environmental impact, whether from the perspective of resource use, production of wastes, or in terms of changes caused in ecosystems. He also defines the behaviour that puts in place environmentally damaging policies as environmentally significant. The second interpretation considers the role of intent in environmental decision making and choice of actions, and is the result of people becoming more environmentally aware in recent times. Environmentally significant behaviour in this context, is seen to be “behaviour that is undertaken with the intention to change (normally, to benefit) the environment”. Stern (2000:408) asserts than ERB must be characterized for both cases, to prevent impact as well as to enhance benefits through positive intent, usually based on beliefs and personal motives. The cultivation of ERB is further complicated by the limiting factors or barriers to its development, which could include technology, attitudes or values, knowledge, and material resources.

Cullinan (2002) discusses the contributions that governance and law can make in terms of environmentally significant behaviour, in line with Stern’s definition. Both governance and law can be significant in causing environmental impact, as well as in promoting significant behaviour with positive intent.

ERB therefore cannot simply be reduced to a checklist of direct behaviours. Stern defines environmentally significant behaviour as “dauntingly complex” (Stern, 2000:421). It is multidimensional and can operate at different scales and levels in society. Jensen
(2002) has identified two broad levels at which ERB operates, viz. at a personal lifestyle level, and a structural or societal level. Jensen (2002:333) makes an important assertion that, “If the underlying assumption is that environmental problems are structurally anchored in society, an adequate concept of action (ERB) must encompass both direct and indirect action”. He elaborates further, that indirect action⁸ is often constrained by “external factors” – referred to in this study, as barriers to the adoption of ERB.

**Mechanisms for developing environmentally responsible behaviour**

Mechanisms for developing ERB include both formal and informal methods, both within the classroom and outdoors. Zelezny (1999:1) compared educational programmes conducted in classrooms with those conducted in “non-traditional settings”, finding in both cases that environmental education could positively affect ERB. The findings reflect that the location was less important than the level of participation, where active participation was most likely to result in an improvement of ERB. The author emphasizes the apparent discontinuity between environmental concern and ERB, i.e. action. She refers to studies that have found a direct link between environmental education and an improvement in ERB, as well as others in which the link is contested. The link is not as simple as it might appear and there are several variables that contribute to a positive relationship between education and behaviour. The location / setting of the educational experience, whether there is active participation or not, and the length and nature of the educational intervention, are some of these variables. It is interesting to note that Zelezny found a closer link of environmental education to improved ERB in classroom settings for children, and notes that interventions in less traditional settings (outdoors) were more likely to be short term, and have adult participation. This suggests that approaches to adult environmental education require special attention.

Clover (2002:175) identifies a growing group of adults who are “frustrated, angry and passionate enough to want to work for change" based on an improved awareness of the environmental crisis. But the mechanisms for participation in creating the change still

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⁸ Examples of indirect action include writing petitions, lobbying government, demonstrating.
need to be developed, since most environmental education activities are directed at children and youth. Clover records a process in a community in Ontario, Canada, comprising adult environmental education, participatory research, and interventions in formal governance structures and processes. The intention of the process was not only to improve awareness and knowledge, but also to develop skills\textsuperscript{9} to enable people to take action, both in terms of nature and their own lives. The process recorded is intensive and multidimensional, requiring participation in discussion groups, research and other activity. Clover (2002:183) summarises this process of adult environmental education as one of learning to live differently – learning to “think, act and work creatively and collectively...for a more sustainable place in which to live and work”. Important characteristics are that the process is a journey which does not end, and one that requires effort, but that satisfies the human need for knowledge, connection and meaning.

The role of significant life experiences and environment-based education in developing ecoliteracy, and in turn ERB, is discussed by Monroe (2003:114). She warns that there is no single tool that will accomplish this because of the diversity in motives and rewards that people want in their lives. There is a strong focus on ecoliteracy as a prerequisite for ERB and Monroe (2003:115) records that “people who are environmentally literate can be identified by their behaviours”. She makes a distinction between programmes that cultivate ecoliteracy, and those that encourage specific behaviour change, adding that “adult learners are an ideal audience” for the challenge of becoming ecoliterate, merely because of their broader knowledge and life experience. It is suggested that adult programmes should focus on the cultivation of ecoliteracy to provide a basis for behavioural change. Two mechanisms for the development of ecoliteracy are discussed in this paper, viz. significant life experiences and environment-based education.

Oskamp (2002) outlines a range of approaches to environmental education at high school, at tertiary education level, and for adult education, designed to promote sustainability behaviour. These approaches are a mix of techniques and as does Monroe, Oskamp states that no single mechanism will be enough, as well as some

\textsuperscript{9} De Young (2000) has identified the central importance of skills to the successful adoption of ERB – what he calls “know how”. Knowledge and skills have an empowering influence although the extent and depth of knowledge have also been indicated as critical (Jensen, 2002).
mechanisms being more effective with some people than with others. Oskamp (2002:175-176) identifies three factors in creating general behavioural change, viz. information, motivation and behavioural skills. He then goes on to suggest eight approaches intended to bring about ERB based on these three factors. The success of the approaches is dependent upon organized and facilitated access to information and the necessary support structures in national and international bodies, for sustainable living and ERB.

Frederickson (2003:189) discusses the use of wilderness ecotourism and education in developing ecoliteracy, encouraging the incorporation of an educational component into ecotourism ventures. The author asserts that tourists who engage in ecotourism activity are “most likely to develop a sense of environmental awareness or ecological literacy” and this raises the issue of prioritizing target groups for adult environmental education. Through the analysis of some case studies of programmes in “less developed countries”, the author concludes that ecotourism activity, especially in wilderness, can play an important role in developing ecoliteracy.

Stern (2000:419) pre-empts the statements of Monroe (2003) and Oskamp (2002), by claiming that “the most effective behaviour change programs involve combinations of intervention types”. These interventions include approaches that focus on values, religion and morality, education to expand knowledge and change attitudes, punitive measures or rewards for ERB such as tax relief, and community management where rules and expectation are defined and implemented at a local level.

**Psychology of environmentally responsible behaviour**

It is important to understand what motivates and underlies ERB in a person, so that effective programmes can be designed to promote its development. A substantive body of literature exists on the psychology underlying the adoption of ERB.

Saunders (2003) provides an overview of the concept of conservation psychology, the purpose of which is to research and promote enduring behaviour change towards sustainability. At its core lies the concept of the relationship between people and nature,
and Saunders (2003:139) contrasts conservation psychology with sub-disciplines of psychology, asserting that it is rather a super field. By this she means that the mechanism is trans-disciplinary and its express purpose is to solve the problems of the sustainability of the natural world and their quality of life implications. This is in line with the thinking of Oskamp (2000:373) who asserts that “we should view the achievement of sustainable living patterns as a super ordinate goal”. According to Saunders, the super field is made up of two streams, viz. how humans behave towards nature (conservation behaviour), and how humans care about or value nature. Both streams need attention in the quest to produce a sustainable world. The former requires an understanding of what motivates behaviour change and then formulating strategies according to this knowledge. The latter, deals with finding ways to assist people in connecting with nature. Issues like emotional connections, how values are formed, and environmental ethics are relevant here, and fit within the realm of creating ecoliteracy. This twin approach to creating sustainability behaviour is evident throughout the research into the psychology of ERB.

Oskamp (2000), De Young (2000), and Kaplan (2000), explore various motivations for ERB. Oskamp introduces the issue, and offers a range of motivational approaches for this type of behaviour. De Young, considers the role of self interest as a key motivator of ERB, identifying the need for competence (“know how”) as a critical requirement for the successful adoption of ERB. Kaplan expands on the importance of competence as an antidote to feeling helpless in the face of the environmental problems which must be solved. He suggests an approach to creating ERB that motivates, reduces helplessness and is not founded on material sacrifice, and which generates solutions. He also introduces the role of human evolution and the skills that people have used and developed in response to evolutionary challenges over time. He argues that these very skills should be harnessed into successfully promoting the adoption of ERB. This thinking is in line with that of McCallum (2005a) in his definition of ecological intelligence.

Oskamp (2000) warns that there is a problem with seeing environmental problems as technical problems. It is human behaviour that has created the problems and therefore only human behaviour can solve them. The challenge is in communicating the message of required change in such a way, that it sticks. Research in human psychology has important contributions to make to this process because “achieving a sustainable society
will require basic changes in everybody's behaviour and in our basic values” (Oskamp, 2000:381). Human behaviour, however, is motivated by a diverse array of variables, and so no single approach to promoting ERB will work for everyone.

De Young (2000) focuses attention on motivation for ERB, stating that until recently most attention has been given to material motivators (financial incentives) or trying to encourage altruism. He suggests that there are many more sources of motivation than only these two, both of which have inherent problems in creating sustained ERB. Successful mechanisms for entrenching ERB, incorporate the elements of reliability (does it work?) and durability (does it last?) (De Young, 2000:511). According to De Young, these elements are affected by a range of psychological processes e.g. defiance, influences on self-esteem and guilt. How important people see ERB from their own perspective - how it affects them personally - also raises the issue of context, i.e. personal context will determine how and why someone may adopt ERB. De Young (2000:515-517) further proposes that durable ERB is the result of:

- a self-interest that he defines as intrinsic satisfaction (the behaviour makes the person feel good about engaging in it); and
- behavioural competence (a sense of knowing what to do about environmental problems and how to do it).

Kaplan (2000:498) adds to this list, the importance of participation in finding solutions, which satisfies the human need to know and understand, to learn, explore and discover, and to play a role and make a difference. These characteristics, he says, are what humans have used and developed further throughout their evolution. Participation is empowering in combating the helplessness that people feel in the face of the environmental crisis.

Maiteny (2002:299) and Kollmuss and Agyeman (2002) discuss the “inner influences” and barriers to ERB respectively. Maiteny argues that a personal sense of meaning is the key motivator for ERB. He suggests that pro-environmental behaviour is emotionally based and that this emotional response, is usually based on an experience of a relationship with nature and an ecological process, rather than intellectual knowledge of it. He also discusses a significant barrier to the adoption of ERB, which he refers to as
an apparent addiction to accumulation and consumption in humans. He suggests that this behaviour is an attempt to fill a gap or lack, in the human psyche, which is in fact a search for personal meaning.

Kollmuss and Agyeman (2002) elaborate on barriers to ERB, in the process identifying positive and negative, and external and internal influences on the adoption of ERB. They specifically studied the influence of knowledge and information on developing ERB and found no direct relationship between the two, concluding that knowledge on its own is insufficient to cause a change of behaviour. Rather, they identify a knowledge, values, attitudes and emotional involvement complex, that is more likely to bring about the necessary behavioural change. This has profound implications for conventional environmental education programmes.

Jensen (2002) contests the assertion of Kollmuss and Agyeman referred to above, that there is no demonstrable positive relationship between knowledge and information and the adoption of ERB. Jensen (2002:331) presents a model comprising two landscapes of knowledge viz. a traditional one, and an action orientated one, arguing that the knowledge base of traditional environmental education focuses on environmental problems and their effects. The knowledge base of action orientated environmental education is more comprehensive. In addition to providing information on environmental problems and their effects, this knowledge landscape also includes assessing the causes of the problems, what needs to be done to address the problems, and creating visions of desired states for the environment. Assessing the effectiveness of knowledge and information in precipitating ERB in this way, has implications for the design of successful environmental education interventions.

The role of significant life experiences, which embody emotional involvement, in influencing ERB, is discussed by Chawla (1998). She considers the influences on developing environmental sensitivity, which is the fundamental variable in the model of environmental citizenship developed by Hungerford and Volk (1990). In short, many of these authors are saying that emotional involvement is where ERB begins.

Iwata (2004:704) presents an inventory of research in the literature, recording investigations of the links between psychological variables and ERB. The variables
identified include environmental knowledge and values, values and beliefs, positive attitudes towards ERB or intrinsic satisfaction with ERB, awareness of the consequences of environmental damage and acceptance of responsibility, and perceptions of threat to health and wellbeing. According to Iwata (2004) there are many variables that have not yet been investigated, and she notes that for example, there appears to be a correlation between a perception that (economic) growth and technology will solve environmental problems, and a rejection of ERB.

Iwata (2004) investigated the relationship of a range of psychological variables to ERB and found some significant relationships. Iwata (2004:706) measured the influence of attitudes towards (economic) growth and technology, efficacy of pro-environmental behaviour, sensitivity to noise, social awareness, emotional sensitivity and behavioural independence on the adoption of ERB. She found a significant relationship in the case of three of the variables, viz. negative attitudes toward growth and technology, the efficacy of pro-environmental behaviour and emotional sensitivity. Of these three variables, only the second has been mentioned in the other literature reviewed in this study.

6. Case Study Presentation and Analysis

6.1 Background to the case study

The Wilderness Leadership School (WLS) of South Africa, runs a weekend adult wilderness programme in the Pilanesberg National Park, north west of Johannesburg, South Africa. The weekend wilderness trail comprises the following:

- An introduction by the wilderness guides to general conduct and safety in wilderness.
- Walking in the wilderness area of the reserve, conducted in silence.
- Regular stops along walks for nature interpretation and knowledge sharing by the wilderness guides.
- Stops along walks for rest and periods of solitude and meditation in wilderness. Participants spend up to an hour at a time in solitude. Meditations are guided by
the wilderness guide(s), and aimed at developing a sense of connection with
nature.

- Solo night watch by each participant for an hour each night, for safekeeping of
  the group and additional time in solitude.
- A trail close-out discussion prior to exiting the WE to discuss learning,
  experiences and insights gained.

Although many accounts have been documented of the profound effects of WE, as
facilitated by the WLS in South Africa\(^{10}\), and many participants in these experiences
attest to long term and irreversible influences on their lives (Dormer, 2006-7, and
McCallum, 2005a), no empirical evidence has been collected to date that shows a
change in attitude and behaviour towards nature, following such an experience.

The weekend programme run in the Pilanesberg National Park, was selected as a case
study both for logistical reasons\(^{11}\) and since the short duration might reveal additional
perspectives on the usefulness and application of such a programme, available in close
proximity to a major urban centre. Furthermore, the weekend programme is the most
commonly offered option for a WE with the Inland Branch of the WLS operating in the
Pilanesberg National Park. Measuring the outcomes of this programme would therefore
be of interest and utility for the WLS.

The research was conducted as a qualitative case study incorporating field research. It
was intended to construct a thick description of individual development of ecoliteracy,
and subsequent change in ERB, based on a WE and measured before, immediately
after, and 3-4 months after the completion of the experience. The intention was to
observe a process of change of behaviour of the participants over a period of time. The
analysis included consideration of the motivation for and barriers to, the development of
ecoliteracy and subsequent change in ERB, and influences of participants perspectives
and behaviours, as suggested by Babbie and Mouton (2001:281).

10 For example in Darby Junkin (1987)
11 The researcher was engaged in full time employment for the duration of the study, and conducting the
  fieldwork therefore presented some challenges. Being able to conduct the FGDs on either end of a weekend
  enabled the completion of the fieldwork without disruption of normal employment.
6.2 Sampling and invitation of participants

Reservations for weekend wilderness trails conducted by the WLS in the Pilanesberg National Park, are demand driven and therefore dependent on interest from the public in participating in these trails. The WE is not offered or promoted as an eco-tourism activity, but rather an opportunity to connect with nature and to experience the self, in wild nature. The programme offered by the Inland Branch of the WLS is not widely known, and knowledge of it is generally obtained by word of mouth, from previous participants or the wilderness guides. The trail schedule is therefore fairly sparse. The weekend programme is also offered as part the corporate management development programmes of various companies, including large multinational companies. Since these trails are part of a larger programme with a particular purpose outside of the WE per se, and given the aims of this study, the sample population was limited to participants from self initiated private trail groups, who would only be participating for their own recreation and possibly, other personal reasons.

Since trails are conducted in the territory of predators and other potentially dangerous animals\(^\text{12}\) and due to the particular nature of the WE, the WLS has a lower age limit of 15 for participants. By default, all participants in the selected trail groups for this study were adults, since the trail groups comprised only adults between approximately 20 and 60 years of age. In a few cases, participants knew each other before their trail, but in general, participants were strangers prior to their WE.

Three sample groups were selected randomly from the annual trail schedule, of the Inland Branch of the WLS, for 2006. Given the fluidity and sparse nature of the trail schedule for the WE conducted in the Pilanesberg National Park, a small sample population was available from which to select sample groups. This is evident in the time lapse between the WE participated in by the first two groups, and that of the third group. However, the sample groups are considered to be representative of the population, since they comprise a significant proportion of the trail bookings for 2006. As indicated by David and Sutton (2004:153), sample representativeness is a product of the sampling

\(^{12}\) The Pilanesberg National Park is home to elephant, rhino, buffalo, leopard and lion.
The size of groups taken on the WE is usually limited to a maximum of 8 participants for logistical and safety reasons and to facilitate the direct experience of wild nature. Four members of each of the selected sample trail groups of 7-8 participants, i.e. 50% of each trail group, were then randomly selected and invited to participate voluntarily in the study. One participant in the third group failed to arrive on the day of departure for the trail, and the total sample therefore comprised 11 participants (4, 4 and 3).

A research partnership was established with each participant. A letter of invitation was written to each participant, providing them with background information on the study, and inviting their voluntary participation (Appendix B4). A commitment was made in this letter, to keep the identity of individual participants confidential and not to link any specific insights and information to a particular participant. Participants have accordingly been assigned codes in this study. Each selected participant was asked to sign a commitment and consent form (Appendix B5), to ensure continued participation throughout all three contact sessions and therefore continuity in the study.

6.3 Field work

The three groups of research participants were interviewed on three separate occasions, via a FGD immediately prior to, and again immediately on exiting the WE, and via individual interviews 3-4 months after the WE. The first FGD with each group, was conducted at a venue in Johannesburg, prior to departure and travel to Pilanesberg National Park. The second FGD with each group, was conducted in the Pilanesberg National Park, prior to the participants leaving the reserve to return home. The purpose of conducting the second group discussion in the reserve, was to capture the thoughts, insights, feelings and experiences of participants from the weekend WE, before any re-exposure to the world outside of the wilderness context.

Each participant was interviewed individually in a SSI, between 3 and 4 months after the participants completed their WE. The purpose of this interview was to establish whether
the WE had any lasting effect on the individual participants. In particular, the intention was to identify durable and reliable changes in ERB, based on new or continued ecoliteracy development, a period of time after participants had returned from their WE. It was anticipated that ecological and self awareness may be heightened immediately after the WE, and that participant attitudes and behaviour may still be strongly motivated by the proximity to the WE, if the individual interviews were to be conducted too soon after the trail. The time gap was specifically intended to enable the identification of actual changes in ecoliteracy and behaviour, and not merely stated intentions to adopt new behaviours. The schedule of interviews conducted, is given in Appendix B6.

Fieldwork was conducted over a period of 6 months. The length of time was determined by the availability of trail groups in the trail schedule of the Inland Branch of the WLS, and the necessity of a time gap of 3-4 months before participants could be individually interviewed. With the exception of one participant, individual follow up interviews were conducted face-to-face at a venue of the participant’s choice, which was either the participants’ home, the home of the researcher, or the workplace of the participant. One participant (C1) was attending a training course in another province (i.e. away from Johannesburg), for an extended period of time, coinciding with the time their interview was to take place. The participant was therefore interviewed by telephone. The interview was however, conducted according to the same interview schedule and digitally recorded and transcribed in the same manner as the interviews of the other participants.

### 6.4 Data analysis

<table>
<thead>
<tr>
<th>Data collection</th>
<th>Data were collected via FGDs and individual in-depth interviews, which were digitally recorded and transcribed. One example of each type of contact session (FGD1, FGD2 and an individual interview) is given in Appendix C1.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note-taking</td>
<td>Each individual interview was read in it’s entirety to obtain an idea of the respondent’s overall perspective and “story”, and notes made against the transcripts, regarding this perspective and against particular incidents.</td>
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</tbody>
</table>
| Coding | Although grounded theory was used for data analysis in this study, the volume and nature of the data required that a pragmatic approach be taken to coding. Rather than to study individual lines of data, the researcher searched for incidents, which could be described by the respondent in a complete story of several paragraphs, or merely one sentence. In the first round of analysis, the researcher applied open coding to the interview transcripts, to identify the initial set of codes (themes). Subsequent axial coding, then enabled grouping and linkage of themes into logical clusters.

The six FGDs – 3 of FGD1 and 3 of FGD2 - held with the groups, were analysed through constant comparison. FGD1 of Group 1, was analysed first and codes assigned to emergent themes. All subsequent interviews were then analysed using the list of themes emerging from the first interview (constant comparison), and adding new themes to the list, or adapting themes already on the list as new insights were gained from the process of analysis. Responses of all the groups to each question, in each of the FGDs, were then horizontally integrated to enable sorting (Appendix C2).

Responses by individual participants through their three interviews (FGD 1, FGD2, and the individual interview) were analysed thereafter, using the same codes (framework of themes) used for the FGDs. This part of the analysis, was intended to establish baseline ecoliteracy and ERB (FGD1), initial changes in ecoliteracy and intent to change behaviour (FGD2), and lasting change in ecoliteracy and ERB (individual SSI) in individual participants across the study period, i.e. a vertical integration. An example of the vertical integration of the

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13 As stated earlier, changes in individual ecoliteracy in this study, were tracked using the definition of ecoliteracy provided by Orr (1992:92-93).
responses of one of the participants is given in Appendix C3.

<table>
<thead>
<tr>
<th>Memoing</th>
<th>Note taking, coding and memoing were done simultaneously and iteratively in the process of data analysis. See notes and memos in Appendices C2 and C3.</th>
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</thead>
<tbody>
<tr>
<td>Sorting</td>
<td>Refer to Appendices C2 and C3.</td>
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<tr>
<td>Writing</td>
<td>The results of the analysis are documented in section 6.5 below.</td>
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</table>

### 6.5 Findings

#### 6.5.1 Themes emerging from the data

Several themes emerged from the three phases of interviews with participants. Commonalities or synergies were combined into complexes of themes through axial coding, to reveal core issues. The themes and links between them are outlined in Figure 2.

Complexes A and B show two separate and apparently mutually exclusive concepts of nature, evident in the responses of the participants.
A. Concept and relationship with nature - Separation from nature

| Sub-theme: Nature only exists outside the city | In this perspective, nature is perceived to be absent from the urban environment, and only pristine or wild nature is considered to be real nature. Humans are not part of nature. |
| Sub-theme: Nature is a resource for human use | Nature is perceived to be a place to “go away to” to use for relaxation, recreation, spiritual practice, a refuge from the ravages of city life. |
### B. Concept and relationship with nature - Connection to nature

| Sub-theme: A good relationship with nature and ERB, are virtuous, morally superior and responsible | A perception based on conscious or unconscious knowledge that humans are inherently part of nature. As a result, there is a perception that caring for nature, is seen to be doing the right thing. |
| Sub-theme: Comprehension of interrelatedness, connectedness and context | An understanding that nature is an interconnected system, and that humans are one part of that system. The insight engenders an emotional response to nature e.g. reverence, awe or wonder, respect. |
| Sub-theme: Connection to nature is primal / emotional / fundamental | Various expressions of a sense that nature is home and a love of life (biophilia). |

These concepts – a felt connection to or separation from nature - are fundamental to the level of ecoliteracy in individual participants. The manner in which they underpin the adoption or rejection of ERB become evident in complexes C and D. Substantive evidence exists in the responses of all participants of an inherently perceived connection to nature. In some, the connection is unconscious and unacknowledged. In others it is conscious and known. The boundary between the two concepts is thus porous and attests to confusion in the human mind, created by an artificial separation from nature, imposed by culture and social evolution.
C. Knowledge, responsibility and action – Ownership

<table>
<thead>
<tr>
<th>Sub-theme: Lack of ownership and responsibility</th>
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<tbody>
<tr>
<td>This sub-theme relates to understanding the different responsibilities for ERB of individuals, business and the market economy, and government, and where the boundaries are between them. Where a broader concept of nature exists and people feel that they are part of it, self interest is a catalyst for ERB. It is necessary to take ownership of both the problem and the need to find solutions to the ecological crisis, to ensure one’s own survival (within the natural system). Perceiving that the ecological crisis is a problem of institutions and government, or “others”, is linked to a perception of separation from the natural system. ERB is not perceived as a priority, due to a lack of knowledge and understanding of the role of the individual. For the same reason, ERB is considered to be onerous - involving sacrifice and making significant and unwelcome tradeoffs. When structural / societal barriers to the adoption of ERB, are included in the equation, rejection of ERB becomes almost inevitable.</td>
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<table>
<thead>
<tr>
<th>Sub-theme: Feelings of helplessness and inadequacy</th>
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<tbody>
<tr>
<td>Lack of knowledge and insight, and a sense of separation from nature, are causal in creating feelings of helplessness and inadequacy in curbing environmental problems. This perceived inability or powerlessness is projected onto others (government, business, other individuals), who are blamed for causing the problems, and not doing anything, or not doing enough to solve them.</td>
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14 Time, quality of life or lifestyle
15 For example, sacrificing time spent with one’s family to engage in conservation activities; reducing trips by car that are merely for leisure or recreational purposes.
16 For example, the lack of availability of recycling facilities, or public policy that promotes consumerism.
The themes in complexes D and E, are arranged to show a progression from a position of ignorance and helplessness, through a process of empowerment via growing ecoliteracy and competence in ERB.

**D. Knowledge, responsibility and action – Knowledge**

<table>
<thead>
<tr>
<th>Sub-theme:</th>
<th>ERB requires that one knows what to do and why to do it, i.e. what is required for the praxis of ecoliteracy. A lack of systems orientated thinking is a constraint to insight into the interconnectedness of all things, including humans.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-theme:</strong> Lack of knowledge, understanding and insight</td>
<td>Where the perception of a connection to nature is not well developed, and where knowledge, understanding and insight into the ecological crisis and potential solutions exist but are limited, this “partial ecoliteracy” may cause feelings of guilt, denial, compounded helplessness, and being overwhelmed.</td>
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</tbody>
</table>

**E. Knowledge, responsibility and action – Ecoliteracy**

<table>
<thead>
<tr>
<th>Sub-theme:</th>
<th>Knowing how and why to engage in ERB, and then actively engaging in it, have an empowering effect on people. The more the problem and potential solutions are known and understood, and the more there is a sense of making a meaningful difference, the greater the personal ownership.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-theme:</strong> Empowerment through knowledge and insight, praxis, action and ownership</td>
<td>There are several catalysts in WE for the development of ecoliteracy. Important components include: first hand experience of nature, immersion in nature, catalytic events (significant life experiences, which could e.g. include an encounter with a dangerous animal), quality of</td>
</tr>
<tr>
<td><strong>Sub-theme:</strong> Roots of ecoliteracy</td>
<td></td>
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</table>
environmental education / information received, and the influence of the wilderness guides as living examples.

Sub-theme: Translating ecoliteracy into practice – the knowledge and tools required for the practice of ERB. Indications are that constant re-immersion in wild nature may be necessary to maintain praxis.

Sub-theme: Realising that the task of ERB is facilitated by communal action. This is an antidote to feelings of helplessness and inadequacy engendered by living in an urban environment in Western society, where survival apparently depends on competing as an individual, against other individuals.

6.5.2 Development of ecoliteracy and adoption of ERB

Discussions during the FGDs and the individual follow up interviews, were structured around two groups of issues:-

i. those intended to reveal the concept of and relationship with nature of each of the participants (ecoliteracy); and

ii. those intended to reveal the nature and extent of individual ERB.

Changes in individual ecoliteracy and ERB, evident from the data, are illustrated in Figure 3.

In the graph on the left, responses to the questions “What is nature for you?” and “What do you think about it?” are illustrated along the “x” axis from A to C, where A represents a constricted concept of nature, which also excludes humans, and C a concept of nature that acknowledges a system within which every living and non-living thing on earth and in the universe is connected, including humans. The perspective of each participant before entry, at exiting (after), and 3-4 months after completion of the WE, is shown in
the graph. The graph on the right, shows responses to questions probing the level of personal ownership and responsibility for environmental problems and solutions, evident in each participant and corresponding ERB.

Participants with high ecoliteracy at entry (B1, B3, A1, B2), with an all encompassing, complex concept of nature which includes humans, have a correspondingly high ERB index throughout the study period, i.e. high ecoliteracy at entry translates into a consistently high level of ERB throughout, or there may also be slight improvement in ecoliteracy and ERB. Many of these participants already had entrenched ERB at entry, e.g. household recycling.

One participant with low ecoliteracy at entry, but whose ecoliteracy improved significantly (C1), also adopted ERB, i.e. low entry level ecoliteracy developing into significantly higher ecoliteracy 3-4 months after the WE, translated into significant new ERB. This substantive improvement in ecoliteracy may relate to a “first exposure” to wild nature.

Participants with low entry level ecoliteracy that remained constant throughout the study period (A3, A4, C2, C3), did not adopt any significant ERB. These participants all felt separate from and had a constrained concept of nature viz. nature is “out there”, out of the city and mostly confined to “the bush” or pristine nature.

Two participants exhibited a moderate level of ecoliteracy at entry (A2, B4). One showed a substantive improvement in ecoliteracy, as a result of feelings of connection to nature, interrelatedness and context immediately after the trail, but this diminished over time, and translated into a positive but insignificant change in ERB. Ecoliteracy in the second participant improved after the WE, based on an ability to apply insights gained, to their day to day life. The partial improvement in ecoliteracy (awareness, knowledge and insight), led to feelings of greater helplessness and inadequacy in solving environmental problems.
Figure 3: Individual changes in ecoliteracy and ERB
Participants reported a range of changes in elements of ecoliteracy, ERB and personal growth that they attributed to the WE. These included:

- Significantly *improved awareness* of nature, and the impacts on the ecosystem of every task in daily life.
- A new *love for nature*.
- Feeling *empowered by information* from the wilderness guides (new knowledge).
- *Greater appreciation* for amenities in the city or for “what I have in my life”.
- *Overcoming personal challenges*, e.g. fear of failure.
- *Adoption of new ERB*, e.g. no longer throwing litter out of the car window, picking up litter, using compact fluorescent light bulbs, recycling additional materials.

The participants identified several barriers to adoption of ERB. All participants identified at least one barrier, but varied in their perceived ability and willingness to overcome the barriers. Barriers identified included:

- What I do (as one person) won’t make a difference.
- Environmentally friendly consumer products are hard to find, e.g. organic food and products, household cleaners.
- Adopting ERB (understood by some participants to mean: committing my life to conservation) requires that I change my lifestyle or give up my job.
- Laziness and inertia (I know I should be doing something but I don't get around to it).
- Institutional failures, e.g. not providing waste removal facilities that encourage household recycling.
- Dependency on personal transport (lack of functional and reliable public transport).
- Lack of knowledge (know how) about ERB.
- No exposure to an alternative to consumerism.
- Failure of enforcement of environmental laws.
- No incentives for ERB, e.g. financial reward for whistle blowers; tax relief.
- Government focus on economic growth.
- No time available for ERB (too busy).

More than half of the barriers to the adoption of ERB listed above are structural / societal barriers and this has implications for the ability of the individual in adopting ERB. However, almost half of the list of barriers reflects barriers that the person can overcome as an individual.

6.5 Discussion

6.6.1 Cultivating ecoliteracy and the WE as a catalyst

The findings suggest positive feedback in an iterative process of growing ecoliteracy. The more ecoliteracy improves, the more awareness grows, the more the person seeks out information and understands, and the greater the compulsion to adopt ERB. A constrained concept of nature, appears to stall initiation of the process of developing ecoliteracy. However, the WE seems to broaden and deepen people’s concept of nature. In some cases this can stimulate the adoption of ERB. In general, a strong awareness of a connection to nature experienced by all participants and expressed immediately after the WE, tended to dissipate with time. It appears that constant reminders or repeat visits to “nature out there” may be needed to rekindle the awareness and to maintain the cycle of positive feedback, by providing direct opportunity to experience a sense of connection to nature.

However, as Andrews (1999:35) has indicated, WE is a particularly intensive form of experiential education and even a programme as short as a weekend, can therefore result in significant learning. More importantly, wilderness provides a unique context for a direct experience of a connection to nature, which in this study, is considered to be fundamental to the development of ecoliteracy. Whereas the work of the wilderness guides comprises both the facilitation of a realisation of the nature connection, and the sharing of knowledge on the ecological crisis and potential solutions, the primary importance of the former task cannot be underestimated. Several of the research
participants exhibited no improvement in ecoliteracy over time and maintained their concept of being separate from nature after their WE. This suggests that the illumination of the human-nature connection in the hearts and minds of trail participants requires effort and attention in the *modus operandi* of the wilderness guides.

Monroe (2003) has suggested that adult programmes should focus on the cultivation of ecoliteracy to provide a basis for behavioural change, and the findings of the study support this assertion. The view of Saunders (2003:139) that conservation behaviour (ERB) comprises both how people *care about* or value nature and how they *behave towards* nature, is vindicated by the findings in this study. Although some positive change was evident in some of the participants’ relationship with nature, and was translated into ERB, a significant proportion of the participants did not develop their concept of and relationship with nature through the WE, and this translated into a failure to adopt significant ERB. The findings suggest that adoption of ERB is unlikely to occur, without prior development of ecoliteracy to a certain level, or as a minimum, the realization of a close bond with nature.

### 6.6.2 Relationship with nature (connection)

*(Related to Themes A & B)*

As mentioned previously, all participants exhibited a perceived connection to nature, whether they were conscious of it or not. The unique nature and character of this perceived connection in each participant plays out in their responses to the various questions in the interviews, and results in a unique mosaic of facets of relevant themes, which can be ascribed to each participant. The path from a consciously perceived connection to nature, through to a high level of ecoliteracy, ownership of environmental problems, and positive ERB, is as diffuse and unclear in definition as a path with the opposite characteristics: perceived separation from nature, through to low levels of ecoliteracy, lack of ownership of environmental problems and rejection of ERB. Rather, the relationships between the various parameters are complex and non-linear, requiring deeper consideration and analysis.
The personal background and life history of most of the participants seemed to play a fundamental role in defining their relationship with nature. In this context, some of the stimulants were:

- childhood experiences in nature, sometimes with an important or influential person in the child’s life such as a parent (e.g. fishing, hunting with dogs on the farm, growing up on a farm, holidays in the bush, or playing outdoors in a small town environment);
- encounters with wild nature in adult life (e.g. an encounter with wild and dangerous animals on a bush walk or while camping, consciously experiencing the spiritual quality and beauty of a sunrise for the first time, experiencing an ability to think more clearly when in direct contact with or immersed in nature);
- exposure to information and pictures of wildlife from an early age, or being receptive to information and knowledge on nature and environmental issues in adulthood; and
- participating in outdoor activities such as hiking or camping, including family holidays, and especially with significant people, e.g. close friends, where the human interaction in nature created a positive memory.

The bulk of these influences are experiential, although the influence of knowledge and information is evident. Personal background and exposure to nature, particularly wild nature, seemed therefore, to have some bearing on participants’ responses to the WE. One participant in particular, showed substantive growth in ecoliteracy and adoption of significant ERB after the WE. This could be a consequence of having had no exposure to wild nature prior to the WE, coupled with a worldview created in an impoverished childhood.

None of the participants mentioned exposure to formal environmental education at school, or in other contexts, such as participating in the work of environmental organisations even in adulthood, as a formative influence on their relationship with nature.
6.6.3 Responsibility and ownership

*(Related to theme C)*

According to Capra (2003), taking responsibility for environmental problems and solutions is one of two critical components of ecoliteracy\(^{17}\). There is a direct relationship between ownership and responsibility on the one hand, and the perception of choice and the experience of power to take action, on the other.

An inverse relationship exists between power and blame. When a person feels empowered, by their own conviction, their knowledge, sanction from others, or the necessary structures, to take action, they are less likely to project blame onto others for problems – in this case environmental and ecological problems. In this study, the participants who showed recognition and comprehension of their personal role in creating environmental and ecological problems, and also had knowledge of what they could do to help solve these problems, exhibited a sense of empowerment absent in those who blamed others for creating the problems, also placing responsibility on others to find the solutions. “Others” include: government, business, other cultural or social groupings, and in some cases anyone other than the individual themselves.

Prior to the WE, some participants could not see how they were responsible for creating or solving environmental problems. Immediately after the WE, the beginnings of an insight into personal responsibility was evident, and in all but one participant, this recognition grew over the 3-4 month period following the WE. This participant, reported a sense of disillusionment, hopelessness and helplessness against the tide of environmental destruction being wrought by others, still taking no responsibility for their personal role in creating the problems. On the whole, however, the WE appears to have created not only a newly perceived connection to nature, but as a result of this, a stronger sense of ownership and responsibility for the problems and solutions.

\(^{17}\) The other is values.
The refusal to accept responsibility is directly related to a perceived separation from nature, a lack of knowledge and insight into the connectedness of all things, and the consequent effects of individual actions within the overall system. Effectively, this constitutes a low level of ecoliteracy, which translates into perceptions that ERB is onerous and requires too much effort, that ERB is not a priority for the person to engage in, and that other activities or lifestyle imperatives are more fun, easier to engage in and require less effort. The motivation for not adopting ERB is a self-interest based on low ecoliteracy. Participants who accepted responsibility and took ownership for environmental problems and solutions, generally reported a strong perception of being part of nature, and therefore would want to participate in protecting that system. Their motivation for adopting ERB, where this occurred, was a self-interest based on a higher level of ecoliteracy.

6.6.4 Requirements for the praxis of ecoliteracy and ERB

(related to themes D & E)

The relationship of participants with nature, their levels of ecoliteracy, and the extent to which they accepted responsibility for and took ownership of environmental problems and solutions, coalesce in varying degrees of empowerment, through knowledge and insight into environmental problems and potential solutions, what to do about the problems and how to do it, praxis (putting the knowledge and insight into practise) and taking action. Oskamp (2002:175-176) identifies three factors in creating general behavioural change, viz. information, motivation and behavioural skills. The three factors are evident in the findings of this study. De Young (2000:517) discusses the importance of competence, skills, and "know how" to effective adoption of ERB.

The majority of participants exhibited fractured and disconnected knowledge within the different variables making up ecoliteracy. Orr (1992:92-94) identifies several kinds of knowledge required for ecoliteracy, viz. understanding how people relate to each other and to nature, knowledge of how the physical world works and where we fit in the story
of evolution, a knowledge of the nature, extent and speed of our ecological crisis (the
details of losses and damage), and a knowledge of the dynamics of our modern world
and how we think about it. Some participants had some knowledge in some of these
areas, but none demonstrated any depth of knowledge in all or even one of these areas.
Since some of the participants did adopt new ERB, or adopted a more positive attitude
towards the ERB they were already engaging in, it can be concluded that this knowledge
in the context of ecoliteracy, is important, but that the other factors - specifically
motivation for and “know how” about ERB - are as important.

In this study, in the context of the WE, some of the other variables that contribute to
ecoliteracy, have been found to play a role in the adoption of ERB. The sense of
connection and insight into the interrelatedness of all things including humans, is primary
to the development of ecoliteracy. Amongst the group, the extent varied to which
participants consciously realized this connection and were able to articulate it. One
participant reported that the insight was completely new to them, and this realization
translated into significant adoption of ERB. Several other participants who indicated that
they had a sense of connection prior to the WE, reported that this strengthened as a
result of the WE.

Part of the insight into the interrelatedness of all things including humans, was gained
from the interaction of the participants with each other and with the guide, whilst in
wilderness. Many participants reported on a sense that although they had in general
been strangers prior to the WE, that within a very short period, they felt that they had
known each other for a long time. Remarks were also made about the ease with which
communication occurred within the groups. The immersion in wilderness appears
therefore, to facilitate comfortable social interaction that reflects the inherent gregarious
nature of humans. This kind of interaction is complicated by many external factors
outside of wilderness in an urban environment. In wilderness these factors are absent.
Participants experienced this ease of communication and interaction as a sense of
connection to their fellow human being. Some also reported feelings and thoughts about
their families back home, again reflecting a new found sense of connection. For the most
part, the comprehension of the sense of connection to nature, and the sense of connection to other people was not well developed.

For at least one participant, the WE was a catalytic and significant life experience. However, many other participants judged the WE to be a profound, unique and emotional experience that affected them deeply. A few participants had encounters with wild animals coming into the camp whilst they were conducting their night watch and their experience of such events were reported to have had effects on for example, improved self confidence in other contexts. For others, the experience of themselves as very small in a now consciously perceived and vast universe, was catalytic to their understanding of the context of humans in the greater ecosystem. These new insights and feelings experienced by the participants, support the argument made by Chawla (1998), that developing environmental sensitivity (equivalent to the attitude of care and stewardship identified by Orr (1992)), requires emotional engagement.

The living example provided by the guides in their ecologically orientated practices and behaviour in wilderness, their attitudes and general demeanour, and their general approach to life was mentioned by several participants as a significant learning point. As an adjunct to the experiential education provided by the wilderness, being able to observe the living example of the guides, provided an opportunity to experience the praxis of ecoliteracy.

6.6.5 Motivations for and barriers to adoption of ERB

( Related to themes D and E)

The dynamic discussed above regarding the development and/or growth of a sense of connection to nature, taking ownership and responsibility and ecoliteracy, informs the discussion of motivations and barriers to the adoption of ERB.


Motivations for the adoption of ERB can be clustered into four focus areas, viz. values, emotional involvement and attitudes, knowledge and information, and punitive or incentive measures. Each of these is briefly revisited below:

- **Values** – including morality, religious conviction, ethics and altruism, all of which can in some regard be linked to the spiritual awareness and connection of the individual.

- **Emotional involvement and attitudes** – which are based on the experience of nature (Maiteny, 2002:299) rather than intellectual knowledge; considerations of how ERB may affect an individual personally (De Young, 2000:511), including amongst other outcomes, “intrinsic satisfaction” (De Young, 2000:517) which means that the behaviour makes the person “feel good”\(^\text{18}\); the human need for connection, meaning and participation in finding and enacting solutions to problems (Clover, 2002:183, and Maiteny, 2002:299); the effects of significant life experiences (Monroe, 2003:114); and a realization that “we’re in this together” or a sense of community in finding solutions to the environmental problems we experience.

- **Knowledge and information** – given that the implicit purpose of environmental education is the adoption of ERB, action or behavioural competence (Jensen, 2002:326 and De Young, 2000:517) is required to combat the helplessness that people feel. This is knowledge in the form of ecoliteracy, rather than knowledge of the natural environment in isolation, and it comprises engagement with the “interdisciplinary connection between environment, people, culture and society” (Jensen, 2002:329).

- **Punitive and / or incentive measures** – penalties imposed by legislation, and financial incentives such as tax relief.

Singly or in combination, the motivations outlined above can be harnessed to overcome the helplessness that people feel in the face of complex and apparently overwhelming environmental problems. Empowerment is a significant motivation for the adoption of

\(^{18}\) Several of the participants linked feelings of righteousness to the practice of ERB.
new behaviours and taking action. The first three groups of motivations are relevant to the influence that WE could have on the adoption of ERB. A facilitated weekend WE that focuses on the elucidation and development of these motivations, can be expected to have a positive influence on ultimate adoption of ERB.

The findings of this study show a positive influence on the motivations of several of the participants to adopt ERB, as well as better individual insight of their personal motivations for such behavioural change. Sources of improved motivation for adopting ERB amongst the participants, were distributed across the first three groups outlined above viz. values, emotional involvement and knowledge (ecoliteracy development). In the latter case, for example, participants who perceived connections between different environmental problems (e.g. industry – pollution – climate change) were more likely to adopt ERB than those who saw single problems in isolation, for example littering. The most significant motivations for the adoption of ERB found in this study, however, were related to gaining insight of an inherent connection to nature, and consequently taking responsibility and ownership.

Although all the participants in the study identified a range of barriers to their adopting or maintaining ERB, many of them felt empowered to overcome at least some of these barriers after the WE. The origin of barriers to the adoption of ERB, is important in determining the ability of individuals to adopt ERB. Structural barriers, such as government policy and legislation, are seldom within the power of an individual to overcome directly, although individual action through for example lobbying, could have significant effects. However, personal barriers are within the locus of control of the individual and can be overcome through personal choice. Most of the personal barriers identified by the participants in this study, for example: “what I do won’t make a difference”; “adopting ERB requires that I change my lifestyle or give up my job”; laziness and inertia; lack of knowledge; and “I don’t have time / am too busy”, can be overcome by addressing the motivations for adopting ERB as described above. The responsibility for taking action and changing behaviour, nonetheless remains with the individual. As Jensen (2002:326) asserts: “…prior to any action, there must be a conscious making up of one’s mind.” The role of the WE is to stimulate the spiritual,
emotional and relevant intellectual motivations underpinning the adoption of ERB. Several participants in the study made the statement “I’m just trying to survive” in their feedback. Maiteny’s (2002:299) discussion of the human addiction to consumerism and accumulation as an attempt to fill a gap in the human psyche, and a need to find meaning, are relevant here. The human need for connection and meaning is also emphasized by Clover (2002:183). The facilitation of the weekend WE can provide an important bridge to acknowledgement and acceptance of alternatives to lifestyles founded on consumerism and accumulation, based on such connection and meaning. Several participants were in awe of the living example of the guides, specifically the ease with which the minimum impact philosophy of the WLS is put into practice in amongst several other things, the meticulous cleaning up of the camp site prior to departure.

6.6.6 Implications for the design of the weekend WE

The format and process of the WE, as facilitated by the wilderness guides, are designed to encourage development of ecoliteracy. They comprise the contributions of the guides, immersion in wild nature during the day and at night, and interaction within the group. The discussion of Sibthorpe et al. (2003) has bearing on the design of the weekend WE. Although participants reported on profound experiences and learning in relation to all three components of the WE listed above, the improvements in ecoliteracy in those participants already having a fair to high level of ecoliteracy at entry to the WE, were absent in those entering with low levels of ecoliteracy, 3-4 months after their trail. The participants entering the WE with moderate levels of ecoliteracy, experienced transient but insignificant improvements in their ecoliteracy, but this seems to have caused negative feelings towards the adoption of ERB based on increased feelings of helplessness against the newly perceived magnitude of the task.

In contrast to the assertions of Kollmuss and Agyeman (2002) that knowledge is not significant as a determinant of the adoption of ERB, it appears that not having sufficient knowledge and insight may be a substantive barrier to the adoption of ERB. Jensen (2002) has argued that their analysis may be oversimplistic, stating that knowledge of
environmental problems is not enough, but must be augmented by knowledge of the causes of these problems, how to solve them and what an alternative future may look like if the problems were prevented. This suggests that facilitation and knowledge sharing in all four dimensions identified by Jensen, is required by the guides leading the weekend WE. Furthermore, and given the situation with regard to improvements in ecoliteracy in the three groups over time, it would seem that the facilitation of the wilderness guides in this respect, requires some attention.

All participants highlighted the intent, quality and intensity of facilitation by the wilderness guides. The limitations imposed by the short time period of the weekend WE, are significantly mitigated by the conduct of the wilderness guide. Many participants referred to the profound effect on themselves and their learning in the WE, of the living example posed by the guides. Participants also indicated that they learned from each other and that they quickly felt like they had known each other for a long time, despite in most cases being strangers prior to the WE. Some participants referred to an unspoken bonding that occurred, facilitated by merely being in wilderness. The manner in which the WE is facilitated, should reflect an awareness of these sources of learning and insight.

7 Conclusion and Recommendations

There is definite evidence that even a short, facilitated WE can have a catalytic effect on development of ecoliteracy in individual adults. In a few cases, an increment in ecoliteracy is translated into ERB but this is often dependent on a pre-existing and fairly high level of ecoliteracy, or on factors like the background and history of the individual.

Growth in ecoliteracy as a result of the WE, appears to be determined by people’s relationship with and concept of nature. Where the concept is system orientated and incorporates humans, growth in ecoliteracy can be significant. A constrained concept of nature, limits capacity for growth in ecoliteracy. Since ERB depends on a fair level of
ecoliteracy, it is unsurprising that individuals with the latter perspective showed little or no adoption of ERB as a result of the WE.

Many participants experienced a rapid waning of awareness of their connection to nature after the weekend WE. A weekend may therefore be too short to provide sufficient experience and learning to counter a general sense of disconnectedness. It may also suggest that some form of orientation prior to entry and a process of follow up after the weekend WE, could be beneficial in deepening learning and experience of the WE and a sense of re-connection to nature. Orientation could take the form of a briefing prior to the WE, where prospective participants are introduced to the concepts of wilderness, WE, and the process of separation of humans and nature throughout history and how this separation manifests in the environmental destruction wrought from day to day. Participants indicated in their final interviews that it would help them to “stay connected” if they had follow up opportunities for contact with wilderness, i.e. they could physically re-visit the experience they had lived through for that weekend. The responsibility for creating such opportunities lies both with the participants in WE as well as with the WLS. Participants can at any time approach the WLS and reserve a place in a WE offered by the School in various wilderness areas or nature reserves. The wilderness trails are open to anyone wishing to experience wilderness, and the WLS can provide sponsorship for persons without the financial means to participate.

The Inland Branch of the WLS provides a voluntary service to the Pilanesberg National Park by assisting with various management activities in the wilderness area of the reserve. These services are offered via monthly weekend “work parties” where the wilderness guides and other interested parties involved in the WLS, voluntarily assist with the clearing of alien invasive vegetation, erosion control, and the removal of agricultural and other remnants of previous human habitation including old fencing. Previous participants in the weekend WE should be encouraged to participate in these activities, which will provide them with regular contact with wilderness, as well as opportunities for service.
Furthermore, although the WLS Inland Branch is a voluntary organisation which has no paid employees, members of the WLS could provide limited but key information to past participants in the WE, on the environmental implications of a few products used in daily life (e.g. household cleaning products, paper or plastic products), particularly if such products are used during the WE and also by participants at home. Information could also be provided on simple behavioural change in for example, the use of water, or the minimisation of household waste, again using the WE as a demonstration opportunity for these behaviours. The intention behind the provision of such information would be to provide the trigger for participants to seek out further information themselves. In all cases, the purpose of any activity by the WLS or the wilderness guides, is to raise consciousness, awareness and curiosity, rather than to provide information *per se*.

There are indications that the nature and quality of facilitation provided by the wilderness guide, is a vital element in the re-establishment of a connection to nature, in the minds and hearts of participants in WE. Most of the participants interviewed for this study, made specific reference to the “living example of the guides” both in terms of the information and philosophy imparted, as well as the behaviour and conduct of the guide throughout the weekend WE. It is proposed that intensive facilitation by the guides, is required for successful (irreversible) re-establishment of the human-nature connection in the minds of participants in a WE that is at most 48 hours in duration, and where the origin of the majority of the participants is a stressful, often dangerous and fast paced urban metropolis. What differentiates the work of a trail guide in for example a conventional ecotourism context, from that of a wilderness guide, is that the two processes have different intents. In the case of the former, the task of the guide is to provide an interpretation of the environment through which trail participants walk. In most cases, this is limited to an interpretation of the physical environment, the animals and plants within it, and depending on the location, possibly the human cultural-historical context. Facilitation by a wilderness guide incorporates the above form of interpretation, but extends much further. In the case of the WLS in South Africa, the facilitation must elucidate the relationships between nature, humans and a spiritual entity\(^{19}\).

\(^{19}\) The WLS refers to the spiritual entity as “God”, but no particular doctrine, religion or spiritual orientation is promoted.
Another core issue that must be effectively addressed in a WE, is the fundamental importance of the adoption of ownership and responsibility for both environmental damage and the restorative activities necessary to counter this damage. Coupled with this is developing respect for nature and fellow humans, which is inextricably linked to both a sense of a connection to nature, as well as taking ownership of both problems of and solutions to, the environmental crisis. If the weekend WE is to be effective as a catalyst (and it can be no more than a catalyst), for the growth of ecoliteracy and ultimately the adoption of ERB, implications for the skills and training of wilderness guides is significant. The role of the wilderness guide in this process is to open a window to the spiritual and emotional aspects of wilderness, and to introduce a holistic idea of our place as humans in the world. In turn, this requires that the wilderness guide brings to the process a level of personal spiritual and emotional insight, awareness and experience which goes beyond that required by a field guide. It also requires a measure of “lived experience” – that the guide practically applies in their own daily life, and which is imparted to the trail participants when in the wilderness. Training for wilderness guides is thus a process of life long learning and personal growth.

The wilderness nonetheless is itself a “teacher”, and trail participants can be expected to derive many benefits and insights, even from an unfacilitated process. However, if the intention of a weekend WE is to be a catalyst for positive behavioural change, rather than merely providing an opportunity for an encounter with wild nature, it is unlikely that a significant proportion of trail participants will change their behaviour unless the WE is intensively facilitated.

To counter the risk of dissipation of the feeling of connection to nature, it is important that the encounters and issues introduced and discussed in the weekend WE are tied back to the environment and social context within which trail participants live their daily lives. These “bridges” are essential to empowering participants in WE to contextualise the experience and knowledge they gain whilst in wilderness. If this continuity of place, components of nature, lived experience and consequence of action are not clearly elucidated by the wilderness guide, the risk of “losing the learning” is high. If it is the
intention that WE be a catalyst for positive behavioural change towards nature and society, as a result of the amazement and wonder experienced by trail participants, the facilitation of the wilderness guide needs to translate these emotional responses, into insight and understanding.

There are many barriers to adoption of ERB in an urban environment in South Africa. However, even small shifts in awareness towards developing ecoliteracy, can begin a process of challenging and overcoming many barriers. Once the first step is taken towards ERB, adopting additional tasks becomes easier. WE appears to provide an ideal context for rapid development of a sense of re-connection to nature, and if facilitated can also encourage the adoption of responsibility and ownership for environmental problems and finding solutions. It appears that without these foundations, ecoliteracy development is unlikely to occur and the adoption of ERB will therefore not follow. If however, WE can be used specifically although not exclusively, to engender a love of nature, taking responsibility, and a deep and passionate curiosity, the apparent barriers to adopting ERB become less significant, particularly for taking individual action. All organisations in human society, whether public or private, are made up of individuals, and so such changes in the motivations and behaviour of individuals, could be expected to ultimately manifest at the level of the collective as well.

As Orr (2004:212) asserts: “… part of the truth cannot be told; it must be felt”. In contrast to much conventiona l environmental education which is primarily intellectually based, albeit sometimes with practical application, WE is possibly unique as an educational intervention, in that it focuses on feeling and emotional connection to nature, and promoting an understanding of the relationships between all things – nature and human. The mechanism of WE, provides an opportunity for different “ways of knowing” that people in Western society are not commonly familiar with.
8 References


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# Appendices

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Appendix A
Research Partnership Letter from WLS

WILDERNESS LEADERSHIP SCHOOL
90 Coedmore ave. Yellowwood Park, Durban
P.O. Box 53058, Yellowwood Park 4011. South Africa.
Tel. ++27 (0) 31 4628642
Fax. ++27 (0) 31 4628675
wilderness.trails@eastcoast.co.za

c/o MPhil Programme in Sustainable Development Planning and Management
School of Public Management and Planning & The Sustainability Institute
University of Stellenbosch
Private Bag X1, Matieland

Dear Benita Olen

Following our discussions over the recent months, I am pleased to confirm that the Wilderness Leadership School (WLS) agrees to participate as a research partner in your research project, entitled: “Experience in wilderness as a catalyst for the development and practice of ecoliteracy: Post trail behavioural change in participants of corporate group trails of the Wilderness Leadership School, South Africa.”

Our understanding is that you are enrolled at the School of Public Management and Planning (SOPMP) and The Sustainability Institute, at Stellenbosch University, South Africa, and are conducting the research in partial fulfillment of the requirements of a MPhil Degree in Sustainable Development, Planning and Management.

The WLS undertakes to assist you in the provision of information and our insights into wilderness education, access to our network of individuals and organizations associated with wilderness management and education, and access to case study groups of participants taking part in our wilderness trails.

We understand that the material gathered through the partnership between you and the WLS, will be used for official academic purposes only. We look forward to receiving a copy of your unpublished thesis when completed.

Yours faithfully,

W.E Elliot
National Director
Wilderness Leadership School
Ph.++27 (0) 31 4628642
Fax ++27(0) 31 4628675
wilderness.trails@eastcoast.co.za
www.wls.org.za
Appendix B.1
Interview Guide for Focus Group Discussion 1

Focus Group Discussion 1: Pre-trail
Interview Guide

Facilitator / Interviewer: Benita de Wet

Focus of enquiry:
Establish the nature, depth and determinants of participants’ relationships with nature, and how these relationships affect their behaviour.

A. Participants’ relationship with nature

1. What is “nature” for you?
   Probes: Can you describe what makes up “nature” for you? How do people fit into the picture, including yourself?

2. What kind of relationship do you have with nature? Or How would you define your relationship with nature?
   Probes: How do you feel towards nature (respect, awe, fear, love...)? How does (being in) nature make you feel? Can you describe any link between the way you feel about nature, and how you behave towards nature?

3. How was this relationship formed?
   Probes: What is the history of this relationship i.e. what influenced the forming of this relationship? Can you describe a particular experience in nature that induced fear, or perhaps made you feel at peace, or caused other feelings? How have your thinking and your relationship with nature, been affected by other people? What roles have knowledge or information (of nature, environmental problems, of our place in evolution) played in defining this relationship?

B. Behaviour towards nature and perceptions of behaviour towards nature

4. Is there some environmental problem that you are aware of, but aren’t personally doing anything about, and why is that? Or, perhaps you are doing something, and why is that?
   Probes: Identify specific issues (e.g. waste accumulation / recycling of household waste, water shortages / usage) both positive and negative.
   (To try and get to what motivates people’s behaviour towards nature and ability to act on the basis of knowledge and feeling – or feeling helpless)
5. What are your perceptions of environmentally responsible behaviour, or people who engage in this type of behaviour? 
   *(will help to pick up on cultural bias)*
   Probes: What do you think of people who recycle their waste, or buy only environmentally friendly products? What do you think of yourself in this context?

C. Perceptions of responsibility

6. Can you explain what our individual (personal) role might be in creating the environmental problems we experience and what our role might be in solving them?
   Probes: Whose responsibility is it to stop pollution, prevent the greenhouse effect and protect biodiversity? Why?
Appendix B.2
Interview Guide for Focus Group Discussion 2

Focus Group Discussion 2: Post-trail
Interview Guide

Facilitator / Interviewer: Benita de Wet

Focus of enquiry:

Establish how the wilderness trail experience has changed the nature, depth and determinants of participants’ relationships with nature.

A. **Participants’ relationship with nature**

1. **What is “nature” for you?**
   Probes: Can you describe what makes up “nature” for you? How do people fit into the picture, including yourself?

2. **What kind of relationship do you have with nature?** Or **How would you define your relationship with nature?**
   Probes: How do you feel towards nature now, after the wilderness experience (respect, awe, fear, love...)? How did (being in) nature make you feel? Could you elaborate on how these feelings might motivate you to change your behaviour towards nature?

3. **How was this relationship formed?**
   Probes: In what way has the trail experience affected the relationship you have had with nature up to now? How is it different now, to the way it was before the trail? What happened on the trail that caused this relationship to change? Were there particular emotions that you experienced towards nature whilst you were on the trail? Can you explain how your interaction with the others on the trail, including the trail guide, might have affected any change in your relationship with nature?

B. **Behaviour towards nature and perceptions of behaviour towards nature**

4. **What are your perceptions of environmentally responsible behaviour, or people who engage in this type of behaviour, after experiencing what you have on the trail?**
   Probes: What do you now think of people who recycle their waste, or buy only environmentally friendly products? What do you think of yourself in this context now?

C. **Perceptions of responsibility**

5. **What are your thoughts now, after the trail, about our individual (personal) role in creating the environmental problems we experience and what our role might be in solving them?**
   Probes: Whose responsibility is it to stop pollution, prevent the greenhouse effect and protect biodiversity? Why?
Appendix B.3
Interview Schedule for Semi-structured Interview

Semi-structured Interview of individual Participants: Post-trail Interview Schedule

Interviewer: Benita de Wet

Focus of enquiry:

Establish whether and how the wilderness trail experience has changed the nature, depth and determinants of the participant’s relationship with nature, and whether there has been lasting (durable) adoption of environmentally responsible behaviour.

A. Ecoliteracy

1. What is nature for you?
   (Descriptive)

   Probes -
   Understanding of where humans fit into the picture – do they / don’t they and why?
   Nature of relationship – how do they fit in if so?
   What is the nature of the relationship – domination, coexistence, nature there for human use only etc.?

2. What do you think and feel about nature? Why?
   (To establish the nature and depth of the relationship / establish development of ecoliteracy)

   Probes -
   How did you get to think and feel this way? (Some of the feelings may be attributable to the WE – see Question 3 below).
   Feelings of interconnectedness
   Feelings of care and stewardship
   Knowledge of how the physical world works and ecological understanding of it
   Knowledge of the nature and extent of the ecological crisis - how does this make you feel?

3. Which, if any, of the thoughts and feelings you have described (above) changed as a result of your wilderness experience?

   Probes:
   The guides, nature itself, a particular experience on the trail?
B. Environmentally Responsible Behaviour

4. How would you define Environmentally Responsible Behaviour?

Probes:
Give examples if needed – recycling, water saving, corporate policy, lift clubs etc.

5. Who is responsible for the environmental problems we experience?

Probes –
Give examples if needed (e.g. climate change, water pollution, desertification, loss of biodiversity, extinctions)

6. What is your personal role in creating and solving the environmental problems we experience, whether local or global?

Probes -
Feeling empowered / disempowered – do you feel that you can make a difference?
Relationship between having choices or options and blaming others

7. Have you taken action accordingly? What actions have you taken in adopting ERB (in response to the relationship you have / have developed with nature)?
   Be specific, explain and elaborate.
   (Alternatively – no new behaviour adopted)

8. What helped you in taking this action, and conversely, what difficulties did you encounter in adopting the behaviour? (to probe depth / durability of change)

Probes: what helped?
- fundamental change in relationship with nature
- obtaining knowledge or gaining understanding (via the wilderness experience)
- getting other people to help

Difficulties = Barriers
- no recycling facilities close by
- consumerism / pressure / peers

Compromises / trade-offs
Appendix B.4
Letter of Invitation to Participants in the Research

Ms Benita Olen
PO Box 998
Melville
2109
26 July 2006

Dear (Name of Participant)

INVITATION TO PARTICIPATE IN RESEARCH PROJECT

You have reserved a place on the Wilderness Leadership School’s trail in the Pilanesberg Nature Reserve to be held from 4 to 6 August 2006.

I am conducting research into the links between people’s relationship with nature, and their behaviour towards nature. The research project forms part of postgraduate study I am doing towards a MPhil degree in Sustainable Development, Planning and Management at the Sustainability Institute and the University of Stellenbosch.

The research is based on the premise that our chosen lifestyles, are determined by our relationship with nature and the extent to which we consider ourselves a part of, or separate from it. Since our behaviour towards nature is determined by our relationship with it, exploring the quality of this relationship is important to understand what motivates environmentally responsible behaviour, and what barriers there might be to adopting this kind of behaviour.

I will be exploring the role of one potential catalyst for the development of individual relationships with nature viz. a wilderness trail experience, hosted by the Wilderness Leadership School of South Africa. If you are willing to participate in the research, you will need to take part in two group discussions with fellow participants on your trail, once just before the trail, and once just after the trail. Some weeks after your trail experience, you will also be interviewed individually by me. All the discussions and interviews will be structured but informal. In addition, you will be asked to keep a diary during your trail experience, and thereafter until your individual interview. We will use your diary in the second group discussion and also the later one-on-one interview.

During the group discussions and your later interview, we will discuss aspects of your relationship and that of your fellow trailists’ with nature and your experience of the wilderness trail. It is the intention of the discussions and interview, to identify and talk about your personal feelings, attitudes and actions towards nature, and you should therefore be aware that information or experiences of a personal nature to you, and which you may consider private, may be brought out into the open. Although you are under no compulsion to reveal information which you consider
private, the research findings would be more valuable if you were willing to openly discuss such issues. All discussions, interviews and other forms of contact with you will be kept strictly confidential and you will not be named in the research report. All contact sessions will be tape recorded to ensure that I capture all the issues accurately and comprehensively, and to enable me to draw themes from what everyone discusses. The tape recordings will be kept strictly confidential.

It is hoped that the findings of this research project will ultimately provide guidance for enhancements in wilderness trail programmes, specifically aimed at assisting people to develop their relationship with nature, which could reasonably be expected to motivate subsequent adoption of environmentally responsible behaviour.

The first group discussion will be held at the premises of Lee Dormer (Gauteng Coordinator of the Wilderness Leadership School) near Lanseria Airport, from where you will be leaving to travel to Pilanesberg on Friday afternoon. I will call you to confirm the time that we will meet on Friday. I will meet you again at the end of your trail experience in Pilanesberg on Sunday, to hold the second group discussion. Your individual interview will be held with you at a time and venue convenient for you, either in Johannesburg or Pretoria. Each group discussion will last about one hour, and the follow up interview with you no more than one and a half hours. You will be provided with guiding questions to address in your diary during the trail experience and to continue to think about until your individual interview.

I enthusiastically invite you to participate in my research project, as I am sure the outcomes will be of interest to you. If you are keen and able to participate, please complete and sign the attached commitment and consent form and fax (086 612 4419) it to me at your earliest convenience, but by no later than Tuesday 1 August. Should you wish to discuss any of the above or need more information, you are welcome to contact me on Cell: 082 900 8209 or email: benitao@telkomsa.net.

Yours sincerely

Benita Olen
The Sustainability Institute &
The School of Public Management and Planning, University of Stellenbosch
Commitment and Consent: Participation in Research Project

I, ______________________________________, agree to participate in my personal capacity, in (NAME & SURNAME IN FULL – PLEASE PRINT) the research project: “The influence of wilderness experience on adoption of environmentally responsible behaviour”, being conducted by Benita Olen, in partnership with the Wilderness Leadership School. I understand that the project is being conducted as part of Ms Olen’s master’s degree studies at the University of Stellenbosch and The Sustainability Institute.

I understand that the information discussed in the various contact sessions with myself, may be of a very personal nature, but accept the conditions of confidentiality as outlined in the letter of invitation. I understand that although fellow participants of the trail, may be from the same company that I work for, every participant in the research is taking part in their personal capacity and that there is no connection whatsoever with the company that I work for, and that the contents of the discussions and interviews will not be made available to anyone including the company that I work for.

Furthermore, I understand that by signing this form, I am committing myself to participate in the group discussion before the trail, the group discussion after the trail, and in a personal interview 6 – 8 weeks after I complete my trail. I am also committing myself to writing a diary for the research project during and after my trail experience.

I have read and understood the letter of invitation, which provides me with background information on the research project, and hereby agree to participate in the research on the terms provided above. I understand that I may ask for additional information at any time during my involvement in the project, and that I will receive feedback on the findings of the research.

_____________________________   ___________________   __________________
Participant                     Signature                      Date

_____________________________   ___________________   __________________
Researcher                     Signature                      Date

_____________________________   ___________________   __________________
Witness 1                      Signature                      Date

_____________________________   ___________________   __________________
Witness 2                      Signature                      Date
Appendix B.6
Schedule of Interviews

Schedule of dates of FGDs and individual interviews

<table>
<thead>
<tr>
<th>Group</th>
<th>Participant</th>
<th>Date of FGD1</th>
<th>Date of FGD2</th>
<th>Date of Individual SSI</th>
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<tr>
<td>1</td>
<td>A1</td>
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<td>6 August 2006</td>
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</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td>C3</td>
<td></td>
<td></td>
<td>3 February 2007</td>
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Appendix C.1
Examples of Interview Transcripts\textsuperscript{20}
(FGD1, FGD2 and individual interview)

Transcript – Group 1
FGD 1 – 4 August 2006

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Wilderness guides</th>
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<tbody>
<tr>
<td>A1</td>
<td>Douwe van der Zee</td>
</tr>
<tr>
<td>A2</td>
<td>Ian Gould</td>
</tr>
<tr>
<td>A3</td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td></td>
</tr>
</tbody>
</table>

**Question 1: What is nature for you?**

- **A4:** The wilds, mountains, animals, trees, grass, insects.
- **A1:** Sea, rivers.
- **A3:** Trees, animals, wild animals, birds, plants.
- **A2:** Fauna, flora, the air about us, the mountains, rivers.
- **A1:** Every living organism including ourselves.

*Interviewer:* That’s an interesting one – including ourselves? Do you see yourselves as part of nature or is it something outside of yourselves?

- **A2:** Very much part of nature.
- **A4:** I would say outside.
- **A3:** It’s very interesting because I’ve never put myself as part of nature.
- **A1:** I think it has to be part of us.

*Interviewer:* You say – nature is part of us?

- **A1** and **A4:** No – we are part of nature.

\textsuperscript{20} Transcripts have been edited to ensure clarity without compromising detail.
A4: It's all part of a bigger whole.

Interviewer: So we've got two perspectives: one is, we are separate from nature, something outside of ourselves, but A2 - you feel quite strongly about us being part of nature?

A2: I feel that we're all part of nature. We all came from nature – just maybe a little bit more advanced than animals, but very much part of nature.

A1: Advanced in different ways. They are in some ways much more advanced than us.

Question 2: What kind of relationship do you have with nature? or How would you define your relationship with nature?

A2: I don't think we're close enough to nature. Living in a city – we don't get in touch with nature much. Only if you go away to the mountains or...then you get the feeling. I feel we are very distanced from it.

A4: Divorced from it.

A1: I don't think... I'm not as part of it as I'd like to be. I live on a smallholding so I love walking outside in the morning and experiencing the fresh air and the birds. But I agree, we get excluded from it because of the way we live and the way our society has developed.

Interviewer: But you, going outside in the mornings and smelling the fresh air and hearing the birds - that's a pleasant experience?

A1: Yes. And driving home from work every day it's like looking forward to getting into the environment.

A3: It's very interesting because I'd never really put a lot of thought to these questions that are being thrown about. But you know, I came from a small town near Kimberley, and my dad was big into shooting guinea fowl, and in the shooting season we used to go and spend the weekend deep in the bush. Very cold nights. So as an adult I like the bush today and I have to feel that it comes form those days when I was a kid with my dad. And there've been weeks when I get so stressed out and we go up to Hoedspruit for a weekend and the experience of coming back on a Sunday after just two days there – one is absolutely relaxed. I could never understand it - just that this is the Bushveld. Because in two days you can throw all this stress off your shoulders! But I've never actually put a lot of thought into it as you are asking the questions now. I remember going down to Cape Town once – we stayed over at Beaufort West – at the Horseshoe Motel, and it was also a cold winter's morning, and the family were getting ready in the morning, having a bath and brushing their teeth and packing the car, and I was just sitting outside. And you know the Karoo can be so beautiful, I mean it’s so desolate. But
so early in the morning and the sun was just coming up and it was just an amazing feeling.

Interviewer: Can you explain that feeling?

A3: I don't know. I was almost lost. Like I was just lost in it. In this space. And the family was getting themselves organized and I was waiting – normally impatiently – but I was almost meditating. It was just lovely.

Interviewer: A2 – you spoke earlier about just not being able to connect with this when you are in the city. How do you feel about it?

A2: Just relating to what A3 has said now, my wife and I just got into the car and drove to Namibia. We went through the whole of Namibia and on the way there I realized the Orange River was in full flood, so we went to Augrabies Falls which wasn’t part of the plan and every place we went to was a different experience. But the minute we came back – we were away for nearly four weeks – we hit the traffic in Jo’burg and it was like I’d lost everything. I was uptight. I was irritable. But the experience is there. Going along in Namibia where they’d just had the best rains in living memory. The flowers, even the mountains were green. It was fantastic. I’m a very impatient person. I drive very fast on the roads. But there I was doing 60kms per hour on the road. And it was peaceful, serene, calm. Time didn’t mean a thing to me. We got to a place and we decided to stay. And we stayed for two days. You know – that type of thing. And that’s why I say we should get into nature more often, get out of the city more often. Get to the ‘Berg (Drakensberg Mountains). Get to a river. Out of the concrete jungle.

Interviewer: So being in nature, as you’ve described now (when you’re out there amongst the flowers and the mountains) – makes you behave differently?

A2: Oh – totally. Even my wife likes me then!

Interviewer: A4?

A4: I still feel quite divorced from nature because of what we do at the moment. It’s two separate things, but listening to other people speaking maybe it’s not two different things. Maybe we are all a part of it. But I’ve always thought of it as being totally separate. But okay, it might make me realize we are all the same and we are part of nature. And as A2 and A3 have said, when you do go out into the country, you are a different person. You are relaxed and as soon as you get back you’ve forgotten about your three or four week holiday.

Interviewer: So it’s not a feeling that you can keep with you? That you can carry back into your “other” life with you?

A4: Look you do have thoughts of it, but the thoughts become shorter and shorter until you forget them.
A1: Ja.

A4: And then you’ve got to go and have another holiday to refresh your thoughts again, I think! It’s not even a holiday. As A3 says, you go out for two days, just to get out more. It is beautiful.

Interviewer: The words beautiful and peace have been mentioned – if you had to describe your overall feeling towards nature using one word, would it be fear, awe, respect?

A3: Respect for me. That was something my father would have taught me.

A1: Sitting here, I’m thinking magnificence. I place myself at Waterval Boven – I go there quite often. I’m a keen fly fisherman, I’m normally there when the sun is just rising above the mountains, cascading over the water. The fish jumping. And to me that’s just like Heaven. Because that gives you a heavenly state of mind.

A2: Peace and serenity. That to me is what nature is. I don’t associate nature necessarily with the dangers. I think that they are less common today. Wild animals are in the reserves and so if I go walking in the mountains, the only thing I might have in the back of my mind is a snake – which I’m terrified of - but it’s normally peace, serenity, calm, the sounds of the birds, that to me is nature.

Question 3: How was this relationship formed?

Interviewer: A3, you’ve explained a little bit of where your relationship with nature has come from, relating back to your dad and going camping. What about the rest of you? This relationship that you have with nature, this feeling that you have about nature - where do you think it comes from?

A4: I also grew up in a small town, not the concrete jungle we live in today. I lived in a group of 13 houses at the base of a hill, which was on a mine just outside of Heidelberg, south of Jo’burg. It was like living in the veld there. I often think about that. The house that we live in at the moment is in a complex. But we’ve a little bird sanctuary and a little koppie behind us in my suburb Boskruin, and it always reminds me of my childhood days. It’s just a little smaller and there’s obviously a lot more traffic, but I do relate back to that, yes.

Interviewer: When you talk about childhood are you talking about very young childhood?

A4: No, I’d say from young to when I left home when I was probably about 18 years old. All that time. You could ride a bike on dirt tracks there. You could do whatever you wanted. You didn’t have the fear that we’ve got in the city today where you can’t even walk around.
Interviewer: A1, what about you? Obviously you’re immersed in it on your smallholding?

A1: I’m trying to think? My relationship has developed over the years. We went camping a lot. And we went hiking and fishing and whatever else. But I never really had the appreciation that I have now. I think it’s developed over the years and I think it started with a holiday, a trip to Zimbabwe where I was in the bush for a month with nothing.

Interviewer: How old were you then?

A1: About 19 or 20. That’s where it really started. Because when I was little, I never thought about it. Things were just there. The river was just there. The mountain was just there. I find it more rewarding now.

Interviewer: But like A4, all these experiences were positive? Your experiences A3 – were they positive? Is there anything that you remember that could have put you off?

A1: Funnily enough during that same holiday I was talking about in Zimbabwe – we came across a leopard that was feeding on a kill, and this was the most horrific experience of my life. I was with a guide luckily, and he told me not to run. I think that gave me a wake up call and a shake up. That it’s not just you walking through the bush. It took us about 20 minutes to sneak away from the situation and there was all this growling in the background. So ja, I think other people might have been frightened enough never to go back to the bush again. But I think that brought me closer to it.

A2: I also grew up in a small town – a place called Keetmanshoop in Namibia. But I was 10 when we left and moved to the Transvaal and lived in the small town of Springs and then Jo’burg. So I’ve been in Jo’burg most of my life. I spent some time in Durban, which I thoroughly enjoyed. The sea, walking on the beach, the rocks. Again – more nature. I went on a trip once to Spain – we were talking about it this morning – and I was totally disappointed because it’s just one concrete jungle. The whole of the – what do they call it? The “Costa del Golf” – they call it now. I was very disappointed. I prefer and like the smaller places. The peace and quiet. The serenity of rural life. Not city life.

A1: Talking about “Costa del Golf” – I’m also a keen golfer. Some of my most pleasant natural experiences are on golf courses. For whatever bizarre reason!

Interviewer: It’s interesting that all of you have brought this from your childhood, in some way or another merely through exposure. Is there a particular person who influenced you perhaps? A3 – your father?

A3: Yes – I think my father. But also, like A7 I do a bit of fly fishing, so that’s also a part of my interest. I stayed on the coast for short while and I found it beautiful – I moved out like A2. The concrete jungle just became too much for me in 1999 and then I decided to pack up and go to the coast and people said why go down to the coast? There’s no income there. But I thought - I’ve been so conservative all my life let me be brave and adventurous. So I packed up a job that I had for nearly 20 years and I went down there. It’s beautiful in Gordon’s Bay overlooking the sea and the mountains. We used to go and
do a lot of walking through the fynbos. But I came back after 18 months. I couldn’t find an income. So that’s the point. But the way you’ve put it and the questions…after today I will now look at nature in a totally different light. Because I’d never actually sat down and thought of it like that. I’ve never even thought that I was part of nature, with me being a human being. But I’ve always found something that I like about it but I never analysed it to the point of finding out why. I just thought I liked it because I liked it.

Interviewer: Has knowledge and information made a significant difference to your relationship with nature? Any difference?

A3: I had a 5 acre plot here. In 1976 I bought a 5 acre plot and I wanted to plant trees. I wanted to build a forest on it. So I went out to the nursery and I bought a couple of oak trees and some others and the termites attacked them. So my first attempt at gardening in my life, was a failure. I was a young man. It was my first home and down the road from me was the Wildflower Nursery run by a lady called Mrs Thompson. She’s now dead and her son runs it. And I eventually planted my whole 5 acre plot with indigenous bush, trees, Plumbago, thorn trees, Acacias, etc. And I became very knowledgeable about plants then. But I’ve forgotten a lot of it now. So it was beautiful. Because of planting that garden, when I walked through the bush, I could actually identify a lot of the trees. And that also added a little to it.

A2: I don’t really have any knowledge of nature. I love bird watching but I’ve got to take my Newman’s pocket guide because when I see a bird I can’t identify it. I can’t tell you “that was this or that bird”. I don’t really have knowledge of nature, trees, fauna, flora and so on. I can tell you what a lion is, and a leopard, because I’ve seen them. Also, you talk about bringing that feeling from childhood. I don’t think that my childhood really had anything to do with it. I was just there – I didn’t really know what was going on – I was just there. I didn’t know anywhere else. We grew up in this little town and we had the hills there and we used to play in the hills and it was just a different life. And gradually I got closer and closer to the city and the city has also evolved, getting bigger and bigger with more and more traffic and it’s becoming more and more congested. And that, I think, is what’s causing this frustration and this feeling of closeness (claustrophobia) and being hemmed in. That’s why I could never live in a complex. I would die. That’s why I’m doing alterations now – I’m building my own “complex”.

Interviewer: A4? Has knowledge and information made a difference for you?

A4: I don’t really have much knowledge but certainly like to watch a lot of National Geographic programmes or learning from discussions about nature. I do have an interest in it, but I have never studied it. I’d say I’m the same as A2. I know the difference between a lion and a leopard. The basics. Nature’s just over the hill.

Interviewer: A1?

A1: I don’t know – for me, the simplest example is in my fly fishing. You need to understand which fish will take which fly. Different sizes, different colours. So I’ve made a study over the last few years, getting into it. The next step is tying the flies. Knowing
how to tie them in the right sizes. And doing it for a reason - trying to understand it. This makes me even more interested. So ja, I definitely think that knowledge and information makes a difference in getting you closer to nature.

**Question 4: Is there some environmental problem that you are aware of, but aren’t doing anything about, and why is that? Or, perhaps you are doing something, and why is that?**

A4: Pollution.

A2: We were talking about it coming here – the littering. Littering to me is the worst thing but it’s happening all around and I’m totally aware of it but there’s very little I can do about it. Except when I’m walking on the golf course and I see the plastic tops from Energade bottles. It riles me no end. These guys throw them on the ground and by the end of the game I’ve got a pocket full of these plastic tops. I pick them up and throw them in the dustbin. That’s my little contribution.

*Interviewer*: Why does it rile you that those tops are lying on the golf course?

A2: Because it’s litter. It’s plastic.

A1: Disrespect.

A2: It pollutes the environment. Chocolate wrappers. A lot of golfers go and buy chocolate halfway through the game and I pick up wrappers on the golf course. Cigarette packets. Every tee has a dustbin but they don’t put their rubbish in there, they drop it. That really upsets me and as I say I’m aware of it and I try and do something about it when I’m in a position to do it. So I will pickup rubbish if I’m walking. In the bush and elsewhere. I noticed the rubbish outside here when we walked in – did you see all the rubbish?

A4: Yes – I was quite shocked.

A2: I thought maybe you put it there to see our reaction! That’s my biggest gripe and I’m trying to do something about it.

*Interviewer*: Ok – so you feel able to do something about it?

A2: Yes in my little way. When I’m walking I’ll pick it up. I won’t say “there’s something lying there” and leave it.

A4: I think if everyone had your attitude, the world would be a better place. There wouldn’t be any pollution would there?

*Interviewer*: A4 you mentioned “pollution”. Is there any kind of pollution you are thinking of particularly?
A4: No I think, in general. Just everything. It’s the litter. It’s the car emissions. It discours buildings and makes the air we breathe dirty.

Interviewer: Apart from the litter is there anything that you are doing about it (the pollution)?

A4: No. My feeling is the little bit I do, won’t really help. That’s my feeling. But I won’t go out and purposefully pollute the place. I don’t say I haven’t done it, but I would not like to be part of it.

Interviewer: So you feel you’re only one person and you’re not going to be able to make a difference?

A4: Yes. But if I had the same attitude that A2 has, I think we would make a difference. If everyone did a little bit. Never given it any thought before today.

Interviewer: A1?

A1: Yes I think there are a lot of problems, but none of us do enough about it. It makes me sad. I also watch National Geographic and watching this oil pollution in the sea, all that kind of thing...birds dying from eating plastic bottle caps ....Also again, I don’t do enough. I pick up rubbish from the golf course and the fly fishing dam where people throw their stuff. But ja, it’s not really enough. Why are we not doing it? I don’t know. I think maybe it’s just our society forcing us in a direction that we don’t always want to go.

Interviewer: Just a question about watching these things (e.g. oil spills) on National Geographic. How do you feel when you see those things?

A1: Very sad. I feel very sad. And angry.

Interviewer: Anyone else? What do you feel?

A4: Anger.

Interviewer: Do you feel that you can do something about it?

A4: No, I don’t think I could do anything about it, no.

A2: Oil spill?

A1: I think we can do something. We want to. But it has consequences. I can go and help clean up oil spills but I would have to take off work and I won’t have a job when I get back. So ....life is all about decisions, isn’t it?

Interviewer: Let’s talk about those kinds of problems generally rather than oil spills specifically. When you see some kind of natural devastation, or problem, on a National Geographic programme - apart from anger and sadness – do you feel anything else?
A4: Pity for the animal life.

Interviewer: A3 – anything going on in your world that you’re doing something about or not?

A3: These guys have looked at it a bit broader. I don’t have satellite television. But I am affected a little. My business is in construction. And when I’m driving around and I see all the developments going up like around Broadacres (*a newer suburb*). I see groups of guinea fowl, for instance, now sitting in some guy’s garden because at one stage – only three years ago – it was just veld but now the veld is gone. With all the developments now, these guinea fowl are being chased out. I think about the meerkats, the rabbits and all the other wildlife that was there. I think in Alberton, they’ve just taken a wetland next to the highway… it was huge and they came along and put dump rock in there and they put more material on top of that and now they’ve put a big new building where the wetland was. I read many years ago that there’s about 100 000 species in a wetland. And you just say – wow, that one’s gone! The guys have commented on their anger for instance. I just feel a sense of hopelessness. You know it’s money that talks at the end of the day.

Interviewer: Interesting observation from being inside the construction industry – so you are very much confronted by the situation?

A3: Ja. It’s the guinea fowl that bring it home to me, you know. This is again maybe from the past. But you know, these buggers, they are all panicking. I suppose they could probably fly away and get out. But it was so … it was something that caught me in the last week or so - the developments that happen and the guinea fowl that were sitting in some guy’s garden. I really felt for them.

Interviewer: Do you feel that you can do anything about this?

A3: No. I feel a sense of hopelessness. That’s the whole thing – the whole world is being chased by money.

**Question 5: What are your perceptions of environmentally responsible behaviour, or people who engage is this type of behaviour?**

A4: I admire them.

A2: Ja

A3: I think they sacrifice a hell of a lot.

A4: Absolutely.
A3: You know it’s all about chasing money – we’re in the big jungle and like A2 says, no-one likes it, it’s not pleasant, but we’re here because of the money. The people that are working as conservationists, don’t seem to worry about money. I sometimes question how these people make a living. But it’s a fact - they are very unselfish I think. By giving their time and their commitment. Back in the city, it’s all about me, me, me, me personally. I’m just trying to survive.

A1: I don’t know. I agree it’s all about sacrifice. Not many people have the guts to make that kind of sacrifice.

Interviewer: So engaging in ERB is about sacrifice?

A1: Well, environmentally friendly behaviour is maybe different to being out there dedicating your life to conservation. I think we can all be environmentally friendly every day, but spending your life being one of the key people to make a difference – that’s maybe a different thing.

Interviewer: So there are two scales of behaviour then. One, is committing your life to it, and then there’s a smaller contribution?

A1: Yes, like picking up the rubbish and maybe a bit more, ja.

Question 6: Can you explain what our individual (personal) role might be in creating the environmental problems we experience and what our role might be in solving them?

A4: I suppose educating people on it.

A2: Educating children.

A2: Thinking about it – wasting water that’s another thing. I hate it when I see someone hosing down a piece of concrete – a driveway. I think that’s another big waste. I get upset when my grandchildren wash their hands and open the hot water tap. They’re wasting electricity and they’re wasting water. You know you shouldn’t do that. But it’s education. My role, I see as educating the people in my life – my children and my grandchildren.

A4: And the awareness as well, you know.

A2: Make people aware.

A4: We all sort of accept things and don’t do anything about them. It’s only when you sit down like this and actually talk about it – I don’t think I’ve ever done this in my life before.

A3: Hmm.
A4: I’ve never thought about it. It’s just that you wake up every day and you do what you did yesterday and it might be wrong and …

A1: Any intention you might have had – by the time you’re in your car on the way to work – it’s forgotten.

A3: Well just you taking us outside there and getting us to break from the stressful journey we had to get here through the Friday afternoon traffic, and focus our attention away from the stress and our work, and just getting us to put our hands on the earth, was very effective. I mean – are we able to change so quickly? In just five minutes, by doing these things? So you made me think of many things.

Interviewer: I just want you to bring it closer to home, to yourself. We’ve talked about educating others and raising awareness in others. I want to know about how you feel about your own responsibility in these issues. Whose responsibility is it to solve these problems?

A2: All of ours. Another example maybe …we went up to Oribi Gorge and waterfall three or four years ago, in southern KwaZulu-Natal? When we got there, the place was infested with Lantana (an alien invasive plant). The people from the Working for Water programme, were all busy down at the bottom of the valley, digging out invaders (invasive plants) and weeds. There was a little brochure there that warned about invaders and alien plants and I saw a website on the brochure. I sent a message to the park authorities via this website asking them to do something about the Lantana at Oribi Gorge, because it’s going to kill everything. I got a very nice reply back: “Please tell us where’s Oribi Gorge?”. That is KwaZulu-Natal….but in any case. So I explained to them where it was and hopefully something has happened. I asked the land owner – “but why don’t you get them (the park authorities) in?” and he said they’re not interested because they’re not going to get paid for it. But I’m saying it’s everyone’s responsibility to get involved in whatever small way we can, whether it’s picking up litter or anything else. I don’t think we can do anything about oil spills …but the small things. It’s like crime - if you nip it in the bud, the crime bosses won’t be there. If you pick up litter now, the whole environment will be a better place.

Interviewer: You’ve said an important thing there about the little things. A3, I’d like to hear your comment on that because you mentioned hopelessness?

A3: Ja, I think at the end of the day …on this trip now, somehow I think I’m going to be introduced to something. But for me to do something …it would be irresponsible especially after a weekend of being introduced to something like this and then to go back home and to say well that’s it, I’m not going to give up my time. It’s a matter of being introduced, being taught something. And saying listen, your contribution’s not going to make a big difference. Because we don’t even know where to start. I think that’s the point. We’re a little bit too wrapped up in our own lives. We’re rushing around making a living. Weekends we get involved in our little games of either golf, or tennis …fly
fishing…and we are wrapped up, we are selfish. A very selfish animal. We need to contribute a little bit of time.

Interviewer: Do any of you feel that it’s someone else’s responsibility? The government? Conservation authorities? The municipality?

A2: It’s their responsibility as well.

A1: It’s everyone’s responsibility.

A2: I believe it’s everyone’s responsibility and I believe government especially, can do more – education, enforcement. In Singapore, if you drop one little piece of paper, you are in big trouble. But here it’s a national pastime – what do they call the plastic bags? Our national flower! They introduced a new requirement that we have to pay for plastic bags but I don’t think it’s improved the situation. But people who litter should be fined heavily. And not go and pay at the nearest police station. They must pay the guy there and then, because otherwise they’ll never find him again. So it’s all our responsibility. But I believe the bigger role players – the government, local government can do more.

A1: I think we must just sit down and see where we can do more. Recycling and things like that. There are simple things that we can do, that I don’t think many of us do.

Interviewer: Do any of you recycle your household waste?

A2: Yes.

A1: Sometimes.

A4: Never.

A3: No.

A1: Ja, so it’s things like that. But I think it’s because we actually don’t sit down and think…we get so wrapped up …we just don’t think about it and it’s about time that everyone thinks about what they can do.

A2: Mondi (a paper company, who recycles waste paper) provided Ronnie bags (bags provided to citizens in which to deposit household waste paper for collection) to our neighbourhood. Now in our street - we’ve got an enclosed street, not a complex - I’ve noticed about ten of us have these Ronnie bags out. The rest of the residents don’t use them. I mean, it costs you nothing. They come and collect it.

Interviewer: A3 and A4, you said no. Can I ask you why?

A4: Never thought about it.
A3: I live alone as a bachelor. You know, I’ve only got so much time on my hands and this is just something that’s a time issue.

A4: The facilities aren’t there. I’ve never heard of a Mondi bag being put down before.

A2: Do you remember about 20 years ago the Randburg Municipality (a former local authority in the Johannesburg Metropolitan Area) asked us to please separate our waste into wet and dry waste. It never took off. Never. I think we’ve still got two dustbins from those days. They provided us with two dustbins and people still don’t do it.

Interviewer: Anyone else have anything to say?

Nothing else from anyone.
A1: Ja, it’s everything that exists.

A3: There were so many experiences on the weekend …but we sat on the mountain today for an hour, just in total silence.

Interviewer: Did you go to Red Rocks (a site commonly used for the solo experience in the WE in the Pilanesberg National Park)?

A2: No, we went to a different place, because they were hunting there…which was another thing that upset us – hunting in the Park.

Interviewer: I heard about this - people hunting animals in the reserve?

A2: Ja. That was what we were led to believe.

Interviewer: A3 – you were saying that you were sitting quietly on the mountain?

A3: Something came over me, in that there was so much noise. It was thousands of insects of all different descriptions making their own particular sound. And when I was sitting there so quietly I was thinking wow, there’s so much noise here that I hadn’t noticed before. But it’s small noises that form one big buzz. And that was something. And then I started looking at everything from a different perspective. I started looking at everything differently and nature just seemed to be in harmony with everything around us. There’s just so much harmony with everything. The rocks, the ground, the trees.

A4: The rustling of the leaves. One wouldn’t actually listen to that, but it’s actually relaxing to hear it.

A3: Very relaxing.

Interviewer: One of you mentioned: no people.

A4: Yes.

Interviewer: Was that you, A4?

A4: Yes.

Interviewer: Any perspectives on that now? People being part of nature or not? Are we part of the picture?

A2: Ja

A4: Yes, I think we are. I believe we are.
A1: I was convinced before we went. Now I’m not so convinced any more. I said to A3 - I think we were doing the night watch together - we’re the only species that you can take out of the food chain and nothing will change. So maybe we’re not part of nature.

A3: Nature would actually do better without us.

A4: Very definitely, yes. I also had those thoughts. Or, if the world was not so overpopulated, nature would do a lot better.

A1: Ja, so I’ve changed the other way.

**Question 2: What kind of relationship do you have with nature?**

**Question 3: How was this relationship formed?**

*Interviewer:* So now that you have these richer perspectives - I wouldn’t say that they are fundamentally different from before the weekend, except perhaps for yours A1 - do you think that it’s changed your relationship with nature?

A4: I think it’s got me closer. You know, a person who’s really committed to nature is like the two guides who were with us. That was an eye opener…to see such dedicated people and such nice people, knowledgeable people. Nothing’s too much trouble for them.

A3: There was something about their aura, which one had to analyse and question why they are so calm, why they are so relaxed, why they are so at peace with themselves? Why are they so gentle?

A4: You start admiring them, for their knowledge and calmness. Their knowledge of the bush.

A3: I think they’re good examples for introducing one back into nature. I’ve done this a lot you know, just gone. Taken a tent and gone into the bush. And also you (referring to the interviewer) with the introduction before we left for Pilanesberg on Friday afternoon. You told us to look at where we placed our feet and that made me look at nature in a different way. I did that a lot this weekend. Almost everything that one was doing was being done more consciously.

*Interviewer:* So your relationship has in some ways, become more conscious?

A4: Yes – as I say, aware.
A2: It’s a better understanding.

A4: Yes – a better understanding.

A2: Why certain things should be done and why certain things shouldn’t be done, to not disturb the ecosystem.

A1: Chase the black rhino’s! (ha ha)

A3: Yes – saw a bit of panic from the guides! (ha ha)

A2: Don’t run unless you’re a leader! (ha ha)

Interviewer: I’m looking forward to hearing this story!

A2: Ja, but also, you think of nature and you think okay, now we’re going to walk, and we’re going to look at the fauna and flora – and there was that one exercise that Douwe (one of the guides) did with us. He said let’s do some nature meditation. You sit down, close your eyes and concentrate on a certain part of your body and then on another part of your body. Then on the left hand side and then on the right hand side and then down the middle and then you concentrate on your heart. And then when I opened my eyes, it felt to me as if I was looking at a different picture. It really no longer felt like “where’s a rhino, where’s a giraffe, or where’s and animal or where’s a bird”? I just saw things differently. And today that hour that we were sitting on the mountain, I really believe I didn’t even see anything, I didn’t even see a bird then. I didn’t see one bird. I could hear them.

A3: But I saw a lot of other things. I saw spiders’ webs, I saw insects crawling around.

A2: Seeds, trees. We learned a lot about trees. I mean, to me - not a tree is a tree - I know about thorn trees and that. But they taught us a lot about the myths and the beliefs about certain trees and how different people believe different things about the tree. I think it’s just a greater awareness of nature. A better understanding. To me again, more oneness with nature. The minute we left, when we came back into the traffic (note: this is still inside the reserve, but out of the wilderness area) I immediately felt edgy. One guy was making rude signs at us because we were overtaking him. So right, you’re out of that peaceful, calm, serene world. We’re now back in civilization.

Interviewer: When you were out there and you were talking about being up on the rocks, hearing the insects and seeing things differently. How did that feel? You talked of being conscious of your heart? Any feelings associated with that, or was it just an observation?

A2: The one observation that was made, or the one idea that was expressed, was that maybe that kindled a spark and we can make a difference or make people aware of it. I’ve never really thought that I could influence people or my children, my grandchildren, my relations, my friends into seeing nature differently. But now I sincerely believe I will be able to make a difference.
**A4**: And you probably will make an effort to.

**A2**: I will.

**A1**: I think it sparked passion. Or the start of passion.

**A2**: That's been kindled. It's there.

*Interviewer*: Some of you expressed a respect for nature. In the discussion on Friday, you (A1) related a story where you were extremely frightened, when you had the incident with the leopard. But in general most of you said, respect. It seems that that has now changed into something deeper or bigger. You mentioned passion (A1).

**A1**: Ja – it’s understanding how to live in harmony with wilderness.

*Interviewer*: So understanding and insight is a big thing?

**A2**: Ja.

**A1**: I think the minimum impact philosophy of this whole thing is to me quite important. Whatever you do, you must do it with minimum impact on the rest of the environment.

*Interviewer*: A2 said that he feels that he will definitely be able to go back and influence people. How do you the rest of you feel?

**A4**: Yes.

**A1**: Oh yes.

**A2**: I don’t know if I’ll be able to influence them, but I will tell them. Or I will try and influence them. But then I believe that somebody must have had this experience to have the understanding and I will endeavour to influence them. Again, I don’t know if I will be able to have an impact on the greater scheme of things, or the outcomes, but I feel more strongly about it and I will try.

*Interviewer*: A4?

**A4**: Yes – I’d go along with that very much. Make an effort. Because before it was probably all there, but we didn’t know the depth of it.

*Interviewer*: You all seemed quite overwhelmed by the size and the complexity of things on Friday. Do you not feel that anymore?

**A4**: No.

*Interviewer*: A3?
A3: One of the things was Douwe (one of the guides). I’ve tried meditating in the past. I’ve never tried to meditate in the wild. But at home, I’ve tried to do a bit of meditation and never really got it right. But Douwe gave an example of sitting like a cat would sit in front of a mouse hole waiting expectantly. He suggested that one does the same here. And that was a good example. It was just sitting, waiting for something to happen. There were a number of instances - I can’t pinpoint them all - but during one of them I nearly got there, but then my concentration was broken for a second and I had to start again. What I will do in the future, is to try and meditate more in nature. I will go to the bush now and just sit there for an hour. I sometimes come across to people as laid back, but I’m not actually. I’m quite impatient and with these guys - I mean even when we needed to leave for Pilanesberg, I wanted to say, hey come on guys, let’s get going! Because everything was just so slow. But when I got into the bush, we’d walk and then Ian (one of the guides) would stop and then there’d be silence. A few seconds would go by and then he would start talking. Then he’d stop and we’d look at things and I would think okay, we’ve seen it now let’s move on. But I will take it a little bit more slowly now. Because as I say, they set a very good example, the two guides. They seem to have peace of mind and inner peace.

Interviewer: A number of you have mentioned that a few times now – just in the few minutes we’ve been sitting here – the example set by the guides.

A1: Ja

A3: Hmm.

A2: Ja. Nothing is too much trouble. They weren’t confrontational and were open to the views expressed by everyone.

A4: They listened and were not pushy.

A2: Ja.

A3: I’m actually quite a cynical person and this weekend I didn’t look at anything too cynically at all. I wasn’t critical about things that people did. I accepted people’s personalities and that’s wonderful because it was just amazing. I mean, we were eight strangers. The only person I knew here was A4. And we seemed to get on so well. No-one irritated me. I don’t know whether it was done consciously. Normally I’d sit back and I’d be quite critical of each individual.

Interviewer: How about the rest of you? In terms of interacting with each other? Perhaps things that A4 said or perhaps A2 said? Was it instructive, interesting, useful?

A1: The interaction was all great and informative.

A3: A couple of dirty jokes that we won’t tell here!
**A1:** The one thing I said on Friday that I still can’t get my mind around is: I am sure Ian (one of the guides) said he worked for a company before that I currently work for, but he quit that job because he wanted to do other things. So still, to what extent is each person ready to change their life? I called it sacrifice on Friday, maybe it wasn’t the right word.

**A3:** It is sacrifice, isn’t it?

**A1:** I still think it is. You (the interviewer) questioned me on it – you may disagree with the word – but I think it is. What is more important – a fancy car or having two hours a day with your family, rest and in a peaceful state? So that’s the kind of thing.

**Interviewer:** So that kind of interaction made you think? Ian’s story?

**A1:** It certainly made me think. But I’ve thought about it for a long time now and it’s possibly something you and your family have to agree as to what it is that you want out of life. Because this certainly by far beats sitting in your office.

**Interviewer:** Can any of the others think of particular stories or experiences that made you think about your relationship with nature?

**A2:** One thing “X” (a trailist in the group who was not a research participant) mentioned. I’ve always been very anti-hunting. Hunting to me is not on, and he said he doesn’t hunt for the sake of hunting, but rather for food. In other words he hunts for the meat. But if he doesn’t get the meat he doesn’t hunt.

**A4:** It’s not a trophy hunt. He’s shooting impala for the biltong and the meat. And that’s what he goes out there for and he enjoys it.

**A2:** So that gives me a little bit of a different perspective on hunting.

**A3:** But could I say something in contradiction to that? I think “X” was hurt by our discussion and he was being defensive by explaining. Douwe is so anti-hunting and there was just something – and I’m not being critical of hunting - but I just saw a little bit of a hurt.

**A4:** I don’t think I would agree with that. I mean, knowing “X”, he would never go out to do trophy hunting, and he was just making his point that he’s not a trophy hunter. He does it for a specific reason. He’s got a big fridge. Keeps the meat there. Eats it. Makes his biltong. When it runs out he’ll go hunting again.

**A3:** But there must be a certain amount of enjoyment in what he’s doing there because otherwise he could go to the butcher shop and buy meat.

**A4:** Sure, he enjoys it, so yes. But is there a difference between the butcher shop and going out in the bush, killing the animal?
A3: I have no doubt that “X” is a gentle guy and I think he’s a very responsible guy, but that was just my thought.

A2: But it gave me a different perspective about hunting.

Interviewer: From what you had before?

A2: Ja.

A4: Yes – you hear about hunters and you think, shame they just go and kill animals.

A2: Well then those are mainly trophy hunters because they come here, as Ian was saying the black rhino that they were debating about putting up for a hunt, because they could’ve made US$100 000 and then the poor animal died, before they could give it to somebody to hunt. Then you think they could’ve made US$100 000. But then I still don’t like trophy hunting. To me it’s an ego thing.

A3: I’m there with you. I know a lot of hunters and I’m not critical of them. Some of them are my best friends. I come from that part of the world where there’s a lot hunting. So I’m not critical of that, but I agree with you (A2), I don’t like trophy hunters.

Interviewer: Tell me a little more about when you got here on Friday night and the hunt was underway?

A1: I was upset about that.

A4: We were all upset.

Interviewer: Just explain to me what you mean by upset?

A1: Well – how can they allow hunting in a game park?

A4: In a game park! It’s supposed to be protected. I think we were all very shocked that hunting was allowed in a game park.

A2: We wanted to know how could they allow it, and Douwe was saying this is the only park where it is still allowed to happen from the old days, because that’s what they rely on to get income as well. Which also meant that we were late getting to where we going. We were all bloody starving. So that upset us even more.

A3: And it was very cold.

Interviewer: I also want to probe particular emotions that you felt over the past two to three days. When you were out in the bush, when you were sitting on the rocks, at night during your night watch. A1’s mentioned passion.
A2: For me it was just that realization of how insignificant you really are when you’re sitting there in the dark and you just see millions and millions of stars. And it’s quiet. And it’s just you and there’s all this universe around you. That really struck me. It also upset me when we were sitting quietly and every 15 – 20 minutes a plane came over. It broke your whole chain of thought, not your concentration - I wasn’t really concentrating on anything - but now all of a sudden there’s this plane and you’re looking at it. I didn’t enjoy that. That was an emotion of annoyance that was created.

Interviewer: There’s a tendency when one’s in the bush to kind of “switch off”. I’m trying to get a sense of whether there was anything that penetrated that - what A2 calls peace and serenity. Did you at any point feel overwhelmed, or happy, or sad about anything?

A3: I’ve just gone through a divorce and I thought a lot about that side of it. My daughter lives in a cottage on my property and I would have liked to have had her there the other night. My son’s in London, but I just wanted to share it with somebody close to me you know (observed tearfulness).

Interviewer: So there’s something around connection to other people?

A2: Ja – your own family, particularly. When he was at school, my son and I used to go on a father and son weekend. Which was not really this kind of experience, because we had a cottage in the ‘Berg (Drakensberg Mountains) or a trout farm…but that was quality time. We thoroughly enjoyed that, both of us. Go fishing and walking. Maybe it would’ve been nice to have him here as well. He’s now grown up and we do very little of that. No, not very little, we don’t do any of that anymore. He’s got his own life and I’ve got my life.

A3: I just wanted to introduce them into that experience that I was having. I thought about that often, at night, and during the day when I was walking, this morning. And I thought I’m going to bring my daughter here. Just for the experiences. I think it’s so important that we do. Because I’ve never been able to explain that to them. I didn’t know those feelings before. And my kids are adults now. I’ve lost that a bit.

Interviewer: So this experience makes you feel like you would be able to explain it now?

A3: Mmmm. I think A1’s got a better opportunity because his kids are young. It would be nice for him to bring them here and say, just keep quiet for an hour. Just sit.

A1: I won’t try that yet!

A3: Gag them!

Interviewer: A1, the feeling that you had here, is it very different to what you have on your smallholding? When you greet the day?

A1: It’s similar, but different. I think the big difference is that your family’s not here, so it’s a different situation. Otherwise I would be out with my daughter. Obviously this is a different level of experience to what I would have with my close family.
A2: I take my granddaughters fishing. Once per year we go fishing. And everybody says, your granddaughters? And I say ja, it’s a nice experience to go out with them. But I think I’ll be better equipped now to teach them a little bit more, or to make them more aware of nature and the surrounds. We just used to go fishing.

Interviewer: Was there anything other than the hunt on Friday night, any particular event that happened, either for you personally on your night watch, or as a group – that stand out?

A3: Well, on the way …

A1: Black rhino!

A3: On the way to the spot that we eventually camped at, we bumped into a young elephant, and he was obviously a delinquent teenager! He kept mock charging the front van. And I assumed his mother was standing in the road – she was feeding off a tree. She kept us there. How long were we stuck there?

A4: About 35 minutes.

A3: Ja, and this delinquent teenager carried on mock charging and then an adult came up to him and shooed him off and stood between this young guy and the vans and every time he tried to come towards the vans the adult would push him back over. But when we got to the campsite, it was terribly cold, and I brought a very light sleeping bag and I was freezing. So eventually I didn’t sleep that whole night. I just stayed up all night.

A4: In the bag?

A3: Not in the bag! For a couple of hours in the bag and then I just got up.

Interviewer: And by now you know what I’m going to ask you! How did that make you feel? What were you feeling through that whole experience? One of you mentioned scary – with the elephants. What about the rest of you?

A1: No the elephant wasn’t scary. The black rhino was scary because it could’ve easily just run over the other way.

A4: I think it was the guides running towards us that was more scary than anything else!

A1: You were asking about other events? One thing - obviously we spoke about a lot of different things - and yesterday, at some point we spoke about crime in South Africa and I asked the question: What are we going to do? And there was a stunned silence. That kind of shook me a bit.

Interviewer: Explain?
A2: That nobody’s got the answer.

A1: No-one knows how we’re going to fix this problem that we have in our country. No-one even had an idea. It was silent at first. No-one said anything. That gave me a feeling of hopelessness. I think you (A3) mentioned hopelessness last week. That was the only time I felt hopeless this weekend.

A3: And also coming here with all the plastic bags and the litter. We have to go back to that now. That just got to me.

A4: Oh yes, outside the gate.

A3: You know the plastic bags, all the litter outside the gate. And you think to yourself, this is a tourist destination and you have many, many people from overseas coming here either to Sun City (an upmarket hotel and entertainment complex nearby) or to Pilanesberg itself, and it’s got a road that runs through all this litter. It’s just not acceptable. You’d think government could do something. It could have permanent street sweepers.

A4: People picking it up.

A2: Ja, but it’s education. You’ve got to educate the people who litter not to do the littering.

A3: Well I don’t know if that would be an easy one. But you could have permanent people employed, because there is a problem with unemployment and you could say, throw 20 people at the problem.

A2: But there’s a problem, those people say if you don’t litter you’re going to rob somebody of a job. That’s what they believe.

A1: So give them a job then.

A2: There are litter collectors, but there are obviously not enough. And that’s their belief. They believe that if they don’t litter, then they’re going to prevent somebody from having a job.

A3: Yes that angered me. Because I see no reason for that.

Interviewer: Most of you have said the words, “they”, “the government” and “others”. How do you feel about doing something about it yourself? Whatever “it” might be? Whether it’s the litter problem, or any other problem? Earlier on you mentioned that you feel a bit more able to go back and influence other people around ‘nature’, or around ‘wilderness’. Does that extend to for example, going back and influencing people not to litter?

A4: I think we would influence people now, yes.
A2: But it’s only the people around you – the people that you know. You are not going to get out of your car and talk to a taxi driver and say listen, this person threw something out of the window, because you would get shot.

A4: But that’s a start. It’s a start – something I wouldn’t have done last week.

A1: As I said before, I need to understand, myself, what level of sacrifice I’m willing to make and if it is a lot, that means rounding up 100 people on a Saturday and coming and picking up the litter. If that’s what it takes. But again, I’m not sure if I’m willing to do that yet. I’m not sure if I’m willing to do that now.

Interviewer: But you’re thinking about it?

A1: Yes, I’m thinking about it.

Interviewer: Whereas you may not have thought about it before?

A1: I didn’t think about it before.

**Question 4: What are your perceptions of environmentally responsible behaviour, or people who engage in this type of behaviour, after experiencing what you have on the trail?**

Interviewer: This takes us neatly into the next question about environmentally responsible behaviour. Whatever you might think that is. It might be not littering, it might be saving water, it might be taking a party out – like the guides do here. They come and clean up in work parties and do whatever is necessary. Any of those kinds of behaviours. How do you feel about engaging in that kind of behaviour? Yourself, and other people who do that kind of thing, now that you’ve been on the trail?

A1: I was just saying to Douwe when we were driving here that I want to do that. But again, what does it mean. It means less time with my family, or whatever. That’s always the problem.

A2: Exactly.

Interviewer: So by giving something, something must be taken away?

A1: Something will have to give, ja.

A2: But you’ve got to be trained and qualified to do that type of thing. You can’t just say well, here I am – I’m going to take a group of people into the bush. You’d be a bigger danger than trying to do something good. So you’ve got to be trained first. You’ve got to go through whatever training and get the qualifications. I think Douwe was explaining that you have to do certain exams with FGASA (The Field Guides Association of South Africa).
A1: There's also a sacrifice involved. A lot of sacrifice. Or if it's not the right word, then you know what I mean. It's sort of action and reaction (consequence).

Interviewer: So whatever action you take, has a sacrifice attached to it?

A2: Yes.

A1: That's what one of my concerns is at the moment, although I want to do more things.

Interviewer: A couple of you said in the first interview, that you don't recycle your waste at the moment. Any perspectives on that now?

A2: But I do.

A4: No, I don't.

A1: I do some. Sometimes I recycle glass bottles and so on, but not really. Sometimes.

A3: I've got a job of doing the production planning at my office and I print a thick pack of paper every Thursday. Over the last year I've been throwing it into a corner of my office every Thursday. I do the production planning. I then take this pack of paper, which has all my stock and all my work on hand, on it. So I don't want to throw it in the bin because it's confidential information. And now I have a huge heap of paper.

A2: I've got the same in my office.

A3: All I should do is turn the pack upside down and put it into the photocopy machine and I could use it a second time around. And I will very strongly think of that.

Interviewer: Had you not thought of that before?

A3: I hadn't bothered.

A4: It wasn't important hey?

A3: It wasn't important.

A2: I give mine to my domestic worker. We get photocopy paper like it's going out of fashion. By the million – emails get printed. Once a month, I give a large pile of paper to my domestic worker and she takes it to Diepsloot (a poor township area) and she gives it to the kids at school. On the one side I think there's confidential information, but I doubt whether one of those kids are going to hold a client or my company to ransom. And they definitely need that paper. They use the other side for drawing or writing or whatever. And paper and glass. There's a collection point at a shopping mall close to my home. I put all the glass there in the drum. I use my Ronnie bag for waste paper which they come and collect. The normal household stuff.
Interviewer: But this is all stuff you’re doing already?

A2: Ja.

Interviewer: Anything, A4? Do you feel highly motivated now?

A4: Yes, I probably will. I think - you’re asking me now - I haven’t got to that situation but I think when I do, I will.

A2: We’re all more aware of nature.

A4: Definitely.

A2: This morning A3 asked Ian: “What are you really trying to achieve here?” He replied that over a weekend, they can’t really achieve a lot, but they would like to just get a spark.

A4: To start it.

A2: As A1 says, it must become a passion. You must be able to now say this is what I’m going to do: I’m going to make people aware of littering; I’m going to make people aware of not damaging the ecosystem; I’m going to “toyi-toyi” (taking a stand and demonstrating) for the wilderness, or whatever! No hunting in game parks.

Question 5: What are your thoughts now, after the trail, about our individual (personal) role in creating the environmental problems we experience and what our role might be in solving them?

Interviewer: Our last question is around responsibility, and whose responsibility it is to “make things right”.

A4: Everyone’s.

A2: Ja.

Interviewer: Including us?

A4: Everyone, yes. I think the more people that can spread that message the better it will become. Giving people an understanding of why we say it.

Interviewer: There’s a general tendency amongst people to talk about “them”, or “they” must do more. For example the government.

A4: All the other people outside of this group!
Interviewer: Has the weekend made you bring that responsibility closer to home? Do you feel more personally responsible?

All: Yes.

A2: It certainly made me aware of the role, or the possible role that I can play. I will endeavour to be more communicative or involve my family, my friends in being more aware of nature, being more committed to being ecowise or not damaging the ecology.

A3: I was talking to the guides this morning. We were talking specifically about the Wilderness Leadership School and I was absolutely amazed that there’s no full time staff involved. And the simple reason is because of the lack of finance. A4 – who’s a very successful businessman, was making the point that this group should somehow get involved in the marketing of the Wilderness Leadership School. Now if we could do that – as businessmen – it would be a helluva step forward. Not to say that our interaction with our friends just spreading the word is not as good, but let’s face it if the Wilderness Leadership School could be successful – whereby you have full time staff, that would definitely be the way.

A4: Just from marketing.

A3: You know you can do things in small bits, but sometimes when you put all your minds together – when you have a good heave – it tends to go a little bit quicker and you get a little bit further.

Interviewer: You seem to have formed quite a close cohesion within your group?

A3: Yes and that’s amazing for a bunch of strangers.

A2: And over such a short period of time.

A1: Well we had three clowns in the group! There’s two of them sitting there.

A3: But A1 and I being so much younger than the rest of the group - it’s amazing that we got on so well!

A4: There’s one of the clowns coming out again!

Interviewer: Is there anything else that any of you want to say?

A3: It’s been a lovely weekend.

A4: Fantastic.

A2: A great experience, really.

A3: Friday night I didn’t sleep very much. I was very, very cold.
"A1: We had a bit of everything – joy, happiness, fear. There was everything. He was a little bit unhappy ‘cos he didn’t sleep.

A4: Could’ve been because someone was snoring.

A1: Yes – he could’ve been unhappy about that.

A2: I said you slept like a baby. He said no, every time I fell asleep you woke me with your snoring.

A1: Yes, some people were unhappy about the snoring. The food was good.

A4: You should have heard the snoring – you wouldn’t believe it!

Question 1: What is nature for you?

A1: I don’t think any differently. I think it’s still what I said last time – it’s everything. Everything that’s in this world is included in nature. Sometimes we think we’re far removed from it but meantime, we’re in it. We can never be far removed. We’re always in it. It’s just a matter of how we interpret it and how we go about our lives, that makes us feel that we’re part of it or not.

Interviewer: So people are fundamentally part of nature?

A1: Yes.

Interviewer: What is the nature of that relationship that people have with nature?

A1: I think there are different kinds of relationships. It has to be symbiotic but often we make it predatory, or perhaps that’s not the right word – rather parasitic. So it should be symbiotic but we forget that sometimes and then we kill the rainforests and all those things and only realize afterwards, the damage we’re causing.
**Question 2: What do you think and feel about nature? Why?**

*A1:* Nature is what we are. So, nature is the one thing that will always be there. That you always can return to, if you want to look at it that way. You can forget about all this other rubbish in life. The sun will come up tomorrow, as the saying goes. It’s the one thing you can be sure of – it won’t let you down. It happens for a reason. That’s the way it was made, designed.

*Interviewer:* So nature will never let you down?

*A1:* Ja. So you can always find comfort in that. It’s always there. Nature seems to obviously also develop, so even though we try our best to kill it sometimes, we’ll never be able to kill it. I don’t think.

*Interviewer:* That’s very optimistic!

*A1:* Nature comes in different forms. It has to evolve. It’s also living. Just as we have to evolve sometimes, I think nature also has to evolve.

*Interviewer:* If you think that it’s that resilient that it will always prevail, do you have any feelings about looking after it, caring for it?

*A1:* Ja, definitely. I feel strongly about that. I think there’s always going to be those elements that don’t look after it. But I feel it’s sad when you see all these things happening.

*Interviewer:* And what are all these things that are happening?

*A1:* An example for me is Zimbabwe. I used to go to Zimbabwe regularly. My friend’s father used to have a farm there. So we used to go there regularly. And I spoke to him the other day and he said there’s just no wildlife left. When we went there you would come across all kinds of wildlife, just around the corner from where we lived. Now there’s nothing. He says it’s gone. There’s absolutely nothing left. You cannot even find a little waterbuck or anything. So that saddens me and it’s just caused by people’s idiocy. Craziness. Things like that really sadden me.

*Interviewer:* What else do you see going on, like that sort of destruction? Or other things that make up this environmental crisis?

*A1:* The issue of the rainforests is obviously a huge thing. I’ve never been there. It’s always been a dream of mine to go there. Hopefully one day I can, before it’s killed. Hopefully. Or in a different format - I live close to a squatter camp and you see all this rubbish and stuff everywhere. It’s disappointing. I think once you’ve killed the nature in your little area then it spreads and it just doesn’t stop. It spreads wider and wider and wider. So ja, it’s pollution, the drive for money and killing rainforests. Things like that.
Interviewer: So you see it in your local environment, right on your doorstep? But you also seem to understand that there’s a problem on a global scale?

A1: Ja.

Interviewer: In terms of the way the ecosystem works, would you say that you understand that quite well?

A1: I wouldn’t say well. I have a decent understanding but I wouldn’t say well. I did Biology and things like that. I probably have a superficial level of understanding.

Interviewer: For example, why is something like the rainforests important to you?

A1: It’s just ‘cos it’s less space to live in for other living beings (habitat loss). I love wild animals. Well I love animals, full stop. Wild animals are no different. I tried shooting an animal once. It was the one and only time. I’ll never do that again. I think it’s just the devastation of the whole living area for animals and that for me is the driving force.

**Question 3: Which, if any, of the thoughts and feelings you have described (above) changed as a result of your wilderness experience?**

A1: Yes, I could most probably tie all of that back.

Interviewer: Were they there before – the knowledge and feelings you have about nature?

A1: It was there before, but the trail definitely gave me a better understanding than what I had before.

Interviewer: In what way?

A1: Just being more attentive. Like I said, my love is animals. The trail guides paid more attention to the plants. And the flowers and the leaves. And where we stood for a few minutes, we stood looking at leaves, understanding why they were formed the way they were formed. What they tasted like and smelled like. Obviously there’s more than animals and that’s what I realized on the trail.

Interviewer: And has that stuck with you?

A1: Ja, I think so. I’ve never really been interested in trees and stuff and I’m still not. But at least I know – it’s broadened my horizon slightly.

Interviewer: You’re more aware of other parts of nature?

A1: Ja.
Interviewer: So the guides were quite important in terms of making you aware of these kinds of things?


Interviewer: And the other guys on the trail with you? Or a particular experience on the trail?

A1: Everyone there had stories to share. A particular one, can’t remember his name, but he was also a keen hunter and he had a lot of stories to share about the wild. The stories gave us quite a lot more understanding. Because he’s in the bush a lot.

Interviewer: And the environment itself? Anything particular about being there, that triggered something in your mind? Like having more of an awareness of the trees that the guides explained to you?

A1: The most important thing for me, was to see the lack of knowledge that people have. I don’t think many people really understand what it is all about. Listening and talking to a lot of people there, you realize either I know nothing or maybe this other person also doesn’t know that much. And the animals are not just there for your pleasure whenever you want to go for a drive through the game reserve. The mere fact that they have to live in that park is already a sad thing.

I think the night watch was a very nice experience. One night we were busy cooking food and a rhino was not even 10 metres away from us. Half of the people didn’t even see it. And again, it just shocked me. You could point them out, but people were so oblivious to the bush and things around them and focused on what they’re eating. Meanwhile there are three rhinos standing 10 metres away from you, staring at you, looking at what you’re doing. And when they were pointed out, you still don’t even notice. So it just goes to show that us humans get so wrapped up in our own little worlds. And that’s where I think the wild is different. The wildlife doesn’t think that it’s just them on the planet. There’s a lot more going on. That, we as humans can learn a lot from.

Interviewer: So that’s an insight that you got on the trail?

A1: Ja. ‘Cos we all do it. We all get wrapped up and our problems are always the biggest. And our miseries are always the worst. Or the best, or whatever. I think that was one of the big things as well.

Interviewer: Have you been back to the bush or anything similar since the trail?

A1: No, I haven’t unfortunately.

Interviewer: It would be interesting to see how you perceive it now.

A1: Ja.
Question 4: How would you define Environmentally Responsible Behaviour?

A1: I’d say an easy one is using unleaded fuel. Recycling. Don’t throw your waste out of the car window. Those are the easy ones. I said last time I’ve got this urge to get more involved in bigger things, more arranged things, that I’ve still not done. But I do have a sense that that is something I want to do, so if there is something, I will make an effort to do that.

Interviewer: So it’s niggling under the surface there?

A1; Ja. So I think the next step is the big things. I’ve mentioned the small things, some of which I do. I try to do things right as far as I can.

Interviewer: Can you think of any examples of ERB in other people? Even if you’re not doing any of those things?

A1: There’s obviously a lot of that sort of thing. I think we must try and find a power supply or power source, that doesn’t cause any havoc. I’m sure someone will come up with something sooner or later. Solar power is obviously the one big thing, but it’s currently still too expensive. So that’s something big that someone must come up with.

Interviewer: Do you think they will?

A1: I think we have to. We’re going to get to the point where it’s got to go that way or it will be to the huge detriment of everyone. And the way that they’re going on in China - it’s crazy. I don’t know if you know how much power they use there?

Interviewer: I know that they use an enormous amount of resources and create huge amounts of pollution.

A1: Huge amounts for concrete and steel production. So that is a huge problem.

Interviewer: So there are problems, but there’s also responsible behaviour at a very small scale and then right up to government level – like the Chinese government?

A1: Ja. I think a lot of people are responsible. Problem is, that responsibility doesn’t earn you money. So I think that’s the difficult one to overcome. That’s why I say, these big things have to come. ‘Cos then whilst you generate an income, you still benefit nature.

Interviewer: Do you think that that’s possible?

A1: Ja, I think so. It has to be. If you can put solar power in your pool, then why not use power from the sun? A friend of mine already runs some pumps at his house from solar power. So it is possible, and I can’t see why it can’t be done. But ja, there are still lots of things to be done.
**Question 5: Who is responsible for the environmental problems we experience?**

A1: We all are, I think. The mere fact that I’m not saying anything about it, makes me responsible as well. Not doing anything about it. I think we all have to take responsibility. We’re all to blame. We all buy a piece of food, or material that has come through the system. So we all support it in some way.

**Question 6: What is your personal role in creating and solving the environmental problems we experience, whether local or global?**

A1: I use a lot of paper. I use all the material that by its design or production, comes from nature. So you have to start becoming more responsible in the things you use. Instead of using new paper, use recycled paper. Not buying products that something had to be killed for, for them to exist. But there’s always going to be something within it. At this stage I don’t think you can get away from it. But as far as possible, look – start thinking when you’re buying things and when you’re doing things. Where’s it come from and where’s it been. And start focusing on it, instead of always just going for the cheapest.

Interviewer: Do you feel that you can do that?

A1: Ja, I think you can.

Interviewer: So you think you have a choice?

A1: I can’t say for every product there’s going to be a better choice, but wherever there are choices then I suppose that’s where you can make them. But there’s probably not that much choice in some areas. Of course, the other choice is to go without it. Which is a very difficult choice, but it’s also a choice. There’s always a choice. No-one forces you to do anything!

Interviewer: Does that make you feel like you literally have more options?

A1: Ja. Although sometimes we may feel like it’s not an option, but we always have options.

Interviewer: It is an option, but you may not necessarily want to choose it?

A1: Correct.

Interviewer: One of the things you raised quite a few times in the first two interviews, was this issue of having to give up something in order to do that. Do you still feel that way?

A1: Yes. I feel even more so now. But it’s not necessarily a bad thing. I’m in a situation at work where I’m extremely highly pressurized. Some days I just feel like walking out, like
I’ve had enough. Let’s go and live in the bush. Which has a negative connotation to it, but it mustn’t be negative. It must actually be positive. It must be. But I do think - maybe giving up something isn’t the right word, it’s just a change of lifestyle – that would be the better way of putting it.

Interviewer: What is it about that other lifestyle, which makes you think there would be sacrifice involved?

A1: Obviously money. There may be other things you would sacrifice for an alternative lifestyle. But what it boils down to is that you gain so much more – when you think about it. And I have been thinking about it quite a lot, of late.

Interviewer: Well, you already have the smallholding.

A1: Ja. But I haven’t been spending much time there recently! I haven’t seen daylight in weeks.

Interviewer: So it’s pointless?

A1: Exactly. But then if I didn’t have this job, then I probably couldn’t afford the smallholding. So that’s what you’ve got to decide. What’s going to give you the peace in your heart?

Question 7. Have you taken action accordingly? What actions have you taken in adopting ERB (in response to the relationship you have / have developed with nature)? Be specific, explain and elaborate.

A1: Ja, I think I have. In the past I would pick up papers I saw lying on the ground, now and then. Now I find myself picking them up all the time. Even in my street. The other day I saw something and it was quite far off. After I stopped in the drive way I went and picked it up. Before I always wanted to do it but I wouldn’t actually do it. I would drive into the drive way and go into the house. So that definitely has changed for me.

Interviewer: And what made you do that?

A1: It was A2. Every time I see that, I think of him.

Interviewer: So hearing something from somebody else actually stuck?

A1: Yes, and he also picked up one or two pieces of paper when we were in the bush. Every time I think about it, I think about that situation.

Interviewer: Anything else – saving water, recycling your waste?
**Question 8. What helped you in taking this action, and conversely, what difficulties did you encounter in adopting the behaviour?**

*A1:* We already recycle and we use unleaded fuel. We use borehole water. One thing we haven’t done yet is water saving. The one kid baths, and then the next kid baths. Then their mother baths and then me. We have perhaps spoken about it, but we haven’t done anything.

*Interviewer:* Is there anything stopping you from doing that?

*A1:* No. It’s just a matter of not doing it. The other thing I want to do is to put up a rainwater tank. I haven’t figured out yet what the best way is to collect the water. That’s also what I want to do ‘cos I’ve got some plants I want to irrigate and I’ve got the space to do it.

*Interviewer:* So there are a lot of things in your mind that you want to do?

*A1:* A few, ja.

*Interviewer:* What’s getting in the way of you doing them?

*A1:* Probably laziness, because these last few months I’ve been working 16 hours a day. Even weekends as well. But it’s laziness ‘cos I haven’t made time for it.

*Interviewer:* So there doesn’t seem to be time?

*A1:* Well you can always make time. If something is important enough to you. I happen to make time for rugby when that’s on TV, so when something’s important enough to you then you do it.

*Interviewer:* So you’ve mentioned quite a few things that you’ve practically planned already, so they must be fairly important to you.

*A1:* Ja, they are. But not the top priority.

*Interviewer:* Is there anything you want to add?

*A1:* Just what we discussed earlier – the lifestyle change. I’m confused when it comes to that. I think I know what it is that everyone needs and wants. What I want and need. But it’s still confusing to me as to how you get to that point where you’re balanced. I don’t know if anyone else came to any insights?

*Interviewer:* No I’m afraid not.
## Appendix C.2

### Example of Horizontal Integration of Data Analysis for FGDs

<table>
<thead>
<tr>
<th>Interview</th>
<th>Question</th>
<th>Source</th>
<th>Memo</th>
<th>Code / Theme</th>
<th>Related theme(s)</th>
<th>Sub-themes</th>
<th>Respondent</th>
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</thead>
<tbody>
<tr>
<td>FGD1</td>
<td>1</td>
<td>Grp 3</td>
<td>Nature is away from the concrete jungle and a place for us to go and relax and enjoy something that appeals to the <em>senses</em>.</td>
<td>1Nature only exists outside the city</td>
<td>Nature is there for us to use for recreation and other purposes. A fantasy world, based on a romantic perception</td>
<td>C2</td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp 1</td>
<td>We are separate from nature (&quot;excluded&quot;) because we live in the city and the way we live in the city.</td>
<td>1Nature only exists outside the city</td>
<td></td>
<td>Sense of separation from nature</td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>1</td>
<td>Grp 1</td>
<td>The perception of all the respondents except for B1 is that nature is away from the city - it is not here where we are.</td>
<td>1Nature only exists outside the city</td>
<td></td>
<td>Only pristine nature is true nature.</td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>1</td>
<td>Grp 2</td>
<td>Nature is now an intellectual concept and no longer what exists in our minds or what we may have learned as children. It is now in our heads and no longer in our hearts. (Bill McKibben, 2003 - nature as we know it is dead). Nature in our backyards, is different to &quot;real&quot; nature. Real nature is beautiful, free, a law that governs all life, perfect. Man is the misfit (the &quot;stuff up&quot;). We have completely separated ourselves from nature. Humans (urban, modern, &quot;civilized&quot;) now have a relationship of total dominance – so there’s no longer a sense of being part of nature – we control it, bend it to our will. There’s a sense of discomfort with this relationship in this group.</td>
<td>1Nature only exists outside the city</td>
<td></td>
<td>Nature no longer exists it’s in our heads</td>
<td>B3</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp 2</td>
<td>We have to get out of the city to find nature – no-one finds nature in the city. The city (&quot;civilization&quot;) is an inhuman place – harsh and unhealthy. The suggestion is that we (natural humans) don’t belong in the city, we belong in nature – out there.</td>
<td>1Nature only exists outside the city</td>
<td></td>
<td></td>
<td>B3</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp 3</td>
<td>There’s no strife in nature – it’s easy, nice, everything’s for free (doesn’t require money) – “God has created this all for me to live (for) free”. A very limited and romantic concept of what nature is – feels that if he lived ‘in nature’ he would be in control of his life whereas others control his life in the city. Nature is a fantasy for him. Why does he not live ‘in nature’ then?</td>
<td>2Nature is a resource for human use</td>
<td>7Lack of knowledge, understanding and insight</td>
<td>C3</td>
<td></td>
</tr>
<tr>
<td>Interview</td>
<td>Question</td>
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<tr>
<td>FGD1</td>
<td>3</td>
<td>Grp3</td>
<td>C1’s childhood experiences of nature – fishing (instrumental value). An isolated adventure with dad but with no broader context. Catching the fish was a nice experience – the first time he dominated nature? It is coincidental that the adventure was nature based, but it could have been something else. Purely a pleasant childhood memory.</td>
<td>2Nature is a resource for human use</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td></td>
<td>C1</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp3</td>
<td>Nature is a &quot;playground&quot; and a place to replenish one's energy and have fun - entirely there for humans. Nature is for me to use for whatever I need it for.</td>
<td>2Nature is a resource for human use</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>7Lack of knowledge, understanding and insight 13Selfishness, laziness, inertia</td>
<td>C2</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp3</td>
<td>Romantic fantasy - &quot;rural people are connected to nature&quot; and nature is &quot;nice&quot;. Nature is a refuge and somewhere benign and nurturing, where you can think clearly. There's no wildness, harshness or unpredictability about it.</td>
<td>2Nature is a resource for human use</td>
<td>7Lack of knowledge, understanding and insight</td>
<td></td>
<td>C1</td>
</tr>
<tr>
<td>FGD1</td>
<td>1</td>
<td>Grp2</td>
<td>Nature is an escape, refuge from the ravages of the city.</td>
<td>2Nature is a resource for human use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp3</td>
<td>Merely a source of relaxation – leopards are &quot;nice to see&quot; – a superficial appreciation of nature.</td>
<td>2Nature is a resource for human use</td>
<td></td>
<td></td>
<td>C2</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp3</td>
<td>Nature is a refuge and a source of relaxation.</td>
<td>2Nature is a resource for human use</td>
<td></td>
<td></td>
<td>C3</td>
</tr>
<tr>
<td>FGD1</td>
<td>3</td>
<td>Grp3</td>
<td>Childhood experiences in the bush and wildlife (this is nature). Nature was a source of adventure (instrumental value). An extremely limited view of what nature is - only the bush and game</td>
<td>2Nature is a resource for human use</td>
<td></td>
<td>Disconnection from nature (consistent with a lack of ownership of environmental problems)</td>
<td>C2</td>
</tr>
<tr>
<td>Interview</td>
<td>Question</td>
<td>Source</td>
<td>Memo</td>
<td>Code / Theme</td>
<td>Related theme(s)</td>
<td>Sub-themes</td>
<td>Respondent</td>
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<tr>
<td>FGD1</td>
<td>3</td>
<td>Grp3</td>
<td>C3’s dog hunting experience as a child - Hunting (instrumental value) and it was also very ‘nice’. Nature as a resource and a romantic view of a nature based experience.</td>
<td>2Nature is a resource for human use</td>
<td>Romantic view of a nature based experience</td>
<td>C3</td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>1</td>
<td>Grp 3</td>
<td>Survival in the city only requires money and technology. In nature you need to think (have intelligence) to survive and relate to the environment. (from FGD2 of Group 2: &quot;We no longer know how to survive ‘out there’ in nature – have forgotten, have separated ourselves from nature. In the city we need money, image and &quot;stuff&quot; to survive. But in nature we need intelligence, knowledge, connection and cooperation – Memo; this is what we really need to survive in the city too but no-one has said this.&quot;)</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>5Connection to nature is primal / emotional / fundamental</td>
<td>Working with rather than working alone. Having a sense of the possible rather than being overwhelmed by the apparent magnitude of the task</td>
<td>C3</td>
</tr>
<tr>
<td>FGD1</td>
<td>4</td>
<td>Grp2</td>
<td>All urban people are disconnected from nature and have no relationship with nature. According to C3, urban people do not even see nature as a resource – it has no utility at all. It is a source of boredom – perhaps because of erroneous expectations.</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>5Connection to nature is primal / emotional / fundamental</td>
<td>Working with rather than working alone. Having a sense of the possible rather than being overwhelmed by the apparent magnitude of the task</td>
<td>B1</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp 3</td>
<td>Nature is safe.</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>7Lack of knowledge, understanding and insight</td>
<td>Romantic fantasy and a lack of comprehension of what nature is</td>
<td>C3</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp3</td>
<td>Nature’s beautiful and &quot;out of this world&quot; - but we rely on the city to survive. Nature is therefore unnecessary for our survival, but nice to have for recreation and relaxation.</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>7Lack of knowledge, understanding and insight</td>
<td>Romantic fantasy and a lack of comprehension of what nature is</td>
<td>C3</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp3</td>
<td>C2’s childhood bedroom wall is covered with pictures of wild animals - he loves them and it reminds him of the bush. It’s more about the pictures – the romantic memory of his nature based experiences in the bush. A longing for this fantasy world. All three participants in this group have a longing but they don’t appear to know why? It’s just something pleasant they want to go back to. C2’s experience of his baby son recognising the wolves (as dogs) on TV is that it is cute and again shows a romantic perception of what nature is – merely feelings of affection towards the baby. Perhaps the subject matter was secondary?</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>7Lack of knowledge, understanding and insight</td>
<td>Romantic perception of nature</td>
<td>C1</td>
</tr>
<tr>
<td>FGD1</td>
<td>3</td>
<td>Grp3</td>
<td>C2's experience of his baby son recognising the wolves (as dogs) on TV is that it is cute and again shows a romantic perception of what nature is – merely feelings of affection towards the baby. Perhaps the subject matter was secondary?</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>7Lack of knowledge, understanding and insight</td>
<td>Romantic perception of nature</td>
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</tr>
<tr>
<td>Interview</td>
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<tr>
<td>FGD1</td>
<td>1</td>
<td>Grp 1</td>
<td>Nature is all part of a bigger whole / people are part of nature</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td>Humans are part of nature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>1</td>
<td>Grp 2</td>
<td>People who are not part of westernized society still live in harmony with nature – are still part of nature. So it’s possible but one needs to be outside of Western Society? Or being part of nature requires that you live in a primitive manner?</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp 2</td>
<td>Nature and human nature are inextricable? The same thing?</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td></td>
<td></td>
<td>B2</td>
</tr>
<tr>
<td>FGD1</td>
<td>2</td>
<td>Grp 3</td>
<td>Is C3 saying “Nature’s for people who can’t make it in the city”? Not sure – since he does say again, that it requires “me” to be able to live “in” nature (thinking, presence, engaging the senses).</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td></td>
<td></td>
<td>C3</td>
</tr>
<tr>
<td>FGD1</td>
<td>3</td>
<td>Grp 3</td>
<td>C2 says: “I think if you respect nature and you respect the animals, then they’ll do the same to you. They’ll look after you.” There’s a vague but weak sign of comprehension of some connection – but it sounds intellectualised.</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FGD1</td>
<td>3</td>
<td>Grp 3</td>
<td>The importance of continuous exposure to nature (out there) or at least to see it on TV</td>
<td>3Comprehension of interrelatedness, connectedness and context</td>
<td></td>
<td></td>
<td>Fundamental disconnect from nature</td>
</tr>
</tbody>
</table>
## Appendix C.3
Vertical integration of data analysis
Example of a single participant analysis

<table>
<thead>
<tr>
<th>Ecoliteracy</th>
<th>FGD1</th>
<th>FGD2</th>
<th>Indiv</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Comprehension of interrelatedness</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>Uses the words: &quot;We're in it&quot; (humans part of nature) and can't ever be far removed from it. Said: &quot;Nature is every living thing including us&quot; in FGD1, in FGD2 - &quot;Nature is everything that exists&quot;, and now maintains this view. In final interview: &quot;Nature is what we are.&quot;</td>
</tr>
<tr>
<td>B Attitude of care and stewardship</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>Has strong feelings of care towards nature and many good intentions, but doesn't necessarily (consistently?) translate them into action.</td>
</tr>
<tr>
<td>C Ability (willingness?) to act on the basis of knowledge and feeling</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>Good intentions and some action but constrained by barriers (e.g. time, perception of sacrifice required).</td>
</tr>
<tr>
<td>D Understanding how people relate to each other and nature</td>
<td>√</td>
<td></td>
<td></td>
<td>Says our relationship with nature should be symbiotic, but is in fact parasitic and destructive. Disillusioned by people's lack of knowledge about nature, frustrated by the idiocy of political leaders, saddened by loss of nature.</td>
</tr>
<tr>
<td>E Knowledge of how the physical world works and our place in evolution</td>
<td></td>
<td></td>
<td></td>
<td>Not clearly expressed anywhere.</td>
</tr>
<tr>
<td>F Knowledge of the nature, extent and speed of our ecological crisis</td>
<td></td>
<td></td>
<td></td>
<td>Has some knowledge but not comprehensive - names a range of issues from loss of rainforests, to squatter camp rubbish, and pollution. Has an understanding of why habitat loss is a problem. Sees a link between the global economy and destruction of nature (no other respondent mentioned this).</td>
</tr>
<tr>
<td>G Knowledge of our modern world and how we think about it</td>
<td></td>
<td></td>
<td></td>
<td>Relates how political ambitions and ego clash with nature. Makes comments about everything being driven by money in our society and that being the root of our relationship with nature. Sees a conversation about the crime situation in the country as not unrelated to this discussion about his / humans relationship with nature.</td>
</tr>
</tbody>
</table>

Adoption of ERB / behaviour change - ACTIONS only

- Used to occasionally pick up papers (litter) in his path - now he does it all the time and may even go out of his way to do so.
<table>
<thead>
<tr>
<th>General comments / observations from final interview:</th>
<th>ERB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ecoliteracy (awareness etc.)</strong></td>
<td>ERB</td>
</tr>
<tr>
<td>Q1</td>
<td>There's been a shift in A1’s thinking about adopting ERB (from large scale action requiring big sacrifice). Still has the intention to &quot;get involved in bigger things&quot;. But he acknowledges that he does some &quot;small things&quot; already. So it's not only big things. But it's as though he's saying he takes the small things as given - it's only the big things that are really going to make a difference.</td>
</tr>
<tr>
<td>People are fundamentally part of nature. Can see there are different kinds of relationships between humans and nature - symbolic, parasitic. Implies that we cause damage to the system (and by implication ourselves?) by e.g. killing the rainforests.</td>
<td>A1 thinks globally - has knowledge and insight into globalisation and its effects. He only names big things when asked about ERB: finding an alternative global energy source, the environmental crisis in China caused by excessive resource use.</td>
</tr>
<tr>
<td>Feels that nature &quot;is what we are&quot; and is reliable and enduring no matter what we do to it - &quot;we'll never be able to kill it&quot;. It's a refuge - we can always return to it, it is always there.</td>
<td>Says that currently ERB and making money (which is the big problem) are mutually exclusive - so the solution is to find ERB that also makes money (e.g. manufacturing equipment for solar power). A1 is empowered by his knowledge and insight into environmental problems and searching for solutions</td>
</tr>
<tr>
<td>Some inclination towards seeing nature as a system: &quot;nature evolves&quot; because &quot;it is living&quot;.</td>
<td>Like the other respondents he believes everyone is responsible. But he takes ownership of his own culpability - &quot;the mere fact that I'm not saying anything about it makes me (culpable)&quot;. Not doing anything about it makes one culpable.</td>
</tr>
<tr>
<td>Feels strongly about caring for nature and feels sad about the damage &quot;some elements&quot; are doing to it - especially in the political realm - refers to the idiocy and craziness of some leaders</td>
<td>Shows his insight into the connectedness and process of things e.g. we buy material or a food that &quot;has come through the system&quot;.</td>
</tr>
<tr>
<td>Fair knowledge of the ecological crisis - but not much indication of an understanding of how different acts / issues are connected e.g. rainforest destruction, rubbish in squatter camps, pollution (in FGD1 - seabirds dying from eating plastic bottle caps, oil pollution in the sea)</td>
<td>He takes ownership of his contribution to the environmental crisis: e.g. uses too much paper. Suggests he become a more conscious, ethical consumer - use recycled paper, don’t buy things that require something to be killed.</td>
</tr>
<tr>
<td>Fairly superficial understanding of how the physical world / ecosystem works - he has an interest in things he loves e.g. animals, or is concerned about habitat loss in rainforests because it’s somewhere he would like to visit one day</td>
<td>He’s not currently a conscious consumer but feels he has the choice to adopt this approach: “you always have a choice - no-one forces you to do anything!” This is the opposite of the majority of respondents - who feel they are helpless victims of the system.</td>
</tr>
<tr>
<td>Impressed by the “minimum impact philosophy” applied by the WLS (potential for application elsewhere in life?) during and after the trail.</td>
<td>Having options doesn’t mean you choose them: continuum of choice / action - having no option &gt; having options &gt; choosing / not choosing the option(s)</td>
</tr>
<tr>
<td>According to him - The way he now feels and thinks about nature is directly attributable (largely) to the trail experience because of the better understanding he gained about nature, how to interact with it (example of the guides) - has gained knowledge and insight into the systemic nature of things and interconnectedness.</td>
<td>Feels more strongly that sacrifice will be necessary to adopt ERB - probably because he has more insight now. He appears to be grappling with balancing tradeoffs that will need to be made (e.g. money ~&gt; lifestyle) but doesn’t actually call them trade-offs.</td>
</tr>
<tr>
<td>Significant influence of the guides (knowledge and conduct in terms of minimum impact)</td>
<td>Used to occasionally pick up papers (litter) in his path - now he does it all the time and may even go out of his way to do so - prompted by A2’s conduct in this regard</td>
</tr>
<tr>
<td>Learning from others in the group also played a role (hunting, A2 with regard to picking up litter)</td>
<td>Already recycles household waste (from FG1) and uses unleaded fuel - but because they use borehole water - no water saving. Lack of understanding here about the water source but has spoken to his family about using less water - but inertia has stopped them.</td>
</tr>
<tr>
<td>Shocked at the ignorance, lack insight and lack of awareness of people (others in the group) about nature and how things work and simply what’s going on around them - &quot;humans are so wrapped up in their own little worlds&quot; that they don’t see/hear/perceive</td>
<td>A1 has many good intentions e.g. putting up a rainwater tank - but little translation into action. He takes full responsibility for not taking these actions putting it down to laziness (even though he is working 16 hr days). Says time is not the issue - rather priorities (what one makes time for / what’s important enough to make time for)</td>
</tr>
<tr>
<td>Night watch - significant insight gained - we can learn from wildlife (the animals) - they don’t think it’s just them on the planet.</td>
<td></td>
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</tbody>
</table>

Q3
Other notes (observations from FGD 1&2)

Experiencing nature is a daily thing for A1 (living on his smallholding)
A1 has a reverence for nature and how it makes him feel
Feels a sense of separation from nature (would like to be closer) caused by the way that we live / the way that society has developed.
The trail kindled passion in him for nature and an understanding of how to live in harmony with wilderness

Demonstrates that he thinks about his relationship with nature (and the emotional challenges this presents him with), and his relationship with his family and taking significant action. i.e. He is seriously thinking about and engaging with the implications and what it will mean to change his lifestyle to a more environmentally friendly one - his interpretation of ERB.
Before and after the trail and especially at the final interview - he is seriously thinking about taking significant action (lifestyle change) but he is still concerned about the sacrifices that he and his family will have to make

Overall:

Trail gave him a better understanding of nature, interconnectedness - improved knowledge and insight of the detail of how nature works and the system. Improved ecoliteracy and many good intentions that must still be enacted but no significant behaviour change as yet.