

FINAL REPORT

Creating Inspiration: How Visual and Performing Arts Shape Environmental Behaviour

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Abstract

This project investigated how the visual and performing arts shape environmental behaviour, and how they might be better utilised by those promoting environmental sustainability, particularly in rural areas.

The project involved the examination of several case studies which incorporated the visual or performing arts in environmental initiatives. The case studies included concerts, events, festivals, conferences and a devised theatre production in schools, and embraced issues including the greenhouse effect, land, water and vegetation issues, wetlands, and biodiversity conservation. The project also involved interviews of about 90 key informants in Australia, Canada, USA, Norway, UK and Italy, and observations of examples where the arts had been used to assist in environmental sustainability in Australia and internationally. This field work was supported by a literature review.

There are three main pathways through which the arts can shape behaviours that are more environmentally sustainable, and which might be successfully utilised by extension practitioners and others wishing to build capacity in the community for environmental sustainability. These pathways are:

- communicating information;
- connecting us to the natural environment; and
- catalysing environmentally sustainable economic development.

The first pathway, communicating information, may be used in the education or extension context, or in communicating information to the general public. The visual and the performing arts are able to synthesise complex ideas and present them to a lay audience in an engaging form. Well designed images can articulate a vision for an ecologically sustainable landscape that encapsulates best practice land management. Some art forms or works of art are good at prompting new ways of looking at problems.

The second pathway is to subtly connect us with the natural environment. Many artists are inspired by the natural environment, and their artworks or performances evoke a strong sense of connection through aesthetic language. Some works of art achieve this through evocative representations of the environment, others achieve it by being in the natural environment itself. Large art-environment events can have a celebratory role which motivate and involve communities. Such events can strongly move the emotions in a positive way, and stimulate people to reflect on their relationship with the environment.

A third pathway is where the arts catalyse actions to improve sustainability. In the rural context, this might be achieved through integrating art with farm forestry, rural regeneration and land rehabilitation initiatives, or where farmers incorporate principles of landscape design into farm planning. In urban areas, public and community art have been incorporated into urban planning designs that reduce greenhouse gas emissions by providing public transport and facilities for walking and bicycling.

The study has policy implications in arts and natural resources funding, direction of infrastructure spending and in delivery of natural resources extension, and the findings and recommendations of this project (summarised below) should be brought to the attention of policy makers in arts and cultural affairs in Commonwealth and State Governments.

Funding programs which seek to create shifts in environmental behaviour (including natural resources management programs) should broaden their funding guidelines to include arts-based projects, where such projects can demonstrate environmental outcomes, or outcomes in improved capacity building. There should be a review of funding programs for the arts to ensure that there are no barriers to the participation of regional and community artists, and that the programs contain components specifically targeted at art and natural resource management issues. Funding from both the private and public sectors in the arts and natural resources management should sympathetically consider community arts project and other forms of participatory art forms which have an environmental theme or outcomes.

Research should be encouraged into the greenhouse emissions of the arts compared to other sectors in the economy, and the reductions in emissions that might be achieved by investment in the arts sector, compared to investment in other forms of emission reduction.

A greater proportion of public investment in public infrastructure and public spaces should be directed to community and public art, particularly that which is linked to improving environmental sustainability. Incentives should be provided to encourage private investment in public and community art. Policy research should be undertaken into the means by which public and private investment can be shifted towards the community and public arts, particularly where such art can be shown to have environmentally favourable outcomes.

Urban and regional planning authorities and regional development agencies and organisations should integrate the arts and cultural development into their operations and strategic plans. Research funding should be directed towards the link between cultural renewal in rural towns and centres and its effect on how land managers near those centres view and manage their own land, and whether cultural renewal of rural towns is a route to improving land management in the hinterlands around them.

Extension and natural resource management agencies should work with the arts sector, and in particular community artists, on joint projects and programs. Artists should be included in planning processes. Further research should be funded into investigating the roles of festivals and events in normalising and promoting environmentally sustainable behaviour. Natural resources agencies and organisations seeking improvement in general environmental behaviour should work with festivals and large art events, to incorporate environmental themes and encourage them to adopt best environmental practice in the way that they are run. Where natural resources agencies and organisations seek to involve the arts community, adequate remuneration for artists should be built into budgets. State and Federal Governments should provide a unified response to simplify insurance requirements and ensure that costs are not prohibitive for community events. If projects are developed with schools in mind, they should be integrated with the curriculum in collaboration with teachers, and provision for relief time may need to be built into budgets.

The study concluded that the visual and performing arts can effect environmental behaviour at the individual, community and societal level. Art events can aid participation by a broad cross section of the community, can strengthen a community's abilities to promote inclusion, and can be powerful vehicles for community mobilisation, empowerment and information transfer.

1 Project Objectives

- To investigate how the arts are both deliberately and unconsciously used in shaping perceptions towards the environment in Australia and internationally.
- To describe the historical links between arts-based modes of communication and the movement for environmental repair and conservation.
- To investigate current links between community-based and government-based environmental programs and the arts.
- To integrate theory of how beliefs and values are shaped and the impact that the arts have on that process.
- To review the variety of arts types that different social groups and people with different learning styles respond to.
- To use a series of events that incorporate the arts and environmental repair, to evaluate the role of the arts in changing people's behaviour towards the environment.
- To develop and test policy and procedural recommendations for extension and environmental education programs.

2 Summary of Methods

The project drew on an action research approach in which those who were the subjects and users of the research had opportunities to guide and evaluate it (Neumann, 1997). It combined qualitative, interpretive and quantitative logical positivist methods as well as participant observer approaches. This purposeful methodological diversity, enabled us to triangulate between the different types of data, to afford greater confidence in the conclusions arising from the data (Neumann, 1997, p.151). In the selection of specific research methods, the approach was one of methodological pragmatism that drew from a range of social science paradigms according to circumstances (Crump, 1995).

Eight community-based art and environment activities were selected as case studies. The events were selected to obtain a wide geographic coverage from southern NSW to southern Queensland, spanning a range of environmental themes. Case studies covered rural and urban issues, and natural resources and global environmental issues. They incorporated a range of artistic expressions including the visual arts, sculpture, music, performance, and writing. They were selected to display a range of involvement from farmers, scientists, artists, performers, extension officers, community groups, schools and tertiary institutions. The case studies were as follows:

- *Nova-anglica: Web of Our Endeavours* March 1998;
- *Gunnedah Two Rivers Festival* 2002-2004;
- *Plague and the Moonflower* 26-27 October 2002 – December 2003;
- *Bungawalbin Wetlands Festival* September 2003;
- *Ecological Society of Australia conference*, December 2003;
- *Riverina* Dec 2002-Dec 2003;
- *Play Building on Greenhouse Effect in Schools* November 2002; and
- *Art in Extension – Greening Australia* 1990-2000.

About 200 interviews with key informants, participants and audience members in case studies were undertaken. Of these, 88 were key informant interviews including 41 people working in the arts (visual, performing, and community arts), 20 people working in an extension or community facilitation capacity, 20 people who showed exemplary behaviour towards the environment or were involved with Landcare, and several academics in related disciplines. Most interviews conducted were semi-structured, based around a standard set of questions. Some interviews were informal and unstructured.

The interview transcripts were analysed and main themes and sub-themes were identified and coded. Other qualitative data were also coded for themes and sub-themes, including historical documents, journal entries, participant observations, informal interviews and media clippings. The methods of analytic comparison, successive approximation and illustrative technique were used to interrogate qualitative data (Neumann 1997). Quantitative data gained through surveys were analysed statistically using SPSS (2001).

A literature review was conducted throughout the course of the research, and was guided by the data emerging from case studies and interviews. Focus group interviews were undertaken at different stages of the research. In particular, focus groups were used to analyse two case studies (Gunnedah Two Rivers Festival and *The Plague and the Moonflower*). In addition a focus group of extension and community facilitators and land managers was used to test the emerging conclusions. Three Reference Groups, one each of artists, extension people and academics were established to test emerging themes, and to provide advice.

A Users Guide was produced which summarised the ways that the arts could be used to promote environmental sustainability by extension practitioners, and those working in community extension. It was based on the findings of this research and was refined through consultation with reference group members and key informants, seeking comment via conference presentations, and through articles in newsletters. Training workshops and focus groups of extension staff and community facilitators were carried out as well as one-on-one interviews with extension and facilitator staff. Hypotheses from the research were road-tested and refined through these workshops and interviews, as well as the effectiveness of content of the Users Guide.

A full description of the methods used in this study is provided in Appendix I.

3 Results

3.1 To investigate how the arts are both deliberately, and unconsciously used in shaping perceptions towards the environment in Australia and internationally

The arts are used both deliberately and unconsciously in shaping perceptions towards the environment in different ways, and these are summarised in Table 1. In some cases these are contradictory and contestatory.

Table 1. Some ways that the arts are used to deliberately and unconsciously shape perceptions towards the environment, and supporting literature.

Ways in which the arts can shape perceptions towards the environment	Supporting literature
Communicating a message of environmental sustainability	Gold and Revill (2004) Pollak & MacNabb (2000)
Highlighting issues which degrade the environment	Cless (1996), Goldberg (2000), Kirn (2004), Pollak & MacNabb (2000), Rosenberg (1992)
Providing spiritual or deeper connections to country, landscape and the natural environment	Collins (2004), Fink (2001), Langton (2000), Martin (2002), Martin <i>et al.</i> (2001), Napangardi (2003), Neale (2000), Peat (2004), Radford (2001), Schama (1995), Tunney (2000), Wolseley (1994)
Assisting scientific research	Nadkarni (2002, 2004)
Defining and perceiving environmental degradation	Al-Kodmany (1999), Drysdale (1994), Gablik (1993)
Developing solutions to environmental degradation	Clover (2000), Gablik (1993), de Groat (1994), Lister (2001)
Providing an environmental or ecological aesthetic	Bonyhady (2000), Gablik (1993), Lister (2003)
Aiding the growth of consumerism	Baudrillard (1988), Bourdieu, (1983, 1984, 1987), Corrigan (1997), Gold & Revill (2004), Hargreaves & North, 1997, North & Hargreaves, 1999,
Assisting propaganda	Clark (1997)
Providing an alternative to mass consumption	Corrigan (1997), Foran <i>et al.</i> (2005), Fox (2002), Schumann (1987)
Involving people in reversing land degradation	Lister (2001), Mills and Brown (2004)
Enriching the facilitation process	Rosales & Zarco (2004)

There are three main pathways through which the arts can shape behaviours that are more environmentally sustainable, and which might be successfully utilised by extension practitioners and others wishing to build capacity in the community for environmental sustainability. These pathways are:

- communicating information;
- connecting us to the natural environment; and
- catalysing environmentally sustainable economic development.

The first pathway, communicating information, is relevant to education or extension and in communicating information to the general public. The visual and performing arts can be used to synthesise complex ideas and present them to a lay audience in an engaging form. Well designed images, can articulate a vision for an ecologically sustainable landscape that encapsulates best practice land management. Some art forms or works of art are good at prompting new ways of looking at problems.

The second pathway is to subtly connect us with the natural environment. Many art practitioners are inspired by the natural environment, and their artworks or performances can evoke a strong sense of connection through their aesthetic language. Some works of art achieve this through evocative representations of the environment, others achieve it by being in the natural environment itself. Large art-environment events can have a celebratory role which motivate and involve communities. Such

events can strongly move the emotions in a positive way, and stimulate people to reflect on their relationship with the environment.

A third pathway is where the arts catalyse measures to improve sustainability. In the rural context this might be achieved through integrating certain art-forms with farm forestry, rural regeneration, and land rehabilitation initiatives, or where farmers incorporate principles of landscape design into farm planning. In urban areas public and community art can be incorporated into urban planning designs which reduce greenhouse gas emissions through excellent public transport and facilities for walking and bicycling. Associated with this pathway is the strong community development role of the arts.

The various ways in which the arts can improve environmental behaviour are summarised in Appendix II.

3.2 To describe the historical links between arts-based modes of communication and the movement for environmental repair and conservation

Key informants interviews and the literature review showed that the association between artists and those who attempt to conserve the natural environment has a long history, and that many artists use their work to communicate important insights into human relationships with the natural environment (Bonyhady, 2000; Pollak & MacNabb, 2000). Like ecologists, some artists immerse themselves in the natural environment to reach their own understandings. Indeed poets and artists have been influential in shaping attitudes about the Australian landscape (Papadakis, 1993), and the arts have been used extensively by some organisations to publicise environmental issues (Gold & Revill, 2004).

3.3 To investigate current links between community-based and government-based environmental programs and the arts

Key informants interviews and the literature review revealed that there has been an evolution in arts practice over the last few decades with the development of participatory art-forms. This is particularly evident in the community arts and in the practice of particular artists. It mirrors the evolution of the community development model of extension delivery, witnessed in Landcare and regional delivery mechanisms. Opportunity exists for participatory art forms to converge with community development models for environmentally sustainable development in rural areas. The research confirmed that the visual and performing arts have an important role in capacity building for environmental and ecological sustainability, although up to now this potential has not been fully realised by government based environment programs.

Environmental planning appears to rarely incorporate cultural planning and the reverse appears also to be true. Many people working in environmental management are unaware of the contributions being made by artists in raising environmental concerns and working on solutions (de Groat, 1994), or of the potential for using the arts in this way. Stakeholder conflict over appropriate solutions to certain environmental issues can be due to fundamental differences in values (Sandall *et al.*, 2001). Some artists describe how the arts (particularly ecological art) can help provide a more unifying ecological aesthetic (Ian Hunter, 'Littoral', UK, Interview 4/8/2004). Again the potential for this has not been significantly exploited by government-based environmental programs.

3.4 To integrate theory of how beliefs and values are shaped and the impact that the arts have on that process

A review was undertaken of the social psychological literature regarding how beliefs and values are formed, and in particular how environmental behaviour is shaped. Many factors influence how

individuals and particular communities behave towards the environment and how these behaviours can change. Factors which influence environmental behaviour include: psychology and values (Gooch, 1995; Stern *et al.*, 1993); beliefs, attitudes (Heberlein, 1981); life experience (Hallin, 1995); moral, ethical and altruistic motives (Hallin 1995); thrift (Hallin 1995); education (Howell & Laska, 1992); socio-economic status (urban/rural, liberal/conservative, young old) (Howell & Laska, 1992); the influence of the media, propaganda and advertising (Scott & Willits, 1994); access to information (Scott & Willits, 1994); economic advantage (Hallin, 1995); gender (Scott & Willits, 1994; Stern *et al.*, 1993); direct experience of environmental degradation (Gooch, 1995); direct experience of the natural environment (Archer & Beale, 2004); exposure to positive motivational forces such as incentives or coercive influences such as regulations (R. De Young, 1993; Dwyer *et al.*, 1993); national culture (Gooch, 1995); symbolic beliefs (Cary, 1993); the attitudes of leaders; awareness of the consequences of one's actions (Schwartz, 1968); history; social peer group pressure; exposure to pioneering individuals; the social milieu *viz a viz* political lobbying and action and the activities of community groups; and exposure to information and scientific research. It is the sum total of all these influences on individuals and communities that combine to create our whole society's impact on the environment.

Underlying values and attitudes are keys to understanding how different people behave towards the environment (Sandall *et al.*, 2001). Attitudes depend on a person's beliefs, which in turn are influenced by what one knows. Because a person can continue to gain knowledge, their beliefs (and hence attitudes) can change over time. Values are more deeply held, form in one's youth and tend to not change much over the course of one's life (Sandall *et al.*, 2001).

A model for how the arts affect environmental behaviour is presented in Appendix II. It is suggested that the work of individual artists can influence the behaviour of citizens through three major pathways, which impinge on a person's values or attitudes. The degree to which a person responds will depend on individual characteristics, such as gender, class and so on. The accumulated result of society's collective behaviours leads to macro-level impacts on the environment. A knowledge of these impacts, in turn, influences individual artists, and influences their practice.

3.5 To review the variety of arts types that different social groups and people with different learning styles respond to

The arts include a vast field of human knowledge and practice, and are far beyond the scope of this study to deal with in any but a small way. They can be classified in different ways, for example by period, by art-form, or as high (elite) or low (popular culture) (Alexander, 2003). When people think of the arts, they tend to think of the elite forms and not the wide range of experiences that the arts include (Costantoura, 2000). We narrowed our field of view in this study to where the arts impact on environmental behaviour, but even so that includes a wide range of arts practices.

The arts are defined as creative and interpretative expression through theatre, literature, music, visual arts, and crafts (Costantoura, 2000). The UNESCO definition of an artist is:

... any person who creates or gives creative expression to, or recreates works of arts, who considers his [*sic*] artistic creation to be an essential part of his life, who contributes in this way to the development of art and culture and who is or asks to be recognised as an artist, whether or not he is bound by any relations of employment or association. (UNESCO, 1980).

Performing and visual arts cover a huge range of activities (Alexander, 2003). Based on the UNESCO definition, Throsby & Thompson (1994) defined a series of occupations by art form, *viz.* writer, craftsperson, visual artist, actor, dancer/choreographer, musician/singer, composer, community artist. The arts overlap or merge with craft, fashion, advertising, design and style and many artists end up

finding work in these other industries. There are also many other professions that impinge on the arts, including art galleries, financial institutions, funding bodies, and teaching (art, drama, dance, music). The arts include amateur artists, performers as well as professionals.

The research found that people respond differently to do different art forms. Surveys and focus group studies following art exhibitions and concerts found that audiences exhibited a wide range of responses. Some art forms are more popular than others (e.g. in one art exhibition of contemporary art in a rural town that was studied, landscape photographs were responded to more positively to by some people than more abstract art forms). According to the French sociologist, Pierre Bourdieu, different groups define themselves by their choice of culture that they favour, and some groups use particular art forms and culture as a means to exclude people from their class (Bourdieu, 1983, 1984, 1987).

A wide variety of visual and performing arts techniques and types affects environmental behaviour (Curtis, in press). They include (but are not confined to) individual fine-art works (including photographs, paintings, drawings, sculptures, video art, jewellery, ceramics; prints, and etchings); sculptures and other art forms in the natural environment; environmental and ecological art; murals, sculptures, and other public art works; art exhibitions; field studies programs with visual arts students; art installations and special purpose events; art competitions or exhibitions in schools; street or paddock theatre; play-building in schools; travelling theatre groups; specially commissioned theatre or performance works; performances and concerts (including orchestral, choral, dance, visual and theatrical spectacles); the full spectrum of musical styles and types of music groups; street parades; community arts events and festivals; participatory art forms, such as community arts and community theatre; writing workshops; story telling; film; happenings; landscape architecture; advertising; and performances in the natural environment.

There is an increasingly large arts practice based around participatory models, which include the community arts (Hawkins 1993) and events and festivals, and these emerged as a key area of the arts relevant to our investigation. The community arts typically involve a community artist working with individuals and groups from a community to create an artwork or series of art works or performances. There is a strong emphasis on the process of production and community inclusion. Some artists work partly on their own practice for some of the time and on community arts projects at other times, while others work solely as community artists. Community arts projects are varied, and the practice is one that has evolved in Australia over the last three decades. Often the projects are used as a means to assist a community to connect with socially excluded groups such as ethnic minorities, or disadvantaged youth, or to celebrate hitherto unrecognised aspects of community culture, such as working class culture or women's crafts (Hawkins, 1993; O'Hara, 2002). Many projects have an environmental focus (Mills and Brown, 2004).

3.6 To use a series of events that incorporate the arts and environmental repair, to evaluate the role of the arts in changing people's behaviour towards the environment

Eight art events were studied to evaluate the role of the arts in changing people's behaviour towards the arts. The results from this investigation are summarised in Appendix II. The research found that festivals and art events can normalise good environmental behaviour. They do this through the process of a 'suspension of normality' (Measham, 2003; 2005), and can do it in three ways. The first is where the festival has a theme based around celebrating some aspect of the natural environment or human restoration aspects. The second is where the process involved in the event incorporates good environmental practices, for example using recycled materials in the construction of sets, or using public transport to move participants around. The third way is where good environmental practices

are built into the event itself, such as excellent recycling facilities. Thus, through normalising best practice environmental practices, the event can lead to those behaviours becoming cultural norms.

The results of the case studies (and particularly the analysis of the survey data from *The Plague and the Moonflower*) led us to develop a conceptual model for changing environmental behaviour using art events (see Appendix II).

3.7 To develop and test policy and procedural recommendations for extension and environmental education programs

As part of the project, a Users Guide was developed for extension agents and those working in community facilitation on the best way of using the arts in environmental education and in affecting behavioural and attitudinal changes (Curtis, in press). This was primarily aimed at people working in an extension role or community facilitation, but has wider application. The contents of the Users Guide were road-tested in focus groups, training workshops and with some members of the reference groups, to ensure that it was grounded and practical. Land managers and extension staff generally found the content useful. Different people selected different parts that were more applicable to their situation. This publication is enclosed with this report.

3.8 Policy recommendations

Arising from the research a set of policy recommendations were developed (Reeve, *et al.* In press). This publication is enclosed with this report. The recommendations have been divided into three general areas: improving natural resource management, fostering environmentally sustainable development and improving the effectiveness of extension. They are listed below.

Art in improving natural resource management

Recommendation 1: Funding programs which seek to create shifts in environmental behaviour (including natural resources management programs) should broaden their funding guidelines to include arts-based projects, where such projects can demonstrate environmental outcomes, or outcomes in improved capacity building.

Arts funding

Recommendation 2: The findings of this project should be brought to the attention of policy makers in arts and cultural affairs in Commonwealth and State Governments. There should be a review of funding programs for the arts to ensure that there are no barriers to the participation of regional and community artists, and that the programs contain components specifically targeted at art and natural resource management issues.

Participatory art forms

Recommendation 3: Funding from both the private and public sectors in the arts and natural resources management should sympathetically consider community arts project and other forms of participatory art forms which have an environmental theme or outcomes.

Art to foster environmentally sustainable development

Recommendation 4: Research should be encouraged into establishing the link between the arts as an industry and its likely impacts on greenhouse gas emissions, and the level of investment into the arts required to make a major impact on reducing greenhouse gas emissions *viz a viz* investment in more polluting industries.

Infrastructure investment

Recommendation 5: A greater proportion of public investment in public infrastructure and public spaces should be directed to community and public art, particularly that which is linked to improving environmental sustainability. Incentives should be provided to encourage private investment in public and community art. Policy research should be undertaken into the means by which public and private investment can be shifted towards the community and public arts, particularly where such art can be shown to have environmentally favourable outcomes.

Environmentally sustainable regional and urban development

Recommendation 6: Urban and regional planning authorities and regional development agencies and organisations should integrate the arts and cultural development into their operations and strategic plans.

Building cultural capacity in regional centres to promote a new land ethic

Recommendation 7: Research funding should be directed towards the link between cultural renewal in rural towns and centres and its effect on how land managers near those centres view and manage their own land, and whether cultural renewal of rural towns is a route to improving land management in the hinterlands around them.

Improving the effectiveness of extension

Recommendation 8: Extension and natural resource management agencies should work with the arts sector, and in particular community artists, on joint projects and programs. Artists should be included in planning processes.

The arts as a means of normalising good environmental behaviour

Recommendation 9: Further research should be funded into investigating the roles of festivals and events in normalising and promoting environmentally sustainable behaviour.

Recommendation 10: Natural resources agencies and organisations seeking improvement in general environmental behaviour should work with festivals and large art events, to incorporate environmental themes and encourage them to adopt best environmental practice in the way that they are run.

Funding is a problem for many artists

Recommendation 11: Where natural resources agencies and organisations seek to involve the arts community, adequate remuneration for artists should be built into budgets.

Insurance

Recommendation 12: State and Federal Governments should provide a unified response to simplify insurance requirements and ensure that costs are not prohibitive for community events.

Working with schools

Recommendation 13: If projects are developed with schools in mind, they should be integrated with the curriculum in collaboration with teachers, and provision for relief time may need to be built into budgets.

4 Outline of how these results can be adopted and summary of communication and technology transfer to date

The communication and technology transfer that occurred throughout the project included:

- two mail-out packages to a network of 335 individuals and organisations (totalling four papers, two brochures, onepostcard and one letter);
- a print run of 100 Users Guides;
- PDF of all documents available on Institute of Rural Futures website;
- eight conference presentations, three of which were at international conferences overseas;
- nine presentations at universities, research organisations and community organisations;
- three training workshops (two of which also functioned as focus groups to review the content of the User's Guide);
- one interview with ABC Radio National (at <http://www.abc.net.au/rn/science/earth/stories/s1009101.htm>).

See Appendix III for a complete list of all communication and technology transfer that occurred throughout the project.

The results of this research will be able to be adopted in many contexts, for example:

- in the extension context (where the visual and performing arts can be used for facilitated workshops, field days, special events, training days, social activities for Landcare groups, tree planting or Landcare days, conferences and promotional purposes).
- in environmental education in schools;
- in urban planning, regional planning, catchment planning, and farm planning;
- in the policy formulation for both the arts and natural resources management; and
- in the context of planning infrastructure spending.

5 Assessment of commercial potential

As a sector, the arts have relatively low greenhouse gas emissions, water use and land disturbance, while having relatively high employment generation and income, and the high visibility of the sector gives it a large potential to encourage change in urban society (Foran *et al.*, 2005). As a generalisation, consumer items that are made by artists tend to have lower embodied energy and higher levels of embodied labour than mass produced items, whether it is hand crafted furniture, finely crafted musical instruments or paintings. Furthermore, because of their higher emotional and financial value, they are more likely to be kept longer, and passed on as heirlooms. Another large source of consumption is in constructing buildings. Materials vary greatly in their embodied energy (Reardon *et al.*, 2001). The research found several contemporary examples of buildings with low embodied energy, low energy consumption, and where artists were involved in the construction and design. Public art and community art also appear to have an important place in assisting the development of a new form of consumption based on non-materialism.

The arts are therefore likely to be an important structural element of a future ‘post-consumer’ (or environmentally sustainable) Australia, where consumption might be more of ‘conspicuous leisure’ than of ‘conspicuous consumption of goods’ (Corrigan, 1997, p.25). Channelling surplus product into the arts is likely to have benefits in reducing some of Australia’s environmental impacts in key areas, such as reducing greenhouse gas emissions.

6 Publications

Publications emanating from the project total 27, and consisted of:

- three peer refereed journal articles and conference proceedings (one further journal article has been accepted for publication subject to review);
- one book chapter;
- two major reports (in addition to this one);
- one book;
- seven conference papers;
- five articles in non-refereed journals;
- four brochures and postcards; and
- four commissioned artworks.

Associated art and media productions which arose from the project included a further commissioned art work, six theatre scripts, and a DVD. A full list of publications and associated art works is provided in Appendix IV.

7 Additional information

Additional information is available about the project from the Principal Investigators (see contact details at the front of this report) and from the following sources:

Curtis, D.J. Reeve, I. and Reid, N. (in press). *Creating Inspiration: Using the visual and performing arts to promote environmental sustainability*. Final Report to Rural Industries Research and Development Corporation, 109 p.

Curtis, D.J. (in press). *Creating Inspiration: A user’s guide to using the visual and performing arts to improve environmental sustainability*. Institute of Rural Futures, University of New England, Armidale NSW.

Reeve, I., Curtis, D.J. and Reid, N. (in press). *Arts and environmental behaviour - Policy recommendations*. Institute of Rural Futures, Ecosystem Management (School of Environmental Science and Natural Resource Management), University of New England, NSW, 25 p.

Institute of Rural Futures Website <http://www.ruralfutures.une.edu.au/text/tprojects/tenvchange/tlwaenvart.htm>

8 Acknowledgements

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The people who gave freely of their time to be interviewed and who provided so much information and ideas, as well as participants and audience members who filled in surveys or subjected themselves to interview.

The community committees and organisations who organised the case studies and to all those involved in them: *Nova-anglica: The web of our endeavours*, the Bungawalbin Wetlands festival, *The Plague and the Moonflower*, the Gunnedah Two Rivers Festival, Ecological Society Conference, The Greenhouse in Schools project, the Deniliquin Case Study and the Art in Extension case study (Greening Australia). Particular people associated with the case studies. *Nova-anglica* – Leah MacKinnon, Fay Porter, Chris Everleigh, Vicki Taylor, Kate Wright, Sonia Williams, Chris Nadolny and the staff of the New England Regional Art Museum. *Gunnedah* – Susan Wilson, Jill Watkins and Maree Kelly; *Plague and the Moonflower* – Bruce and Pam Menzies, Cathy Welsford, Garry Slocombe, and Tania Gammage; *the Greenhouse project* – Fran Curtis, Caitlin Walsh, Penelope McCue and Janet Cunningham; *Bungawalbin Wetlands Festival* – Wendy Seabrook, *Riverina case study* – Martin Driver and Darryl Bellingham.

Preparation of survey data for the ESA case study by Guy Ballard.

Members of three Reference Groups: *Academic* – Lynn Everett, Jean Sandall, Julian Prior, Rebecca Spence, Kathy Jenkins and Warrick Mules; *Extension* – Christine Ellis, Bert Jenkins, Martin Driver, Sonia Williams and Bill Tatnell; *Arts* – Stephen Curtis, Andrew Parker, Jack Ritchie and Dave Carr. Other individuals who have taken a special interest in the project and provided on-going encouragement and ideas: Ian Johnston, Marty Branagan and Genevieve Noone.

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On a personal level I (DC) am deeply indebted to my family Fran, Ellen, Huon and Robin, my parents Helen and Peter, brother and sisters (Stephen, Anna and Tric) and the Bunt family for their affectionate support throughout this saga.

Appendix 1. Methods

Introduction

In the selection of specific research methods, the approach was one of methodological pragmatism that drew from a range of social science paradigms according to circumstances (Crump, 1995). In some stages of the project a quasi-grounded theory approach was used that interlaced data collection and analysis to ensure that emerging concepts and theoretical constructs were firmly grounded in the life experience of the research participants (Neumann, 1997). In grounded theory, the theory is allowed to emerge from interviews with key informants and case studies. Literature and data hold equal status, the literature being accessed as it becomes relevant rather than being given special treatment (Dick, 2003). In other stages of the research social constructivist methods such as focus groups and in-depth semi-structured interviews were employed (Neumann 1997, p.253). Through data collection prior to, and after arts events, the project approach capitalised on the strengths of logical positivist methods to provide evidence of the impact of arts events and the causes underlying these impacts (Neumann 1997, p.62). The purposeful methodological diversity that we employed, enabled us to triangulate between the different types of data, to afford greater confidence in the conclusions arising from the data (Neumann 1997, p.151).

The approach of combining qualitative/interpretive and quantitative methods/logical positivist methods was adopted to analyse some case studies, while in others a participant observer approach was employed. The participant observation technique was considered most appropriate to analyse the case studies borne out of the personal experience of researcher Curtis, notably *Nova-anglica: The Web of Our Endeavours* and the arts used in the extension context. In some of the discussion the critical theory approach was drawn on. In writing up the research, an approach was taken that focussed on presenting the data and its interpretation, rather than focussing on a theoretical framework into which the data should be forced (Wolcott, 2001). Thus literature was accessed throughout the study as it was needed.

The project drew on an action research approach in which those who were the subjects and users of the research had opportunities to guide and evaluate it. Action research is characterised by: those who are being studied participating in the research process; the research incorporates ordinary or popular knowledge; the research has a goal of empowerment and consciousness or awareness raising; the research is tied directly to political action; the researcher tries to equalise power relations between themselves and the research subjects; and the researcher assumes that ordinary people can become aware of conditions and learn to take actions that can bring about improvement (Neumann 1997, p. 23-24).

The research was based on repeated iterations of the action research cycle: Interview informant; Develop and refine theory; Test theory through interviews; Modify theory (see Figure 1). Initial theories were generated from early interviews with Key Informants. The theories were refined and tested in the first art-event, modified after the first set of interviews, and then tested sequentially in each subsequent art-event. A draft training package was developed and tested in a focus group, modified and further tested in training events. Consolidating emerging insights into several national and international conference presentations enabled us to receive feedback from peers, and to further refine the interpretations from the data. Throughout the project there were opportunities for the public and the extension and research community to help shape the theory.

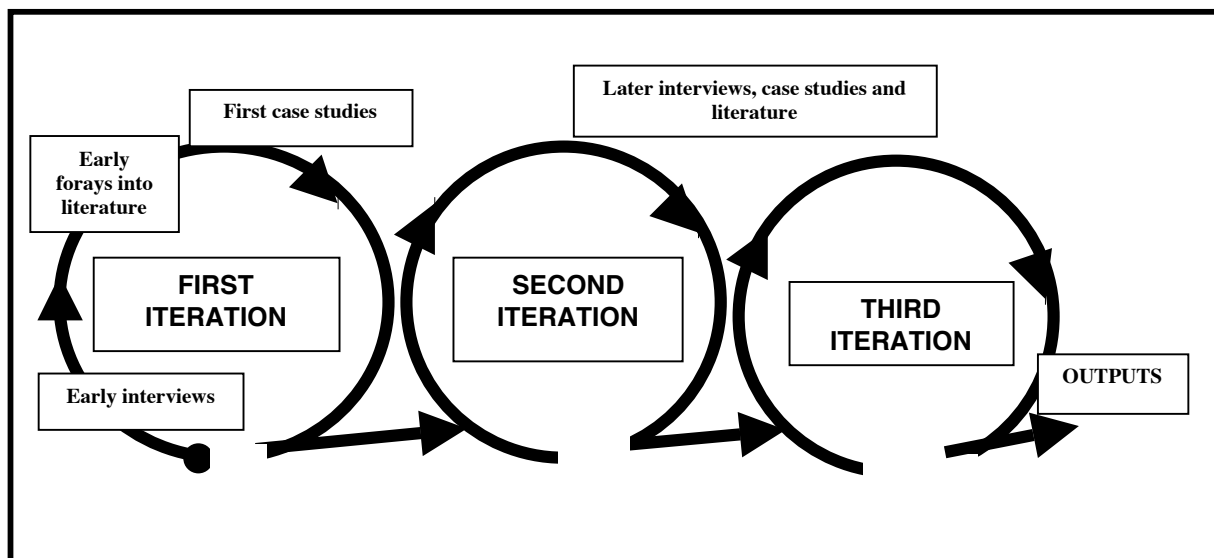


Figure 1: The action research approach taken in this research.

Methodological planning and networking

The early period of the research involved methodological planning and networking to ensure that the study was both rigorous and cognisant of research and arts events already occurring in Australia.

Three Reference Groups were established, one each of academics, artists, extension/Landcare staff. Each consisted of 5-9 experts in the particular field. These groups, and individual members, provided on-going consultation and advice throughout the project and commented on the process of development and refinement of hypotheses. The Academic Reference Group was used to refine methodological and analytical approaches. The Artists Reference Group was used to provide advice on networking and innovative methods to present data and extension tools. The Extension/Landcare Reference Group was used to provide advice on networking and in ensuring that the extension tools that were developed were appropriate to key audiences.

At intervals during the project, communication took place with organisations and groups, extension agents, researchers, landholders and the general public. A network of people and organisations was established which grew to over 300 by the end of the project. The network included interviewees and people associated with the various case studies. The communication took the form of written material and publications relating to the findings of the project. Each communication led to feedback and responses to the theories being developed. These responses were recorded and assisted in modifying the theory.

Data collection

The combined research project generated a large amount of data, including: notes taken in the field; direct observation notes (complete write-ups of interviews, including the physical setting of the encounter and the people present); recordings and transcripts of interviews with individuals and focus groups; relevant material relating to the participant or the case study (including written material, media articles and photographs); and a personal journal and notes which described participant observations in the various case studies, and the research 'journey'. The data collection method followed fairly closely that described by Neumann (1997), Spence (1999) and Fitchen (1991).

Key Informant interviews

Key informants are people who have special expertise in a field under study, as a practitioner in the arts, extension, land management, education or some other related area (Neumann 1997, p. 374). Key informants were interviewed throughout the project. The interview technique, data collection process and analysis were based on participant observer qualitative studies conducted by Spence (1999) and Fitchen (1991), both of whom combined opportunistic interviews with purposefully selected ones. Key informants were based from Victoria, NSW and Western Australia. To provide an international perspective several informants were in the UK, Norway, Italy, Canada, and the USA.

About ninety key informant interviews were conducted for the combined project, including about 40 people working in the arts (visual, performing, and community arts), 20 people working in an extension or community facilitation capacity, 20 people who showed exemplary behaviour towards the environment or were involved with Landcare, and several academics in related disciplines. Key Informants were interviewed either formally or informally, in some cases more than once. Many nationally significant visual and performing artists were interviewed such as John Wolseley, Charles McCubbin, Bruce Petty, Bill Leak, Michael Leunig, Reg Mombassa, Richard Weatherley, John Reid, and Bill O'Toole, as well as community artists such as Jon Hawkes, Fay White and Ana Pollak. Internationally significant artists included Ralph Steadman and Rolf Groven and theatre or arts companies such as *Welfare State International* (UK), *Bread and Puppet Theatre* (USA), *Underground Railway Theatre* (USA), *Littoral* (UK), *Druid Arts* (UK), *Evergreen Theatre* (Canada) and *Platform Theatre* (UK).

In selecting people to interview Curtis began with his existing network, established over many years of working in the non-government natural resources sector. The 'snowball sampling' technique was then used where further people were identified by interviewees and by members of the Reference Groups (Neumann 1997, p. 207). Artists were purposefully chosen whose work was associated with the natural environment in some way, or who appeared to use their art to change people's attitudes (usually) towards the environment. An open mind was kept regarding the forms of arts that would be examined, including amateur crafts, although to keep the project from getting too large, we focused on interviewing people who worked in the arts for a living rather than amateurs. Nationally or internationally acclaimed artists were intentionally selected, as well as regionally based ones.

Interviews with key informants for the took place throughout the project, from April 2003 until and April 2005. Overseas informants were interviewed between June and August 2004. Interviews were conducted according to the protocol approved by the University of New England Ethics Committee. Most interviews conducted were semi-structured, based around a standard set of questions. As much as possible the interviews were conducted in an informal way, and even when there was a particular set of questions, the order of the questions was not strictly followed and if the interviewee set off in on a different direction to that planned, this was followed as far as possible and other questions added as required. The field research and interview techniques largely followed those of Neumann (1997, Chapter. 14). Some interviews were informal and completely unstructured. The nature of most of the interviews were in the form of a conversation about communicating ideas, and thus were often rather inconclusive and not 'scientific'.

Most interviews with Key Informants were recorded using a digital recorder and transposed. With some interviews, notes were made during the interview and were written up afterwards. The informal interviews were not recorded; notes were made and written up afterwards. Analytic memos were written periodically (Neumann 1997, p. 425).

Review of literature

A literature review was conducted to determine what was known about the role of the arts in influencing environmental behaviour. The literature review included a review of situations where the arts have been used to celebrate the natural environment, inform audiences about the environment, or sought to modify people's behaviour or attitudes in some way. The literature review was conducted throughout the course of the research, and was guided by the data emerging from case studies and interviews.

Focus group interviews

Focus group interviews were done at different stages of the research. In particular, they were used to analyse two case studies (Gunnedah Two Rivers Festival, and *The Plague and the Moonflower*). In addition a focus group of extension and community facilitators and land managers was used to test the emerging conclusions. The approach with the focus groups followed the standard methods (Byers & Wilcox, 1991, ; Delli Carpini & Williams, 1994, ; Khan & Manderson, 1992, ; Kitzinger, 1994, ; Morgan, 1997).

Case studies

Eight community-based art and environment activities were selected as case studies (Table 2). The events were selected to get a wide geographic coverage from Southern NSW to Southern Queensland. They were also selected to give a range of environmental themes and covered both rural and urban issues, and natural resources and global environmental issues. They covered a range of artistic expression including the visual arts, sculpture, music, performance, and writing. They were selected to display a range of involvement from farmers, scientists, artists, performers, extension officers, community groups, schools and tertiary institutions. In two cases they were events that one of us (Curtis) had been closely involved with some years previous to the study.

The different case studies were approached in different ways, from basing the analysis largely on participant observations and historical documentation (e.g. *Nova-anglica: The Web of Our Endeavours*, and the arts in extension material gathered from the Greening Australia case study), through to a combination of survey data and detailed interviews informants and focus groups (e.g. *The Plague and the Moonflower*). In each case, contact was established early in the development of the event and participants were interviewed as the event progressed from the early development phase, near the event itself and where possible some months afterwards. Organisers, active participants, and audience members were interviewed. Organisers and active participants were considered to be informants for each event and were selected due to their level of involvement. Where large numbers of participants were surveyed they were invited to self-select. Audience members were selected as randomly as possible, by snow-ball sampling, inviting people to self-select or by randomly selecting people. In each case study the processes of the development of the events were described and compared. The interviews had the intention of determining what the interviewees had learned about the environment and if their behaviour had changed and why. The success of each event was analysed, as were the factors contributing to success or failure. In the course of identifying and comparing case studies other examples were discovered where the arts and the environment were closely linked.

Table 2: Case study events and methods employed in studying them

Type of Event	Themes	Where	Methods of Study
Nova-anglica: Web of Our Endeavours – March 1998			
Visual arts, performances and associated activities	Rural land degradation, particularly dieback, and celebration of environmental repair	New England Regional Art Museum and other venues, Armidale NSW	Participant observation Historical documents and photographs
Plague and the Moonflower: 26-27 October 2002 – December 2003			
Music concert and associated art exhibition	General human destruction of the global environment and the importance of nature	Lazenby Hall, Armidale NSW, Woodford Folk Festival, Qld	Interviews Focus Group Interviews Participant Observations Surveys Historical documents and photographs
Festival, including art exhibitions, and outdoor performances and processions	Rivers	Gunnedah NSW	Interviews Surveys Participant observation Historical documents and photographs
Plague and the Moonflower: 26-27 October 2002 – December 2003			
Music concert and associated art exhibition	General human destruction of the global environment and the importance of nature	Lazenby Hall, Armidale NSW, Woodford Folk Festival, Qld	Interviews Focus Group Interviews Participant Observations Surveys Historical documents and photographs
Riverina: December 2002 – December 2003			
Exhibition of posters with accompanying story telling and performances	Biodiversity	Deniliquin, NSW	Focus Group Interview Key informant interviews
Jodie Hansson artist in residence project 2002-2004	Salt, water	Riverina, NSW	Key informant interview
Bungawalbin Wetlands Festival: September 2003			
Field day and associated events	Wetland conservation	Near Lismore NSW	Interviews Survey Field observations Historical documentation and photographs
Play Building on Greenhouse Effect in Schools: November 2002			
Performance by school children.	Greenhouse	Newcastle Armidale Wollongong, NSW	Participant observations Interviews Focus Group Testing
Art in Extension – Greening Australia			
Use of the arts in Extension over 10 year period	Native vegetation and land management	Northwest NSW	Participant observations Historical documentation and photographs
Ecological Society of Australia conference			
Use of the arts in the conference setting	Australian ecology	National event held in Armidale NSW	Participant observations Historical documentation and photographs, survey

Participant observations

Throughout the study Curtis acted as a 'total participant' which is a researcher that becomes 'completely emotionally involved while in the field, and becomes a detached researcher only after leaving' (Neumann 1997, p.357). He was directly involved as a participant in some of the case study events, participating in the events, and in some cases taking a major role in coordinating them. Furthermore, he had been working in the capacity of an extension agent for 12 years with the non-government organisation Greening Australia. He drew directly from this experience and the networks that he had gained, in both identifying participants for the research and communicating the results.

Other field work

Throughout the research a wide range of theatrical performances, films, music concerts, art exhibitions and festivals were attended, particularly where inferences could be drawn from the way the arts were used to explore different aspects of the natural environment. Events were visited from southern Victoria and Melbourne, Canberra, and throughout NSW. Festivals attended and included the Tamworth Country Music Festival, the Deniliquin Ute Muster, the Canberra Folk Festival, the Woodford Folk Festival, and the Sydney Festival. These were written up in the personal journal and in reflective memos. The Australian field work was supplemented with field work overseas, in the UK, Norway, Canada, USA and Italy. As part of this field work, key informant interviews were conducted, and organisations and arts events were visited which could be compared with case studies under study in Australia. Towns and cities where the arts were integrated into sustainable economic development were also visited and analysed.

Analysis of data

In total about 200 interviews were undertaken in the course of this research, of both key informants, and participants and audience members in the case studies. The amount of interview data and number of interviews was such that a microscopic analysis as advocated by theorists such as Strauss and Corbin (1997) was not feasible. Accordingly a similar method of analysis was used as Spence (1999), which involved identifying the main themes. Transcripts were coded by main themes and then the material relating to each theme collected together and more closely analysed and summarised. The interview transcripts were passed through several times. An initial pass through provided a framework for the coding. The interviews were coded for broad themes, largely based around the particular questions asked. Themes and sub-themes were connected within and across categories. Transcripts from Focus Groups were treated in a similar way. Other qualitative data, including historical documents, journal entries, participant observations, informal interviews, and media clippings were also coded.

Three methods of analysis in interrogating the data were used (Neumann 1997). The technique of analytic comparison was used, where elements that were common between cases were highlighted, as well as cases that were similar but different in particular aspects. The technique of successive approximation was also used, where the data went through successive approximations of refinement. This was done through the use of analytic memos combined with the periodic presentation of emerging concepts in conference papers. Comment was sought at different times from reference group members, and the concepts further refined. The illustrative technique was also used, where illustrative were examples selected of each main theme. Quantitative data gained through surveys were subjected to statistical analysis using the software SPSS (SPSS Inc., 2001).

Appendix II. How the arts can improve environmental behaviour

Appendix II summarises the various ways in which the arts can improve environmental behaviour. Table 3 summarises the effects and benefits of arts-based activities, with supporting evidence from the art events and key informant interviews. The results of the case studies (and particularly the analysis of the survey data from *The Plague and the Moonflower*) led us to develop a conceptual model for changing environmental behaviour using art events and this is provided in Figure 2. A model for how the arts affect environmental behaviour is provided in Figures 3 and 4. It is suggested that the work of individual artists can influence the behaviour of citizens through three major pathways, which impinge on a person's values or attitudes. The degree to which a person responds will depend on individual characteristics, such as gender, class and so on. The accumulated result of society's collective behaviours leads to macro-level impacts on the environment. Knowledge of these impacts, in turn, influences individual artists, and influences their practice.

Table 3: Effects and benefits of arts-based activities or events with supporting evidence from key informant interviews and case studies. For case studies and interviews see Curtis *et al.* (in press).

Effect or Benefit	Case Study	Interview
<i>Communication</i>		
Increase and broaden the audience being exposed to environmental issues	Plague and the Moonflower Nova-anglica: Web of Our Endeavours	Tara Ryan Wes Sanders Downing Cless
Lead to people retaining information, or at least a heightened sensibility for the topics and even more importantly to associate the environment with positive thoughts and images	Plague Nova-anglica Bungawalbin Wetlands Festival Arts in extension	Tara Ryan
Provide a vehicle for community education and transfer of scientific information.	Greenhouse in schools Arts in extension	Evergreen Theatre; Underground Railway Theatre (URT)
Elevate what could have been a normal (say) field day into a special event which can therefore increase the audience.	Bungawalbin Arts in extension	Platform Theatre
Expose people to ideas that they may not have thought much about before.	Plague Greenhouse in schools Gunnedah	Platform Evergreen URT
Provide an enduring image of a particular event	ESA conference, Bungawalbin, Nova-anglica Plague	Ralph Steadman Rolf Groven
Allow a voice of dissent to be articulated	Plague	Rolf Groven Ralph Steadman Downing Cless Bread & Puppet Theatre Platform
Assist in building skills in extension staff in performance and delivery of information	Arts in extension	
Encapsulate a wide variety of issues	ESA conference Arts in extension	URT
Make the invisible visible	Grizedale Forest	Rolf Groven
Appeal to a range of people regardless of learning styles and abilities	Plague Nova-anglica Gunnedah	Ian Hunter Rosi Lister
Synthesise and communicate complex issues & information	Greenhouse is schools	Evergreen Theatre URT

Create an atmosphere which enhances the experience of the natural environment	Bungawalbin Festival	Bread & Puppet, Welfare State International (WSI)
Create an atmosphere that is conducive for learning	ESA conference Nova-anglica	Rosi Lister
<i>Individual processes</i>		
Affirm people's beliefs in caring for the environment and celebrate the work they do to repair the environment.	Nova-anglica	Rosi Lister Ian Hunter
Move people emotionally	Plague Gunnedah	Ralph Steadman URT
Make people reflect on their relationship with the natural environment	Plague	Rosi Lister Evergreen
Make people feel strongly towards the natural environment	Plague	URT WSI
Provide a vehicle for people to express their feelings for the natural environment	Plague Nova-anglica Gunnedah	WSI Ian Hunter Rosi Lister
Provide a vehicle to strengthen people's beliefs about certain issues	Plague Nova-anglica Gunnedah	Rosi Lister
Give an artistic voice to those working towards regeneration of the environment by affirming effort and achievement	Nova-anglica ESA conference	Rosi Lister Ian Hunter
Allow farmers, scientists, government workers and others involved in landscape change, new and creative ways of expressing their feelings for, and knowledge about the land and the natural environment	Nova-anglica	Ian Hunter
<i>Group processes</i>		
Foster cooperation, collaboration and team-work.	Plague, Nova-anglica Gunnedah Arts in extension	Rosi Lister Ian Hunter WSI Bread & Puppet
Improve processes in planning meetings, by helping find new ways of looking at a problem, stimulating creative thinking, motivating participants and helping improve the cohesiveness of the group.	Nova-anglica Arts in extension Gunnedah	Rosi Lister
Rekindle interest in the environment and revive the spirits of those working on environmental issues	ESA conference Nova-anglica Plague Bungawalbin	URT Rolf Groven
<i>Community processes</i>		
Provide a vehicle for community mobilisation and empowerment.	Nova-anglica Gunnedah Plague	Rosi Lister WSI Ian Hunter
Make people feel an appreciation and pride in community	Plague Gunnedah Nova-anglica	Rosi Lister WSI Ian Hunter
Engage people in activities of altruism and show them that there are alternatives to consumerism and activities that cause environmental degradation	Plague Nova-anglica Gunnedah	Rosi Lister WSI Ian Hunter John Somers
Provide a vehicle of networking and enable a broad participation by a cross-section of the community for people to work together	Plague Nova-anglica Gunnedah	John Somers Rosi Lister Ian Hunter; WSI
Provide a vehicle to involve Indigenous visual and performing artists and to build bridges between the black and white communities.	Plague Bungawalbin	
Provide an opportunity for Indigenous people to reinforce cultural practice and to expand that to a non-aboriginal audience	Bungawalbin Plague	

Model for how arts events can change environmental behaviour

1. The art event prompts people to reflect on humanity’s relationship with the natural environment. In an examination of interview data following the first concerts of *The Plague and the Moonflower*, it seemed that the starting point was moving emotions. However the survey data from the second concerts showed that moving emotions was not strongly correlated to behavioural change, but reflecting on humanity's relationship with the environment was.
2. The art event makes people feel strongly towards the natural environment. This effect was strongly correlated to behavioural change in *The Plague and the Moonflower* study.
3. The art event exposes people whose environmental behaviour is poor to new ideas about the environment, and provides an opportunity to learn about some issues. The process of engagement appears to be extremely important here, and the way environmental issues are dealt with in that process. This then prompts behavioural changes in those people. Many falling into this group may be younger – they have not thought much about these issues before – and so the event can have a key influence on value formation.
4. For those who already have good environmental behaviour, the art event affirms, reminds, reinforces and strengthens their beliefs, thus leading to further behavioural change - that is taking the person to a still better level of environmental behaviour - or reduces their likelihood of sliding backwards.
5. For those participating in the art event, it provides an opportunity for them to express their beliefs, further consolidating them, and provides an opportunity to communicate those beliefs to a wider audience - expanding the audience to the environmental message.

The process then continues, rather like a chain reaction. Participation in art based events of this nature can have an ‘avalanche-like’ effect, where participation leads to learning, performance leads to expanding the message, which leads to more participation, and so on.

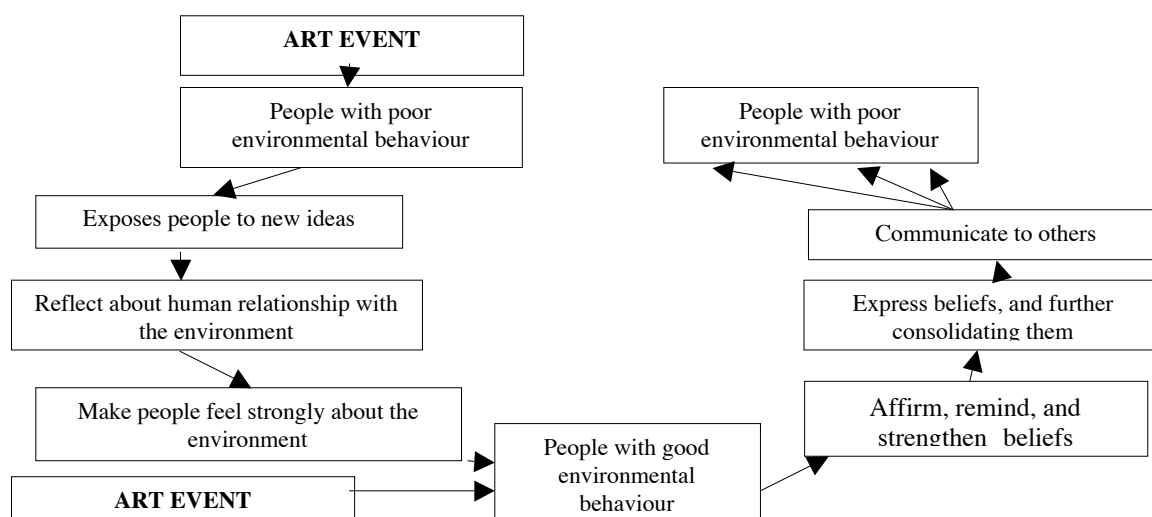


Figure 2: Model for how arts events can change environmental behaviour

Pathways to environmental sustainability through the arts

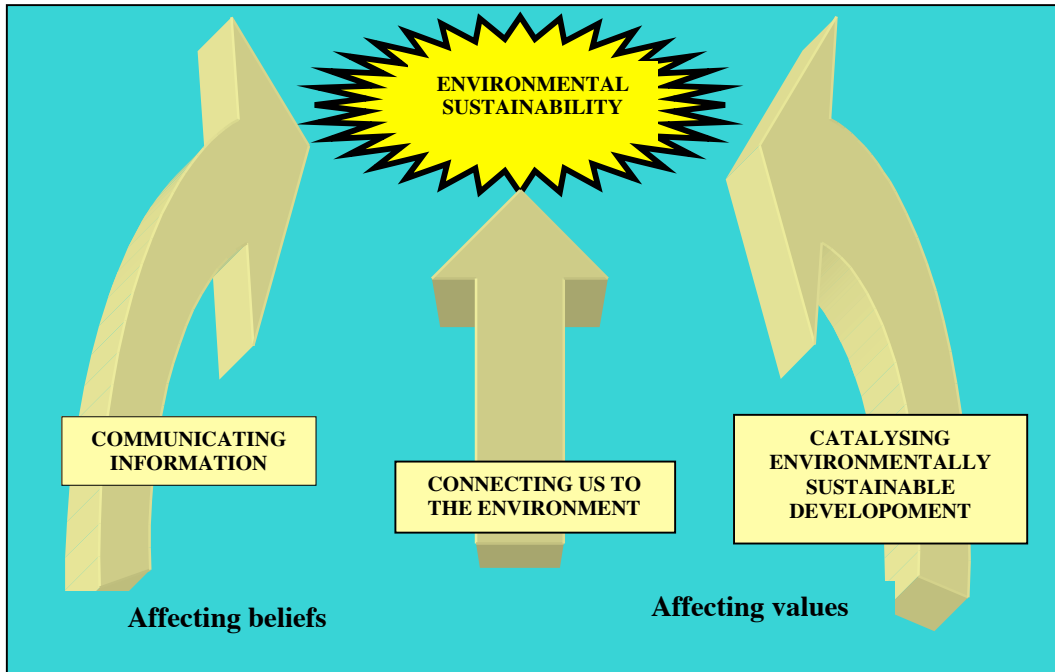


Figure 3: Three pathways to environmental sustainability via the arts.

Model for how environmental behaviour might be shaped by the arts

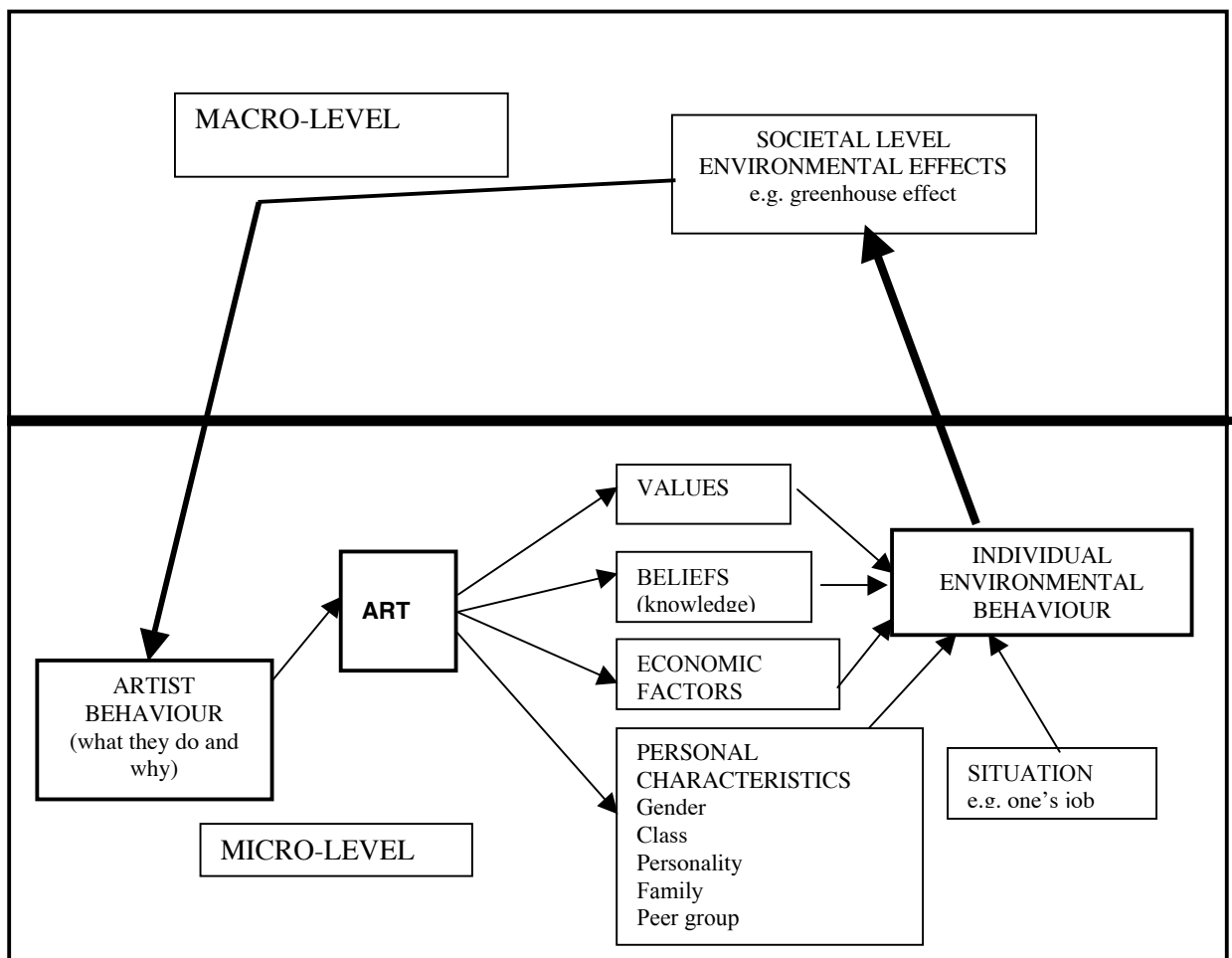


Figure 4: Model of how environmental behaviour might be shaped by the arts.

Appendix III. Outline of how these results can be adopted and summary of communication and technology transfer to date

This appendix provides a summary of the communication and technology transfer that has occurred to date. It lists the mail-outs that have been made to the network, presentations that have been made to conferences, training workshops and seminars, and other media.

Mail-outs to network

A network was established of LWA, RIRDC, extension staff, people working in the visual and performing arts, Reference Group members, interviewees, and other relevant people. The network data base currently consists of 335 individuals and organisations. Two packages have been mailed out to this network. The first package included the following papers, brochures and postcards:

Curtis, D., Nadolny, C. and Ford, H.A. 1995 Lessons from a Network of Dieback Repairers, In *Nature Conservation 4: The Role of Networks*, Surrey Beatty & Sons, pp. 175-186.

Curtis, D. 2002. *How the visual and performing arts shape environmental behaviour*. Institute of Rural Futures, Ecosystem Management (School of Environmental Science and Natural Resource Management), University of New England, NSW, 4p.

Curtis, D. 2002. *How the visual and performing arts shape environmental behaviour*. Postcard. Institute of Rural Futures, University of New England, NSW.

Curtis, D.J. 2002. The Environment and the Arts. *Project Note 02/07*. Institute of Rural Futures, University of New England, Armidale, NSW.

Curtis, D., Curtis, F. and Dunsford, C. 1999. The Case of the Memorable Moment: The Streuth family investigate the role of art in changing behaviour and attitudes towards the environment. Southern Crossings, Pointers for Change International Conference on Environmental Education, Sydney, 1999.

The second package included the following papers as well as a summary letter of what the project had achieved:

Curtis, D.J. 2003. The arts and restoration: a fertile partnership? *Ecological Management and Restoration 4*: 163-169.

Curtis, D.J. 2003. Initial impressions on the role of the performing and visual arts in influencing environmental behaviour. Pp. 1-11 in *TASA 2003: New Times, New Worlds, New Ideas: Sociology Today and Tomorrow*, edited by P. Corrigan, M. Gibson, G. Hawkes, E. Livingston, J. Scott, S. Thiele, and G. Carpenter. University of New England, Armidale New South Wales: The Australian Sociological Society and the University of New England.

These two packages were distributed in 2002/2003 and 2004 respectively, and were distributed throughout the project until it ended as new people were added to the network. Upon acceptance of the final reports to LWA and RIRDC, a third package will be distributed to this network consisting of the following:

- brochure summarising the results of the study; and
- brochure outlining the publications arising from the study and details about how they can be acquired.

A print run of 100 User Guides will be distributed to those in the network who have indicated their interest in this output and to key organisations.

PDF files of all the main publications arising from the research, including the User Guide, will be put on the website of the Institute of Rural Futures:

<http://www.ruralfutures.une.edu.au/text/projects/tenvchange/tlwaenvart.htm>

Presentations at conferences

Eight presentations were made to the following conferences. Those marked * were conferences overseas:

TASA 2003: New Times, New Worlds, New Ideas: Sociology Today and Tomorrow, University of New England, Armidale New South Wales: The Australian Sociological Society.

9th National Conference of the International Association for the Study of Popular Music (IASPM) From WAY OUT to WAY IN: the Dialectic between the 'ALTERNATIVE' and 'MAINSTREAM', 19-21 July, University of New England, Armidale N.S.W.

Ecological Society of Australia ECOLOGY 2003 Conference, December 2003, University of New England, Armidale.

* *IDEA 2004 conference*. Ottawa, Canada July 2004.

* *XI World Congress of Rural Sociology, July 25-30, 2004*. Trondheim, Norway.

* *IDEA Conference July 2004*. Ottawa, Canada (2 papers)

Geographies for Sustainable Futures, IAG Conference, July 2005, University of New England.

Other presentations, training workshops and seminars

Nine presentations were made at universities, research organizations and for community organisations:

- UNE postgraduate conference, Coffs Harbour 21 July 2003.
- Castlemaine Victoria 28 September 2003. Seminar as part of the Mamunya Festival entitled 'Arts, Community and the Environment',
- Seminar, Armidale Tree Group, *Woodland Ecology Centre*, Armidale, 20 September 2004.
- Seminar, University of New England, Institute of Rural Futures, 21 September 2004.
- Seminar for Land and Water Australia, Canberra, 1 October 2004
- Seminar, Geoquest, University of Wollongong, 4 October 2004.
- Presentation for Cooperative Venture for Capacity Building, Sydney, 15 October, 2004.
- Presentation, *Two Rivers Festival*, Gunnedah, 15 October 2004
- UNE postgraduate conference, Coffs Harbour, July 2005.

Three training workshops of community facilitators in Natural Resources Management were carried out: Two of these also functioned as focus groups to review the educational kit. These were held in Adelaide, Armidale and Deniliquin in 2005.

Other media

Other media include:

- Interview with ABC Radio National *Earthbeat*, went to air 13 December 2003. Website: <http://www.abc.net.au/rn/science/earth/stories/s1009101.htm>
- Arts Program ESA conference website: <http://www.ecolsoc.org.au/2003/arts.html>
- Plague and Moonflower website: <http://www.moonflower.org.au/>

Appendix IV. Publications

Refereed journals and refereed conference proceedings

Curtis, D.J. 2003. The arts and restoration: a fertile partnership? *Ecological Management and Restoration* 4: 163-169.

Curtis, D.J. 2003. Initial impressions on the role of the performing and visual arts in influencing environmental behaviour. Pp. 1-11 in *TASA 2003: New Times, New Worlds, New Ideas: Sociology Today and Tomorrow*, edited by P. Corrigan, M. Gibson, G. Hawkes, E. Livingston, J. Scott, S. Thiele, and G. Carpenter. University of New England, Armidale New South Wales: The Australian Sociological Society and the University of New England.

Curtis, D.J. and Reeve, I. (under review) Rekindling environmental ethics in community attitudes through the performing arts. *Journal of Ethics in Science and Environmental Politics*.

Curtis, D.J. (in press) Mobilising rural communities to achieve environmental sustainability using the arts. *Agricultural Economics Review*.

Reports

Curtis, D.J. Reeve, I. and Reid, N. (in press). Creating Inspiration: Using the visual and performing arts to promote environmental sustainability. Final Report to Rural Industries Research and Development Corporation, 109p.

Reeve, I., Curtis, D.J. and Reid, N. (in press). Arts and environmental behaviour – Policy recommendations. Institute of Rural Futures, Ecosystem Management (School of Environmental Science and Natural Resource Management), University of New England, NSW, 25p.

Books

Curtis, D.J. (in press). *Creating Inspiration: A user's guide to using the visual and performing arts to improve environmental sustainability*. Institute of Rural Futures, University of New England, Armidale NSW, 152 p..

Conference papers

Curtis, D.J. 2002. Creating inspiration – how music shapes behaviour towards the environment PAPER FOR 9th National Conference of the International Association for the Study of Popular Music (IASPM) 19-21 July, University of New England, Armidale N.S.W. From WAY OUT to WAY IN: the Dialectic between the 'ALTERNATIVE' and 'MAINSTREAM'

Curtis, D.J. 2003. Using the arts to create an ecological ethic: The nuts and bolts of using the arts in extension. *Ecological Society of Australia ECOLOGY 2003 Conference*, University of New England, Armidale 8-10 December 2003.

Curtis, D.J. 2003. Initial impressions on the role of the performing and visual arts in influencing environmental behaviour. Pp. 1-11 in *TASA 2003: New Times, New Worlds, New Ideas: Sociology Today and Tomorrow*, edited by P. Corrigan, M. Gibson, G. Hawkes, E. Livingston,

J. Scott, S. Thiele, and G. Carpenter. University of New England, Armidale New South Wales: The Australian Sociological Society and the University of New England.

Curtis, D.J. and Curtis, F.M. 2004. Performance and environmental awareness. *IDEA 2004 conference*. Ottawa, Canada 2-8 July 2004.

Curtis, D.J. 2004. Mobilising rural communities to achieve environmental sustainability using the arts. *XI World Congress of Rural Sociology, July 25-30, 2004*. Trondheim, Norway.

Everett, L. Curtis, D.J. and Curtis, F.M. 2004. 'Tre los Lantana': Using theatre for environmental education. *IDEA Conference July 2004*. Ottawa, Canada.

Curtis, D.J. (2005) Rural festivals and environmental sustainability. *Geographies for Sustainable Futures*, IAG Conference, University of New England, 19-22 July 2005.

Book chapters

Curtis, D.J. and Curtis, F. (in press). Performance and environmental awareness. In *The Universal Mosaic of Drama/Theatre: The IDEA 2004 Dialogues*.

Other articles

Curtis, D.J. (Editor) 2002. The Environment and the Arts. *Armidale Tree Group Newsletter* No. 83. Armidale Tree Group, Armidale N.S.W.

Curtis, D.J. 2004. Plague and the Moonflower. *ArtReach* March 2004, 26-27.

Curtis, D.J. 2004. Building capacity for environmental sustainability using the visual and performing arts. *RipRap* 27: 12-13.

Curtis, D.J. 2004. Using the arts to promote environmental sustainability. *Capacit-e-newsletter* 7: p1.

Curtis, D.J. (2005) Catastrophes in slow motion: changing the tide through the arts. *The Country Web* 37: p. 21, Rural Women's Network.

Brochures and postcards

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DVDs and videos

Asch, P. 2004. *Armidale at Woodford, 2003. An oratorio by Richard Harvey with Libretto by Ralph Steadman*. DVD and video. The Moonflower Tour, Armidale NSW.

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Other art and theatre productions

Curtis, Anna. 2003. *In the Balance*. Lino reduction print on paper, commissioned by the Ecological Society of Australia for the 2003 conference.

Curtis, D. (unpublished). *Six theatrical pieces* Written for, and performed at the Ecological Society of Australia Conference, Armidale Dec. 2003.

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