

Does Education for Sustainability Encourage Leopold's "Intense Consciousness of Land"?

Barry Kentish, University of Ballarat, Australia & Ian Robottom, Deakin University, Australia

Abstract

In Australia there has been a rapid move to an acceptance of education for sustainability as mainstream environmental education. We argue that education for sustainability, with its platform of assisting individuals in making apparently informed decisions to create a more sustainable world, is at some distance from promoting more ethically-based environmental responsibility. If environmental education is to encourage environmental responsibility, then ethically challenging curricula should provide more suitable mechanisms to encapsulate a sense of what it means to care for country, described by Leopold as "an intense consciousness of land," and foreseen decades ago with his concept of the land ethic.

Résumé

En Australie, on a précipité l'acceptation de l'éducation pour la durabilité en tant qu'enseignement régulier de l'initiation à l'environnement. Nous soutenons que l'éducation pour la durabilité, avec son programme d'assistance qui permet à l'individu de prendre des décisions supposées éclairées en vue de créer un monde plus durable, est loin de promouvoir une plus grande responsabilité environnementale basée sur l'éthique. Si le cours de sensibilisation à l'environnement doit encourager la responsabilité environnementale, alors le défi du programme scolaire qui prône l'éthique devrait fournir des mécanismes mieux adaptés pour encapsuler un sens de ce que veut dire manifester un attachement profond au pays, tel qu'imaginé il y a quelques décennies par Leopold, avec son idée de l'éthique de la terre et dépeint alors comme « une conscience intense de la terre ».

Keywords: Leopold, caring for country, education for sustainability, land ethic

Introduction

Currently in Australia there is a move from a discourse about environmental education toward one of education for sustainability (also referred to as learning for sustainability or sustainable development) (Department of Environment and Heritage, 2005; Tilbury, 2004; Tilbury & Cooke, 2005). The Australian government's "Research Priority Area #1" is *An Environmentally Sustainable Australia* (Australian Government Department of Education,

Science and Training, 2007). With such a momentum for educational change, we argue there is a need to critique this re-orientation of environmental education, especially as Jickling (1992, 1994) earlier commented on his concerns that education for sustainable development could be considered deterministic and lacks philosophical analysis. We suggest that Leopold's essay, *The Land Ethic*, still retains relevance for environmental educators because it requires a critique of ethical relationships between benign environmental practices and potentially less benign economic perspectives, two of the so-called central pillars of education for sustainable development (Department of Environment and Heritage, 2005; Henderson & Tilbury, 2004; UNESCO, 2003).

Leopold was asking that greater ethical consideration be given to the land, something that appears to be omitted from some interpretations of education for sustainability. In essence, Leopold's land ethic:

reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity. (Leopold, 2003, p. 45)

Leopold (2003) argued that our relationships with the land should be ethically based and founded on "love, respect and admiration" (p. 46)—qualities that often underpin ethical consideration of others. The value of the land ethic is that it is not location-specific or temporally specific. It relates to all situations where economic drivers have created unsustainable land use. We argue that education for sustainability often lacks any debate as to which human values would bring about a more ethically sustainable future. Without this philosophical analysis, education for sustainability may provide the tools and strategies encouraging directions for environmental education, but appears to lack clarification of the ethical foundation for such decision-making. This discussion of ethics aligns with Jickling (2004), who approaches ethics as a process of inquiry, "a philosophical examination of those varied and sometimes contested stories that constitute our social reality" (p. 16). It is questionable whether education for sustainability, as proposed by the Australian government (Department of Environment and Heritage, 2005; Tilbury & Cooke, 2005), considers the role of environmental ethics adequately. In this regard, we believe there is much to be gained from the way in which Leopold's *Land Ethic* has influenced the field of environmental education. Leopold promoted some of the key concepts underpinning environmental education such as holism, interdisciplinarity, a sense of criticality (Huckle, 1993; Sterling, 1993), and education that goes beyond an "enlightened self-interest" (Leopold, 2003, p. 4). As Fien (1993a) suggested: "Education for the environment seeks to engage students in the active resolution of environmental questions, issues and problems" (p. 5).

An Australian Context

Concerned with the extent and rate of land deterioration, Roberts (1985) raised issues concerning land ethics in the Australian context as far back as 1985, arguing for a fundamental change in attitude toward the land based on land ethics. However, evidence for long-term changes in attitudes is difficult to find. More than 10 years ago, Flannery (1994) was concerned that many non-indigenous Australians live as foreigners in their own land, supporting Leopold's idea that a dominant culture based on economic determinism was symptomatic of an unsuitable relationship with the land. By 2006, some environmental conditions have become worse (Australia State of the Environment, 2006). This is even more concerning given that the Australian Bureau of Statistics (2004) indicated a declining interest in the environment:

- In 2004, 8.6 million Australians aged 18 years and over (57 %) stated that they were concerned about environmental problems.
- The level of concern about environmental problems has shown a continual decline since 1992, when three-quarters (75 %) of Australians stated they had environmental concerns. (Australian Bureau of Statistics, 2004, ¶ 9-10)

However, there recently appears to be a subtle increase in the popularity of environmental issues, particularly the importance of the effects of climate change; yet, in a seeming reversal of this trend, Australians "...are having more kids, living in bigger houses, but are environmentally more conservative" (Australian Bureau of Statistics, 2008, ¶ 1). The unsustainability of current environmental practices may not support the rhetoric of an emerging environmental interest.

The discourse of the currently highly visible United Nations Decade of Education for Sustainable Development (UNESCO, 2003) may succeed in encouraging environmental concerns, or it may be seen as just another slogan—something that UNESCO is keen to avoid. Speaking at the international launch of the Decade of Education for Sustainable Development in New York in March 2005, UNESCO Director General Koichiro Matsuura suggested that:

The ultimate goal of the Decade is that education for sustainable development is more than just a slogan. It must be a concrete reality for all of us—individuals, organizations, governments—in all our daily decisions and actions, so as to promise a sustainable planet and a safer world to our children, our grandchildren and their descendants... Education will have to change so that it addresses the social, economic, cultural and environmental problems that we face in the 21st century. (UNESCO, 2005, p. 2)

According to UNESCO (2005), education for sustainable development involves "learning how to make decisions that balance and integrate the long-term future of the economy, the natural environment and the well-being of

all communities, near and far, now and in the future” (p. 1). Education for sustainable development recognizes and explores environment-related issues in terms of the nexus between environmental, social, and economic interests, the various stakeholders and the arguments each advances, and the ways in which local government and community agencies deal with resolving such issues. An important consideration when resolving these contending interests is the need to reconcile the rights and aspirations of current and future generations in terms of continuing access to natural and social environments. The outcomes of such contestation concerning sustainability issues have both immediate (short-term) and cross-generational (long-term) implications (Department for Education and Skills, 2006), which explicitly include the concerns and “rights of inheritance” of young people in terms of continuing access to valued environments. This is clearly an ethical issue and should be addressed as such. In embracing and raising the profile of social and economic considerations and their interactions, it is important that education for sustainable development, as a discourse, continues to engage with ethically framed ideas that were articulated so well in the work of Leopold and others. The issue is whether this discourse actually translates to forms of action/implementation that enact these aspirations.

In this paper we suggest that an education encouraging greater appreciation of the seriousness of environmental problems in Australia and the unsustainability of some economic development must involve re-valuing, within an ethical framework, the relationships Australians have with their land. This orientation requires individuals to understand what is asked of them ethically in order to care *for* country.

Caring *for* country is not new. To some extent, Leopold’s (1949) essay and the concept of caring *for* country expresses more traditional spiritual and emotional interpretations of land as articulated by writers such as Bonyhady and Griffiths (2002), Knudtson and Suzuki (1992), and Tacey (1995, 2000). The idea of caring *for* country was outlined in *Caring for the Earth* (IUCN, UNEP, & WWF, 1991), *Indigenous Australians Caring for Country* (Department of Environment and Water Resources, 2007), and earlier UNESCO documents, including the 1975 Belgrade Charter (UNESCO-UNEP, 1976). Although caring *for* country as an ethically-based concept permeates the thinking in these documents, we find a lack of this approach within the Australian government’s promotion of education for sustainability (Department of Environment and Heritage, 2005; Tilbury & Cooke, 2005).

The Department of Environment and Heritage (2005b) suggests that education for sustainability requires mechanisms to create a “shift from traditional ways of thinking and acting upon environmental problems” (p. 2), but there is a lack of clarification and justification of the philosophical foundations for such a shift.

The Land Ethic and Australia

To highlight and possibly partially redress the lack of attention to the philosophical and ethical underpinnings of education for sustainability, we wish to consider the work of Leopold, an environmental educator and forester who articulated a strong ethical basis for his environment-related work. Leopold called for reconsideration of our ethical interpretations of the land (Moline, 1986), and his concept of holistic land management was critical of the unrelenting search for profit from the land, expressed by Norton (1988) as economic determinism. There is little doubt that economic determinism still dominates current land and natural resource management practices in Australia (and many other countries), and, as Leopold argues, this leads to undervaluing the land. The land ethic reassesses the dominance of economics within land management decisions to ensure that any outcome is deemed ethical. Ethically framed outcomes must be delineated from decisions and practices chosen because they are pragmatic. It is the oft-quoted maxim—“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” (Leopold, 2003, p. 46)—that is central to Leopold’s land ethic. The interconnectedness of Leopold’s characterization of the biotic community should frame ethical perspectives underpinning decision-making processes.

The lack of prescription of Leopold’s maxim allows for numerous interpretations of the land ethic; indeed, some writers are critical of this vagueness (DesJardins, 2006). Heffernan (1982) suggests a rephrasing of the quotation to incorporate more ecological considerations: “A thing is right when it tends to preserve the characteristic diversity and stability of an ecosystem (or the biosphere). It is wrong when it tends otherwise” (p. 247). However, such an interpretation ignores the aesthetic qualities of the land that were important for both Leopold (1949) and Callicott (1989). Any attempt to classify land by solely scientific or technical interpretations may cloud Leopold’s central themes of holism and interdisciplinarity.

Leopold developed his land ethic from earlier ideas about *land health* (Leopold, 1946), a concept incorporating a “human-harmony-with-land paradigm of conservation” (Callicott, 2000, p. 8). This description of the land may not amount to a new paradigm but merely a revisiting, or renewing of, more traditional cultural relationships *with* land (Kimmerer, 2000; Knudtson & Suzuki, 1992; Rose, 1988). Leopold (2003) promoted developing an “ecological conscience” (p. 45) that required people to “quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and esthically right, as well as what is economically expedient” (p. 46).

Australia is a multicultural society. A land ethic based on imported cultural histories, transformed from another time or place, may not necessarily be sympathetic to the land. As Rose (1988) suggests:

There is always the possibility that people who perceive a lack in their own culture will be drawn to a romantic and nostalgic glorification of other cultures and seek to transplant another culture's ethical system into their own. The attempt is misguided. Every culture is the product of particular beings living particular lives within particular options and constraints of their own received traditions, their mode of production and so on, none of which can be readily transplanted. Furthermore, the attempt to appropriate another culture's ethical system is self-defeating because it is self-contradictory: the act of appropriation is so lacking in the respect which is the basis of the desired ethic that the appropriation becomes annihilation. (p. 378)

For many Australians, their relationship with the land often appears confused and unclear (Mulligan & Hill, 2001). A "love of the bush" is supposedly valued and appears embedded in Australian culture through both art and literature (Bonyhady, 2002; Bonyhady & Griffiths, 2002; Lawson, 1979); however, most Australians are urbanized (Australian Bureau of Statistics, 2007) and their perceptions of the land are informed by images portrayed in the popular media. For some, viewing the land as unbounded, untouched, natural, and wild frames their appreciation of Australian landscapes. Such romantic notions of "outback" Australia are promoted by a plethora of travel brochures, but often there is a lack of alignment between the rhetoric and the reality (Mulligan & Hill, 2001). To some extent the numerically dominant city-centric Australians may want to witness their land, but not necessarily understand or relate to it in any ethical way (Stewart, 2006). Leopold (1987) wrote of this alienation between people and nature:

Art and letters, ethics and religion, law and folklore, still regard the wild things of the land either as enemies, or as food, or as dolls to be kept "for pretty." This view of land is our inheritance from Abraham, whose foothold in the land of milk and honey was still a precarious one, but it is outmoded for us. (p. 282)

Suzuki (1998), Weston (2004), and Flannery (1994) all express their concern that a gulf exists between people and nature, isolating individuals from their environments. In Australia, Stewart (2006) reinforced the importance of an environmental education based "on the culture of natural history of particular places" (p. 86), with the understanding that this approach may reduce the people-nature gap. Stewart (2006) expressed concern that a pedagogy based on natural history of place was missing from much of the Australian environmental education curricula. Flannery (1994) also wrote of this uneasy relationship between some Australians and their land:

The problem of culture maladaptation seems to be particularly acute in Australia. For it has the highest number of new settlers of any of the "new" lands and it has an extremely difficult and unusual ecology. Perhaps this accounts for what outsiders perceive as the obsession Australians have with defining themselves. But to Australians, that obsession makes perfect sense. It arises from a frustration borne of the long-felt inability to live in harmony with the land. It comes from

the dismay one feels when seeing the extraordinary beauty and complexity of unique environments wither—even from an apparently gentle touch by a European hand—and from the floods and bushfires that constantly remind Australians that the land does not hold them comfortably. Finally, and most importantly to many, it arises from the great gulf of culture and understanding that exists between Aborigines and other Australians. (pp. 389-90)

There are many Australians and overseas visitors who are delighted by experiencing Australian landscapes and uniqueness. The experiences gained may encourage an appreciation and promote caring *about* the land—but will these people also care *for* the land?

Environmental Education and an Ethic of Caring *For*

Leopold (2003) suggested that developing a land ethic could be enhanced through education, but seriously questioned what should be valued in such education. He questioned the dominance of instrumental values and self-interests, writing that “in respect of land-use, it [conservation education] urges only enlightened self-interest. Just how far will such education take us?” (p. 40).

Nelson (1998) extends the argument for an ethical imperative, suggesting a need to “extend ethical consideration (feelings of moral sympathy) to those we consider to be in our community (ethics and society are correlative). Ethical inclusion spreads as our sense of community spreads” (p. 744). This expanding circle of ethical concern has also been explored by Lecky (in Singer, 1997), Nash (1990), and Noddings (1984, 1992). As Nash (1990) wrote, “ethics have expanded over time and ... some thinkers and activists now regard nature (or certain of its components) as deserving liberation from human domination” (pp. 6-7).

Leopold considered land management decisions from within an ethical framework that was embedded in both intellectual and emotional processes, and not limited solely to technological or economic influences. Parallel with this theme is an ethic of care as outlined by Noddings (1984, 1992). Noddings argued for curricula organized around “centres of care,” where attention is given to learning how to care *for* ourselves, others, their ideas, and the environment. Fien (1997) reinforced these ideas by stating, “[R]espect for the environment alone will not be enough to save our common future. A sense of solidarity with the world’s underprivileged will be equally important” (p. 440). This emergent ethic of care has become increasingly politicized (Curtin, 1991; Russell & Bell, 1996) with a shift from caring *about* to caring *for*, paralleling similar changes in environmental education (see Fien, 1993a).

Reorientating environmental education from encouraging awareness and a transmission of facts to a call for action is what Russell and Bell (1996) regard as essential for education:

[I]t is often much easier to proclaim how one cares *about* an issue like the homeless; to move towards what Curtin characterizes as caring *for* requires that one not only becomes actively involved in a local manifestation of a particular problem, but that one also explore the complex sociopolitical contexts in which the problem is enmeshed. (p. 5)

Fien (2003) comments, “We have to learn to care enough to want to act” (p. 4), and this action will only be sustained if it is built on an ethical foundation. According to Fien (2003), Noddings proposed a nature of caring that involved:

- conceptual and emotive understanding,
- deep positive regard and respect for the feeling and intrinsic values of other persons, animals, plants, and non-living things, and recognition of her/his/its/their rights, and
- motivation, willingness, and skills to act to protect and enhance these feelings, values, and rights.

These interacting characteristics combine to underpin “deep caring” (van Hooft, 1995), or what Fien (2003) identifies as compassion. There is an alignment amongst what Noddings (1984), van Hooft (1995), and Fien (2003) propose and what Leopold (2003) called “love, respect, and admiration for the land” (p. 46), which underpinned his land ethic. Perhaps such a land ethic—an emotional engagement with the land—will emerge through encouraging environmental education that explores and promotes an ethic of caring *for* the land as its central theme. This requires an extension of the ethic of care that we ordinarily extend toward people to include land within our ethical interests. Russell and Bell (1996) suggest, “One of our goals as environmental educators is to challenge such devaluation of embodied knowledge and to celebrate with students that we are living, breathing creatures with profound ties to the natural world” (p. 177). This sense of belonging to and being connected with the land, and experiencing land as an ethical entity with which we are all connected, is essential to an ethic of caring *for* country. In support of this, Stewart (2006) argues for pedagogy that reconnects people with the natural history of places and environments in which they work and live.

Caring *For* the Land and Education for Sustainability

How does this Leopoldian view of caring *for* land relate to education for sustainability? Throughout the colonial history of Australia, as well as many other nations, there have been the colonists’ attempts to control and tame the land into a productive and economically viable commodity for financial benefit (Davison, 2005; Saunders, Hopkins, & How, 1990). Sometimes the physical and mental efforts required to discipline land has led to people’s detachment

from Australia's landscapes. A recurring theme in Australian literature and art is the battle played out between colonizers and their land (Bonyhady, 2002; Lawson, 1979). Some colonizers felt, and expressed through their language and literature, that they were required, for economic reasons, to control and subdue the land. The discourse was of domination, subjugation of the land and its flora, fauna, and indigenous peoples, and exploitation of resources, and that has led to an unsustainable use of the land. Australia, from this imported social paradigm, was viewed by colonists as a commodity, with economic value only if it provided service to those who controlled it. Land was an asset when it was financially productive and a burden when not. Such a perception still persists and dominates many Australians' view of the land (Australia State of the Environment, 2006; Flannery, 1994).

The challenge for environmental educators in Australia is to encourage a different discourse to redress this historically-based alienation with the land—to enhance a people *with* land relationship that is ethically, as opposed to economically, orientated. This requires discussions that inform an ethically-based caring *for* land, as an extension of caring *for* others, and gives people the confidence they need to express emotional experiences that emerge from relationships with the land. Fortunately, such discourses already exist in art (Bonyhady, 2002; Wallen, 2003), writing (Lindholt, 1999), and importantly, outdoor experiences (for example Brookes, 2002a, 2002b; Gilbertson, Bates, McLaughlin, & Ewart, 2006; Palmberg & Kuru, 2000; Stewart, 2004, 2006).

We are currently in a situation where some approaches to environmental education, grounded to a significant extent in the work of Leopold and others, are being aggressively re-badged as education for sustainable development (Department of Environment and Heritage, 2005; Tilbury & Cooke, 2005). How does the argued case for caring *for* the land (an ethical perspective) relate to education for sustainability in Australia (a resource-orientated perspective)? If an aim of environment-related educational work is to promote greater valuing of land, then the pervasiveness of the education for sustainable development discourse may pose a continuing challenge to environmental educators. Jickling (1992, 1994) critically examines the concept of education for sustainable development and finds it confused and deterministic, and doubts its capacity to assist students to debate, evaluate, and judge for themselves the relative merits of contesting positions.

Education for sustainability is promoted as providing the educational tools to achieve transformation of a community's values and behaviour (Department of Environment and Heritage, 2005; Tilbury & Cooke, 2005), but there is a lack of clarity of the ethical foundations underpinning such an approach. For example, the World Commission on Environment and Development/Commission for the Future's (1990) seminal definition of sustainability does not mention any ethical relationship with the land and is dominated by an anthropocentric approach:

[S]ustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations. (p. 90)

Fien and Trainer (1993) are critical of this approach to sustainability because it fails to explain how continued economic growth will resolve problems of global poverty when current levels of resource use are unsustainable. In addition, many definitions of sustainability do not adequately address any ethical relationships between people and the land.

Most descriptions of sustainability speak of its three elements: ecological/environmental sustainability, social sustainability, and economic sustainability. One of the most fundamental issues raised in the discourse on sustainability is the apparently problematic relationship among these three dimensions, with the seemingly essential tension between ecological and economic sustainability receiving much attention. Sauvé (1999), for example, suggests that sustainability, given its joint ecological and economic interests, is predisposed to co-optation by/within an economic rationalist discourse. Some representatives of business, industry, and commerce argue that it is necessary to put economic sustainability ahead of ecological sustainability because environmental regulations and conservation principles are expensive and businesses need to be profitable to be able to afford them. Elliott (2006) believes that:

there is a danger that education for sustainable development will largely be perceived in terms of the economic goals of society; that is, teaching students about the need to conserve their environment for the sake of sustaining the economic growth on which their future income and wealth potential may depend. (p. 13)

For some authors, the seeming illogicality of a single concept entertaining two competing interests of economic and ecological sustainability is sufficient for them to discard the notion of sustainability as unworkable, rejecting the proposition that there ought to be an “education for sustainability” at all (Jickling & Spork, 1998).

Replacing environmental education founded on economic determinism, where the environment is subservient to economic growth, with education for sustainability, where the environment is subservient to anthropocentric concepts of sustainability, without any reference to ethics as a process of inquiry informing cultural relationships, is fraught with recurring problems as to who or what benefits, over what time frame and location, and who or what is disadvantaged from the human-focused sustainability decision-making processes. As Stewart (2006) identifies, the language of sustainability “fails to address [Jickling’s, (2001, p. 172)] questions, such as ‘How ought we live so that the land will not be abused?’” (p. 86).

Fien and Trainer (1993) provide a more ethical foundation, where edu-

cation for sustainability involves “developing respect, indeed reverence, for the earth through detailed understanding and appreciation of the many miraculous processes through which nature maintains the conditions necessary for life” (p. 39). This approach is comparable to Leopold’s land ethic and caring *for* country. To achieve this outcome, Fien (1993b) and Huckle (1993) promote the need for a comprehensive critical theory to inform education for sustainability and encourage justification of the apparently necessary social changes, because Fien (1993b) argues that environmental crises are based in social crises.

The current orientation within Australian environmental education toward education for sustainability (Department of Environment and Heritage, 2005; 2006; Tilbury, 2004; Tilbury & Cooke, 2005) appears to have become the uncontested environmental *lingua franca* from the Australian government’s perspective. There is, within these circles of influence, an uncritical acceptance of the need for more sustainable practices with the assumption that such practices are encouraged by education for sustainability. But this assumption is untested:

[T]his apparent simple equation, of more environmental education leading to a more environmentally sustainable society, is at best an act of faith. At worst, it is an oversimplification that could exacerbate our already perilous situation if it delays urgent policy changes and restructuring while we wait for the hoped-for effects of education. (Sterling 1993, p. 69)

Tilbury (2004), a proponent of education for sustainability, argues that education for sustainable development “differs from commonly practiced environmental education approaches in that it [education for sustainable development] goes beyond addressing values and attitudes of the individual to build their capacity for instigating and managing change” (p. 103).

Although such sentiments appear worthy, particularly when considering the extent of current global environmental crises, the “values and attitudes of the individual” that education for sustainability “extends beyond” need to be clarified and debated. If education for sustainability is dominated by “skills and capacity to plan, motivate and manage change towards sustainability within an organisation, community or industry” (Tilbury, 2004, p. 104), we need to be clear about what a move toward sustainability could mean from an ethical perspective, for both the individual and the community.

Tilbury and Cooke (2005) identify a range of strategies to encourage an education for sustainability that is inclusive of terms such as:

- mentoring,
- facilitation,
- participative inquiry,
- action learning, and
- action research.

These educational instruments are valuable and may bring about the desired “systematic change within the community, institutions, government and industry” (Tilbury & Cooke, 2005, p. 4). However, there appears to be a lack of any ethical grounding informing such strategies or an appreciation of critical theory (Huckle 1993). It is assumed within the Australian government’s documents (Department of Environment and Heritage, 2005; Tilbury & Cooke, 2005) that the outcomes of learning strategies will be ethically appropriate, but it is not clear how engagement with these educative strategies and practices will achieve the appropriate ethical foundation to address the alienation between people and their land. Education for sustainability is not inherently inclusive of values and attitudes encompassing ideas such as Leopold’s “intense consciousness” or caring *for* the land. Therefore, we argue that it is problematic as to how education for sustainability (as promoted by the Department of Environment and Heritage, 2005), which appears to be directly associated with resource use and allocation, is linked with any ethical appreciation of the land.

We maintain that there is a gap between people and their land and that this gap is at the root of many environmental problems. Encouraging caring *for* country, and the development of a land ethic, will go some way in redressing this gap. Closing the gap requires reconsideration of what should be included within our ethical worldview. As Sterling (1993) wrote about promoting holistic ethics: “We are not talking about a separate ‘environmental ethic’ which is somehow tacked onto our value system which is otherwise unchanged. Holistic ethics are holistic—the foundation of a different worldview” (p. 80).

If this debate is not forthcoming, we should be concerned that the worthiness of education for sustainability may deflect attention from discussions about the essential ethical questions and what it may mean to care *for* the land. In closing, it is important to reiterate Leopold (2003), who wrote: “Perhaps the most serious obstacle impeding the evolution of a land ethic is the fact that our educational and economic system is headed away from, rather than toward, an intense consciousness of land” (p. 46).

The question that needs to be asked is: Does education for sustainability encourage Leopold’s “intense consciousness of land”? We would argue that it doesn’t.

Acknowledgments

We are grateful for the comments on the manuscript from three anonymous referees.

Notes on Contributors

Dr. Barry Kentish is a Senior Research Fellow in the Centre for Environmental

Management, School of Science & Engineering, at the University of Ballarat. His research interests extend across a diversity of topics including avian population dynamics and breeding ecology, bird song, pest bird management, and community-based conservation. **Contact:** Centre for Environmental Management, School of Science and Engineering, P.O. Box 663, Ballarat, Victoria 3350, Australia; b.kentish@ballarat.edu.au

Dr. Ian Robottom is Associate Dean (International) in the Faculty of Arts and Education at Deakin University. He has been active in the field of environmental education for many years, having edited the *Australian Journal of Environmental Education*, directed international community-based environmental education projects, and published widely in international journals in the field. **Contact:** Faculty of Arts and Education, Deakin University, 221 Burwood Highway, Burwood, Victoria 3125, Australia; ian.robottom@deakin.edu.au

References

- Australia State of the Environment. (2006). *Independent report to the Commonwealth Minister for the Environment and Heritage*. Retrieved September 12, 2007, from www.environment.gov.au/soe/2006/publications/report/key-findings.html
- Australian Bureau of Statistics. (2004). *4602.0 Environmental issues: People's views and practices*. Retrieved April 28, 2008, from <http://www.abs.gov.au/AUSSTATS/abs@.nsf/all-primarymainfeatures/449B97A4846A7D46CA2570C700729037?opendocument>
- Australian Bureau of Statistics. (2007). *1301.0 - Year Book Australia 2007: Geographic distribution of the population*. Retrieved October 24, 2007, from www.abs.gov.au/Ausstats/abs@.nsf/0e5fa1cc95cd093c4a2568110007852b/EF56710D9B64FFC2CA2572360000B7AA?opendocument
- Australian Bureau of Statistics. (2008). *1301.0 Year Book Australia 2008 ABS sums up the nation—More kids, bigger houses, but greener*. Retrieved February 20, 2008, from www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/1301.0Media%20Release%202008?opendocument&tabname=Summary&prodno=1301.0&issue=2008&num=&view
- Australian Government Department of Education, Science and Training. (2007). *National Research Priorities*. Retrieved October 31, 2007, from http://www.dest.gov.au/sectors/research_sector/policies_issues_reviews/key_issues/national_research_priorities/default.htm
- Bonyhady, T. (2002). *The colonial earth*. Carlton South: Melbourne University Press.
- Bonyhady, T. & Griffiths, T. (Eds.). (2002). *Words for country: Landscape and language*. Sydney: University of New South Wales Press.
- Brookes, A. (2002a). Lost in the Australian bush: Outdoor education as curriculum. *Journal of Curriculum Studies*, 34(4), 405-425.
- Brookes, A. (2002b). Gilbert White never came this far south: Naturalist knowledge and the limits of universalist environmental education. *Canadian Journal of Environmental Education*, 7(2), 73-87.

- Callicott, J. B. (1989). *In defense of the land ethic*. Albany: State University of New York Press.
- Callicott, J. B. (2000). Harmony between men and land: Aldo Leopold and the foundations of ecosystem management. *Journal of Forestry*, 98(5), 4-13.
- Curtin, D. (1991). Towards an ecological ethic of care. *Hypatia*, 6(1), 60-74.
- Davison, G. (2005). Rural sustainability in historical perspective. In C. Cocklin & J. Dibden (Eds.), *Sustainability and change in rural Australia* (pp. 38-55). Sydney: University of New South Wales Press.
- Department for Education and Skills. (2006). *Sustainable schools for pupils, communities and the environment*. Retrieved September 23, 2006, from www.teachernet.gov.uk/publications
- Department of Environment and Heritage. (2005). *Educating for a sustainable future: A national environmental education statement for Australian schools*. Retrieved February 20, 2008, from www.deh.gov.au/education
- Department of Environment and Heritage. (2006). *Sustainability education*. Retrieved September 23, 2006, from www.deh.gov.au/education/
- Department of the Environment and Water Resources. (2007). *Indigenous Australians caring for country*. Retrieved September 12, 2007, from www.environment.gov.au/indigenous/index.html
- DesJardins, J. R. (2006). *Environmental ethics: An introduction to environmental philosophy* (4th ed.). Belmont, CA: Wadsworth/Thomson Learning.
- Elliott, J. (2006). Foreword. In R. Kyburz-Graber, P. Hart, P. Posch, & I. Robottom (Eds.), *Reflective practice in teacher education: Learnings from case studies of environmental education* (pp. 11-14). Bern: Peter Lang.
- Fien, J. (1993a). *Education for the environment: Critical curriculum theorizing and environmental education*. Geelong: Deakin University Press.
- Fien J. (1993b). Introduction. In J. Fien (Ed.), *Environmental education: A pathway to sustainability* (pp. 3-10). Geelong: Deakin University Press.
- Fien, J. (1997). Learning to care: A focus for values in health and environmental education. *Health Education Research: Theory & Practice*, 12(4), 437-447.
- Fien, J. (2003). Learning to care: Education and compassion. *Australian Journal of Environmental Education*, 19, 1-13.
- Fien, J. & Trainer, T. (1993). A vision of sustainability. In J. Fien (Ed.), *Environmental education: A pathway to sustainability* (pp. 24-42). Geelong: Deakin University Press.
- Flannery, T. (1994). *The future eaters*. Port Melbourne: Reed Books.
- Gilbertson, K., Bates, T., McLaughlin, T., & Ewert, A. (2006). *Outdoor education: methods and strategies*. Champaign, IL: Human Kinetics.
- Heffernan, J. D. (1982). The land ethic: A critical appraisal. *Environmental Ethics*, 4(3), 235-247.
- Henderson, K. & Tilbury, T. (2004). *Whole school approaches to sustainability: An international review of sustainable school programs*. Australian Research Institute in Education for Sustainability (ARIES) for the Department of the Environment and Heritage, Australian Government.
- Huckle, J. (1993). Environmental education and sustainability: A view from critical theory. In J. Fien (Ed.), *Environmental education: A pathway to sustainability* (pp. 43-68). Geelong: Deakin University Press.

- IUCN, UNEP, & WWF. (1991). *Caring for the earth: A strategy for sustainable living*. Gland, Switzerland: IUCN.
- Jickling, B. (1992). Why I don't want my children to be educated for sustainable development. *Journal of Environmental Education*, 23(4), 5-8.
- Jickling, B. (1994). Teaching about sustainable development: Problems and possibilities. *Canadian Journal of Education*, 19(3), 231-240.
- Jickling, B. (2001). Environmental thought, the language of sustainability, and digital watches. *Environmental Education Research*, 7(2), 167-180.
- Jickling, B. (2004). Making ethics an everyday activity: How can we reduce the barriers? *Canadian Journal of Environmental Education*, 9, 11-26.
- Jickling, B. & Spork, H. (1998). Education for the environment: A critique. *Environmental Education Research*, 4(3), 309-327.
- Kimmerer, R.W. (2000). Native knowledge for native ecosystems. *Journal of Forestry*, 98(8), 4-9.
- Knudtson, P. & Suzuki, D. (1992). *Wisdom of the Elders*. North Sydney: Allen and Unwin.
- Lawson, H. (1979). *Poetical works of Henry Lawson*. Sydney: Angus & Robertson.
- Leopold, A. (1946). The land-health concept and conservation. In J. B. Callicott & E. T. Freyfogle (Eds.), *For the health of the land* (pp. 218-26). Washington DC: Island/Shearwater Books.
- Leopold, A. (1949). *A sand county almanac and sketches here and there*. New York: Oxford University Press.
- Leopold, A. (1987). Forward. In J. Baird Callicott (Ed.), *Companion to A Sand County Almanac* (pp. 281-288). Madison, Wisconsin: University of Wisconsin Press.
- Leopold, A. (2003). The land ethic. In A. Light & H. Rolston III (Eds.), *Environmental ethics: An anthology* (pp. 38-46). Malden, MA: Blackwell.
- Lindholt, P. (1999). Writing from a sense of place. *Journal of Environmental Education*, 30(4), 4-10.
- Moline, J. N. (1986). Aldo Leopold and the moral community. *Environmental Ethics*, 8(2), 99-120.
- Mulligan, M. & Hill, S. (2001). *Ecological pioneers: A social history of Australian ecological thought and action*. Cambridge: Cambridge University Press.
- Nash, R. (1990). *The rights of nature: A history of environmental ethics*. Leichhardt: Primavera Press.
- Nelson, M. P. (1998). Aldo Leopold, environmental ethics and the land ethic. *Wildlife Society Bulletin*, 26(4), 741-44.
- Noddings, N. (1984). *Caring: A feminist approach to ethics and moral education*. Berkeley: University of California Press.
- Noddings, N. (1992). *The challenge to care in school: An alternative approach to education*. Berkeley: Teachers College Press.
- Norton, B. G. (1988). The constancy of Leopold's land ethic. *Conservation Biology*, 2(1), 93-102.
- Palmberg, I. E. & Kuru, J. (2000). Outdoor activities as a basis for environmental responsibility. *Journal of Environmental Education*, 31(4), 32-36.
- Powell, J. M. (2000). Revisiting the Australian experience: Transmillennial conjurings. *Geographical Review*, 90(1), 1-17.
- Roberts, B. (1985). Land ethics: Who needs them? *Australian Journal of Environmental Education*, 1(2), 8-12.

- Rose, D. B. (1988). Exploring an aboriginal land ethic. *Meanjin*, 47(3), 378-387.
- Russell, C. L. & Bell, A. C. (1996). A politicized ethic of care: Environmental education from an ecofeminist perspective. In K. Warren (Ed.), *Women's voices in experiential education* (pp. 172-181). Dubuque, IA: Kendall Hunt.
- Saunders, D. A., Hopkins, A. J. M., & How, R. A. (Eds.). (1990). *Australian ecosystems: 200 years of utilization, degradation and reconstruction: Proceedings of the Ecological Society of Australia Volume 16*. Chipping Norton, NSW: Surrey Beatty & Sons Pty. Ltd.
- Sauvé, L. (1999). Environmental education between modernity and postmodernity: Searching for an integrating framework. *Canadian Journal of Environmental Education*, 4, 9-35.
- Singer, P. (1997). The drowning child and the expanding circle. *New Internationalist*, 289, 28-30.
- Sterling, S. (1993). Environmental education and sustainability: A view from holistic ethics. In J. Fien (Ed.), *Environmental education: A pathway to sustainability* (pp. 69-98). Geelong: Deakin University.
- Stewart, A. (2004). Canoeing the Murray River (Australia) as environmental education: A tale of two rivers. *Canadian Journal of Environmental Education*, 9, 136-147.
- Stewart, A. (2006). Seeing the trees and the forest: Attending to Australian natural history as if it mattered. *Australian Journal of Environmental Education*, 22(2), 85-97.
- Suzuki, D. (1998). *Earth time*. St. Leonard, NSW: Allen & Unwin.
- Tacey, D. (1995). *Edge of the sacred: Transformation in Australia*. Melbourne: HarperCollins.
- Tacey, D. (2000). *Re-enchantment: The new Australian spirituality*. Melbourne: HarperCollins.
- Tilbury, D. (2004). Rising to the challenge: Education for sustainability in Australia. *Australian Journal of Environmental Education*, 20(2), 103-114.
- Tilbury, D. & Cooke, K. (2005). *A national review of environmental education and its contribution to sustainability in Australia: Frameworks for sustainability – Key findings*. Canberra: Australian Government Department of the Environment and Heritage and Australian Research Institute in Education for Sustainability (ARIES). Retrieved April 28, 2008, from http://www.aries.mq.edu.au/pdf/Vol_1Summary_Nov05.pdf
- UNESCO. (2003). *United Nations decade of education for sustainable development (2005-2014): Framework for the international implementation scheme*. Paris: UNESCO.
- UNESCO. (2005). *Initiating the United Nations decade of education for sustainable development in Australia: Report of a national symposium*. Melbourne: Australian National Commission for UNESCO.
- UNESCO-UNEP. (1976). The Belgrade Charter: A global framework for environmental education. *Connect*, 1(1), 1-2.
- van Hoof, S. (1995). *Caring: An essay in the philosophy of ethics*. Niwot, CO: University Press of Colorado.
- Wallen, R. (2003). Of story and place: Communicating ecological principles through art. *Leonardo*, 36(3), 7-13.
- Weston, A. (2004). What if teaching went wild? *Canadian Journal of Environmental Education*, 9, 31-50.
- World Commission on Environment and Development/Commission for the Future. (1990). *Our common future*. Melbourne: Oxford University Press.