Into the 1990s: EE in the USA

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Abstract
Activities in environmental education in the United States during the 1980s are summarized, in terms of audiences involved – formal (school), college/university, and non-formal. Discussion focusses on specific programs and materials, in summary fashion. Trends are noted, and speculative projections into the 1990s are offered.

In some ways ...
In some ways, environmental education (EE) in the United States has been on a roller coaster ride since the late 1970s. Support of EE by federal and state agencies responsible for formal (school-related) education dropped precipitously early in the 1980s, and has only recently begun to show a modest resurgence – at state levels. Between 1980 and mid-decade, it appeared that EE might altogether disappear from the priorities of most US formal education agencies.

The 1981 demise of the 1970 National Environmental Education Act removed environmental education from the agenda of the US Department of Education (DOEd), though it can be argued that the Department's commitment to EE under the Act was more symbolic than substantive (Lewis, 1990). But EE's post-1981 absence from DOEd was not complete: modest support of the EE activities of the Educational Resources Information Centre's Clearinghouse for Science, Mathematics, and Environmental Education (ERIC/SMEAC) and a Federal Interagency Committee on Education Subcommittee on Environmental Education (FICE/SEE) continued. The former is a part of a broad-purpose information clearinghouse which includes EE among its broad-spectrum target areas, while the latter attempts to co-ordinate the activities of federal agencies in EE. In both cases, EE is a small slice of a larger pie; in neither case is the pie a main course.

During the decade, state education agencies generally followed the federal lead by substantially de-emphasising EE, though most maintained some involvement by assigning EE co-ordination/specialist responsibility to one or more individuals having other, more mainstream, assignments. In many cases, those EE assignments reflected the interests of the individuals involved – personal

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commitments, generally subsumed explicitly or implicitly as a part of science education responsibilities – rather than substantive commitments by the agencies (Disinger and Bousquet, 1982). A few states, exceptions to this generalisation, have maintained, and still maintain, full-time EE specialists, and support activities such as development of state guidelines and/or curriculum materials, and (particularly) in-service programs for teachers.

In the US, public education is a constitutional responsibility of the individual states; local school autonomy, and sometimes individual teacher autonomy, frequently approach status as articles of faith. A few states, Wisconsin and Pennsylvania among them, have mandated EE in schools and/or in teacher education (Champeau, Monroe, & Engleson, 1988; Chase, 1988). Such states are exceptions to the general pattern; EE typically is not mandated in US schools. However, a great deal of it goes on, as described below.

But in Others ...

Other federal and state governmental agencies continued – and in some cases escalated – their support of EE in the formal education sector during the 1980s, primarily as one of several tools useful in accomplishment of their missions for natural resource management and/or environmental protection. Examples include some units of the US Department of the Interior (viz., Fish and Wildlife Service), US Department of Agriculture (Forest Service, Soil Conservation Service), US Department of Commerce (National Oceanic and Atmospheric Administration, through its Sea Grant Program), the US Department of Energy, and the US Environmental Protection Agency.

This also has occurred to some extent in analogous agencies of state governments, even local governments. The logic is straightforward – all other things being equal, an educated public is more likely to be amenable to wise management of resources, and more highly motivated to support efforts directed toward maintenance and enhancement of environmental quality; thus, judicious support of targeted educational efforts can be expected to abet the accomplishment of agency management and protection missions (For an example, see Knight, 1989). Under these circumstances, the formal education system is perceived by many outside of it as a mechanism to achieve agency and societal goals (hopefully equivalent), rather than as an end in itself. It has been suggested that the "real friends" of EE are not the formal education agencies, but rather the environment-related management and protection agencies (Schafer, 1981).

Because the student population of classrooms is frequently viewed as a ready-made captive audience, the formal education system is sometimes considered a conveniently accessible, strategically valuable subset of the public, even though that specific audience is generally somewhat removed from participating membership in the decision-making public. In a related reference frame, the willingness – sometimes the evangelical fervour – of those outside the

formal education establishment to "educate," or assist in the education of, young people in classrooms is a re-affirmation of the laudable commitment of "the present generation" to provide guidance to, and support the education of, "the next generation". This provides a useful set of human resources for educators, but the situations must be managed carefully, so that the experiences are educationally valid and significant (Disinger, 1989).

In the United States, governmental mandates and support control only a part of what actually happens in classrooms. EE suffers, if that is the correct term, because it is undefinable in terms which "fit" existing school organisational patterns. It is not a discrete discipline. It cannot properly be subsumed by any science, natural or social. Though it has inherent moral/ethical aspects, it is not itself a humanity. The common wisdom is that it should be approached in an interdisciplinary manner, and infused in all content areas (Iozzi, 1987). In the EE case, practice follows theory; infusion of environmental concerns in various curricular areas, particularly the sciences, is the characteristic mode of inclusion of EE in US school curricula, according to a survey summarised by Disinger (1987). Rarely was EE reported as a separate subject; when it was, it was generally called "environmental science".

Respondents to the survey – state education agency EE personnel – reported varying emphases. In the elementary grades, nature study was reported as the most common form of EE, while energy education, outdoor education, and conservation education were noted by more than half of the respondents. In secondary schools, energy education and science/ technology/society education (as EE) were most common, with marine/aquatic education and conservation education frequently noted. Thus, is appears that traditional approaches characterise the lower grades, with some progression toward "newer" and more rigorous concerns in the higher grades. This is controlled, or at least influenced, by personal and institutional factors such as teacher background and interest, school organisational patterns, and local community priorities.

In addition to governmental agencies, non-governmental organisations – environmental groups, businesses, and industries – also attempt, with varying degrees of success, to influence school curricula. The best-known, most widely used elementary and secondary school EE teaching materials in the United States during the 1980s were developed under the sponsorship of groups outside the formal education sector, in some cases with some government funding. For example.

Project Learning Tree

Project Learning Tree (PLT), a two-volume set of supplementary teaching materials dealing with human interdependence with the total forest community, was developed in the mid-1970s under the leadership of the Western Regional Environmental Education Council (WREEC), an association of EE specialists

from the education and resource management agencies of the 13 western states. WREEC was originally funded by the US Department of Health, Education and Welfare, then entered into an agreement for the development and dissemination of educational materials with the American Forest Foundation (AFF), supported by the forest products industries. *PLT* materials were developed by professional educators, many of them classroom teachers, rather than by representatives of the industries. This assured practical workability, a high degree of objectivity, and a reservoir of acceptance among teachers and other professional educators. Because outside consultants were employed, both content and educational process problems were avoided.

During the 1980s, AFF assumed responsibility for dissemination of the materials, accomplished primarily through in-service teacher training conducted by professional educators employed by AFF. State-level education and resource management agencies provide leadership and co-ordination services. *PLT* now is available in 49 states, 6 Canadian provinces, Sweden, Finland, and Mexico (McGlauflin, 1990).

Project WILD

In the late 1970s, WREEC followed the same general model in the development of *Project WILD*, a two-volume interdisciplinary, supplementary environmental and conservation education program emphasising wildlife. In this case, support was secured from the Western Association of Fish and Wildlife Agencies. Again, the materials were developed by teachers and other professional educators, with consultant support. In 1987, a third volume was added – *Aquatic WILD*.

In each of the 49 states (and all but one of Canada's provinces and territories) where *WILD* is now operative, state-level public agencies – typically natural resource management agencies, sometimes education agencies – provide financial and logistical support. On the average, these agencies contribute $20,000 annually, along with the services of one equivalent full-time professional staff member.

Since Autumn 1983, more than 200,000 teachers have participated in *Project WILD* training sessions averaging seven hours in length. It is estimated that more than 15,000,000 elementary and secondary school students have been exposed to the project's materials during the past seven years (Charles, 1990).

The CLASS Project

The CLASS Project is a series of investigations and projects for junior high-middle schools which covers six content areas – energy use, environmental issues, forest/watershed management, hazardous substances, wetlands, and wildlife habitat management. It was developed in 1982 by the National Wildlife Federation (NWF), with funding from the federal government's National Science Foundation, and includes for each content area background information, content

objectives, a set of investigations, a list of suggested community action projects along with instructions for getting started, and a list of possible research projects for those wishing to go beyond the basic material. *CLASS Project* facilitators have conducted teacher training workshops in 34 states. Two states – California and Alaska – have adapted *CLASS* materials for their own states, in consultation with NWF staff. NWF has encouraged such adaptations (Braus, 1990).

NatureScope

Since 1984, NWF has published 17 issues of *NatureScope*, a set of teaching activities for elementary schools focussing on nature-environment topics typically in curricula for those grades. The series is still in development – more activities are being generated, more topics are being explored. To date, more than 720,000 copies have been distributed. NWF staff conduct *NatureScope* teacher training workshops, often in cooperation with *PLT* facilitators (Braus, 1990).

Two of the above – *PLT* and *WILD* – restrict distribution of their materials to teachers who have participated in training sessions conducted by project staff or experienced trainers. *CLASS* originally followed this procedure, but has recently made its materials more generally available. The intent, and to some extent the effect, has been to assure that the materials are used as designed – as interdisciplinary student-centred investigations stressing the relationships between humans and the natural and human-made environments, with emphasis on needs and procedures for intelligent decision-making in natural resource/environmental matters. In each case, focus is on the development of understanding of the interactions of sound scientific information and political, economic, and social realities.

In the Non-formal Sector ...

During the 1980s, a number of trends in non-formal EE emerged which may be expected to continue at least through the early 1990s, and quite probably beyond, in North America. Opportunities for non-formal EE experiences have increased for most urban dwellers in the US and Canada since the late 1970s. The growth in the network of clubs, museums, natural history institutes and other non-profit organisations that provide these experiences clearly would not have happened without an increased demand for adult and family-oriented educational experiences in the outdoors.

Organisations such as the Sierra Club pioneered the concept of wilderness excursions for urban residents in the early 1900s. Today there is scarcely a large city in the US or Canada that is not served by organisations such as The Audubon Society or a Youth Hostel association that organises outings and instruction in natural history.

Similarly, a variety of family and adult-oriented outdoor education camps have appeared in the 1980s. Although many of these have long-established

histories, their growth certainly accelerated in the past decade and shows signs of continuing to flourish in the 1990s. *High Country News* (1990) listed more than 70 (mostly western) camps, natural history institutes and other non-formal EE organisations in its 1990 directory. This trend coincides with a general increase in visitation to parks, community nature centres, and museums which provide non-formal EE through interpretive programs.

Data from several national parks and recreation agencies in the US show that participation in interpretive and naturalist programs is increasing at a rate greater than the increase in park visitation (Wright, 1988). The increase in visitation itself indicates that more North Americans are seeking outdoor and nature experiences. The increase in use of park-based educational programs supports the assumption that these visitors are also seeking an educational experience in the natural environment.

The explosive growth of "eco-tourism" is a good example of a recent development in the field which promises expansion in the coming decade, given stable economic conditions. One can hardly look through an issue of an environmental magazine and avoid the advertisements for tropical rainforest excursions and visits to Antarctica. These excursions generally include the services of naturalists or interpreters and must be considered at least in part as non-formal educational experiences.

While the number and kinds of non-formal EE experiences expanded for urban residents in the 1980s, the same trend appears in rural communities. Here government and quasi-government agencies play a stronger role. Traditional organisations such as the Cooperative Extension Service, Soil Conservation Service and Soil and Water Conservation Districts have increased their EE efforts in the 1980s, and the growing concern and budgets for ground and surface water protection and better forest management may lead one to safely assume that this trend will only increase in the 1990s.

In several states, conservation districts must by law spend percentages of their budgets for EE. Even relatively conservative states such as Arizona have established regional EE centres associated with conservation districts. Most states and provinces now offer workshops for youth and teachers sponsored or co-ordinated by agricultural conservation and forestry agencies or associations.

In the US since the late 1980s, the Cooperative Extension Service has undertaken several national initiatives relating to natural resources and environmental protection (US Department of Agriculture, 1986). Targeted at wider audiences than their traditional farm clientele, innovative Extension programs now include fairly sophisticated educational programs in environmental policy, water resources and wildlife habitat improvement.

To some extent these efforts represent the infusion of EE into more traditional, production-oriented educational agendas. In that respect, EE in these agencies finds itself in similar circumstances as EE in formal primary and

secondary school programs. The constituency that supports greater EE efforts is usually a moderately-well organised minority competing for limited time and monetary resources in an organisation with much broader goals and much older, better organised constituencies.

At least two fairly reliable indicators consistently demonstrated an increased concern for environmental protection in the US in the mid-to-late 1980s. A variety of public opinion polls reflect the fact that US citizens are increasingly concerned about air and water quality, support an expanded federal role in environmental protection, and are willing to pay more to protect the environment (Harris, Tarrance & Lake, 1989).

Similarly, membership in eight major environmental organisations in the US increased dramatically during the mid-1980s (Tyner, 1987). While it costs little to express an opinion supporting environmental protection, paying membership dues to an environmental group expresses a fairly significant commitment for most individuals. Yet this apparently increasing level of individual commitment is not reflected in federal or state support of formal environmental education in the United States.

At Post-secondary Levels ...

Much of the rhetoric of current movements directed toward general education curriculum reform in US college/university education is compatible with recent and current practice in environmental studies.

Numerous case studies over the past two decades have provided examples of environmental studies as general education (for examples, see Harde, 1982), while surveys and "think pieces" reported in the literature have drawn similar conclusions. Current perceptions of the ideal – and attainable – undergraduate curriculum is that there is a set of specific skills that all people should master, perceptions they should develop, and world views they should come to espouse, in order to qualify as educated persons, regardless of their career/professional/academic interests. The implication is that colleges and universities do not deliver such a curriculum package, having become too parochial, too segmented, too fragmented, too training-oriented, too much like fast-food restaurants unconcerned with the balance of diet necessary to the health of their clientele. Another implication is that the environmental studies model is an excellent template for undergraduate general education, and also provides much of its appropriate substance.

Suggested in the summary of a 1978 survey of then-extant college/university environmental studies programs as "... factors or criteria that seemed to be implicit in ...(the use of the term 'environmental studies') by most institutions of higher education" were:

1. Concern with the environment of humankind;
2. Concern with the total environment;
3. Concern with interdisciplinarity;
4. Concern with problem-solving and the clarification of open-ended options; and
5. Concern with configurations that transcend traditional lines of endeavor, with central focus on the relationships between humankind and the total environment." (Schoenfeld & Disinger, 1978).

A ten-years-later follow-up survey of the same programs (Disinger & Schoenfeld, 1987) concluded that this listing of factors remained the primary characteristics of college and university environmental studies programs. It also reported that 31 of the 45 programs described in the 1978 collection continued in existence a decade later, though some had "kept up with the times" by shifting their foci – that is, they had evolved. Though a rigorous study of the current status of environmental studies has not been conducted, a perusal of the literature indicates that environmental studies programs, and particularly courses, are common across the nation. Such a survey is now being conducted under the guidance of the North American Association for Environmental Education (Wilson, 1990).

It appears that perspectives of environmental studies programs in colleges and universities are undergoing a shift, such that:

1. Confrontation between those espousing strong environmental positions is increasingly seen as counter-productive by both sides; reasoned concern about the environment is now typically accepted as essential to good economics and planning;
2. Rapid advancements in knowledge about the environment in all disciplines of both the natural and the social sciences have led to general acknowledgement of the necessity of the integrated application of that knowledge across disciplines; and
3. The commonly held perspective of the pervasiveness of environmental concerns has become more global in orientation. (Botkin, *et al.*, 1989).

Professional Associations ...

Dramatic maturation has characterised the North American Association for Environmental Education (NAAEE) during the past decade. By organising into three interactive sections – Elementary and Secondary Education, Non-formal Education, and Environmental Studies – NAAEE provided a logical, audience-oriented organisational scheme which facilitates the meeting of specific needs of its constituents while it makes it possible for those constituencies to interact. In 1983, the organisation changed its name from "National" (US) to "North

American" to recognise the reality of and further encourage the involvement of many Canadians; more recently, Mexican participation has become a small but significant reality. NAAEE is currently exploring possibilities of a merger with the Conservation Education Association (CEA), an older, smaller organisation with similar objectives. The two organisations held a joint conference in Colorado in August 1989.

NAAEE conferences since 1984 have been international in scope, though they have not typically been advertised as such. The Association has members from all continents except Antarctica; there are more members from Australia than from some of the individual United States. Total membership is now about 1000.

In addition to its conferences, NAAEE has undertaken an expanding publications program; topics of recent monographs include relationships between EE and environmental communication (Grunig, 1989), an in-depth look at teacher education for EE (Engleson and Disinger, 1990), and a database for building EE activities and programs (Ballard and Pandya, 1990).

In addition to the possible merger noted above, NAAEE is involved in an extensive organisational development plan for the purposes of increasing its membership, providing more (and more useful) services to the field, and increasing and exercising professional leadership (McCrea & Iozzi, 1989).

The Alliance for Environmental Education, an umbrella group whose membership has been non-governmental organisations (NGOs) having interest in environmental education, has this year initiated a National Network for Environmental Education. Alliance member organisations have historically ranged alphabetically and philosophically from the American Nature Study Society to Zero Population Growth, with CEA and NAAEE – and the Boy Scouts, Girl Scouts, National Science Teachers Association, and United Auto Workers, among others, in between. The Network itself is modelled on a regional EE network established and managed by the Tennessee Valley Authority, and consists primarily of university "centres" involved in teacher education, curriculum development, and related activities of the EE community. Its purpose is to encourage cooperation among the centres, with exchange of materials, ideas, etc. A key element is interactive computer linkages through EcoNet, an existing international telecommunications network. At this writing, 52 NGOs hold membership in the Alliance, and 53 network centres have been established (Alliance for EE, 1990).

Legislation ...

A potentially significant legislative initiative is now wending its way through the Congress of the United States. "The bill appears to be non-controversial, and may become a motherhood-and-apple pie issue in Congress" (Weis, 1990). If enacted in anything approximating its present form, the National Environmental Education Act will establish an Office of Environmental Education (OEE) within

the US Environmental Protection Agency, for the purpose of providing the next generation with both an awareness of environmental issues and the skills to solve them, "recognis(ing) that education can establish a foundation for long-term solutions for environmental problems." Provisions require that:

1. OEE will develop and support programs to promote understanding of the natural environment, develop curricula, seminars, and training programs, and manage grant and internship programs;
2. OEE will establish a national program to develop environmental education materials and curricula, and to train professionals in the development and delivery of the new curricula; this program is to be operated by a university or a consortium;
3. Grants will be made from EPA to education agencies, colleges, and universities for the development of EE programs;
4. An environmental internship program for college students and a fellowship program for in-service teachers will be established to place individuals in federal agencies that deal with environmental issues;
5. Awards to recognize excellence in environmental education, named after Theodore Roosevelt, Henry David Thoreau, and Rachel Carson, will be made by EPA;
6. A 15-member national advisory council will advise EPA on the administration of the act.

"The bill authorizes $15 million for each of the first two years, $20 million annually for the next two years, and $25 million for fiscal years 1995 and 1996. Funding for the programs is to come from a trust fund created from fines paid by violators of federal laws" (Weis, 1990).

Similar legislation is pending in at least one state – Ohio.

Trends ...

During the 1980s, two significant environment-related foci emerged in elementary and secondary schools, colleges and universities – *science/ technology/society education* and *global education.* These have been developed primarily outside of the community which identifies itself as *environmental educators* – the former primarily by science educators (with some input from social studies educators), the latter primarily by social studies educators (with some input from science educators). There is some cross-representation among science, social studies, and environmental educators in these groups, primarily because many environmental educators are primarily science educators, and a significant (though smaller) number are primarily social studies educators.

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However, many environmental educators have continued to pursue traditional priorities and interests in nature study, outdoor education, and conservation education, and have not acknowledged the broader scope which is both implicit and explicit in definitions of environmental education advanced since the late 1960s. All of these call in some form for rigorous consideration of biophysical and sociocultural interactions in the context of human decision-making in a milieu of change (summarised by Disinger, 1983). To the extent that this has happened (that is, that EE practitioners have *not* typically kept abreast of developments in science/society/ technology/environment concerns, or of the pervasive environmental considerations inherent in global education, advances in education in these two areas may pass the EE community by (Disinger, 1981).

The real danger is in potential loss of the unique input of environmental educators into education in these areas; for example, EE already deals with much of the content, and appropriate educational methodologies, for S/T/S education (Rubba, 1987). It is clear – and necessary – that both S/T/S and global education will continue and develop, with or without the input of those who already hold the advantage of a substantial commitment to, and knowledge of, their environmental underpinnings – and how to teach in an interdisciplinary manner.

A number of indicators suggest an increase in the demand for and participation in EE in all sectors, formal and non-formal. Unfortunately, the link between that demand and a more healthful environment remains at best tenuous. Commoner (1987) suggests that this is the result of resistance to fundamental change and adoption of an incremental strategy on the part of established environmental organisations which necessarily becomes a part of interest group liberalism (Lowi, 1979).

Summary ...

There is at least some reason to suspect that citizen support for EE and the environment generally is subject to an "issue attention cycle" (Downs, 1977) because a majority of people suffer the consequences of a deteriorating environment extensively rather than intensively. Support for environmental protection (and, we hypothesise, EE) increases as the result of specific events such as the Exxon Valdez calamity and the 20th anniversary of Earth Day. As it becomes obvious that solutions to environmental problems are complex and time-consuming, public attention is often re-focussed on other crises (drug abuse, crime, and political change in eastern Europe for example).

McCloskey (1987) and Udall (1987) have suggested that environmental concern has rarely been a factor in national elections in the US because politically the environment is a "second order" issue which manifests itself more often locally rather than nationally, where economic and national security issues are likely to prevail.

Early 1990 saw more evidence of public, governmental, and business/industrial interest in the environment – or at least generated and listened to more rhetoric about environmental quality – than at any time since Earth Day 1970. Much of this was due to media, and public, attention to Earth Day 1990; whether or not it will be sustained is open to question. The possible enactment of a 1990 National Environmental Education Act, plus the continued growth of public concern over local environmental issues, plus thrusts in S/T/S and global education, plus continuing interest from NGOs and resource management/environmental agencies, plus increased activity by professional associations, all portend progress for EE in the United States.

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