



ENVIRONMENTAL EDUCATION PROJECT

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NEWSLETTER No.8

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SYDNEY

This newsletter covers environmental education in the museums, zoos, botanic gardens and art galleries around Australia that are fortunate enough to have education officers. The contributions of such educators are unique and can often have a significant effect on the children who visit them. Some of what they do is clearly environmental education.

In contrast to "museums", which have only recently begun to take their wares out into the community, the Gould Leagues have gone out to the children by regular magazines and clubs since they began in Australia in 1910 as the Gould League of Bird Lovers (N.S.W., Vic., W.A., S.A., Tas.). Since then they have broadened their area of concern to include all the natural environment and, if the theme of the recent national conference in Perth is an indication, the urban environment as well. Most of what they do is environmental education.

The last two newsletters will have no particular theme. Articles have not been solicited and so I invite any readers to submit brief items (preferably less than 500 words), with illustrations where possible, by October 15th (No.9) or November 15th (No.10). I would particularly welcome items from areas not covered by previous newsletters, such as Field Study and Outdoor Centres, the use of T.V., radio or newspapers, environmental education in subjects such as Science, Geography, Drama, English, etc.

The previous newsletter could have given readers the impression that there is not a great range of environmental education happening in Australia. In areas such as energy education that is accurate, but people outside of Australia often come to a different conclusion as the following letter from Montclair State College, U.S.A. shows:

"First, we greatly enjoyed your little booklet, 'On Safari'; it is amazing how what you are attempting to do in Australia coincides so closely with what others are doing here and around the world. You have also incorporated some innovative ideas, such as the Observation Starter Book in the back of the booklet."

In fact, some 30 plus manuscripts from this project are currently being edited into 11 publications some of which will be on the market early in 1980. More news as priorities and dates are known.

LETTERS TO THE EDITOR

"I have just received Newsletter No.7 and I don't think it's just because it's a nice day but it certainly seems to me to be a most effective issue. You seem to have struck the right note as far as I am concerned with respect to the balance between "theory" and "practice". I also find the recommendations so far as resources extremely valuable and these include some which I was certainly not aware of.

"On the back page you talk about the possibility of a confederation of environmental educators. I think this is a move in the right direction. I had been thinking of writing to my counterparts in other teacher education (to p.9)

National Project Director: John H. Smith

MUSEUMS and E.E.

NEW SOUTH WALES

Two problems were immediately encountered in discussing the contribution of "museums" to environmental education in N.S.W.

The first was the difficulty of separating the personal involvement and enthusiasm of the individuals in these places from the contribution of the institutions themselves. Education officers tend to be personally committed to aspects of environmental education and may play significant roles in a range of environmental associations and teacher inservice committees. In this context, however, it is the role and philosophy of the institutions themselves that we shall examine.

The second problem was the wide range of institutions covered by the term "museum". In N.S.W. the institutions surveyed were:

- The Australian Museum
- The Mining Museum
- The Museum of Applied Arts and Sciences
- Taronga Zoo
- Western Plains Zoo
- The Art Gallery
- The Royal Botanic Gardens.

In fact, the range proved to be less of a problem than expected. While obviously some of the following comments will be more relevant to some institutions than to others, a surprising uniformity of philosophy emerged. This may in part be due to the interesting position occupied by museums. All of them attract very large numbers of school children, and have a rather unique opportunity to look closely at a whole range of ages (from pre-school to tertiary in most cases), abilities, types of schools (and teachers!) and differing teaching philosophies.

Few would dispute that there has been an increase in public awareness of environmental issues. Likewise there has been an increased awareness by teachers and others of the need for education for the environment. Whether teachers are aware because they feel they "ought" to be, or because of genuine interest is immaterial here. Whatever the reason it has led them to look for physical places to use for environmental education.

In some cases, as mentioned in Newsletter No.7, the diversity of the school playground is not enough to initiate a range of environmental education activities, and in others it provides the stimulus that starts a search for wider fields. But the environmental education enthusiasts (and I include the "education about the environment" and the "education in the environment" groups) have found the museums.

The rediscovery of museums and the general awareness of environmental issues has, I think, led to a critical appraisal of the institutions themselves. In a sense they are now often regarded less as sources of information and more as social institutions that enshrine the environmental heritage of the child.

What effect has this shift had on the institutions themselves? In some, surprisingly little! In most, where it is relevant, there has been a move toward environmentally based themes. For instance, in the Australian Museum, themes like "Arid Australia" gradually replace the older-type displays. In Taronga Zoo, there is a trend toward naturalistic exhibits and mixed displays like the Rainforest Aviary. Zoos, in particular, have had increasingly to

justify their existence. While no one is too concerned about caged artefacts or hung paintings, the plight of the caged animal does cause concern. This is excellent. Zoos have long claimed that their functions are education, research, and conservation rather than mere recreation: they now find themselves having to show their involvement in these areas, and what is harder, educate the public to understand it. To a greater or lesser degree, all the institutions are subject to increased public scrutiny.

It is, as one would expect, however, in the Education Services that the most definite measurable trends can be seen.

- (a) There is a genuine move toward multidisciplinary studies. It is by no means only the science departments of schools that visit. Some disciplines like maths are finding that what starts as merely work in the environment is leading to the discovery of a mathematical component of the environment. Maths excursions are featuring in the zoo, the Botanic Gardens, and Field Study Centres and an environmental awareness is being created by means of a subject that has traditionally been felt to be far removed from the environment. This of course is only one example, and there are many others.
- (b) The basic programs prepared tend to take more and more the ecological approach. From the youngest to the oldest students, environmental adaptation seems to be a sort of cornerstone in looking at nature. This ecological approach is reflected, of course, in the display and graphics policies of the various institutions. Programs on endangered animals, extinct animals, the effects of pollution, and so on, are obviously direct attempts to influence children's values, but it is the swing in the last years in the more "ordinary" lessons from the emphasis on classification to the emphasis on adaptation and environmental relationships that is interesting.
- (c) Extension activities. Depending on the facilities available, of course, most institutions see themselves as having a role outside the "formal school excursion". After school activities, vacation craft courses, travelling train museums, wandervans, travelling art galleries all provide extra stimulus or take the museum facilities to a wider range of people.

On one final aspect almost all the institutions surveyed were in complete agreement. It is felt strongly that children on the whole lack skill in observing, and that a museum provides the sort of stimulating experience in which positive observational skills are learnt. We often start at the wrong end - we are trying to teach the crawling child to dance. We cannot teach awareness of the environment and we cannot teach concern for the environment. What we can do is to show the child his environment, both man-made and natural. It is only after such observation that the child develops appreciation, sometimes understanding, and eventually his own desire to preserve that which he (and not us!) finds good. The "museums" do provide a setting particularly geared to stimulating observation. (Many other places do too, but for inexperienced teachers in particular, a ready-made setting equipped with education staff can be rather reassuring. Certainly it reassures many a school Principal.) Most of the institutions concentrate heavily on observational skills - and I use "observation" to mean smelling and feeling as well as seeing. Di Alford of the Botanic Gardens points out that a walk through the Herb Garden can create a whole new chain of behaviour in small children: all plants become objects of a new dimension. Much the same can be said of a walk in the zoo on a wet day when one realises that animals don't only look different but they smell different!

We do not always think of Art Galleries as being concerned with environmental education except in as much as they are a part of the child's cultural environment, but it is worth noting that Robin Norley of N.S.W. Art Gallery feels that the Gallery has a definite commitment in that direction. Programs on Looking at Our Own World again encourage observation and perhaps importantly observation of change. Gallery programs encourage children to look at change - things look different in different lights at different times, on different days.

We would like a child to leave the museum, or the zoo, or the Art Gallery or the Botanic Gardens and look at the world a little differently. The important thing is to look



and to want to look, to see change, both for the good and bad, and to want to know about it. Observation will not necessarily make people conservationists, and anti-pollution-ists any more than deliberate teaching of such values. All that is beautiful is not good. Photochemical smog can be ethereally beautiful, slime moulds are seldom even attractive. But both are part of our environment; observation of one or both of them can only widen a child's concepts of his environment.

Noila Bergland
Taronga Park Zoological Gardens

TASMANIA

The basic functions of museums are concerned with the collections, since any museum is defined by its collections. One of the many aims in using these collections is to increase a student's knowledge of his environment by studies related to these collections.

We all by now accept that a museum is more than just a warehouse, crammed with strange and fascinating objects, and that class visits should entail more than providing visual education by the use of "real things".

Most classes visiting the Tasmanian Museum and Art Gallery are accompanied by an Education Officer. Discussion of the subject being studied, be it Geology, Zoology, or Colonial History is followed by handling (when possible) or class examination of objects, audio-visual material, and finally worksheets are completed on the lesson topic in the public galleries.

But is that really enough? It is easy to see and not to understand and that may be a shortcoming of many excursions. I feel that the value of the real object to children can be increased by placing it in contextual setting. With this in mind we have developed a wide range of outdoor education activities and classes are encouraged before or after museum excursions to visit the kinds of environment the objects have been taken from.

The Bedlam Walls Aboriginal Sites Trail looks at an area of shell middens, rock shelters and stone quarries. The area has been extensively excavated by museum archaeologists and is within easy travelling of all Hobart schools. What better way to see where objects have come from - to hold a stone implement made by Aboriginal man 10,000 years ago is overwhelming for most children - to go and see where it was made has even more impact. Children are also encouraged to look at changes in environment on the trail - it is obvious that species of shellfish eaten by the Aborigines are no longer present on foreshore areas, and that cultivation has dramatically changed the landscape in some areas. Although trail booklets have been prepared for children to note observations and answer questions not all excursions follow a structured program. Over 800 students were accompanied by Museum Education Officers on the trail in 1978, and during 1979 inservice programs have been organised to enable teachers to run their own programs.

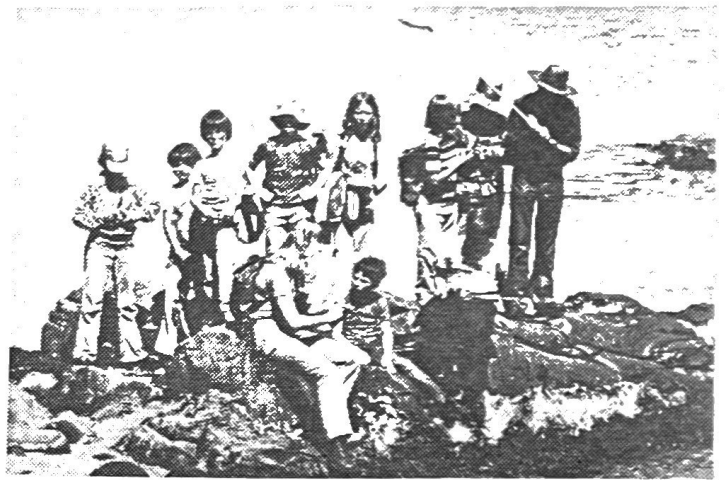
The local council, which owns the sites, has now been encouraged to look carefully at the land use of the area, and with the help of the National Parks & Wildlife Service a committee has been established to preserve the area for educational activities.



Students observing Forester Kangaroos at Ross Deer Park.

Other areas where school groups are accompanied on field excursions include fossil collecting. The Tasmanian Museum boasts a large and important collection of Permian and Triassic fossils and after an initial introduction to these at the Museum, classes go to the area, also within easy commuting distance of Hobart, to collect and make observations.

Holiday programs over the last few years have also developed towards environmental themes. The Bruny Island Expedition, organised in February was aimed at giving the 10 children who participated a greater appreciation and understanding of the environment and history of the island. Activities included marine studies, fishing, swimming and bird watching. (I would never have expected to see children sit out a "lesson" until 2 a.m. to see thousands of mutton birds and penguins come ashore, measure them, photograph and make general observations, and still want to repeat the same thing every night for a week!) Historical sites of the Island were explored, and a night spent at the South Bruny Lightstation - the second oldest in Australia. The activities were carried out in a relaxed and informal atmosphere, the children were encouraged to keep log books for recording purposes, but no structured programs were adhered to.



Students examine marine specimens on an expedition to Bruny Island.

The Mount Wellington Ice Houses have been explored, after looking at historic photographs in the collections, and dampers and billy tea devoured in a style befitting a colonial or bushman. Other excursions have been to native animal refuges, caves and archaeological sites and sand sculptures of whales and mazes have been made at a local beach. Outdoor drawing and photography classes have been organised in association with the Art Gallery and Investigate Battery Point, an urban trail of an historic area of Hobart, continues to attract about 4,000 students and teachers each year. We hope to expand our involvement in environmental education, and as a result of interest and enjoyment shown in the programs so far a junior Museum and Art Gallery Club has been established. This caters for both primary and secondary students and a wide range of activities have so far been undertaken.

Museums have a responsibility to reflect as faithfully and completely as possible the natural and cultural environment in which we live and I feel that through their collections museums are merely launching pads for an immense realm of learning experiences.

Roberta Barnett
Tasmanian Museum, Hobart

The Royal Tasmanian Botanical Gardens are situated approximately 2 km from the heart of the city of Hobart. The Gardens cover an area of 13.5 ha and are bordered by the shores of the River Derwent on the eastern boundary and the open parklands of the Queen's Domain on the western boundary.

An Education and Information Service at the Gardens was initiated in January 1978, with the appointment of an Education Officer and the establishment of an Information Centre.

It is stressed in brochures that the Gardens can be used as an outdoor classroom whereby children are helped to understand and appreciate their immediate environment, its preservation and conservation. A wide range of topics can be chosen, such as:

- (a) Threatened Endemic Series
- (b) Plant Adaptation to Environment
- (c) Simulated Habitats

An aboriginal midden site has recently been discovered in the Gardens and this should add further to the number of topics covered by field studies within the Gardens.

Further programs within the near future include greater development of the Australian section of the Gardens and the opening in September of a Museum and Education Centre. Within the Centre will be a propagating room and a new glasshouse where, under supervision, practical involvement in growing plants can be carried out, allowing the children to "do their own thing".

Thanks to the excellent team work of the Gardens staff and the generous assistance of other departments, particularly the Tasmanian Museum and Art Gallery, it is evidenced by gate numbers and from answers given in questionnaires provided for the general public, that the Royal Tasmanian Botanical Gardens are becoming increasingly popular as a venue for all age groups.

Mark Hurburg
Royal Tasmanian Botanical Gardens

QUEENSLAND

The first generation of Botanic Gardens in Queensland were established in the latter half of the 19th century, performing the role of introducing exotic plants to the colony and acting as a reservoir of botanical and horticultural knowledge.

School use of these older Gardens located in coastal centres including Brisbane, Rockhampton, Townsville and Cairns, is on an occasional and independent basis. Both the exchange of teacher-devised material and the supply of support from the curatorial staff are uneven, varying from place to place and from time to time.

Dissuading teachers from using these older Gardens are some difficulties arising from two factors. First, the maintenance of the Gardens by local authorities - with their limited funds and policies - is reflected in the standard of plant labelling, information brochures and staffing. Secondly, the design of these does not easily accommodate school use, the arrangement of plant specimens lending itself more to picnicking than a pedagogically effective sequence of discovery. This is not peculiar to Queensland, or indeed Australia, but is merely symptomatic of the ideals of Gardens planners of the 19th century.

Informal educational use by the public is also limited by the above factors, especially that regarding the supply of interpretive brochures. One local authority deserving of commendation is the Townsville City Council, whose supportive material for the Town Common gives identification and other relevant information on the number of natural communities found there.

Fortunately the latest generation of Botanic Gardens, although only one in number, is also deliberately seeking to remedy the above situation. The Mount Coot-tha Botanic Gardens in Brisbane, currently halfway through its first phase of development, represents the 20th century emphasis on plant communities and habitat arrangement with regard to design.

Public education, including both school and non-institutional use, has been the most significant factor in the construction of the Mount Coot-tha Botanic Gardens. Landscaping and pathways are designed so that plants and, in the case of habitat collections, appropriate climatic conditions, are maximally contactable by visitors for experiential learning.

Apart from plant displays, three services make up the new Gardens; the Advisory Service, providing horticultural assistance to home gardeners; the Library Service, with

both a reference and a lending book stock of botanical, environmental and horticultural works; and the Education Service, providing educational and interpretive assistance to visiting groups.

The broad goal of the Education Service is to maximize the appreciation of the environmental stimuli from the constructed communities within the Gardens. For school groups this involves activities ranging from supplying information to teachers, through to teaching lessons in the Gardens or perhaps making use of a self-guiding enquiry worksheet.

Pre-service teachers from all teacher preparation courses in Brisbane are introduced to the Gardens as both a teaching and a learning resource. It is hoped that on their subsequent appointment to schools throughout the state they will use Botanic Gardens and other park facilities in an appropriate manner.

Similarly, inservice professional development courses for both Brisbane teachers and those from elsewhere in the state have been held at the Mount Coot-tha Gardens.

The prognosis for use of Queensland Botanic Gardens for environmental education is favourable - a steady although slow increase in quantity and quality of usage, sponsored at least in part by the development at Mount Coot-tha.

Bil Hansen
Mount Coot-tha Botanic Gardens

The Queensland Museum has three major functions: the safe storage of its collections, research, and the dissemination of information about these collections.

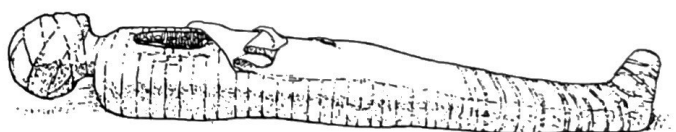
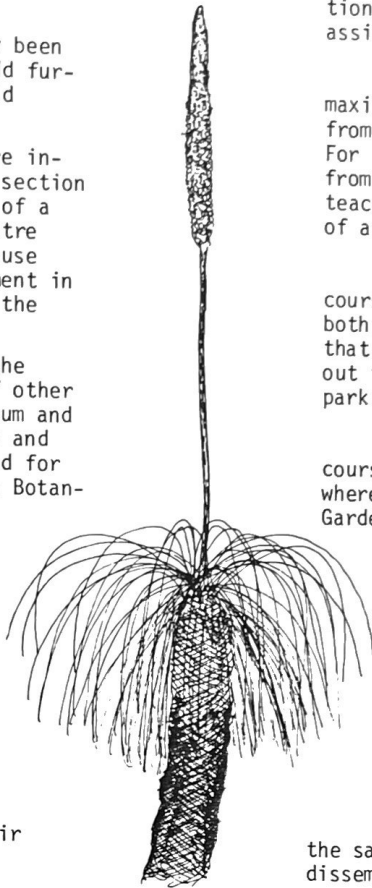
One of the tasks of the Museum in relation to the information function is to assist in the development of an awareness among the people of Queensland of the environment and their place in it. It differs from other environmental agencies in that it educates, not only about the physical environment but also about the cultural environment, through its Australian Ethnology and Anthropology sections, and the historical environment.

Thus Anthropology, Technology and Ethnology join Botany, Herpetology and Mammalogy to present an opportunity for an integrated approach to environmental studies.

Educational programs on mammals, birds, reptiles and coral reef ecosystems are offered to visiting schools by the Education Officers. Curators provide assistance in identification to schools and other organizations, as well as to the general public, while printed materials, including excellent books for the identification of local birds, snakes and eucalypts, are offered for purchase.

In 1979 an Extension Education Service was set up to take programs to schools which would experience difficulty through distance or cost of visiting the Museum. Programs such as "Dinosaurs", "Australian Animals", "Aborigines", "Rocks", and "Pioneer Life" are presented in the schools by an Education Officer who takes with him a range of artefacts, specimens, and models. The accent is on touching and experiencing, and great importance is placed on the inclusion of information regarding the historical and ecological environments of the various localities visited. Reaction by the schools to the service has been outstanding, with over three hundred schools in southeast Queensland being visited this year. It is hoped to extend the service to cover the whole of Queensland in the near future.

Doug Paul
Queensland Museum



WESTERN AUSTRALIA

Using a broad definition of museums to include art galleries, zoological gardens, natural parks, botanical gardens and special subject museums often established in small towns, as well as the traditional museums, teachers have a wide variety of museum-type facilities which they may use to supplement their other resources for environmental education.

The Education Department policy statement of 1977 included the aim of developing awareness, sensitivity and understanding of the total environment. This includes not only the immediate environment of the classroom, home, town and countryside but also those farther afield. In addition the environment is defined to include not only the obvious physical features but also the aesthetic, cultural and recreational aspects of the environment.

Museums and art galleries offer experiences across time from the present back into the past. Special subject museums by their very nature are able to give a fuller representation of changes through time, and there are many throughout the metropolitan area and the country. These include the main ones in the city and the Maritime Museum in Fremantle which features relics from the earliest discoverers of the state.

Zoos and botanical gardens offer experiences across space from the immediate environment to environments elsewhere, in other lands and in other climates. Kings Park provides natural bushland, park and botanical garden of about 1,000 species of native plants in the heart of Perth. It also provides historical links with early pioneers and with the wars, and a grandstand from which urban change can be viewed. The South Perth Zoological Gardens houses a range of animals and plants from all parts of the world. Its nocturnal house presents a unique opportunity for students to understand the significance of nightlife in the Australian bush. The Education Centre offers a range of activities for school children through vacation activities.

Consideration of the present and past environments may assist a student to develop a balanced perspective and to make value judgements about aspects of his surroundings. It is from the study of inter-relationships and the unbiased, critical evaluation of the present environment, that a student may appreciate the consequences of actions and so be able to make value judgements about aspects of his immediate environment. It is this capacity which environmental education is all about.

Harry Pearson
Education Department

SOUTH AUSTRALIA

The North Terrace School

A disillusioned American sold his business and deserted his home and family. He embarked on a search for the fabled Himalayan guru who had discovered the meaning of life. After years of fruitless travel, he finally came upon the guru on a mountain peak. "Please tell me, wise man, what is the meaning of life?" And the guru answered "Life is a staircase". "What!" yelled the American. "After giving up my home, family and business, you tell me life is a staircase?" And the guru said, "You mean it isn't?"

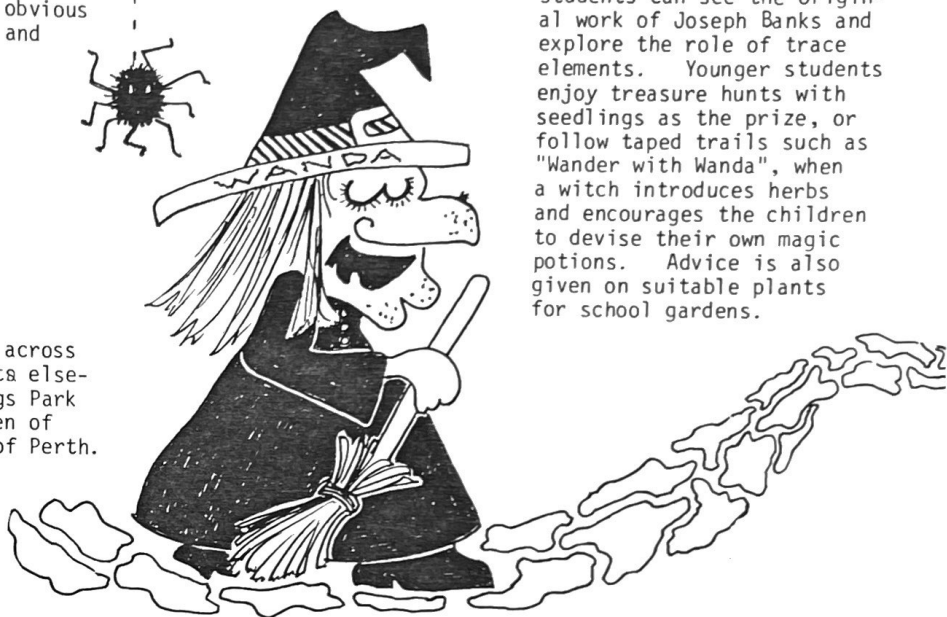
Seconded gurus may be found in the museums of North Terrace: the Botanic Gardens, Adelaide Zoo, Museum, Art Gallery and soon the Constitutional Museum. All North Terrace services have a communal responsibility towards environmental education: to maximise the value of their host museum in assisting students to perceive, evaluate and finally improve their built environment. Methods vary with the museum, but a major teaching advantage of environmental education is that it is multidisciplinary - while

schools compartmentalize to teach, museums can synthesize, bringing together scattered ideas of anatomy and aesthetics, geography and physiology, adaptation and chemistry, all helping to form a clearer concept than the Himalayan guru's of life and its environment.

Botanic Gardens

A multidisciplinary approach is evident in this resource where two seconded teachers assist school groups on request. Biology and geography combine where a tropical glasshouse is surrounded by desert cacti and students use instruments to measure humidity and temperature. Art students sketch and experiment with collage. In the

Botanical Museum, history students can see the original work of Joseph Banks and explore the role of trace elements. Younger students enjoy treasure hunts with seedlings as the prize, or follow taped trails such as "Wander with Wanda", when a witch introduces herbs and encourages the children to devise their own magic potions. Advice is also given on suitable plants for school gardens.



Museum

Please don't lean on the glass- you'll get blood on the specimens.

A comprehensive worksheet/lecture program is offered by the three staff. Popular themes include Aboriginal studies, Australian mammals and prehistoric animals. Exhibits used in the museum classroom CAN be touched by students. Conscious of the needs of country students, the education officers have mounted a Travelling Museum which can be booked by any Primary or Area School outside major country centres. Education staff accompany the Travelling Museum, which has been seen by over 16,000 students since its inception in 1977.

Adelaide Zoo

"Mummy - how do lions make love?"
"I don't know dear - your father and I are Rotarians."

In the exciting and distracting environment of the Adelaide Zoo, a self-directing trail format has proven successful. With illustrated worksheets and a map guiding the way, a variety of trails offer topics such as "Life in the Cold", "African Safari" and "Primates"; class teachers are encouraged to modify trails to suit their own purposes. Assistance may be booked with Education Officers in special areas, e.g. Nocturnal House, Food Store and Walk-through Aviary. Live animals may be viewed at close quarters in the zoo classroom; to touch a boa constrictor or stroke a possum can dissolve years of fear and ignorance. Sensitivity is sharpened and observation skills honed. Until a student has seen a live polar bear, been awed by its size and strength, observed the cream of its shaggy fur and heard it growl in play, will the student care about its nearness to extinction?

Anthea Mercer
Adelaide Zoo



VICTORIA

When we think of a "museum", we think of the traditional building with glass cases and displays of stuffed animals and so on. Today, this is an erroneous concept, not only for the traditional museum building, but also for museums in the full sense of the definition. The term "museum" covers a wide variety of institutions: as defined by the International Council of Museums (a UNESCO organization):

"A museum is a non profit-making permanent institution, in the service of society and of its development, and open to the public, which acquires, conserves, researches, communicates and exhibits, for purposes of study, education and enjoyment, material evidence of man and his environment."

This is an all-embracing definition, and quite obviously includes institutions such as art galleries, historical villages, botanic gardens, zoos, aquaria and so on. All are dedicated to displaying various aspects of the environment, including natural, cultural and man-made.

People appear to have spontaneous reactions towards the majority of exhibits in museums. They want to see, in the flesh so to speak, those things they have heard or read about, or seen on film and television. It is these reactions which can form the basis of meaningful environmental education programs. Museums present in concentrated form aspects of the environment. Usually the museum is a familiar place, easy to travel to, comfortable to walk around, and pleasant to be in.



Creating an atmosphere - inside one of Melbourne Zoo's classrooms

The particular museum being visited can be an invaluable catalyst to further learning about the aspect of environment being exhibited. This catalytic effect can be enhanced with the provision of professional education services, staffed by trained, experienced teachers. Work with children in particular is a vital function of these services as development of desirable attitudes commences with the young.

Education services in museums throughout Australia are attempting to provide participatory experiences for children and adults, whereby learning occurs through maximum exposure of all the senses. Through touching, seeing, hearing, smelling and perhaps even tasting, we learn so much more than is the case by merely seeing and/or hearing. We learn through being involved with the exhibits, be they plants, animals, statues or rocks. Thus attitudes are affected whereby the participant is stimulated to learn more, to appreciate, and to care. Only through caring will positive action follow, and this is the cornerstone of environmental education.

If we look at a zoo, for example, we can see children learning about animals - their habits, habitats, behaviours, etc. - through exciting experiences. With animals displayed in naturalistic enclosures where they exhibit relatively normal behaviour, breed readily, and live long, healthy lives, modern zoos can be stimulating places. Some animals can be handled, others heard, smelt and seen. The visit becomes a springboard to learning about the natural environment in its broader aspects. The zoo is relatively unimportant in itself, and yet is invaluable as a catalyst.



Handling the animals

That is its value to the community and to the process of environmental education. So it is with other museums, and although the functions and roles of each type of museum obviously vary, the underlying aim should be one of education.

There has been a gradual expansion of the education services in Victoria, and eventually national parks, the National Trust, regional museums, and wildlife reserves may be serviced. Schools will then be able to develop comprehensive excursion programs with integrated curriculum content to suit particular needs, thereby bringing education out into the environment, beyond the traditional four walls of the classroom.

Graham Morris
Royal Melbourne Zoo

Jack Absalom **Outback**

A new six week series of programs about animals of Australia commences on ABC Television, Thursday October 11 at 8.25 p.m. in all states. The series takes a close and often serious look at the coming of white man and his animals to the arid inland - and the long-term effects of their presence.

Jack Absalom, one of the famous "Brushmen of the Bush", takes us through his outback, painting it, talking about its delicate nature.

Jack will establish and explain his theory that the outback of Australia is facing its most serious and permanent threat - the prospect that bad management could turn the entire inland into a giant claypan, a huge spreading desert swallowing up the fragile outback as we know it.

With his colourful paintings and plentiful yarns Jack Absalom gives the Australian outback new meaning to city people - a bushman's view of life and death in one of the harshest but most delicate areas on earth.

Not a wildlife series, but a series about life in the inland.



JACK ABSALOM as a camel handler

GOULD LEAGUES and E.E.

N.S.W. SOUTH WALES

The Gould League of N.S.W., a well-known organisation which has been operating in schools for 69 years in conservation/environmental education, was originally known as the Gould League of Bird Lovers. Today, it is no longer strictly for the birds.



The Gould League has expanded its horizons to consider the environment as a whole and is one of the major bodies in Australia involved in providing practical help and assistance in environmental education.

The Gould League specifically believes that:

- environmental education should be of major significance in schooling, being a multidisciplinary approach to learning and not a separate subject.
- environmental education becomes the study of people and their total relationship with their environment.
- environmental judgements are based upon recorded and substantiated information.
- environmental education should develop aesthetic appreciation of Australian naturalness.
- environmental education should develop an awareness of each generation's accountability to preserve the species and ensure continuing availability of all renewable resources.

In order to coordinate the work and beliefs of the Gould League, an Education Officer is seconded from the Department of Education to carry out this work. This officer travels throughout N.S.W. to assist teachers and pupils in the following ways:

- Demonstrating environmental education fieldwork activities with class groups.
- Assisting teachers to program with an environmental education bias.
- Talking to pupils about the Gould League and the environment.
- Advising in the establishing of school native gardens or natural areas.
- Addressing school staff meetings about the environmental education process approach to learning.
- Conducting inservice course workshops on practical activities and techniques in using the school, local and other environments as a teaching resource.
- Conducting annual competitions for pupils from Kindergarten to year 12 on environmental investigations and topics.
- Publishing practical material and ideas for use by teachers and pupils.

Requests for visits to schools throughout N.S.W. for the above-mentioned services offered by the Education Officer are overwhelming. All requests can now no longer be met by such officer. To assist teachers with immediate support, the Gould League has established a coordinator network throughout N.S.W. These coordinators are individual

teachers and college of advanced education lecturers who have volunteered their services to look after schools and colleges in local areas designated by each individual coordinator. These coordinators promote the work of the Gould League in environmental education and hold multiple copies of Gould League material which can be supplied to teachers and pupils upon request.

LAND PROFILE TRAIL



In assisting teachers and helping pupils to understand the environment, the Gould League seeks to involve teachers and pupils in realistic projects. Many Gould League branches have been established in schools, a member of the school's staff acting as the patron of the branch. Through membership of these branches children are encouraged to become involved in carrying out projects to improve their own environment.

To involve pupils for the whole of the year, the Gould League has set aside various days, weeks and months dealing with a variety of environmental themes:

Gould League Week - held in the first week of March to encourage teachers, parents and children to support and become aware of the Gould League's activities.

World Environment Day - June 5th - Teachers and pupils consider the global nature of the environment.

Arbor Day - the last week in July when schools are encouraged to plant native trees and shrubs and also to consider their value in the environment.

Wattle Day - August 1st is the day to investigate the vast number of wattle species to be found throughout Australia.

Earth Week - the last week in September, to promote the conservation and the awareness of our own environment.

Bird Month and Bird Day - held in October. Birds are a familiar part of the environment and of most children's lives. Thus interest in birds and in their habitats is encouraged.

Quiet Day - usually held in late November or early December to consider the effects of noise in the environment.

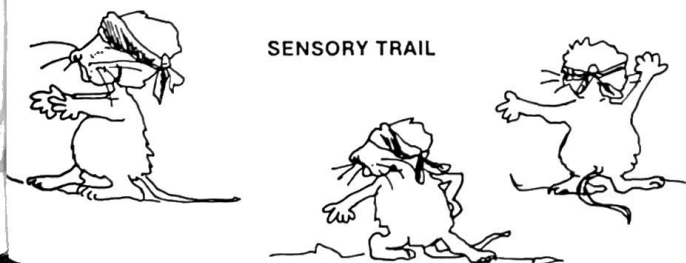
Sun Week - The Gould League had the honour of being the first environmental body to conduct a Sun Week in Australia. It was held during the first week in May this year. Its purpose is to make people aware of the need to conserve energy and to consider and research alternative forms of energy.

As well as assisting schools, the Gould League offers adult membership to the general public. Periodic newsletters are sent to adult members informing them of the Gould League's activities and the activities of other environmental bodies. Adult members can act as additional help to teachers in schools as well as forming local environmental bodies to maintain environmental quality in a district.

Finally there are some interesting facts not widely known about the Gould League's practical role in environmental education:

- The Gould League has been conducting a television segment on Channel Nine's children's "Super Flying Fun Show" for seven years. This goes to air once a week to reach a one and a half million viewing audience with an environmental message - a feat which does not occur in any other country throughout the world.

SENSORY TRAIL



- The League established the field studies centre at Longneck Lagoon near Windsor, west of Sydney. This is the only wetlands field study centre in Australia and was specially selected for the environmental educational potential of the area. The fencing of the field studies centre property was financed by money contributed by school children throughout N.S.W. The building was constructed by the League and was handed over to the Department of Education for its use.
- The Gould League built the first classroom at the Wirrimbirra Field Studies Centre near Bargo south of Sydney. This classroom was also handed over to the Department for its use.
- The Gould League established the first project in N.S.W. for the treatment and rehabilitation of injured native birds and mammals.
- Annually the Gould League awards the Cayley Memorial Scholarship worth \$500 for an approved project or undertaking designed to promote wildlife management.
- Gould League Environmental Awards are presented to schools for a worthwhile project completed by children of a school on any aspect of the environment.
- An annual competition called "Project Environment" is conducted with the sponsorship of the Sydney Morning Herald on a variety of topics aimed at developing an environmental awareness in pupils from Kindergarten to year 12.

The Gould League of N.S.W. has come a long way in its 69 years of operation. Little did Mr. Finigan or Mr. Webster, the two teachers who founded the League at Wellington Public School in October 1910, realise the far-reaching effect that this body would have upon N.S.W.

David Tribe

VICTORIA

Over the past decade, the Gould League of Victoria has been able to respond to the increasing demands from teachers in southern and south-east Australia for low cost environmental material. The League's structure enables it to occupy a unique position in that its Council has autonomy over the expenditure of the funds generated from sale of its interpretative material.

This material helps children understand their local environments in a way not often possible with overseas material, e.g. Autumn in southern Australia is far from the slowing down period that English and American publications depict.

The League produces three major types of material. The first is a series of habitat-based environmental reference publications, "Survival", which enable the child to understand his surroundings.

The second type is activity material based on the reference publications. This leads children not only to recognize the completeness of their environment, but to become aware of the changes, relationships and diversity to be found there.

The other major thrust is in the production of teacher-orientated guides, programs and inservice material. These assist teachers to use our publications not just on an *ad hoc* basis, but as part of an ongoing experiential program encompassing the child's formal and non-formal education.



The League's flexible approach to material production enables it to quickly react to the needs of teachers. One example of this is our newest project - the production of a series of multi-lingual booklets on urban birds, each volume in the series of eight contains text in English and one other language (Turkish, Greek, Italian, Maltese, Spanish, Macedonian, Serbo-Croat, Arabic). It is hoped that shortly Vietnamese and German will be included in this format.



As well as flexibility, our autonomy enables us to avoid the annual budget worries that beset most government organisations, but more importantly ensures continuing material development that will cater for the apparent future needs of teachers or community, e.g. energy conservation, social and community planning and educating to cope with restricted community mobility.

Over the years, the League has developed a wide interstate and overseas liaison which enables it to monitor new developments in these areas and incorporate them in our own programs. This liaison is reinforced by the League's involvement in an annual national conference on environmental education held in different states each year, which apart from examining a specific subject of current relevance enables a more coordinated publishing program to be developed.

WESTERN AUSTRALIA

Noel Shaw

As with Gould League in other states, the W.A. Gould League has been making a considerable contribution to environmental education for many years. Some would (and indeed do) say that the Gould Leagues "only do Nature Study" as if nature study is something on a lower plane. But nature study is studying nature and "nature" embraces the entire environment. Anyone who has been involved in Gould League activities is aware that the thrust has been on an appreciation of the environment, the effects of man (as part of nature), the need to understand the relationships existing and the possible dangers inherent in the lack of knowledge about the environment. So when children go on a nature excursion they are in fact studying the environment. Sometimes it seems to me that "environmental education" is a new name for a study that the Gould Leagues in Australia have been pursuing for many years.

Perhaps the best known activity of the Gould League in W.A. is the primary leaders camp which has been conducted annually for the past 28 years. This camp of 12 days duration is held each September for primary school children who are natural history leaders in their schools. The program is based on field studies and each day is started with a field trip followed by discussion on the trail work. The afternoon is mainly devoted to in-depth studies when the children study those aspects which interest them most. Evening sessions include visiting lecturers, films and discussions where the children are encouraged to express their opinions and discuss broad environmental issues.

The secondary schools have not been neglected for there are two week-end camps held for students of Years 8 and 9. Here again field work provides the basis for the camp and the students are given the chance to pursue such studies as "The Impact of Man," "Land Use" etc.

There are also excursions for children and the general public, held on Saturday afternoons twice a term, in a variety of habitats. While concentrating on the actual site being visited the broader aspects necessarily become part of the discussion and study.

Through the clubs established in schools, the League encourages the establishment of school and community nature trails, nature plant nurseries and the study of the children's local environment which in most cases is urban and suburban. Clubs are encouraged to cooperate with the local shire-council and other bodies with a view to improving the urban situation. These clubs are the base for Gould League activities in W.A. The Council aims to have clubs in every school because it is believed that the children, active in their own locality can have an influence in that district in a way not possible for a central body. Of course the school club is considered a branch of the W.A. Gould League and therefore has central body support.

Organisations such as bird clubs, field naturalist clubs and Gould Leagues cannot often show proof of their contribution to environmental education and awareness in Australia, but I'm willing to bet that the current high level of interest in what is happening to our environment didn't happen by spontaneous combustion. These organisations have been contributing to environmental awareness for many years!

David Sieber

LISTENING TRAIL



INTERNATIONAL ENERGY MONTH

October is International Energy Conservation Month. The U.S. will join forces with nineteen of the world's leading industrial nations* to focus attention on the need for energy conservation worldwide.

The event is being sponsored by the International Energy Agency (IEA) headquartered in Paris and will highlight and promote national efforts to use energy efficiently.

Energy & Education
May 1979

(A Who...us?)

ENVIRONMENTAL EDUCATION FOR TEACHERS

An inservice education course for teachers entitled "Current Issues for Environmental Education" has been organised by Hawthorn Teachers' Centre. The course is ten days in length, and was held for the first time on Mondays in and term this year.

The course has proved popular, and it is hoped that it will become a permanent feature of the inservice education offered to teachers in Victoria. The program planned for next term is already over-subscribed, and further courses are projected for 1980.

The course has two broad aims:

To extend the teacher's knowledge and understanding of the content of Environmental Education.

To extend the teacher's knowledge of strategies for introducing Environmental Education into schools.

These aims may be restated more simply as clarifying "What to teach" and "How to teach" Environmental Education.

The program includes various guest lecturers (academics, education Department personnel and practising teachers), field excursions and field trips, and discussion workshops.

Each meeting emphasizes information dissemination, participation, and the interests of the participants, and attempts to satisfy both aims of the course.

Topics covered included most areas now regarded as components of environmental education. In sequence these were:

- : An introduction to environmental education.
- : The principles of ecology.
- : Nature Conservation; conservation of resources.
- : Field trips to Jell's Metropolitan Park/Westernport Bay.
- : Pollution; current environmental issues.
- : The energy debate; the urban environment.
- : International and global aspects; alternative technology.
- : Field trips to alternative technology houses/Visit to a school to observe an environmental education program.
- : Excursions to Gas and Fuel Corporation's Energy Display, National Museum and Zoo Education Services.
- : Curriculum planning workshop.

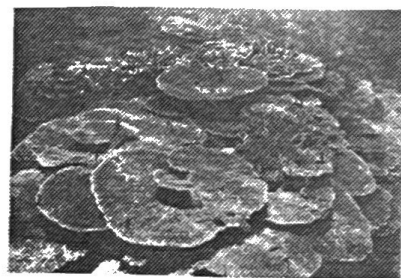
Enrolments in both courses this year have been predominantly by primary teachers, although this may not be the case in future. Evaluation of the course in second term showed that participants found the program both interesting and relevant. A lengthy document produced as a result of the curriculum planning workshop held at the last meeting is likely to prove particularly useful to the participants.

The organizer of the course, Mr. Geoff Moore of Hawthorn Teachers' Centre, 11 Paterson Street, Hawthorn, 3122 (03.818.0751) would welcome comment and enquiries regarding the program.

EDUCATION PROGRAM FOR

THE GREAT BARRIER REEF

*What do you know
about the
Great Barrier Reef?*



The Great Barrier Reef Marine Park Authority has been established in Townsville to plan and manage declared areas of the Park and carry out relevant research to enable people to find out more about the Reef. They have produced a newsletter, "Reeflections", illustrated annual reports and information pamphlets. More importantly though, they are developing some curriculum materials for upper primary students, in conjunction with the Townsville College of Advanced Education. CDC is arranging trialling and evaluation of these materials outside Queensland; they should be available early in 1980. Anyone interested should contact Annette Greenall, at CDC, P.O. Box 52, Dickson, A.C.T. 2602 (please note change of address).

Further information and publications are available from G.B.R.M.P.A., P.O. Box 1379, Townsville, Qld. 4810.

LETTERS TO THE EDITOR - continued from page 1.

institutions and indeed in other places as well, to see whether we could form some kind of national association for those of us who are interested in environmental education."

J. Nicholas, Canberra CAE.

"Enjoyed the latest Newsletter. Lots of great snippets for passing on to teachers in the field plus other bodies, e.g. 'School Buildings and the Environment' - I'll copy this for our local school architect to have a look at. ... "One of the interesting aspects of the opening of the Whipstick centre in 1978 was its announcement in "Connect" and to date I have had letters from French Republic of Mali, Colombia, Indiana University and an American University in Western Virginia, seeking information. This leads me to ask if teachers *et al* would be interested in establishing an exchange network of ideas, problems and activities conducted in Field Study/Environmental Centres around Australia. I'd be interested in hearing from others and their approaches in their type of work."

P. Pritchard, Box 421, Bendigo, 3350

RESOURCES

EARTHWATCH - ABC TV

A new series of 13 programs on environmental issues designed for 8-13 years and coordinated with topics studied in schools (!) has been launched by the ABC in the 5 p.m. time slot (Mondays in some states). An Earthwatch Club is being formed to complement the program.

PROBE and NATURE NOTES

These monthly magazines for junior primary (PROBE) and primary (NATURE NOTES) school children are produced by release time scholars in the Victorian Education Department. Initially aimed to service the local inspectorate their popularity has spread across Victoria and into other states. They are natural history based, written at children's levels, well illustrated, in colour and available for \$1 (PROBE) and \$2 p.a. (NATURE NOTES) with a minimum charge of \$2 p.a. - from P.O.Box 28, Ringwood East. Vic. 3135.

"THE BOOK OF NOISE"

R.Schafer, 1970 World Soundscape Project, Box 3044 Vancouver B.C. at 75 c. This is a musician's look at noises that surround us. The visual presentation is imaginative and provides a useful example of a non-science approach to the topic.

"NOISE" - SEMP Community Unit

CDC 1977, \$55. An extensive set of activity cards from this Social Science unit gives yet another approach to the topic. Based around airport noise the cards explore in depth the trade-offs people make for the conveniences they want.

CONNECT

This is the UNESCO-UNEP environmental education newsletter which reports on programs supported by the UN in places such as Thailand, Korea, Philippines, Africa, etc. Czechoslovakia holds an EKOFILM festival annually and in May 1979 the seminars held with the screenings were devoted to atmospheric pollution, noise, water quality and impact of large-scale agriculture. Over 50 educators attended and 19 countries submitted 114 films. For further information and procurement of films shown write to: RAPID, Czechoslovak Publicity Agency, Tyrsova 7, 701 43 Ostrava 1. Czechoslovakia. The newsletter also reports on national environmental activities in member countries. It can be obtained free from UNESCO, 7 place de Fontenoy, 75700 Paris.

FOR EVERY CHILD A TREE

South Australia has launched a program in which every primary and pre-primary school child will purchase, plant and care for a tree for 12 months. Adults will be asked to sponsor the child and if the tree is alive after 12 months to match their earlier donation. This money will go to UNICEF and the Adelaide Childrens Hospital, thereby ensuring "Kids and trees grow together".

The 180,000 trees

will be planted at home,
in school grounds,
parks and other
community areas

and hopefully
the children
will become

"TREE CARERS FOR LIFE".



NATURE SONGS

A 12" LP has just been released by NP&WS Queensland, P.O. Box 190, North Quay, 4000, at \$4.50 with a "Wet Side" and a "Dry Side". NATURE SONGS are sung in the Australian idiom and are very catching way to be introduced to the bush and sea.

Matt the Feral Cat

Matt the feral cat was once a tiny puss
Until his human owners dumped him in the bush
He was such a wee thing he shouldn't have survived
Now he's over 30 lbs and very much alive

For Matt the fight for life was long we thought he mightn't cope
But then we are forgetting the feral cat's no dope
They are close relations of the king of beasts
The way they gobble up our birds you'd think it was a feast

The poor old native tiger cat can hardly get his fill
The introduced feral cat always gets a kill
The tiger cat is waning, his numbers are going down
Looks as though the feral cat will always be around

There's a moral to be learnt, there's a lesson here
Keep your cats close to your home, make sure they're always near
You won't have to dump them on a national park
They like it better in your lap than wandering in the dark

The Jellyfish

If I had a wish
I'd be a jellyfish
To float through the sea all my life
I'd use my tentacles
To catch the food I eat
Those little damsel fish would be a treat

. So next time you see me here
Just don't sit and stare
Show me, show me that you really care
I don't want your oil
Your pollutants and other stuff
It's enough to make me want to give up

Chorus

I'm a jellyfish floating through the sea
I'm a jellyfish — just think of me

A RESOURCE LIST

Bibliographies are often too big to be useful, but after a number of requests I have put together a list of "the best I've come across". It covers title, author, publisher, date and cost (approx.), under the following categories: Thinking and Planning (14 titles); Interdisciplinary Materials (23 titles); Law (2 titles); Music (3 titles); Art (4 titles); Science (7 titles); Geography (4 titles); Energy (2 titles); Lifestyles (8 titles); Around the School (7 titles); and Magazines (24 titles). It is not annotated but is free from the project office! (attached). Suggestions for additions, deletions, corrections are welcome, especially if accompanied by brief reasons.

