



# **Rùm National Nature Reserve Environmental Education Plan**

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## FOREWORD

This report identifies the obligations, both implied and statutory, and the opportunities for further developing environmental education provision on the Island of Rùm. The difficulties, limitations and constraints are balanced against the expectations and the potential not yet realised. At present the major limitations on widening provision are structural, and much of the report will address that problem.

Whilst the prime focus of our report is a conventional concept of environmental education, we are firmly of the view that sustainability must form an important aspect of the plan. Associated with this are socio-cultural and historic aspects which have practical contemporary worth as well as academic value. Furthermore, the importance of Rùm for aesthetic and affective development must not be underestimated. As an island on the west coast of Scotland, with a low human population and no public roads, a visit to Rùm provides a peaceful setting and a sense of adventure. We also emphasise the potential for holistic and integrated educational opportunities, for which we believe Rùm is ideally suited.

Throughout the preparation of this paper we have been aware that our conclusions will form a part of the Scottish Natural Heritage (SNH) Heritage Lottery Fund bid, when it is amalgamated with other parallel contract reports. Our approach has also reflected the discussions with other consultants and SNH staff on Rùm in February 2001. Consequently our recommendations will have this bias when focussing on structural implications.

The authors have had the good fortune to have an unbroken association with the Island of Rùm for almost thirty years. During this time we have conducted a variety of undergraduate and postgraduate residential courses (on at least an annual basis), and have been involved with one long-running research project and several minor ones. Close contact with a series of island management teams has given us unusually intimate knowledge of the workings of the reserve.

Our own development as teachers and our belief in the value of the natural heritage as both an object of study and an educational medium have been nurtured and reinforced by our long-running experiences on this island. Our intention is to provide considered support for appropriate initiatives which we hope will enhance this experience for others.

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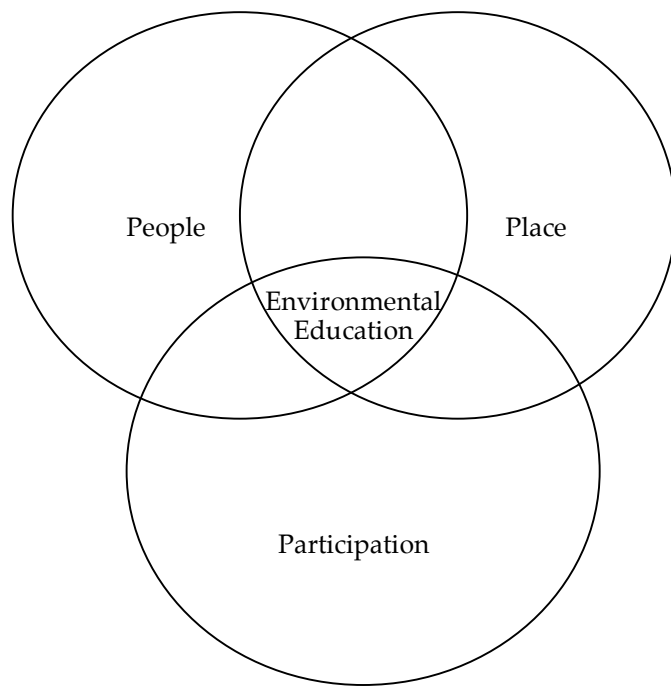
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*'This has been a spiritual laboratory. I never expected it to be this good. We've all turned a corner unexpectedly at various times during the week and met life full in the face. Personally I never expected to write poems spontaneously, to be moved by common seabird, to be immensely proud of an insect drawing, to gaze on a golden eagle close up.'*

Gareth Price,  
MSc Outdoor Education  
University of Edinburgh  
Rùm Field Studies Course  
Logbook, May 1999





## EXECUTIVE SUMMARY

### **Rùm National Nature Reserve Environmental Education Plan**

#### **The Aim of this Plan**

Our aim in the development of this plan is to highlight the value of Rùm as a location for environmental education, and to identify ways in which the arrangements for visitors can be improved. This is with the intention of facilitating increased access and ensuring a quality experience without compromising the protection of sensitive habitats.

#### **Objectives**

In order to provide a background to the plan we undertook a review of the following:

- The history and national and international (historical and contemporary) conservation context within which Rùm has developed as a National Nature Reserve;
- The implications of such developments and associated education initiatives for SNH policy on environmental education on the island;
- Current SNH and visitor interest and involvement in environmental education on Rùm;
- Present facilities and support structures for those individuals or groups who visit the island for environmental education purposes.

This background provided a basis for the development of a range of proposals relating to infrastructure, accommodation and support for visitors. This has led us to conclude that informal and formal environmental education provision is central to the development of the island and a key factor in the viability of the community. These in turn are inextricably linked to the potential for SHN to achieve its purposes on Rùm and elsewhere.

#### **The Review**

It is clear that the mission of SNH places upon it obligations to raise awareness of and foster care for the natural heritage, and hence environmental education is an important function. In other words there is a clear mandate and role for SNH in environmental education.

Secondly, whilst the geophysical context, range of biotic communities, human history and recent conservation management are all in themselves of environmental education interest, the combination of these in a rugged west coast island make Rùm an ideal setting for integrated, interdisciplinary and holistic studies. Visitors also reflect on deeper aesthetic and spiritual engagement resulting from their

relationship with landscape. The adventure of travel to Rùm and the opportunities for creative learning on Rùm are an important element in this.

A survey of educational groups was undertaken. The view of visitors concerning the facilities (accommodation etc, laboratory etc) can best be described as 'good humoured tolerance' of the present situation. There was understanding that funds were not limitless and that island staff did the best they could with the resources available.

A brief overview of the current natural heritage and management practices on the island placed education alongside other management objectives of conservation, research, environmental management, recreation and community development. Whilst the emphasis has traditionally been on the natural heritage aspects, education/awareness and recreation are now seen as core functions, and all developments are considered in relation to the community of Rùm and the Small Isles.

This shift in emphasis is consistent with national and international commitments to environmental protection, and the theory and practice of environmental education. Such analyses show the central importance of both formal and informal approaches to raising awareness of and care for the natural heritage.

### **Our Approach to the Plan**

The quality of Rùm as a venue for environmental education is outstanding and of national and international interest. The issue is therefore not whether people are interested in coming, but rather whether travel to the island is as straightforward, and provision for the visitor of a quality commensurate with a National Nature Reserve. As SNH can do little about travel we have focussed on ways of improving the environmental education experience of Rùm, both on and off the island.

In this regard we have emphasised the importance of visitor relationships with SNH staff and the community, resources (including a dedicated website) and comfortable accommodation and appropriate facilities (laboratory, drying room etc). The importance of such provision for groups and individuals, for 'formal' and 'informal' environmental education has also been stressed.

We have been asked to prepare this plan in the light of a possible Heritage Lottery Fund bid for funding to support significant developments on the island. Whilst we have kept this in mind, most of the recommendations made have an inherent validity and, in our view are central to the long-term success of the island and its community.

An interest in and proper understanding of the natural heritage is only likely to be achieved if the visitor experience is positive. Therefore, whether or not the Heritage Lottery Fund bid is successful we propose that environmental education becomes a central theme in the management and operation of the island.

## **Recommendations on Options**

A full summary of recommendations is provided in Chapter 6, and implementation priorities in Appendix 11. In brief these are as follows:

### **Accommodation and Self-Catering Facilities**

- The current diversity of accommodation should be maintained or enhanced.
- Any sleeping accommodation needs to be flexible to allow for the gender balance and ages of the members of the group.
- Flexibility is increased with regard to catering options, and that there is no pressure (due to lack of facilities) to use the castle bistro.
- Well equipped kitchen space is provided, with nearby dining areas need to cope with the range of diverse combinations of visitors.
- Organisers of groups should be made aware of the option to buy group food in bulk at a reasonable price from the Rùm store.
- Hostel costs should not be increased without careful consideration of the impact.
- Educational grants and group discount (a percentage or 'leader stays free' system) on accommodation should both be introduced.
- The building of separate low-cost bunkhouse should be considered as this would reduce pressure on current accommodation and act as a stimulus for new visitors.
- If building separate accommodation is not possible, significant improvements to the castle are required.
- The bookings system should be simplified to one or two points of contact. Visitors should be referred to the Rùm website and the publications section at Battleby.

### **Formal Environmental Education on the Island of Rùm**

The key requirement of such groups is indoor workspace. The current 'laboratory' is dark, damp, poorly equipped and unsuitable for a group of more than about ten.

- Options for improvements in the castle appear to be limited to the basement and the ground floor common room.
- Such modifications will always be a poor substitute for purpose built facilities and we recommend that consideration should be given to building an environmental education centre.
- A limited amount of equipment for field studies and a basic library are required whether or not there is a purpose built centre.
- Access to information should be facilitated through libraries and the SNH information service and the use of electronic media. On the island there should be a basic library containing relevant texts.
- Examples of appropriate environmental programmes, associated support materials and details of locations etc should be prepared by the Teacher/Naturalist and made available to visiting groups.
- Visitors should be able to access this information, requiring access to computers on the island.
- Some of the habitats visited by groups are fragile and the use of alternative venues should be encouraged. A 'Code of Conduct' should also be promoted.

### **Informal Environmental Education on the Island of Rùm**

Many of the visitors are not members of formal educational groups and are, nonetheless interested in and receptive of environmental education provision. Many of the following improvements will be valuable for both the formal and informal visitors.

- Closer liaison with the Small Isles ferries should allow provision of relevant educational information about the seas around Rùm and the island itself.
- Provision for families is at present scant and specific activities organised for children by SNH staff or others on the island would be valuable.
- There should be a wider range of leaflets and guides available and these should relate to most of the popular aspects and locations of the island.
- Regular evening talks in the village hall (once or twice a week) during the main visitor season could be offered to all visitors.
- A knowledgeable member of SNH staff or the local community could offer regular short informative walks around Kinloch in the main season.
- Festivals might be arranged periodically, perhaps in association with relevant national associations or societies (eg 'bird', 'geology', 'flora and fauna', 'hill walking', 'archaeology' etc). A 'Study Rùm' weekend could prove an attraction with visiting or resident specialists providing input.
- An association such Friends of Rùm NNR may attract wide representation and a stimulus for developments including fund-raising work parties etc.

### **Commercial Operators**

There are an increasing number of such operators visiting the island and there appears to be no 'licensing' of these. SNH liability should be reviewed and evaluation of safety and quality should be instigated, focussing on high standards of delivery.

### **Appointment of a Teacher/Naturalist**

The appointment of a Teacher/Naturalist should be seen as a priority and an essential aspect of the development of environmental education on the island.

### **Expansion of Catchment**

The calendar of educational visits is heavily skewed to a two-month period (mid-April to early-June) when the island often enjoys reasonable weather and free from midges.

- Effort should be made to promote the island for study groups at quiet times, particularly in late August and September.
- Financial inducements (in the form of grants or discounts) should be considered for such times of the year.
- In order to effect this links might be made with other organisations such as the Field Studies Councils, commercial operators, colleges and universities etc. Effort should be made to explore potential for a focus on language, traditional culture and crafts.

### **Promotional Materials**

- A range of promotional materials and activities are recommended including a promotional video for schools and colleges and an introductory brochure.
- A Rùm Website, maintained by the Teacher/Naturalist, could contain much relevant information as well as scientific data and published work.

- The Teacher/Naturalist might consider making promotional visits to potential users at quiet times of the year. Similar possibilities also exist for training and demonstration work.

### **Education/Training and Demonstration Opportunities**

- ♣ Exemplar education/training programmes (at various levels) should be prepared and summaries of these made available through the Rùm website and in 'hard copy'.
- ♣ Training in rural activities (farming of Highland cattle, tree-nursery work, regeneration of native woodland, deer management, dry-stane dyking, path creation and maintenance etc) could be provided.
- ♣ Opportunities involving rural crafts should be promoted and links established with appropriate organisations.
- ♣ Sustainable practice should be a cornerstone of any development and actively promoted.
- ♣ All such activities should be actively promoted through the usual methods of dissemination but primarily through the SNH and proposed Rùm websites.

### **SNH Obligations and Expectations**

5. In the provision of facilities and services SNH must take note of certain legal obligations (eg Occupiers Liability Act 1983, Health and Safety at Work Act 1974, Activity Centres (Young Persons' Safety) Act 1995,).
6. In addition, the expectation of visitors of higher standards of provision (accommodation, other facilities and services) must be a factor requiring consideration in any developments.
7. In regard to the hazards associated with fieldwork on the island, SNH should draw the attention of visitors to their 'On-Site Safety Guidelines'.

### **Monitoring Environmental Education**

- A full programme of monitoring should be initiated at the start of the implementation of the plan. All types of visitors should be asked their opinion through questionnaires and more informal feedback. The most effective way of gleaning such information is to capitalise on the opportunities provided by the ferry journey and by encouraging personal relationships with SNH island staff (through evening talks etc).
- The function and structure of the Rùm Liaison Group should be reviewed, and efforts made to include representatives of the formal sector actively involved in environmental education on the island, and regular informal visitors.

### **Concluding Comments**

The preparation of this plan has led us to conclude that SNH is at an important point in its planning for the future on the Island of Rùm. The 1998–2008 Management Plan sets out all key aspects of the development of the island clearly and comprehensively. It is clear that there are a number of important objectives for SNH on the island and it is difficult to prioritise these. *However, we consider that raising awareness of environmental education is of fundamental importance and suggest that this should become a central focus of future SNH efforts on the island.* A successful Heritage Lottery Fund bid would provide the means to achieve this in a realistic time-scale, and would we believe have significant benefits for the island community, the Small

Isles and, through developments such as a website, raise awareness much farther afield.

## ABBREVIATIONS

CSD	Commission for Sustainable Development
ESD	Education for Sustainable Development
FAO	Food and Agriculture Organisation
HLF	Heritage Lottery Fund
IUCN	International Union for the Conservation of Nature
LEA	Local Education Authority
NCC	Nature Conservancy Council
NGO	Non-Governmental Organisation
NNR	National Nature Reserve
NTS	National Trust for Scotland
NVC	National Vegetation Survey
REEF	Regional Environmental Education Forum
RSPB	Royal Society for the Protection of Birds
SED	Scottish Education Department
SEEC	Scottish Environmental Education Council
SEED	Scottish Education and Employment Department
SESEF	Scottish Earth Sciences Education Forum
SNH	Scottish Natural Heritage
SOED	Scottish Office Education Department
SWT	Scottish Wildlife Trust
UNCED	United Nations Conference on Environment and Development



# 1 INTRODUCTION AND HISTORICAL OVERVIEW

*'Rhum is a symbol of the inspired optimism of the 1950s for the future of nature conversation in the Highlands and Islands of Scotland. In the 1930s no-one would have believed that such an island would be held in trust nationally for the sole purpose of making a nature reserve .....*

John Morton-Boyd, 1987: ix

## **Rùm: The Island Reserve**

Rùm's status as a UK National Nature Reserve and its international significance for the importance of its natural heritage are now well established. This status is fully outlined in most documents relating to the island and, most recently, in the 1998-2008 Management Plan (SNH, 1998). There is no need to reiterate the significance of the island as a place for high wildlife interest, conservation, management and research which has been the primary purpose of the island throughout most of its 40-year history in public ownership. However less attention appears to have been paid to its value for education, recreation and in raising public awareness and consequently its potential for these has been less well known.

In the past 30 years or so protection of the natural heritage has become an international issue and at the same time the related issue of sustainability has increasingly become a feature of International and National policy. Awareness and understanding of either or both of these issues is the rationale for environmental education. The geology, range of habitat types, human history and recent period of stability in conservation management contribute to Rùm being an ideal setting for field studies and environmental education. The size and location of Rùm also contribute to its attractiveness to visitors. Consequently the island is a favoured venue for a small number of devoted educational groups. In this regard the island certainly does not realise its potential, and the reasons for this are considered later in this report. The purpose of this 'plan' is to review the potential for environmental education on Rùm and in so doing will propose that it becomes a central theme in the management and operation of the island.

## **Historical Context**

A range of government initiatives in the 1940s specified the future sphere of work for the Nature Conservancy and made provision for the establishment of National Nature Reserves. In this climate the purchase of Rùm in 1947 was opportunistic but clearly visionary and those who worked to arrange the purchase had a clear view of the island as a place for nature. Max Nicholson the second Director General of the Nature Conservancy was one of the group of conservation pioneers responsible for establishing the Conservancy and acquiring the first reserves, including Rùm. He was a passionate advocate for this acquisition but educationally only saw a demonstration role for the island. Later in life he summarised their feelings at the time:

*'If we were serious (about understanding nature) we must have a much larger tract of totally separate land, on which visiting and living would be strictly controlled so as to minimise every kind of human impact not essential to research and conservation. Then we must carefully resuscitate habitats and entire communities and let them show us how they choose to function.'*

(Rùm Management Plan, 1998:60)

By the 1960s however the passion of Nicolson and other influential scientists for education outdoors had become more explicit and was clearly demonstrated through the publication of 'Science Out of Doors', the output of a working group under the Nicolson's chairmanship. The group was established by the Nature Conservancy in 1960, and its task was 'to examine the role of field studies and their relation to school education and science education in particular' (Nicolson et al, 1963: vi).

Despite this enthusiasm education does not begin to find a permanent place in the Management Plans for Rùm, until 1977. There was no doubt good cause in the early years for focussing on the major thrust of conservation. Prior to this however, influential individuals, such as the Director of the Nature Conservancy Council for Scotland (NCC(S)), John Morton Boyd, had been instrumental in recruiting tertiary education parties to visit the island. The appellation of UNESCO Biosphere Reserve, declared in 1974, gave particular emphasis to the educational potential of this site. Later, *Nature Conservation in Britain* (NCC, 1984) was the response of the NCC to the World Conservation Strategy. Whilst bemoaning the lack of success in stemming the decline in biodiversity, it did emphasise in its 'Future Objectives' that education was an important vehicle for achieving this goal. It identified public awareness and understanding, developed through both informal and formal education, as a major plank in the construction of a conservation ethic. Both the latter events gave support to the role of education on reserves.

In 1974 the influential '*Gilbert Report*' (SED, 1974) was published in the midst of an explosive growth in the number of Local Education Authority Outdoor Education Centres. It stated the case for practically based environmental education. Sadly, despite the opportunities provided by such growth in outdoor centres only a few exceptional individuals exploited the environmental possibilities of their programmes.

The 1991 Natural Heritage (Scotland) Act established Scottish Natural Heritage combining the functions of the Nature Conservancy Council and the Countryside Commission in Scotland. The Act (1991: 1) defined the following general responsibilities for SNH:

- To secure the conservation and enhancement of the natural heritage of Scotland;
- To foster understanding and facilitate the enjoyment of the natural heritage of Scotland.

The widening of the remit from the established emphasis on conservation stimulated growth in the education and public awareness functions of SNH. The most recent Annual Report (SNH, 2000) places emphasis on the following general aspects of SNH work:

- Maintaining and enhancing diversity
- Managing special natural heritage sites
- Improving land and freshwater management
- Encouraging sustainable use of marine areas
- Implementing National Parks
- Promoting environmental education and public engagement

- Facilitating access and recreation
- Supporting sustainable development

As a National Nature Reserve the management practices of Rùm have been and continue to be influenced by international conservation agreements, national statute and government policy. As one of these functions, current educational provision and the prospects for future development have been shaped by this past, and the efforts of NCC and SNH staff. Since the 1991 Act, the policy regarding education has become more explicitly described. This is evidenced by the last four of the above list are more or less focussed on public awareness and understanding and hence have an environmental education aspect.

### **Current Provision in Scotland**

In the non-statutory sector of education there have been numerous innovations. The RSPB had great success with recruitment to the Young Ornithologists Club and have built education centres at Loch Winnoch and Vane Farm, staffed by teacher-naturalists responsible for school parties. In the tradition of the County Naturalist's Trusts, the Scottish Wildlife Trust (SWT) was founded in 1964 and now has over 17,000 members. It has a junior branch called 'Watch' developed in conjunction with The Wildlife Trusts and has established two education centres.

The Scottish Field Studies Council through their centre at Kindrogan have run a mix of environmental courses since 1964, modelled on the (English and Welsh) Field Studies Council pattern. The growth of Countryside Ranger Services too, partially funded by SNH, has been a significant step in bringing understanding to a wider public through their education and interpretation role.

Until recently the Ballater Environmental Education Centre in Aberdeenshire provided a range of regular environmental courses for Grampian Region but it has recently been closed. Whilst the Scottish Environmental Education Council (SEEC) has also recently closed down it is important to note that its framework of REEFs (Regional Environmental Education Forums) still exists although some individual REEFs are more active than others.

Despite evidence of decline in some areas there is evidence of success in others. For example, Sir John Lister-Kaye's Aigas Field Centre near Beaully 'exists to promote environmental awareness, to contribute to a greater level of understanding of man's place in the natural environment and to foster and encourage the concepts of sustainability, biodiversity and an integrated and holistic ecological approach to the use of land and natural resources'. Similarly on the Isle of Arran the Loch Ranza Field Study Centre provides 'field studies for pupils aged from 10 to 18 years'. It specialises in 'offering courses in geography, geology, biology and environmental science for all school examination boards'.

Also, given its close proximity to Rùm, the educational potential and strategic framework of the University of the Highlands and Island's Sabhal Mór Ostaig should not be overlooked. Through its mission statement it is committed to the development of culture and heritage whilst 'working with communities to contribute to social, cultural and economic development'.

In 1997 at St. Andrews, Magnus Magnusson, giving a keynote speech to the SWT Annual conference in his capacity as Chairman of SNH, expressed a wish to see every child in Scotland having residential outdoor experiences involving conservation education at least once in their school careers. Sands of Forvie NNR education centre is a recent but lone purpose-built contribution from SNH, although some facilities exist at both Ben Eighe and Rùm.

There has been some growth in urban-based centres (eg the Environment Centre at Drummond High School and the Currie Environmental Learning Centre (both in Edinburgh)) although these have been primarily instigated by the commitment of individuals. The latter is still currently at an advanced planning stage.

## 2. DEVELOPMENT OF ENVIRONMENTAL EDUCATION

*'I liked him best when we were in the country on excursions, for he was then like a schoolboy. He was untiring, regardless of the weather, and content with little in the way of food even on the longest jaunts. And although he did not give us much in the way of preparation for degree examination – that was left to his assistant – he did far more by taking us into the open out-of-door, exposing us to undreamt-of beauties and making us ask the how and why of nature.'*

Miss B. D. Craig describing Sir Patrick Geddes (Boardman, 1978: 111)

### International and National Developments and Obligations

Since the early 1980s there have been successive developments in international and national obligations to conservation which have emphasised the relevance and importance of education. A review of these is provided as Appendix 1.

The most recent and the most strategic of these developments was the United Nations Conference on Environment and Development (UNCED) which resulted in the agreement of participating nations on the adoption of Agenda 21 (UNCED, 1992) which is an action plan for environmental progress. Education is a central theme in this commitment, and as the UK government is a signatory to Agenda 21, SNH has the remit and responsibility to extend their current commitment and contribution to such work.

The Deputy Prime Minister John Prescott stated the central relevance of environmental education to government policy in 1999. 'The Government has pledged that concern for the environment will be at the heart of policy making. Education will be given the highest possible priority. If people are to play their full part in achieving a sustainable future, they need to know how their actions at home and at work affect the environment'.

### Definitions in Environmental Education

Much has been written about forms of environmental education and the rationale for adopting one approach or another. In its most traditional form environmental education was (and is) field studies.

**Field studies** is the study of the natural heritage, taking place *in*, and being primarily *about* the environment.

However, in recent decades there have been many attempts to broaden this concept to be 'holistic in terms of both environment and humanity, values-orientated, issue-based, action-orientated and critical' (Smyth, 1999: 74). Such efforts conceptualise eg field-studies as just one aspect of a broader educational endeavour.

**Environmental education** is essentially education about the environment with an implicit hope that children will develop the skills and attitudes to enable them to make informed decisions about environmental issues. (RSPB, 1999).

The extension of such knowledge to address the skills and behaviour needed to be consistent with sustainable development (UNCED, 1992: 221) have been included in the term 'education for sustainable development'.

**Education for sustainable development** (ESD) contains all of the content of environmental education but starts from the aim of people altering their behaviour to achieve sustainable living, i.e. living in a way that does not deplete non-renewable resources which will be needed by future generations. It acknowledges that people are the problem and the solution to most environmental problems and recognises that economic, political, social and cultural behaviour have a big part to play in sustainable living'. (RSPB, 1999).

Related concepts are in frequent use and have relevance to any discussion of definitions. Recognition that a loss of species diversity has significant impacts on the ecology of a given area has been extrapolated to considerations of more widespread effects and, in particular the consequences for humans. In the context of environmental education, awareness of **biodiversity** is clearly best achieved through the study of ecological systems as well as human perceptions and values.

The **human dimension** of environmental education can be developed in several ways. First, the study of human history within a landscape offers both a subject and a sense of cultural perspective. Second, the aesthetic relationship between humans and the landscape represents a valid and satisfying way of relating to the landscape in its own right and also provides an acknowledgement of emotional links to the natural heritage. Third, emphasis is on encouraging the learner to no longer see humans as 'separate from' the environment.

All the above terms are in common use, and their working definitions will be used in this report. Even for those with modest experience of Rùm it should be clear that the island provides significant opportunities for each of these. For convenience these will be grouped together in this report as 'Environmental Education', unless a specific term is required.

### **Environmental Education - For Whom?**

The implication of the above sections is that environmental education is relevant to all. In the context of this report it should be emphasised that this means those who live and work on Rùm, those who visit the island and those who gain access to information and materials relating to the island (texts, electronic media etc). The status of Rùm and its potential for demonstration purposes places special responsibilities on those involved in its management.

### 3. ROLE AND RESPONSIBILITIES OF SNH

*'What would the world be, once bereft  
Of wet and wilderness? Let them be left,  
O let them be left, wilderness and wet;  
Long live the weeds and the wilderness yet.'*

Gerard Manley Hopkins (1844-1889)  
'Inversnaid'

*'The art of conservation stems from the science of ecology, a delight in knowing how  
nature works and a love of beauty which may or may not be conscious.'*

Frank Fraser-Darling, 1970: 65  
Wilderness and Plenty

#### **The SNH Mission**

The SNH mission statement: *'Working with Scotland's people to care for our natural heritage'* is supported by aims and operating principles which focus on sustainable use of this heritage and the central importance of raising awareness and understanding of it. Such statements of principle lead in turn to the considerable commitment made by SNH and significant resources which flow in order to facilitate and support environmental education in Scotland.

#### **SNH Policy on Environmental Education**

*'Our aim is to improve people's awareness, understanding and enjoyment of Scotland's natural heritage and to foster commitment to its future care.'*  
(SNH Annual Report, 1999-2000: 13)

In the period since its inception as SNH in 1991 there has come a greater recognition of the importance of raising awareness for the 'future care' of the natural heritage through educational activities. The recognition that the current state of the natural heritage is the result of thousands of years of human interaction with the landscape has stimulated a variety of educational policy and practical initiatives. Environmental education has, in the past decade become a higher profile responsibility, and has recently led to a particular focus on the involvement of communities. *'Working with Communities: The Natural Heritage in Rural Development'* (SNH, 1999) both describes policy and provides encouragement for local communities to become more influential in shaping the decisions affecting their local natural heritage. Such a policy is in accord with educational research which demonstrates that positive attitudes towards environmental issues are linked to a sense of involvement and hence connection.

SNH also promotes similar involvement by the voluntary sector, recognising the value in developing and extending relationships with both environmental and non-environmental voluntary organisations. Whilst such initiatives can benefit both the natural heritage and be of interest to the individuals involved, they are also recognised as having significant community benefits. These activities are stimulated through the SNH local offices, the Ranger Service and also through a grants system.

The community on Rùm (comprising SNH staff, their partners and families; a school-teacher and a number of independent research assistants) is small but

independent and self-reliant. The relationship of the local community to the purpose and work of SNH on and off the island is naturally a significant factor for SNH and considered in the 1998-2008 Management Plan (SNH, 1998). In accord with the above policy statements, much thought has been given to community involvement with visitors and this should extend to any environmental education initiatives. Such engagement will of course depend on the relationship between SNH and the community, the nature of such opportunities and the expertise and interest of individuals.

### **Role and Responsibilities of SNH on Rùm**

These are well defined in successive policy statements, annual reports and Management Plans for the island. The 'traditional' roles have been conservation, environmental management, monitoring and research; all of which may be seen as having explicit conservation value. In recent years SNH has acknowledged its responsibilities in the provision of education, recreation and enjoyment, and has asserted the principle of equality of access (Rùm Management Plan, 1998: 272). Indeed, improving public awareness is now a stated aim, and provisions for this, though a variety of means including 'interpretation' have been established (Rùm Management Plan, 1998: 277).

Whilst acknowledging the pre-eminent position of the traditional work of SNH in conservation and enhancement of the natural heritage, education, broadly defined, may be seen as the bridge between these functions and the public. Education in these terms comprises formal education (environmental education) and raising public awareness (through informal public information and interpretation opportunities).

Modest provision for all such activities already exists on the Island of Rùm, and all do, of course, demonstrate commitment by SNH. However, it is clear that as priorities have changed a great deal more could be done to meet what would be broadly termed an environmental education agenda. Any assessment of the benefits of such a policy must of course be speculative. However, the raising of public awareness of the work of SNH and encouraging a deeper understanding of the natural heritage can only be expected to bring significant benefits.

In addition to the responsibilities noted above SNH is committed to the preservation and use (for accommodation) of Kinloch Castle and associated buildings, raising awareness of social and cultural history of the island, and support for a viable local community thriving in a West Highland context. Environmental education, defined in the forms outlined in Section 2, can play a key role in many of these and in encouraging links between them.

### **The Historical Development of Environmental Education on Rùm**

'The pupils felt highly privileged to live on the island (of Rùm) for a fortnight' (MacKenzie, 1970: 88)

The development of environmental education on Rùm has until now has largely been *ad-hoc* and re-active rather than pro-active. Established as it was primarily for conservation and associated purposes, Rùm has done no more than prioritise its

main agenda. However, the opportunity now exists for environmental education to take a higher priority and become more visible.

Early educational visitors needed to be self-reliant, self-contained and independent, and were inevitably few in number such as the parties from the Braehead School in Fife brought by Hamish Brown (this was described by R. F. MacKenzie in his book 'State School' cited above). John Morton-Boyd's encouragement in the seventies brought others including Moray House College, the first Higher Education Institute. Availability of living space and accessibility gradually improved as the Kinloch bothies were made available. Other developments included the opening of the castle hostel and improvements to the remote bothies of Dibidil in 1970 and Guirdil more recently by the Mountain Bothies Association. The building of the laboratory in the castle basement and gradual improvements to the hostel accommodation during the eighties further encouraged educational visits.

Gradual increases in the Caledonian MacBrayne ferry services and the availability of both the 'Shearwater' and the 'Western Isles' has improved the options for visitors. The new Caledonian MacBrayne ferry, with its significantly increased passenger capacity, came into service in 2000 and later this year the new pier and the 'RoRo' service (not for visitors) will begin. Rùm's isolation is now far less of an impediment (and perhaps less of an attraction too).

The Access Concordat sponsored by SNH, and the imminent legislation on access (Scottish Executive, 2001) have implications for Rùm. The 'Footpath Condition' contract also in train implies a wider public use of space on the island. Implicit in these proposals is the increased risk of conflict with conservation interests. Closer relationships with formal and informal visitors has become a necessity.

### **Current SNH Policy on Environmental Education for Rùm**

The following represents a summary of stated SNH policy drawn from the 1998-2008 Management Plan (Section 10.7). Where the policy or its interpretation is drawn from any other source this is identified. The Rùm Management Plan (1998: 256) states that the SNH educational objective for the reserve as:

*'To promote the reserve for education and training, including the demonstration of recognised good practices'* (where this is compatible with conservation, restoration, monitoring and research).

The plan makes specific recommendations about identifying potential client groups, based upon the suitability of the island for them. Rather than separate our comments from the policy statements we have included these below.

The Management Plan says that 'Rùm is not a suitable location for **primary school** visits' but that this should not discourage local day visits from the Small Isles, Skye and Lochaber. It suggests that travel to Rùm for young people from far afield is problematic, and the island can also be wild and inhospitable. The Management Plan considers that the same limitations apply to **lower secondary pupils**.

Comment: Whilst provision is often poor now, many education authorities encourage sequential programmes of environmental education in which primary age children begin their experience in the local countryside, gradually working in locations further afield as they pass into secondary education and beyond. Consequently the nature of the Rùm experience is probably beyond the educational stage of development of most younger children. In light of the

difficulties identified, the SNH stance regarding Primary and Lower Secondary pupils is appropriate. The exception is that there are clearly considerable social and community benefits when local schools from the Small Isles and Lochaber are able to visit and when links can be made with the Rùm school. Such visits should of course be encouraged.

The Management Plan also expresses reservations about its appropriateness for **upper secondary** students.

Comment: Whilst it is true that the constraints of a tight curriculum pose problems, some schools do manage to bring students for field studies and outdoor education courses, and for these the experience can be very rewarding. Schools do manage to make the journey to Arran (Loch Ranza Centre) to satisfy the requirement for a field study course at A-Level, and so there must be potential for Rùm if the facilities are satisfactory.

The Management Plan states a presumption against '**survival**' and '**outward bound**' groups.

Comment: We presume this indicates a desire to avoid Rùm being seen by some organisers and their charges as an outdoor gymnasium or obstacle course. Whilst such objections are understandable such a stance does pose difficulties. The first is in terminology as Outward Bound is a company trademark and should not be used out of context. As far as we know this company does not use the island. If the use of the term in the Management Plan is meant to imply those groups which have a purely physical programme on the island there would be great practical difficulties in identifying the difference between such groups and say hillwalking clubs. Our view is that it is not realistic to discourage these types of group. However, we believe the SNH preference is intended to discourage groups which come to the island for what would be termed '**adventure therapy**' (ie groups which comprise young-offenders etc). For these groups the decision to visit Rùm is not due to the natural heritage of the island but rather that it is rugged, 'inhospitable' and remote from centres of population. We recognise the pre-eminence of conservation on the island but it is clearly not possible to deny access on such a basis. Such a policy also presents some problems for groups with multiple objectives. Indeed, a number of the 'adventure therapy' organisations run programmes which have a service and skills-training element. It should be possible to work in co-operation with such agencies on work-projects which have benefits for the reserve and visitors. Long term projects such as tree-planting and bothy renovation have been developed with great success in other UK locations. Clearly, any group planning to visit the island for '**survival exercises**' or '**outdoor management games**' (eg 'paintballing') would constitute exploitative and potentially damaging use of the reserve and staff should be able to advise that there were other more appropriate locations elsewhere.

The stated preference of SNH appears to be for **tertiary education** groups. Further Education, Higher Education and Adult Education parties could be included in this favoured area of formal environmental education.

Comment: The Management Report suggests that links should be fostered with local institutions and this is of course thoroughly appropriate. However, rather than suggesting a preference for this type of relationship we suggest that SNH should encourage links with any suitable *bona fide* Tertiary Education institute which is prepared to make a commitment to study and

visit the island. The international interest in the island should also be fostered. The arrival of the Internet has made the development of relationships with educational institutes a relatively easy matter.

The Management Plan identifies a range of other types of 'educational' user. Whilst these are separate in the report we feel they can be treated similarly. Opportunities for **informal training and education** and for **volunteers** are extensive and are properly identified in the Management Plan.

Comment: There is an obvious need for co-ordination of the activities of such visitors, whether they are individuals or groups as this would both enhance the experience for visitors and ensure maximum benefit for the reserve. Of increasing interest are non-governmental work groups with an environmental interest and John Muir Award courses which focus on such project work.

Whilst noting the above reservations we offer broad support for these policies. It is recognised that the collection of natural attributes that is Rùm, is unique. Some of these attributes are sensitive and vulnerable. The opportunity to visit, to study and to understand is a privilege and a responsibility. As our largest publicly owned nature reserve it demands consideration and respect. A degree of control and direction through consultation with users, is an essential management task. Further comment on the potential of the island to satisfy a wide range of educational objectives will be made later.

### **The integration of education into other management responsibilities**

The range of SNH responsibilities on Rùm including education has been outlined earlier. Beyond its inherent value, education can be seen as having a central role within these responsibilities, providing opportunities to explain and elaborate the issues of conservation, research, environmental management, access, recreation and also the interface between them.

The relationship between SNH and the community on the island is both inclusive (in that SNH staff are themselves members of the community) and additional (in that not all members of the community are SNH staff). The ownership of the island by the nation and managed by SNH is a further complexity for the community. The frequent changes in SNH staff and their families, not to mention the seasonal nature of both temporary staff and visitors provide further issues for management of the island. In such a context it is clear that there will always be ongoing responsibilities and benefits for all in broadening the scope of 'education' on the island. It is clear that the local community should be encouraged to gain an understanding of the wide range of SNH work on the island, but there are also benefits in this being a two-way relationship. This will be discussed later.

Some places are vulnerable to disturbance and the identification of all potential clashes between visitor groups and sensitive sites are a management responsibility. At present group leaders are asked to liaise with a delegated member who should be able to advise and encourage visiting staff to adapt their plans accordingly. As most visitors come to the island because of their interest in the natural heritage they are generally respectful of the need for conservation and protection of sensitive sites and in most cases dialogue and persuasion are effective. At present there appears to be no 'Code of Conduct' for visitors to the island (or indeed for residents). The

provision of such guidance must surely help in achieving the management balance and will be considered later and is provided in Appendix 2.

In law a duty of care exists for all visitors, which will extend to hired facilities. Introductory documents, information boards and arrival briefings currently provide an unobtrusive means of informing visitors of potential hazards and visitor responsibilities. This is an effective means of discharging much of the SNH responsibility for independent visitors and groups. However, clear demonstrations of good practice (eg in 'risk management' and in 'sustainable practice' for the reserve and the built facilities) with SNH and the community as role models, are not particularly visible.

The SNH intention to encourage access, develop awareness and increase involvement is a key rationale for environmental education. However such efforts also have a clear interface with 'interpretation' which is subject to another report. This is an important area, as many of the educational possibilities on the island can be satisfied in an informal manner through information and engagement. Such provision is often seen as being of most benefit to casual day visitors, but it can clearly benefit a wider range of visitors and residents alike. It also generates an atmosphere of there being 'something interesting here' which generates further positive benefits. Such an atmosphere goes a long way towards encouraging informal discussions amongst visitors and between visitors, SNH staff and members of the Rùm community. There is clearly a continuum between 'environmental education' and 'interpretation' and these will need to be integrated when the two reports are completed.

When one thinks of 'research' on the island of Rùm, environmental sciences tend to come to mind. However, it should be evident that the potential for research into the effectiveness of the environmental education and interpretation efforts of SNH on the island should be a matter for a concerted research effort. If the intention is to facilitate and stimulate educational opportunities, this will have implications for individual attitudes and values. Such a matter has implications beyond any monitoring programme (which will be devised to assess the effectiveness) and will potentially contribute to a general understanding of this complex issue.

## 4. CURRENT ENVIRONMENTAL EDUCATION PRACTICE ON THE ISLAND OF RÙM

*'I am convinced that man has suffered in his separation from the soil and from other living creatures of the world; and as yet he must still for security, look long at some portion of the Earth as it was before he tampered with it.'*

Gavin Maxwell, 1960  
Ring of Bright Water

### Why do environmental education groups come to Rùm?

Perhaps the most important reason is the quality of Rùm's resources for a range of geological, biological, archaeological, and socio-historical studies. Within a small island, albeit rugged and difficult to access, a very wide range of interesting interconnected environmental issues can be explored. There is no need here to elaborate on the range of habitats and species present, but it is worth note that the combination of these and their relative proximity to each other are a significant attraction.

The fact that travel to Rùm and on the island poses some logistical difficulties may be seen as an extra dimension for some visitors, enhancing the experience rather than detracting from it. Certainly, the fact that the island is inescapably 'for nature' gives visitors a sense that the natural heritage can be engaged with without the need to 'peel away' too many layers.

The importance of Rùm from a research perspective, particularly in relation to large mammals, birds, geology and archaeology, is also a significant attraction. Awareness of these issues and research associated with them gives visiting environmental education groups a sense of proximity with the 'cutting edge' of areas of study in which they are themselves interested.

For most visitors there are good personal reasons for visiting Rùm. SNH island staff have traditionally welcomed groups and their leaders who are visiting for environmental education purposes; and their accessibility and friendliness are much appreciated by visitors.

### Opportunities to satisfy a range of educational objectives

The following section discusses the *purpose* of educational visits to Rùm. It is clear that the opportunities for both specialist **single discipline** study and **integrated environmental studies** on the island are extensive.

There is little need to elaborate on the opportunities for **academic** study. Needless to say, the options for fieldwork in geology, geomorphology and meteorology, history and archaeology and the biological sciences, are all present in full measure. However, study in the pursuit of an understanding of **community sustainability** now recognises the importance of social dimensions, and the integration of the natural sciences with these. The interaction of groups and individuals with the natural heritage of the island and the central position of the long-term viability of the local community, can both stimulate reflection on this topic.

After 45 years of controlled management, with only minor changes to the overall strategy it is an ideal place for demonstrations in **conservation and estate management** and for lessons on sustainable practices. The original plans, now well advanced, for the restoration of lost habitats with greater species diversity will form an exemplar for students interested in their management for long-term **habitat sustainability**.

Opportunities for **personal and social education** are often associated with residential experiences. Such development, encouraged through shared experiences has a long association with the objectives of outdoor education. The complexities of group dynamics expressed through sharing responsibilities, decision making and a sense of community can all be harnessed to the goal of personal development. Most teachers of course will attempt to generate good social practices and civic awareness whatever the main vehicle, but here the main educational objective is normally environmental.

The 'remote' and wild places of this world are a magnet for individuals seeking solitude, isolation, spirituality and inspiration. The rugged nature of much of the island is a quality found infrequently in modern Britain and the opportunity to visit such an area, to experience solitude, to be self-sufficient, to extend the 'inner journey', further represents unusual opportunities for visitors. This feel for the **aesthetic** values in wild land finds expression in writing, landscape painting, drama, story telling, folk music and other creative arts, as well as the **spiritual** engagement prompted by travelling through wild land. Such feelings have an intrinsic value, generating a 'sense of place' but also add to holistic understanding of the integrated nature of the study of and engagement with the natural heritage. Therefore the protection of this perception of Rùm as 'wild' is essential and careful thought should be given to any works which might 'improve' access on the island. Something similar to the 'Unna guidelines' (Langmuir, 1995: 124) should be built into the Management Plan to preserve this element of 'wildness' in perpetuity.

**Outdoor education** has a significant status as a means of integrating many of the above aspects of education and development. There is general agreement on the place (outdoors), the educational intention (personal and social education, environmental education, education for sustainability) and the approach (experiential and holistic). In the UK a mix of outdoor activities and residential experiences generally characterise the endeavour (Higgins and Loynes, 1997). This approach is generally considered to have a range of educational benefits and the island offers an unusual opportunity for such integrated programmes of study.

### **Examples of the variety of opportunity and practice**

Whilst the Management Plan specifies the attributes present on the island (which offer educational opportunities in different interest areas), it is important to consider this issue with as broad a perspective as possible.

It is important to carry the heart and minds of the **local community** in the purpose that Rùm serves for the nation. To this end, groups from Lochaber, the Small Isles and Rùm itself must be encouraged to visit and participate in educational activities. Age itself is no barrier to being included: several excursions a year by local primary children have been successful. Furthermore, such activities are seen as having significant community benefits and are supported earlier in this document.

Mixed groups from ‘**learned societies**’ are often searching for venues for their annual outings. Many of them have specific interests which may dovetail with management objectives. Often a fairly high proportion of such groups is of an ‘older’ age-group and provided appropriate accommodation is available, this is a growing sector of the population should be encouraged to visit the island.

A number of leaders of **wildlife tourism groups** including those from **cruise ships and yachts** visit Rùm because of the chances of seeing many unusual species and habitats at close quarters.

Independent research workers have long been a part of the community on Rùm, often staying for years. There are many who may wish to do research for shorter periods from different levels of higher education. For example, for 45 years the management of Rùm has pioneered research and methods in red deer biology, in woodland regeneration and in grazing regimes to improve grassland diversity. In these three areas it offers opportunities for **demonstration** to foresters, farmers, deer park and reserve managers .

Many agencies have curricular needs which specify **field-work** as an expected element of the assessment process. The chart below identifies those subject areas where we see the best opportunities for formal study. The range is large and the sectors which might benefit are shown below (Least = \*, Most = \*\*\*).

**Figure 1**

	SUBJECT AREAS IN ENVIRONMENTAL EDUCATION							
	Exploration and general Env.Educ.	Integrated Studies in Env. Educ.	Geology & geomorphology	Archaeology & History	Biological Studies	Aesthetics	Conservation management	Social Educ.
Primary		*						*
Early Sec	*	*					*	*
Late Sec	*	*	*	*	*	*	*	**
Tertiary undergrad.			***	*	***	*	**	
Research & Graduate Studies			***	*	**	*		
Adult & Community Ed.		*				**	*	



The following institutes and agencies represent a cross-section of users and their purpose in visiting the island:

**Ruskin School, Coniston:** For several years Carol McNeil has brought groups of senior secondary pupils and staff to Rùm to prepare for expeditions abroad. Her programmes are designed to prepare them for fieldwork and life in remote and rugged areas. An important part of this experience is to consolidate group relationships.

**MSc courses from the University of Edinburgh:** Students from the Scottish College of Agriculture who follow an 'Ecological Statistics' course have visited to identify practical applications in designing and interpreting experimentation. They collect data in their fieldwork designed to utilise statistical techniques for problem solving.

An MSc course in 'Environmental Sustainability' studies the progress of the management plans to renew habitats in severe decline because of over-exploitation. The plan to recreate a West-Highland scrub woodland over much of the lower ground on the island and eventually to reintroduce red deer to those woodlands is of major interest. The history of human settlement on Rùm also provides a model for the changing balances which have occurred in a virtually closed community.

**'Teacher Training' Courses:** Moray House College, now the Faculty of Education of the University of Edinburgh conducts an annual Postgraduate Diploma and MSc in Outdoor Education and have been bringing both trainee and practising Outdoor and Environmental Education teachers to the island for many years to do integrated field studies. They utilise the large variety of habitats, from sea to summits, for biological work. The Tertiary volcanic geology of the Cullin, the Holocene raised beaches and the well-preserved ruined settlements which predate the Clearances are other areas for study. Prospective Biology teachers from Moray House have frequently visited to learn and practice field-study techniques, mostly based around Kinloch.

**Aesthetics and Landscape Painting:** Although there have not been painting groups on Rùm for many years, courses of the type run by Gordon Highmoor on Mull, at Kindrogan and in Northumberland are typical of the type that could be successful here once more.

**Undergraduate Field Study Courses:** Various universities such as Durham and Cambourne School of Mines have used the unique geology of the island as the learning base for their undergraduates.

**Post-graduate Research Studentships:** Rùm has hosted many research students, particularly from university geology departments from both the UK and abroad. The biological sciences too, have been well represented for example by researchers from Glasgow University Ornithology Group and the Cambridge University Large Mammal Unit.

**Oatridge Agricultural College:** Students studying for a Certificate in Countryside Management under Ian Dewar visit sites of major management projects. Ingeniously they recently brought mountain bikes with them to speed the travel to sites at Kilmory and Harris.

**Tain Royal Academy:** Andrew Ramsey, well known for his bird-ringing studies on shearwaters, has for a number of years been assisted in this by senior pupils from Tain.

**University of Central Lancashire:** David Longworth and his successors have brought students to study patterns of soil erosion on the gabbro soils of Coire Dubh.

**Scottish Conservation Projects and Scottish Wildlife Trust Work-Teams:** Tree planting and essential estate maintenance projects have been undertaken by these conservation volunteers and trainees.



## 5. ENVIRONMENTAL EDUCATION PLAN FOR THE ISLAND OF RÙM

*'Today has been about cracking codes. For many months of this year I've felt on the verge of uncovering significant truths, and today many, many times all has been clear.'*  
Gareth Price, 1999<sup>1</sup>

*'In the quiet I felt something of the limitation of personality fall away as desires were stilled; and as I died into self and became absorbed in the hills and sky, the more their beauty entered into me, until they seemed one with me and I with them.'*

W. H. Murray, 1947: 138  
Mountaineering in Scotland

### **Explanation of the Approach Adopted in the Plan**

The interface between the earth sciences, ecology, human history and present management practices is uniquely evident on Rùm, and offers great potential for integrated studies. The promotion of Rùm for such purposes is of considerable importance as it encourages understanding of such relationships on a scale which is easy to comprehend. This has benefits in terms of local (within the UK) relationships between communities and the natural heritage, and with regard to education for sustainability.

SNH should promote environmental education which emphasises the value of the island for both specialist programmes (eg of geology, ecology etc) and such holistic integrated studies. Similar arguments can be made for the social sciences and include consideration community dimensions, values education and other aspects of education outlined in the Principles of Learning (Appendix 3). The island has a well-established reputation for specialist programmes and most of the staff who bring such groups have a clear understanding of their objectives during their visits. For these groups the environmental education plan should emphasise the importance of a 'Code of Conduct' and the diverse opportunities at various locations on the island. It should also promote the value of more general environmental experiences and seek to encourage specialists to spend some time on such issues whilst on the island.

It is our view, supported by educational research, that learning is most effective when it involves direct experience, is integrated and holistic (Higgins, 1997). This pedagogical approach is fundamental to all aspects of field-study and other forms of environmental and personal and social education. The experience of most educational and training groups visiting the island is of course of this type. We are of the view that both the *Environmental Education Plan* and the *principle* of this form of education should be actively promoted by SNH. See Appendix 3 - Principles of Learning.

Without wishing to diminish the principle of learning through direct experience, it is clear that modern technology has a significant role to play in increasing awareness of the island amongst those who are planning a visit and those who are not. Considerations associated with the development of a dedicated website (or

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<sup>1</sup> Gareth Price, MSc Outdoor Education, University of Edinburgh, Rùm Field Studies Course Logbook, May 1999.

substantial field within the current SNH website) will form a significant dimension of this report (see Section 5). For example the inclusion of academic papers, research reports, field data etc on a Rùm website would allow educational institutes (at most levels) to use this material for study before groups ever come to the island or as a valuable resource after a visit. Indeed field data could be used in a purely academic way allowing classes which are not planning to visit the island to be set the task of analysing and reviewing real data.

### What do environmental education groups want?

*'Next day the Nature Conservancy Warden took us up to the mountains. At about 2000 feet well up the side of Hallival, we sat down to eat our sandwiches while he told us about the Manx shearwaters. As he spoke we gazed at the amazing view, all the way from the neighbouring island of Canna across the Minch to the mountains of Uist in the Outer Hebrides. No lecturer ever had a more wonderful stage. Far below and all around lay the sea, and pieces of land here and there like ornaments in a water bowl. The sun shone very warm, even at that height. All round us grew richly green grass.'*

R. F. Mackenzie, 1970: 93  
State School

Whilst the authors of this report have many years experience of visits of a range of educational and recreational types, we felt it important to canvass the views of other regular users to identify areas of common ground which would give insights into the problems they have experienced and possible remedies. These were selected from the list provided by the Reserve Office and from our own personal contacts. We also spoke to several students from previous year of our own courses to ascertain their degree of satisfaction. Our intention was to ask the views of a representative cross-section of educational visitor types and we were able to contact a number of these by telephone. Contact details were provided by the White House and the Castle Manager and efforts were made to telephone each group organiser. The list was limited as in a number of cases the organiser of the group had moved and could not be contacted. However, those we spoke to were keen to respond and answered a range of questions relating to their experiences of the island, and the suitability of the facilities. Perhaps unsurprisingly, environmental education groups wish to have a comfortable and convenient stay, have access to information they require to do their work on the island, and to be able to come at a time of year that suits their programme and fits in with the vagaries of the weather. Whilst some groups use one of the bothies the majority of visiting educational groups use the castle hostel as their base. Consequently, the castle hostel features regularly in the following summary of these views.

**The difficulties of residential educational visits to Rùm:** Users were strongly of the opinion that successful residential education on Rùm requires careful planning and linked support services. For most groups planning must begin up to a year before (with a hostel booking) and if the cost and expenditure of effort is to be justified the visit needs to succeed in all expected outcomes. There is a clear 'logistics chain' and every link needs to be in place before the 'education' can begin:

- Staff need to be available, willing and have the right qualifications. If ancillary support staff are needed or cover provided for missing staff, that too must be found.

- It must be possible to make the visit at a time of year which suits the purpose of the trip and other demands at the home institution or base (eg whilst it is clearly pointless to visit the island to study birds which have migrated, all groups have a favoured time of year).
- Equipment, books, audio-visual equipment, maps etc all have to be brought from the home base. Outdoor clothing often needs to be hired or borrowed from school, college or commercial stores.
- The journey can be long and wearing and it might consist of several legs each of which needs to fit smoothly with the next. 'Connecting' services sometimes don't! Any carriage costs only serve to add to the difficulties.
- Accommodation and catering facilities must ease the strain on staff and their students/clients rather than add to it.
- The whole process needs to be carried out at an affordable price!

**Season:** Most visitors come in April, May and June when Rùm is favoured by better weather. Even so, there are few occasions when planning, discussions and follow-up work can take place in the open-air. The reality is that many days even in early summer have inclement to atrocious weather. Midges, particularly in the evening, drive groups to seek an indoor location for much of the sedentary parts of the programme. This of course eliminates camping as an option for any serious environmental education group.

Comment: The implications for the development of environmental education have to be considered at the same time as 'educational spaces' / facilities and accommodation (Section 4 and Appendix 5).

**Financial considerations:** Almost all mentioned financial constraints from reduced budgets, aggravated by 'student poverty'. Travel from wherever they happen to be located is not inexpensive, and the ferry adds further to costs. Paying for accommodation features as a very significant aspect of the cost of visiting to the island of Rùm. The cost of current castle hostel accommodation is probably the limit of what most groups can pay. Groups need good returns after substantial outlay but the 'cost-benefit' of a field trip to Rùm often feels precarious due to the fear of poor weather disrupting programmes.

Comment: Subsidy in various forms might be considered to boost formal education groups.

**Transport services:** For many users of the island arranging transport (minibus or public transport) is a major issue, and the final ferry journey something of a relief. (Paradoxically the remoteness' of the island is an attraction for many visitors.) The difficulties and financial cost of such arrangements are clearly not the responsibility of SNH, though awareness of the significant financial commitment should be. By the time groups reach the island all will have been travelling for many hours and some for days. At present the ferry services to the island are in a state of flux, though this will settle down when the new jetty is in operation. Caledonian MacBrayne have recently decided to review carriage costs for baggage and parcels and these may be an additional burden on groups bringing food and equipment.

Comment: Whilst there is little SNH can be expected to do to ease such difficulties, negotiation with Caledonian MacBrayne over costs and schedules should be considered. Similar discussions with other operators might also take place and all could be encouraged to consider group discounts. The publication on a Rùm website of contact details for all operators would help group organisers make their arrangements.

**Accommodation:** Whilst there are a variety of alternatives for one's stay on the reserve (castle hostel, bothies, camping), for most educational groups the hostel is the obvious choice. Nonetheless, other accommodation is used by educational groups and other visitors. This has the additional benefit of reducing pressure on the hostel at busy times. Whilst more beds (current maximum is 58) and some additional rooms have been made available in the Castle, the number of bothies available has decreased due to the need for accommodation for SNH staff and their families, temporary/summer staff, tradesmen and research workers. This is a major bottleneck in the castle at present.

Often more than one education group are present at any given time during the peak season in April, May, and June and it is not unusual for such groups to be present in the hostel accommodation along with some other members of the public. The educational groups may be between eight and twenty-five individuals and the informal groups may themselves be of one, two, or of several individuals who are visiting the island for recreational purposes such as walking or the study of the natural heritage. Present accommodation and toilet facilities, cooking and eating arrangements are quite inappropriate for such combinations. For example, in the hostel there are three showers, two baths and four WCs and they are often in the same room! There is one small kitchen with one table for self-catering groups. The result is that, despite the best efforts of the formal educational groups, and the forbearance of members of the public they are often 'frozen out' of the communal facilities.

The nature of the weather on the Island of Rùm (nearly always wet and windy) means that a high quality, spacious drying room is essential. The present facility is woefully inadequate at such times. Use is seldom possible by rota as invariably everyone will need it at the same time.

The cost of accommodation, especially in the castle hostel, is high compared to similar facilities elsewhere. Unlike most other providers there is no group or leader discount.

Comment: Accommodation must be suitable for the visitors and whilst it is acknowledged that it is neither desirable nor possible for this to be luxurious on Rùm, consideration must be given to appropriate bedding and storage space for individual belongings (which can be substantial for environmental groups). Bedrooms, toilets and bathrooms must cope with numbers and meet the requirements of student and staff gender balances. A high quality drying room with a dehumidifier and ample hanging space and boot racks is essential, and ideally would lie beside an entrance atrium. The diverse range of accommodation options should be maintained and there should be no further reduction in the amount of accommodation available. There is no 'standard' group composition, and therefore any hostel sleeping accommodation needs to be flexible to allow for the gender balance, and ages of the members of the group and to allow staff some space of their own. This is especially desirable where more than one group is using the same accommodation. An increase in accommodation options would be welcomed. Castle hostel costs should not be increased without careful consideration of the impact and some form of group discount (a percentage or 'leader stays free' system) on accommodation should be introduced.

**Bookings System:** At present bookings are made for accommodation through the castle manager (for the hostel and 'Stalkers Bothy') and through the reserve office for all other bothies and for camping.

Comment: Whilst this personal contact is vital it is important to ask 'what relevant and useful information can the booking system deliver?' It may simply be that individuals are provided with relevant leaflets together with their confirmation of booking or that this should refer them to the Rùm website for further information. Information on relevant books or other publications should also be provided and these should remain in print and made available by mail order from the reserve office, Rùm general store or from the publications section at Battleby.

**Catering considerations:** Whilst some groups opt for the convenience of being catered for in the castle 'bistro', for many, self-catering is the only financially viable option. Some groups simply prefer to self cater, particularly if personal and social development is one of the aims of the course. Without resorting to a sittings/shift system the Castle Bistro can cater for about 24 diners whilst the present hostel kitchen can cope with about 10 self-catering. Clearly clashes with other users for space, especially for cooking/eating facilities in hostel (see below) are inevitable when the hostel is anywhere near full (58 beds) and can be a significant frustration.

Comment: Provision of hostel accommodation in the castle or elsewhere must take note of this as a primary requirement of many groups. For such groups a kitchen equipped with the necessary space, ovens, sinks, crockery, cutlery, fridge, storage areas all need to be on hand. The dining area has to be close. The tables and chairs or benches need to match the number in the party. Organisers of groups should be made aware of the increased range of foods available and the option to buy all group food in bulk at a reasonable price from the Rùm store.

**Educational spaces/facilities:** Almost all forms of environmental education will require some indoor work or study space which suits their needs. Teaching facilities with seating and desk space are required if they are to be used as meeting or discussion rooms. In a laboratory, storage, sinks and electrical outlets are needed but to cater for the needs of a variety of groups such a space needs to be flexible. Whilst the laboratory goes some way towards meeting present needs, group organisers were not happy with its present location in the basement and facilities.

Comment: Discussion of this issue forms a major part of this report (Section 4 and Appendix 5).

**Access to information:** In terms of natural heritage the Island of Rùm NNR is one of the most studied and well reported in the UK. Whilst much of this material may be too detailed for many visitors, an up to date catalogue with availability of relevant resources would be useful for visiting groups. Some felt that access to this information through library facilities would enhance their visits to the island.

Comment: Such provision could also be through the use of electronic media. This would also require access to computers on the island, preferably in any environmental education facility.

**Other considerations:** It is clear that even at busy times the capacity of the whole island to absorb visitors is not reached. However, because Kinloch tends to be the focus of much activity the pressure tends to be primarily on some natural resources in the locality and on the local community and infrastructure (eg shop, telephone,

accommodation, toilets, sewage, power). A less obvious but nonetheless significant impact relates to the perceptions of 'informal' visitors and the Rùm community. For some the presence of what seem to be large numbers of students may diminish 'the wilderness experience'.

Comment: Whilst such pressures are not yet extreme this does need analysis and an acceptable capacity needs to be defined in light of the many constraints. It is conceivable that a ceiling might be placed on numbers and ways found to spread the demand and load. In times of an emergency the normal services and rescue facilities are not on hand and groups need to have some built in self-sufficiency.

### **Expansion of Catchment**

We have examined a breakdown of visitor types, the number of arrivals and their seasonal distribution for the last three years. Our reading of these statistics suggests that numbers of educational visitors have reached a plateau or even declined. The calendar of educational visits is heavily skewed to a two-month period - late April to early June, and during those weeks, the physical facilities and the accommodation available are near their maximum capacity. This season is also favoured by informal visitors to the island as are the 'long weekends' which include 'bank holidays'. The pressures are therefore only intense on a few occasions each year.

Reasons for the trend in educational visits are not hard to discern: exam focussed curricula and tighter financial constraints, both personal and institutional (the most publicised being post-qualification student debt). The preferred climatic window between the vernal and autumnal gales avoids the periods when ferries are more regularly cancelled and visitors become stranded. Furthermore, midges from late-May to August are a real impediment to outdoor work, even for locals.

It seems unlikely that educational visits could be increased in winter. Daylight hours are short, the weather is unpredictable and it is the 'dead season' for most biological studies. For other educational endeavours there are at least 'possibilities' but the organisers of educational groups understandably view the prospect of geological or other non-biological studies without much enthusiasm. It is not so much that such work is impossible in this period of the year, rather that the organisation and journey required are a major investment when the outcome is uncertain. From October to March, the lighting and heating of accommodation has implications for the island's electricity supply.

*Is expansion of this visitor group possible?* A strategic decision on any development is needed but there may be little likelihood of expansion without expenditure and *vice-versa*. This decision will require effort on the part of current SNH staff (on or off the island) or the appointment of a staff member dedicated to the pursuit of these objectives. See Section 4 and Appendix 4.

*How can the visitor period be lengthened? What other groups can be encouraged to use Rùm?* Our analysis of this potential is as follows:-

1 *School and university terms.* The traditional time-slots for fieldwork are in the summer term, which is shortened for many students because it often contains critical examination commitments. Many constraints exist to resist changes in this pattern, not least of which are better weather, few midges, the academic year and the

chronology which is implicit. History, archaeology, forestry and geology courses may be recruited in early Spring and Autumn when biology courses would be unseasonal.

2 For the *midsummer period of July and August* thought should be given to cultivating other user groups. Some examples would include adult education, Workers Educational Association, extra-mural and post-retirement courses, University of the Third Age and lifelong learning initiatives.

3 *Study weeks or quiet weeks could be promoted at less busy times* in which there will be an opportunity for contemplation and the pursuit of personal projects. The concept of a retreat in such a place is the selling point. The growth in numbers of financially comfortable retirees with an interest in self-study activities is large. It is however a very competitive marketplace. It should be noted that the cost of a visit to the island will be a significant deterrent for individuals on low incomes. In a spirit of equity some effort should be made to facilitate visits from this sector, perhaps by specific targeting and promotion through associations, clubs etc.

4 In *late August and September* there is a narrow 'education window' which is not currently fully exploited. Midges are less of a problem at this time of year than at the height of summer.

5 *Financial Inducements.* Differential pricing for accommodation during low and high seasons is used elsewhere. This could be considered along with economy or budget menus in the Bistro, although it should be noted that basic costs in the Bistro are currently quite reasonable. Labour could be exchanged for subsistence if groups could carry out essential estate management tasks such as tree planting, path repair and bothy maintenance, although the issue of liability under Health and Safety law would need careful consideration. SNH already awards travel grants and subsidises a number of educational events. The adoption of such a policy on Rùm would require an acceptance that this was as valid a form of educational support as the organisation of a conference or development of a new educational scheme. We note however that this may result in difficulties in recharge arrangements and that the Reserve Office probably has no funds for such ventures.

6 *Scottish Field Studies Council.* Because Kindrogan Field Centre also experiences problems in recruitment of client groups, it would appear to be a dubious policy to compete for that market. However, courses run at 'outstation' sites are quite common in the Field Studies Council. They may be persuaded to mount courses which could best take place on Rùm, such as 'Tertiary Volcanics', 'Large Mammal Ecology', 'Atlantic Bryophytes' etc.

7 *Eco-tourism* offers possibilities for hostel and 'front of house' accommodation in the castle with minimum clashes with other users. However, caution is required as the demand from such parties to see 'rarities' may present a threat. Close liaison with SNH staff would be essential.

8 *Art and culture in rural places.* Great opportunities exist on Rùm for both formal and informal visitors with an interest in creative arts. As noted earlier there are art course run on the island, but these nowhere near realise the potential. The Scottish Tourist Board and the Scottish Arts Council have recently published a series of Case Studies in Culture and Tourism in Scotland (2000). The aim of this

publication is to highlight the possibilities of such endeavours. Stimulating the arts in rural environments was also the theme of a recent international conference (May 2001) held at Duff House in Banff ('On the Edge: the benefits and challenges of cultural development in rural areas'). Materials and events such as these might provide ideas and opportunities for promotion of the island as a venue for art and culture. Also attendance at such meetings by a member of SNH staff could lead to support from experienced contacts. Possibilities range from the promotion of visual arts course (landscape painting etc) to traditional music and dance.

9 *Rural crafts.* Within the day to day management operations of the island there are a range of possibilities for the development of education and training in agricultural practice and rural crafts. For example the husbandry and use of highland cattle in habitat management, dry-stane dyking etc. This latter activity could be extended to the reconstruction of one or more black houses, which would bring benefits beyond the educational value of such a course. There are specialists in such work operating in Scotland (eg Brian Wilson of Skye who built the black house in the Museum of Scotland) and they could be approached concerning running a trial course on Rùm. Similar efforts could be made to conduct a course on Scottish ethnobotany and plant lore. A recent book has been published on this by Tess Darwin (1998). Other crafts such as woodworking, wool dyeing and weaving may also be considered as part of a broad-based course in rural crafts. Any such activities will need to be initiated by the Teacher/Naturalist. Links will need to be established with individuals and organisations such as those noted above and should be promoted through the website.

10 *Gaeltachtd.* The clan period from the Lordship of the Isles to the Clearances are represented by the blackhouses, sheilings and lazybeds in some of the best-preserved clachans in Scotland. No one has lived in those settlements since the people were moved out almost two centuries ago, hence they have not been damaged except by weathering. Rùm therefore offers an excellent location for the reconstruction of this past society. Sabhal Mór Ostaig (the Gaelic College), 'Whitewave Activities' on Skye and the University of the Highlands and Islands are local establishments which may have a strong interest. Whilst these are 'local' their involvement should not be sought in preference to others. Any educational institutes and private operators with an interest and keen to visit the island for such purposes, should also be encouraged to maintain or develop fruitful relationships.

11 *The land and the people.* It is significant that student groups also invariably want the chance to explore the island, to experience its diversity and its 'lonely' places. Many are particularly fascinated by its human history. This common thread suggests that thought is perhaps needed to organise a 'core experience' which taps into this enthusiasm. Such educational experiences are the essence of a progressive approach to outdoor education being developed by the University of Edinburgh and by 'Whitewave Activities' on Skye with their programme, *'The land, the language and the people'* (*An tìr, An Canan, 'sna Daoine*). (White, 1997). The wealth of educational resources and sites for such study (Mesolithic, Neolithic, pre-Christian, Highland Clearances, lazy beds, blackhouses and sheilings) are well documented and accessible.

### **Appointment of a Teacher/Naturalist**

Whilst skills in environmental education should be a consideration in future SNH appointments to the island staff *there is a clear role for an appointee with specific responsibilities for this area*. Much of the foregoing would be facilitated by the appointment of a Teacher/Naturalist and allow SNH to offer its own programmes and study courses. The duties of such an appointee are listed in Appendix 4. It will be apparent from the list of qualities and responsibilities of such an appointee that he or she will require skills in the social as well as the natural sciences. It seems unlikely that he or she will have this range of skills upon appointment, in which case appropriate training must be provided.

### **Commercial Operators**

Despite the appointment of a Teacher/Naturalist there will always be a demand to visit the island from commercial operators. There are an increasing number of such groups and this is of course to be welcomed. At present there appears to be no 'licensing' of these. Some form of evaluation of safety and quality should be instigated and would focus on high standards of delivery. Setting such standards should ensure that there is a recognised quality standard and this in turn lead to greater competition between operators. The issue of any SNH liability should also be explored. These responsibilities would fall to the Teacher/Naturalist.

### **Appropriate 'Spaces' for Groups**

The analysis of the comments of educational users together with our own experience indicates that the present buildings do not properly meet the needs of environmental education groups. There is little likelihood that groups could be persuaded to alter their visit dates to less busy times of year. Consequently there will be occasions when the current accommodation and facilities will be stretched to capacity. The following represents a summary of necessary and desirable provision, with some consideration of what changes may be possible.

#### ***Accommodation***

*Necessary:* There should be no further decrease amount or variety of group accommodation on the island. In order to meet basic space and hygiene requirements the availability of beds and other facilities (bathrooms, toilets, drying rooms etc) in the castle hostel should to be reviewed.

*Desirable:* A *low cost bunkhouse* should be considered for student groups to give the flexibility of provision that we see as essential. To meet the needs of groups there needs to be several small dormitories with bunks for 2, 4 or 6, and staff/leader bedrooms at a ratio of 1:12. Conversion of space within the castle, conversion of other buildings in Kinloch, or 'new build' are all options outlined later.

#### ***Catering***

*Necessary:* The mix of accommodation possibilities currently allows some diversity of catering choice. The present 'bistro' arrangements are popular and provided dining space were be found, could usefully be extended to cope with increased demand. Self-catering options in the castle or any purpose built hostel should be extended. Some of the unused or underused space in the castle might offer opportunities for self-catering and dining. All such options would require kitchen fitting and other equipment and dining room furniture. There will be a need for a dedicated budget for repair, maintenance and replacement and a staff member to oversee this.

*Desirable:* Again, the provision of a low cost bunkhouse would be a favoured solution.

### ***Teaching and Laboratory Areas***

If the attempt to promote environmental education is successful it is highly likely that there may be several groups with mutually exclusive aims, needing teaching spaces, and these are likely to be required in the castle. It appears that many of the 'spaces' within and around the castle are underused, and with appropriate changes, could be made suitable for meetings, discussions, reading and recording.

*Necessary:* The present laboratory and the reading areas are the minimum acceptable space for one educational group. Welcome improvements have recently been made to the laboratory but further work is required. Standard furnishings and audio-visual equipment are provided and these can be flexibly deployed.

*Desirable:* There is no prospect of expansion of educational group at busy times with the present facilities. A better laboratory space is almost essential, as are other purpose-modified rooms. Each needs to be suitable for a minimum of 15 (the number of seats in a minibus). If a new building is possible, *a laboratory within an environmental education centre* is the prime requirement. It needs to be well lit with natural light, and coffee/tea making facilities. It should also have a seminar/discussion room which is fully equipped to an appropriate standard. Ideally it should have an inspirational feel with good views and in a good location close to any self-catering accommodation.

### ***Multiple use of facilities***

In the Bistro there may well be clashes with 'front of house' users, Deer Commission, SNH visitors etc. Two sittings especially at crucial times such as breakfast may not be convenient. Most groups will be larger than the present capacity of the self-catering facilities. If more than one group needs to cook, 'chaos' and stress often results and small parties of other visitors often become (understandably) disgruntled. It is a difficult problem at present and a source of frustration for all, particularly on those three long weekends that constitute about half of all education visitor nights on the island.

*Necessary:* The origin of the problem is of course the desire of visitors to come on a few favoured long weekends and the requirement that the castle manager must maximise income. However, such clashes need to be avoided if visitors are to have a positive experience of their stay. Improvements in facilities noted here are required, but there may also need to be limits set to the number of visitors self-catering, or the number of visitors using the castle hostel (not simply filling up all available beds).

### ***Costing***

The present cost of renting one of the bothies is reasonable provided the group size is large enough. However this option is not well favoured by educational groups as there is no access to laboratory or meeting rooms. The cost for fully catered hostel accommodation is around £32/day, which is beyond the pocket of many education groups, especially children. Consequently accommodation only, at £12/day, with self-catering facilities is the favoured option of most groups.

*Necessary:* Efforts must be made to stabilise costs as any increase will have a serious effect on the potential to maintain visitor numbers and attract other educational groups.

*Desirable:* Grants and discounts for educational groups should be considered.

### ***Proximity of facilities***

*Necessary:* There should be close proximity of all facilities to used by educational groups. This would facilitate ease in organisation of students/clients and enable students to be monitored to minimise disturbance to others.

*Desirable:* Self-contained accommodation with adjacent catering and teaching areas would be ideal.

### **Opportunities for Providing Group 'Educational Spaces'**

The architectural consultants asked for our opinions on the potential of existing buildings to meet the requirements of educational groups. We have included a brief comment on each available building in Kinloch and on each castle room in Appendix 5.

In summary, *if* the castle is to be purpose modified we would favour making use of the ground and first floor rather than the basement. However we would prefer to see an existing village building (preferably the renovated farm, courtyard and surrounding hay barn and byres *or* the building which houses Stable, Farmhouse and Stalkers Bothies). Better still would be a purpose built environmental education centre with integral accommodation facilities.

Any developments which increase visitor provision will inevitably have implications for the limited island power supplies. However there are opportunities for low energy conversions, especially for new buildings.

### **Informal Environmental Education on the Island of Rùm**

The focus of this report has so far been primarily on the formal sector, the justification for this lies in such groups being by far the largest and most recognisable environmental education users of the island. However, many groups and most individuals who visit the island have some interest in the natural heritage. They will be stimulated by or susceptible to both the explicit *information* and *image* presented by SNH, and by what they pick up of the way things are *actually* done or not done on the island (the *implicit* message). Many of the recommendations made in this report are appropriate for all visitors provided they are made aware of the facilities, support services and materials. However some efforts made to cater specifically for the informal sector would in turn prove useful for the formal environmental education visitor. This too would be a key role of the teacher naturalist on the island. The following are some suggestions for appropriate provision:

**Ferry Services:** The Small Isles ferries will always be the primary method by which visitors come to Rùm. The time spent on the ferries (which can be as much as five hours before arrival) might be used to provide relevant educational information about the seas around Rùm and to build a sense of expectation prior to arrival. In particular, information boards on the Caledonian MacBrayne ferry would focus on the importance on the careful management of the marine environment and the link to the seabird colonies and littoral zone on the island. Guides to common seabird, seals, whales, dolphins etc could be provided as posters. The crews of the ferries could be trained by SNH staff at no cost to identify whales and dolphins and bring these to the attention of passengers by the onboard public address system. Sightings of cetaceans could be logged and provide valuable information for any monitoring programme; the results of which could appear on the Rùm website. Such efforts should bring significant rewards in encouraging visitors to recognise the link between a healthy marine ecosystem and the seabirds and other species which depend on it.

The ferries which operate in the Bay of Biscay promote and support a charity which operates in a similar way to that described above. A small percentage of passengers become members of the charity and continue their interest and involvement for many years. Much of the information could be summarised on interpretative leaflets which could be black and white or coloured, free or subsidised depending on how important this was seen to be. Furthermore, the use of the ferries to provide information about the island (accommodation, management, restricted areas, evening talks, visitor facilities and services etc) would both aid the member of SNH staff meeting visitors from the ferries and also act as a stimulus for those visiting others of the Small Isles to include Rùm in their itinerary or to make a subsequent visit.

Parents need all the help they can get when travelling on the ferries. Materials appropriate to the ferry journey, arrival or departure and specific to young children could be made available eg 'I spy on the Island of Rùm' cards could provide information and build a sense of anticipation; Rùm general knowledge competitions with a deposit-box system and modest prizes could be appropriate to the return to the mainland.

**Provision for Families:** This is at present scant or non-existent for visitors to the island. Whilst some form of crèche facility would ideally be available this is probably impractical in the light of the relatively small number of family visitors and the need for trained child-minders. However, specific activities organised for children by SNH staff or others on the island would be valuable. Such activities need only last an hour or two and might include studies of habitats local to Kinloch and take place at a specific and regular time. Whilst some visiting parents may have the knowledge to do this themselves, provision by someone else would generate a structure and a sense of occasion for children.

**Leaflets, Guides and Talks:** Most visitors to the island are capable of independent travel on the paths and a fair proportion walk the Rùm Cullin or the subsidiary hills and glens. Whilst a Loch Scresort trail leaflet exists and the Kinloch Glen one is in preparation, the publication of a broader range would be worthwhile. All the necessary information exists in published books and other texts and the task is primarily one of selection, reorganisation and presentation. The booklet on the geology of Rùm for the present SNH/British Geological survey series (which already includes Skye, the Cairngorms etc) is long overdue and should be published as soon as possible. Although such publications have benefits for students of geology and those with general interest in the natural heritage, they also act as a stimulus to self-programmed further investigation or study. The present series of A4 sheets on human history, red deer, sea bird species etc is very worthwhile but never seem to be readily available. These could perhaps be revised to include more on the International and National context and offered free at strategic points or for sale at a very low cost.

The reserve manager, or another member of SNH staff already give talks to visiting groups upon request. Regular evening slots in the village hall (say once or twice a week) during the main visitor season could be offered to all visitors and provide both a general overview and specialist perspectives. Similarly, the principle of the 'guided tour of the Castle' could be applied to the area around Kinloch and a knowledgeable member of SNH staff or the local community could offer regular

short informative walks in the main season. Such provision would provide an additional focus particularly appropriate to the day visitor.

**Festivals etc:** Rùm receives its greatest numbers of visitors during Bank Holiday weekends. On some of these weekends a ceilidh is organised at the village hall and this is an attraction for visitors already on the island. Further focus could be brought to such and other weekends by advertising 'bird', 'geology', 'flora and fauna', 'hill walking', 'archaeology' etc festivals on an annual basis perhaps in association with relevant national associations or societies. A 'Study Rùm' weekend could prove an attraction with visiting or resident specialists providing input.

**Friends of Rùm NNR:** The association 'Friends of Kinloch Castle' is of course specific to the castle and its preservation. Such a concept might usefully be extended to include the whole island of Rùm. The island is a place that people become very attached to and such an association may attract wide representation and act as a locus for various forms of development including fund-raising work parties etc.

**Follow-up:** Thought might also be given to any 'follow-up' using the contact addresses of those (groups or individuals) who book and use accommodation on the island. For example, membership of a club and copies of 'Rùm News' published say in early Spring and Autumn might be attractive to children and their parents. Such methods would establish or reinforce a long-term relationship with the island.

### **SNH Obligations and Expectations**

In the provision of facilities and services SNH must take note of certain legal obligations. Expectations have changed in our affluent society. Litigation conscious citizens aware of a 'Duty of Care' demand considerations not anticipated in the past. Not only are there expectations of higher levels of comfort (such as en-suite services for older people) but the law now in force in areas such as food hygiene, fire regulations and building codes demand that many of these expectations are met. Thus updating of accommodation to meet modern (perceived) needs of users is necessary.

The **Health and Safety at Work Act 1974**, although mainly meant to deal with the rights of employees, has a section on duties to non-employees including a section on safety of premises and equipment. A useful publication is *Five Steps to Risk Assessment* (Health and Safety Executive, 1994).

If a member of SNH staff is paid for taking groups walking in moorland or mountain terrain (more than 30 minutes walk from the nearest road or refuge) then they may be 'in scope' with regard to the **Activity Centres (Young Persons' Safety) Act 1995**<sup>2</sup>.

The **Occupier's Liability Act 1983** is known best for its use by landowners as an instrument to deny access. However, there is little danger of litigation for accident being successful, except in cases where advice or provision for an activity is provided by a landowner and negligence can be established.

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<sup>2</sup> Further information can be obtained from Adventure Activity Licensing Authority Ltd., 17 Lambourne Crescent, Llanishen, Cardiff, CF4 5GG.

In regard to the hazards associated with fieldwork on the island, SNH should draw the attention of visitors to their 'On-Site Safety Guidelines' (Appendix 6) to the attention of visitors, particularly the organisers of educational groups.

### **Educational equipment and teaching support material**

In addition to the physical space required as discussed above, most educational groups who visit the island have a need for a range of field studies and laboratory equipment. Whilst it is clearly impractical for SNH to provide facilities of the highest quality for all forms of field study, much of the equipment required is of a generic nature and could be provided and maintained at modest cost. For most groups the organisation of a 'field trip' to Rùm is a major logistical undertaking, requiring the relocation of students, staff, food and every item of necessary equipment from home to the island. The labour involved, to say nothing of the potential for damage in transit (for every group visit) suggests that an alternative would be welcome. The provision of a basic library and generic equipment in the laboratory would ease this load considerably.

#### *Inventory of Educational Resources*

Any well-equipped environmental education centre should have a basic library containing relevant texts. In the particular case of Rùm, arguably one of the most studied areas of its type in the world, this should contain relevant research reports and academic articles. Copies of many of these already exist on the island, and are mainly held in the White House. However, space here is at a premium and there is little prospect of collecting these and other relevant texts being brought together in a convenient space that visiting group leaders and researchers could access. Nor is there a general reference library on the island and so the purchase of a number of such texts would be required. These would include general texts on the geology, ecology etc of Rùm and similar locations, general field studies guides and specialist keys. Multiple copies of some of these would be required. Some texts on the principles and practice of environmental education, education for sustainability and experiential and holistic education should also be included. Resources relating to the broader environmental and sustainability policy context (international and national) would also be desirable. An initial list of suggested texts is attached (Appendix 7).

#### *Field Studies and Laboratory Equipment*

A frequently monitored stock of equipment and reference books in the teaching accommodation would solve many logistical problems for visitors. It is true that strangers often do not look after equipment that is not theirs. A deposit system paid at the time of booking laboratory space, to cover losses and damage, but not normal wear and tear could encourage careful use. A rental charge would be difficult to administer. Such a system would require staff supervision of storage, repair, deposits and monitoring on each visit.

All of the equipment available should be listed on an information sheet for visitors and on the Rùm website. A list of suitable equipment is provided in (Appendix 8). It would be the responsibility of the group to bring more specialist equipment themselves.

Some thought should also be given to an inventory and production of written educational resources for the island. This would serve to inform group tutors of

relevant materials and locations for study, and would be a valuable visitor management tool enabling island staff to limit the impact of educational groups. Resources of these types tend to date quickly and there are also issues associated with security. Earlier in this report we advocate the appointment of a Teacher/Naturalist who would have the development, maintenance and security of such resources as one of his/her responsibilities. As the main season for visitors is only a few months in spring and summer, it may be possible to delegate such tasks to a placement student under the supervision of the Teacher/Naturalist.

### **Promotional activities for educational users**

*Promotional video for schools and colleges:* SNH already have considerable footage from previous TV programmes on Rùm. An amalgam of relevant pieces from these, with an added commentary, could be produced initially. If this were to be extended significant expenditure would be involved and a budget would need to be allocated.

*Introductory brochure:* There is no doubt that a high quality website (see below) is the most effective way of reaching a large number of people at minimum cost, and there are significant disadvantages to the production and distribution of brochures they also have their advantages. Notably that they arrive in someone's hand without them having to take the initiative to search for a website. The nature of a suitable website is described below and referred to at other stages in this report. A suitable leaflet designed for wide circulation should would also be a means of announcing and promoting the website. This should be distributed to tertiary education institutes in Scotland, to LEA directors for internal circulation through the advisory service and to specific organisations (geography, biology and history teachers) and parties known to be interested. The Battleby address lists and distribution network are valuable as the leaflet could simply be enclosed when another leaflet is being sent out. Contents, in common with the website, would include the following:-

1. The island and its natural attributes as a learning resource:  
Subject related opportunities for varied academic study,  
Promotion of the island as an exceptional site for integrated approaches,  
A place for personal and social development.
2. Educational facilities and support services:  
Map and information about the infrastructure which will be available for a residential education group, options and costs, staff, advice, and library facilities.
3. Planning: bookings, travel, accommodation, and preparation.

Detailed Information for respondents would be selectively available:

1. Exemplars of varied educational programmes for different study areas and age groups.
2. Information on specific resources, both man-made and natural:  
support services and infrastructure,  
habitats and species,  
geology and geomorphology,

human history,  
reserve management and research.

3. Restrictions on access etc:  
emphasis on fragility and sensitivity of certain areas, overuse,  
demands of management,  
codes of conduct,  
carrying capacity,  
seasonal restrictions.
4. Bibliography: To include resumes of relevant (historic) NCC and SNH publications and research papers on the island, maps and books. List of equipment available in the laboratory.
5. Specifically for schools: A resume of the opportunities for fulfilling the requirements of 5-14, Standard and Higher Grade, Higher Still, National curriculum, A-Levels etc. For a full analysis see Appendix 9.

**Rùm Website:** The main SNH website is excellent and widely used. There are arguments in favour of this being the key entry point to the information on Rùm, and also for there to be a separate Rùm website. Our preference would be to apply the test, 'which way will it be easiest for someone to find the site when they type in key words (Rùm, SNH etc) into a search?'. Both could work well, as long as there are hyperlinks included. Either way this website should contain a wide range of background information as well as a key section on 'Educational visits to Rùm NNR' which would contain most of the above information. This website could be publicised in the Times Educational Supplement, Education Guardian, British Wildlife, Scottish Wildlife, RSPB magazines, Scottish Association of Geography Teachers journal etc as well as through the publication and distribution of a leaflet.

The inclusion of academic papers, research reports, field data etc on a Rùm website would allow educational institutes (at most levels) to use this material for study on or off the island. Vignettes outlining on-going environmental projects could be regularly updated in order to maintain contacts with previous user groups and to provide data sources for students and pupils wishing to access live data for school-based research, prior to or subsequent to a visit to the island. Meteorological records have been mentioned as one possibility, as have a range of biological and geological projects. The progress of the Sea Eagle reintroduction programme would be of wide interest. A 'What's New on Rùm?' panel would keep people up-to-date with people, events and records. The year by year reforestation statistics, together with parallel changes in fauna and ground flora is another source for distant learners. Indeed field data could be used in a purely academic way allowing classes which are not planning to visit the island to be set the task of analysing and reviewing real data.

As noted earlier this website would also be an appropriate means of accessing booking information such as accommodation availability and would provide details of all resources which could be accessed by educational groups and other visitors to the island. The role of the Teacher/Naturalist should also be fully explained to avoid misunderstandings. Whilst such a site could also include booking forms for booking accommodation etc personal contact with island staff is vital and so the site should be used in support of staff rather than exclusively.

Whilst it could be argued that some may use the website rather than visit the island, it seems more likely that such a facility would stimulate interest as well as discharging the role of SNH in dissemination and education.

*Promotional activities:* During quieter times of the year visits could be organised for teachers, lecturers and private operators to come to the island. Local Education Authorities could be asked to select and sponsor teachers for a weekend induction course. Whilst a visit is the ideal, the difficulty of getting to the island and back in a weekend would be a major deterrent. An alternative would be to host seminars promoting the potential of the island at various regional SNH offices. Rùm is so interesting and photogenic that it should be possible to make such events lively and interesting.

Visits by SNH staff to schools: a 'road show' could travel to meet selected or interested groups of teachers. The teacher/Naturalist would be the ideal person to take on this role and should be more available to do so outside the peak visitor season. An excellent annual venue is the Edinburgh International Science Festival which takes place each spring. Others might include the annual 'Wildlife and Countryside Fairs' at Vane Farm and Rutland Water (organised by the RSPB and other organisations).

Such activities could extend to running in-service training courses through SNH or in collaboration with other bodies. Close liaison with the SWT Officer on Eigg and their NTS counterpart on Canna should prove profitable for all the Small Isles.

### **Education/Training and Demonstration Opportunities**

As indicated earlier, the value of environmental education on Rùm extends to its context in the Small Isles and further afield. Integrated environmental education projects on the island could have benefits as demonstrations in such contexts and play a significant role in addressing SNH objectives throughout the Highlands and Islands. To best accomplish this, exemplar programmes could be prepared and summaries of these made available through the Rùm website and in 'hard copy'. These should be at each level of study (primary, secondary and tertiary) but also for the general day visitor and for transfer to other communities. This could be a substantial piece of work in its own right, but in the context of the present plan we recommend that this initially be restricted to brief outlines stressing integrated studies involving the natural heritage, human history/community and environmental management. This would be a responsibility of the Teacher/Naturalist.

The practical management of the island involves 'agricultural/upland practice' (of an innovative type such as the use of Highland cattle for habitat management, tree-nursery work, regeneration of native woodland, deer management), and practical rural crafts (eg dry-stane dyking, path creation and maintenance). Such activities could be promoted for their training and demonstration benefits through courses on the island but in some cases also through the website.

As noted earlier there are already opportunities for educational opportunities involving rural crafts. Any such activities should be promoted through the website and links established with appropriate organisations.

The responsibilities of SNH and the potential for the demonstration of sustainable practice are discussed earlier, below and in Appendix 10. Any building project or modification to energy, sewerage or other service should take account of this. This should of course extend to any environmental education facilities on the island. Links may be established with interested parties such as the Centre for Alternative Technology etc. In all such cases, opportunities for good practice to be demonstrated should be grasped and every effort made to publicise and promote them.

### **Reserve management and its relationship with educational groups**

#### ***Sensitivity of habitats and species***

In recent years reports of erosion on gabbro tops, fixed quadrat damage and trampling of shearwater burrows have highlighted the sensitivity of 'the greens'. As no accurate figure for breeding pairs exists as a baseline, impact cannot be assessed. Other nesting birds are sensitive to disturbance. Red-throated divers will desert nest sites if approached. Raptors, particularly peregrines and eagles where productivity is very low are equally sensitive. Amongst the auks, guillemots as ledge nesters can lose eggs and small young into the sea when adults 'explode'. Thus seabird colonies should be approached if at all with caution.

Whilst there is no intention to cause damage through repeated use, field study groups tend to overuse convenient sites. This may simply be the result of the perception that 'our group only visits here once a year, so there can be no problem with overuse', or simply ignorance of alternative venues. Overuse is readily apparent at the Deer Park pond and on the south-shore littoral zone. There are other local options and groups could be guided to use these by the Teacher/Naturalist.

For many years a justification, with good cause, for prohibiting access to the Kilmory study area was the disruption of red-deer studies. The recent decision to establish a presumption in favour of access at Kilmory is welcome and groups will increasingly take advantage of the opportunities to visit this interesting part of the island.

#### ***Channelling***

Whilst restrictions on visiting sensitive areas vary according to season and research activities, there will always be management justifications for applying them. The policy of presumption in favour of access must of course be maintained, whilst the imposition of *bona fide* restrictions will need constant review, and the need for explanation, justification, liaison and diplomacy will occur at times.

The Kinloch area will always bear the brunt of the pressure from educational activities, and this is not without advantages. Much alteration has occurred already around Loch Scresort. Here there can be tighter supervision and control. For students there is nearby shelter in bad weather. Help and assistance if needed is close at hand. Time is not 'wasted' in travel by foot. Staff will need to have sites to recommend for various studies, sacrificial if need be. Recommended locations as well as 'out of bounds' areas will have to be identified. Locations at other areas on the island should also be recommended for some activities. Besides being a useful management tactic this should also be seen as an effort to guide groups and individuals to quality locations appropriate to their interests.

#### ***Monitoring Impact***

If an effort to secure an increase in educational groups and informal visitors to the island is successful, there will inevitably be an impact on some sensitive areas and there will be also implications for the services (electricity, fuel, sewerage etc). It is important to keep in mind that this is a National Nature Reserve and that the protection of habitats is of paramount importance. Therefore, an early objective of the Teacher/Naturalist would be to establish baseline data for sensitive areas, either from existing records or through direct evaluation. In such a venture, visiting groups would be a useful resource as, with a little encouragement, studies could be devised to do this. The recording of species and details of habitats at an appropriate level is already an element of educational fieldwork, and part of many educational visits to Rùm. The Teacher/Naturalist should make prior selections of specific projects for teachers in need of ideas or alternatives.

The impact of a group on the island might be the subject of an environmental impact assessment and personal environmental audit. The provision of resources to stimulate such studies (eg questionnaires) would help group leaders and focus the interest of visitors on local conservation and broader environmental issues. The evaluation of transport costs and the conversion of oil used into environmental costs would be a worthwhile extension to such work. As with the habitat and species data, such information could also prove valuable to SNH and could feature on the website.

Even though students may change, visiting staff will find satisfaction in long-term projects. In some cases studies have been pursued by visiting lecturers or teachers over decades, providing valuable monitoring information and research data. Such activities help frequent visitors to develop an allegiance to the island, bringing benefits for Rùm and students alike.

### *Sustainability*

The energy needs of a growing community of visitors and residents has always been a concern. For both practical and philosophical reasons there is an increasing urgency in the search for sustainable and renewable sources of energy. One or more wind turbines in the vicinity of the old radio hut would be near enough for maintenance and away from human traffic. The wind will almost always be adequate! It is worth noting that the RSPB have installed wind turbines to supply all the power needs of the bird observatories at Fair Isle and North Ronaldsay. Whilst it is unlikely that sustainable energy sources could satisfy all the needs of the island and provide a back-up, the notion that such an approach might at least provide energy for a field-centre (if one is to be built) or other public building should not be discounted. The educational benefits of using such visible evidence of commitment to sustainability are considerable (see below).

Any future building design should take a long-term financial view to justify initial costs. Energy saving design is no longer high-cost. A responsibility for education for sustainability using 'architecture as pedagogy' model has been mentioned elsewhere (Appendix 10). A change in emphasis towards sustainable practices is now in train with improvements in waste disposal, installation of heating system governors and continued and extensive use of low energy light bulbs. This is welcomed and the effort must be maintained as SNH will (for good or ill!) be a national role model.

## **Links with Other Management Objectives**

As with other NNRs education is considered to be an important objective on the island of Rùm. All recent policy statements relating to the Isle of Rùm, including the 1998-2008 Management Plan, stress the importance of an integrated approach to SNH objectives (conservation, research, environmental management, education and community development) on the island. Any environmental education plan must take account of these and the desire to promote an integrated approach. In this light the plan must raise awareness of these aspects of the overall management of the island, promote education about the purpose of each and how they are related. Of particular importance must be the ways in which environmental education can help understanding of conservation and environmental management and how communities relate with these objectives. Although education feature so highly in such considerations, access to areas for such purposes must, in the case of sensitive habitats or species, take second place to conservation interests. Most visitors would accept this but there is a clear role for all SHN staff who engage with the public in addressing this issue with sensitivity.

A 'code of conduct' should also be incorporated into the plan and it should have a high profile. This should request visitors to behave in ways which are sensitive to the conservation, environmental management and community objectives of SNH on the island. These issues are addressed in the current proposal, but much of the responsibility for implementation will be left to the Teacher/Naturalist and other SNH staff on and off the island. In this light it should be the role of the Teacher/Naturalist, in collaboration with the Reserve Manager to ensure that all staff (full-time and sessional) are well briefed. Liaison with the local community will also be a key element of this to ensure a good understanding of environmental education as a central responsibility of SNH on the island.

## **Interpretation**

There is clearly a continuum involving environmental education and interpretation. In this report, formal environmental education may be seen as the curricular work of universities, colleges and schools and this may be thought of as one end of the continuum. At the other end of such a notional line, 'interpretation' is intended to provoke to visitor, no matter what their reason for being there, to think about what they see and to help them understand. Whilst such a description may conjure up an image of the passing tourist, there is in essence no reason why such provision would not also be of use or interest to students on academic courses on the island. In this context good environmental education and good interpretation complement each other. As interpretation is the subject of another report we do not intend to elaborate further at this point, but in the context of such planning for the island it is obvious that the two should be considered together.

## **Monitoring Environmental Education**

It is clearly important that the effectiveness of both 'formal' and 'informal' environmental education is monitored as success will be defined by visitor satisfaction. Whilst it is not realistic to assess what visitors have learnt or how their feelings about the natural heritage, NNRs etc have changed as a result of a visit to Rùm, it is possible to evaluate satisfaction. The most obvious question to address is 'what environmental education opportunities or facilities provided by SNH on the

island have been successful?'. To address this the defined user groups must all be targeted, and the opportunities for gathering useful information identified. Clearly this could be the work of SNH staff or an independent contractor and the nature of the evaluation possible is closely linked to such arrangements.

The easiest sector from which to gather information are those groups who visit the island for educational or recreational purposes. It is likely that group leaders will liaise with the Teacher/Naturalist at various stages of their visit as well as at the start and finish. It should be the role of the Teacher/Naturalist to identify what information is to be collected and to ask for the assistance of the groups in this work. The request to group members to fill in a brief questionnaire will be more likely to bring a high return rate if they have some relationship with the person requesting this. To this end, staff time allocated to debriefing at or shortly before departure will pay dividends and also 'keep a finger on the pulse' of visitor satisfaction.

It may be more difficult to engage with independent visitors, but a presence at the pier and at evening lectures should go some way towards encouraging feedback and responses to questionnaires. Also there should be reply paid questionnaires available at public places on the island (the castle and hostel etc) and on the ferries. Additional unsolicited feedback gleaned from letters, phone-calls, e-mails should be collated and together with data from questionnaires presented in an annual review. Such a commitment is particularly important in the year of introduction of the plan.

The Rùm Liaison Group has a representative of the users from the formal education sector. In our survey of educational users it was evident that none had engaged in any discussions with this individual. Whilst there may be a number of reasons for this, such a link with the island is extremely worthwhile and an effort is required to ensure that it works. One solution may be to appoint two individuals, one with a bias towards research and the other towards education. More effort would be needed to find suitable representatives from the informal/recreational visitors to the island. However, it should be possible to find a committed individual (perhaps from a mountaineering club or commercial company specialising in guided walks) who would act as a representative. In all cases it should be made clear that it is an important responsibility of these individuals to be representative of other users. A clear brief would have to be prepared (by the Teacher/Naturalist) and the effectiveness of liaison monitored. Members of the local community will also have a view on the implementation and effectiveness of the plan, and as they are represented on the Liaison Group community perspectives should be readily solicited.

The advantages of encouraging long-term connections with users are significant. Such individuals are more likely to feel a sense of involvement and ownership and are therefore more likely to respond. They will also be able to voice an opinion on the long-term developments and trends.



## 6. SUMMARY OF RECOMMENDATIONS

*'We have the opportunity today in the Scottish Highlands to turn around those processes which have done so much damage both to the area's people and to its natural environment. All of us with an interest in the Highlands – established residents, incomers, environmentalists and others – could readily resolve to work together for the region's general benefit.'*

James Hunter, 1995: 176  
On the Other Side of Sorrow

*'If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them.'*

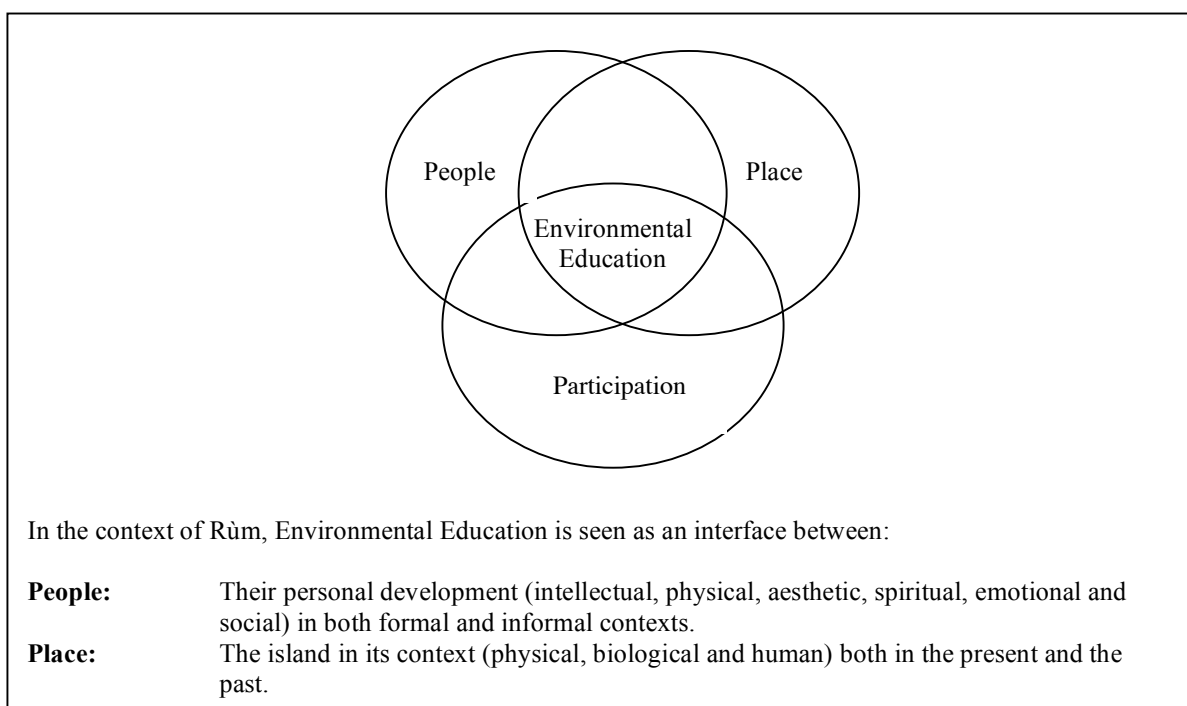
Henry David Thoreau, 1854  
Walden

### Recommendations on Options

Within the proposals outlined there are a range of options which are limited by finance, staff or other resource constraints. There may also be time-limiting factors to take into account. The Heritage Lottery Fund (HLF) bid and its successful outcome will be crucial to the inclusion of all major proposals because of cost implications, but even without the HLF funding, SNH will have declared its intent, and there will be some expectation that a modified proposal might be funded internally. We have suggested priorities (Appendix 11) but are not in a position to estimate the costs of options. These should be agreed through dialogue with SNH staff on the island. Recommendations can be summarised below.

The following figure may be seen as a way of ensuring that all dimensions of environmental education are considered in any planning for such provision.

**Figure 2**



### **Accommodation and Self-Catering Facilities**

There are a variety of accommodation alternatives for a stay on the reserve (castle hostel, bothies, camping). Current accommodation for informal visitors and small environmental education groups is normally arranged in the castle and is barely satisfactory even for those who are not too concerned about the limited bathroom and other facilities. However, this situation is compromised if the group wishes to use self-catering facilities when there are other visitors in the castle. We recommend that:

- the current diversity of accommodation should be maintained or enhanced;
- any sleeping accommodation needs to be flexible to allow for the gender balance and ages of the members of the group, and in the case of educational groups, to allow any staff some space of their own;
- flexibility is increased with regard to catering options, and that there is no pressure (due to lack of facilities) to use the castle bistro;
- well equipped kitchen space is provided, with nearby dining areas need to cope with the range of diverse combinations of visitors (individuals, small and larger groups all present at the same time);
- organisers of groups should be made aware of the increased range of foods available and the option to buy all group food in bulk at a reasonable price from the Rùm store;
- hostel costs should not be increased without careful consideration of the impact;
- some form of educational grants and group discount (a percentage or 'leader stays free' system) on accommodation should both be introduced;
- the building of separate low-cost bunkhouse should be considered (possible locations are reviewed in Section 5 and Appendix 5) as this would provide both a much needed reduction in pressure on current accommodation and act as a stimulus for new visitors;
- if building separate accommodation is not possible, significant improvements to the castle are required;
- the bookings system should be simplified to two points of contact (the castle manager for the hostel and 'Stalkers Bothy', and the reserve office for all other bothies and camping) and this contact should be seen as a means of providing more information to the visitor. Visitors should be referred to the Rùm website, the publications section at Battleby etc.

### **Formal Environmental Education on the Island of Rùm**

The key requirement of such groups is **indoor work-space**. The current 'laboratory' is dark, damp, poorly equipped and unsuitable for a group of more than about ten.

- Options for improvements in the castle appear to be limited to the basement and the ground floor common room.
- Such modifications will always be a poor substitute for purpose built facilities and we recommend that an **environmental education centre** should be built and should include a field studies laboratory, meeting rooms supplied with appropriate equipment and resources. Such a project should follow principles of sustainable practice wherever possible and take note of the importance of the educational messages implicit in the construction and design of buildings (Appendix 3 and 10) and whole island approaches to sustainability.
- A limited amount of **equipment** for field studies and a basic library are required whether or not there is a purpose built centre. Suggestions for these are provided in Appendix 3 and 4.

- **Access to information** should be facilitated through libraries and the SNH information service but could also be through the use of electronic media. On the island there should be a basic library containing relevant texts.
- Examples of appropriate environmental programmes, associated support materials and details of locations etc should be prepared by the Teacher/Naturalist and made available to visiting groups.
- Visitors should be able to access this information, requiring **access to computers on the island**, preferably in any environmental education facility.
- Some of the habitats visited by groups are fragile and the use of **alternative venues** should be encouraged. A **Code of Conduct** (Appendix 2) should also be promoted.

### **Informal Environmental Education on the Island of Rùm**

Many of the visitors are not members of formal educational groups and are, nonetheless interested in and susceptible to environmental education provision. Many of the following improvements will be valuable for both the formal and informal visitors.

- Closer liaison with the **Small Isles ferries** should allow provision of relevant educational information about the seas around Rùm and the island itself. Guides to common seabird, seals, whales, dolphins etc could be provided as posters. Interesting sightings by crew-members (of whales etc) could be logged and appear on the Rùm website.
- The ferries could also provide information about the island (accommodation, management, restricted areas, evening talks, visitor facilities and services etc). Materials appropriate to arrival or departure and specific to young children could be made available (eg 'I-Spy on the Island of Rùm' cards).
- **Provision for families** is at present scant and specific activities organised for children by SNH staff or others on the island would be valuable.
- There should be a wider range of **leaflets and guides** available and these should relate to most of the popular aspects (on human history, red deer, sea bird species etc) and locations of the island.
- Regular **evening talks** in the village hall (say once or twice a week) during the main visitor season could be offered to all visitors and provide both a general overview and specialist perspectives.
- A knowledgeable member of SNH staff or the local community could offer regular short informative **walks around Kinloch** in the main season.
- **Festivals** might be arranged periodically, perhaps in association with relevant national associations or societies (eg 'bird', 'geology', 'flora and fauna', 'hill walking', 'archaeology' etc). A 'Study Rùm' weekend could prove an attraction with visiting or resident specialists providing input.
- An association such **Friends of Rùm NNR** may attract wide representation and act as a locus for various forms of development including fund-raising work parties etc.

### **Commercial Operators**

There are an increasing number of such operators visiting the island and there appears to be no 'licensing' of these. SNH liability should be reviewed and evaluation of safety and quality should be instigated, focussing on high standards of delivery.

### **Appointment of a Teacher/Naturalist**

The appointment of a Teacher/Naturalist should be seen as a priority and an essential aspect of the development of environmental education on the island. Full details of suggested responsibilities are included in Appendix 4.

### Expansion of Catchment

The calendar of educational visits is heavily skewed to a two-month period (mid-April to early-June) when the island often enjoys reasonable weather and free from midges. The options for increase in visitor number are primarily to increase the length of the visitor season, or to provide facilities (and accommodation if necessary) to increase capacity within this period. A range of suggestions are made in this report but they can be summarised as follows.

- Effort should be made to promote the island for study groups at quiet times, particularly in **late-August and September**.
- Financial inducements (in the form of **grants or discounts**) should be considered for such times of the year.
- In order to effect this links might be made with other organisations such as the Field Studies Councils, commercial operators, colleges and universities etc. Effort should be made to explore potential for a focus on **language, traditional culture and crafts**.

### Promotional Materials

- A range of **promotional materials and activities** are recommended. These include a promotional video for schools and colleges, an introductory brochure providing detailed information on the island and its potential for educational groups.
- A range of **detailed information** should be produced and this made available upon request for those bringing educational groups to the island.
- One of the most effective ways of both promoting the educational use of the island and ensuring its effective use is the development of a **Rùm Website**. This could contain much of the above information as well as relevant scientific data and published work and would be maintained by the Teacher/Naturalist.

We also suggest that if appointed the Teacher/Naturalist might consider making **promotional visits** to potential users at quiet times of the year. Similar possibilities also exist for training and demonstration work.

### Education/Training and Demonstration Opportunities

Such activities could play a significant role in addressing SNH objectives throughout the Highlands and Islands.

- ♣ **Exemplar education/training programmes** (at various levels) should be prepared and summaries of these made available through the Rùm website and in 'hard copy'.
- ♣ Other **rural activities** (farming of Highland cattle, tree-nursery work, regeneration of native woodland, deer management, dry-stane dyking, path creation and maintenance etc) could be promoted for their training and demonstration benefits.
- ♣ Opportunities involving **rural crafts** should be promoted and links established with appropriate organisations.
- ♣ **Sustainable practice** should be a cornerstone of any development and actively promoted. Links may be established with interested parties such as the Centre for Alternative Technology etc.
- ♣ All such activities should be actively promoted through the usual methods of dissemination but primarily through the SNH and proposed Rùm websites.

### SNH Obligations and Expectations

8. In the provision of facilities and services SNH must take note of certain legal obligations (eg Occupiers Liability Act 1983, Health and Safety at Work Act 1974, Activity Centres (Young Persons' Safety) Act 1995,).
9. In addition, the expectation of visitors of higher standards of provision (accommodation, other facilities and services) must be a factor requiring consideration in any developments.
10. In regard to the hazards associated with field work on the island, SNH should draw the attention of visitors to their 'On-Site Safety Guidelines' (Appendix 6)

### **Monitoring Environmental Education**

A full programme of monitoring should be initiated at the start of the implementation of the plan. All types of visitors should be asked their opinion through questionnaires and more informal feedback. The most effective way of gleaning such information is to capitalise on the opportunities provided by the ferry journey and by encouraging personal relationships with SNH island staff (through evening talks etc). The function and structure of the Rùm Liaison Group should be reviewed, and efforts made to include representatives of the formal sector actively involved in environmental education on the island, and regular informal visitors such as a mountaineering or natural history club.

## 7. ENDNOTE

The preparation of this plan has led us to conclude that SNH is at an important point in its planning for the future on the Island of Rùm. The 1998 – 2008 Management Plan sets out all key aspects of the development of the island clearly and comprehensively. It is clear that there are a number of important objectives for SNH on the island and it is difficult to prioritise these. Because of the significance of raising awareness and importance of environmental education we suggest that this should become a central focus of future SNH efforts on the island. A successful Heritage Lottery Fund bid would provide the means to achieve this in a realistic time-scale, and would we believe have significant benefits for the island community, the Small Isles and, through developments such as a website, raise awareness much farther afield.

Whilst much of this report has focussed on strategy, policy and practicality it should be remembered that environmental education on the island of Rùm is a mixed and holistic experience. There is for the visitor, a journey and a sense of adventure in reaching the island in the first place. When this is continued through the learning experiences he or she is exposed to during a visit, all the necessary components for deep, memorable and worthwhile engagement with the natural heritage are in place. Whilst some focus on the technical aspects of such learning (eg geology, biology, history) others may see the learning as more generic (intellectual, physical, emotional, aesthetic, spiritual). Such experiences in the context of Rùm have the potential to raise awareness of self, others and the environment, and can lead to a deep relationship with the place and the concept of care and stewardship of the natural heritage.

*'Then I strolled along the east shore of the bay (Kilmory) and looking over the western shoulder of Rhum saw, close at hand, the islands of Canna and Sanday. When I look back on it now I remember it as one of the most peaceful, happy days of my life.'*

R. F. MacKenzie, 1970: 91  
State School







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## **APPENDIX 1      International and National Developments and Obligations in Environmental and Sustainability Education**

### **International Developments**

Since the early 1980s there have been successive developments in international obligations to conservation which emphasised the relevance and importance of education.

It seems appropriate to start this review by considering the impact of the Scots polymath Sir Patrick Geddes (1854-1932) who, based primarily in Dundee and Edinburgh formed the Environment Society (1884) and is widely acknowledged as the originator of the concept, if not the term, 'sustainability'. His influence (in issues such as these, in town planning and the peace movement) stretched far beyond Scotland and his work on educational philosophy still has resonances today. He argued that rather than focus on the three 'R's (Reading wRiting and aRithmetic) education should concentrate on the development of the three 'H's (Heart, Hand and Head). This concept of the integration of affective and intellectual learning with a physical dimension is an appropriate point of departure for the philosophy and practice of environmental education. (See Boardman (1978) for a review of Geddes and his work)

Such conceptual considerations have found more concrete manifestation in successive international educational initiatives and agreements. In 1980 the *World Conservation Strategy* was published which introduced the concept of 'sustainable development' (IUCN, 1980). In it was a recognition that human well-being was linked to the maintenance of life-support systems, the maintenance of biodiversity and the sustainable use of natural resources.

Later, the concept of 'sustainable development' was reinforced with the publication in 1987 of the *Brundtland Report*, the purpose of which was 'to reconcile environment with development, thus reinforcing and extending the core message of the *World Conservation Strategy*' (Palmer, 1998: 16). Smyth (1995: 12) says it also 'advocated participation in environmental action as an educational strategy for achieving its aims...'. The document also suggested that an immediate follow up report should be undertaken to maintain strategic momentum.

Taking a lead from this recommendation and in response to increasing public and political concerns the United Nations arranged a conference in Rio de Janeiro (1992) which was a milestone in acknowledging the environmental problems facing the Earth. The United Nations Conference on Environment and Development (UNCED) resulted in the agreement of participating nations (including the UK) on a number of environmental issues which all would address. A central commitment was the adoption of Agenda 21 (UN, 1992) which is an action plan for progress. The importance of education to this plan is indicated in its presence as a theme in all chapters of the document, the presence of a chapter devoted to it (Chapter 36) and it's frequency of use. In the document 'education' appeared only second in frequency to the word 'government' (Smyth et al, 1997: 173).

At Rio, in addition to Agenda 21 a commitment was made to draft and subsequently ratify a 'Convention on Climate Change' a 'Convention on Biological Diversity', and to establish a 'Commission for Sustainable Development' (CSD). This was as a

result of awareness that each of the UN agencies (WHO, FAO etc) has a 'sustainability' remit, but that 'sustainability' requires integrated action. The purpose of the CSD is to ensure that 'sustainable development' is a core element of the work of each of the UN organisations. Under Agenda 21 one of the four priorities identified was 'Education, Public Awareness and Training for Sustainability'. In the eight years which have elapsed since Rio there seems to have been slow progress in raising sustainability as an educational priority and this has been mirrored by a similar situation for Local Agenda 21. The main impediments seem to be a lack of curricular space for sustainability and a lack of specialist training amongst teachers and allied professions (Kirk and Higgins, 2000).

### **National Developments**

In the period since the purchase of Rùm for the nation there have been a number of significant Scottish and UK developments in environmental and sustainability education. Indeed, Scotland is viewed internationally as being at the forefront of such developments (Smyth et al, 1997; Kirk and Higgins, 2000).

In 1965 environmental understanding was promoted in the policy document *Primary Education in Scotland*. Whilst not specifically aimed at the outdoor environment there is a recognition that the school plays only a part of the child's education. The document states: 'ideally ... experience should be first-hand ... teachers ... should be prepared, in the quest for 'real life' experiences for their pupils, to break out of the confines of the classroom and to exploit other areas within the school and its grounds or beyond the bounds of the school altogether' (SED, 1965: 13-14).

*Nature Conservation in Britain* (1984) was the response of the NCC to the World Conservation Strategy. It identified public awareness and understanding, developed through both informal and formal education, as a major plank in the construction of a conservation ethic.

More recently the Scottish Office commissioned a report entitled *Learning for Life: a National Strategy for Environmental Education in Scotland* (1993). This comprehensive review which provided advice and guidance on ways of developing environmental educational opportunities in Scotland had, and continues to have, a significance well beyond Scotland and is frequently referred to in an international context. This report was followed in 1998 by the Scottish Environmental Education Council's *Learning to Sustain* which built on the original text and guidance and reviewed progress.

The principles of 'Agenda 21' have been welcomed in Scotland in two distinct ways. First through publications such as *Down to Earth: A Scottish Perspective on Sustainable Development* (Scottish Office, 1999) which endorses the social, economic and educational aspects of sustainable development; and second, through the publication of documents such as *The Secretary of State for Scotland's Advisory Group on Education for Sustainable Development* which focuses specifically on the educational aspects of sustainable development.

*'The purpose of education for sustainable development is to equip people with the skills, knowledge and understanding to help them to take better informed decisions, whether corporately on behalf of others or individually in their own lives, and to act in ways which are consistent with a sustainable future.'*

(Advisory Group on Education for Sustainable Development, 1999)

This statement shares curricular similarities with the *5-14 Environmental Studies* document which states that 'pupils should gradually develop positive attitudes towards the environment and a personal code of environmental values' (SOED, 1993: 44-45). Such statements are reinforced by a wide range of Non-Governmental Organisations such as the RSPB, WWF etc.





## APPENDIX 2      **Code of Conduct for Visiting Groups.**

Many organisations representing various interest groups have produced codes of conduct. They include geologists, entomologists, ornithologists, rambles, mountaineers, and many others. An amalgam of the main themes amongst these codes follows.

### **1.      Responsibility to one's self, one's party and to other people:**

Be appropriately equipped for the planned activity:

- ♣ clothing and footwear
- ♣ maps and compass
- ♣ spare clothing and food
- ♣ leave route cards at the White House or details with responsible party

Check weather forecasts and implications for mountains:

- ♣ be aware of tide times and implications for cliffs, and sand bars etc
- ♣ be aware of the limitations and experience of yourself and your party

Understand the limitations of the island rescue and medical facilities and have knowledge of prohibitions and restricted access areas:

- ♣ the nearest mountain rescue team is in Fort William
- ♣ the nearest hospital is in Inverness
- ♣ no wild camping
- ♣ bothies must be booked
- ♣ maintain awareness of limitations on access through White House notice-boards or staff

Unsociable behaviour is incompatible with a National Nature Reserve and the solitude that most visitors seek.

Leave no litter. Take recyclable materials home with you, and put other rubbish in the appropriate bins for disposal.

### **2.      Awareness of the rights and needs of local people:**

- ♣ respect the privacy of dwellings and gardens
- ♣ 'pass the time of day' with folk
- ♣ discover what management tasks are in progress and how that might limit your intentions
- ♣ close gates, taking particular care to do so to the deer enclosure.

### **3.      Protection of species and habitats:**

Acquaint yourself with which species and habitats are vulnerable to disturbance or trampling. This applies particularly to nesting birds, calving deer and flowering plants. It is illegal to approach, collect or pick certain species. Don't light fires.

**4. Access and rights of way:**

There is a general right of responsible access on the island but nevertheless some areas are sensitive. Access restrictions may be imposed, sometimes with little notice. Other restrictions are seasonal. Consult the White House notice-board or staff for details of both seasonal and specific restrictions.

**5. Collections and field studies:**

Drawing, sketching, photographing and writing descriptive notes are acceptable ways to 'collect' species. Attempt to leave no sign of your presence.

- Don't collect rock specimens or discarded antlers.
- Trapping many species, such as shrews and birds, requires a licence.
- Replace overturned rocks from sea-shore and river studies as they were.
- If you need to temporarily remove species from their habitats return them as quickly as reasonably possible.
- Remember that the welfare of wild life is paramount. Report any fears you have about environmental damage.

### **APPENDIX 3 Principles of Learning**

1. Pupils should be actively involved in their learning.
2. Pupils should learn through the direct experience of 'real' issues and making connections.
5. Through 'systemic' thinking pupils should be encouraged to think of relationships and not just parts.
6. Throughout the learning process, pupils are actively engaged in posing questions, investigating, experimenting, being curious, solving problems, assuming responsibility, being creative, and constructing meaning.
7. People do not necessarily talk in terms of 'right' or 'wrong'. What they say can be considered as an expressions of values.
8. Emphasis should therefore be directed at the assumptions which underpin questions and answers.
9. Pupils should be encouraged to explore what values mean for them and why.
10. Programmes should cater for the affective, cognitive and physical domains.
11. The residential experience provides pupils with an opportunity to consider their own lives from a different perspective.
12. Educators must recognise and encourage spontaneous opportunities for learning.
13. Educators strive to be aware of their biases, judgements, and pre-conceptions and how they influence the learner.
14. Pupils will have the opportunity to recognise how institutional, social and cultural factors may cause people to act in ways that contradict personal and professional intentions.
15. Content links theory to practice relating the pupil's experience to school, home, community and wider society.

*(Principles 4, 10, 11 and 12 from Luckner and Nadler (1992))*





## APPENDIX 4 Appointment of a Teacher/Naturalist

### Duties

The following list is compiled to summarise these functions. It is neither exhaustive nor exclusive. Other positive roles are suggested throughout the document.

- If *escorting groups* on the hill is to be a responsibility of the appointee, then appropriate qualifications are required under the Activity Centres (Young Person's Safety Act, 1995). For travel on Rùm in summer this would be the Mountain Leadership Training Board, Mountain Leader Award.
- *Liaison with groups of users at all stages*  
This could begin with promotional visits: raising awareness amongst potential educational users. Rùm staff mounted a similar exercise in 1997 for Tourist Board staff.
- *Writing duties* will include updating pamphlets, booklets and databases for visitors. There will be a pastoral role, meeting and supervising groups of visitors and ensuring that they are aware of 'codes of conduct'.
- Production of *promotional materials* will also involve the organisation of publicity and recruitment of clients.
- The individual will be responsible for *vetting programmes and qualifications* such as relevant National Governing Body awards. Recent fatal accidents to both visitors and staff on the island have emphasised the need for circumspection and vigilance. Medical and rescue services are distant and in poor weather may not arrive promptly.
- If SNH is to provide equipment or books for field study then *an inventory and weekly monitoring* is required. Things 'walk' and deteriorate! Well-maintained and supervised facilities generate a caring attitude amongst users. The opposite is also true.
- An *interpretative function* is expected of Reserve Officers at present. The development of guided walks for casual visitors (and others) could be an extension of this. The informal opportunities for education lie mainly with casual visitors, particularly those on day visits. By personal contact as visitors step ashore or by information boards, a variety of educational activities could be offered. Self-conducted activities, such as nature trails, are one way of achieving this end. Although they have the advantage of little demand on staff time they are impersonal and inflexible. Far better to have a dedicated staff member with access to a variety of 'off the peg' solutions to requests for help. The camping/climbing fraternity too, particularly in bad weather would be inclined to take up alternative options should they be available. Slide shows-talks with subjects such as 'Rùm geology': 'Red deer management' : 'Bird life of the island' or video presentations could be available during poor weather or evenings. Guided walks, pre-planned or impromptu, could be offered around Kinloch or further afield. The settlements at Kilmory and Harris, or the Salisbury 'improvements' could be subjects for longer walks. Many of these alternative ideas are listed in the Rùm Interpretative plan

- A suitably qualified appointee will be capable of *running training courses for field workers* such as Phase 1 and 2 habitat surveys, NVC vegetation recording, Site Condition Monitoring, and other widely used survey techniques.
- The *teaching role* might be extended beyond introductory talks to include demonstration visits for managers of new forests, deer herds and other reserves.
- An experienced appointee may be able to contribute to *in-service training* of SHN staff both on and off the island and to any SNH sponsored education workshops.
- *Liaison with the local community* is an essential aspect of the work. This will allow members of the local community to be aware of what work is being undertaken and potentially stimulate interest in contributing to this. The appointee would also undertake any necessary training of local community members. Such relationships should extend to the other *small isles*, and in particular links should be developed with those with similar roles (SWT on Eigg and NTS on Canna).
- An appointee with young children would of course improve the viability of the Rùm community, but care should be taken regarding any possible discrimination issue.

In the early stages of the appointment, a greater burden connected with the establishment of environmental education facilities will fall upon the appointee. As a consequence it should be accepted that the environmental education duties should override other island responsibilities. It may be that it will only be at times of low visitor pressure that he or she will be available for additional activities. As this appointee will ultimately be answerable to the reserve manager for organising, promoting and supervising environmental education activities, the rapid appointment of this member of staff is a first essential step in scheduling this plan.

**APPENDIX 5 Opportunities for Providing Group ‘Spaces’***Kinloch village area:*

- a **The Village Hall** is the largest indoor space on the island. However, we regard it as community property, with multiple social requirements, and would be against considering it as an option.
- b **The farm, courtyard and surrounding hay barn and byres** - if available, this is a very attractive building and should be considered for renovation into a self-contained residential teaching block.
- c **The building which houses Stable, Farmhouse and Stalker’s Bothies** is already equipped for residential accommodation. It is central, sheltered and has a private open area with views. It too has considerable potential as a residential and teaching centre.
- d **The ruined tropical greenhouse** is south facing into the walled garden. It could be rebuilt and redesigned as a light and airy laboratory.
- e **The White House** - because of its central location it is probably more appropriately used as an interpretative centre and an expanded office for the reserve.
- f **The Old Dairy** is small but a conversion to a laboratory for small groups, of around eight is an option. If this is converted for another purpose, dual usage should be considered as it would allow a second group a modest facility whilst the main laboratory/teaching area was occupied.
- g **The Swimming Pool** would provide a good location for both a classroom or a laboratory.
- h **Squash court** would need complete renovation or more likely the location could be used after the building was demolished. To utilise the space fully with an upper floor would entail significant structural changes. An access footpath would be needed as would windows.

*Kinloch Castle*

- a **Basement laboratory.** This needs substantial upgrading or a conversion to other uses such as a dining room. At present it is useful for lectures for an absolute maximum of 25. As a laboratory it has space for about 12 working independently. The major drawback is that there is no daylight.
- b **Basement cellars in the NW corner.** Substantial rebuilding would be necessary, but it could be an opportunity for an additional kitchen and food storage area if the present laboratory was to become a dining room.
- c **Reading Room on the first floor.** At present it is a pleasant quiet area, which appears to be underused. Other visitors, when present, would find it a haven if other spaces are occupied. This should be retained as a quiet retreat.

- d **Common Room.** This is useful as a meeting room for groups. It has limited space as a work area except for small numbers. It does back onto the library and has a connecting corridor. Together they present another option for a self-contained area.
- e **Library.** Although small it and its contents have historic value. It could be used as quiet area or retreat without much alteration although the security of the contents would need to be assured.
- f **Ballroom.** It is the largest space which could conceivably be used in the castle. It is poorly lit and the sprung floor must be of architectural interest. As a meeting/ lecture room it does offer options for larger groups.
- g **Former Conservatory on south wing.** This could be custom built again in the original style. There is a competitive climate in contracting for this kind of structure at present.
- h **Empire Room.** This has considerable historical value and is vulnerable to wear and tear if used as a meeting room. Is it acceptable to convert it to other uses?
- i **Bistro.** At present the 'bistro' serves a key purpose in a convenient location. However, if dining facilities are relocated elsewhere it could prove very useful for a laboratory/teaching area or as a further cooking/dining area.

## APPENDIX 6 Rùm National Nature Reserve On-Site Safety Guidance

When you are away from Kinloch you should exercise caution as the terrain and weather can be hazardous. There is no Mountain Rescue Team on the island and in the event of an accident it can take considerable time for help to arrive. Although serious accidents are rare, individuals and groups can underestimate the hazards and there have been fatalities. All visitors, volunteers and contractors should give special attention to the following site-specific points.

### Terrain and Hazards

Rùm National Nature Reserve is dominated by upland bog, rocky peaks, inland cliffs and scree. Much of the island is surrounded by steep sea cliffs. The terrain is very uneven with steep and broken ground, wet and boggy areas. The altitude varies from sea level to over 800 metres. Crossing it can be made more difficult with the presence of ground water, ice and occasionally snow.

It is easy to become **disorientated** on the island particularly if misty or foggy or if the weather closes in. Always be guided by the weather forecast. This can be obtained at the Reserve Office each morning. Pre-plan the route and always have a bad weather alternative or escape route planned. Remember to check the tide and be aware of whether it is going in or out if working anywhere near the sea.

During autumn, winter and spring **hypothermia** is a distinct possibility. During cold weather additional clothing should be taken when going out. Remember that the altitude rises to over 800 metres and whilst it may seem mild at Kinloch, conditions on the higher ground or over the other side of the island may be completely different. During hot summers both **sunburn** and **heat exhaustion** are likely. A sun hat, sun block and plenty of water should be taken with you if the weather is likely to be hot.

The **midges** on Rùm NNR are known to be amongst the fiercest in Scotland! Between May and September be aware that midges may limit your activities, especially in damp, warm weather. The use of protective 'midge nets' is essential in such conditions.

### Clothing and Equipment

Please ensure that you wear appropriate footwear and clothing and you carry all necessary equipment (eg compass, map, whistle and torch, extra food and drink). Remember, the technical equipment you carry is of no use unless you know how to use it! When travelling in 'wild country' a full first-aid kit and emergency blanket should also be carried in case of an emergency.

### Communications

Whether alone or in a small group some form of communication should be carried eg flares and mobile phone or radio etc. In an emergency this could prove vital! Please note that mobile phone reception is very patchy on the island and so **mobile phones cannot be relied upon on Rùm.**

## **Route Cards**

As the only habitation on the island is at Kinloch we operate a **route card** system on the island. When leaving Kinloch village please fill out a card showing your planned route, the number in your party and your intended return time. These cards are found in the route card box beside the Reserve Office. When you complete the card be realistic about your journey times. Off the main paths travel can be physically demanding and slow. Always allow plenty of time to come down off the hill.

## **Restricted Areas**

As a National Nature Reserve there are times when we ask you to avoid certain areas to prevent disturbance or damage to plants and wildlife. Restrictions are posted outside the Reserve Office and please plan your journey accordingly.

**Deer stalking** on the island is carried out in July – August and October – November. Please check the access board outside the Reserve Office for restrictions each morning before going out.

## **EMERGENCY PROCEDURE**

If you are expecting a person or party to return and they are overdue you should initially contact the Reserve Office.

In the event of an emergency when you are away from Kinloch you should raise the alarm. If you have a mobile phone or radio make initial contact with the Reserve Office or the Emergency Services.

Only if this form of communication is impossible, use flares.

The nearest Mountain Rescue Team is in Fort William and the nearest Hospital capable of dealing with serious injuries is in Inverness.

Emergency Services – Tel: 999

Rùm NNR Reserve Office – Tel: 01687 462026

Emergency Contact Outside Office Hours – Tel: 01687 462580 / 462037

## **Footnote**

This guidance is in addition to the legal requirements contained in the General Conditions provided by SNH for contractors all persons, including volunteers and visitors going out on the NNR.

## APPENDIX 7      **Book List**

### **Rùm - General and Historical**

Magnusson, M. (1997) *Rùm: Nature's Isle*. . Edinburgh: Luath.

Cameron, A. (1988) *Bare Feet and Tackety Boots*. . Edinburgh: Luath

Clutton-Brock ,T. & Ball, M. (1987) *Rhum: The natural history of an island*. Edinburgh: Edinburgh University Press

Johnson, S. (1775) *A Journey to the Western Isles of Scotland*. Oxford. (facsimile editions published together by Oxford paperbacks 1970 edited by R.W. Chapman)

Boswell, J. (1786) *The Journal of a Tour to the Hebrides with Samuel Johnson LLB*. 3rd. Ed. Oxford. (Facsimile editions published together by Oxford paperbacks 1970 edited by R.W. Chapman)

Ritchie, G. & Harman, M. (1985) *Exploring Scotland's Heritage - Argyll the Western Isles*. HMSO.

Stewart, K. (1980) *Crofts and Crofting*. Edinburgh. Blackwood:

SNH (1998) *Rùm National Nature Reserve Management Plan 1998-2008*. Main authors, Walters, J., Curry, M. and Payne, S. Edinburgh: SNH.

Hunter, J. (1976) *The Making of the Crofting Community*. Edinburgh: John Donald:

Pennant, T. (1979) *A Tour of Scotland, 1769*. Perth: Melven: - facsimile,

Prebble, J. (1963) *The Highland Clearances*. London: Secker & Warburg.

Love, J. (1983) *The Isle of Rhum*. Fort William: Nevisprint.

### **Biology**

Brooks, S. (1997) *Field Guide to Dragonflies and Damselflies*. Rotherwick: British Wildlife Publishing.

Cremona, J. (1988) *A field Atlas of the seashore*. Cambridge: CUP.

Dobson, F. (1999) *Lichens- an illustrated guide*. Slough: Richmond Publishing.

Hubbard, C. (1968) *Grasses*. Harmondsworth: Pelican (Penguin Books).

Jermy, C. (1994) *British Sedges*. London: Botanical Society of the British Isles.

Love, J. A. (1983) *The Return of the Sea Eagle*. Cambridge: CU P.

Rose, F. (1991) *The Wild Flower Key*. Harmondsworth: Frederick Warne (Penguin Books)

Rose, F. (1995) *Field guide to ferns, grasses, rushes and sedges*. Harmondsworth: Viking (Penguin Books).

Stace, C. (1991) *New Flora of the British Isles*. Cambridge: CUP.

Watson, E. (1957) *British Mosses and Liverworts*. Cambridge: CUP.

Collins field guides are usually of high quality and the titles on *Insects* (Chinery), *Mammals* (Macdonald, D. & Barrett, P.), *Seashore* (Barrett, J. & Yonge, C. M.), *Birds* (Mullarney, K. et al), *Fungi* (Buczacki, S.), *Land Snails* (Kerney, M. et al) etc. should be held in a reference library.

FWBA guides to Freshwater organisms, *Leeches, Triclad, Ephemeroptera - nymphs and adults, Plecoptera, Caddis larvae, Hemiptera, Copeopods, Cladocera*, etc. Prices range from c. £ 8 - £20 depending upon the age of the publication

Aidgap keys from the Field Studies Council- *British Sawflies, Red Algae, Brown Algae, Water Beetles, British Spiders, Slugs*, etc. Prices average £ 18.

Richmond Publishing - c. 25 titles @ £10 for paperback editions on groups such as *Ladybirds, Bumble Bees, Dragonflies, Hoverflies, Ground beetles, Ants, Plant galls* etc.

Mitchell Beazley field guides @ c. £6 for *Trees* (Rushforth, K.), *Butterflies* (Whalley, P.),

(Off-prints of historically important papers from Quarterly J. of Forestry, Bird Study, Scottish Birds etc on Shearwaters, Golden Eagle, Sea Eagle introductions, Wormell's paper on Insects, reforestation etc.

## **Geography and Geology**

Emeleus, C. H. & Forster, R. (1979) *Tertiary Igneous Rocks of Rhum*. Edinburgh: NCC.

Dackombe, R.V. and Gardiner, V. (1997) *Geomorphological Field Manual*. London: Allen and Unwin.

St.John, P. and Richardson, D. (1997) *Methods of Presenting Fieldwork Data*. Geographical Association.

St.John, P. and Richardson, D. (1997) *Methods of Statistical Analysis of Fieldwork Data*. Geographical Association.

Glynn, P. (1988) *Fieldwork Firsthand*. Thirsk: Crakehill Press.

Warn, S. (1986) *Landforms*. Exeter: Arnold Wheaton.

Warn, S. (1986) *The Natural Environment*. Exeter: Arnold Wheaton.

Matthews, H. and Foster, I. (1989) *Geographical Data - Sources, Presentation and Analysis*. Oxford: Oxford University Press.

Frew, J. (1993) *Advanced Geography Fieldwork*. Hong Kong: Nelson.

Witherick, M. (2000) *Skills and Techniques for Geography A Level*. Cheltenham: Nelson.

Warn, S. and Holmes, D. (2001) *Fieldwork Investigations*. London: Hodder and Stoughton.

Miller, G. (2000) *Fieldwork Ideas in Action*. London: Hodder and Stoughton.

### **Education, Environmental Education and Sustainability**

Abram, D. (1997) *The Spell of the Sensuous*. New York: Vintage.

Advisory Group on Education for Sustainable Development (1999) *Scotland the Sustainable? The Learning Process: Action for the Scottish Parliament*. Edinburgh: The Scottish Office.

Agenda 21. The United Nations Conference on Environment and Development. (1992) *Earth Summit '92*. London: The Regency Press.

Boardman, P. (1978) *The Worlds of Patrick Geddes: Biologist, Town planner, Re-educator, peace warrior*. London: Routledge and Kegan Paul.

Bowers, C. A. (1993) *Education, Cultural Myths and the Ecological Crisis*. Albany: State University of New York Press.

Carson, R. (1965) *Silent Spring*. London: Penguin.

Drasdo, H. (1973) *Education and the Mountain Centres*. Llanrwst: Tyddyn Gabriel.

Huckle, J. and Sterling, S. (eds) (1996) *Education for Sustainability*. London: Earthscan.

Hunt, J. (ed) (1989) *In Search of Adventure*. Bournemouth: Talbot Adair Press.

International Union for the Conservation of Nature, United Nations Environment Programme and World Wildlife Fund. (1980) *World Conservation Strategy*. Switzerland: IUCN.

International Union for the Conservation of Nature, United Nations Environment Programme and the World Wide Fund For Nature. (1991) *Caring for the Earth: A Strategy for Sustainable Living*. Switzerland: IUCN.

Keighley, P. (1998) *Learning Through First Hand Experience Out of Doors. The Contribution Which Outdoor Education can Make to Children's Learning as part of the National Curriculum*. Penrith: National Association for Outdoor Education.

Leopold, A. (1989) *A Sand County Almanac* (special commemorative edition). Oxford: Oxford University Press.

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**APPENDIX 8 Field Studies Equipment List**

The list does not include chemicals and reagents which are difficult to store and small items which disappear easily.

Binocular microscopes (x4) inclined, student	PH @ £135	540.00
Monocular compound microscopes (x2) student	PH @ £72	144.00
A selection of laminated maps:		
physical features	1: 10,000, 4 sheets (x2)	SNH
	1: 25,000, (x4) flat	O.S. @ £7
	1: 50,000, (x6) flat	O.S. @ £6
	geology, solid	1: 10,000, (x2) SNH
geology, drift	1: 10,000, (x2)	SNH
vegetation	1: 10,000, (x2)	SNH
Laminating	c. £2 per map x 18	36.00
Slide projector, Elite	PH @ £182	182.00
plus magazines (3)	PH @ £3.58	10.74
Retract. Projection Screen	PH @ £82	82.00
Projector OHT, Elite	PH @ £165	165.00
Flip chart easel and spare pad	Boone easel	50.00
Tops easel carton		22.00
VCR and monitor	Comet @ £350	350.00
PC and software for graphics and statistics.	PC World @ £600	600.00
Quadrats, metal, 50cm (x4)	PH @ £12.36	49.44
Nets, aquatic (x4)	PH @ £41.18	164.72
Pooter, plastic (x6)	PH @ £3	18.00
Nets, insect sweep, (x2)	Marris nets @ £18	36.00
Plastic buckets and trays		
Digital balance	PH @ £40	40.00
Binoculars (armoured) c.8x21, (x6 pairs)	PH @ £30	180.00
Photocopier	Canon Office	375.00
Mapping table		
Portable Moth trap	PH @ £123.82	123.82
Anderson traps (x10)	PH @ £50	500.00
Tape measures - 50 metres (x2)	Geo @ £16.99	34.00
Tape measures - 30 metres (x2)	Geo @ £10.99	22.00
Abney Level (x3)	PH @ £92.38	277.14
Plastic inside / outside calliper (x3)	Geo @ £7.99	24.00
Advanced flow meter and anemometer (x2)	Geo @ £189.98	380.00
Ranging poles (set of six) (x2)	Geo @ £49.99	100.00
Gradometer	Geo @ £ 34.99	35.00
Plastic metre rules (x10)	PH @ £2.67	26.70
Sediment sieves	PH @ £59.99	60.00

**Total cost of items listed = c. £4700**

**SUPPLIERS**

Geo - Geopacks 92 –104 Carnwath Road, London SW6 3 HW  
PH - Philip Harris, North Caldeen Road, Calder St, Coatbridge,  
Lanarkshire, ML6 4EF  
O.S. - The Stationery Office Bookshop, Lothian Road, Edinburgh  
Marris House Nets, 54 Richmond Park Avenue, Bournemouth,  
BH8 9DR

**Additionally:-**

Datalogging sensors, loggers, automated weather stations, laptops and software could also be considered necessary. Campbell Scientific, The Davis Corporation and Philip Harris can provide more details.

Long term monitoring sites would require initial funding for basic infrastructure and custom designed monitoring equipment.

## APPENDIX 9      **Field Study within the Scottish Schools Curriculum**

The latest guidelines for the primary/lower secondary curriculum explain a hierarchy of out of class experiences within Environmental Studies. The residential experience is recognised as the most challenging of the suggested learning opportunities.

*'The world beyond the classroom has many rich contexts for learning and teaching that allow teachers and pupils to draw upon a wide range of evidence and a variety of first hand experiences. The development of informed attitudes to contemporary and future environmental issues can be enhanced when pupils gain direct access to the world outside the school. Learning beyond the classroom offers pupils the opportunity to confront the real world and gather real evidence, allowing them to enjoy, sample and interact with the environment in a controlled way. Providing pupils with genuine personal experiences of natural habitats as well as opportunities to engage in activities or pursuits in an outdoor environment results in memorable learning experiences. These experiences should form the basis of best practice in the science and social subject components of environmental studies.'*

(5-14 National Guidelines – Guide for Teachers and Managers  
Learning and Teaching Scotland - 2000).

In science and the social subjects the skill strands include:

- Preparing for tasks – planning tasks in a systematic way, predicting and fair testing;
- Carrying out tasks – observing, measuring, recording, processing and evaluating;
- Reviewing and reporting on tasks – interpreting data, presenting findings.

Fieldwork offers a wonderful opportunity for pupils to develop an awareness of social and environmental responsibility, an important element of the strand dealing with informed attitudes.

Though Rùm is remote from large centres of population, the potential and the need to introduce worthwhile experience at an early age should not be forgotten. All agencies involved with the countryside have a duty to ensure that Scottish children appreciate and value their own cultural and scenic heritage. History and Modern studies elements place a clear focus on the Scottish context in terms of comparative lifestyles and significant events such as the end of the Jacobite rebellions leading to the destruction of the Highland way of life. The influence of the Victorians on rural Scotland is another suggested topic where Rùm could provide valuable case studies. The community of the island may be encouraged to form links with visiting groups so that children might better appreciate the advantages and disadvantages of island life.

Most middle secondary children are offered residential fieldwork as an additional learning experience within Standard Grade courses in Geography and Biology. The fact that majority of Scottish secondary schools are prepared to make the long overland trip to the Alps may be explained by the lack of alternatives at home. Family holidays abroad add to the lack of knowledge and experience of their own country apparent in many Lowland children.

Standard Grade and Higher Still require that children become familiar with certain enquiry skills and geographical methods and techniques. Though it is not essential, many teachers see the need to demonstrate the application of these skills in the field. Pressures within the syllabus and the demands of other subjects usually limit this work to one week in S3/4 and one week in S5. The HMI report 'Effective Learning and Teaching in Scottish Secondary Schools - Geography (1995)', describes the disparate nature of fieldwork under non-prescription from examining authorities.

Advanced Higher Still will offer students more opportunity to spend time in the field and it is probably at this level that Rùm could offer an appropriate location. These students undertake a 40 hour taught course on 'Geographical Methods and Techniques' then apply these within a 3000 word assignment on a specific area. If Rùm could provide the infrastructure for this work in terms of affordable accommodation, equipment and study facilities the potential for low season income generation would be considerable.

The general demise of fieldwork for Upper Secondary children in Scotland is, regrettably linked to changes in the curriculum in recent years. Many schools have turned to A-Level syllabuses with their compulsory fieldwork elements such as OCR - Syllabus B and EdExcel - Syllabus B. These schools look for sites which allow students to apply knowledge and undertake their own investigations. Centres such as those on the Island of Arran already provide for these groups and others who travel from England, but the market is large and quality experiences are in demand.

Much of the recent most innovative fieldwork by senior school students has been either led or guided by consortia of universities. The rationale is academic research and it has been shown that the most able youngsters in their final year at school can not only rise to the intellectual challenge, in many cases can break through their presumed ceiling and provide fresh insight. This work already has the acclaim of professional bodies around the world and Rùm could play an important part as the first UK site. In this case there would be three partners - the school, the university and SNH.

Several schools both in Scotland and abroad working closely with their home universities would be invited on an annual or biannual basis to become involved in data gathering on the island with results becoming part of a long term environmental monitoring initiative. It is important that groups feel they have ownership for the project and although survey sites might be identified and be furnished with basic infrastructure, different institutions would be encouraged to bring their own expertise and contribute to the research within a flexible framework. The sites for the long-term monitoring equipment should be selected with a sensitivity for the natural environment, but should be within the same physical localities. It is important that students are introduced to a variety of monitoring experiments so that they might begin to appreciate the connectedness of ecological systems and make the cognitive leap to holistic understanding and appreciation.

### **Field Study**

**Biology and Ecology** – The scope for curricular linked projects in these areas is substantial and obvious. A great deal of field-work is done on the island by SHN staff, contractors, independent researchers and much of this is collated into annual reports and referred to in the 1998-2008 Management Plan. It would be useful if this

information were available on a database which would allow interesting projects to be identified and negotiated with SNH staff and perhaps other interested parties who are currently involved.

**Biogeography** - Over the longer term the island will be affected by climate change and this will be reflected in its biodiversity. The main survey sites should contain small areas of non-disturbed plant communities and these would be carefully monitored together with any special projects devised by the consortia partners.

**Meteorology** - Within any one visit, students may look at particular projects such as the comparative study of the climate variables on one of the mid-island hills on the windward or leeward domains, but also be responsible for setting up and gathering the long term data from the main survey sites.

**Hydrology** - The long term monitoring sites would be carefully selected for it would be important to generate a full data profile. It may be necessary to build sediment traps and possibly V notch weirs at these critical locations. Any field laboratory would have to be sophisticated enough to provide for the titration of river, lake and ground water samples for trace elements.

**Pedology** - This is more sensitive since breaking the sod cover to allow for soil pits is a disruptive event - especially if repeated in subsequent years. Advice would have to be taken as to the least intrusive methods of obtaining reliable horizon samples.

**Geology** - The high profile inclusion of this subject would attract the interest and support of bodies such as Scottish Earth Science Education Forum (SESEF). Analysis of slope stability under different conditions linked with any or all of the above would provide one over-arching theme to draw out the holistic nature of the study.

#### **Further considerations**

The key to successful implementation of such projects is the appointment or designation of a member of staff with responsibility for liaison and monitoring. Access for schools and the general public would be through a website (Rùm or SNH site) and data could be relayed to any future relevant events.

All stakeholders should carefully consider the selection of the important sites for long-term monitoring, with special reference to access and environmental impact. The purchase of laboratory and field study equipment would have to consider the needs of any long term monitoring programme.





**APPENDIX 10      Architecture as Pedagogy**

To make the best use of Kinloch Castle it is imperative that the architects accept both the environmental and architectural challenges presented. Innovative work has already been done in this area and case study research shows how the design of buildings based on environmental principles can be more efficient and reduce the capital cost than those that are not. Indeed there are some experiments whereby design professionals are rewarded for what they save as opposed to what they spend. This is not simply a cost cutting exercise but a means of rewarding the design team for work based on a life cycle analysis of incurred and projected costs and savings (Weizsacker, Lovins and Lovins, 1998).

This process has been described by Van der Ryn and Cowan (1996) as 'ecological design'. It is based on principles of sustainable development focussed entirely on minimising building construction (or renovation) impacts on the environment. In their own words 'design is a hinge that inevitably connects culture and nature through the exchange of materials, flows of energy and choice of land use' (Van der Ryn and Cowan, 1996: 8).

We feel that the technical implementation of this process is best left to the design team experts but that stringent principles should be agreed in advance of construction and renovation. These principles should include:

- 1      Energy Sources  
Every effort should be made to adopt alternative sources of energy (hydro, solar, wind).
- 2      Energy efficiency  
The building should be renovated to maximise energy efficiency.
- 3      Materials  
The construction phase should, whenever possible, make use of building materials of local extraction
- 4      Labour  
The construction phase should employ, whenever possible, locally based firms.

These principles of design are extremely important because their value extends beyond that of the building's construction. When it is finished the building remains a testament to the ideals of those who built it. If those ideals are environmental then the building represents more than a place in which education can take place. When constructed in a particular way the building itself can become a teaching resource. This is precisely what Orr (1994) refers to in his use of the phrase 'architecture as pedagogy'. He states:

*'Within the design, construction, and operation of buildings is a curriculum in applied ecology. Buildings can be designed to recycle organic wastes through miniature ecosystems that can be studied and maintained by the users. Buildings can be designed to heat and cool themselves using solar energy and natural air flows. They can be designed to inform occupants of energy and resource use. They can be landscaped to provide shade, break winter winds, propagate rare plants, provide habitat for animals,*

*and restore bits of vanished ecosystems. Buildings and landscapes, in other words, can extend our ecological imagination'*  
(Orr, 1994: 115).

In designing a building based on principles of sustainable development, staff and students, through their everyday working practices, become actively involved in thinking through complex environmental systems.

Research shows that many Scottish schools have now adopted this approach commonly known as 'the whole school approach' (Sustainability Education in European Primary Schools, 1997). However, the construction of Kinloch castle has a major advantage over these schools. Whole school approaches normally involve small and incremental changes in the school and over a long period of time. The Kinloch castle project on the other hand represents a unique opportunity to deliver large scale change through the introduction of a building or buildings specifically modified to act as an educational resource with the principles of sustainability in mind.

The need to create a building such as this is more compelling when considering developments elsewhere. For example, David Orr's Oberlin College in Ohio shows how imagination, ecological awareness and pedagogical intent can produce a building of architectural elegance. Nearer to home the environmental centre at Bishops Wood, Worcestershire in England and the Centre or Alternative Technology in Wales have been developed for similar purposes. Despite these initiatives Scotland does not have such a building.