

**CAIRNGORM,
ROTHIEMURCHUS &
GLENMORE GROUP
(CRAGG)**

AUDITS

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1. CRAGG: BACKGROUND

Rothiemurchus and Glenmore Working Group

- 1.1 In November 1996, a sub-committee of the Cairngorms Partnership Board recommended that various interests be brought together to determine the best way forward for the Rothiemurchus and Glenmore area. This led to the formation in August 1997, of the *Rothiemurchus and Glenmore Working Group*, led by Highland Council, consisting of the landowners from the area, together with relevant public sector agencies.
- 1.2 Over the next two years this Group worked on developing an integrated management strategy for the area based in the context of the Cairngorms Partnership's Management Strategy '*Managing the Cairngorms*'
- 1.3 As part of this, the Group commissioned new research such as the *Rothiemurchus and Glenmore Recreation Survey* and *Village Plans for Inverdrue, Coylumbridge and Glenmore*.
- 1.4 In 1999, '**Towards a Management Strategy**' a consultation paper on visitor management options was published. This was accompanied by an extensive public consultation process including a series of well-attended public meetings.

Rothiemurchus and Glenmore Community Association

- 1.5 The **Rothiemurchus and Glenmore Community Association** was formed as the local community wanted a democratically elected organisation whose members could be involved in the process. It also led to the realisation by the Working Group that it was not going to be possible to achieve their objectives unless the stakeholder base was widened.

Establishment of CRAGG

- 1.6 The results of the consultation process on the visitor management options were incorporated in the continuing work of the Group. A draft set of Management Strategy Proposals was produced and a Support Officer was appointed to assist the development of this work in April 2000.

2. CRAGG: THE PROCESS

Membership

- 2.1 It had become clear to the Working Group that in order to achieve an integrated management system for the area, a more inclusive organisation involving local and national representatives from as wide a range of stakeholders as possible needed to be created. An assessment of the range of interests likely to have a significant need to be included was carried out. It was clear that some method needed to be designed whereby a very wide range of interested parties could be represented while still maintaining a group of a size that was capable of efficiently realising the objectives.
- 2.2 It was eventually decided that a new group would be put together according to two principles:

- That the wide range of stakeholders could only be adequately represented by organisations which represented a membership and which could communicate with its members.
 - That there needed to be representation both at Local and National level.
- 2.3 The Group was reformed to the **Cairngorm, Rothiemurchus and Glenmore Group (CRAGG)** and the inaugural meeting was held in September 2000. The membership of CRAGG is at Annex 1.

Guiding principles of CRAGG

- 2.4 At its inception CRAGG was composed of a wide range of individuals representing organisations which had not necessarily worked closely together and who did not automatically share the same vision. Therefore the first stage was to develop a way of working which would establish a basis for trust and co-operation. Much work in the early stages went into developing both a meeting and working format and a set of guiding principles governing behaviour to which all members could sign up.
- 2.5 A set of protocols, agreed by CRAGG members, were developed. These were::
- An agreed set of procedures for conducting the business of the organisation. This included chairmanship, meetings, minutes, reporting etc.
 - A set of mutually agreed rules guiding the behaviour of members.
- 2.6 These guidelines were discussed at a series of workshops, some of which were externally facilitated, and were produced as documents and ratified at subsequent meetings. They have proved invaluable in the evaluation of CRAGG.
- 2.7 The fundamental working arrangements depend on the proposition that members are present in two capacities. They are first of all individual members of the CRAGG in their own right, with the responsibility of engaging in debate and discussion and contributing their skills and experience to the ongoing work. They are secondly present to represent a particular set of stakeholders with whom they have the responsibility of communicating both the current discussion and the final strategic thinking of the Group as a whole.

Aims, Objectives and Vision

- 2.8 The second phase of the work of CRAGG was concerned with establishing a shared idea of precisely what the aims and objectives are. Once again this was undertaken during a series of workshops attended by the whole, or nearly the whole, membership. The initial aims of the organisation were those bequeathed to it.
- 2.9 Considerable discussion took place and the result was an agreement by all that the aims and objectives of CRAGG should be those of the proposed Cairngorms National Park as enshrined in the National Parks (Scotland) Act.
- *To conserve and enhance the natural and cultural heritage of the area*
 - *To promote sustainable use of the natural resources of the area*
 - *To promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public*
 - *To promote sustainable economic and social development of the area's communities.*

- 2.10 There was also a considerable effort put into the attempt to develop a shared vision for CRAGG. Lengthy discussion surrounded the attempt to envision scenarios a number of years ahead. However it was decided that it would be appropriate to hold the development of a vision over until later in the process when it was hoped it would be easier for such a vision to emerge.

Subject Matter and Content

- 2.11 It was necessary for the group to come to some mutual agreement as to the range of subject matter with which the group should be concerned. This was based on those areas dealt with in the Working Group's Draft Strategy combined with a topic list developed at workshops involving the membership. A very long list of subjects was produced after a brainstorming session and it was quickly realised that some form of prioritisation would be necessary.
- 2.12 At a further meeting, it was agreed that the subject matter would be dealt with under a series of headings, Biodiversity, Housing Business and Jobs, History and Culture, Land use and Primary Production and Outdoor Recreation and Access.
- 2.13 It was realised that it would not be possible to work on all these topics to the level required in plenary session and a methodology involving the creation of Topic Sub-Groups was developed. The sub Groups were set up by the main body with the following guidelines. A Reporter was appointed to organise and chair meetings; it was agreed membership should consist of those CRAGG members who were interested in the subject together with any non-CRAGG members the sub-group considered necessary to their work by reason of skill or experience and the Sub- Groups would report on a regular basis to CRAGG.
- 2.14 The sub-groups are:
- Housing
 - Business and Jobs
 - History and Culture
 - Land Use
 - Outdoor Recreation and Access
 - Biodiversity

Auditing

- 2.15 It was agreed by the main body that the first task to be undertaken by the sub-groups was to produce and audit of the current state of knowledge in their subject area.
- 2.16 The purpose of the Audit process was twofold:
- To establish a baseline from which to identify strategic management issues.
 - To achieve, by circulation of audit papers, the sharing of information about all subject areas amongst all CRAGG members.
- 2.17 It was considered to be important to review the existing state of knowledge and identify the existing sources of information as a basis for identifying issues that necessitated inclusion in an eventual Management Strategy. The auditing process is seen as contributing to one of the fundamental principles underpinning the approach CRAGG members have taken since the outset. It has always been the intention that although members attended to represent a

specific sectoral interest of group of stakeholders, nevertheless all members are involved in and responsible for the full range of the work of the organisation and not just their particular focus.

- 2.18 A set of guidelines was prepared, agreed and issued providing a framework for the audit papers. Sub – Groups met a number of times and a great deal of work was done to produce draft audits. All the work on the audits was delivered by the members of the Sub-Group, representing a significant level of commitment to CRAGG and its aims and objectives.
- 2.19 The Audits are now largely completed, and whilst it is recognised that they may never be complete or fully comprehensive, they are highly valuable documents that CRAGG can use to build on. As a means of highlighting the issues emanating from the audits, a two day workshop session involving all members was held in June 2002.

Audit Discussion

- 2.20 This event was split into two sections:
- A final report and discussion of the audits followed by identification of the issues arising from the audits which would require a management response of some sort.
 - An exercise involving identifying how the issues could potentially be addressed in terms of management actions and the allocation of a short, medium and long term timescales to each issue.
- 2.21 An extensive list of issues was produced which were discussed in a highly interactive format The process was arranged so that each small team moved from topic to topic in rotation each time reviewing the product of the previous team and adding a discussion of new issues from the list. In this way every member contributed to all the work and also reviewed everyone else's contribution.

3. BIODIVERSITY AUDIT

Introduction

- 3.1 The following audit is a summary of the existing information relating to biodiversity and landscape within the CRAGG area. The CRAGG area as we know it today is a product of many influences: climate, geology and geomorphological processes, soil types, water chemistry, topography and the aspect of the land as well as being changed over the centuries by living and working human communities.
- 3.2 Much international and national law already applies in the CRAGG area. Specific and detailed legislation covers individual species, landuses and environmental management.
- 3.3 The proposed Cairngorms National Park is close to reality and amongst the four aims laid out in the National Park (Scotland) Act is the need to conserve and enhance natural heritage and promote sustainable practice. **This means that to comply with the legislation we must integrate biodiversity conservation objectives into all of our policy formulation and decision making.** This applies to individuals, communities, business, visitors, interest groups as well as all public bodies. Sustainable practice can help the nation to 'live within its means' in a way that respects and values biodiversity and landscape in these very special areas.
- 3.4 The CRAGG area covers 15570ha, approximately 18km by 12km at it longest and widest points. It comprises three large properties Rothiemurchus 10,000 ha, Glenmore Forest Park 3590 ha and Cairngorm Estate 1500 ha; Craigellachie NNR is 108ha. The height of the CRAGG area extends from 210 metres at the River Spey to 1296 metres at the summit of Braeriach.
- 3.5 The audit is by no means exhaustive but it does attempt to highlight the extent and scale of biodiversity and landscape resources. The changes affecting biodiversity and the current and proposed management measures and decision making processes are noted. In so far as they exists measures relating to residents and user perceptions of biodiversity are recorded. The audit should be considered in the context of the other four CRAGG audits – Land Use, Outdoor Recreation, Culture and History and Housing, Business and Jobs.

European Designations

- 3.6 **Special Protection Area (SPA)**
SPA within CRAGG area: Cairngorms SPA – species for which this SPA is designated include: dotterel, golden eagle, peregrine, merlin, osprey, capercaillie and Scottish crossbill.
- 3.7 **Candidate Special Area of Conservation (cSAC)(To be confirmed as full areas by 2004)**
cSAC within CRAGG area: (1) Cairngorms cSAC – a total of 21 habitats and species of European interest are included in this candidate designation encompassing habitats ranging through an altitudinal progression from Caledonian pinewood, through moorland to Alpine and Boreal heaths on the plateau. One species of mammal is also included, the otter. (2) Most of the River Spey is a cSAC on the basis of four species of European interest, otter, sea lamprey, salmon and freshwater pearl mussel.

- 3.8 **Ramsar Site**
Ramsar sites within CRAGG area: Cairngorm Lochs Ramsar site, includes Loch Einich & Loch Coire an Lochain – these loch qualify under Ramsar Criteria 1 as exceptional examples of high altitude oligotrophic (nutrient poor) waters.
- 3.9 **Proposed Cairngorms World Heritage Site**
Government has placed a number of other sites on a provisional list for future assessment. The Cairngorms are included on this list. The Cairngorms have been shown to qualify on the basis of: (i) Natural heritage criterion (ii) Important sites of earth science interest.

National Designations

- 3.10 **Site of Special Scientific Interest (SSSI)**
SSSI's within CRAGG area: Cairngorms SSSI, Northern Corries SSSI, Allt Mor SSSI, Glenmore Forest SSSI, North Rothiemurchus Pinewood SSSI, River Spey SSSI & Craigellachie SSSI.
- 3.11 **National Nature Reserve (NNR)**
NNR's within CRAGG area: Cairngorms NNR & Craigellachie NNR
- 3.12 **Environmentally Sensitive Area (ESA)**
ESA within CRAGG area: Cairngorms Straths Environmentally Sensitive Area. Approximately 40% (3000ha) of the CRAGG area eligible to be considered under ESA criteria is within the scheme.
- 3.13 **Glenmore Forest Park**
Contains Forest Enterprise Caledonian Forest Reserve and is managed to UK Forest standard.
- 3.14 **Proposed Cairngorms National Park**
The detail of the exact boundary of the proposed Cairngorms National Park has yet to be determined. A Draft designation order for the Cairngorms National Park from the Scottish Executive is possible in 2002.

Protection and Conservation of Habitats and Species

- 3.15 Legal protection is provided under European law through EC Directives and under UK law, primarily by the 1981 Wildlife and Countryside Act. Other legislation covers species including badgers, deer and salmon. A complete listing of the relevant legislation was prepared by The Cairngorm Partnership; see reference section. The 1979 Birds Directive protects all wild birds and their habitats within the European Community. The 1992 EC Habitats Directive builds on the Birds Directive by extending protection to natural habitats and other species of wild plants and animals. Under these directives the EC provided for a net work of sites known as Natura 2000 to protect particular habitats and species.
- 3.16 A parallel worldwide system was established in 1994 following the Rio Earth Summit. Over 150 nations recognised the need to protect biodiversity and help sustain human life. To help this process they signed the United Nations Convention of Biological Diversity. As a signatory the UK Government and the Scottish Executive are obliged through Article 6A to develop plans or adapt existing strategies to include the conservation and sustainable use of biological diversity relating to habitats and species. Article 6B added the obligation to integrate biodiversity into sectoral plans and policies.
- 3.17 In practice these wide ranging international agreements have significant influence on local land management operations. They are applied through

public policies which assist and direct private and public sector activity. Further protection to species and habitats is provided through a network of countryside rangers, guides, gamekeepers, river bailiffs and others within the area and there is liaison with neighbouring land managers.

Geology, Soils and Geomorphology

- 3.18 The rock types range from coarse-grained granite on hill summits, spurs crests and plateaux to glacial drift deposits on low ground overlying schist bedrock.
- 3.19 The mountain zone has thin soils including snow patch soils with greater organic content. These soils are vulnerable to trampling and compaction and erode quickly and recover slowly if vegetation is disturbed. Woodland soils in the pine woods have developed under long term woodland cover. Extremely acid peat soils occur in moorland areas and are significant carbon sinks, by virtue of preserved organic matter. Improved soils occur in agricultural areas and may include flood plain alluvial soils by the River Spey and some tributary burns.
- 3.20 The area has a unique assemblage of internationally important pre-glacial, glacial, meltwater, periglacial landforms and deposits. Their importance has been recognized through national designations within the CRAGG area and they are key to any possible World Heritage Site listing. (see Appendix 1) Examples above the tree line include tors, stone polygons, solifluction lobes and corrie moraines. On the lower ground, fluvio glacial features, kettle holes, and melt water channels occur.
- 3.21 Impacts:
- Trampling on popular routes
 - Erosion
 - Acidic precipitation increasing aluminium levels in soils and water
 - Localised loss of geomorphological features through development and erosion

Air and Climate

- 3.22 The area's high latitude of 57 degrees north gives a big difference in day length between summer and winter. Weather readings have been taken in Glenmore, Inverdrue, Aviemore and Cairngorm for periods over the last 50 years and UK extremes of temperature, wind speed, and precipitation have been recorded. Prevailing winds and precipitation dictate the air borne material being deposited in the CRAGG area. Certain pollutants are recorded at points in or close to the CRAGG area.
- 3.23 Impacts:
- Acidic precipitation may affect plant life. Localised pulses of acidity in rivers following snow melt can affect fish populations now and in the longer term increasing acidity can result in permanent loss of some fish populations as experienced elsewhere in Scotland
 - Localised motor vehicle pollution. It is believed at least 250,000 motor vehicles drive into the area each year. There is no measure of their impact.
 - Global warming – increased incidence of flood events.

Biodiversity – Habitats and Species

Habitats

- 3.24 The CRAGG area has 11 European Directive habitats out of the 77 listed for the UK. The CRAGG area also has 5 priority habitats (PH) in the Cairngorm LBAP from the 41 listed in the UK Biodiversity Action Plan. Detailed work on habitats exists as part of the Cairngorms Local Biodiversity Plan.
- 3.25 What does this mean for projects in the CRAGG area? The following case study indicates the process involved:
- 3.26 The key priority habitats in both the European and Cairngorm LBAP are:
- **Montane** - Land above 600m is generally classed as montane (definitions vary, 600 m was chosen by the Cairngorms Partnership). This broad habitat comprises of a variety of habitats including moss heaths, grasslands, dwarf-shrub heaths, late snow patches, rock ledges and montane willow scrub. The CRAGG area has some 38% of its land in this category, including the Kincardine Hills. The montane area was classed by the Cairngorms Working Party as the most fragile part of the Cairngorms. There is an UK habitat statement for the Montane habitat. The Cairngorms LBAP has identified issues, actions and targets for this habitat.
 - **Upland heathland** (PH) habitat is of international significance. The national trend has been of decline. There is an UK habitat statement for the Upland heath habitat. The Cairngorms LBAP has identified issues, actions and targets for this habitat.
 - **Wet woodland including bog woodland** (PH and a Priority Annex 1 type of EC Habitats Directive) and alder/willow dominated woodland. Bog woodland occurring in Rothiemurchus and Glenmore is of national importance. The national trend has been of decline. The last 2-3 years has seen increases through restoration projects
 - **Native Caledonian Pinewood** (PH and a Priority Annex 1 type of EC Habitats Directive) .The HAP addresses the expansion and restoration of natural diversity with a target to expand and regenerate 35% of current wooded area. Rothiemurchus has its own Woodland Biodiversity Action Plan based on a desired future condition (DFC) developed from prehistoric and historic evidence, on recent experience and on future expectations to guarantee sustainable delivery of a wide range of outputs. Glenmore Forest Park includes a Caledonian Forest Reserve whose principle objectives are the restoration and conservation of Native Pinewoods. Rothiemurchus 1900ha Glenmore 1054ha – 24 % of native pine wood in CP area and 14 % of Scottish Pine woods (19% of CRAGG area) Native Pine woods hold at least 37 species of conservation concern. The highest natural treeline in the UK occurs within the CRAGG area at 615m. The general trend for Native Pine woods is one of improvement.
 - **Blanket Bog** (PH and a Priority Annex 1 type of EC Habitats Directive)) is internationally significant. The CP area has 9% of Scottish blanket bog. The national trend has been of decline. There is an UK habitat statement for the Blanket Bog habitat. The Cairngorms LBAP has identified issues, actions and targets for this habitat.

3.27 Other European Directive Habitats include:

- Juniper on heaths
- Dry Heath
- Wet heath
- Clear water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels
- Alpine and sub alpine heaths
- Plants in crevices on acid rocks
- Acidic scree
- Montane acid grasslands

3.28 Other habitat types mentioned in the LBAP for the CRAGG area are more locally significant:

- Lowland Wood pastures and parkland (a small area beside the Spey)
- Oligotrophic (nutrient poor) marsh - Loch Morlich and Lochan Eilein
- Oligotrophic lochs – Loch Morlich (subject to eutrophication), Loch an Eilein, Loch Einich
- Rivers and burns – River Spey associated with key species. Downstream pollution can affect migratory fish
- Birch Woodland is a locally important habitat and cover a significant part of the CRAGG area
- Aspen woodland
- Stone and earth boundary features
- Planted coniferous wood – covers a significant part of the CRAGG area x ha
- Arable and improved grassland
- Rough Grass land (particularly herb rich grassland)

Species

3.29 The UK Biodiversity Action Plan was established to concentrate on the most threatened species and habitats found in the UK. The EC Habitats and Species directive identifies species for protection by SAC or SPA across Europe; 11 such species occur in the CRAGG area.

	UK	Scotland	CP area	CRAGG
BAP Priority Species	566	203 (36%)	100 (18%)	53 (9%)
BAP Species of Conservation Concern	845	567 (67%)	325 (38%)	150 (18%)
EC Birds Directive	41			7 (17%)
EC Species Directive	42			4 (10%)

3.30 Source: CRAGG records extracted from 10km squares supplied by the Cairngorms LBAP. Full list in appendix 8 (status for CRAGG area is not clear for all species)

BAP listed species

3.31 The CRAGG area has at least 45 priority species (4 mammals, 9 birds, 2 fish (salmon & char), 14 invertebrates, 11 lower plants, and 5 vascular plants) which occur in a way which is of high national importance. Eg the Narrow headed wood ant has a greater presence in the area than anywhere else in the UK. SNH are now mindful of the impacts on bat species in development activities.

European listed species

- 3.32 These include:-
- Otter
 - Atlantic Salmon
 - Sea Lamprey
 - Fresh water pearl mussel
 - Osprey
 - Capercaillie
 - Scottish crossbill
 - Dotterel
 - Golden Eagle
 - Merlin
 - Peregrine

Summary

- 3.33 Both the CRAGG area and wider Cairngorms Partnership area have been described as '**Prime Biodiversity Areas**'. The CRAGG area has a disproportionately high distribution of threatened species and habitats. In biodiversity terms, the CRAGG area is classed as one of the very 'best' in the UK.
- 3.34 It should be noted that species, particularly mosses, invertebrates and fungi, new to Scotland have been discovered in the CRAGG area in recent years, suggesting more species remain to be 'discovered'. Refer to species lists in the appendix. Individual species action plans (SAPs) have been written for some of the priority species that occur in the CRAGG area.
- 3.35 Research is not sufficiently comprehensive to definitively assess the status of most species and habitats. It is clear that some species are at the limit of their distribution and experience natural variation in population size. Larger, easily recorded, species such as osprey, golden eye and pine martin are showing signs of increase whereas capercaillie and salmon are declining. It is worth noting the spread of osprey and goldeneye, from a few tenacious individuals present in the CRAGG area over four decades ago. Records for some rare plants suggest a decline, others that populations are static. The LBAP clearly identifies those that require protection whatever their status.

Impacts on habitats and species

Habitat Connectivity, Fragmentation and Edge effect

- 3.36 Fragmentation is the name given to the process when human influences split large areas of habitat into smaller parts. Populations require a minimum size of 'home range' for successful long term reproduction. If this habitat or range is split by a gap too wide for the species to cross fragmentation has taken place and connectivity is reduced. The Cairngorm Rothiemurchus and Glenmore support some of the least fragmented habitats retaining their near natural state in the UK and are therefore very special. Any change in one habitat is reflected by a change in another. Habitats are naturally dynamic and there is no definitive end point other than maintaining variety and a favourable conservation status.
- 3.37 The montane habitat above the 600 metre contour is generally still well linked and the most significant change in the montane habitat is in and around Coire Cas since the 1950s.

- 3.38 Moorland is losing out at the margins to woodland expansion. This is an acceptable change as it probably restores the forest to a more “natural” state, depending on climate.
- 3.39 The CRAGG pinewoods form part of the most intact native woodland of its scale in the U.K. Whilst it suffered from major fragmentation of canopy cover from wartime felling, there has been a rapid expansion of natural regeneration of native pine; especially in relation to recent reduction in grazing pressures. Within Glenmore the removal of non native species is providing space for the regeneration of native species. The forest is especially important for biodiversity and landscape because of its open areas (woodland clearings, wetlands and grassland), mixed ages and wide areas of transition and edge between different habitats. The Forest of Spey Project is mapping forest connectivity across the CRAGG area.
- 3.40 The extent of birch woodland in the CRAGG area appears to have remained unchanged over recent decades. Losses of some birch woodland have been compensated for by gains in other parts with possible slight increases due to changes in grazing pressure. There now appears to be less of a broadleaved component in the native pinewoods than in past years, again due to grazing. Active cultivation of farmland has declined since it peaked in the early 19th century and especially over the last 50 years and is now concentrated on the larger and more fertile fields. Winter livestock has reduced by 40% over the last 40 years. Details in Land use audit.
- 3.41 Freshwater systems are generally intact although water abstraction is increasing. There has been some draining of bogs for tree planting. In recent years there has been a reversal of this trend with restoration of the bog woodland areas.

Indicators of change

- 3.42 Biodiversity is a dynamic process and habitats are being shaped by natural and man influenced processes. The main processes are listed below. Details in appendix 2.
- Climate change
 - Grazing
 - Recreation
 - Disease
 - Erosion and flooding
 - Discharges
 - Water Abstraction/Compensation
 - Non native species
 - Fire
 - Predation
 - Buildings and Roads
- 3.43 Successional change is a natural process whereby, climate soils and human activity permitting grassland gives way to woodland, open water to marsh etc. This natural process is the main force at work in habitat change.
- 3.44 Prior to the opening of the Highland railway in 1880, buildings and roads were constructed with mainly locally won timber and stone. Since that time old tracks have been widened, car parks and bridges built and the road system has expanded into Glenmore and Corrie Cas to meet modern demands. Significant public and private buildings including those at Cairngorm, Glenmore Lodge, Rothiemurchus Lodge, Coylumbridge Hotel, Drumintoul and Inverdrue have been constructed. This type of on going

development and associated infrastructure undoubtedly causes habitat loss or displacement. The significance of this loss is difficult to measure other than in area terms. It is suggested in the order of 100ha of habitat has been taken up by buildings, gardens, roads and carparks since 1960. However, the habitat occupied by these facilities could have been already modified through agriculture or forest management so impact is difficult to assess. Perhaps more significantly, facilities may have an impact well beyond that of their physical footprint.

Mitigation measures

- | | | |
|------|---------------------|---|
| 3.45 | Montane | Mitigation within Cairngorm Estate on paths, tracks and ski pistes and around Funicular infrastructure. Removal of snow fences and bulldozed slopes. Physical conditions cause slow restoration of soil structure and organic matter. |
| 3.46 | Moorland | Planned removal of high elevation woodland plot at Coire na Ciste. There has been no managed muirburn for 40 years. |
| 3.47 | Pine wood | Deer control: Red and Roe removed - detail in Land use audit
Removal of exotics. Increase in dead wood component. WGS and grants for positive management of native woods. Local reinstatement of disused road sections and sawmill sites |
| 3.48 | Birch woodland | Control of grazing by fencing and culling |
| 3.49 | Farmland | Reduction in fertilizer and nutrient input to encourage wild flowers. ESA initiatives to encourage maintenance and reinstatement of traditional farming systems. Small scale management of wetlands, woodland and seasonal grazing |
| 3.50 | Freshwater/
Bogs | Increasing quality of effluent treatment on Cairngorm and at Glenmore Bog woodland restoration. Zonation of activities at Loch Morlich to separate recreation from breeding birds and rare plants. |

Existing Conservation Designations with the CRAGG area

Landscape

- 3.51 The visual and aesthetic qualities which result from the interaction of physical processes and human influences, and which define the human experience of a place and make it distinctive (after SNH 1995). It includes the concept of natural beauty which has a statutory basis in the Natural Heritage (Scotland) Act 1991.

National Scenic Area (NSA)

- 3.52 NSA within CRAGG area: Cairngorm Mountains National Scenic Area designated under the Town and Country Planning Act of 1972.

Other Landscape Studies

- Cairngorms Partnership Management Strategy objectives for Landscape - Appendix 1
- Landscape Character Assessment for the Cairngorms carried out by SNH
- Glenmore Forest Park Design Plan prepared by FC
- Regional Indicative Forest Strategies prepared by Highland Council

(Refer to Glossary and to maps in Appendix 6 and notifications in Appendix 7)

Impacts on Landscapes

Landscape Connectivity

- 3.53 Forest expansion and restructuring giving rise to landscape changes and loss of scenic viewpoints due to regeneration. Timber removal provides opportunities for creating and maintaining views. Geomorphological features become less clear with woodland cover. Tree line patterns are changing and grazing will also affect tree cover. Pressure for new housing may cause changes in the visual character of parts of the CRAGG area. Change to roads, vehicle tracks, paths and signage will result in local landscape pressures and opportunities to improve existing provision.

Environmental Guidelines

- 3.54 Other European Directives such as the Water Framework Directive and national legislation on salmon, deer, agriculture and forestry will impact on the CRAGG area. Impending legislation on Land Reform could result in management change. The CRAGG area is subject to a range of national and local authority planning statements. The Cairngorms Partnership has published a number of Management Strategy objectives. Agri-environment schemes are available to local farmers. Codes of practice and stewardship schemes exist to improve environmental management. (Details in appendix 1).

Monitoring

- 3.55 Monitoring is carried out throughout the Cairngorms as a whole and on a site by site basis. SACs, SPAs and SSSIs are monitored individually and as a series every six years by SNH. Cairngorm Mountain is required to carry out detailed monitoring as part of the Visitor Management Plan. Other organisations carry out monitoring as detailed in appendix 3.

Local Community Views

- 3.56 Biodiversity and landscape are technical terms wrapped up for many people in popular descriptions such as scenery, wildlife and environment. Scientists can rarely give definitive answers and historical data, if available, is no certain predictor of the future. Individual beliefs are coloured by a range of factors including the time people have known the area, social influences, values skills and knowledge etc. Beliefs and perceptions are crucially important as they drive public opinion which in turn influences political and legislative change. The lack of research in this area is clearly a significant gap in our knowledge. We must know more about the beliefs and perceptions of 'stakeholders' if biodiversity and landscape are to be better managed. (See appendix 4)

Biodiversity

- 3.57 Of 85 respondents to the Glenmore and Rothiemurchus Community Study, 82% gave 10/10 when asked how happy they were with the environment and over 25% stated that the environment is prime reason for residency and visiting or was very important. (See appendix 5) In 1978 and 1992 the statement 'We must protect wildlife even at the expense of some development' achieved near unanimous support from the community in Badenoch and Strathspey according to Getz (1994).
- 3.58 In Mackay (1987) when asked why people may be attracted to the Cairngorms 4% gave wildlife as main reason for visiting but relatively high proportions of visitors placed geology, birdlife and plants in the not important category. System 3 (1998) noted 7% gave wildlife/nature as a main reason for visiting Badenoch and Strathspey (6% for Highlands). Mather (1998) recorded that of those that stay in the CRAGG area in excess of 1 hour more than 20% are members of RSPB but he also noted that wildlife observation is rarely mentioned as a main activity but is often indicated to be an 'other activity'.

Landscape

- 3.59 People respond to landscapes in differing ways; our own preconceptions, physical character and the changing dynamics of season, light and weather. The CRAGG area is perceived by the majority, as 'natural' relative to other landscapes, yet it has evolved because of human interaction. 'Naturalness' however quantified, is perceived as one of the fragile qualities of the area. The balance between achieving more 'natural' open and wooded landscapes while accommodating changing biodiversity and human needs will be a key part of future management. Mather (1998) notes that almost all of the visitors interviewed consider the area to be special, and most identify scenic beauty and other natural attributes as being the 'special' quality and the most enjoyable feature. Much of the CRAGG area is endowed with 'wildland qualities' by some users and is seen as a 'portal' to the deeper wildland experience.

Beliefs and perceptions of conservation and landscape designations

- 3.60 Although not supported by research evidence there appears to be low level of awareness outside of professional biodiversity and land managers and interest groups of the importance of the area and the extent and criteria behind designations within the CRAGG area. Certainly there are publications and web sites that mention the designations and they have been subject to some media coverage. However there are few road signs referring to biodiversity designations (with the exception of NSA on threshold brown signs and some FE signs) for example and little is made of them in popular and tourism literature.

Economic and Social benefits of biodiversity and landscape in CRAGG area

Employment

- 3.61 The following organisations have staff time directly attributable to biodiversity management:
- Cairngorm Mountain/HIE – Rangers, Ecologist

- Forestry Commission – Foresters, Rangers, Stalkers, Forest Workers
- Agriculture – Tenants and crofters/farmers at Upper Tullochgrue, Lower Tullochgrue, Whitewell, and Achnahatnich
- Rothiemurchus Estate – Stalker, Grieve, Countryside Manager, Assistant Forester, and staff
- Scottish Natural Heritage – Area officers/Specialists time
- Public Bodies – SEPA staff
- Highland Council – Planners, Rangers, Rubbish removal staff
- Charitable Trusts – Field Researchers
- Contractors – Forest, footpath, infrastructure, research, funicular
- Other Public Bodies – The Forestry Commission (private sector officers), Scottish Environmental Protection Agency, The Deer Commission for Scotland, Scottish Executive Environment and Rural Affairs Department staff

Income

3.62 The following organisations have **income directly** attributable to the area's biodiversity:

- Cairngorm Mountain, FE, Glenmore Lodge, Rothiemurchus Estate – Customers and Clients
- Other visitor attractions - Customers
- Local and visiting Activity Holiday/Educational Group Operators - Clients
- Wildlife Holiday Operators – Customers and Clients
- Craft Businesses – Producing craft products from local wood, paintings of local scenes
- Retailers – Specifically selling food, natural craft products, books, pictures etc related to the area
- Accommodation (eg Hilton International) and other service providers – Providing for 7% of visitors whose main reason for visiting is enjoying local biodiversity

3.63 **Indirect benefits** accrue to a range of business activities, mainly to tourism operators but also house prices and businesses using biodiversity in marketing activities. Biodiversity can clearly help in increasing turnover and local employment opportunities. European designations can assist public bodies and businesses to access European funding.

Expenditure over the past three financial years

Scottish Natural Heritage

3.64 1999/2000 = £199,209.00
 2000/2001 = £205,630.00
 2001/2002 = £239,752.00

3.65 Notes: Financial support for biodiversity (species eg badger and habitats eg pinewoods) and landscape related work (annual management agreements, footpaths, survey work) within the CRAGG area. Does not include SNH staff time dealing with casework in the CRAGG area.

Forest Enterprise

3.66 Financial support for biodiversity and landscape related work?

Highlands and Islands Enterprise

3.67 Path maintenance

1999/2000 = £80,000

2000/2001 = £81,000

2001/2002 = £74,000

3.68 Ranger Service

1999/2000 £36,234 [1 FTE year round, 2 PTE summer/autumn]

2000/2001 £43,944 [as above]

2001/20 02 £69,662 [2 FTE year round from July 2001, 2 PTE summer/autumn]

3.69 Notes: Paths are "capital" works and are net of SNH grant or contributions from Badenoch & Strathspey Paths Project. Minor amounts spent on routine path maintenance/remedial maintenance by Rangers are not included in the above. Ranger Service figures (no SNH grant) include all wages, NIC, pension, and all purchases (inc uniforms, equipment).

Rothiemurchus Estate

3.70 Expenditure on Biodiversity and Recreation is estimated to be in the order of £500k to 700k per annum. This equates to about £2 per visit. It is believe this figure is comparable to expenditure on other similar sites. Rothiemurchus receives about £150,000 from Scottish Natural Heritage and a minimum of £100,000 from The Forestry Commission. (payable on agreed programmes of work) (Much more financial analysis is required for these figures to be fully accountable)

Cairngorm Mountain

3.71 Figures to be supplied

Others

3.72 **SEERAD** Figures to be supplied

Economic and social constraints imposed by biodiversity and landscape

3.73 Once sites have been notified under the Wildlife & Countryside Act 1981, owners and occupiers are required to consult SNH before embarking on any new activity included within a list of specific operations which might damage or destroy the features of special interest. The fundamental purpose of notifying a SSSI is to make sure decision-makers and managers of land and those who advise them as well as the Planning Authority and government – are aware of the natural heritage interest when considering changes of land use. In the course of discussions, proposals which might prove damaging to the species or habitats, for which the site is listed, can be modified. This is done by mutual agreement to avoid significant damage to the habitats or species for which the site was notified. If agreement is not reached and the proposal denied a claim for financial loss may currently be made to SNH. To act without consultation may result in a fine.

- Legally binding conditions relating to conservation designations
- Limits on infrastructure – water, effluent and waste disposal, communication, forest roads
- The choice of species can be limited as can the amount of timber harvesting

- Costs of meeting higher standards can reduce competitive advantage and can delay new initiatives such as the development of forest plans for years.
- Added bureaucracy can effectively eliminate consideration of a proposal before it reaches Scottish Natural Heritage, especially in relation to short term activity. The time taken to prepare a case is a hidden cost.
- Popular perception of SSSI as areas in which change should not take place reduces opportunity value of the site
- Need to discuss opportunity with SNH may compromise commercial confidentiality
- Constraints on grant support eg cannot supplement regeneration by planting.
- Agencies and authorities, other than the land manager are obliged to obtain the agreement from Scottish Natural Heritage for proposed activity within their control. This can introduce tensions in relation to the organisation of events
- The SSSI legislation does not apply to third parties such as those taking access or picking berries for personal use.

Case Study – Construction of the Allt Mor Trail

3.74 Historically a footpath existed between Glenmore and Cairngorm. The path fell into disrepair following the construction of the ski road. The only practical access to the Northern Corries from Glenmore was following the tarmac road. The funicular railway construction led to a number of discussions on access within the area and the need to re-instate the Glenmore link was recognised and included within the Visitor Management Plan. The reinstatement of a route has been a long and complex process ensuring that all the interests, in particular the SSSI and SAC designations in the area have been adequately catered for. The following list sets out the stages the process went through:

- Establishment of requirement for Allt Mor Trail
- Preliminary discussion of options for new route
- Environmental testing of options
- Draft route plan
- Detailed site survey and path specification with initial costing
- Discussions with SNH leading to the modification of specification
- Evaluation of need for Appropriate Assessment
- Notice of permitted Development (Planning Application)
- SNH Consents for work on SSSIs
- Grant Applications to Partnership funders and funding package
- Tender for works
- Selection of contractor

Methods of explaining biodiversity to local community, businesses, visitors and interest groups

3.75 In spite of the quality of the environment being perceived as very important to the social and economic well being of the area there appears to be no strategic approach to raising awareness and understanding of biodiversity in the CRAGG area within specific target groups. Cairngorm Mountain has specific targets as part of the VMP. Visitor managers in the CRAGG area employ a variety of communication and interpretive tools and techniques as listed below:

Staff All organisations have staff who communicate with visitors

Visitor Centres	Cairngorm Mountain, Glenmore, Rothiemurchus (Inverdrue, Loch an Eilein) – Displays, AVs, Staff
Publications	Leaflets, brochures etc Available in visitor centres and other visitor facilities
Guided Tours	Half day/day tours offered by CM, FE, RE. Private sector tours spend time in the area.
Panels/Signs	The area has signs and interpretive panels referring to biodiversity installed by the land managing organisation
Websites	Most organisations on CRAGG have websites but no single web site exists for the CRAGG area
Media	Local and national newspapers and other news media report news stories and frequent editorial
Meetings	Many local/national meeting eg on National Park Consultation
Books	Many published popular and technical books – see reference list
Scientific Journals	See reference list
Staff Training	Rothiemurchus Estate has a staff manual for information giving and training support

Key issues for enhanced management of biodiversity and landscape

- 3.76 **Biodiversity**
- Habitat v species, Habitats v habitats, species v species
 - Natural processes versus managed processes?
 - Maintaining biodiversity? Levels of productivity? How much harvesting?
 - Climate change/Acidification on high tops.
- 3.77 **Biodiversity and Business**
- Designing and managing recreation to minimise biodiversity impacts
 - How can biodiversity deliver to the bottom line for the commercial land manager (subsidies just a contribution to costs)?
 - Infrastructure and biodiversity and landscape – eg design, effluent treatment, materials
- 3.78 **Perceptions**
- What are the prevailing beliefs and perceptions of locals, visitors and managers to biodiversity?
 - How important is the quality of biodiversity to the social and economic well being of the area and is the measure of importance translated into action?

4. LAND USE AUDIT

Introduction

- 4.1 This audit paper is one of a series being produced by CRAGG. The CRAGG area (15570 ha) is a diverse area stretching from the low ground by the River Spey to the tops of some of the highest mountains in Britain. While recreation and tourism are now substantial economic drivers in the area, they are dependent on the natural attributes of the area and the various land-uses which through history have both shaped and have been shaped by nature.
- 4.2 This audit describes the current land-uses in the area and lists some of the related issues which will require to be addressed along with those from the other audits in developing an integrated plan for the area. This audit is confined to practices which supply produce for consumption and for other industries and does not cover Nature Conservation or Recreation as land-uses but includes their effects in the issues section. The audit does not include land used for transport, housing and commercial use: this aspect will certainly have to be considered when the audits on land-use, outdoor recreation, and business, housing and employment are integrated.

Description - Ownership and History

- 4.3 The CRAGG area has three large and one medium sized land management units (Rothiemurchus Estate, owned principally by the Grants of Rothiemurchus; Glenmore Forest owned by the Forestry Commission; Cairngorm Estate owned by Highlands and Island Enterprise; and Craigellachie leased by Scottish Natural Heritage). There are also a number of other owners and tenants who occupy smaller areas of land. The histories of the various areas of land are important in understanding the land use pattern of the CRAGG area.
- 4.4 Rothiemurchus includes the better land suitable for growing crops and the old settlements are still occupied by tenant farmers, albeit on a much larger scale and with less labour than before. The estate has been in single family ownership for centuries and has survived through a policy of integrated land management including farming, forestry, conservation and landscape management. Policies of restructuring the farms and regenerating the forest were implemented during the 19th century and within the forest the emphasis was on the use of the land for timber production and some managed grazing. Timber production has been continuous on a small scale and major exploitations took place during wartime. From 1960 a few small areas on the perimeter of Rothiemurchus were fenced and planted, with some ploughing, and there was a greater encouragement of natural regeneration of trees.
- 4.5 The history of Glenmore Forest is different in that it has never attracted an owner occupier. This has led to periods when it has been used for the predominant interest of the time. The timber resource was heavily exploited in the late 18th and early 19th centuries and then settlements were cleared for sport. The next phase of timber exploitation was for the war effort during the early 20th century. The forest was acquired by the Forestry Commission in 1923. It land was fenced to exclude deer, drained, ploughed, and planted in phases with Scots Pine, Larch, Sitka Spruce, Lodgepole Pine and some Douglas Fir. In its early years of management by the Forestry Commission, timber production was the principal objective but this became integrated with recreation provision during the last 40 years. Following Rio Convention on Sustainability, the forest has been restructured to enable the restoration of the native forest remnants.

- 4.6 Cairngorm was managed as part of Glenmore Forest until HIE acquired it in 1971 for development of the Ski area. Since the 1980's because of the need to protect reseeded grass areas within the ski area there has been a policy of near zero tolerance of grazing by sheep and red deer, and there is a developing montane woodland over a wide area.
- 4.7 Craigellachie, above Aviemore, was managed for grazing sheep and cattle until 1960 mainly for sheep until 1992. The remnant birch woods have survived and expanded out from the cliff face as grazing pressures were reduced through recent fencing.

Land Uses

- 4.8 The ownership/management pattern has been a significant factor in to the development of the multiple use of land, where a variety of outputs are delivered from one piece of land. Members of CRAGG recognised the existence of multiple land use and its ability to retain the valued traditional use of the area and provide for new demands. They conducted a small analysis of their understanding of the contribution of different land uses (and some of the different management systems within them). These are reported in the perceptions section of this paper.
- 4.9 The Cairngorms Partnership Management Plan provides a useful overview of the policies for the wider Cairngorms area and details for specific subjects are provided in Appendices 2 to 5. The audit team found no comprehensive guide to funding schemes for Land Management Schemes operating in the Cairngorms, but as their work concluded they found out that the Scottish Executive had instructed consultants to carry out a review of land Management Schemes for the proposed Cairngorms National Park, see Appendix 9.
- 4.10 This section describes each of the main land uses. Comparisons of them in respect of location of markets, employment contributions and indicators of change are given. The distribution of principal land-uses is provided in Figure 1. (Map showing the distribution of different land uses).

Farming

- 4.11 Agriculturally the CRAGG area includes Rothiemurchus with 3 working farms, 3 tenant farms (Rothiemurchus Home Farm - The Dell, the Doune, and Guislich), Achnahatnich, Lower Tullochgrue, Upper Tullochgrue) and an independent unit, Whitewell Croft. These cover an area of approximately 4,700 hectares, the bulk of which is hill grazing. Historically cultivation also occurred at Glenmore, but has not done so for around two centuries and grazing by livestock ceased around 40 years ago. The land at Craigellachie and Cairngorm is not suitable for cultivation or improved grazing.
- 4.12 Farming has been practised in the area since the bronze age and as a result features strongly in the history and culture of the area and has a strong influence on its settlement pattern. Farming practices, its livestock, crops and boundaries, along with the traditional buildings associated with agriculture, are a significant element which shape the low ground landscape of the area.
- 4.13 Farming in the area follows Scottish Executive agricultural policies (outlined below), and local direction is provided by the Cairngorms Partnership Management Strategy that sets a number of objectives for the wider Cairngorms area. (Appendix 2). There are no policies specific to the CRAGG area.

- 4.14 In the CRAGG area rotational farming systems are practiced which means that there is change in the use of fields from year to year. Current land use is as follows: Arable (180 ha), Sheep - wintering (800 animals), Sheep - permanent (127 animals), Cattle (excl calves) (358 animals).
- 4.15 Farming throughout the European Union is supported through various subsidies and grant schemes: some of these are traditional agricultural support schemes, others are environmentally based. At present most of the farms in the CRAGG area are involved in the following schemes:
- Suckler Cow Premium scheme,
 - Beef Special Premium scheme,
 - Slaughter scheme, over 30 month scheme,
 - Less Favoured Area scheme,
 - Sheep Annual Premium scheme,
 - Environmentally Sensitive Area scheme,
 - Countryside Rural Stewardship scheme.
- 4.16 There is a strong emphasis in some of these grants for the maintenance of the traditional systems that provide for biodiversity.
- 4.17 In the Cairngorm, Rothiemurchus and Glenmore Group Area output from the farming sector is relatively small scale, but of a high standard, with a number of the farms registered and managed to achieve the quality assurance standards for beef and cereals. In addition there are individually negotiated Scottish Natural Heritage management agreements which assist in the achievement of natural heritage and access maintenance objectives.
- 4.18 Farming also supports other farms in Badenoch and Strathspey by providing additional grazing, cropping and wintering services. The farms also supply produce on a year round basis to a local retail operations in the CRAGG area, this being a good example of marketing of home-grown and locally produced food.
- 4.19 A small quantity of wool is still produced in the CRAGG area.
- 4.20 The total turn-over of the farming business in the CRAGG area is estimated be between £100,000 and £150,000. Around 50% of turnover of farming in the area comes from grant income, this percentage is higher than the average for Cairngorm area.
- 4.21 Details of the direct employment in the CRAGG area provided by farming are stated below. The older generation is well represented amongst farmers; with few under 50 years of age. The current ownership structure with some of the farms being tenanted has led to a degree of uncertainty for much of the farming community (tenants and landlords alike). Crofting, although only represented by one croft, has changed the pattern of land ownership in the CRAGG area.
- 4.22 Rothiemurchus Estate also operates a small deer farm stocked with Red Deer. Venison from the farm is retailed locally on the estate and used to provide this outlet when wild venison is not available. In addition there is a Reindeer herd at Glenmore (which is managed as a tourist rather than agricultural business).
- 4.23 Farming is a long term land use that is fundamental for a variety of outputs in the low ground at CRAGG, including landscape, conservation, wildlife, tourism, habitat for deer, natural regeneration for trees, bird habitats, employment and the possibility of community growth. In addition to this production, those involved in farming contribute non-market benefits to the

environment although no payments are received for this contribution it is appreciated by visitors to the CRAGG area. It is made through: path and landscape management, provision of information, parking, toilet facilities, collection of litter, ensuring responsible access, monitoring of species, control of non indigenous species, foxes, and crows, control of pollution, protection of nesting bird's- code of practise, wetland management, protection of field margins and boundaries etc.

- 4.24 A number of minor food products are harvested across a range of variety of land uses e.g. honey, fungi, berries. There are varying levels of control of this harvest that has limited regulation. The effects of the harvest on the biodiversity in the area are considered to be largely irrelevant by mycologists and its total value is not fully understood because some of the activity is conducted through the grey economy. The Cairngorms Partnership and SNH hosted a meeting in 1999 which brought together land managers and fungi pickers to discuss the key issues of mutual interest..

Aquaculture

- 4.25 A Rainbow Trout fish farm is operated at Inverdrue by Rothiemurchus Estate. Rainbow trout are used as they are non-indigenous, naturally shoaling and do not breed in Scottish conditions. The fish farm draws water from the River Druie and produces Rainbow trout for restocking of fisheries throughout Scotland and for sale at a local retail outlet and throughout Britain. The farm is a member of and is inspected by Scottish Quality Trout; which requires application of industry best practice.
- 4.26 The annual value of aquaculture in the CRAGG area is estimated as c£250,000 (excluding freshwater fisheries). No production grants are provided to the aquaculture business.

Forestry and Woodlands

- 4.27 Forestry (total area c5000ha) is another of the principal land uses in the CRAGG area: it consists of a variety of forest types (estimated areas in ha)

	Approx area (ha)
Mature Native Woodland	1700
Regenerating Native Woodland	1700
Plantation woodland – native conifers	500
non-native conifers	600
Treeline woodlands	200
Wet woods	100
Parkland	100
Felled areas (ready for replanting)	100
Total	<u>5000</u>

- 4.28 The forests of Rothiemurchus and Glenmore have quite different histories, although they share a common origin of a native woodland, mainly pine with some birch and oak on the better soils. The forests at Glenmore have undergone more intensive management, both through wartime fellings and their subsequent replanting. As a consequence the management infrastructure (roads and tracks suitable for moving timber) is better developed than at Rothiemurchus and this has some influence on the options for current and future management of the forests in the area.
- 4.29 From 1992 and parts earlier, all have been managed with a focus on restoring the Caledonian forest for sustainable timber production, providing a valuable recreation resource, as well as for enhancing biodiversity. Together with Glenfeshie, Invereshie, Inshriach and Abernethy, which are all under

similar and co-ordinated management, they form a very large area of Caledonian Forest, unrivalled in size and importance for biodiversity.

- 4.30 Forestry, like farming, is a long-term land use capable of providing a wide variety of outputs / assets and in the CRAGG area the forests have a greater leaning to non-market products (landscape, conservation, wildlife, recreation/tourism) rather than market (timber, habitat for deer, shelter for cattle and sheep) products. Each of the forest types found in the CRAGG area has a differing ability to provide the potential outputs and the nature of outputs provided by any area of forest also changes over time. Development of the forests in Badenoch and Strathspey in recent years has been aided by the Cairngorm Partnership's Forest of Spey project which is helping to deliver the objective laid out in the CP Management Strategy (Appendix 3).
- 4.31 With over 2800 ha of mature or maturing timber, the forests are estimated to accumulate timber at a rate between 15-25,000 cubic metres of utilisable wood per annum. This volume will increase as the areas of natural regeneration that have taken place, and are currently underway, mature. This growth of the forest exceeds recent cutting levels, which have largely been confined to production from non-native conifers in the Glenmore area, averaging around 10,000 cubic metres per annum in recent years. The level of production from Scots Pine woodlands remains very low in relation to increment. This assessment, which shows that only a proportion of the increment is being harvested, is based on estimated figures but further work on these issues is being undertaken by the Forest of Spey project.
- 4.32 This under utilisation reduces the employment potential in timber harvesting and downstream processing jobs, but this is balanced by, to some extent, other employment created in the delivery of the non-market benefits from the forest. This under-utilisation is also contributing to the deadwood resource within the forest; which is in itself an important contribution to the biodiversity value of the habitat.
- 4.33 Rothiemurchus Estate has been discussing a new Forest Management Framework with the Forestry Commission since 1998. The process included a local consultation meeting held in 1999 and the parties believe that the conclusion will result in the employment of a forester in Rothiemurchus for the first time in 50 years. Agreement has not yet been reached. The working of the main forest is therefore in abeyance at Rothiemurchus.
- 4.34 The Forest Enterprise forest at Glenmore is not funded for forestry operations through the existing grant schemes which are used in the privately owned forests in the CRAGG area. Forest Enterprise funds its forestry works through the sale of timber from existing forests, although the delivery of non-market products of conservation and recreation receive government funding (although not through the grant system provided to private woodland owners). Private woodland grants are paid for measures that encourage the creation of woodland and for specific projects that deliver non-market benefits in the forests. The former are paid on an area basis, the latter as a proportion of costs.
- 4.35 Forest Enterprise forests are certificated for Sustainable Forest Management under the international FSC scheme and the UK Woodland Assurance Scheme.
- 4.36 Estimate of employment in forestry are given below. The annual turnover of traditional forestry interests in the CRAGG area is estimated at £100,000. Non-market forestry annual turnover is estimated in recent years at £200,000.

Sporting

Deer

- 4.37 Other than water resource provision this is probably the most widespread land-use as deer are found throughout almost the whole of the CRAGG area. Deer are managed in line with the land-managers' objectives in consultation with the Cairngorms and Speyside Deer Management Group. Deer, in addition to providing sport interests, also can have a damaging effect on other interests on the land such as conservation, agriculture and forestry and populations are also managed to meet these objectives.
- 4.38 Estimating the size of the deer population in the CRAGG area is not straightforward because of the movement of deer in and out of the area and because of differences in methodology used in counting deer on the open hill and in woodland. Recent changes in the use of fencing have also resulted in differences in deer movement.
- 4.39 The most recent estimates of winter deer usage conducted by the estates working together, using an indirect assessment system (dung counts), are: Red Deer: 700-1250; Roe Deer: 750-1400. These represent a winter density of c17 red and roe deer/km² below the 850m contour. The estimated cull required to maintain the current population level (using the most recent population estimates) is: Red deer: 117- 375 ; Roe deer: 225 - 420.
- 4.40 Deer management policies in the area have been a mix of those required to maintain a sporting cull of mature stags and those required to protect forestry, agricultural and conservation interests. This has, until recently, been achieved through the use of significant lengths of deer fencing which allowed different policies to be applied on adjoining land holdings. The recent decline of the Capercaillie is leading to a re-appraisal of the role and use of fences, which in turn is influencing thinking on culling rates. The recent annual total of deer culled is given below; this indicates that on the strength of the recent population estimate that the increase in culling may only be sufficient to prevent further expansion of red deer population and that there is a need to substantially increase the roe cull to achieve a reduction:

Table 4.1

Deer Species	Estate	2000-01	2001-02
Red	FE	123	165
	RE	96	221
Total		219	286
Roe	FE	63	99
	RE	37	134
Total		100	233

(nb Foot & Mouth Disease curtailed shooting in 2000-01)

- 4.41 The bulk of the deer shot by Forest Enterprise are shot by FE staff or contractors; on Rothiemurchus the deer are shot by a combination of paying guests, estate staff and by friends and family of the owners. Rothiemurchus Estate currently use a converted dairy as a deer larder, while Forest Enterprise use a new larder just outside the CRAGG area in Inshriach forest. Some venison is retailed locally, but the majority is sold to game dealers and is marketed throughout Britain and also into Europe. Forest Enterprise and the Association of Deer Management Groups are currently developing a quality assurance scheme for wild venison in conjunction with the game dealing industry.

- 4.42 In recent years an estimated 50 km of deer fences have been removed, or been marked to reduce risk of woodland grouse collisions at a cost of over £50,000.

Game

- 4.43 A low level of winged sporting is carried out on Rothiemurchus Estate; this amounts to less than 10 days of pheasant shooting and less than 5 days of walk-up grouse (red grouse and ptarmigan) shooting.
- 4.44 Cairngorms Partnership Management Strategy provides a number of objective for Moorland and Deer Management (Appendix 4).

Freshwater Fishing

- 4.45 The River Spey provides Sport Fishing for Salmon on Rothiemurchus Estate that provides around 25 rods/weeks per annum. Recreational fishing for Trout and Pike is available on Loch Morlich from Forest Enterprise (80-100 permits pa) and there is private Pike fishing on Loch an Eilean. This fishing is based on natural stock.
- 4.46 The annual turnover of sporting in the CRAGG area does not currently exceed £50,000; it is not, however, maximised because of the need to accommodate recreation and conservation.

Water Resources

- 4.47 The Water resources of the area play a number of different roles; provision of drinkable water, transport of treated liquid effluent and also for fisheries. Historically some have also been used for transport. There are three large lochs – Loch Morlich (120 ha), Loch Einich (73 ha) and Loch an Eilein (57 ha). There are also another 4 lochs which are larger than 5ha and a large number of small lochans. The River Spey flows through the northern part of the CRAGG area that largely comprises the catchments of the River Luineag, Am Beannaidh, and Allt Druidh.
- 4.48 Most of the water resource in the area is derived from precipitation (rain & snow), although significant resources from outside the area flow through the area in the River Spey. The Metreological Office holds relatively good climate data for the area that have operated stations in various parts of the CRAGG area. (They have not been collated for this audit). Water quality in the area is monitored by SEPA at a number of discharge points and also in the wider river system. The water resource is amongst the cleanest in Britain with the River Spey regarded as one of the most unpolluted major rivers in the country. It is currently proposed for conservation designation under EU legislation and a Catchment Management Plan is being developed. Within the CRAGG area existing sources of point pollution (eg sewage treatment plants, fish farm) are being monitored by SEPA and only minor diffuse pollution occurs from agricultural and forest practices. *There is only a very limited area of 'brownfield' sites (eg wartime sawmill sites) in the CRAGG area that is not believed to be a continuing source of pollution.*
- 4.49 The southern part of the CRAGG area, because of the acidic base geology, lies in an area identified where it is necessary to consider with care any proposals to expand forests because of the possible effects on acidity in freshwater systems (Critical load exceedance models).
- 4.50 Water is supplied to users through a variety of systems. Scottish Water (SW) use Loch Einich as the source for the Badenoch and Strathspey Supply – the mains supply for the whole area; this is being considered for upgrade. Forest

Enterprise (FE) operate the private system which serves Glenmore village and campsite (but not Glenmore Lodge) from the Allt Coire Chondlaich this system is becoming dated. Glenmore Lodge have a private supply from the Allt Ban. There is a private water supply on Rothiemurchus Estate and at Coire Cas.

- 4.51 The annual cost of water abstraction and treatment in the CRAGG area, which supplies the majority of Badenoch and Strathspey is £... and capital improvement costs may be as high as £5-6 million.

Liquid Effluent

- 4.52 Treated liquid effluent is dealt with by a number of schemes in the area. The Aviemore area is served by a Scottish Water mains system that feeds to the existing Aviemore sewerage treatment plant which discharges into the River Spey. This plant is close to capacity. FE operates a small sewerage treatment plant for Glenmore Lodge, the village and campsite that discharges into the Allt Mor. This plant is now becoming dated and reaches capacity during peak visitor numbers. Cairngorm Mountain have installed a new sewerage treatment plant (built in 2000/01). The remaining liquid effluent is dispersed by seepage from septic tanks.

- 4.53 The annual cost of liquid effluent treatment (which also includes other parts of Badenoch and Strathspey) is £ and capital replacement costs £5 million.

Flooding

- 4.54 Flooding, and the threat of flooding, has a major impact on farm operations at the Doune Farm and at the Dell. The former has become much worse since the building of the new River Spey road bridge and embanked road at Aviemore which can act as a partial dam during extreme floods. This has also made five houses uninhabitable at the Doune Farm. During the worst occasion the ski road was blocked for more than a day and nearly washed away. Work required includes the installation of relief culverts.

- 4.55 All the tributary burns have flash floods which can also be very damaging to infrastructure such as roads, paths, bridges and flood banks, and can restrict the types of crop grown in certain areas.

- 4.56 Existing objectives for Water in the Cairngorms Partnership Management Strategy are provided in Appendix 5.

Minerals

- 4.57 The CRAGG area has a varied hard-rock geology from the Cairngorm granites on the higher ground, through the mica- schists on the Kincardine Hills and the eastern Monadhliath to softer slates found in the Strath. It also contains extensive post glacial drift deposits that could provide significant quantities of sand and aggregates. Many of the geomorphological features have nature conservation designations as they are amongst the best examples of their type in Scotland.

- 4.58 Only limited use has and is made of the mineral resources in the CRAGG area – there are three main and a number of small “borrow pits” in Glenmore Forest and Rothiemurchus Estate which are used for maintenance of paths and tracks. Gravel has been extracted from the River Spey and the River Drue for use in local flood control. There are no extant plans for commercial exploitation of minerals in the CRAGG area.

- 4.59 Historically peat extraction was an important source of fuel in the area, but this has almost completely ceased.

Economic Benefits of Land Use

- 4.60 An analysis of the main markets for the various land-use sectors shows that while a significant proportion of the primary markets for the products of the land are the processing facilities in Badenoch and Strathspey (B&S) and within the Highlands, the eventual market for the secondary products is outwith the area, in centres of higher population. Despite this, the area shows significant success in local value adding across a range of sectors which maximises the return from these products.

(*** - large proportion, ** - medium proportion, * - small proportion)

	Primary product			Secondary Products		
	B&S	Highlands	Wider	B&S	Highland	Wider
Farming	**	**		*	*	***
Aquaculture	**	**	**	*		***
Forestry	*	**	*	*	*	***
Deer	*	*	***	*		***
Water	***					
Minerals	***					

Employment

- 4.61 Estimates of employment in mainstream land management were developed by the sub-group and are presented below (all figures are man-year equivalents).

	Full-time	Part-time	Contractors	Retail
Farming	2.0	2.4	<0.1	2.0
Deer farm		0.1		
Aquaculture	4.0	0.6		0.5
Forestry (market)	0.3	0.2	1.2	-
Forestry (non-market)	3.7	-	2.0	-
Sporting	1.0	1.1	0.2	-
Water	-	0.5	?	?
Mineral	-	< 0.1	-	-
Total	11.0	4.8	3.4	2.5
Grand Total	20.9			

Key Issues

- 4.62 Inter-relationship between land uses.
- *Effects of responsible recreation on all land uses*
 - *Farming - Access/roads, Deer, Environmental constraints, Funding, Land Ownership and unit sizes, age class structure of workforce, land reform, housing*
 - *Aquaculture – constraints on expansion*
 - *Forestry – choice of tree species, levels of thinning and production, designations, access/road infrastructure, deer, fire risk,*

- Sporting: Deer – *what level of deer population...role of fences, out of season culling, degree of selective culling, expansion of forestry*
- Water Resources– . *How much water is used and what are the limits on the system? Water Quality, Quality of infrastructure, management not all done by experts, financing upgrades, access for recreation, flooding and drainage*
- Minerals – *should there be a presumption against commercial exploitation, if not what level is acceptable – maintenance of estate use.*

Indicators for Change

- 4.63 A numbers of drivers for change exist for each of the main land-uses in the CRAGG area; each land use is affected in a slightly different manner. These differences are presented below:
(H* - very high importance, H – high importance, M - moderate importance, L- Low importance)

	<i>Min</i>	<i>Far</i>	<i>Aqu</i>	<i>For</i>	<i>De</i>	<i>Spo</i>
Lifestyle trends	H	H	M	M	M	M
Level of subsidies	H*	L	M	L	L	L
Market prices (& currency rates)	H*	H	H*	H	M	H
Transport costs	M	M	H	L	L	H
Infrastructure (eg roads, abattoir)	H	H	H*	M	H	L
EU & Government legislation	H	H	M	H	H	H
Conservation designations	H*	H*	H*	H*	H	H*
Recreation pressures	M	L	M	H	M	L
Planning regulations	L	M	M	L	M	H*
Training	H	H	H	H	H	L
Availability of local skilled labour	M	M	M	M	M	M

(Key to titles: *Min* - Minerals, *Far* - Farming, *Aqu* - Aquaculture, *For* - Forestry, *De* - Deer, *Spo* - Sporting)

Perceptions

- 4.64 The understanding of land use issues is integral to the development of an integrated plan for the CRAGG area. This was recognised by members of CRAGG and they undertook to explore their own understandings early in their work before the detailed audit was completed. The audit sub-group used this to inform them of the variety of perceptions within CRAGG (although it is recognised the audit process itself changed perceptions). They also looked to other sources of information on the perceptions of some of the parties involved.

Table 4.2

Agriculture	Significant contribution	Modest contribution
Pasture	food production	wildlife conservation, cultural values.
Arable		food production, employment
Rough grassland		Landscape, wildlife conservation
Woodland	Significant contribution	Modest contribution
Treeline woodlands	Landscape, wildlife conservation	
Mature native woodland	Landscape, wildlife conservation, walking, cultural values	Water resources

Native plantations		Wildlife conservation, timber production, economic objectives
Non-native plantations		Timber production
Policy woodlands & gardens		Landscape, wildlife conservation, cultural values
Water	Significant contribution	Modest contribution
Water features	Landscape, water resources, wildlife conservation, active sports	Cultural values, employment, economic objectives.

- 4.65 An interesting feature of this exercise was the recognition of the different perceptions of the contributions of different land-uses; this was something that CRAGG recognised required further efforts on communication so that the different sectors gained a wider understanding of the CRAGG area. This work is still to take place. The land uses where widest divergence occurred were treeline woodlands, and service areas (where misunderstanding of category may have contributed to the divergence). There was also divergence in the contribution of a number of land uses to game shooting and the contribution of native and treeline woodlands to employment and economic outputs. These divergences should be a topic for further study within CRAGG.
- 4.66 Another source of information of perceptions is the Community Association Consultation; this was not specifically on land use, rather it was on a draft Management Strategy produced in the early stages of CRAGG following on from the work of the Rothiemurchus and Glenmore Working Group. This sought views on 8 issues; some of the responses on the natural environment and work both provide some insight into some of the community's perceptions on land use. These are presented in Appendix ?

5. HISTORY AND CULTURE AUDIT

Introduction

- 5.1 The major difficulty encountered by the sub group was that while there is no doubt that there is a substantial quantity of information about the Culture and History of the area in existence it is distributed in a fashion and form which determined that it would take more than the resources available to the sub-group to assemble a full audit. Furthermore it was also apparent that there are gaps in available information that can only be identified in general terms. It is clear that no audit will ever be full or complete and therefore no attempt at a comprehensive audit has been made, but indicators of the type of history and cultura on offer in the CRAGG area outlined.

Timescale

- 5.2 The timescale involved in the span of human interaction with the area's environment covers a period from a likely, though not yet proven beginning in the early Mesolithic (c.6,800 BC) continuously to the present. This creates a series of superimposed cultural and physical relict landscapes charting the development of human history.

Cultural & Historical Significance of the Area

- 5.3 The area has unquestionable international significance as a result of its landscape and biodiversity. For the last nine or so millennia, human involvement has been part of that biodiversity and has without doubt had an ever increasing effect on the environment. It is also true that the absence of intensive modern exploitation has preserved some of the fossil and relict landscapes. *"There is no comparative area within Scotland where a transect can be made through the relict landscapes from zones of lowland exploitation, spanning the period from at least the Neolithic to the formation of the modern managed countryside, through intermediate zones of transhumance economy, to the specialist hunter-gatherer exploited uplands, within such a tightly defined bloc as is represented by Rothiemurchus and Glenmore."*¹ It is therefore argued that there are elements of the Culture and History of the area that are of international significance as well as of local or regional importance.
- 5.4 Areas of international importance:
- The Forest, its use and management
 - The Gaelic Language, heritage and place names
 - The fragile relict landscapes of the past 9000 years
 - The research potential of the castle at Loch-an-Eilein
- 5.5 Local/Regional Importance:
- Beglans
Twice abandoned township with legendary associations with John Roy Stewart and the 45 in the first instance and detailed information in the second from descendants still living in the wider area
 - Whitewell and Tullochgrue
Bronze Age domestic settlement
 - The Doune of Rothiemurchus.

¹ Dr Richard Oram, April 2001

Dating from the iron age the importance of this site is its continuous occupation and close association with Land Use and the economy of Rothiemurchus. The current house dates from the 16th century or earlier and includes Georgian, Victorian and recent additions. It is undergoing a long term repair programme.

- “Memoirs of a Highland Lady” by Elizabeth Grant, born 1797. Vividly describes life at Rothiemurchus as a child. It is widely read and loved by people from all parts.
- The music, dance and songs of the 17th and 18th century John Roy Stewart poems, Strathspeys, Reel of Tulloch,
- Timber extraction systems 1914 – 18 rail tracks, dams sluices, altered watercourses.
- The Rothiemurchus/Glenmore Boundary and boundary stones. Old district and parish boundary as well as estate boundary under scrutiny by Aberdeen and Stirling Universities as possible important boundary of Pictish or earlier origin

5.6 Although as stated earlier, no attempt will be made to set down a full audit, what has been done is to outline the possible subject matter and give an indication as to the location of relevant sources.

Subject Matter

5.7 The types of subject matter are as follows:

- | | |
|---|---|
| <p>1. Archaeology
Sites
Finds
Records</p> | <p>7. Visual Arts
Drawing/painting/sculpture
Photography
Film</p> |
| <p>2. Built Environment
Buildings
Walls Dams
Roads tracks bridges</p> | <p>8. Written History
Archive material/Primary Sources
Secondary Sources
Literature and Poetry</p> |
| <p>3. Relict landscapes
Log floating
Sawmilling
Railways</p> | <p>9. Oral History
Existing Material
Potential</p> |
| <p>4. Language
Gaelic Written
Aural Gaelic
Placenames
Scots English?
Accents and dialect</p> | <p>10. Myths /ledgends
Folklore, customs, traditions and beliefs</p> |
| <p>5. Music
Fiddle
Pipe
Vocal
Clarsach</p> | <p>11. Occupations and Recreation
Work and Working Practices</p> |
| <p>6. Dance</p> | <p>12. History of Skiing</p> |
| | <p>13. The Pine Forest</p> |

5.8 Potential Additional Subject Matter

- Food and Farming – traditional practices and local dishes
- Family History/Clan history/social structure
- Religion, Ethics, world view
- Heritage Tourism Potential
- Research Potential

The Forest (Use and Management)

5.9 Presumed used for shelter, building supplies and hunting from the end of the ice age until medieval times.

- 17th century extraction of timber left sites of watermills* and sawmills*
- 18th century Osbourne and Dodsworth in Glenmore, timber floated through Rothiemurchus, sluice gates*, dams*, rock clearance on the 'bennie' (Am Beanaidh?), boring mill for water pipes for London in Rothiemurchus.
- 19th century William's Dyke, separating forest from farmland, shooting parties (Col.Thornton 1804), 1859 Duke of Gordon's Deer Forest. 1899 a severe forest fire.
- 1914-1918 War Canadian Forestry Corps extracted timber, left railtracks*, bridges*, sawmills*.
- 1939-1945 War Royal Norwegian Forces on Commando training tried out their demolition tactics. Indian Troops made a mule track.
- 1920 and 1959 the most severe of a series of forest fires causing deforestation and lasting changes in soil fertility and vegetation cover.

Gaelic Heritage and Music

5.10 Includes

- Placenames
- 17th century music, fiddle, bagpipes, truib (jews'harp)
- 18th century ballads (John Roy Stewart etc.)
- Dances – Strathspey, Reel of Tulloch
- Stories
 - Shaw Mor's grave and the stones
 - Shaw/Comyn ambush (Asse gower as a callart).
 - The Creen Banner of Kincardine.
 - Robin Og and the Laimh-dhearg (Loch Morlich)
 - Clarsach?

Land Ownership and Boundaries

5.11 These are as follows:

- Glenmore, going backwards in time :- Forestry Commission, Gordon (Huntly), Alexander Stewart (two generations), Earls of March and Moray, Comyns, The crown
- Rothiemurchus :- Owned by the Bishop of Moray, rented to Alexander Stewart (the Wolf of Badenoch) and thence the Shaws and MacKintoshes, sects of the Comyns. Reverted to the Crown and sold to the Gordons who in turn sold it to the Grants who have held it ever since.
- The boundary between the two estates might be even earlier*.

Built Heritage

5.12 Includes:

- The Doune (house)*. Loch an Eilein Castle*²

² * has an entry in the Sites and Monuments Records (SMR).

- Dell* Glenmore Lodge (YH)* Glenmore Outdoor Training Centre* Hotels and Guesthouses (post railway) Ault nan Caber cottages, School*, a number of Churches and a wide range of vernacular buildings. The Croft House, Polchar and the Doune of Rothiemurchus are the only listed houses. Martineau Monument.

Occupations and Recreation

5.13 These include:

- Farmsteads* sheilings* corn-drying kilns* Stills* wells*
- Lime Kilns*
- Smithy*
- Fish Farm
- Caravan Parks
- Pottery
- Shops, visitor centres
- Skiing, chairlift, funicular
- Mountaineering, bothies, shelters
- Mountain Rescue, tragedies
- Reindeer (Mr Utsi's hut)
- Dog sleighing
- Shinty
- Highland Games
- Bothy Culture
- Military camps – Territorials, Indian Regiment
- Memorials – Martineau, Major.General Rice, Dog's graves, Norwegian memorial
- Itinerant traders (knife sharpeners, Cobblers)
- Village and Home shops, Mobile Shops
- Farming Lifestyles
- Access rights – Martineau Sisters

Relict landscapes

5.14 Including:

- Rock Shelters
- Tullochgrue/Balvattan field clearance, hut circles* Bronze Age.
- The snuff stone* Cup marks usually associated with Neolithic.
- The Doune (earthwork)*

Roads, Tracks, and Bridges

5.15 Include:

- | | |
|-------------------------|-------------------------------------|
| • Drove Roads | Extraction Waterways |
| • An Sluggan | Airstrip |
| • Ryvoan Pass | Coylumbridge |
| • Lairig Ghru | Bailey Bridge |
| • Rathad nam Meirleach | Iron Bridge (over Spey) |
| • Rathad an Ass (Eas) | Alt Mor bridge (destroyed by flood) |
| • Mule track up Ord Ban | Cairngorm Club Footbridge* |
| • Railway | Logging railtracks |

History and Impact of Historical Events

5.16 Historical Events/Period such as:

- Pictish Period
- Feudal
- Medieval,
- 15th – 16th century political/religious upheaval
- Religious dissent/Disruption
- Coming of the Railways
- Both World Wars

Research Potential

- 5.17 Areas which have research potential include:
Loch an Eilein Castle
Glenmore/Rothiemurchus boundary
Evidence of mesolithic activity. - revealed by a rock shelter, burnside wash-out or excavation

Heritage Tourism Potential

- 5.18 There is heritage tourism potential in the following subjects:
Beglans
Rein Ruick* (Stewarts of Glenmore)
Any other abandoned farmstead or township.
For the purposes of heritage tourism some of the sites, subjects and personalities might be linked to tell particular stories e.g.
- Wolf of Badenoch + Loch-an-Eilein Castle
 - John Roy Stewart + 18th century ballads+ Beglans+ Green Banner of Kincardine
 - World Wars I, Logging railways+ forestry camps+
II, Norwegian activities+ Indian Regiment Mule tracks
 - Martineau Monument + Public Access Movement, mass trespasses etc.
 - Timber extraction+ rafting+shipbuilding at Garmouth.
- 5.19 Resource for those indulging in 'Genealogical Tourism' and those searching for their roots.

Key Issues

- 5.20 *History and Culture status and significance*
It is perceived by the sub group that it needs to be established that the History and Culture of the area is as important and deserves the same level of consideration as the natural heritage in the development of management strategy. Forest Enterprise is currently having the whole area under their ownership surveyed.
- 5.21 *Sites and Monuments Record (SMR) updating*
The area's SMR needs to be updated and reviewed. Clear policies on scheduling and listing need to be developed and articulated.
- 5.22 *Field research on physical remains.*
There is a real need for much more field research to identify the range and diversity of the remaining relict landscapes of the area, both in terms of archaeological sites and of other remains.
- 5.23 *Documentary Archive*
There is a need for a comprehensive and locally available documentary/photographic archive.
- 5.24 *Sound Archive*
It is vital that a sound archive be established and managed locally.
- 5.25 *Awareness of Culture and History*
It is felt by the sub-group that there is a need to raise the profile of the Culture and History of the area both locally and wider. There needs to be a much greater emphasis on education and interpretation in this area.
- 5.26 *Gaps in the Audit*
There are a number of obvious gaps in the Audit that will need to be filled if appropriate strategic decisions are to be made in the future. These include:
- Information on sites and other remains for various periods particularly Pictish,/Early Medieval

- Information on Early Gaelic history and Culture

5.27 *Prioritisation of Investment*

There is a serious need to source and prioritise investment in History and Culture. The work which is founded on this audit will have to address the need for

Indicators of Change

5.28 The Sub-group considers that there are a number of influences which may well create pressures for change in the area of Culture and History. These changes are likely to require a management response and can open up new avenues for development.

- ***Increase in Heritage Tourism.*** It is perceived that there is likely to be an increasing demand for Heritage based tourism. This could enhance both the numbers of visitors to the area and the opportunities to maximise its cultural and historical assets.
- ***Increase in Recreation/Development pressures.*** It is felt that, especially with the establishment of the National Park there is likely to be an increase in the intensity of recreation and use of the natural environment. This could lead to increased erosive pressures on sites and monuments and any development works will have the same effect. Therefore sites must be identified, used in a sustainable way, and protected.
- ***Population Increases/Demographic change.*** There is likely to be an increase in the population as a result of factors like the National Park, increase in people wishing to retire to the area etc. This will necessitate not only measures to see that the additional pressure does not adversely affect the resource but to effectively communicate the relevance of culture and history to local people 'new locals' and visitors.
- ***Increased stress on Conservation/preservation.*** There are likely to be management consequences of the National Park status and other international designations.

6. OUTDOOR RECREATION AUDIT

Introduction

- 6.1 There are no areas of countryside where such a large number and range of both outdoor and indoor facilities is available in such a concentrated area, and few that have had at least a century of recorded outdoor activity. However there are also few areas that provide such a range of recreational opportunities and have as great a degree of environmental sensitivity. Moreover the area has been the location of a large commercial tourist based development since the 1960's which involved the construction of extensive indoor facilities in Aviemore and the subsequent intensive marketing.
- 6.2 Total numbers of visitors to Rothiemurchus and Glenmore were around 500,000 in the late 1990's, including up to 125,000 skiers who transited the direct to the Ski area; approximately half of the total reach Glenmore³. This is about half of all the visitors to Badenoch and Strathspey and so it is clear that it is the area's main recreational resource. The area is not only heavily used by visitors but also by local residents who require a particular range of facilities and particular forms of access. In addition over 50% of those gaining access to the Cairngorm Mountain core use an access point in Rothiemurchus and Glenmore⁴
- 6.3 The current popularity and level of use arises not only from the historical development of Tourism, but from a variety of factors such as:
- It is a very attractive landscape, with a mixture of native and non native forest, settlements, lochs, rivers and mountains rarely found so close together anywhere. Exceptionally, visitor access is positively managed and welcomed as a matter of policy by all the major landowners and agencies working with respect for each other.
 - The local resident population is increasing not only from naturally generated increase but by virtue of a long term economic strategy operated from the 1960's, people coming into the area attracted by the perceived quality of life and the unique concentration of year-round recreational opportunities. The area has a tradition of producing Olympic athletes for at least the last four decades at times as many as five per winter games.
 - Not only is there a large tourism bed bank in Badenoch and Strathspey, but the area is within day-visiting distance (2.5hours) of a population of 4 million. One of the key lessons has been the considerable distance people will travel for a day out having made fairly last minute decisions based on the ever-improving communications and media. In addition, the area is provided with a great ease of access by virtue of both Trunk Road and Main Line Rail access.
 - There is an extensive and well developed outdoor recreation infrastructure including some facilities of National significance. The marketing of the area together with the development of this associated infrastructure has created an opportunity for the establishment of

³ Mather A S 2000, Rothiemurchus and Glenmore Recreation Survey 1988-1999

⁴ J Taylor and C McGregor 1999 – Cairngorms Mountain Recreation Survey 1997-98, SNH Research, Survey and Monitoring Report No 162, pp21

independent outdoor recreation businesses that use the area as their main or one of their main resources.

Current Outdoor Recreation Activities

- 6.4 The audit of outdoor recreation activity in the area should be based on a fundamental analysis of the range of existing and potential recreation users and the need for facilities.

Walking

Winter and summer mountaineering/hill walking

- 6.5 A very popular recreational activity in the CRAGG area. Considerable numbers engage in this activity using a range of access points. By far the majority have, in the past gained access through Coire Cas and the mechanical uplift facilities. The closed system being operated under the Cairngorm VMP may have a significant effect on this. Nationally, participation rates after being constant throughout the 90's have recently risen.⁵

Low ground

- 6.6 By far the most popular recreational activity in the CRAGG area. The largely dispersed and informal nature of this activity means that it is difficult to achieve accurate estimates of numbers. There is an extensive network of paths and tracks (Table 1) that appear widely in maps and guide publications. This easily accessible and widely publicised network in an internationally important environment, together with the large bedbank represented by Aviemore and the rest of Badenoch and Strathspey provides a resource which attracts large numbers of visitors. Nationally, participation rates are the highest of any outdoor recreation and show a steady rise as a percentage of the population.⁴

Fell Running

- 6.7 A specialist and minority activity which nevertheless can be significant especially when associated with organised events.

Rock Climbing

- 6.8 Very popular though localised, this activity can exert significant pressure in particular areas and numbers of participants can be locally high. Although nationally participation rates for this activity are increasing, anecdotal evidence suggests that much of this is catered around indoor climbing walls and that the participation in the sort of climbing available in the Cairngorms is not showing a great increase.

Utility/Casuals

- 6.9 There are a number of communities in the area together with a scatter of more isolated dwellings. Between these and linking with the main settlement of Aviemore there is a pattern of use by walkers from the community going about their daily business.

Dog Walkers

- 6.10 There are particular problems associated with those whose recreation involves dog walking. This activity is undertaken both by local people and visitors and can occur in considerable numbers in favoured locations. There are implications for health and safety, pollution and danger and disturbance to wildlife and stock.

⁵ Sportscotland Research Digest, No 84 - Sports Participation in Scotland 2000.

⁴ Sportscotland Research Digest, No 84 - Sports Participation in Scotland 2000.

Cycling

Family Recreation

6.11 Evidence suggests that this is by far the most numerous group of cyclists. In the region of a total of 4,500 to 5,000 cycles are hired out per year by the two hire operators based in Rothiemurchus and Glenmore. In addition there are significant numbers hired out by the other commercial operators who use the area, perhaps as many again, although accurate numbers are difficult to access. Anecdotal evidence from Rothiemurchus Ranger Service suggests that the commercial sector is only about one third of the total with the remainder being informal access by people with their own bikes. Particular increases have been noted in the number of recreational off-road cyclists. This would indicate that there might be up to 30,000 cyclists using the area per year.

Advanced

6.12 Not in such large numbers but evidence suggests that those who are more expert and are looking for particular challenges are increasing in number. This group requires more specialist facilities including downhill and single-track.

Utility

6.13 There is a degree of use of the area by people cycling as part of their daily lives, getting to and from work, shopping etc. Although not strictly a recreational group, the needs of this sector are the same as other groups of cyclists.

Snow Sports

Downhill

6.14 The CRAGG area includes one of the premier British downhill ski facilities at Cairngorm. Although the management of this area is outwith the remit of CRAGG, and is undertaken by the operating company's visitor management plan, nevertheless the large numbers of people participating in the sport have a considerable effect on the rest area, particularly, for example when the ski slopes are stormbound or there is a lack of snow, and are a significant issue for the management of the area. Current skier numbers are around the 100,000 mark depending on snow and wind conditions in any year. This has shown a drop since the 1980's which is reflected in skiing numbers throughout Scotland. There is a perception that the ability of the Funicular Railway to operate in conditions which stopped the Chairlift will lead to an increase in skier numbers.

Cross-Country (Nordic), low level below the tree-line and mountain touring

6.15 The area is very popular for Nordic Skiing, however it is snow cover dependant. When there is adequate cover the area is ideal, provides an excellent experience and can absorb large numbers of skiers.

Ski Mountaineering

6.16 Cairngorm Plateau and the Northern Corries provide some of the best and most reliable ski mountaineering opportunities in Scotland. The area is well known and has been widely publicised among practitioners.

Snow Boarding

6.17 There has been a huge growth in snow boarding in recent years. From a minority sport in the 1970's there has been steady growth becoming explosive during the 1990's. The facilities required and the management are much the same as for downhill skiing. There is a similar effect on the surrounding area.

Sledging

6.18 Mostly a family based activity, this takes place largely on the low ground and is therefore very snowcover dependant. Numbers fluctuate wildly according to conditions and holiday times but can be considerable, several hundred people at a time using the slope at Heron's Field for example, however this is a very informal and unorganised activity and accurate estimates are very difficult.

Horse Riding

Local Recreation

6.19 There is at present only a very small number of horses used for non commercial recreation.

Commercial

6.20 There are two commercial establishments who potentially might wish to use the area although neither are based in the CRAGG area. At present they do not use the CRAGG area, however changes in access legislation might well change this situation.

Riding Club

6.21 There is a local riding club, the Badenoch Riding Club with approximately 100 Members. Facilities for some of its activities are provided at Rothiemurchus and Invereshie.

Long Distance

6.22 Occasional long distance treks pass through the area by arrangement with the landowners. These consist of from 4 to 10 horses. Overnight grazing is sometimes provided at Tullochgrue and Inverdrue.

Water Based Activity

Canoeing

6.23 A popular activity especially on the River Spey, where there is a right of navigation, which is used both for informal and commercial canoeing. There are a number of Commercial organisations which regularly use the Spey both local and from wider afield, mostly for organised parties. Canoeing takes place on Loch Morlich, both commercially from the Watersports Centre and other commercial organisations such as Badaguish, Abernethy Outdoor Centre and Lagganlia, and informally. There is an increasing amount of casual commercial use by small businesses who use the loch on an occasional basis.

Sail Board

6.24 Limited activity on Loch Morlich.

Sailing

6.25 Only takes place on Loch Morlich and is largely either under the auspices of the Watersports Centre or the Spey Valley Sailing Club. There is little informal sailing owing to the difficulty of launching. Numbers of craft can reach 120 during regattas.

Swimming

6.26 Rare owing to the water temperature. Occasional in Loch Morlich both informally and as part of organised competitions involving other sports such as cycling, canoeing and running.

Skating

6.27 Very limited numbers. Occasionally on Loch Morlich and Loch an Eilein when sufficiently frozen.

Curling

6.28 Rarely possible. Very occasionally there is an organised bonspiel on Loch Morlich but conditions are seldom good enough.

Diving

6.29 Very limited. Occasional Scuba Diving has taken place on Loch Morlich and Loch an Eilein.

Field Sports

Stalking

6.30 Commercial Stalking both for Red and Roe takes place in Rothiemurchus from April until Christmas.

Shooting

6.31 There is a Clay Pigeon Shoot at Altnacaber on Rothiemurchus Estate, open daily all the year round.

(Additional Information awaited from Rothiemurchus Estate)

Fishing

6.32 There is fishing on The River Spey, Loch Morlich, Loch an Eilien, Lochan Mhor and other lochans and rivers. In the region of 200 permits are currently issued for fishing on Loch Morlich. This number, together with the hire of boats to fishermen has declined over the past few years. Wild Fishing is available from February until September, and there are stocked lochs at the fishery

Airsports

Gliding

6.33 No Gliding takes place from the CRAGG area although it is overflowed by aircraft from Feshie Airstrip. Occasionally gliders land in an emergency.

Hang-Gliding

6.34 Very Limited. Occasional flights from Craigellachie, the Cairngorms and Kincardine Hills.

Paragliding/scending

6.35 Also very limited. Occasional activity from the same locations as hang-gliding.

Ballooning

6.36 Very occasional single flights by permission of Landowners. The majority of the Ballooning in the past has been in organised events held at Rothiemurchus. This had involved 10 – 12 balloons and is by agreement with neighbours.

Specialists

Archaeologists/Geologists

6.37 Relatively small numbers although once again there can be locally inflated numbers due to the activities of educational and research establishments. The Plateau and Corries also attract small numbers of crystal and gem hunters.

Wildlife Watchers/ Naturalists

Geomorphologists

6.38 The area is rich in Glacial Geomorphology including a number of classic sites. This attracts small numbers of individuals, students and researchers. Numbers are usually small except locally when groups, particularly of students, congregate at particular sites.

Events/competitions

Charity events

6.39 There are a number of events run for charitable purposes including for example, the Lairig Ghru Walk and Hospice Charity Cycle Race. These can have as many as 100 competitors/participants.

Commercial/sponsored events

6.40 There have been a number of large events such as the World Orienteering Championships and the World Mountain Bike Championships. These are not necessarily annual or even regular but can involve quite large numbers of both participants and others. There are also occasional Product Launches, and smaller club level biking events.

Other users

Camping / Caravanning

6.41 There are two camp/caravan sites in the CRAGG area, at Glenmore and Coylumbridge. Coylumbridge is largely for static caravans

Picnicers / BBQists

6.42 Picnicing and various forms of outdoor cooking are popular activities although weather dependant. Almost all is completely informal and thus it is impossible to estimate numbers.

Sunbathers/beach users

6.43 Very popular activity particularly on Loch Morlich beach, where there can be some hundreds of individuals on a sunny day.

Adventure Racing

6.44 Takes place in organised events.

Extreme Sports

6.45 Gully Skiing and Boarding takes place in the northern corries of Cairngorm. Very limited numbers and only when conditions permit.

Rifle Target shooting

6.46 Very limited numbers take part at the rifle range at Glenmore Lodge, mostly restricted to teams involved in international competitions.

Tennis

6.47 The Rothiemurchus and Aviemore Tennis Club has ? members and ? tickets are sold annually. Nationally Tennis appears to be static in terms of overall participation, however the local population is growing and with modern facilities it is one of the best clubs in the area.

Model aeroplane flying

6.48 A small number of enthusiasts fly model aircraft from an area provided by Rothiemurchus Estate. The club membership is around 15.

Sled Dogs

6.49 Regular organised events take place annually; these events can involve up to 50 teams and attract hundreds of spectators. There is also a small commercial enterprise which attracts visitors.

Street Luge

6.50 Occasional events are staged on the Ski Road from Coire Cas car park to the road junction. These can involve considerable numbers of competitors and spectators.

Greenlaning

(4x4) driving/quad bikes

6.51 There is very little informal activity in the area. Only one road being possible for informal off road activity. There is a commercial 4X4 operation under the auspices of Rothiemurchus Estate.

Orienteering

6.52 Now mostly restricted to occasional organised events. The Orienteering course maintained by Forest Enterprise was closed in 1999.

Roller Skiing

6.53 Small numbers, mostly associated with Forces and National ski and biathlon team training.

6.54 This list is not intended to identify every single possible type of outdoor recreation but only those which have been, or are considered likely to be, undertaken in Cairngorm, Rothiemurchus and Glenmore.

Numbers of users ¹

6.55 Indications of the number of users are as follows:

- In 1998 – 99 there were around 500,000 visitors to Rothiemurchus and Glenmore in total, including skiers who transited the area direct to the Ski area.
- During that year, skier numbers were between 105,000 and 125,000 so that the total number of non-skiing visitors, the majority of whom had come for some recreational purpose, was in the order of 375,000 to 395,000.
- Rather fewer visitors reached Glenmore itself, this number being estimated at between 250,000 and 270,000.
- Between 160,000 and 230,000 non-skiing visitors reached the Coire Cas car park during the year, of whom around 50,000 took the chairlift to the Ptarmigan and walked on the short distance to the summit of Cairngorm.
- As far as the mountain plateau is concerned, over the same period, between 40,000 and 45,000² mountain users (visitors to the mountain core who spent more than an hour) gained access to the mountain core from Coire Cas. This is about a quarter of all mountain users in the Cairngorms and makes Coire Cas the most highly used access.
- When the other access routes into the mountains are included, such as Ryvoan (for Bynack Mor and the Lairig an Laoigh), the Sugar Bowl (for the Chalamain Gap), and Coylumbridge and Whitewell (for the Lairig Grhu and Braeriach), the survey figures indicate that over 50% of all Cairngorm mountain users start from Rothiemurchus and Glenmore. The next most heavily used access point is the Linn of Dee from where 23% of total visits

¹ Figures based on **Mather A S 2000. Rothiemurchus and Glenmore Recreation Survey 1998 – 99 Final Report.** and **Taylor J and MacGregor C 1999. Cairngorm Mountain Recreation Survey 1997 – 98. SNH Research, Survey and Monitoring Report No 162.**

² This figure is also corroborated by HC traffic counter data

start out. During the winter 74% of mountain users gained access via the Coire Cas car park.
 83,000 visitors use the Forest Visitor Centre at Glenmore during 2001 – 2002 (F.E. data)

Current Recreation Infrastructure

Paths

6.56 Paths in the CRAGG area can be usefully categorised into three types according to the main use made of them:

- The low ground path network – mainly in the forest. On Rothiemurchus, these paths are mainly based on long established estate roads and tracks, which in most cases were well built and blend into the landscape. All of the Rothiemurchus paths are to the south of the B970 road and the main focus of provision is between Inverdrue, Loch an Eilein, Loch Morlich, and Coylumbridge.

The Waymarked path network in Glenmore Forest Park is largely based on forest roads with interpretive trails having been built at Allt Mor (all abilities) and at the east end of Loch Morlich. The paths are thus in general much wider and newer than those on Rothiemurchus, and mostly lack their long established character. They provide very easy walking, cycling and cross-country skiing and in some areas are suitable for disabled ramblers.

- Mountain access routes. A number of key routes into the main Cairngorms massif start n Rothiemurchus and Glenmore, notably the Lairig Grhu path, access to Braeriach and the surrounding hills from Glen Einich, and the Lairig an Laoigh giving access to Bynack Mor and Loch Avon. A new path connecting Coire Cas car park with Glenmore (Allt Mhor path) is newly completed.
- High-level paths. From Coire Cas a number of paths and informal routes radiate out leading to the summit of Cairngorm, the plateau rim and the Northern Corries. The use made of these routes is complex and varies with season and weather conditions, and has changed as a result of the Closed System introduced with the opening of the Funicular. Because of the nature of the terrain, walking can be just as easy off a path as on it and so walkers are not constrained to use existing paths, although the great majority do use established routes. Where paths have been repaired and improved, use tends to be consolidated on them. The repair and reconstruction of a number of high-level paths to a very high standard has had the effect of encouraging use of them rather than a further proliferation of path development.

Table 6.1

Paths Suitable for	KMs
<u>Above tree line</u> <u>FE Ground</u> Pedestrians	5 km
Rothiemurchus Ground	
<u>Below tree Line</u> <u>FE Ground</u> Forest Roads (Open access for walkers, cyclists, horses)	32.8 Km
Waymarked Walks	36.5 Km

Paths Suitable for	KMs
Waymarked Cycle Routes	16.0 Km
Waymarked Nordic Skiing Routes	24.0 Km
Wheelchair access	2.0 Km
Rothiemurchus Ground	
Public Road	

6.57 Since paths are perhaps the most widely use feature of the area, the sub-group felt that rather than just recording how many paths exist, that a future full audit should include finer detail on their length, condition, maintenance arrangements etc. Not least because considerable work is required to bring many of them to a sustainable standard. The sub- Group considers that there is an in identifying a sustainable standard of maintenance. This might well vary according to location and use but feel an agreed maintenance guidance should be established for each type and level of use of path.

Public Roads

6.58 There are two main lengths of public road in Rothiemurchus and Glenmore, the B970 and the road known as the Ski Road. From Aviemore to Cairngorm in addition there are spurs to Whitewell, Loch an Eilein and Glenmore Lodge. These are maintained by Highland Council. Traffic flow data is available.

Rights of Way

6.59 There are two rights of way recorded on the Highland Council Map. Glenmore to Abernethy via Ryvoan Pass and Glenmore to Pityoulish via the Sluggan.

Orienteering

6.60 FE policy within Strathspey is to sustain current levels of orienteering on FE land, and encourage increased usage only where this is consistent with FE's other objectives. FE currently provides 1 permanent course within Strathspey at Inshriach, and in addition will consider allowing single events by permission, for which a charge will be made. An administrative protocol and charging system is agreed with the British Orienteering Federation at UK level. Laggan and Glenmore, along with the majority of Inshriach forest have been surveyed and mapped by the SOA (SOA National Office is based at Glenmore Lodge), and maps for these areas are available. There is an orienteering map of part of Rothiemurchus which has been used for major events only as the costs of monitoring any impact on the Natural Heritage in this sensitive area outweigh the revenue to be obtained from smaller events.

Indoor/Outdoor Facilities

6.61 Glenmore Lodge Training Centre it is equipped with some of the latest facilities and equipment. These comprise indoor and outdoor climbing walls, a heated indoor canoe rolling pool, sauna, gym, sports medicine and rehabilitation centre, dry ski slope, roller-ski track. In addition there are tennis courts at Inverdrue, the Inverdrue village green is a recreation space although not suitable for football. Coylumbridge Hilton Hotel has a range of indoor facilities including Fun House, tennis courts and swimming pool.

Airspace

- 6.62 There are no formal facilities for airborne recreation. A limited amount of informal Hangliding and Parascending takes place from the heights of the Cairngorm Plateau and Craigellachie above Aviemore. Hot Air Ballooning has taken place on Rothiemurchus as an event by arrangement with Rothiemurchus Estate and there have been occasional single balloon flights. Access for recovery is always by prior arrangement with the landowners. Model Aeroplanes fly from Rothiemurchus at Cambusmore. A rescue helicopter refuelling station is maintained by the RAF at Glenmore Lodge. There are a number of indoor facilities which provide training or support for outdoor recreation. Most indoor facilities are concentrated at Glenmore Lodge, Scotland's National Outdoor Centre

Water

- 6.63 Loch Morlich is the location for two water sports operations. Loch Morlich Watersports operates provides tuition and hire of small sailing draft, canoes and windsurfers, based on their premises on the beach. Spey Valley Sailing Club has a base on the north shore of the Loch where club members keep their boats. Some local outdoor activity centres also use this for group tuition.
- 6.64 The beach at Loch Morlich is a major attraction during the summer, providing a highly attractive location for picnics, sunbathing and swimming. People can bring their own boats, but they have to be small enough to carry, as there is no boat launching facility at the beach. There is some canoeing up the inlets to the tributary burns. This seems to provide an effective limit on water use. The only boat-launching place is at the Spey Valley sailing club and this is not open to the public. No motorised craft are used on the Loch apart from rescue boats. Loch Morlich has a zoned conservation area at critical times of the year that is marked with buoys and beyond which craft and water users are prohibited.
- 6.65 Boats are supplied for fishing at a number of lochs, and there is fishing at the Trout Farm Lochs.
- 6.66 There is considerable use of the river Spey for recreation including fishing, canoeing and rafting.

Traffic and Car Parking

- 6.67 From the point of view of providing easy access throughout its length, Rothiemurchus and Glenmore is well served by the Ski Road, which is designed to carry the peak traffic flows during the ski season. Traffic volumes are rarely high enough to cause significant congestion, apart from the junction with the B9152 (the "old A9") at Aviemore, where improvements are planned.
- 6.68 However this good level of vehicle access has been at the expense of alternatives to the car. Public transport is poor and visitors wishing to reach Glenmore on foot or cycle have to share the road with fast moving traffic. Furthermore, although well used strategic routes into the hills start from the roadside at Coylumbridge, the Bailey Bridge at Loch Morlich, and at Glenmore Lodge, no proper parking provision has been made for them.
- 6.69 Although the Forest Enterprise have provided screened car parking at Loch Morlich beach, parked cars overflow on to the roadside on busy summer days. Traffic volumes and speed, and lack of controlled crossing points can make crossing the road difficult and dangerous at the villages.

- 6.70 Both the Forest Enterprise and Rothiemurchus Estate charge for car parking. In the former case by “honesty” meters and in the latter, at Loch an Eilein, by a parking and information warden. Both make it clear that revenues are used for maintenance. There is no sign that charging at car parks causes people to park elsewhere although at Rothiemurchus there is evidence that some people might choose an alternative destination outwith the vicinity.

Off Road Cycling

- 6.71 Forest Enterprise has a track, which is used occasionally for events. Rothiemurchus has been used for the World Mountain Biking Championships
- 6.72 The National Cycle Route between Aviemore and Nethybridge passes through the area on the public road.
- 6.73 'There are currently no permanent facilities for challenging off road cycling provided within the CRAGG area, however organised challenging off road cycling events have been held in the area in recent years. Both Forest Enterprise land, and Rothiemurchus Estate land have been used for permissible events, with Rothiemurchus hosting the World Mountain Biking Championships in 19??'

Horse Riding

- 6.74 The British Horse Society and Forest Enterprise at UK level, have agreed that the open access currently enjoyed by walkers and cyclists over the entire FE estate, be extended to responsible horse riders. This is the current situation. Commercial enterprise, and the use of traps along with events, are not covered by this open access policy, and are still controlled by use of formal permissions, for which a charge may be made. Open access for horses, refers to the use of existing established forest roads and tracks.
- 6.75 Rothiemurchus Estate provides facilities for long distance through riders, but following experience of excessive wear to paths and disruption to walkers by horses, discourages the use of paths for riding. Rothiemurchus also provides a field for competitions and training for the local Riding Club

Toilets

Cairngorm and Glenmore

- 6.76 FE provide a public toilet facility adjacent to the Loch Morlich beach, which is open on a seasonal basis. Toilets are provided within the Glenmore Visitor Centre, for use by customers to the forest shop and cafe. (There are also toilets at the Glenmore Camp/caravan Site and at Coire Cas on Cairngorm.) There are seasonal toilets managed by Highland Council at Glenmore

Loch an Eilein

- 6.77 Toilets were built by the Estate and Nature Conservancy Council in the 1970's, which were designed to suit the countryside setting but were only for summer use. All year round all abilities facilities were installed by the estate in 1995.

Inverdrue Visitor Centre

- 6.78 Toilets at Inverdrue are in the old school and are original facilities with updated fittings, there is no requirement for them to remain open for public use and they are insufficient for busy periods. Daily cleaning and repainting costs are supported by SNH. They are not suitable for wheel chairs.

Rothiemurchus Fishery

- 6.79 Toilet facilities built in 1980's as part of the Fish Farm shop and fishing reception building. Gents, ladies and disabled toilets provided to customers, designed to cater for the arrival of a coach load of people. Cleaning and painting costs are supported by SNH from April to September. These toilets are to a 1980's standard and only require regular maintenance in the medium term.

Lairig Ghru

- 6.80 The need for public toilets at the entrance to the Lairig Ghru footpath is generously provided by the caravan and camping park.

Other Toilets which can be used

- 6.81 Include:
- Coylum Bridge Hotel
 - Einich Restaurant, Inverdrueie
 - Rothiemurchus Tennis Club
 - Glenmore Lodge

Dogs

- 6.82 FE operate a 'no dogs' policy on the Loch Morlich beach, with mixed success, and in addition it is an offence under FE byelaws to permit a dog to disturb, worry or chase any bird or animal, or if requested, fail to keep the dog on a leash.
- 6.83 Within Rothiemurchus dogs are welcomed and there is a request for them to be kept on a short lead. This requires more supervision than is available.

Orientation, Information and Interpretation

- 6.84 All three principal landowners in Rothiemurchus and Glenmore provide information for visitors on routes and access, the natural heritage and, to a lesser extent, the history of the area. The approach taken by each one varies though and there is little co-ordination on what is presented to the visitor.
- 6.85 Rothiemurchus provides footpath signs, destination information being provided where needed, as well as Estate Maps on information boards and in leaflets. Interpretive information relates to the place and use of the land, including Loch an Eilein and the history of the pine woods. The estate has a team of over thirty countryside staff and rangers who provide on the spot information, and guidance for visitors, and an education service for schools.
- 6.86 Glenmore Forest Park provides a number of waymarked trails, supported by maps indicating cross country skiing and cycling routes. There is also a short interpretive trail at Allt Mor (all abilities) and a Plant Life trail on the path to Ryvoan. The Forest Visitor Centre provides interpretation, interpretation and an audio-visual slide show about the natural heritage and history of the Caledonian forest, and the ranger also provides information and an education service.
- 6.87 Cairngorm Mountain Ltd at Coire Cas provides some interpretation about the mountain environment, but this is in the process of change as part of the Funicular development. The Cairngorm Ranger Service provides information on weather and routes and advice to visitors.
- 6.88 It is understood by all providers that, in the public interest, a mechanism is required to assist in the adoption of a strategic approach to the provision of opportunities for users with special needs and also for the provision of

education/interpretation opportunities, which is co-ordinated throughout the whole area.

Current Recreation Activities – Significance and Trends

- 6.89 Although the activities at paragraph 3 are represented in the area to some degree, not all are of the same significance. In order for the sub-group to begin to identify which of all activities or /and infrastructure was likely to become an issue requiring attention from an Integrated Management Strategy attempts were made to arrive at a judgement about significance. Although there are a number of approaches to what constitutes significance, the judgement is here made on the basis of whether or not the activity is significant in requiring a management response from CRAGG. There is a clear implication that those issues with the greatest significance are the ones requiring management strategies.
- 6.90 An assessment of significance based on current activity and future trends is necessarily a subjective process. An attempt was made by the sub-group to represent in tabular form (Appendix 1) the opinions of members regarding the relative significance of the various outdoor recreation activities. The sub group would appreciate a contribution to this debate from the wider CRAGG membership
- 6.91 In summary, the most potential significant issues in relation to the requirement for management effort are:
- **Walking**, both on the low and High ground and for residents, and visitors
 - **Cycling**, including family recreation and specialist
 - **Snow Sports**, all varieties
 - **Orienteering**
 - **Camping and Caravanning**
 - **Picnicing/BBQing** – (informal non facility dependant outdoor recreation activities)
 - **Events**
 - **Roadside Recreation**
- 6.92 For all these activities, a further issue is likely to be the provision and maintenance of the support infrastructure.
- 6.93 An analysis of the opinions of **all** CRAGG members regarding the current and future effects of various outdoor recreation activities was undertaken, (Appendix 2) The Matrix was divided into four sections, each activity being judged according to the degree of demand, its effects on the environment, and the economy and the degree of conflict it generated. The matrix provided a guide as to both the mean opinion of the organisation and also the degree of agreement/disagreement amongst members before the audit and issues were considered. This was a measure of our views and will help the group focus on the issues likely to give the most concern. The issues dealt with were not in any sense prioritised results being based on a simple scoring system.

Current Effect

- 6.94 The greatest effects were deemed to be in the areas of **high and low level walking** and **snow sports** for which there was a high demand and which were having a significant effect on the local economy.
- 6.95 Subsidiary effects were felt to be in the areas of:

- Climbing
- Cycling
- Events, for which it was felt that there was a significant existing demand
- Educational Activities
- Water Sports
- Camping
- High-level Walking and Motor Sports were felt to have an effect on the environment
- Climbing, cycling and camping were felt to influence the local economy
- Horses and events were potential sources of conflict

Change Increase/Decrease

6.96 Activities, which were forecast to have a substantial increasing effect, were:

- **Low level walking** for which it was suggested there was an increasing demand and an increasing effect on the local economy
- **High level walking** for its increasing economic effects
- It was felt that there will be an increasing demand for **orienteering**
- **Cycling** will have an increasing effect on the environment and the local economy and will involve an increasing degree of conflict
- It was also felt that this would apply to **watersports**
- **Camping** was likely to have an increased effect on the environment
- **Events** were also likely to increase and effect the environment and the economy
- It was also forecast that there is likely to be an increase in demand for **special needs provision**

6.97 It was thought likely however that there would be some increase in effect of most activities or at least no change. There was no instance of a decrease noted.

Indicators of Change

6.98 Changes which might influence demand on recreation in the CRAGG area:

- The National Park
- Access Legislation
- Other legislation (Europe)
- Demographic Changes
- State of the economy
- Business opportunities
- Currency fluctuations
- Increases in Leisure time
- Pressures to influence lifestyle (health/fitness)
- Pressures to reintroduce recreation and health to schools
- Changes in Lottery priorities
- Tourism Industry promotion/marketing
- Growth of niche markets
- Fashion
- Promotion of other national Parks/alternative destinations
- Climate
- Clothing/equipment technology
- Biodiversity constraints, and funding sources
- New developments locally. Funicular/Aviemore
- The extension of the Speyside Way
- Disability discrimination legislation

- Local access restrictions for certain recreational users being tightened or loosened both locally and elsewhere, affecting the inflow of users
- 6.99 Changes which might affect Quality/expectation requirements:
- Branding (National Park)
 - Tourism Marketing
 - Market change
 - Public expectations generated by Money/spend
- 6.100 Management policies/strategies:
- Biodiversity management
 - Landscape management
 - Public Funding
- 6.101 Behaviour:
- Press
 - Public policy/politics

Key Issues

- 6.102 There is in the opinion of the sub group a clear series of issues regarding recreational activities, which will require management reactions and therefore will need to be included in an Integrated Management Strategy. These include walking, cycling, orienteering, watersports, camping and caravanning and informal activities such as picnicking and formal events particularly large scale ones.
- 6.103 There is a need for research on the current condition of path and track in Rothiemurchus and Glenmore and the development of a protocol which established standard sustainability levels for maintenance.
- 6.104 In order to make an assessment of current demand for outdoor recreation and to forecast future trends, there is a need for research about :
- The reservoir/supply of different types of accommodation both in Rothiemurchus and Glenmore but also the wider area of Badenoch and Strathspey and beyond,
 - The propensity to visit the Cairngorm. Rothiemurchus and Glenmore Group area, taking into account changing visitor interests, and the availability of additional recreation provision elsewhere as a result of new public access arrangements.
- 6.105 It is the opinion of the sub-group that the whole area of special needs and provision for various forms of disability is an area, which requires a major piece of work.
- 6.106 The forthcoming access legislation is likely to have an as yet unknown in detail but certainly far reaching effect on outdoor recreation and its management.
- 6.107 There were a number of areas where there was a divergence of opinion amongst GRAGG members as to the effects of some of the recreational activities. These particular areas should be looked at and debated further by CRAGG.

Sources of information

6.108 Much of the information for the appraisal of recreation issues has come from two Visitor Surveys commissioned by SNH with partner agencies. Both surveys had the aim of quantifying numbers of users, determining patterns of activity and collecting opinions and attitudes on a range of issues connected with their visit. It may be noted that the weather during the year in which both surveys were undertaken was poorer than average and winter climbing and snow conditions poor and so numbers may be under-estimated compared with years of better weather. Both survey reports have been published and are available from SNH.

Sources Specific to the Area

- Taylor J and MacGregor C 1999. Cairngorm Mountain Recreation Survey 1997 – 98. SNH Research, Survey and Monitoring Report No 162. This survey focused on users of the mountains who had spent over an hour on a recreational activity within the mountain core of the Cairngorms, with the intention of including primarily mountaineers and hill walkers.
- Mather A S 2000. Rothiemurchus and Glenmore Recreation Survey 1998 – 99 Final Report. SNH Research, Survey and Monitoring Report No 166. The survey ran from April 1998 to March 1999 and focused on visitors to the low ground in Rothiemurchus and Glenmore.
- Bell Ingram 1997. Badenoch and Strathspey Access Strategy Study
- P Scott and R Aitken July 1999. Cairngorms Paths Project
- Glenmore Visitor Centre information
- FE Statistics Branch surveys,
- FE historical reports (kept at Visitor Centre)
- Forest Holidays campsite information
- Cairngorms Counter Survey. Julie Gardiner, March 2000 SNH

7. BUSINESS, HOUSING AND JOBS SUB-GROUP AUDIT

Sources of Information

- 7.1 This report is based on analysis of three audit surveys carried out by CRAGG during the summer of 2002, and supported by information and data drawn from a variety of other sources. Survey questionnaires were distributed to businesses, households and individual employees within the CRAGG area, each of which were asked to provide data on a wide range of relevant issues. In all three cases the response rate was very high indeed, giving a substantial degree of confidence to the resulting figures.
- 7.2 The analysis in this paper is not, however, only or even predominantly quantitative in nature. Indeed many of the key factors for the future are highly qualitative and best summarised through other forms of strategic analysis. The audit survey data were therefore compared against additional data and trend information from other relevant sources, and the resulting information was used as a basis for summarised SWOT and PEST analyses for the CRAGG area that in turn informed the resulting conclusions and recommendations.

Audit Survey Results

- 7.3 Three surveys were conducted. The Business Survey sought mainly to characterise and describe the nature of local businesses, and in particular to assess their size, growth prospects, employment profile, confidence, and key determinants of future business health. It was conducted within the CRAGG area and, for comparison, among selected businesses elsewhere in Badenoch and Strathspey. The Housing Survey was concerned with both the housing stock itself and with the housing needs of the occupants. It was designed to provide a clear overview of local housing stock in the CRAGG area combined with a relatively detailed analysis of local housing needs. The Jobs Survey recognised that many of those who work in the CRAGG area live elsewhere, and sought to clarify the nature of employment undertaken, common aspirations with respect to employment, and the housing needs of local employees.
- 7.4 The Business Survey obtained detailed responses from 34 businesses in the CRAGG area and 34 from elsewhere in Badenoch and Strathspey. In a localised of this nature there is a need for some care in interpreting the results. Summarised data are given in the full survey report, and the following are the main significant conclusions that emerge from these –
- A sizeable majority (70%) of businesses in the CRAGG area and outwith, in terms of absolute numbers but not necessarily total turnover, operate in visitor markets (activities, accommodation, retail). Within the CRAGG area there is, however, a much lower proportion of retail and accommodation businesses than outwith, and a much higher proportion of businesses involved in recreation and outdoor activities.
 - In turnover terms there are three relatively large (over £1M p.a.) businesses within the CRAGG area, and there is no particularly significant difference as regards the spread of business sizes between those within the CRAGG area and those outwith. In both areas over 50% of businesses have a turnover >£100,000 p.a.
 - Only three businesses within the CRAGG area have Ltd or Plc status compared with seven outwith, and this appears to reflect a significantly higher proportion of public sector led and managed business activity

within the CRAGG area (4 government agency and 1 charity within the CRAGG area and none of either in the sample from outwith).

- In recent years 65% of businesses within and outwith the CRAGG area have increased their turnover, but only 40% appear to have also seen an increase in profits. This may reflect some squeeze on margins due to increased competition, but this is unclear from the data.
- Business confidence is very high compared with elsewhere both within and outwith the CRAGG area. Over 70% of those replying forecast improved business conditions, with only 1% predicting a worsening situation (the balance were neutral or did not reply). Many referred to the National Park, the Cairngorm Funicular, and to general trends in leisure markets.
- The aspirations of local business people reflect this high level of confidence. Both within and outwith the CRAGG area over 60% of businesses intend to expand and look for new market opportunities in the foreseeable future.
- Notwithstanding the intention to expand, local businesses experience very substantial constraints to growth, most especially within the CRAGG area. Significantly the 34 businesses from within the CRAGG area reported a total of 130 constraints acting on their businesses, compared with a total of only 72 constraints reported by the 34 businesses from outwith the CRAGG area. No one type of constraint predominates among the responses, but two striking differences emerge between those within and those outwith the CRAGG area. Most obvious are problems over obtaining premises, sites and planning permission. These were referred to in 18 cases among responses from within the CRAGG area, compared to only 3 from outwith. Equally striking, however, are issues relating to staff availability (skills, training, housing). These were referred to in 49 cases among responses from within the CRAGG area, compared to only 13 from outwith.
- Businesses within the CRAGG area are significant employers, and although total figures are not available from the survey there appears to be little difference in average employee numbers per business within and outwith the CRAGG area. Almost half of the businesses surveyed gave no reply at all on staff numbers, in all probability because these represent single self employed individuals. Seasonal employment is high in the summer but appears to be less so in the winter. Some 50% of all businesses, inside and outwith the CRAGG area, responded to the effect that they employ permanent staff, and almost 60% said that they employ seasonal summer staff. However only 12% inside the CRAGG area, and 33% outside, reported employing seasonal winter staff (although these figures hide the fact that one company within the CRAGG area, the Cairngorm Chairlift Company, employs very large numbers of seasonal winter staff).
- Although the figures are difficult to interpret with confidence, there is some indication from the replies on recruitment patterns that labour turnover may be unusually high in some businesses.
- Around 33% of businesses have increased their workforce within the past two years while only 10% reported a fall. Moreover approximately 25% expect to increase their workforce further over the next two years, and none forecast a decrease. There is no significant difference in this respect between businesses within or outwith the CRAGG area.
- Buoyant business conditions were also reflected in responses about current market trends. Over 50% of businesses have experienced an increase in customer numbers over the last two years, and over 60% have noted an increase in customer spend. There is no significant difference in this respect between businesses within or outwith the CRAGG area.
- A wide range of external public sector influences are seen as being important in their influence on local businesses, both within and outwith

the CRAGG area. The survey did not rank these, but the areas most commonly described as being “very important” (in both +ve and –ve terms) were the establishment of a National Park, planning policies (including SNH policies), MBSE/HIE policies, and tourism marketing policies. Within the CRAGG area there was a stronger emphasis on the significant of planning related issues than outwith.

- Finding accommodation for employees is a significantly more difficult problem within the CRAGG area than outwith. 47% of businesses within the CRAGG area stated that they were currently looking for accommodation for employees, compared with only 9% outwith.
- A surprisingly high proportion of businesses both within and outwith the CRAGG area are recycling and/or composting some of their waste. A remarkable 68% of businesses within the CRAGG area stated that they would like help or advice on waste issues, compared with 35% outwith. This high level of environmental concern is further reflected in the proportion of businesses stating that they take account of wildlife and landscape issues in their work (75% both within and outwith the CRAGG area), and in the proportion (50% within and 24% outwith the CRAGG area) wanting further information on “management for the environment”.

7.5 The Housing Survey was split into two parts. 107 returns were obtained for the housing stock analysis questionnaire, but only 53 for the housing needs survey. Given the population of the CRAGG area this probably represents almost 100% of local households in the former case and 50% in the latter. Summarised data are given in the full survey reports, and the following are the main significant conclusions that emerge from these –

- Over 25% of the housing stock are seasonally occupied, and almost all of these (23% of the total stock) are private holiday homes. 33% of the housing stock are rented, almost always on an all year round basis. 4% of the housing stock are unoccupied.
- Remarkably, given the pattern of economic growth in recent years, less than 3% of the housing stock is under five years old, and only 9% is under ten years old. 33% is under thirty years old reflecting substantial development in the 1970s and 1980s, but 39% is over seventy years old – an unusually high figure for a high growth rural economy of this nature.
- The demographic profile of occupants is significantly out of line in some respects with the profile of the local population as a whole. 18% of occupants are aged 18 or under, compared to an average in the MBSE area of 26%. On the other hand the proportion over 65 (at 16%) is in line with the regional average, and the main difference appears to be in the age range 50-65, although it is difficult to provide accurate comparisons as census data use different age bands to those adopted for the survey.
- 43% of permanent occupants are in full-time employment, with a further 17% in part-time and/or seasonal employment. 17% are retired leaving only 23% either not seeking work or unemployed. These are remarkable figures, and reflect the low proportion of young families living in the area and the buoyant local economy.
- By far the most commonly expressed housing need is for relatively low cost owner occupied housing for single people and couples without children. Most people in this category (55%) expressed a preference for finding a house within the CRAGG area, although a significant proportion (30%) indicated an interest in housing anywhere in the Aviemore area or Badenoch and Strathspey generally. There is little interest in Council or Housing Association properties, although almost half of those looking for housing indicated that they were looking for a house to rent (apparently because they do not expect to be able to buy one rather than because they do not want to).
- A significant proportion of households (23% of those responding to the housing needs survey) live in housing tied to their employment. A third of

these expect to have to seek new housing within five years due to their employment ending.

- Among those indicating that they were seeking alternative housing, the most common concerns are with the high price of local housing and the poor supply of suitable housing to buy. This appears to be reflected in a common sense of pragmatism to the effect that while they would like to live within the CRAGG area in their own house, most of those seeking housing do not expect to be able to realise this ambition.

7.6 The Jobs Survey asked a number of questions of people working, but not necessarily living, in the CRAGG area. 136 questionnaires were returned, including a good spread of individuals from different types and sizes of local businesses. 85% of those interviewed were in full-time permanent jobs, with the balance being part-time, seasonal or casual workers. Summarised data are given in the full survey reports, and the following are the main significant conclusions that emerge from these –

- Responses given on wages and salaries require careful interpretation, as some may have excluded tax and deductions when responding, and there is no indication of whether figures quoted are for part-time or full-time work. Moreover the figures may exclude some business owners and managers. Nonetheless a picture emerges from the data of a relatively low wage economy, with (apparently) somewhere in the region of 75% of respondents earning below the national average.
- 13% of respondents stated that they were on a one year time limited contract, and although such arrangements are increasingly common (and this proportion is not uncommon) the timescale involved is short compared with averages elsewhere and indicates a comparatively high level of job insecurity.
- 33% of respondents live in accommodation provided by their employer and a further 21% are in rented housing. Only 41% live in their own home – low by national standards. 26% of respondents indicated that they were looking for accommodation in the CRAGG area, but no figures were obtained as to the proportion of respondents already living locally (c.f. in Aviemore or elsewhere).
- 38% of respondents indicated a wish to buy or build their own home, and 18% expressed a desire to rent accommodation. 45% said that they were unable to move due to the cost and shortage of housing or land to buy, while 25% gave problems in the rented sector (cost, availability) as a constraint. Very few (5% and 8% respectively) had applied for Council or Housing Association lets however.
- Of those looking to buy a home 62% have a maximum price of under £50,000. Only 11% are able to afford over £70,000. Ability to pay rent is similarly constrained.

SWOT and PEST Analyses

7.7 The survey results provide only a starting point for the strategic analysis required here. Conventional strategic planning uses a variety of frameworks to derive conclusions from basic data, and while there are numerous options available this audit uses two simple and well known versions – a summarised SWOT analysis (strengths, weaknesses, threats and opportunities) and a summarised PEST analysis (political, economic, social, technical) to do so. It should be noted, however, that while this analysis focuses primarily on the CRAGG area, in practice it is both economically and socially substantially integrated into the wider area of which Aviemore is the hub.

7.8 Strengths –

- Strong local economy with a good number of smaller businesses as well as larger employers.

- Main markets for the local economy are relatively stable or growing.
 - Substantial ongoing public investment in visitor infrastructure.
 - High levels of business confidence.
 - Strong demand from people wanting to live and work in the area.
- 7.9 Weaknesses –
- Narrow business focus on recreation and outdoor activities, and significant dependence on visitor markets (=risk).
 - Dominance of three large employers in local economy.
 - Shortage of available land for housing and businesses development.
 - Shortage of affordable housing.
 - Low wages.
 - Shortage of labour (living in area).
- 7.10 Opportunities –
- Increase supply of affordable housing in order to improve labour supply.
 - Improve transport links to/from areas of affordable housing outwith the CRAGG area.
 - Encourage economic diversification by increasing housing and property supply for incoming residents.
 - Increase average wages by enabling capital intensive and high margin businesses to establish.
- 7.11 Threats –
- Downturn in visitor markets.
 - Further contraction of labour supply.
 - Further excessive inflation of property values.
 - Inappropriate development damaging local economy.
- 7.12 Political Factors –
- National Park status and policy.
 - Environmental protection legislation.
 - Planning legislation, policy and its application.
- 7.13 Economic Factors –
- Increasing competition for labour.
 - Falling investment (pension fund) returns and annuity rates.
 - More people inheriting capital from parents.
 - Falling real interest rates.
 - Growth of Inverness – commuting opportunities.
- 7.14 Social Factors –
- Increasing leisure time, including weekends and short breaks.
 - More childless couples.
 - Northward drift.
 - Growth in levels of outdoor activity.
 - Private holiday homes (maybe) less socially acceptable.
- 7.15 Technical Factors –
- Global warming effect on winter sports.
 - New outdoor sports emerging.
 - Further telecoms development allowing increased flexibility of location for many businesses.
 - Improving transport connections.

Conclusions

- 7.16 For anyone who knows the CRAGG area well there will be no major surprises in the results of this audit. The data confirm much that local people already feel to be true about their area, and while it would be unwise to assume a high level of statistical significance in the absolute figures, the trends and underlying indications are pretty unambiguous. The figures indicate an economy that is generally buoyant and optimistic, but constrained by a number of factors the most serious of which appear to be labour related (availability, skills, turnover). Many people who want to live and work in the CRAGG area cannot do so. Many businesses that could expand in the CRAGG area cannot realise their full potential. The challenge for CRAGG and other policy makers is to consider whether this really needs to be so.
- 7.17 A useful starting point in this deliberation is to look beyond the raw data and to interpret the results within a more qualitative context. Why is affordable housing in such short supply, and what are the realistic ways of resolving this? Why do so few young people with families choose to live in the CRAGG area, and how might this be resolved? Why is labour turnover so high, and are there realistic and practical ways of reducing this? Why does the business survey produce a significant number of adverse comments about the policies of various public agencies, and is there something that can be done to reduce this? The immediate purpose of this audit is to help inform strategic planning in the lead up to establishment of a National Park, and if it is to do so then it is in interpretation of the data, as much as in their analysis, that the answers will be found.