

Management Plan for

Killarney National Park

2005-2009



National Parks and Wildlife Service

First published by
The National Parks & Wildlife Service
Department of the Environment, Heritage & Local Government
www.npws.ie
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Printed on 50% recycled paper from plantation forests

Designed by Design Image, Dublin

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FOREWORD

Killarney National Park was the first of Ireland's six National Parks and it remains the most popular, attracting an estimated 1.5 million visitors a year. It is remarkable that such a popular site can remain, at the same time, a place for relaxation, reflection and where nature can still be appreciated in its pristine state. I am particularly pleased that, apart from the sophisticated range of visitor facilities, the gardens and the wider expanse of the National Park itself remain accessible to the visitor at no charge.



The first Management Plan for Killarney National Park, which was published in 1990, provided an important catalyst for both the conservation of the National Park and for the significant extension of visitor facilities over the past fifteen years. The key objectives of this new Management Plan, which runs from 2005 to 2009, are to develop and maintain the highest standards of conservation management and education, while facilitating sustainable recreational use. In this way, we will ensure that Killarney National Park is conserved as a protected landscape of the highest international standard for all our visitors, both now and for generations to come.

Responsibility for the overall management of Killarney National Park rests with me as Minister for the Environment, Heritage and Local Government, through the National Parks and Wildlife Service of my Department. However, the Park exists within a community setting and its successful management depends upon positive relations and co-operation with a broad range of local interests and statutory agencies. In that regard, I would like to convey my warm appreciation to the Killarney National Park Liaison Committee for the enduring and valued contribution that they have made to the elaboration of this Plan and which they continue to make to the National Park. I would also like to recognise particularly the positive part played by the Trustees of Muckross House (Killarney) Ltd in the operation and presentation of Muckross House in partnership with my Department.

This Management Plan is the product of a long and detailed consultative process, both with the Killarney National Park Liaison Committee – representing the principal “frontline” stakeholders of the Park – and with the wider public. I believe that the Management Plan has been enriched by that process and that it will lay a firm foundation for the continued development and success of Killarney National Park in the years to come.

A handwritten signature in black ink, which appears to read 'Dick Roche'.

Dick Roche T.D.

Minister for the Environment, Heritage and Local Government

INTRODUCTION

Killarney National Park Liaison Committee was established to represent the views of the local communities and groups that have a legitimate interest in the management of the Park. The Committee held its inaugural meeting on 7th December 2000 in the Walled Garden Centre at Muckross House. The Committee now has 26 members, with the following representation: Conservation,



5; Recreation, 7; Commercial, 5; Community, 2; Education, 3; and one each from Kerry County Council, Killarney Town Council and the Trustees of Muckross House (Killarney) Ltd.

The main task assigned to the Committee from the outset was to work with the National Parks and Wildlife Service (NPWS) of the Department of the Environment, Heritage and Local Government on the formulation of a new 5 year Management Plan for the National Park. In undertaking this task, the Committee set out to articulate the views and concerns of all interests in a spirit of constructive engagement with NPWS.

The Committee members have given tirelessly and selflessly of their time in refining and improving the content of the Plan. As a result, the Committee now believes that this final document, which has been further enriched by the outcome of the public consultation process, represents a sound basis for the future conservation management of Killarney National Park, consistent with the principles of sustainable development.

The Committee would like to express its thanks to the many NPWS personnel involved in this process, in particular Paddy O'Sullivan, Divisional Manager and Eamon Meskill, National Park Manager, who worked tirelessly to ensure that the concept of public participation in National Park management continues to work well and remains the way forward.

I would also like to convey our thanks to Minister Roche for his appreciation of our work and for his assurance that the aims of this Plan are to be achieved in co-operation with local interests and statutory agencies.

As Committee members, we are proud to have been involved in the formulation of this Plan, and we intend to continue the constructive engagement with the Minister's Department in ensuring the effective implementation of the Plan over the next 5 years.

Killarney National Park Liaison Committee

SUMMARY

This summary is intended only to highlight important points and is not comprehensive.

1. Killarney National Park (KNP) is managed by the National Parks and Wildlife Service (NPWS) of the Department of the Environment, Heritage and Local Government (DEHLG). The National Park is managed in accordance with international criteria set down by the World Conservation Union (IUCN) and is included in the United Nations List of National Parks and Equivalent Reserves.
2. Killarney National Park now covers 10,289 ha, more than double the original area acquired by the State in 1932 as the Bourn Vincent Memorial Park.
3. The Killarney area remains one of the most visited tourist localities in the country. Fáilte Ireland regards the National Park, with its outstanding natural landscape and major visitor attractions, as the key tourist resource in the area. The Muckross House complex is the biggest tourist attraction in Co. Kerry.
4. Muckross House is the main visitor centre for KNP, where the majority of visitors congregate. Other attractions include Ross Castle, Innisfallen, Muckross Abbey, Torc Waterfall and the Muckross Traditional Farms. Nature trails with booklets and guides are also available in the National Park. Tea-rooms at Deenagh Lodge and Lord Brandon's Cottage are run on a concession basis.
5. KNP forms part of the most extensive area of prime natural interest in the country, which includes Magillicuddy's Reeks, and the Caragh River and Blackwater River catchments. The National Park, and this wider area, forms part of an EU-wide network of areas of nature conservation interest.
6. An area within KNP (Derrycunihy) is designated as a Statutory Nature Reserve under the Wildlife Act 1976. The National Park has also been designated a Biosphere Reserve by UNESCO.
7. NPWS carries out various conservation measures in KNP, including rhododendron control, management of deer and goat populations, removal of trespassing sheep, fencing and path restoration. Conservation Rangers patrol and monitor plants and animals and their habitats, and monitor water quality in conjunction with Kerry County Council.
8. This Management Plan sets out a framework for the conservation of the natural and built heritage throughout KNP. The time scale of this plan is five years (2005-2009).
9. The principal objectives for Killarney National Park are:
 - To conserve, and where possible enhance, the ecological value of all natural and semi-natural habitats and features in KNP.
 - To conserve notable plant and animal species in KNP and to maintain their populations at adequate levels.

- To conserve and where appropriate, restore and further develop the cultural and heritage features of KNP.
 - To encourage sustainable recreational and educational use of KNP, to provide information and facilities for visitors and to improve public awareness of its natural and cultural heritage.
 - To establish and continue effective liaison with all parties with an interest in the management of KNP and to maintain a good relationship with the local community.
 - To maintain the aesthetic and other qualities of KNP and its environs.
 - To undertake or facilitate research necessary to achieve the above objectives and to monitor the effectiveness of conservation management in KNP.
10. The main challenges to the conservation of natural and cultural resources in the National Park include: trespassing sheep, unsustainable numbers of goats, deer and other livestock, rhododendron infestation, pollution in Lough Leane and uncontrolled visitor usage.
11. Strategies that will be implemented to achieve the aforementioned objectives include:
- The establishment of sustainable grazing regimes on bog, heath, woodland and grasslands
 - Control of erosion in sensitive areas
 - Removal of sheep
 - Rhododendron clearance
 - Establishment of native tree and shrub species in areas of former commercial conifer plantations
 - Control of nutrient inputs from sewage, farming and other activities into lakes, rivers and wetlands
 - Development of conservation plans for buildings and associated landscapes
 - Wide ongoing consultation with interested parties through the National Park Liaison Committee, along with direct consultation with the Trustees of Muckross House (Killarney) Ltd, local authorities and other bodies
 - Facilitation of public access, where appropriate, for recreational and educational purposes
 - Provision of information and other services to visitors and other National Park users
 - Development of ecological and heritage-related monitoring and research programmes.

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READER'S GUIDE

The purpose of this document is to communicate to stakeholders and members of the public about the management of Killarney National Park (KNP). Sometimes, nature conservation can be highly technical, and needs explanation. For example, there are some scientific and legal terms that are not readily understood by lay people, and these need to be described in lay terms. The more detailed scientific information, such as an inventory of National Park resources and scientific names of plants and animals recorded in Killarney National Park, is included in the Appendices. In this way, the document can also be used as a reference source for the more technically minded.

The Foreword puts this Management Plan in context, both on a local and national scale.

Section 1 is the Introduction, which includes an account of the historical background to KNP. This is followed by a brief description of the Management Plan and the objectives of the National Park, in Section 2.

The previous management plan, published in 1990, is reviewed in Section 3. It sets out the progress towards meeting the objectives made for the management of the National Park at that time.

Section 4 describes the international guidelines and standards by which KNP is managed. It also gives an outline of the National Park in a global context. Killarney is part of a network of hundreds of parks worldwide operating to similar standards.

Section 5 gives the reader an overview, in lay terms, of the EU and national legal instruments that play an important part in how the National Park and surrounding areas of ecological value are managed.

Ownership and rights are described briefly in Section 6.

Section 7 gives an account of how KNP is currently used and managed. This sets the scene for the following Section, Section 8, which plots the course to be taken in managing the National Park over the next 5 years, in the period 2005-2009. This includes a list of management issues that have to be tackled, followed by a set of National Park Policies. Then, for each of the Objectives for the National Park, first listed in Section 2, strategies are proposed to implement them, with targets set where appropriate. The final zoning section indicates where in the National Park the various strategies will be carried out.

The appendices include a detailed inventory of the wealth of KNP's resources, natural and man-made, and lists of species of animals and plants recorded in the National Park. A summary table listing management strategies and zoning is given in Appendix 4. The appendices also include a list of habitats and species protected under EU conservation legislation, a list of recorded monuments, Bourn Vincent Memorial Park bye-laws, and a list of KNP Liaison Committee (KNPLC) members.

BOX 1. SOME TECHNICAL TERMS EXPLAINED

‘Habitat’ means a place where wild animals and plants live. Particular plants and animals live in different places. For example, an oak wood is a habitat. The oak trees provide homes for a range of wild plants and animals which are characteristic of that habitat.

A **‘natural’** habitat is one that is substantially unmodified by the activities of people. For example, the vegetation on cliff sides is likely to be natural because it is inaccessible to people and domestic animals.

A **‘semi-natural’** habitat is one that is close to nature but modified by people. For example, some grasslands are semi-natural because they have a variety of wild plants that are typical of the natural situation, but yet they are maintained as grasslands because they are farmed in a way which is close to nature. Many of Ireland’s most valuable habitats are semi-natural.

‘Biological diversity’ refers to the variety of living things. In the same way as a rich diversity of cultures enhances the quality of our lives, so does a rich diversity of plants and animals. Biological diversity is now known to be important for the proper functioning of the planet’s life support system. Conservation of biological diversity has, therefore, become one of the key aims of governments throughout the world.

‘Invertebrate’ refers to those animals with no backbones. The vast majority of the world’s animal species, including insects, are invertebrates. ‘Vertebrates’ include fish, amphibians (e.g. frogs), reptiles (e.g. lizards), birds and mammals.

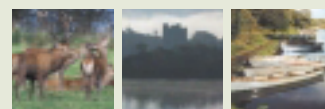
‘Eutrophic’ means a system that is high in nutrients and primary production. The term **‘eutrophication’** refers to nutrient enrichment, typically in the form of nitrates and phosphates, often from human sources such as sewage discharge. It also refers to the process by which a lake or river is enriched with nitrates, phosphates or other nutrients, which favour the growth of algae and often kill other organisms due to lack of oxygen.

‘Oligotrophic’ is the term used to describe a system (such as a lake) that is low in nutrients and in primary production. An oligotrophic lake is one that is unpolluted.

ABBREVIATIONS USED IN THIS MANAGEMENT PLAN

ACA	Architectural Conservation Area
cSAC	candidate Special Area of Conservation
DAF	Department of Agriculture and Food
DEHLG	Department of the Environment, Heritage and Local Government
EPA	Environmental Protection Agency
EU	European Union
GPS	Global Positioning System
ICW	Integrated Constructed Wetland
IOFGA	Irish Organic Farmers and Growers Association
IUCN	International Union for the Conservation of Nature, now known as the World Conservation Union
KCC	Kerry County Council
KNP	Killarney National Park
KNPEC	Killarney National Park Education Centre
KNPLC	Killarney National Park Liaison Committee
KTC	Killarney Town Council
LLCMMC	Laune Leane Catchment Monitoring and Management System
MCI	Mountaineering Council of Ireland
NGO	Non Governmental Organisation
NHA	Natural Heritage Area
NPWS	National Parks and Wildlife Service
NWS	Native Woodland Scheme
OPW	Office of Public Works
pNHA	proposed Natural Heritage Area
REPS	Rural Environment Protection Scheme
RPS	Record of Protected Structures
SAC	Special Area of Conservation
SAR	Search and Rescue
SPA	Special Protection Area
TMH	Trustees of Muckross House (Killarney) Limited
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Section 1



Introduction and Historical Background

1.1 INTRODUCTION

Location

Killarney National Park (KNP) lies immediately south of the town of Killarney, County Kerry, Ireland. It covers 10,289 ha (over 25,000 acres). The world famous lakes of Killarney- Lough Leane, Muckross Lake and Upper Lake – comprise nearly one quarter (24%) of the total area. See Maps 1 and 2.

Origin

The nucleus of KNP is the 4,300 ha Bourn Vincent Memorial Park (formerly known as the Muckross Estate) which was presented to the State in 1932. Most of the rest of the National Park comprises the former Kenmare Estate, which was added in 1972 and 1985.

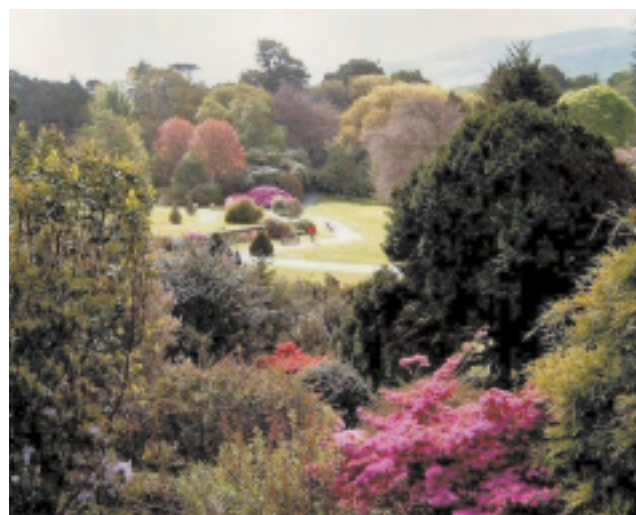


View from beside the Upper Lake

KNP Management

KNP is managed by the National Parks and Wildlife Service (NPWS) of the Department of the Environment, Heritage and Local Government (DEHLG). The Regional Manager is responsible for local management, and is based at Muckross House. The Regional Manager heads the Regional staff, which includes a Deputy Regional Manager, District Conservation Officer, Head Ranger, Conservation Rangers, Guides, General Operatives and various specialist staff, who between them carry out a wide range of duties (see Appendix 3.4). The Regional Manager can also avail of the services of a Divisional Ecologist, based in Cork, and is backed up by a corps of specialist Research Staff and Parks Administration based in NPWS headquarters.

NPWS is responsible for the overall management of Muckross House and Gardens. However, in a shared partnership approach, the Trustees of Muckross House (Killarney) Ltd (TMH) oversee the general control and management of Muckross House, the Kerry folklife exhibits within Muckross House as well as the Walled Garden Centre which includes a shop, restaurant, craft workshops and Traditional Farm within KNP, under the direction and supervision of the Department's Regional Manager. This arrangement is enshrined in an agreement with the Minister for the Environment, Heritage and Local Government in compliance *inter alia* with the obligations of the Minister under the Bourn Vincent Memorial Park Act 1932 and under the provisions of this KNP Management Plan (2005-2009), and all successive Acts and Plans.



Muckross Gardens in Spring

Oak woodland



Red deer on demesne grasslands

Natural and man-made heritage

Killarney has native woodlands, blanket bog, heath, lakes, and rivers and streams – a wide array of wildlife habitats which are very special both in Ireland and abroad. Killarney's native woodlands are the most extensive in the country (see Map 3 and Appendix 3.1 for further details).

The National Park also has many wild plants and animals which are rare in Ireland or Europe. For this reason they are of great interest and value to biologists. Some of these species, because they are rare or threatened, are protected under Irish and European law. Examples of rare plants protected by the State are the Killarney fern, slender naiad, pillwort and betony.

The red deer population living in the National Park and adjoining lands is the only indigenous wild herd in the country. Most of Ireland's other native terrestrial mammal species are also found here. Among them are the otter, pine marten, Irish hare, badger and a number of bat species including the lesser horseshoe bat. Over 140 bird species have been recorded, including peregrine falcon, merlin, hen harrier, golden plover, Greenland white-fronted goose, redstart, garden warbler and wood warbler. Some of these birds are scarce or threatened in Europe, and are protected under EU laws.

Two rare fish species occur in Killarney's lakes. The Arctic char is related to the salmon and trout, but is restricted to a few lakes in Ireland. The Killarney twaite shad, a member of the herring family, is confined solely to Lough Leane. The Kerry slug, marsh fritillary butterfly and freshwater pearl mussel are among the unusual animals included in the extensive list of invertebrate animals found in the National Park.

The Muckross and Kenmare estates hold a number of notable buildings, including Muckross House, Killarney House and Knockreer House. These are surrounded by extensive demesne landscapes with well-managed gardens and pleasure grounds. Other buildings of interest include Ross Castle and Muckross Abbey (see Appendix 3.2 for further details).

More detailed descriptions of the natural and cultural resources of the National Park are contained in Appendix 3.



Kerry Slug – a species listed in Annex II of the EU Habitats Directive



Merlin – a species listed in Annex I of the EU Birds Directive

The National Park and its relationship with its surroundings

KNP is not an isolated island of interest and beauty, but is part of a larger area of natural value which includes the Kerry Mountains and associated lowlands. The Kerry Mountains in turn form part of the island of Ireland. Therefore, the wildlife habitats and landscapes of the National Park must be managed with reference to the surrounding areas.

The scenic beauty of the Killarney area, with its combination of mountains, lakes, woods, waterfalls and antiquities under ever-changing skies, is world famous. It has attracted visitors for at least 250 years, making it the oldest and still the most famous tourist resort in Ireland. Today, the main attraction for most visitors to Killarney is the National Park, the focal point of which is Muckross House and its environs. In 2003, 200,632 people visited Muckross House alone.

The development of the town of Killarney has been based largely on the tourist industry, and it is of particular significance for the National Park that it immediately adjoins and is intimately associated with this tourist centre.

1.2 HISTORICAL BACKGROUND

Evidence of prehistoric settlement in the area of KNP dates back at least 4,000 years. Copper mining began at Ross Island at the dawn of the Bronze Age (c. 2400-1800 BC) and these mines are now recognised as the oldest in north western Europe. In the lowlands to the north and east of the National Park, there are a number of other prehistoric features of archaeological interest. These include the Lissyviggeen Stone Circle, probably dating from the Bronze Age, as well as standing stones, fulachta fiadh (cooking sites), and traces of ring forts probably dating from the Iron Age and early Christian times (see map 5 and Appendix 7 for recorded archaeological features in KNP).

Monastic sites provide the main evidence of the history and occupation of the Killarney area in early Christian times. The most important of these was the monastery founded on Innisfallen Island, part of the National Park, by St Fionán in the 7th century. The “Annals of Innisfallen” written there between the 11th and 13th centuries provide a major source of information on the early history of Ireland.



Remains of early Bronze Age copper mines

During the early Christian period, the Killarney area was ruled over by the Kings of Eoganacht Locha Léin who took their name from Lough Leane at the heart of their territories. Following the Norman invasion, the McCarthys, Kings of South Munster, retreated to South Kerry and West Cork where they displaced the local chieftains. The Normans made several unsuccessful attempts to take control, one of their defeats being in a battle at Tooreencormick, on the slopes of Mangerton, in 1262.

Some of the demesne lands of McCarthy Mór included the area around Muckross. The castle with which these demesne lands are associated was on the shores of Lough Leane at Castletlough. The remainder of the lands around the lakes were held by the O'Donoghues, whose chieftain O'Donoghue Mór resided at Ross Castle. The lands of the O'Donoghues were confiscated in the 16th century and given to Sir Valentine Browne, ancestor of the Earls of Kenmare. The lands of the McCarthys remained in their ownership, despite disputed inheritance and temporary confiscations, until the 18th century. Early in that century, the Herbert family, originally from Montgomery in Wales, leased land at Muckross from the McCarthys. The first Herbert house is thought to have been built around this time, about half way along the Muckross peninsula. Florence McCarthy Mór married Agnes Herbert, a member of this family, and when their heir died unmarried in 1770, he left the McCarthy Estates to the Herberts.



Muckross House

A second Herbert residence was built by Thomas Herbert whose great grandson Henry Arthur Herbert subsequently built the present Muckross House in 1843. Throughout their tenure at Muckross, the Herberts played a very active role in social and political life and in the development and improvement of the Muckross Estate.

However, by the late 19th century a series of financial problems heralded the end of over 200 years of the Herbert family at Muckross. In 1899, the Muckross Estate, encompassing approximately 1,300 acres of demesne lands was sold to Lord Ardilaun, a member of the Guinness family. He then sold the property to a Californian, Mr. William Bowers Bourn in 1911, who gave the estate to his daughter Maud, on her marriage to Mr. Arthur Vincent. They carried out a number of developments to the estate over the following 20 years. The estate, comprising about 4,300 ha, was given to the State in 1932 as the Bourn Vincent Memorial Park, in memory of Maud who died in 1929.

As previously alluded to, the lands of the Browne Family at Ross and Molahiffe dated back to the late 16th century. Despite being Catholic the Brownes married into leading Gaelic families and received titles of Viscount Kenmare and Baron Castlerosse in 1689 and became Earls of Kenmare in 1802. By the early 17th century they had large estates in Cork, Kerry and Limerick but by end of the century their lands were confiscated by the Crown following the Treaty of Limerick.

In 1720, Sir Valentine Browne regained the family estates with the exception of Ross Castle, and he subsequently remodelled an earlier 17th century house close to the town of Killarney, known as Kenmare House. This house was extended in the late 18th and mid 19th century before being demolished in the 1880s when a new Victorian mansion called Killarney House was built at Knockreer.

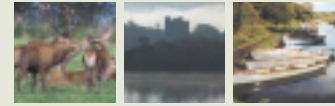
The Browne family also fulfilled a major social and political role and was very involved in the development of Killarney town as well as developing the demesne landscape of the Kenmare Estate. However, at the end of 19th century, due to financial problems and the effects of the Land Acts, the Browne family's land holdings were reduced. Nevertheless, they still retained ownership of a considerable portion of the mountain land surrounding the Killarney Lakes as well as demesne lands of approximately 600 ha (1500 acres). Further misfortune occurred in the early 20th century when their Victorian mansion accidentally burnt down. As a result, the stables of the original Kenmare House were converted into the new Killarney House. In 1952 the 7th Earl of Kenmare died and the estate was left to his niece Mrs. Beatrice Grosvenor.

In 1956, Mrs. Grosvenor, while retaining part of the original estate, sold the remainder to an American syndicate which was in turn bought out by Mr. John McShain. Mrs. Grosvenor built Knockreer House in 1958 on the site of the Victorian mansion.

The purchase of Knockreer House and its demesne from Mrs. Grosvenor in 1972 and the gift to the Nation by Mr. McShain of Innisfallen Island in 1973 began a series of acquisitions to form Killarney National Park as it now exists. Subsequently the townland of Gleng, and parts of Gortroe and Incheens were purchased, followed in 1979 by the acquisition of Killarney House and most of its demesne landscape including Ross Island, along with Lough Leane, Muckross Lake and the islands therein. Following Mrs. Grosvenor's death in 1985 most of the remainder of the Kenmare estate was added to the National Park, including the Upper Lake and mountain lands to the south of it. The use of Killarney House itself was retained by Mrs. McShain for her lifetime and was then taken over fully by NPWS following her death in December 1998.

In 1964, a group of local people, concerned at the continued closure of Muckross House over 30 years after it had passed into State ownership, came together and formed the Trustees of Muckross House (Killarney) Limited. They approached the Minister for Finance (who had responsibility for the House at that time) and proposed that the House be opened to the public. This proposal was accepted and the successful partnership between the State and the Trustees at Muckross has endured to the present day.

Section 2



The Management Plan and Objectives

2.1 THE MANAGEMENT PLAN 2005-2009

This Management Plan provides a framework for the conservation and enhancement of the special features that make up KNP. It states policies and practical actions in relation to all aspects of management as well as other functions such as consultation with interested parties.

The Plan sets out the objectives and the management strategies, which will be implemented over the 5 year period of the Plan. Because of uncertainty at this stage about precise Exchequer financial allocations, it is not possible to indicate precise deliverables for each strategy on a phased basis over the five-year implementation period.

However, under the Government's Strategic Management Initiative for all Government Departments, expenditure allocations for each year will be the subject of Business Plans which will outline the objectives and the deliverables for each year. It is the intention to make these Business Plans available to each member of the KNPLC so that they can represent an important input to the Committee's deliberations on the implementation of the Management Plan.



Ross Castle & Lough Leane in the early morning

2.2 OBJECTIVES OF KILLARNEY NATIONAL PARK

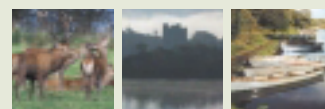
1. To conserve, and where possible enhance, the ecological value of all natural and semi-natural habitats and features in KNP.
2. To conserve notable plant and animal species in KNP and to maintain their populations at adequate levels.
3. To conserve and where appropriate, restore and further develop the cultural and heritage features of KNP.
4. To encourage sustainable recreational and educational use of KNP, to provide information and facilities for visitors and to improve public awareness of its natural and cultural heritage.
5. To establish and continue effective liaison with all parties with an interest in the management of KNP and to maintain a good relationship with the local community.
6. To maintain the aesthetic and other qualities of KNP and its environs.
7. To undertake or facilitate research necessary to achieve the above objectives and to monitor the effectiveness of conservation management in KNP.

Natural heritage cannot be appreciated by future generations unless it is effectively conserved in the meantime. Therefore, if any conflict arises between different objectives, nature conservation will be treated as the over-riding one under this plan.



Limestone shore, Muckross Peninsula

Section 3



Review of the Previous Management Plan (1990)

The first published management plan for KNP was produced in 1990. The following is a synopsis of strategies in that plan and the progress made since then.

The Management Plan written for the National Park in 1990 contained general policies/strategies for achieving the management objectives. It also contained Action Plans (in Chapter 9 of 1990 Plan) that were specific to particular conservation and development projects. The following is a brief review of each of these Action Plans, outlining what has been achieved to date. Most of the issues mentioned below are described in further detail in the relevant sections of this Management Plan.

3.1 CONSERVATION PLANS

Rhododendron Control and Eradication

The control and eradication of rhododendron suffered greatly due to a lack of a detailed realistic long-term plan for dealing with the problem. The 1990 Plan estimated that 240 ha of rhododendron infested woodland (27%) had been cleared at that time. Since then, some of this has become re-infested, and further areas have been cleared.

Use of Permanent Staff:

Due to constraints on staffing and other demands, Park staff only became involved in the clearance of small areas and with some spraying.

Voluntary Projects:

Groundwork (a voluntary conservation organisation) workcamps have been very successful in dealing with rhododendron. Their clearly defined strategies and extremely well co-ordinated work programme has resulted in a significant proportion of the formerly infested oakwoods in the Park being maintained free of rhododendron. Most of this work has been carried out in the more inaccessible woodlands on the western side of the National Park.

Firewood Schemes:

Once the heaviest and most accessible rhododendron was cut this ceased to have any role to play. Except for one or two instances, it did not contribute greatly to the clearance programme.

Clearance by Contractors:

This was by far the most efficient method of clearing large tracts of rhododendron. In the early stages there were some teething problems with contracts. However, through experience, these were tightened up and now offer the most realistic option of addressing properly the rhododendron problem in heavily infested woodlands that are reasonably accessible. Follow-up spraying still has to be carried out in some areas cut by contractors.

Research:

There is ongoing research into the most suitable methods of clearance and follow up treatments. This has included the use of brash to act as a barrier to grazing animals (instead of burning) and the treatment of stumps with glyphosate instead of blanket spraying at a later stage. The initial results look promising and the information obtained from these studies may well have an important role in future clearance methods and follow-up treatment.

The Removal of Forestry Plantations

This has continued through the life of the Plan. Over 7 ha of exclosures (fenced areas where deer, other grazing animals and people have been excluded) have been set up in clearfell areas in Tomies Wood. Some have been planted with oak and others have been left to regenerate naturally. In the clearfelled area in Looscaunagh, 15 ha have been fenced off. In Muckross Forest 4.5 ha of exclosures have been planted with oaks in areas that have been cleared of conifers.

The policy of removing conifers has had to be carried out on a phased basis to minimise the risk of erosion and silting and reduce the impact of large clearances on the landscape.

3.2 DEVELOPMENT PLANS

Muckross House and Environs

All of the facilities that existed in 1990 have, with the support of TMH, been expanded and improved through the development of the Walled Garden Centre, restaurant, shop, workshops and extra toilet facilities. Extra car parking has been provided and the Traditional Farms have been developed by the TMH. The restoration of rooms in Muckross House is also well advanced. Major landscaping has also been carried out in the vicinity of the house resulting in a more pleasing approach for visitors accessing the house and gardens from the coach and car parks. Further details are given in Section 7.3 (pages 34 and 35).

Park Entrance to Carrigafreaghane

The plan to redesign the area in the vicinity of the old Main Gate to the Muckross Demesne was put on hold pending agreement on the issues involved between the different parties (Kerry County Council (KCC) and the Jarveys).

The Former Kenmare Demesne, including Knockreer:

Some of the proposed actions were affected by the construction of the inner relief road which was completed in 2000 (see page 51 of the 1990 Plan).

Actions listed:

- Tree planting programme:-
Much of the tree planting proposed for this area is now in place.
- Restoration of internal roadway linking Knockreer and Killarney House:-
This has been completed.
- Development of carparks at Ross Road:-
This development has been completed.

- Landscape development of the area west of Killarney House:-
This work remains to be done but plans are at an advanced stage. The Killarney House Gardens and Cherry Drive have already been opened to the public.
- Restoration of formal features in the precincts of Killarney House and farmyard:-
The dovecot has been re-roofed and works in the garden have commenced.

Ross Castle and Environs

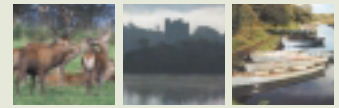
The restoration work at Ross Castle has been completed and it is now open to the public. The area around the Castle has been landscaped and better car and coach parking facilities provided. The old toilet block has been demolished and new toilet facilities provided in the Castle. The proposals for a new jetty have yet to be realised. The removal of the old lockers and clutter of buildings is underway.

Additional Walking Routes and Foot-Paths:

- Footpath from King's Bridge
The link with the Fossa Way from Knockreer to the Killorglin road was developed as planned.
- Old Kenmare Road
The work needed to upgrade the Old Kenmare Road walking route has been carried out except for a few short stretches that need further attention. The biggest undertaking was the installation of board-walking on long stretches of the route which has proved to be most successful as a walking surface and protection for the fragile bog habitat.
- Re-routing of Kerry Way through Muckross
This has been done as outlined.
- Re-routing of Derrycunihy to Gearhameen track to prevent disturbance to wintering geese
This was investigated and was deemed not to be necessary for the protection of the geese.
- Circular walk around Lough Leane
This was examined and it was generally agreed that there was no strong demand for such a pathway. In addition there is strong feeling that people pressure should be kept to a minimum in the more remote and natural areas of the National Park.

Section 4

KNP: The International Context



4.1 KNP & THE WORLDWIDE NETWORK OF NATIONAL PARKS

KNP is part of a network of hundreds of national parks worldwide that are managed to similar standards. The IUCN (also called the World Conservation Union) is an international body which sets criteria and management guidelines for national parks throughout the world. Based in Switzerland, its membership is voluntary and includes many governments and non-government organisations. Ireland is a member, and has agreed to adhere to the IUCN guidelines as they apply to KNP and will continue to do so under this Management Plan for KNP. Further information on the IUCN guidelines for national parks can be found in Appendix 1.

4.2 INTERNATIONAL STANDARDS FOR NATIONAL PARKS

The guidelines for the IUCN protected area management categories were published in 1994. Since then, they have been widely applied and referenced at national and international levels, including the latest United Nations List of Protected Areas in 2003.

KNP, along with Glenveagh National Park, Wicklow Mountains National Park, Connemara National Park, the Burren National Park and Ballycroy National Park, Co. Mayo is classified as a Category II National Park (Protected Area Managed Mainly for Ecosystem Protection and Recreation). The criteria for this category are listed in Box 2.

The IUCN guidelines include the recognition that traditional practices by local people can maintain and enhance natural features and biological diversity. This is relevant to Ireland and Europe where many so-called 'natural' landscapes owe their very existence to the activities of people working harmoniously with nature over thousands of years. Many of these landscapes are not natural, but semi-natural (see Box 1: Technical Terms Explained). Therefore, it is becoming accepted practice that park authorities must take people into account when considering what human activities are appropriate in national parks.

BOX 2. CRITERIA FOR IUCN CATEGORY II NATIONAL PARKS (e.g. KNP)

Definition:

Natural area of land and/or sea designated to:

- protect the ecological integrity of one or more ecosystems for present and future generations
- exclude exploitation or occupation inimical to the purposes of designation of the area
- provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

Objectives of Management:

- To protect natural and scenic areas of national and international significance for spiritual, scientific, educational, recreational and tourist purposes.
- To perpetuate, in as natural a state as possible, representative examples of physiographic regions, biotic communities, genetic resources and species, to provide ecological stability and diversity.
- To manage visitor use for inspirational, educational, cultural and recreational purposes at a level which will maintain the area in a natural or near natural state.
- To eliminate and thereafter prevent exploitation or occupation inimical to the purposes of designation.
- To maintain respect for the ecological, geomorphic, sacred or aesthetic attributes which warranted designation.
- To take into account the needs of indigenous people, including subsistence resource use, in so far as these will not adversely affect the other objectives of management.

Guidance for Selection:

The area should contain a representative sample of major natural regions, features or scenery, where plant and animal species, habitats and geomorphological sites are of special spiritual, scientific, educational, recreational and tourist significance.

The area should be large enough to contain one or more entire ecosystems not materially altered by current human occupation or exploitation.

Organisational Responsibility:

Ownership and management should normally be by the highest competent authority of the nation having jurisdiction over it. However, they may also be vested in another level of government, council of indigenous people, foundation or other legally established body which has dedicated the area to long-term conservation.

4.3 STATUS OF KILLARNEY NATIONAL PARK IN IRISH LAW

The original legal framework of KNP is provided by the Bourn Vincent Memorial Park Act 1932. The Act requires the authorities to “maintain and manage the Park as a National Park for the general purpose of the recreation and enjoyment of the public”. The Act also empowered the Commissioners of Public Works, subject to Ministerial sanction, to do anything that would “be necessary for or contribute towards affording to the public the facilities and benefits to be derived from the Park”. The remainder of the National Park was acquired under the State Property Act 1954.

There is, as yet, no dedicated national legislation governing National Parks in Ireland. DEHLG will consider the merits of such legislation as part of its commitment to regulatory reform.

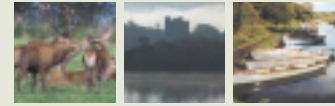
4.4 KNP AS A BIOSPHERE RESERVE

Alongside its listing by the IUCN as a National Park, KNP is one of 127 Biosphere Reserves designated by UNESCO (United Nations Educational, Scientific and Cultural Organisation). The Biosphere Reserve concept was launched in 1970 and was an idea ahead of its time. The purpose of the designation is to combine nature conservation with sustainable development. UNESCO declared KNP a Biosphere Reserve in 1982.



The Long Range with Eagles Nest (right)

Section 5



KNP in Relation to National and EU Environmental and Planning Policy

5.1 EU & NATIONAL CONSERVATION DESIGNATIONS

KNP is the subject of a number of environmental designations which entail important legal responsibilities. These are outlined in the main text below and in more detail in Box 3.

Two significant designations affect KNP. They are:

- **Special Area of Conservation (SAC) and**
- **Special Protection Area (SPA)**

These are EU legal designations which require the authorities to protect and manage the wild plants, birds and animals, and their habitats, therein. SACs are designated to conserve a number of important wildlife habitats and certain species of plants and animals. The candidate SAC (cSAC) designated for KNP also encompasses a much larger area adjacent to the National Park, occupying over 75,000 ha. SPAs are designated to protect a number of rare or threatened wild birds and their habitats (e.g. Greenland White-fronted Goose and its blanket bog habitat). The SPA covering KNP is entirely within the National Park boundary. More details on the designations as they apply to KNP and surrounding areas are included in Appendix 2.

KNP is also subject to national designations. The National Park is part of a **proposed Natural Heritage Area (pNHA)**, which is a designation covering areas of high ecological value in Ireland. It will confer some similar legal responsibilities as the SAC and SPA designations. The pNHA covers the same area as the cSAC – over 75,000 ha.



Greenland white-fronted geese in flight – a species listed in Annex I of the EU Birds Directive

In SACs, SPAs and NHAs, damaging or potentially damaging activities (e.g. industrial or agricultural pollution, overgrazing, etc.) are not allowed. Activities that add to the value of SACs and SPAs are encouraged.

Part of the National Park (Derrycunihy Wood) is a **Nature Reserve**, occupying 136 ha.

Box 3 describes these designations as they apply to KNP in further detail.

BOX 3. KILLARNEY NATIONAL PARK: SIGNIFICANCE OF EU AND IRISH ENVIRONMENTAL DESIGNATIONS

Special Areas of Conservation: Throughout Europe, wild nature has been pushed back into smaller and smaller areas. The EU Habitats Directive was adopted in 1992 with the objective of conserving a network of such areas in the EU. One of the key requirements of the Directive is that Member States designate and protect those areas which are of *European* importance for wildlife. These designated areas are termed ‘Special Areas of Conservation’ or SACs. SACs are designated to conserve a range of habitats such as bogs, woods and wetlands, and to conserve certain listed wild plants and animals (e.g. the Kerry slug, otter, salmon). Ireland has proposed for designation over 400 SACs, covering around 10% of the country. One of these SACs, the largest in the country, covers not just Killarney National Park, but also the Magillicuddy’s Reeks, and the Caragh catchment (75,148 ha). This means that Killarney cannot be seen as an isolated island, but as part of a larger landscape that is one of Europe’s great natural treasures. (See Appendix 2 for details of habitats and species protected by SAC designation).

Special Protection Area: In 1979, the EU adopted the Birds Directive, the aim of which is to protect a number of rare and threatened species of *European* birds, and the places (or habitats) where they feed and breed. One of the key requirements of the directive is that Member States designate areas which are important for rare and threatened European birds. These areas are termed ‘Special Protection Areas’ or SPAs. The directive contains annexes which are lists of birds which require particular conservation measures (Annex I), and also species which may be hunted, and species which may be sold. Ireland has designated SPAs throughout the country. KNP is one of these SPAs, occupying 10,129 ha., all within the National Park boundary.

Natural Heritage Area: This is a *national* designation for areas of high ecological value, made under the Wildlife (Amendment) Act 2000. NHAs often correspond with SACs and SPAs. KNP is proposed for designation as part of a larger NHA. It is expected that official designation will follow at an unspecified date in the near future.

Nature Reserve: This is a *national* designation in which nature is given priority over any other use, and is the strictest of all the nature designations. Derrycunihy Wood was established as a Nature Reserve under Section 15 of the Wildlife Act 1976 (Statutory Instrument 111 of 1989) and occupies 136 ha.

5.2 KNP AND ITS SURROUNDINGS

Special Area of Conservation: KNP, Magillicuddy's Reeks and Caragh River Catchment cSAC

As already mentioned above, KNP forms part of a much larger protected area, designated as a cSAC and pNHA. This comprises KNP, Magillicuddy's Reeks, and the Caragh and Blackwater river catchments. The protection of the nature conservation interest of this designated area is the responsibility of NPWS.

Most of the area outside the National Park but within the designated area is privately-owned or held in commonage. DEHLG own some land outside the National Park and in the cSAC, as does Coillte, the Irish forestry board.

Activities that cause damage or degradation to habitats or species listed in Annexes of the Habitats Directive (e.g. burning, peat cutting, drainage, planting and harvesting of conifers, dumping of waste, etc.) are subject to control within the boundaries of the designated area. These are Notifiable Actions: NPWS must be notified and consent must be given by the Minister before any of these actions can be carried out.

Management of the cSAC for conservation purposes will have a positive impact on the National Park: the greater the area designated for protection, the more chance there is of protecting it from negative external influences. The size of the cSAC greatly enhances its value as a wilderness area composed of a mosaic of wildlife habitats.

Special Protection Area: KNP SPA

The designation of the National Park as a Special Protection Area (SPA) under the EU Birds Directive also affords added protection to the National Park, particularly for those species listed in Annex I of the EU Birds Directive, such as Greenland white-fronted goose, for which the SPA was designated.



Marsh Fritillary – a species listed in Annex II of the EU Habitats Directive.

The boundaries of the National Park

KNP as it exists at present is based on previous land ownership patterns rather than on an ecological unit. The basic ecological unit in which the National Park is situated is the total catchment of Lough Leane amounting to 650 sq. km. Excluding the Flesk and Deenagh Catchments, which are largely agricultural land of quite different character, the remaining area can be regarded as the ecological unit of the Killarney Valley. The conservation of all of this area is of importance on ecological grounds.

Development control around KNP

NPWS has no control over development of adjoining lands. Such controls over development are vested in KCC (and for areas adjacent to Killarney town in Killarney Town Council (KTC)) under the Local Government (Planning and Development) Acts 1963-2002. NPWS does not have any special rights regarding developments near the National Park but can comment upon proposed developments in the same manner as private citizens.

Urban Pressures

As mentioned in the Introduction, KNP immediately adjoins and is intimately associated with the town of Killarney. This brings benefits such as the provision of accommodation and services for National Park visitors, but it also poses problems not experienced by National Parks in more remote places. These include intensive pressures at particular locations, such as urban road proposals, treatment and discharge of town sewage and housing and other building development. It is essential that the significance for the National Park of developments within adjacent urban areas are recognised and taken into account.

5.3 LEGISLATION RELATING TO BUILT HERITAGE

Legislation relating to Archaeological Heritage

The legal framework for the protection of National Monuments and Archaeological heritage is covered by the following Acts:

National Monuments Act 1930	(2 of 1930)
National Monuments Amendment Act 1954	(37 of 1954)
National Monuments Amendment Act 1987	(17 of 1987)
National Monuments Amendment Act 1994	(17 of 1994)

A number of sites within KNP are entered in the Record of Monuments and Places and are subject to the provisions of the above National Monuments Acts.

Legislation relating to Architectural Heritage

A new legal framework to protect architectural heritage was introduced in 1999. The Local Government Planning and Development Act, 1999, the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999, have been put in place in order to strengthen the protection of architectural heritage. In particular they introduce two new mechanisms – Record of Protected Structures (RPS), and Architectural Conservation Areas (ACAs).

From January 1st 2000, all buildings and structures listed for protection/preservation in County Development plans became the RPS for that local authority.

Architectural Conservation Areas (ACAs)

An ACA is defined in the 1999 Planning Act as a place, area, group of structures or townscape, taking account of building lines and heights, which is of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest, or which contributes to the appreciation of protected structures. This applies to the National Park demesne landscapes and most of their features and structures.

Records of Protected Structures (RPS)

All Planning Authorities must include an RPS in their development plans, comprising every structure which, in its opinion, is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

According to the 1999 Planning Act, a Protected Structure may also include land or other structures lying within the curtilage of that structure. The effect of this legislation is that planning permission is now required for works (previously excluded in many cases) which take place in or around an ACA or Protected Structure within the National Park.

Granada Convention

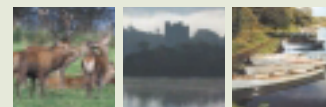
Ireland has also signed The Convention for the Protection of the Architectural Heritage of Europe (the Granada Convention, 1985). This convention covers the protection of monuments, groups of buildings and sites of historical, archaeological, artistic, scientific, social or technical interest. Thus, the demesne landscapes, monuments and other historic structures found in KNP fall within its remit.



Brickeen Bridge on the Muckross Peninsula

Section 6

Ownership and Rights



6.1 OWNERSHIP

All National Park land and buildings are owned by the State.

Coillte has retained management of an area of conifer plantation at Tomies East for study purposes.

6.2 RIGHTS

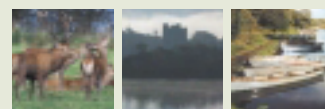
Fishing

NPWS owns the fishing rights on all of the lakes, on part of the Flesk and on 5km of the River Laune. The latter were donated to the State with the Bourn Vincent Memorial Park and the former as part of the Kenmare Estate. Currently, fishing is open to all anglers who wish to fish on the lakes, subject to national fishing regulations.

Rights of Way

There are a number of rights of way through privately owned land adjacent to KNP. These are retained to facilitate access to various parts of the National Park.

Section 7



How KNP is Used and Managed

7.1 PAST HUMAN USE

There is a long history of human habitation in the Killarney Valley as shown by the number of ring forts, standing stones and fulachta fia in the locality. Humans have impacted, to greater or lesser extents, on practically all areas of KNP, particularly in relation to livestock management, woodland exploitation and estate management. The recognition of such impacts is central to the understanding and management of the National Park today (Map 5 shows recorded archaeological features, which are also listed in Appendix 7).

Some past human activities such as mining have already been referred to in previous sections, others are described below.

Woodland Exploitation

Human impacts on the woodlands can be traced back to the arrival of Bronze Age farmers, when the woodlands became more fragmented and open, mainly due to burning and grazing cattle. The extent of impacts on different woodlands since then has depended very much on their accessibility and terrain.

The woodlands began to be extensively exploited for timber and other products such as bark, from the 1600s. The greatest cause of clear-felling at that time was for charcoal-making. Oak was reduced to charcoal to be used for iron smelting at Muckross and Derrycunihy from around 1696 until 1771. It has been estimated that this accounted for the destruction of 8 ha of oak woodland per year.

Tanneries in the Killarney district were supplied by oak bark from these woodlands in the 17th, 18th and 19th centuries. In the tanning process, raw skins were converted to leather using tannin, a naturally occurring substance in oak bark. Tanners stripped bark from living trees, thereby killing them as well as using bark from trees felled for other purposes. Tanneries existed in the 17th century at Kanturk and in the 18th and 19th century in Killarney. In 1853, 5 tan-yards were identified in Griffiths Valuation for the town, but on the 1894 Ordnance Survey map only one tannery was shown.

Although charcoal-making and the exploitation of the woodlands for tanning had largely died out by the end of the 19th century, the woodlands in the Killarney Valley continued to be used as a source of timber for a number of products and crafts. These included barrel-making and furniture-making. The latter craft often used local speciality timber such as arbutus and yew for decorative inlay work.

Some of the more accessible woods, such as Glens and Tomies were virtually clearfelled, whereas others, such as Derrycunihy were utilised in a more piecemeal fashion. Multi-trunked trees that exist today suggest a form of coppice management in the past, but this was not a common practice in Killarney. Coppicing is a form of woodland management where trees and shrubs are cut to ground level allowing vigorous re-growth and thus a sustainable supply of timber. Planting also took place in some woodlands such as Looscaunagh and Tomies. Other past influences that have shaped Killarney's woodlands include the impacts of grazing animals, the planting of conifers and other exotic species and the introduction of rhododendron in the 19th century.

Estate Development

As previously described, the National Park encompasses two large estates which were developed from the 17th century. New uses of land and resources were developed in the late 18th and 19th centuries, including economic forestry. Other physical changes included the construction of new roadways, bridges and paths. Cottages and picturesque shooting lodges were also built. Large and imposing mansions were built on both estates and the demesnes around these mansions landscaped. At the same time, tenant farmers were discouraged or deliberately removed and traces of these old settlements are still found in quite remote areas of the National Park. Cattle grazing was the predominant land use of the tenant farmers with some tillage crops grown for personal use.

The estate families laid out extensive demesne landscapes including parkland woodlands, pleasure grounds and gardens and introduced exotic species. Two of these, rhododendron and sika deer, have had a lasting effect on the habitats.

Agriculture

During the last 2000 years, from Neolithic farmers to recent times, cattle husbandry and associated activities have played a dominant role in the land use and economy of the Kerry region. The ecology of the National Park and the surrounding region today reflect this land use.

7.2 CURRENT HUMAN USE

Agriculture

There are approximately 190 Kerry cattle in KNP at present of which around 25% are cows, 50% heifers, and the remainder bullocks. Two stock bulls are generally kept. There are also Highland cattle and Kerry/Highland crosses.

The herd grazes the demesne grasslands year round and, during the summer/early autumn, some graze an area of about 100 ha on the slopes of Mangerton Mountain (see section 7.3 Mangerton Grazing Trials).

Some demesne land used to be planted with root crops to provide fodder to supplement hay, which was harvested from the grasslands. A cut of haylage (wrapped hay) is now taken from some of the lowland grassland fields as winter fodder.

Three slatted units were built at Muckross farmyard, and one at Knockreer, to house cattle during the winter. These units are now only used in emergencies, when cattle have to be contained. Cattle are now grazed on pasture during the winter. Effluent tanks in the farmyard collect wastewater including silage run-off. Effluent is combined with sludge from the sewage treatment plant and spread on pastureland.

The herd was maintained as a dairy herd into the 1970s when milking ceased. It is now kept as a suckler herd.

KNP was also used from 1963-1967 as an experimental sheep breeding station by An Foras Talúntais (now Teagasc, the Irish Agriculture and Food Development Authority). The initial flock of 1,400 sheep was increased to 1,800 during the experimental period. There has been no official flock in the National Park since 1967.

Recreation/Tourism

The Killarney area has traditionally been, and still is, one of the most visited tourist venues in the country and attracts approximately 1.5 million visitors per year. For most of these, the National Park is the primary attraction in the area. Muckross House has been consistently listed amongst the top 20 visitor attractions in Ireland in the last 10 years. It has been estimated that Muckross House, Gardens and Traditional Farms have about 13.5% of the market share of the southwestern tourism market. Muckross House has received an average of 206,420 visitors per annum since 1999. In 2003 it was the third most popular State-owned heritage site. See Appendix 11 for visitor numbers to Muckross House and Traditional Farms.

All operators of commercial activities in KNP, such as hiring of boats, pony trekking and jaunting car trips must possess permits issued by the National Park.

Walking

Walking is a popular activity in KNP. Visitors and local people can choose from strolling on the National Park roads and paths of the demesnes near Killarney town and around Muckross, to hill walking in the mountains in the south and west of the National Park.

Jogging and Orienteering

Jogging on paths near Killarney town and organised orienteering events have increased in popularity over the years. The latter require permission from National Park management.



Boats moored in canal at Ross Island

Boating

Boating has been a traditional use of the Lakes of Killarney since before the establishment of KNP. When the lakes became part of the National Park in 1979, steps were taken to regularise boating on the lakes resulting in the current situation where boats, whether used by private individuals or by commercial operators, are registered with NPWS and are issued with a number corresponding to their berth. It is forbidden to put a boat on any of the lakes in the National Park without permission. There are a total of 627 allocated boat-spaces on the Lakes of Killarney, the majority on Lough Leane.

"There are 20 small commercial (6 passengers or less) boats, 22 large commercial boats (12 passengers) with two large covered commercial craft ("water buses") on Lough Leane, and 3 large (12 passenger) boats on Muckross Lake.

The permit system, incorporating the necessity for valid insurance, introduced to control all commercial boating activity will remain in force. No additional permits will be granted, as further increases of boat usage on the lakes will not be considered.

Action will be taken as necessary to enforce permit conditions and to prevent unauthorised operations. (See Appendix 8 for conditions attached to permits). NPWS will continue to co-operate with the Department of Communications, Marine and Natural Resources (DCMNR) and KCC in their enforcement of safety regulations for passenger boats and will apply appropriate sanctions where infringements occur under its own permit system. Engine size will be limited to 10 HP.

Private boats are regulated by way of a mooring disc. In a scheme initiated in 1991, in consultation with interested parties, mooring discs were issued to all boat-owners having a recognised traditional mooring on the lakes, subject to an overall limit on the number of discs permitted. These discs are transferable to a member of the holder's immediate family only (see Appendix 9 for conditions attached to mooring discs).

Persons applying for discs are placed on a waiting list in order of application. As discs become available through the relinquishing of existing discs, they are allocated to persons on the waiting list.

In order to afford an opportunity for those on the waiting list to gain access to the lakes with their boats, new moorings are allocated by way of a lottery each year (25 in 2004). These discs are valid for one year only. However, the winners of such discs are entitled to apply again to have their names put on the waiting list and be eligible for the draw the following year.

6 rowing clubs are active on the lakes. A traditional rowing regatta in July involves locally based crews competing in unique six-oar rowing boats.

Canoeing is increasing in popularity and is allowed under permit from the National Park.



Fishing

Lough Leane is widely used for salmon and trout fishing, and competitions are often held. Muckross Lake and the Upper Lake are also regularly fished although to a lesser extent. The lakes, particularly the shallower shores and bays of Lough Leane, are popular for salmon and trout angling, with most anglers fishing from their own boats.

Swimming

The gently sloping Goleen shore of Muckross Lake is a traditional bathing place, popular with local people. Life buoys are maintained by NPWS at this point.

Rock Climbing

Rock climbing takes place in KNP on a limited basis, as there are few suitable locations. This activity requires the permission of NPWS staff.

Cycling

Cycling is permitted on most roads and paths in the National Park.

Mountain Biking

A mountain biking course is provided in Muckross Forest.

Playing Area

There is a playing area located in KNP adjacent to the town which is used by 2 local sporting clubs under ongoing agreements. Other sporting clubs also avail of this facility as the need arises.

Jaunting Cars

There are approximately 90 jarveys operating jaunting cars in and around the National Park. All jarveys passing through parts of the National Park must hold a permit issued by NPWS.

Pony Trekking

There are 3 companies operating in the National Park using Muckross Forest and the area around Knockreer. They pay a fee for their permit and must be insured before receiving it. Pony trekking, whether commercial or private, is not allowed elsewhere in the National Park.

Main Visitor Attractions and Associated Facilities

(See Appendix 3 for descriptions of features listed below)

National Park Guides and Information Officers

Guides and Information Officers are employed as an integral part of the service to visitors. Guide numbers are augmented during the main visitor season.

Information Officers are stationed at the National Park Information Centre in Muckross House during the main visitor season (mid-March to October). Outside this period, information is available from the Guides at the reception area of Muckross House.

Scheduled guided tours are provided at Ross Castle (April to October) and are available on request at Muckross Abbey (mid-June to September).



*Muckross House
and surrounds*

Muckross House

Guides are employed on a year-round basis to provide conducted tours of Muckross House and give informal interpretation to individual visitors. The TMH present a Folk Life Museum and maintain a Research Library by agreement with the Minister for the Environment, Heritage and Local Government. The House is open all year round except for a week at Christmas. There is a large visitor car park and bus park close to the main entrance to Muckross House. A number of picnic areas with tables are also provided.

National Park Visitor Centre

The main KNP Visitor Centre is located in the original laundry wing of Muckross House. This contains an Information Office and exhibition area which houses an exhibition on the Oakwoods of Killarney. A range of interpretative media is used including display panels incorporating photographs, drawings, diagrams, maps and text with models and dioramas which provide a three-dimensional aspect to exhibits. The information centre also includes the audio-visual theatre which shows a presentation on the National Park at regular intervals.

Walled Garden Centre

There is a large restaurant at the new Muckross House Walled Garden Centre with both indoor and outdoor seating, which is open all year round and can cater for up to 200 people at peak times. The newly built complex also incorporates a craftshop and three craft units, namely a weaving workshop, a pottery and a bookbindery. Visitors are invited to view the craftworkers as they carry out their daily work.

These facilities are operated by the TMH under an agreement with the Minister for the Environment, Heritage and Local Government.

Traditional Farms

A traditional farm complex has been developed in recent years by the TMH, under an agreement with the Minister for the Environment, Heritage and Local Government. The exhibition consists of a variety of fully furnished typical local farmhouse buildings of the late 19th and early 20th centuries with associated farmlands, livestock and machinery on a large elevated site within the National Park close to Muckross House. The exhibition also includes a working traditional forge, a carpenter's workshop and a limekiln.

Torc Waterfall

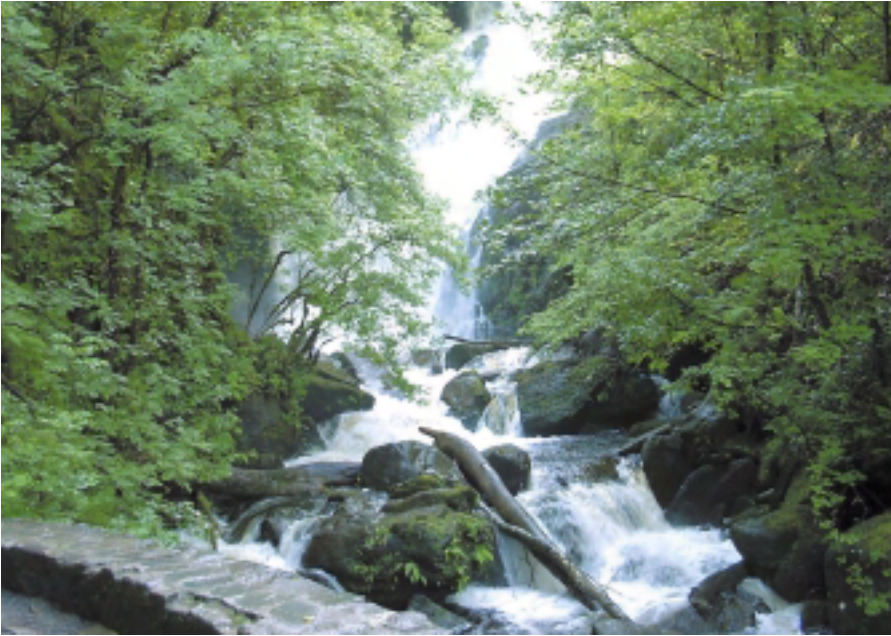
Torc waterfall is a popular attraction, particularly after heavy rain. There is a car park a few minutes walk away.

Ross Castle

Ross Castle is open to visitors by guided tour only. The Castle contains 16th and 17th century furniture as well as an exhibition. There are public toilets and a car/coach park adjacent to the Castle.

Muckross Abbey

The Abbey is accessible either from a car park on the N71 at Muckross village or from Muckross House, through the National Park. The Abbey is open to visitors throughout the year with a Guide being available in the summer.



Torc Waterfall

Innisfallen

Boat trips to Innisfallen are run by independent operators from Ross Castle.

Ladies View

Ladies View is a very popular point for people to stop and get a panoramic view of a large area of KNP.

Tea-rooms

Deenagh Lodge (near the entrance to Knockreer House) and Lord Brandon's Cottage (at Gearhameen) are open from March/May to September/October. These are run on a concession basis.

Talks, Lectures and Concerts

A series of talks has been held at Muckross House each autumn since 1983. These have as a general theme the natural and built heritage of the south west of Ireland, as well as its cultural heritage. The talks are aimed at the local community and have proved popular, developing local knowledge and support for the National Park and related conservation issues.

KNP staff give talks about the National Park and conservation topics to groups, organisations and schools on request.

The TMH run a series of concerts and similar events at Muckross House.

Self Guiding Trails

There are now 5 such trails in KNP. Guidance is provided by booklets, describing features at numbered locations on the trails. Two trails commence close to Muckross House and the booklet for these is on sale at Muckross House and the National Park Visitor Centre. Of the two trails located in the Pool Wood, the Cloghereen Pool Nature Trail is laid out to accommodate the visually impaired. The taped commentary for this trail is available at Muckross House and the National Park Visitor Centre. The text for this is also included in the nature trail booklet for the area. The 5th trail, known as the Mining Trail, is located on Ross Island.

Outdoor Display Panels

Outdoor display panels are used at specific locations in and adjoining the National Park to explain local features and include annotated maps etc. where appropriate.

Publications

KNP has a range of publications, which includes a general guidebook, a guidebook to Muckross House, nature trail booklets and an introductory leaflet which include a contoured map of the National Park. Other publications include booklets on geology, oakwoods, butterflies, breeding birds and Muckross Gardens. A 1:25,000 detailed map of the KNP has also been published in conjunction with the Ordnance Survey Office. The most important role of booklets is as a follow-up to other more immediate information and interpretation.

Education

The KNP Education Centre (KNPEC), based at Knockreer House, is run as an independent entity under the joint auspices of NPWS and Kerry Education Services (and in the direct control of Cappanalea Outdoor Education Centre). This strategic alliance between KNP and educational providers has been a valued and productive one since 1989, whereby the National Park authorities provide the educational facilities, including materials, and the educational providers promote course modules, which convey the conservation message. The mission statement of the Education Centre is 'to run educational courses and activities based in Killarney National Park that will promote knowledge, understanding, enjoyment and appreciation of the natural environment for all'.

The Centre offers courses and activities both in the formal and non-formal education sectors. In 2002, a total of 7,120 participants availed of courses, which was an increase of 206.5% on the year 2000.

Primary school pupils make up the majority of students attending the Education Centre. The main course run for primary schools is called a Nature Day, where the participants get an opportunity to take part in a wide range of nature-based activities.

An annual in-service course for primary school teachers, involving field trips to different habitats as well as workshops and lectures, is run during the summer.

Secondary schools are offered curriculum-based courses for Leaving and Junior Certificate biology and geography. Transition year classes can also avail of courses covering habitats and management.

Third level institutions are offered a guided walk that covers different conservation issues encountered in the National Park and the strategies employed to manage them.

Youth and adult groups can avail of various courses, walks and talks.

All of the courses can be custom-designed to meet particular needs. The Centre also offers an outreach programme to schools that cannot visit the National Park.

Groups that are taking part in courses lasting for more than one day can stay in the Arthur Vincent Hostel, in the National Park.

Muckross House is also a popular venue for school visits particularly for Kerry schools.

The TMH run a series of popular educational programmes, such as the annual Féile Chuiltúr Chiarraí. In 2003, the Muckross Traditional Farms won the prestigious Sandford Education Award.

Habitation

43 lodges and other cottages within KNP are inhabited, mainly by National Park employees, former employees or their families. 'Arthur Vincent House', a former residence close to Muckross House is used as hostel accommodation for volunteer work-groups and groups on educational visits. 2 lodges are used as accommodation for research workers, students and others engaged in short-term work within the Park. A cottage at Dromyrouk was refurbished in 1994 as a community centre for the Muckross Community Association.

7.3 CURRENT CONSERVATION MANAGEMENT

Nature Conservation

Most of the National Park is currently being managed primarily for nature conservation purposes with the exception of the landscaped demesnes, gardens and the traditional farm at Muckross. The emphasis is on the conservation of habitats and species, particularly those which are listed in Annexes I and II of the EU Habitats Directive and Annex I of the Birds Directive (see Appendix 2).

Woodland Management

Probably the greatest challenge facing those involved in conservation of the National Park is the spread of the exotic species rhododendron (*Rhododendron ponticum*) which was introduced in the early 19th century or before. It was initially planted in woodlands to provide game cover and in gardens as an ornamental shrub. It has since spread by seed to become thoroughly naturalised and locally dominant as a shrub layer of many areas of woodland, bog and heath within the National Park. By 1990, an estimated 880-900 ha of the 1,200 ha of native woodland of KNP was infested with this highly invasive species.

Rhododendron clearance work has been ongoing for over 30 years, focusing on semi-natural woodlands. This has involved NPWS staff, volunteers, in particular, Groundwork, and contract workers. The work has resulted in approximately 40% of the infested oak woodlands being cleared and maintained clear of rhododendron.

Investigations into the effectiveness of various methods of rhododendron control including spraying, painting/spot spraying of stumps, stump removal, leaving brash lying, using brash as a form of fencing has been ongoing, since 1999. There are 9 woodland exclosures of different sizes pertaining to rhododendron clearance, treatment, clearance techniques and regeneration. Monitoring of woodland exclosures in areas of rhododendron clearance with reduced deer density has also been ongoing since 1999.

Exclosures have been erected in a number of areas of the National Park on both woodland and blanket bog/heath habitats for study purposes and for the purposes of excluding grazing animals where planting of native species has been undertaken.



Yew woodland



Volunteers clearing rhododendron from oak woodland

The erection of a deer-proof fence around the yew wood and the clearance and spraying of rhododendron and expulsion of deer in this area has been recently completed as part of the Peoples' Millennium Forest Project, which provided the necessary funding for such works. The aim of this is to prevent access to red and sika deer.

Exclosures and open woodlands are monitored on an ongoing basis. This work is carried out both by Conservation Rangers and other NPWS staff, and as part of studies being carried out in association with the Botany Department of Trinity College Dublin.

A programme of monitoring of permanent quadrats in woodland commenced in 1991 when 52 permanent quadrats (4 m x 4 m) were established in Tomies Wood, along the Muckcross Peninsula and Derrycunihy. These are checked annually by a Ranger to ensure that they have not been damaged, and that markers are still in place. They are re-surveyed in detail every 5 years by a contract botanist working with the Conservation Rangers. In 1996, a further 16 quadrats were added to this monitoring programme. In 2001, 18 quadrats that had been set up in Glaisín na Marbh in 1997, were also included.

25 to 30 older exclosures, which were former study sites, exist in Tomies Wood, Muckcross Peninsula, and the yew wood.

A programme of conifer clearance is ongoing throughout KNP. Approximately 800 hectares of conifer plantation have been targeted for clearance. Clearfelled areas are fenced off to allow for natural regeneration of native species. Planting of locally sourced sessile oak has been undertaken in some areas. There is currently an investigation of the effectiveness of dibbling (i.e. setting acorns straight into the ground rather than raising them as seedlings first) as a planting method.

Trees are raised in a nursery, which was established within the National Park in 1997 with the objective of growing indigenous tree species. The Park Nursery sources its seeds mainly from NPWS-managed properties, such as Glengarriff Wood Nature Reserve and the National Park itself. Plants are grown in modules inside a polythene tunnel, and at present the Nursery has stocks of some 36,000 oak plants, 4,000 Scots pine (sourced in Scotland), 300 birch and various quantities of a broad range of other species, such as alder, holly, willow, arbutus, rowan and ash.

Monitoring and Management of Water Quality

Monitoring of water quality in KNP has been carried out on a weekly/fortnightly (depending on the waterbody being sampled) basis during the summer and on a monthly basis during the winter since the late 1960s. Monitoring of the effluent discharge from Muckross sewage treatment plant to Lough Leane is done on a similar basis.

A co-ordinated water quality monitoring and management programme has been developed for the catchments associated with Lough Leane by the Lough Leane Catchment Monitoring and Management System (LLCMMS) over a four-year period (July 1998 to July 2002). The LLCMMS is a major catchment based initiative aimed at arresting the eutrophication process in Lough Leane and surrounding catchments and restoring the rivers and lakes to a satisfactory state by reducing phosphorus inputs.

Under this programme more than 10,000 samples were collected and analysed from rivers, lakes and groundwater.

Measurements of river flows in the catchment were also carried out under the programme. Water level recorders or staff gauges were installed on the majority of tributary streams with data being collected by dataloggers at a number of sites. Additional rain gauges were also installed at four sites to provide more detailed meteorological data.

The project has delivered the following key objectives (taken from the LLCMMS final report):

- The provision of monitoring and information systems to support water quality management decisions
- The provision of a framework to facilitate the implementation of relevant EU legislation (notably the Water Framework Directive 2000)
- The provision of an integrated catchment-based strategy, detailing management measures for reducing phosphorus inputs from all sources and environmental indicators against which to record progress
- The provision of a focus for the co-ordination of future environmental protection and implementation of the proposed management measures

The following technical reports were produced during the study period:

- Groundwater and septic tanks technical report
- Forestry technical report
- Dangerous substances technical report
- Report on phosphorus loads in the Lough Leane catchment
- A report on the monitoring of the Killarney Lakes 1967-1997 and other related studies
- Biological monitoring of Lough Leane catchment lakes and rivers – results of the 1999-2000 investigations
- Biological monitoring of Lough Leane – results of the 2001 investigations
- Lough Leane fish population study 1999
- A brief study on the sediments of Lough Leane, Co. Kerry with particular reference to phosphorus
- Lough Leane catchment monitoring and management system – hydrogeological desk study

Integrated Constructed Wetlands

For a number of years, NPWS Research and Engineering personnel have been developing systems to improve water quality by means of the Integrated Constructed Wetlands (ICW) concept. This concept is based on a number of fundamental principles, the main ones being:-

- the capture of contaminated or potentially contaminated water through bunded earthworks;
- the cleansing of such water within the site of capture through digestion of nutrients by aquatic plant communities grown on site;
- the provision of a sustainable service of as much as 50-100 years duration; and
- the use of emergent/aquatic plants in the system which reflect the ecology and nature conservation status of the site.

NPWS believes that ICWs can provide higher water quality, especially for nitrates, as well as biodiversity enhancement; they offer the additional advantage of providing habitat development and diversification; and they serve to reverse a long established trend in Ireland of drainage of land.



Torc Mountain with the
Upper Lake and Long
Range in the background

Monitoring of Upland Habitats

As part of the upland monitoring programme in KNP, there are a total of 66 (10 x 10 m) quadrats in 22 upland townlands (three in each). These have been marked, photographed and the location recorded using a Global Positioning System (GPS). They are visited every two years by Conservation Rangers who record changes in vegetation composition and height.

Path Work

Boardwalks have been laid on parts of the Kerry Way which runs through the National Park (along the Old Kenmare Road), where trampling had resulted in erosion and damage to sensitive habitats, particularly bog and wet heath. Small sections of path-work have also been carried out at other heavily used locations.

Waterfowl Monitoring

Investigations into the relationship between changes in waterfowl use of Lough Leane and water quality, involving regular waterfowl counts, invertebrate and plant sampling have been ongoing since 1998.

General waterfowl counts have been ongoing since 1980. Autumn, winter and spring counts of Greenland white-fronted geese are carried out annually as part of a national programme.

Woodland Birds

Mapping census of breeding birds in Reenadinna yew wood has been carried out annually since 1982.

Deer Management

Extensive studies on both red deer and sika deer have been carried out in KNP. Annual counts are carried out and there is good understanding of the movements and interactions of upland and lowland deer in the National Park. Current estimates of the populations of red and sika deer are approximately 800-1000 and 900-1100 respectively. Work includes night counts, direct counts and line counts. A line count is the method used to count red deer in the uplands. It consists of placing a line of counters across the hillside who then walk, in radio contact, through the red deer range counting all the animals as they go back through the line and any surplus that may run forward beyond the final count point. Night counts are carried out with spot-lamps in lowland areas, while vantage point counts in the uplands involves a person picking a good viewing point and spending a number of hours counting all animals seen.



Sika deer

A calf tagging programme has been in operation since 1994. This programme provides information on location, movements and survival of calves.

Culling of both red and sika deer is ongoing.

Mangerton Grazing Trials

Approximately 30 cattle (Kerry/Highland crosses) graze the uplands in a fenced trial area (1 km x 1 km) on the slopes of Mangerton from May/June to December. These are out-wintered from December on the lowlands. The majority of the cattle in the National Park graze the lowland demesne grassland all year round. The long term objective of the experimental/trial work on Mangerton is towards the re-instatement of free range cattle at appropriate stocking levels operating on a seasonal basis; upland grazing in summer and lowland grassland utilisation during winter. By grazing purple moor-grass and trampling bracken, it is expected, from work done elsewhere, that the cattle will improve the diversity of flora and fauna in the area by reducing the dominance of these two species.

These grazing trials, in association with the Department of Agriculture and Food, are also being used as a demonstration project to encourage the development of an extensive approach to meat production in upland areas generally.

Bat Monitoring

Bat roosts within the National Park, particularly those used by lesser horseshoe bats are censused annually.

Research

Over the years, scientific studies have been carried out on a wide variety of subjects in KNP. Some of the ongoing work, such as the long-term monitoring of woodlands and the Mangerton grazing trials has already been mentioned. Other studies that have been carried out include investigations into the vegetation history, ecological studies of woodlands and other habitats and species such

as rhododendron, woodland birds and deer. Some of the more recent research projects, such as one investigating the restoration of native woodland in former conifer plantations, have focused on subjects that are relevant to conservation management in the National Park. Much of the research work that is carried out in KNP is carried out under the auspices of a third level institution, with NPWS providing logistical and other support.

General Recording of Flora & Fauna

Conservation Rangers and other interested individuals keep records of notable species encountered throughout the National Park. These records are kept at the Ranger-base.

Conservation of Cultural Heritage

Conservation Programme within Muckross House

Muckross House was opened to the public in 1964. At that stage, the house had been stripped of most of its contents, a large proportion of which had been shipped off to Irish embassies abroad. Over the next few years some major structural repair work was carried out including re-roofing, dry rot treatment and replacement of rotten joists, wall plates and lintels.

In 1978, the main decorative work commenced. The Director of the Victoria and Albert Museum was called in to advise on suitable furniture and decorative schemes. The three main reception rooms were decorated first, followed by the main bedrooms on the first floor and some of the basement rooms. Other rooms were merely painted and used as exhibition space, notably the original children's quarters and some of the smaller bedrooms. A number of rooms in the basement were fitted out as folk life exhibitions or workshops for the Muckross craft workers.

The most recent stage of restoration work commenced in 1989 following the launch of the first Management Plan for KNP. According to this Plan, the house was to be restored completely as a Victorian mansion. The craft exhibitions and other temporary and permanent exhibitions were to be moved eventually to a more suitable location so that the remainder of the important rooms could be restored. The first phase of work, now completed, involved the restoration of the boudoir

Parterre at
Muckross
Walled Gardens





and adjoining dressing room, followed by the billiard room and the Queen's bedroom. Where possible, old photographs and documentation were used as a basis for the decorative schemes and some of the furniture used was originally from the Herbert or Vincent occupation.

Conservation Programme for Muckross Walled Gardens

The Walled Gardens have been restored to their original size mainly based on late 19th century layout, and opened to the public. This involved the restoration of the 1895 path layout in the main part of the gardens and the recreation of a mid 19th century parterre related to the Herbert's tenure. The restoration of the Edwardian glasshouses and the provision of replica terracotta pots and a number of other planting features represent the early 20th century period of the Bourn Vincents. A gazebo has been erected to the memory of Maud Bourn Vincent.

New garden service buildings and a service yard have been developed in a section of the walled gardens to replace inadequate facilities. A modern glasshouse was also erected in the service area for propagation purposes to replace sections of the Edwardian glasshouse given over to public display.

The parking area close to Muckross House has been removed and grass and trees restored.

Killarney House Conservation Programme

The golden gates and railings have been restored. All the original furniture for the house has been acquired and put into storage pending the restoration of the house. A security system has also been installed.

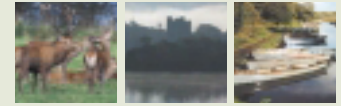
Killarney Demesne Conservation Programme

A major tree planting programme has been established to screen new housing on the southern edge of the pleasure grounds and parkland. The grounds have been opened to the public with visitor access through the restored golden gates.

Conservation Programme at Ross Castle and Surrounding Area

Ross Castle has undergone extensive restoration work in the recent past and was re-opened to the public in 1990. A new car park has been provided and the road system at Ross Island is being upgraded and surface dressed.

Section 8



The Plan for the Next Five Years 2005-2009 and Beyond

The *National Heritage Plan 2002-2006* states that “it is an objective of Government to ensure the protection of our heritage and to promote its enjoyment by all”. The KNP Management Plan 2005-2009 is a practical expression of this objective.

KNP, with over a million visitors per year, is now catering for much greater numbers than at any time in its history and requires effective and coherent management.

While this Plan articulates strategies for action within a 5 year time frame, the reality is that measures designed to protect such a sensitive and diverse landscape as KNP cannot be realised within a fixed time frame. For this reason, the Minister for the Environment, Heritage and Local Government, through NPWS, envisages a process of “roll-over” planning for Ireland’s 6 National Parks, including Killarney, which will be assisted by the solid mechanisms for monitoring and review which are built into this Plan. The intention is that these mechanisms will assist the elaboration of a follow-on Plan, for a further period of 5 years, designed to build upon the achievements of this Plan and to address the new and emerging challenges that are bound to emerge over the 2005-2009 period.

The substance of the Management Plan for the next 5 years is contained in this section. Current management issues are listed in 8.1 and Policy Statements for KNP are listed in 8.2. The conservation objectives for the next 5 years are re-stated in 8.3 and management strategies by which these objectives will be achieved are presented in 8.4. Finally, a zoning system for the National Park is presented in 8.5.

It is important that this Plan should be transparent to the users of KNP and to the State agencies and non-governmental organisations (NGOs) who have an interest in the future direction of the National Park. DEHLG will strive to meet this objective, notwithstanding the fact that detailed multi-annual estimates of expenditure are not possible under current Government financial procedures.

The position is that the funds made available to the Minister for KNP in 2005 are €2.93 million in total, comprising €908,000 for capital expenditure works and €2.022 million for current expenditure, to include such items as wages for National Park personnel, materials and the like. Every effort will be made to maintain an adequate level of funding over the period of the Plan. It is the intention to carry out works necessary to open Killarney House to visitors, as funds permit, but no other major capital projects are planned at present, given the significant investments in KNP in recent years.

Moreover, under the Government’s Strategic Management Initiative for all Government Departments, expenditure allocations for each year will be the subject of Business Plans which will

outline the objectives and the deliverables for each year. It is the intention of the Minister to make the annual Business Plan in respect of KNP available to the KNP Liaison Committee so that they can represent an important input to the Committee's remit "to continue to meet NPWS to review the ongoing implementation of the Plan".

8.1 MANAGEMENT ISSUES

Although, National Park lands in Ireland are entirely State-owned, and their management is under the control of the Minister for the Environment, Heritage and Local Government, through NPWS, there are a number of factors that constrain optimum conservation management. The following list (in no particular order) outlines some of the principal challenges to management that have to be met.

- *Sheep trespass*

While there are no grazing rights in KNP, there is a continuing significant problem with in excess of 1,000 sheep trespassing regularly on National Park lands.

- *Over-grazing/Damage*

The overall numbers of red deer, sika deer, goats and sheep are currently unsustainable, leading to overgrazing, particularly in woodlands and on lowland bogs.

- *Deer Damage*

Deer incursions into landscaped areas can inflict considerable damage to gardens.

- *Damage to the yew wood*

Sika and occasionally red deer damage yew trees by bark stripping, sometimes killing the trees. There is a lack of tree regeneration and ground vegetation within the yew wood. This has recently been addressed through fencing.

- *Rhododendron infestation*

A significant proportion of the National Park's woodlands has been infested with invasive rhododendron. This non-native shrub has also infested areas of heath and bog. Although some progress has been made in rhododendron clearance, some areas that had been cleared have become re-infested.

- *Fire*

Uncontrolled fires are a constant threat, particularly to woodland habitats, with 5 outbreaks in 2002 alone.



Rhododendron infesting woodlands



Fire smouldering at woodland edge.

- *Water quality*

Factors that affect the water quality of lakes and rivers within KNP come from sources which are primarily outside the National Park, making their control difficult. Lough Leane is particularly threatened by eutrophication due to nutrient inputs arising outside the National Park. A number of species requiring protection under the EU Habitats and Birds Directives, are also threatened.

- *Decline in Greenland white-fronted goose flock*

The number of Greenland white-fronted geese over-wintering in KNP has declined over the past number of years. While this is probably due to factors outside the National Park, disturbance and over-grazing of their feeding grounds may be contributing factors.

- *Unregulated visitor numbers and use*

The numbers of visitors entering the National Park is not controlled and to a large extent numbers are unknown. The number of paying visitors to Muckross House in 2003 was 200,632 alone, and, taken with recreational users of the National Park, the total number of visitors in a given year is over one million. This sometimes causes problems, particularly in the vicinity of Muckross House in relation to car parking.

- *Erosion*

In some areas of KNP, intensive use has caused damage to sensitive habitats, for example, erosion and trampling damage has been caused on the side of Torc Mountain and Mangerton by walkers. Erosion is also occurring due to overgrazing by sheep.

- *Diversity of management inputs*

There are a large number of personnel from a wide variety of sections within DEHLG, the parent Department of NPWS, as well as from other bodies, such as the Office of Public Works (OPW), involved in providing services in the National Park.

- *Access to Tomies Wood*

Access to Tomies Wood is difficult, as privately-owned land has to be crossed to get to the main entry point.

- *Vulnerability to disease transmission*

Due to the open, unfenced nature of KNP, and the fact that it is traversed by major roads, the National Park is vulnerable to the transmission of diseases such as Foot and Mouth Disease.

- *Threat of zebra mussel introduction*

Although the zebra mussel has not yet been found in the aquatic systems of the National Park, there is a constant threat that it might be brought in on boats or other equipment (see Appendix 10).

- *Disturbance*

Noise from commercial activities, and occasionally from management activities, can cause disturbance to National Park users who are often seeking peace and tranquillity.

- *Fouling by Horse Dung*

The regular jaunting car routes quickly become fouled with horse dung, making it very unpleasant for pedestrians and cyclists.

- *Vandalism*

There has been an increase in vandalism in the National Park in recent years.

8.2 POLICIES OF KNP

This Management Plan covers a 5-year timescale and the targets outlined in the strategies in Section 8.4 are based on that timescale. However, most management actions carried out in KNP strive towards longer term goals. The policies listed below set in context how certain aspects of the National Park will be managed, not just within the next 5 years, but also for the foreseeable future. They are the over-riding principles on which management of KNP will be achieved and implemented. Objectives and strategies will not conflict with policy statements. Policy statements in turn, are determined, consistent with and strive to fully encapsulate, the IUCN guidelines for Category II National Parks as already detailed in section 4 of this Plan.

Facilitation of Visitor Access and Use of KNP

One of the primary objectives of KNP is to encourage sustainable recreational use of the National Park, to provide information and facilities for visitors and to improve public awareness of its natural and cultural heritage.

Every effort will be made to facilitate the use of KNP for inspirational, cultural, recreational, community and appropriate commercial use, as long as it complements the over-riding priorities to promote conservation and education.

Under conditions compatible with nature conservation, visitors will be encouraged to use and enjoy the National Park, its attractions and facilities. This may require the provision or adaptation of facilities, where possible, to cater for children, the elderly, infirm and visitors with disabilities.

Provision of Information and Education Programmes in KNP

Educational programmes in the KNP will continue to be provided and developed. Close links will continue to be maintained with various educational organisations who have a special interest in the National Park.

National Park Guides and Information Officers will continue to be employed as an integral part of the service to visitors.

Guide-books, nature trail leaflets and maps will continue to be made available to the public in a number of languages, including Irish.

Effective Liaison with Interested Parties and Bodies

There are many groups, organisations and statutory bodies with specific interests in the National Park. This Plan acknowledges that achievement of the conservation and other objectives outlined herein requires the full co-operation of all interested parties.

It is important to continue effective liaison with interested parties and bodies, which include the TMH, the KNPLC, Killarney Working Group, the OPW, Kerry Co. Council, Killarney Town District Council, commercial interests, the Environmental Protection Agency (EPA), Teagasc, South-Western Regional Fisheries Board, Fáilte Ireland, anglers, landowners and rights holders adjacent to the National Park, conservation and community groups.

Liaison with other parties who are interested or involved in the National Park, including community and user groups and NGOs, to both give and receive advice on the management of the National Park will be promoted.

Liaison with research groups/individuals working in the National Park is essential and will be encouraged to the maximum extent possible.

Management of Grazing Herbivores in KNP

The roles of large herbivores, i.e. deer, goats, sheep and cattle, are recognised as having various impacts on the habitats of KNP. The populations of deer and cattle will be maintained at appropriate densities and sizes commensurate with both the biological diversity of the National Park and the viability of their populations. Efforts at understanding their impact upon vegetation, their interactions and purported complementary feeding will continue through research and management. Maintaining the genetic integrity of the Kerry cattle breed, Kerry red deer, and Japanese sika deer will continue to receive special attention.

Provision of Scientific Research in KNP

Recognising that knowledge acquisition relating to the ecology and other aspects of the National Park must be ongoing, research will continue towards understanding the components, patterns and processes that underlie its ecology and associated adaptive management. The nature, methodologies and results of the research will be communicated through various media, including publications.

Management of Boating in KNP

The current regulations governing boating in KNP were introduced in 1987 to regularise boating on the lakes. Numbers are capped at levels that allow both commercial operators and private owners to use boats in the National Park, without compromising the conservation of flora and fauna of the lakes and surrounding areas.

The systems for regulating boating via permits and mooring discs will remain in force and there will be strict enforcement of safety regulations. Appropriate sanctions will apply where infringements of the rules and regulations occur.

NPWS will continue to strive to ensure that the introduced zebra mussel does not enter the aquatic systems of KNP. Boats (apart from full-time, locally based boats) will not be permitted to enter the lakes unless they have been certified as being cleaned.

8.3 OBJECTIVES OF KNP

As stated in section 2 of this plan, the objectives for KNP are:

1. To conserve, and where possible enhance, the ecological value of all natural and semi-natural habitats and features in KNP.
2. To conserve notable plant and animal species in KNP and to maintain their populations at adequate levels.
3. To conserve and where appropriate, restore and further develop the cultural and heritage features of KNP.

4. To encourage sustainable recreational and educational use of KNP, to provide information and facilities for visitors and to improve public awareness of its natural and cultural heritage.
5. To establish and continue effective liaison with all parties with an interest in the management of KNP and to maintain a good relationship with the local community.
6. To maintain the aesthetic and other qualities of KNP and its environs.
7. To undertake or facilitate research necessary to achieve the above objectives and to monitor the effectiveness of conservation management in KNP.

Natural heritage cannot be appreciated by future generations unless it is effectively conserved in the meantime. Therefore if any conflict arises between different objectives, nature conservation will be treated as the over-riding one under this plan.

8.4 MANAGEMENT STRATEGIES

Strategies are methods selected to achieve the Objectives as listed in 8.3.

A summary table showing management strategies, targets and zoning is contained in Appendix 4.

Objective 1: To conserve, and where possible enhance the ecological value of all natural and semi-natural habitats and features in KNP

Strategy 1.1 Preparation of National Park Vegetation Map

NPWS will prepare a vegetation map of the National Park. The purpose of such a map is to provide a baseline record of the state of the National Park's vegetation communities. This will significantly assist monitoring and enable NPWS and others to examine the effects of the various management regimes on habitats and species within KNP.

1.1 Preparation of National Park Vegetation Map: 5 Year Target

- Commission vegetation map of National Park by funding a PhD project – 2005
- Final version of map completed– 2008

Strategy 1.2 Provision of Adequate Manpower

Patrols, on foot and by vehicle, are carried out in daylight and in darkness throughout the National Park. These will continue to be carried out by Conservation Rangers. The primary purpose of these patrols is to detect and deter damaging activities such as illegal burning, littering, unauthorised off-road vehicle use and poaching. Such patrols also promote the National Park by providing a visible presence on the ground. Along with their monitoring role, Conservation Ranger patrols also fulfil an information/public relations role, as a source of information and assistance for National Park users.

1.2 Provision of Adequate Manpower: 5 Year Target

- Increase the number of patrols – ongoing
- Implement systematic rostering of Conservation Rangers for day and night patrols – ongoing

Strategy 1.3 Conservation and Management of Bog/Heath/Upland Grassland Habitats

Factors influencing these habitats include grazing by deer, goats and trespassing sheep and cattle. Areas that have been particularly impacted upon by heavy grazing are Cores Bog, Looscaunagh Bog, Newfoundland Bog and Oak Island Bog, as well as some upland areas. Other damaging

factors include burning, particularly unauthorised burning to provide grazing for sheep, as well as erosion caused by recreational use. “Concentrated” hill-walking is responsible for some such damage on Mangerton and Torc Mountains.

1.3.1 Establishment and maintenance of a sustainable grazing regime for uplands

As already indicated, the establishment and maintenance of a sustainable grazing regime is one of the principal aims of this Management Plan. Where there are problems with frequent trespass by sheep onto the National Park’s lands, NPWS will take action to expel them. NPWS will liaise with the Department of Agriculture and Food (DAF) regarding the implementation of REPS prescriptions, such as fencing on adjacent holdings. NPWS will also continue to liaise with DAF regarding the movement of livestock in relation to disease control.

NPWS will establish and implement sustainable grazing regimes for the uplands, which will take into account all ruminant grazing animals including red deer, sika deer, cattle and goats, as well as impacts caused by burning, trampling and former peat cutting. Monitoring of upland habitats and the impact of grazing animals will continue and the density of all ruminant species will be controlled as required.

The upland grazing trials on Mangerton Mountain, involving the use of Kerry Cattle and related crosses, will continue during the lifetime of this Plan. Monitoring will be carried out to provide information on habitat changes and appropriate grazing regimes including husbandry needs. The trial will be fully assessed in 2008.

Permanent fencing will generally not be used as a means of controlling grazing in the uplands, and will not be undertaken prior to adequate impact assessments being carried out. Any proposals for major fencing projects will be discussed with the Liaison Committee beforehand. Any fencing that is considered to be obsolete will be removed. However, in cases where fencing has been erected for research purposes, it will be removed without prior consultation with the relevant researchers.

1.3.1 Establishment and maintenance of a sustainable grazing regime for uplands: 5 Year Target

- New arrangements put in place with DAF – 2006
- Establish sustainable grazing regime, including population targets for ruminant species – 2005
- Produce monitoring reports for Mangerton grazing trials – 2005, 2007
- Full assessment of Mangerton grazing trial – 2008

1.3.2 Control of Burning

Ranger patrols during the spring, summer and autumn will detect fires (whether accidental or deliberately set) as early as possible. The Fire-Fighting Action Plan for the National Park will be updated regularly and implemented as necessary in conjunction with the Gardaí, Fire Service, Army, Civil Defence and Coillte. All National Park staff will be made familiar with this plan and will receive appropriate training.

1.3.2 Control of Burning: 5 Year Target

- Update Fire Fighting Action Plan – 2005, 2007 & 2009
- Commence fire-fighting training – 2005

1.3.3 Limiting Peat Erosion

The establishment of a sustainable grazing regime involving the removal of trespassing sheep and maintenance of sustainable levels of other grazing animals will help to encourage an appropriate vegetation cover and thus minimise the threat of erosion.

Localised damage is caused by hill walkers on popular walking routes in KNP. Already, boardwalks have been laid down on parts of the Old Kenmare Road where damage was being caused to sensitive habitats. Damage is also evident on Mangerton Mountain and at Torc, both popular walking routes. Boardwalks and other paths of stone and gravel will continue to be laid and maintained in such areas where the crossing of fragile peat is unavoidable. Almost all of this work will be carried out on existing tracks or traditional routes, many of which have paved or firm foundations. A specific Erosion Working Group, which was established within NPWS in 2001, has been identifying areas where path work will be required. Monitoring of recovery will be undertaken and will inform management decisions with respect to those problem areas. At least two members of National Park staff will be trained in footpath assessment, construction and maintenance to ensure continuity of quality control and standards in undertaking these sensitive works.

1.3.3 Limiting Peat Erosion: 5 Year Target

- Carry out the following either by National Park staff or under contract – by 2009

Location	Action	Length of section
Main path up Torc Mountain	restore and construct new sections	approx. 2 km
Path across face of Torc Mountain	restore	approx. 2 km
Path up Mangerton Mountain	restore	approx. 300 m
Gearhameen (Kerry Way)	restore	approx. 300 m
Old Kenmare Road (Kerry Way)	maintain; 1 bridge replacement	small sections

- Undertake training in footpath assessment, construction and maintenance – as necessary

1.3.4 Prohibition of Peat Cutting

Cutting of peat for fuel, once widespread in KNP, has been eliminated. No further peat cutting will be permitted within the National Park.

1.3.4 Prohibition of Peat Cutting: 5 Year Target

- Maintain prohibition of peat-cutting within the National Park – ongoing

Strategy 1.4 Conservation and Management of Woodland and Scrub Habitats

The principal management issues relating to these habitats are the spread of invasive species, particularly rhododendron, and overgrazing. Both of these are contributing to the failure of woodlands to regenerate.

A priority National Park policy will be to provide conditions where woodland regeneration and expansion can occur within and adjacent to present woodlands, particularly in relation to reversing the trend of woodland fragmentation. A programme to eliminate commercial conifers and their replacement by native species will be progressed. This programme will include fencing strategies to protect against overgrazing.

As a general policy and where practical and safe, ageing and over-mature trees will be left standing and fallen trees and branches will be left in-situ, to decompose naturally, except for reasons of safety or obstruction.

1.4.1 Establishment of sustainable grazing regimes in woodlands

The strategies relating to the implementation of sustainable grazing regimes on bog and heath upland habitats (strategy 1.3.1) and management of deer and goats (strategy 2.3.4) are also relevant to woodlands and scrub. Particular emphasis will be on areas cleared of Rhododendron. Culling will continue during this period.

Where possible, NPWS will encourage woodland regeneration by reducing grazing pressure, if necessary, rather than by piecemeal fencing.

Existing exclosures will continue to be maintained for long-term monitoring purposes. They will be surveyed during the period of this Plan and on an on-going basis.

1.4.1 Establishment of sustainable grazing regimes in woodlands: 5 Year Target

- Set population targets in all woodlands for red and sika deer – by end 2004
- Control grazer numbers – as per strategy 2.3.4
- Survey woodland plots – summer 2006

1.4.2 Rhododendron Eradication Programme

The systematic and incremental eradication of Rhododendron from KNP represents a prime aim for the duration of this Plan and beyond. It is expected that some funding will be obtained through the Native Woodlands Scheme (NWS) and the oak and alluvial woodlands of the National Park will be targeted for this. The NWS is a grant package aimed at encouraging proactive restoration and expansion of Ireland's native woodland resource. NWS funding will be sought to carry out rhododendron clearance work in discrete areas of woodland, the first being the Blue Pool (Cloghereen).

Over the period of this plan, it is envisaged that approximately 375 ha of woodland will undergo rhododendron clearance work.

A comprehensive rhododendron management programme for KNP will be drawn up. This will include mapping of current infestation; description of infestation levels and habitat condition; prioritisation of areas for clearance and the most suitable methodologies to be used. Potential methods include cutting, stump treatment, stump removal, foliar spraying, stem injection and pulling of seedlings.

Some research has been undertaken in the area of rhododendron clearance and practical methods for Rhododendron clearance in different terrain, and for categorising infestation and cleared areas both in KNP (e.g. Barron, 2000, Cross, 1973 and Quirke, 1991) and elsewhere. New treatment methods will continue to be tested and applied where feasible.

A liaison officer has been appointed from within the National Park staff to oversee clearance operations and to liaise, in the field, with both contractors and volunteers at least once per week during the working season.

1.4.2 Rhododendron Eradication Programme: 5 Year Target

- Prepare comprehensive management programme for rhododendron control in KNP – 2005
- Carry out the following work programme (note that areas to be decided will be identified in the above programme)

Year	Location	Action	By Whom
2005	15 ha (area to be identified)	Cut & stump treatment	Contractor
	22 ha (area cut in 2003)	Spray	
	30 ha (area to be identified)	Seedling removal	
	Kingsboro, Upper & Lower Doogary, Tomies Wood, Ravens' Nest, Esknamucky Glen, Cahernabane & Glaisín na Marbh (areas of spraying from 2004)	Check effectiveness of 2004 spraying/stump treatment. Re-treat if necessary	Groundwork
	Glaisín na Marbh (initially cleared in 1996, 1998 c. 5 ha)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Remaining area Cahernabane; Glaisín na Marbh or Derrycunihiy	Initial clearance: cut; pile; stump removal/stump treatment	
2006	12 ha (area to be identified)	Cut & stump treatment	Contractor
	10-15 ha (area to be identified)	Seedling removal	
	Glaisín na Marbh, Cahernabane (areas of 2005 spraying) & area of initial clearance from 2005	Check effectiveness of 2005 spraying/stump treatment. Re-treat if necessary	Groundwork
	Eamonn's Wood (initially cleared 1994 c. 5 ha)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Glaisín na Marbh (initially cleared in 2003 c. 3 ha)	Initial clearance: cut; pile; stump removal/stump treatment	
	Area to be decided	Initial clearance: cut; pile; stump removal/stump treatment	
2007	12 ha (area to be identified)	Cut & stump treatment	Contractor
	10-15 ha (area to be decided)	Seedling removal	
	Glaisín na Marbh, Eamonn's Wood (areas of 2006 spraying) & area of initial clearance from 2006	Check effectiveness of 2006 spraying/stump treatment. Re-treat if necessary	Groundwork
	Tomies Wood (c. 135 ha)	Follow-up: seedling removal/ check for re-growth, treat as appropriate	
	Looscaunagh & Gallavally (c. 80 ha)	Initial clearance: cut; pile; stump removal/stump treatment	
	Area to be decided	Initial clearance: cut; pile; stump removal/stump treatment	
2008	12 ha (area to be decided)	Cut & stump treatment	Contractor
	10-15 ha (area to be decided)	Seedling removal	
	Tomies Wood, Looscaunagh, Gallavally (areas of 2007 spraying) & area of initial clearance from 2007	Check effectiveness of 2007 spraying/stump treatment. Re-treat if necessary	Groundwork
	Upper Doogary (c. 25 ha)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Lower Doogary (c. 12 ha)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Eamonn's Wood	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Cahernabane (initial clearance 2004, c. 35 ha)	Follow-up: burn brash piles; seedling removal; check for stump re-growth, treat as appropriate	
	Area to be decided	Initial clearance- cut; stump removal/stump treatment	
2009	12 ha (area to be decided)	Cut & stump treatment	Contractor
	10-15 ha (area to be decided)	Seedling removal	
	Upper & Lower Doogary, Eamonn's Wood, Cahernabane (areas of 2008 spraying) & area of initial clearance from 2008	Check effectiveness of 2008 spraying/stump treatment. Re-treat if necessary	Groundwork
	Cahernabane (area of initial clearance in 2005) & other areas of initial clearance from 2005 (Phase 2)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Glaisín na Marbh (c. 40 ha)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Kingsboro (c. 10 ha)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Cahnicaun (c.21 ha)	Follow-up: seedling removal; check for stump re-growth, treat as appropriate	
	Area to be decided	Initial clearance – cut; pile; stump removal/stump treatment	

- Produce progress reports on works undertaken – End 2005, 2006, 2007, 2008, 2009
- Carry out research into new treatment methods – ongoing

1.4.3 Management of the Yew Woodland

The recently completed fence around the yew woodland is designed to prevent deer incursion into the woodland. Trapping and culling of deer will continue on Muckross Peninsula until all are removed.

Conservation Rangers have completed some baseline studies of ground flora which will be used as a basis for monitoring throughout the period of this Plan. Where necessary, further baseline studies of bryophytes, lichens and invertebrate and vertebrate fauna will be undertaken.

1.4.3 Management of the Yew Woodland: 5 Year Target

- Survey permanent quadrats – 2006
- Continue deer removal on Muckross Peninsula – as per strategy 1.4.1

1.4.4 Management of Other Exotic Species

It is National Park policy to prevent regeneration of exotic species where it is seen that their spread is a threat to natural habitats. Species of concern include sitka spruce, cotoneaster, Japanese knot weed and clematis. The spread of such species will be monitored and clearance initiated if necessary.

Exotic species of tree or shrub in woodlands will be left where they are not regenerating, particularly where they have been planted as part of a demesne landscape, unless there are cogent scientific reasons for their removal.

1.4.4 Management of Other Exotic Species: 5 Year Target

- Monitor and carry out limited clearance by National Park Staff – ongoing
- Obtain scientific advice on exotic species from NPWS research staff – ongoing

1.4.5 Removal of Conifer Blocks

The remaining former commercial conifer plantations will continue to be converted to native woodland. Some selected specimen trees will be retained, for diversity and education purposes, as will any native species. Rather than clear-felling large areas, pockets of conifers will tend to be cleared on a phased basis in order to provide shelter and protection for regenerating native species. Some areas may be fenced for a limited time (10-20 years) to encourage natural regeneration. This will enable young trees to become large enough to withstand browsing animals. Thereafter, some grazing is desirable to enhance diversity of smaller plants and, therefore, fences will be removed. This approach will favour the development of birch and willow scrub, which will be augmented where necessary by the planting of limited numbers of oak. Depending on their maturity, it is the intention to plant oak from acorns collected in the National Park and grown in the nursery.

Section 72(a) of the Wildlife (Amendment) Act 2000 excludes trees on lands held or owned by the Minister from the felling licence requirement of Section 37 of the Forestry Act 1946. However, with regard to the removal of conifer blocks, NPWS undertakes to apply the same broad criteria as apply to a felling licence.

1.4.5 Management of Conifer Blocks: 5 Year Target

- Produce prioritised list of conifer blocks to be removed – 2005
- Clear non-native species from 250 ha of former commercial conifer plantation – 50 ha per year
- Fence and plant above areas – as necessary

Strategy 1.5 Conservation and Management of Aquatic Habitats

Water quality is the single most important factor affecting the conservation and management of aquatic habitats within the National Park.

1.5.1 Improvement of Water Quality in Lakes and Rivers

NPWS will continue to participate in, and actively support, the work of the LLCMMS and its successor. The aim of the LLCMMS is to halt and reverse the decline in the water quality of the Lough Leane catchment. See section 7.3, page 31 for further details of this project.

Recommendations relating to industrial discharges, municipal discharges, discharges from agriculture and septic tanks, local authority waste management, tourism sector, forestry management, water supply, and pollution responses, are proposed by the LLCMMS. In order for the long-term continuation of the System, a budget of over €8 million has been made available to develop the South Western River Basin District Management System over a 4-year period. This will be administered by participating local authorities and will incorporate the Lough Leane Catchment as a priority sub-catchment. The formation of River Basin Districts is one of the obligations that has to be fulfilled under the EU Water Framework Directive 2000.

NPWS and the project team will continue water quality sampling within the National Park. The monitoring programme will sample Muckross Lake and Lough Leane and the Upper Lake. The programme includes 8 sampling stations on the Upper Lake, 15 sampling stations on Lough Leane; 1 on Muckross Lake; and sampling at the mouths of the Gearhameen River, Galway's River and the Dougary and Kingsboro streams on the Upper Lake.

1.5.1 Improvement of Water Quality in Lakes and Rivers: 5 Year Target

- Continue to work with Kerry County Council on water sampling programme – ongoing
- Sample Upper Lake – 6 times per year
- Respond to pollution incidents as soon as they are identified- ongoing
- Produce and implement nutrient management plans for all National Park lands – as per strategy 1.6.1
- Address the problem of overgrazing in order to reduce siltation and erosion – as per strategy 1.3.1
- Reduce inputs of soiled water and phosphates at all sources in the National Park by separating clean and soiled water – ongoing
- Actively participate in the implementation of the Lough Leane Catchment Management Plan – ongoing

1.5.2 Improvement of Effluent Treatment

Effluent from the National Park treatment plant, which is licensed by KCC, will continue to be monitored on a regular basis to ensure compliance with licence conditions. The performance of septic tanks and other treatment systems in KNP will be reviewed with a view to continuous improvement of waste-water treatment systems in the National Park.

An ICW was constructed close to the former Muckcross House with the intention of further cleansing the effluent from the Treatment Plant for Muckcross House and providing a “safety net” in the event of malfunction of the plant. The NPWS methodology and approach has been explained in some considerable detail to the KNPLC and agreement and a way forward has now been reached. This will be the subject of an application for planning permission.

NPWS will work closely with KCC and other interested parties (e.g. KNPLC and independent experts) in order to carry out a full evaluation of sites to assess their suitability for ICWs at Dinis and Torc.

As a longer term strategy, NPWS will evaluate the options for sewage treatment at Muckcross in the light of KCC’s proposal to link Muckcross village and surrounding area into the Killarney Town’s sewerage system.

The problems of inadequate effluent treatment, in particular phosphate loading are dealt with by the LLCMMS final report (see strategy 1.5.1 above).

1.5.2 Improvement of Effluent Treatment: 5 Year Target

- Carry out impact assessments for ICWs at Torc and Dinis – 2005
- Apply for planning permission for ICWs at Muckcross, Torc and Dinis – 2005
- Consult with KCC re options for sewage treatment at Muckcross – 2005
- Consult with KCC re discharge into Lough Leane – ongoing

1.5.3 Protection of Small Waterbodies and Streams

Many streams rise in, and flow through the National Park before entering a larger watercourse or one of the Lakes. The water quality in these streams is within the control of National Park management, as is that of small waterbodies.

Small waterbodies are of particular importance for the invertebrate fauna they support. They are particularly vulnerable to drainage and damage due to poaching and trampling. The implementation of sustainable grazing regimes will help to prevent the latter, and such waterbodies will not be subject to active drainage.

The establishment of sustainable grazing regimes will also help to prevent damage to stream banks and subsequent silting. The removal of conifers within 20m of streams will be given priority when blocks are being cleared.

1.5.3 Protection of Small Waterbodies and Streams: 5 Year Target

- Integrate conservation management for small water-bodies and streams into the wider conservation management strategies for KNP – as per strategies 1.3.1; 1.5.1
- Prioritise removal of conifers within 20m of streams – to tie in with strategy 1.4.5

Strategy 1.6 Management of Lowland Grasslands

1.6.1 Management of Demesne Grasslands

Traditionally, KNP has maintained demesne grasslands as part of its habitat mix and as a critical resource for maintaining farm practices within the National Park. A Farm Plan (in line with Rural Environment Protection Scheme (REPS) guidelines and drawn up by an agriculturalist and an environmentalist) will be produced for the agricultural grasslands, in consultation with the Irish

Organic Farmers and Growers Association (IOFGA) and based on best agri-environmental practices. This will include recommended stocking levels and a nutrient management plan. The farm plan will include provisions for the needs of lowland deer populations. It is intended that the farm will be converted to full organic status by 2006.

Certain areas of grassland will be managed extensively, with no fertilisation, in order to increase species diversity of plants and invertebrates

Certain pastures will continue to be cut late in the season to provide winter-feed for livestock.

1.6.1 Management of Demesne Grassland: 5 Year Target

- Produce farm plan – 2005
- Implement plan – 2006, 2007, 2008, 2009
- Convert to organic status (transitional period of two years) – 2005-2007
- Achieve full organic status for farm – 2007
- Produce progress reports on works undertaken – 2007 and 2009

1.6.2 Conservation of Wet Grasslands and other Semi-Natural Grasslands

These areas will not be fertilised or drained. Grazing or mowing may be necessary in order to prevent scrub succession. Grazing regimes will take deer usage into account as well as the potential impacts on neighbouring habitats, especially on woodlands.

1.6.2 Conservation of Wet Grasslands and other Semi-Natural Grasslands: 5 Year Target

- Maintain wet and semi-natural grasslands in present state – ongoing

Strategy 1.7 Conservation of Inland Cliffs, Scree & other Areas of Exposed Rock

Such habitats are not under threat at present and no direct management is necessary. They could, however, come under pressure from rock climbing in certain places and from walkers in others. Rock climbing will only be allowed by permit, issued by National Park management, who will confine the activity to areas where no significant habitat damage or disturbance to breeding birds will occur. The restoration/maintenance of paths will help to minimise damage due to walkers.

1.7 Conservation of Inland Cliffs, Scree & other Areas of Exposed Rock: 5 Year Target

- Strictly regulate rock climbing by permit system – ongoing
- Produce annual reports on numbers of permits issued and for what areas of National Park – end of each year
- Monitor permit compliance – ongoing
- Implement pathway restoration/maintenance programme – as per strategy 1.3.3

Strategy 1.8 Protection of Geological Features and Soils

Naturally occurring rock formations, geomorphological features and soils will not be interfered with, other than for essential management purposes.

It should be noted that National Parks are not exempted under the Minerals Development Acts (1940 and 1960). Notwithstanding this, it is Government policy that no prospecting licences will be granted in the future for any lands within National Parks in Ireland.

1.8 Protection of Geological Features and Soils: 5 Year Target

- Retain Government policy that prospecting licences will not be granted in National Parks – ongoing

Strategy 1.9 Land Purchase

As already indicated, KNP now has 10,289 hectares, an area of land which has been built up from its nucleus of 4,300 hectares under the Bourn Vincent Memorial Park Act 1932. It is the policy of NPWS to consider the acquisition, by mutual agreement, of lands bordering on the State's six National Parks, including Killarney, should they become available, in order to consolidate existing National Park lands and waters. This policy is entirely consistent with the policy of sustainable development which underpins the Government's *National Heritage Plan* and *National Biodiversity Plan* 2002-2006, in that it serves to ensure that, within the resources made available to NPWS, the maximum proportion of priority conservation land in Ireland can be secured by the State for future generations.

Strategy 5.3 (liaison with local authorities) outlines how developments outside KNP that may have negative impacts on the National Park, will be addressed.

1.9 Land Purchase: 5 Year Target

- Consider land purchases as opportunities arise, subject to the availability of resources – ongoing
- Address development adjacent to KNP – as per strategy 5.3

Objective 2: To conserve notable plant and animal species in KNP and to maintain their populations at adequate levels.

Strategy 2.1 Conservation of Species listed on Annex II of the Habitats Directive and other Protected and Rare Plant Species

In general, threats to terrestrial species arise from loss of habitat and overgrazing. The aquatic plant species slender naiad requires clear oligotrophic waters and is almost certainly threatened in Lough Leane. The strategies described under Objective 1 of this Plan, which are designed to conserve the habitats of notable flora, are also intended to contribute to their protection in the National Park.

The locations of rare and protected species will not be made widely available, but will be given to applicants who are engaged in bona fide research or other projects that will not pose an increased threat to the species in question. Collection and trampling by enthusiasts poses a significant threat to species such as the Killarney fern.

Continued surveillance of known populations of rare and vulnerable plant species will be carried out in the National Park.

2.1 Conservation of Species listed on Annex II of the Habitats Directive and other Protected and Rare Plant Species: 5 Year Target

- Undertake surveillance by regular Conservation Ranger patrols – ongoing

Strategy 2.2 Conservation of species listed in Annex I of the Birds Directive and Other Notable Bird Species

Factors which influence the stability of populations of bird species may be beyond the scope of this Plan as many are migratory species and could be affected by adverse factors at their breeding or summer feeding sites far away from KNP.

2.2.1 Protection of Wintering Population of Greenland White-fronted Geese

An investigation into the cause of the decline in the down-country flocks of Greenland white-fronted Geese is ongoing on a national basis and may provide some information on the future status of the Killarney flock. The reduction of grazing pressure and associated disturbance on the bogs may encourage the Greenland White-fronted Geese to continue to over-winter here.

2.2.1 Protection of Wintering Population of Greenland White-Fronted Geese: 5 Year Target

- Continue investigations into decline of national population by NPWS Research Branch – ongoing
- Continue monitoring of the existing flock by Conservation Rangers – 4 times each winter

2.2.2 Protection of Other Bird Species Breeding and Wintering in the National Park

Strategies that protect the habitats used by birds for feeding and breeding will contribute to the maintenance of their populations in the National Park.

The restoration of good water quality at Lough Leane should help to maintain and possibly improve populations of waterfowl using the lakes. The enforcement of regulations relating to type and intensity of human usage of Lough Leane will also benefit waterfowl by minimising disturbance.

Monitoring of wintering wildfowl populations will continue.

2.2.2 Protection of Other Bird Species Breeding and Wintering in The National Park: 5 Year Target

- Continue monitoring of wader and duck species on Lough Leane – 1 count per month
- Continue monitoring of peregrine breeding within the National Park – Each spring
- Disseminate bird monitoring data – annually

Strategy 2.3 Conservation of other Notable Species of Fauna

2.3.1 Management for Invertebrates

97% of the animal species recorded so far in Ireland are invertebrates. However, most of our invertebrate species are little known and understood.

The conservation of invertebrate fauna will be based on the maintenance and enhancement of relevant habitats. For example, populations and diversity of aquatic invertebrate species in Lough Leane should improve with the improved water quality strategies envisaged in this Plan.

Despite possible threats, including gravel extraction and eutrophication, the population of freshwater pearl mussel in the Owenreagh appears to be reasonably healthy. Survey work will be carried out to assess the age structure of the population. Gravel extraction adjacent to the river in the cSAC is a notifiable action and will not be permitted. Some bank management may be required along the river to ensure that it is not overly shaded by trees and that damage by trampling does not occur. Survey work will identify whether this is needed.

Populations of Kerry slug and marsh fritillary and other terrestrial invertebrate species are not thought to be threatened. The intended management for woodlands should ensure maintenance of the slug populations. The presence of the slug has been confirmed in areas of woodland cleared of rhododendron, suggesting that the range of the slug will be further consolidated through continued rhododendron eradication.

The maintenance of areas of wet grassland containing the plant species devils-bit scabious will attract the marsh fritillary. As the populations are so mobile, areas of suitable habitat will continue to be maintained throughout the National Park.

A standardised protocol for surveying the fritillary in the National Park is currently being established. This will allow populations to be more effectively monitored.

NPWS will continue to strive to ensure that the introduced zebra mussel does not enter the aquatic systems of KNP. Signs alerting lake and river users to the threat are already in place and will be augmented as necessary. Boats that have been launched in waters outside the National Park will not be permitted to enter the lakes unless they have been certified as being cleaned (see Appendix 10).

2.3.1 Management of Invertebrates: 5 Year Target

- Erect and maintain signs cautioning against the introduction of the zebra mussel – 2005
- Establish scheme of certification for boat cleaning – 2005
- Prevent gravel extraction in areas where it will cause negative impacts on freshwater pearl mussel populations – ongoing
- Carry out survey work on freshwater pearl mussel and habitat – 2006
- Maintain suitable habitat for marsh fritillary – as per strategy 1.6.2
- Establish standard survey protocol for the marsh fritillary – 2005
- Continue rhododendron clearance from potential Kerry slug habitat – as per strategy 1.4.2

2.3.2 Conservation of Fish Species

Threats to fish species include over-fishing and poor water quality in the lakes and wider catchment. Water quality is covered under strategy 1.5.1 and 1.5.3.

The terms of new agreements in relation to fisheries management on the Laune and Flesk are currently under consideration.

NPWS is currently funding a study on the Killarney shad, being carried out by the Central Fisheries Board, and will co-operate with the Irish Char Conservation Group regarding further work to be carried out on this species.

Conservation Rangers will carry out survey work to identify lamprey spawning grounds.

2.3.2 Conservation of Fish Species: 5 Year Target

- Finalise agreements for management of fisheries – 2005
- Complete study on Killarney shad and devise monitoring protocol – 2005
- Carry out survey of lamprey spawning grounds – 2006

2.3.3 Conservation of Amphibians and Reptiles

No direct threats to populations have been identified. Protection of their habitats should contribute to the maintenance of populations within the National Park.

2.3.3 Conservation of Amphibians and Reptiles: 5 Year Target

- Continue habitat protection – as per strategies under Objective 1

2.3.4 Conservation & management of Deer & Goats

It is an objective of KNP to ensure the continued health and genetic integrity of both the red and sika deer herd and to maintain populations at a level which is compatible with the effective conservation of their associated habitats. To this end populations of red deer, sika deer and feral goat will continue to be monitored and controlled taking into account the establishment and maintenance of sustainable grazing regimes for upland, woodland and grassland habitats.

NPWS will continue to co-operate with relevant interests in regard to the conservation and management of the deer herd and its range outside KNP and will encourage and facilitate research projects and studies of the red deer population, which will provide useful information for its proper management and protection.

NPWS will monitor the establishment of deer farms within 50 km of the National Park and where necessary will liaise with DAF and other relevant parties to minimise the risks of escaped animals from such farms.

2.3.4 Conservation & Management of Deer & Goats: 5 Year Target

- Census deer numbers and determine sustainable level in all areas – mountain, woodland & pastureland (see also strategy 1.3.1) – 2006
- Maintain red deer populations on uplands at present rates (500-700). This figure may be adjusted based on the above – as per strategy 1.3.1
- Determine sustainable levels of red deer populations on lowlands. Reduce numbers if necessary – as per strategy 1.6
- Reduce red deer populations in areas adjoining the National Park as need arises – as necessary
- Continue to reduce sika populations throughout the National Park to limit of 400-500 during period of Plan. This figure may be adjusted based on the above – remove c. 100 per year
- Monitor deer farms in a 50km radius of the National Park – as necessary
- Remove goats as need arises – as per strategy 1.3.1

2.3.5 Conservation of Bats

Foraging grounds for lesser horseshoe and other bat species will be protected through the effective management of aquatic habitats, permanent pastures and woodland habitats within the National Park. Important bat roosts will continue to be monitored by Conservation Rangers and vulnerable winter and summer roosts fitted with grilles, where disturbance could become a problem.

2.3.5 Conservation of Bats: 5 Year Target

- Consolidate and protect bat roosts and populations – ongoing
- Monitor populations at roosts – annual summer and winter counts
- Promote the importance of bats for biological diversity through promotion by National Park personnel, regular “bat nights” and focused lectures – ongoing

2.3.6 Conservation of Other Mammal Species

Other species including otter and pine marten are not thought to be threatened within the National Park. The status of selected mammal species within KNP will be established during the timescale of this Plan. Conservation of habitats should ensure the protection of mammal species.

The Irish hare may benefit from the establishment of sustainable grazing regimes which will increase plant biodiversity in upland areas.

2.3.6 Conservation of other Mammal Species: 5 Year Target

- Conserve habitats – as per strategies listed under Objective 1
- Determine conservation status of selected mammal species – 2009

2.3.7 Prohibition of Hunting and Shooting

Sports hunting is not permitted in KNP. Illegal shooting or poaching will be prevented through patrols by Conservation Rangers. Offenders will be prosecuted. This policy will apply also to people shooting birds on or over the National Park from adjoining lands.

2.3.7 Prohibition of Hunting and Shooting: 5 Year Target

- Maintain ban on hunting in, and shooting on or over the National Park – ongoing
- Carry out anti-poaching patrols – ongoing

Objective 3: To conserve and where appropriate, restore and further develop the cultural and heritage features of KNP.

Protection of the cultural heritage requires research, site survey and inventory of all features of the built heritage and structures and designed landscape (including tree surveys) to assess their historical value and to identify the most important historical features. This information will then form the basis for preparing detailed conservation plans for built and designed landscape heritage and monuments and archaeological heritage as necessary.

Strategy 3.1 General Protection of Built Heritage and Demesne Landscapes

A good deal of documentary research and historical evaluation has already been undertaken by the OPW for NPWS, in consultation with research staff employed by the TMH over the past number of years. Additional survey and inventory work to complete the historical assessment will be carried out. This will include survey/inventory work on prehistoric/archaeological sites, notable houses, cottages, boat houses and bridges where adequate data is not available.

NPWS will liaise with the OPW regarding the development of detailed conservation plans relating to cultural resources. These plans will provide essential information for management within KNP and help avoid unnecessary conflicts and avoidable damage to cultural resources in the National Park.

3.1 General Protection of Built Heritage and Demesne Landscapes: 5 Year Target

- Survey and record all features of the designed landscapes including field and tree surveys and major planting features within the demesne landscapes and pleasure gardens of Muckross House, Killarney House and Knockreer – ongoing from 2005
- Survey and record the built heritage and structures including special features and furniture of Muckross House and Killarney House – ongoing
- Prepare conservation plans for built heritage and demesne landscapes in conjunction with the OPW – ongoing from 2005

Strategy 3.2 Conservation of Archaeological Monuments

Known sites and any other sites that may be discovered in the future will be managed in such a way as to comply with the National Monuments Acts 1930-1994.

No interference with vegetation etc. on or surrounding these sites will be undertaken without prior agreement between the National Monuments Section of DEHLG, the OPW and NPWS.

A list of known archaeological monuments recorded in KNP is listed in Appendix 7 and on map 5.

3.2 Conservation of Archaeological Monuments: 5 Year Target

- Comply with the National Monuments Acts 1930-1994 – ongoing

Strategy 3.3 Conservation of National Monuments**3.3.1 General Protection of Monuments**

All monument sites will be managed so as to comply with the National Monuments Acts 1930-1994.

The three major national monuments within the National Park are the monastic buildings on Innisfallen Island, Ross Castle and Muckross Abbey. Responsibility for the care of these monuments lies with the OPW. National Park staff will co-operate closely with OPW staff in order to afford the monuments full protection and to ensure that management of the monuments and surrounding National Park lands are mutually agreed. Any proposals for facilitating or improving access to any monuments within KNP will be discussed with the OPW and the local authority before work is carried out.

Extensions to the existing graveyard adjoining Muckross Abbey or proposals for inappropriate facilities at or in the vicinity of National Monuments will not be facilitated.

3.3.1 General Protection of Monuments: 5 Year Target

- Initiate formalised liaison between NPWS and the OPW – twice yearly
- Prevent incursions on National Monuments – ongoing

3.3.2 Ross Castle and its Environs

The growing popularity of Ross Castle and the surrounding area requires improved facilities to cater for the increasing demands of visitors and to improve the general appearance of the area. A major programme of works is under way to achieve this and the Castle now boasts a visitor facility of the highest standards.

Information on the facilities available locally, including boating, will also be provided.

A new car park has been laid out and is now fully operational. It caters for tour buses as well as cars and will help to overcome the congestion that has occurred in the past. The road system in Ross Island and Reen is being upgraded and surface-dressed. The further development of this area will be addressed in an action plan for the area (see strategy 4.1).

A new toilet block has been provided and the existing toilets have been demolished with the co-operation of Killarney Town Council.

Some general landscaping works aimed at harmonising the Castle to its surrounds has already been undertaken and this will be extended to other areas.

3.3.2 Ross Castle and its Environs: 5 Year Target

- Landscape area to north and east of Castle – 2005
- Have two cannon carriages manufactured to specified design – 2005
- Carry out works to walls of Castle and mount cannons if sufficiently consolidated – 2005
- Carry out conservation works to 1 tapestry – 2005
- Upgrade existing exhibition – 2005

3.3.3 Innisfallen and Muckross Abbey

Both these sites will be maintained for visitor access.

3.3.3 Innisfallen and Muckross Abbey: 5 Year Target

- Continue maintenance of sites to facilitate visitor access – ongoing
- Complete conservation works to Muckross Abbey – 2005

Strategy 3.4 Conservation of Principal Houses and Other Buildings

3.4.1 Conservation of Muckross House

Muckross House is one of the most imposing and attractive features of KNP, and is the centre of the main visitor services and facilities in the Park. In keeping with past practices, the fabric of the building will be maintained to the highest standards and will continue to function as the main visitor centre in the National Park. Policies with regard to interpretation and the provision of visitor facilities at Muckross House are dealt with under strategy 4.4.

Research into the history and original decoration of the House from archival material as a basis for further restoration work will be continued. A full survey of the House and surrounding area and buildings will be carried out to encompass all building details, services and levels so that any future improvements can be carried out safely with reference to this document.

A project to repair the lead work on the roof, most of which is defective, is already proposed. Other targeted works within Muckross House, to include the installation of a passenger lift, the relocation of the visitor reception and admission facilities from the entrance hall are also planned.

The new Walled Garden Centre provides significantly better facilities for visitors and, as a result, the future use of the vacated space in Muckross House and ancillary buildings will be examined in the

context of a Utilisation Plan. This will be drawn up in advance of further work being carried out to ensure that a co-ordinated approach will be taken to all future projects. The cobbled courtyard will be suitably maintained and an appropriate use of the surrounding buildings developed.

The site of the earlier 18th century Muckross House will be cleared of overgrowth that has occurred since excavation, and the remains of the house will be conserved.

3.4.1 Conservation of Muckross House: 5 Year Target

- Carry out full survey of Muckross House – 2005
- Carry out roof repairs over Servant's Wing – 2005
- Install passenger lift – 2006
- Relocate reception and restore main entrance hall – on completion of lift
- Finalise and agree utilisation plan for Muckross House – 2005
- Implement utilisation plan – ongoing from 2005
- Continue repairs and conservation works to paintings, picture frames and other furnishings and artefacts – ongoing
- Conserve a second pair of original dining room curtains to complement the conservation works carried out on the first pair in 1991 – 2005
- Upgrade the fire and security systems – ongoing
- Assess and carry out conservation works on the original 18th century Muckross House – initial work complete by 2005; further work complete by 2007
- Prepare maintenance programme – 2005
- Provide details of maintenance and refurbishment work to KNPLC – as necessary

3.4.2 Conservation of Killarney House

It is intended to retain and preserve the integrity and character of the House both internally and externally and to provide for visitor access to certain parts of it as appropriate, in particular the three main furnished reception rooms. To this end, most of the contents of the House have been acquired by the State, including some important pieces of furniture and art dating back to the Earls of Kenmare.

Consideration will be given to the future use of the Gate Lodge at Killarney House, which is now vacated.

NPWS in consultation with OPW will supply details of proposed refurbishment work and associated gardens and buildings to the KNPLC.

3.4.2 Conservation of Killarney House: 5 Year Target

- Ensure adequate security arrangements to protect property – 2005
- Refurbish ground floor – 2006
- Open new visitor facility – 2006
- Supply details of any refurbishment work to KNPLC – as necessary
- Comply with best practice when designing and erecting signs – as necessary
- Consult on extension of opening hours – 2005

3.4.3 Conservation of Knockreer House

This building will continue to be the main research and education centre within the National Park. The local community as well as university students, school, other youth and special interest groups will be encouraged to make greater use of the facility.

3.4.3 Conservation of Knockreer House: 5 Year Target

- Maintain education and research facilities – ongoing, see also strategy 4.7

3.4.4 Maintenance of Residential Lodges/Cottages

Residential buildings which are of architectural or historical interest or which are strategically located within the National Park will continue to be maintained and preserved.

Where possible, vacant buildings will be occupied, particularly where this will aid appropriate maintenance of these buildings. Vacant houses will be made available to National Park employees in the first instance.

An inventory and condition survey of all the estate buildings and cottages was drawn up in 1992. This will be put on a database and updated as required.

Maintenance/restoration of all residential buildings owned by NPWS will continue to ensure that the building stock is kept in good repair for posterity. Architectural advice will be sought in all cases before alterations are carried out to comply with the Local Government Planning and Development Act, 1999, the Architectural Heritage (National Inventory) and the Historic Monuments (Miscellaneous Provisions) Act 1999. Heritage features will be conserved.

Some of the uninhabited houses within the National Park are in a poor state of repair. They will not be restored unless it is practical to do so. However, they will not be allowed to deteriorate further. Alternative National Park uses may be found for other vacant residences.

Arthur Vincent House will continue to be used as a hostel for voluntary workcamps and educational groups and will be maintained as appropriate.

3.4.4 Maintenance of Residential Lodges/Cottages: 5 Year Target

- Maintain architectural integrity of buildings – ongoing
- Continue to secure properties as necessary – ongoing
- Complete survey on occupancy of dwellings – 2006
- Maintain Arthur Vincent House in compliance with appropriate standards – ongoing, as necessary

3.4.5 Conservation of Dinis Cottage

A survey of the cottage has been completed, with a view to upgrading the building.

3.4.5 Conservation of Dinis Cottage: 5 Year Target

- Apply for planning permission – 2005
- Review and implement findings of survey report – 2006

3.4.6 Muckross House Farmyard

The buildings will continue to be maintained for their present uses as offices for National Park staff, stores and animal housing. Some remedial work on the buildings in the complex will be undertaken to comply with health and safety standards. Should these buildings be no longer required for these purposes, consideration will be given to alternative National Park uses. One wing has already been restored and upgraded for use mainly by the Conservation Rangers. The remainder of the complex will be restored on a phased basis, as required.

3.4.6 Muckross House Farmyard: 5 Year Target

- Complete remedial works necessary for health and safety regulations – 2005

3.4.7 Maintenance of Buildings at Muckross Walled Gardens

As part of the recent restoration of the walled gardens, new Garden Service buildings, yard and propagation area have been provided and are in use for the maintenance of the gardens. The restoration of the Edwardian glasshouses has been completed, and they will be used both as propagation and plant display areas.

3.4.7 Maintenance of Building at Muckross Walled Gardens: 5 Year Target

- Install shading and restore planting – 2005

3.4.8 Utilisation of Knockreer Farmyard

The future uses of the structures in the farmyard are currently under consideration.

3.4.8 Utilisation of Knockreer Farmyard: 5 Year Target

- Consider proposal/plans for farmyard – 2005
- Decide on future of farmyard – 2005

3.4.9 Utilisation of Killarney House Farmyard Buildings

The present use of these buildings will continue for the time being. Their future utilisation will be considered. The dovecote requires survey and remedial works. The bat roost for the lesser horseshoe bat will be maintained.

3.4.9 Utilisation of Killarney House Farmyard Buildings: 5 Year Target

- Undertake survey and works to dovecote – 2005
- Consider all options for utilisation of this space and make recommendations – 2006

3.4.10 Maintenance of Stone Boathouses

These will be maintained as necessary on a phased basis. The storage of boats will continue to be regulated.

3.4.10 Maintenance of Stone Boathouses: 5 Year Target

- Maintain boathouses as required – ongoing
- Where appropriate, facilitate rowing clubs to upgrade facilities in boathouses used by them from funds at their disposal – ongoing, as necessary

3.4.11 Maintenance of Other Features

Various other built features within the National Park of architectural or historical interest will be preserved and maintained insofar as possible. These features include bridges, quays, old walls, fences, railings, gates and gate piers.

3.4.11 Maintenance of Other Features: 5 Year Target

- Survey all bridges and upgrade as necessary – ongoing
- Maintain features as required – ongoing
- Maintenance to structures will be detailed in the appropriate area action plan (strategy 4.1) – ongoing

Strategy 3.5 Conservation of Demesne Landscapes including Gardens**3.5.1 Conservation of Demesne Landscapes**

Many of the trees of the demesne landscapes are over-mature. NPWS will maintain a continuing programme of tree plantings in order to retain the historic character of these landscapes and restore them, as appropriate, in areas where historic character has suffered.

All new and proposed developments in demesne landscapes, including new roads, drives, alterations to woodlands and trees or ground modelling will be carefully evaluated and assessed for historical and visual impact in conjunction with a conservation plan.

The woodlands of Reen and Ross Island are traversed by frequently used visitor routes, as is the road around Muckross Lake. Traditionally, certain viewpoints and historic sight lines have been kept open by cutting and removal of native trees and shrubs. NPWS will continue to maintain these sight lines. The width of these sight lines will be kept to a maximum of 50 m of road frontage.

Approximately 200 ha of the demesne areas of the National Park are maintained as grassland. The greater part of this area will continue to be used as grazing for the red deer and cattle (see strategy 1.6.1).

3.5.1 Conservation of Demesne Landscapes: 5 Year Target

- Maintain existing view-points and sight lines – ongoing
- Maintain grasslands for cattle and red deer grazing – as per strategy 1.6.1

3.5.2 Conservation of Muckross Demesne

The historic character of landscape features within the demesne will be maintained and restored, as appropriate, in accordance with a conservation plan (see under strategy 3.1).

3.5.2 Conservation of Muckross Demesne: 5 Year Target

- Restore the important mid 19th century picturesque foreground views of the lake from the terrace and dining room window of Muckross House, created by the former owners, the Herberts and for which historical evidence exists – 2005
- Maintain and restore historic vistas from approaches to lakes and mountains and to and from Muckross House, Muckross Peninsula and Muckross Abbey by the coppicing or removal of vegetation – ongoing
- Maintain and conserve the existing horticultural collections at Muckross Gardens, and their attendant landscape design features – ongoing

3.5.2 Conservation of Muckross Demesne: 5 Year Target (contd.)

- Restore key historical garden features and planting as appropriate – ongoing
- Continue to develop the Arboretum at Muckross, with suitable additions to the current plant collection – ongoing from 2005
- Complete an arboricultural survey of existing tree cover, with species, location, condition and maturity indicated to aid ongoing cycles of management – ongoing
- Maintain and record notable tree and shrub specimens as appropriate – ongoing
- Restore and conserve historic drives, walks and viewing points in the demesne, including 19th century woodland walks and routes as appropriate – ongoing from 2005
- Assess further planting in the vicinity of Muckross House – to improve the visual amenity following recent developments such as extended car parks and new roads etc. – once all works are completed and survey work mentioned above is carried out – 2005
- Initiate conservation proposals for the gardens at Dinis Cottage – 2006

3.5.3 Conservation of Killarney House and Knockreer Demesne

The historic character of landscape features within the demesne and gardens will be maintained and restored, as appropriate, in accordance with a conservation plan.

3.5.3 Conservation of Killarney House and Knockreer Demesne: 5 Year Target

- Carry out field and tree surveys of demesne – from 2006
- Carry out field/tree survey of former gardens in “ha-ha” area of Killarney House – 2005
- Complete preliminary historical report and conservation/restoration proposals – 2006
- Remove vegetation and survey terrace gardens at Knockreer House – 2005
- Initiate restoration of important 19th century vistas from terraces of Knockreer House – from 2005
- Ensure adequate security in place to protect Deenagh Lodge – ongoing

Strategy 3.6 Conservation of other Important Landscape Features

NPWS will ensure that other historical landscape features, such as pre-famine settlements and lazy beds, such as those at Ferta, are conserved.

3.6 Conservation of other Important Landscape Features: 5 Year Target

- Ensure protection of other important historical landscape features – ongoing

Strategy 3.7 Conservation of Native Breeds

It will remain NPWS policy to aid in the conservation of Kerry Cattle in association with the Kerry Cattle Society, the Royal Dublin Society and DAF. While it is considered that the National Park can accommodate some 300 animals of different breeds, the intention under this Plan is to maintain the Kerry Cattle Herd at the traditional herd size of 60-65 cows, plus replacements of 15-20% to maintain the herd. Moreover, the farm is currently in transition to full organic status (see strategy 1.6.1). The possibility of supplying organic beef produced by the National Park to local restaurants and hotels will be investigated.

3.7 Conservation of Native Breeds: 5 Year Target

- Maintain Kerry cattle herd at appropriate levels – ongoing
- Convert to organic status – see strategy 1.6.1

Objective 4 To encourage sustainable recreational and educational use of KNP, to provide information and facilities for visitors and to improve public awareness of its natural and cultural heritage.

Strategy 4.1 Provision of General Access to the National Park

Under conditions compatible with nature conservation, NPWS will encourage people to visit KNP for a variety of purposes. NPWS will manage and monitor visitor activities to provide for this public use and enjoyment and will regulate, where necessary, the amount, type, time or place of visitor activities to ensure the conservation of the natural and cultural heritage. All new proposals for National Park use will be evaluated in terms of their impact on the natural and cultural heritage.

DEHLG recognises and welcomes the fact that KNP represents a critical input to the economic and social prosperity and development of Killarney Town and the wider hinterland. At the same time, its primary and statutory remit is to conserve and protect the facility for the present and for future generations in accordance with the principle of sustainable development. For this reason, NPWS will make every effort to facilitate the use of KNP for inspirational, cultural, recreational, community and appropriate commercial use, as long as it complements the over-riding priority to promote conservation and education.

Where necessary, NPWS will draw up area action plans, detailing works such as path maintenance and other infrastructural work to be carried out in that area over a fixed period.

NPWS will maintain access to beaches and other traditionally used areas along the lakeshores, including areas used for angling, as appropriate.

NPWS will seek to ensure that access to Tomies Wood is not restricted. Consideration will be given to the utilisation of State-owned land along the lakeshore.

4.1 Provision of General Access to the National Park: 5 Year Target

- Facilitate appropriate access to KNP – as per strategies 4.2-4.8
- Draw up area action plans – as necessary

Strategy 4.2 Visitor Safety and Protection

NPWS and where relevant, its concessionaires and licencees must meet the provisions of Health and Safety legislation requirements to provide as safe an environment for visitors as possible. Notwithstanding this, the reality is that there is an innate wildness of the natural environment – the paths and surfaces in the National Park are not smooth or level and are sometimes slippery, with obstacles such as rocks and fallen branches – and National Park visitors will therefore, of necessity, be responsible for conducting themselves in a safe and prudent manner.

4.2 Visitor Safety and Protection: 5 Year Target

- Carry out review of visitor Health and Safety requirements – ongoing
- Sensitise visitors to their own responsibilities through literature and signage – ongoing

4.2.1 Implementation of Emergency Plan

NPWS will prepare and keep up-to-date an emergency operations plan to ensure an effective response to all types of emergencies that can be reasonably anticipated.

It is NPWS policy to have close liaison with all the necessary services in the event of any emergency within KNP. To this end, a procedure is in place so that staff know exactly who to contact depending on the nature of the problem. A list of all the emergency services and contact numbers are on display at all key points of contact within the National Park. Conservation Rangers are in a position to provide the necessary information and backup on the ground to the emergency services to ensure a swift and smooth response to all situations. The Garda Síochána, Ambulance and Fire Services are supplied with keys and pass cards to facilitate quick access to the National Park.

4.2.1 Implementation of Emergency Plan: 5 Year Target

- Establish cross-agency group to draw up Emergency Plan – 2005
- Complete and adopt above Plan – 2005
- Carry out formal review of Emergency Plan – 2006, 2007, 2008, 2009

4.2.2 Facilitation of Search and Rescue Operations

NPWS staff will make all reasonable efforts to search for lost persons and rescue sick, injured or stranded persons, working in co-operation with the Garda Síochána, who have primary responsibility for the location of lost or missing persons. The use of search and rescue helicopters of the Irish Coastguard Service within the National Park is recognised as an essential service in some circumstances. Their deployment and use is also the responsibility of the Garda Síochána.

KNP will continue to work closely with Search and Rescue (SAR) organisations in the provision of assistance to persons lost, stranded or injured in the National Park. National Park staff will continue to be encouraged to train in Search and Rescue skills and to participate in SAR organisations. The National Park will support local Mountain Rescue Teams and Search and Rescue Dog Association where possible.

4.2.2 Facilitation of Search and Rescue Operations: 5 Year Target

- Review search and rescue arrangements with Gardaí – annually
- Provide search and rescue training for National Park staff – as required

4.2.3 Maintenance of Water Safety

There is a rescue boat permanently on the water and prepared for deployment on Muckcross Lake at Dundag. Buoys are provided and maintained by National Park staff here also. An inflatable craft stored at the Ranger base can be on the water in a matter of minutes if an alarm is raised. Commercial and other boats on the lakes also provide assistance as required in the event of an emergency.

4.2.3 Maintenance of Water Safety: 5 Year Target

- Maintain stand-by rescue boat and inflatable craft to highest safety standards – ongoing

4.2.4 Crime Reduction and Security

National Park staff will co-operate actively with Gardaí and local Community Alert groups to reduce crime in the area.

4.2.4 Crime Reduction and Security: 5 Year Target

- Maintain contact with Gardaí and Community Alert Groups – ongoing
- Increase the number of National Park personnel patrolling and in residence in the National Park – see strategies 1.2 and 3.4.4

Strategy 4.3 Maintenance of Roads and Car Parks

4.3.1 Maintenance of Public Roads

Widening or straightening of existing public roads within KNP could have a detrimental impact on the scenic value and natural resources of the National Park but NPWS will examine any proposals for any alterations to public roads in the National Park or proposals for the improvement of the road network. Such proposals will be considered on their merits, subject to specific conditions designed to minimise disturbance to the National Park.

4.3.1 Maintenance of Public Roads: 5 Year Target

- Minimise impact of any alterations to public road network on the National Park, while being mindful of wider local/national priorities – ongoing

4.3.2 Maintenance of National Park Roads, Car-Parks and Picnic Areas

The internal National Park road network will be maintained to cater for existing uses only. Motor vehicular access by the public off the public roads will not be provided beyond the existing short stretches, notably the drive leading to Muckross House and car park.

It is recognised that driving for pleasure and sightseeing are popular forms of recreation particularly with tourists and that there is a demand for car parks, viewing points and picnic sites along the main roads traversing or adjoining KNP. Further facilities of this nature on National Park lands will be considered on their merits having regard to the possible disturbance to vegetation, wildlife and demesne landscapes; the obtrusiveness of the location and the likely level of use of the facility. A maintenance programme will be put into place for such facilities.

4.3.2 Maintenance of National Park Roads, Car-Parks and Picnic Areas: 5 Year Target

- Assess additional sites for car parks, viewing points and picnic areas – 2005
- Implement conclusions, as appropriate – 2006

Strategy 4.4 Visitor Facilities and Provision of Information

4.4.1 Provision of Visitor Services Staff

A Guide Service of the highest standards will continue to be provided at Muckross House, Ross Castle and Muckross Abbey, as well as at Killarney House when it opens to the public. The policy of providing a Guide Service in a number of languages, including Irish, will also continue. All staff serving as Guides will be provided with appropriate training in order to maintain and improve standards.

4.4.1 Provision of Visitor Services Staff: 5 Year Target

- Provide new Guide Service for Killarney House – 2006
- Provide Guide training to highest standards – ongoing

4.4.2 Provision of Indoor Interpretation

Muckross House is a major visitor attraction in its own right. It also houses the main interpretative centre for the National Park and the library and research services relating to Kerry folk life provided by the TMH. NPWS will maintain and, where necessary, improve general visitor facilities at the House. As already indicated in this Plan, this will include access for visitors with disabilities, provision of a new admissions facility in the old restaurant area, improvements in general

circulation, fire and security elements and temporary and permanent exhibitions. In addition, the authentic restoration of further rooms in period style will continue, as funds become available.

Killarney House, when opened to the public, will provide access to the three main furnished reception rooms as well as interpretative material in relation to the National Park and the Kenmare Estate.

4.4.2 Provision of Indoor Interpretation: 5 Year Target

- Improve visitor facilities at Muckross House – ongoing
- Maintain indoor interpretation to highest standards, subject to resources – ongoing
- Carry out review of indoor interpretation – annually
- Review presentation of material relating to rare plants in order to provide information without compromising their conservation *in situ* (strategy 2.1) – 2006

4.4.3 Maintenance of Existing Nature Trails/Paths

Many areas of the National Park are accessible only on foot and, where appropriate, walking tracks will be planned and developed as an integral part of Park access. Some of the works planned for upland areas have been described.

In lowland areas, particularly around Muckross and Knockreer, heavily used walking tracks and paths will be surfaced as appropriate for visitor safety, accessibility to people with impaired mobility and resource protection. It is NPWS policy to allow dogs on leads only in all areas of the National Park.

4.3.3 Maintenance of Existing Nature Trails/Paths: 5 Year Target

- Undertake works in uplands areas – as per strategy 1.3.3
- Carry out the following either by National Park staff or under contract

Location	Action
Muckross Peninsula Nature Trails	Maintenance
Cloghereen Pool Wood	Repairs and maintenance
Game Wood (Knockreer)	Repairs and maintenance
River Walk (Knockreer)	Upgrade and tarmac (wheelchair friendly)

4.4.4 Development of New Paths

The most urgent and important is the stretch between Dinis back entrance and Torc. This is the final leg of the circular route travelling from Muckross House through the peninsula and back to Muckross House along by the main road to Torc. This has to be done in conjunction with KCC, who have already been made aware of what is involved.

4.4.4 Development of New Paths: 5 Year Target

- Complete new Dinis to Torc path – 2005
- Review new pathway needs – ongoing

4.4.5 Maintenance and Improvement of Outdoor Display Panels & Signage

Outdoor display panels will continue to be used at specific locations in and adjoining KNP to explain local features, and will include annotated maps etc. where appropriate.

External sign-posting, erected in consultation with KCC will provide adequate notification to visitors on major approach roads, road junctions in the vicinity of Killarney and entrances to the National Park.

All signs whether internal or external will have a unified design theme, easily recognisable to visitors and local alike. Sign-posting within the National Park will be expanded and improved as necessary. Signs will be bilingual.

Dedicated orientation signage will be provided at suitable locations around the National Park. The outdoor display and signage approaches in the National Park are part of a nationwide programme at NPWS managed sites, and are designed to provide continuity of presentation to the highest standards.

4.4.5 Maintenance and Improvement of Outdoor Display Panels & Signage: 5 Year Target

- Support concept of nationwide standard NPWS signage – ongoing
- Provide signs as necessary – ongoing
- Provide outdoor display panels at various agreed locations – ongoing

4.4.6 Provision of Talks and Lectures

The autumn talk series which has been a feature of KNP activities for many years will be continued. Conservation Rangers and other National Park personnel will also continue to give talks on the National Park and on conservation topics to groups, organisations and schools on request.

4.4.6 Provision of Talks and Lectures: 5 Year Target

- Continue autumn talk series – annually
- Continue to support the KNPEC Environmental Spring School (see also strategy 4.7) – annually

4.4.7 Provision and Development of Publications and other Media

Guide-books, nature trail leaflets and maps will continue to be made available to the public in a number of languages, including Irish. Apart from their information value, these publications also have an educational value in their own right, and thus supplement the wider educational remit of NPWS in KNP.

Booklets and other publications on specific aspects of the National Park will be issued from time to time. A recognisable design style in publications will be maintained in order to promote a corporate image.

NPWS will develop a comprehensive strategy for provision of information in the National Park including websites, CDs/tapes and supporting maps and literature.

4.4.7 Provision and Development of Publications and other Media: 5 Year Target

- Continue to expand publications on aspects of KNP – ongoing
- Develop comprehensive strategy for provision of information – 2007

Strategy 4.5 Provision of Refreshment, Toilet, Craft and Retail Facilities

4.5.1 Operation of Walled Garden Centre

A new agreement to operate the restaurant, shop and craft workshops is currently under consideration with the TMH.

A programme for maintaining the centre will be prepared.

4.5.1 Operation of Walled Garden Centre: 5 Year Target

- Prepare maintenance programme – 2005
- Finalise and implement agreement with the TMH – 2005

4.5.2 Maintenance of Other Facilities

Any toilet facilities provided by NPWS will be maintained to the highest standards. The provision of toilet facilities at Torc, Dinis and Ross Island is being addressed and the provision of toilets at other locations in KNP will be examined.

Tea rooms at Deenagh Lodge, Lord Brandon's Cottage and Dinis Cottage (once refurbished) will continue to be provided on a concession basis.

A number of picnic areas will continue to be provided on a limited basis. A maintenance programme will be implemented for these.

The provision of a small sweet shop near Muckross House will be considered.

4.5.2 Maintenance of Other Facilities: 5 Year Target

- Upgrade and maintain existing toilet facilities, including access for visitors with disabilities – ongoing
- Examine provision of further toilet facilities – as necessary
- Continue to provide and maintain picnic facilities – ongoing
- Consider provision of small sweet shop near Muckross House – 2006

Strategy 4.6 Management of Recreational Activities

4.6.1 Management of Commercial Boating

The permit system, incorporating the necessity for valid insurance, introduced to control all commercial boating activity will remain in force. No additional permits will be granted, as further increases in boat usage will not be considered.

Action will be taken as necessary to enforce permit conditions and to prevent unauthorised operations (see Appendix 8 for conditions attached to permits). NPWS will continue to co-operate with the DCMNR and KCC in their enforcement of safety regulations for passenger boats and will apply appropriate sanctions where infringements occur under its own permit system. Engine size will be limited to 10 HP.

NPWS will liaise with the operators of the commercial covered pleasure craft in relation to reducing the noise levels from commentaries, which can often be heard considerable distances away.

Conservation Rangers will monitor all boating activities on a regular basis to ensure compliance with regulations and safety requirements.

4.6.1 Management of Commercial Boating: 5 Year Target

- Continue to operate permit system for commercial boating activity – ongoing
- Rigorously monitor boating use to ensure compliance – ongoing

4.6.2 Management of Non-commercial Boating

The regulation of non-commercial boats will continue by allocation of mooring discs (see Appendix 9 for conditions attached). Engine size will be limited to 6 HP or below.

The use of high-powered engines for water or jet skiing or other similar uses is incompatible with the objectives for a National Park and will not be permitted.

Those wishing to canoe in the National Park require a permit from NPWS, which will usually be issued, provided there is no risk of detriment to natural resources and other values of the National Park.

NPWS will facilitate appropriate upgrading and maintenance of facilities utilised by local rowing clubs, from funds at their disposal (e.g. at Ross and the Flesk Valley) (see also strategy 3.4.10).

Conservation Rangers will monitor all boating activities on a regular basis to ensure compliance with regulations and safety requirements.

4.6.2 Management of Non-Commercial Boating: 5 Year Target

- Continue to facilitate non-commercial boating through mooring disc system – ongoing
- Rigorously monitor boating use to ensure compliance – ongoing
- Facilitate canoeing via permit, consistent with conservation imperative – ongoing
- Where appropriate, facilitate upgrading and maintenance of facilities used by rowing clubs from funds at their disposal – as necessary

4.6.3 Facilitation of Access by Jaunting Cars

NPWS will continue to facilitate jaunting car access to KNP, subject to a maximum of 95 permits per year. Jarveys must have a valid permit incorporating the requirement for insurance in order to drive through the National Park and to ply for hire at specified locations within the National Park.

Action will be taken as necessary to enforce permit conditions. Routes will be confined to those in use at present. In order to prevent fouling of roads used by pedestrians, NPWS will investigate best practices for containment and disposal of horse dung, and will implement same in consultation with the jarveys.

4.6.3 Facilitation of Access by Jaunting Cars: 5 Year Target

- Facilitate jaunting car access, subject to a maximum of 95 permits per year and at specified locations – ongoing
- Undertake research and demonstrate best methods for disposal of horse dung – 2005
- Implement above methodology in consultation with jarveys – 2006

4.6.4 Management of Pony Trekking

A permit system has been introduced, which incorporates the requirement for insurance, for pony trekking operators. Pony trekking is allowed on certain specified routes and for reasons of safety, will not be permitted in the Muckcross Demesne or on lands adjoining public roads through the Park. The existing routes in the Knockreer Demesne and Ross Island were reviewed and revised in the 2002 season, as these areas are heavily used by pedestrians and there is potential conflict between the two user groups. As a result, no access has been permitted for pony trekking on Ross Island from 2003 onwards.

Where possible, NPWS will consider further developing pony trekking trails, in consultation with pony trekking interests, separate to those used for walking.

4.6.4 Management of Pony Trekking: 5 Year Target

- Apply new arrangements for Ross Island – ongoing
- Develop a permit system to facilitate recreational users within the existing capacity of pony trekking trails – 2006
- Consider further development of pony trekking trails – as necessary

4.6.5 Management of Fishing

Fishing is dealt with under the strategy (2.3.2) relating to the conservation of fish species within the National Park.

The status quo in relation to angling will be maintained until an agreed new strategy is put in place.

4.6.5 Management of Fishing: 5 Year Target

- Conserve fish stocks – as per strategy 2.3.2
- Agree new strategy for angling – 2005

4.6.6 Management of Swimming and Diving

Killarney's Lakes are in many places deep with steeply shelving shores and are dangerous for swimming. For this reason, National Park authorities will provide life buoys only at Goleen, near Dundag Point on Muckcross Lake. Swimming at other traditional locations (Sandy Bottom) will be reviewed as and when water quality improves and in the context of DEHLG's health and safety obligations to visitors.

Scuba diving in the Lakes over the years has been rare and sporadic. Divers require a permit from Park authorities.

4.6.6 Management of Swimming and Diving: 5 Year Target

- Confine recreational/casual swimming to Dundag Point – ongoing
- Review swimming at Sandy Bottom – 2007
- Continue regulation of scuba diving by permit – ongoing

4.6.7 Control of Rock Climbing

There is no strong pressure to facilitate rock climbing, as there are few good locations for this activity in the National Park. It is subject to permission from the National Park authorities and this will be granted only if no threat to habitats or species (e.g. breeding birds) is perceived.

4.6.7 Control of Rock Climbing: 5 Year Target

- Continue to facilitate limited activity under conservation restrictions – as per strategy 1.7

4.6.8 Management of Cycling and Mountain Biking

The extensive internal surfaced road network in the National Park is ideal for use by cyclists. Cycling will be prohibited adjacent to Muckcross House.

The use of bicycles on designated walking tracks will be prohibited both on grounds of safety and to prevent erosion.

A mountain biking course will be retained in Muckcross Forest for organised events.

NPWS will erect signage in appropriate places indicating cycling routes.

4.6.8 Management of Cycling and Mountain Biking: 5 Year Target

- Continue to facilitate recreational cycling within current permitted zones – ongoing
- Review policy on cycling in the National Park and erect appropriate signage – ongoing, as appropriate

4.6.9 Maintenance of Playing Area

The permanent playing pitch at Knockreer will continue to be provided for the local community as long as this is required. At present the pitch is used by St. Brendan's College, Killarney, Killarney Athletic Football Club and other clubs as the need arises. Moreover, new playground facilities for children will be provided in co-operation with Killarney Town Council.

4.6.9 Maintenance of Playing Area: 5 Year Target

- Continue to facilitate use of this pitch as a recreational resource – ongoing
- Provide playground – see target 4.8.4

4.6.10 Management of Camping

The provision of visitor accommodation is a matter for local communities who live close to the National Park. No accommodation services are provided within KNP itself. A certain amount of “wild camping”, in accordance with an agreed Code of Conduct will be allowed, provided that it does not impact negatively on the National Park or on other users.

4.6.10 Management of Camping: 5 Year Target

- Draw up Code of Conduct for wild camping in consultation with users (i.e. MCI) – 2005
- Implement Code of Conduct on a trial basis – 2006
- Review the Code – 2007 & annually

4.6.11 Control of Other Activities

Activities such as hang gliding and hot air ballooning which visually intrude upon the environment of KNP will not be permitted to take place from within the National Park. This policy is informed by the objective of this Plan to consolidate existing facilities and activities within the National Park so as to maintain its recreational and inspirational value to the maximum extent possible.

4.6.11 Control of Other Activities: 5 Year Target

- Continue policy of not permitting activities that visually intrude on KNP – ongoing

Strategy 4.7 Provision of Education Programmes

NPWS will continue to provide and develop its educational programmes in KNP, principally through its ongoing agreement with Kerry Education Services and Cappanalea Outdoor Education Centre to operate KNPEC at Knockreer House.

The current educational programme will continue to be developed and expanded.

NPWS will support the educational programmes, such as the annual Féile Chuiltúr Chiarraí, run by the TMH.

DEHLG will make an annual allocation for National Park related education initiatives and publications.

4.7 Provision of Education Programmes: 5 Year Target

- Maintain current relationship with KNPEC – ongoing
- Target Primary school children, particularly from local and disadvantaged communities – ongoing
- Provide curriculum-based field studies for geography and biology Junior and Leaving Certificate students and support for Third Level courses and field trips – ongoing
- Continue to support the KNPEC Environmental Spring School – ongoing
- Continue to provide in-service teacher-training courses for primary school teachers – summer, annually
- Maintain outreach service to local communities and organisations – ongoing
- Review outreach service – 2005 and 2007
- Enhance the educational role of school outings to Muckross House – ongoing
- Continue to support education programmes run by the TMH – ongoing
- Review educational services being provided by NPWS partners – annually
- Hold formalised meetings on educational programmes in other National Parks – annually
- Allocate specific funding for National Park-related education initiatives and publications – annually

Strategy 4.8 Management for Special Categories of Visitor Use

4.8.1 Facilitation of Special Interest Groups

NPWS will continue to maintain close links with various groups such as conservation and educational organisations who have a special interest in KNP, and have provided assistance and encouragement in the past.

4.8.1 Facilitation of Special Interest Groups: 5 Year Target

- Maintain links with special interest groups – ongoing

4.8.2 Facilitation of Voluntary Work Groups

A number of organisations and groups have undertaken conservation projects within the National Park, particularly Groundwork (see strategy 1.4.1). Such voluntary work projects make an important contribution to the attainment of the National Park objectives. These projects receive support by the provision of transport and supervision, and, in the case of voluntary workcamps, by a financial contribution towards the cost of foodstuffs and the provision of free hostel accommodation. NPWS greatly values the contribution made by such groups to the conservation management of the National Park and it will continue to facilitate them and will aim to involve them in other conservation projects where possible.

4.8.2 Facilitation of Voluntary Work Groups: 5 Year Target

- Facilitate and support the valued contribution of voluntary work groups such as Groundwork – ongoing

4.8.3 Facilitation of Visitors with Disabilities

It is NPWS policy to encourage the use of the National Park, its attractions and facilities by as many people as possible. This requires the provision or adaptation of facilities to cater for old, infirm, disabled and impaired visitors. It is intended, therefore, that where possible, existing facilities will be modified and new facilities will be designed to cater for their needs. An access audit to identify the current and potential access arrangements for the National Park will be completed by NPWS and its findings will be progressively implemented during the lifetime of this plan.

Improved facilities for disabled visitors to Muckross House will be provided during the period of this plan including a passenger lift within the House. The River Walk at Knockreer will be upgraded to facilitate wheelchair access.

NPWS will welcome and consider any suggestions for the improvement of facilities in the National Park from organisations representing disabled persons and from other individuals or groups.

4.8.3 Facilitation of Visitors with Disabilities: 5 Year Target

- Carry out access audit to identify the current and potential access arrangements for visitors to KNP – 2006
- Implement findings of audit as resources permit – 2007-2009
- Provide facilities in Muckross House-as per strategy 3.4.1
- Upgrade River Walk-as per strategy 4.4.3
- Receive suggestions from interest groups – ongoing
- Provide wheelchair access, where possible, to all buildings open to the public – 2009

4.8.4 Provision of Additional Facilities for Children

As is clear from the measures outlined in this Management Plan, it is the objective of the Plan to make KNP accessible and user-friendly to the maximum extent possible. A feature of municipal park spaces throughout the country has been the provision of playground facilities for children to the highest safety standards. This Plan undertakes to provide one such facility, in co-operation with KTC, over the Plan period and to monitor its use and value for consideration of wider strategies, if warranted, in a future Plan.

4.8.4 Provision of Additional Facilities for Children: 5 Year Target

- Assess feasibility and location of children's playground – 2005
- Open new facility to highest safety standards in full co-operation with KTC – 2005
- Monitor and review the use and value of facility – ongoing
- Examine the creation of walkways focused on children – 2007

4.8.5 Facilitation of Elderly/Infirm Visitors

This Plan's strategies to improve access for visitors with disabilities will also, if indirectly, assist this valued category of visitors to KNP. In addition, however, in view of the sheer expanse of the National Park demesnes and viewing points, a programme for the provision of additional seating at key locations will be implemented over the period of this Plan.

4.8.5 Facilitation of Elderly/Infirm Visitors: 5 Year Target

- Review and identify new locations throughout KNP where seating warranted – 2005 and ongoing
- Provide additional seating on phased basis – ongoing

4.8.6 Management of Public Performances and Ceremonies

From time to time applications are received to hold a variety of indoor and outdoor events in the National Park, including concerts, plays, exhibitions, displays, garden parties, press conferences and fund-raising activities.

With the improved catering facilities now available in the Walled Garden Centre, it is considered that this venue should continue to be utilised for appropriate indoor functions, thereby reducing the demand for such functions to be catered for at Muckcross House. The conservation requirements for the protection of the contents of Muckcross House will continue to be prioritised.

Each request to hold events in the National Park is considered on its merits and permission is given only where certain criteria are met.

These include:

1. that the event does not have a negative impact on the natural environment
2. that the event has no unacceptable impact on National Park resources
3. that it does not interfere unduly with the enjoyment of other visitors
4. that it is appropriate in a National Park
5. that it does not take place in sensitive habitats

While decisions on these issues in relation to KNP are part of the management responsibility of NPWS, the KNPLC will be consulted in relation to major proposals.

4.8.6 Management of Public Performances and Ceremonies: 5 Year Target

- Permit public performances within strictly defined criteria – ongoing
- Consult KNPLC for major events – ongoing
- Promote Walled Garden Centre as venue in preference to Muckcross House – ongoing
- Monitor and review impact of such events – ongoing

4.8.7 Control of Trading in KNP

This Plan acknowledges that appropriate commercial use of the National Park may be facilitated, provided it is consistent with the conservation and education imperative. However, NPWS believes that the focus of commercial exploitation of KNP should continue to be centred in Killarney Town itself and in the accommodation provision on the roads leading to the National Park. In this way, commercial activity can legitimately exploit the National Park by complementing its tranquil attractions rather than undermining such attractions.

Trading, including ice-cream and fast-food vans, sale of paintings and the provision of guided tours for payment, will not be permitted in the National Park, unless specifically authorised.

Trading will be permitted in certain traditional services which are already regulated such as pony trekking, jaunting cars and boating, all of which have already been discussed in this Plan.

Other commercially operated facilities have been covered by strategy 4.5.

Trading in prominent locations near entrances, but outside the National Park itself could also detract from the amenities of the National Park and will be discouraged.

4.8.7 Control of Trading in KNP: 5 Year Target

- Ensure that the main commercial focus remains outside KNP – ongoing
- Control commercially operated guided tours and walks by permit – ongoing
- Restrict and control trading within KNP and immediate environs – as per strategy 4.5

4.8.8 Management of the Use of KNP and KNP Facilities for Filming, Advertising or Promotion

The use of the National Park as a film location can generate revenue for the local economy and helps to support the Irish film industry. However, filming can disturb the tranquillity of the environment and cause disturbance to wildlife. Filming will be allowed, by permit, providing that it does not result in damage or significant disturbance to wildlife or National Park users.

In general, the use of the National Park or of buildings within it to promote specific products will not be permitted.

4.8.8 Management of the Use of KNP and KNP Facilities for Filming, Advertising or Promotion: 5 Year Target

- Facilitate filming, advertising etc within strict limits – ongoing
- Continue not to permit the promotion of specific products – ongoing

4.8.9 Facilitation of Killarney 250

Killarney 250 is aimed at giving people living in Killarney and visitors a much richer experience of Killarney. This includes creating a much greater awareness and appreciation of the many facets of Killarney including mythology and legend, flora and fauna, archaeology, history and folklore.

In recognition of the **Killarney 250** initiative for the economic and social development of Killarney Town from May 2004 to October 2005, NPWS will facilitate the use of National Park space for dedicated receptions or promotions. The new Walled Garden Centre adjacent to Muckross House, will be made available for such purposes, in consultation with the TMH.

4.8.9 Facilitation of Killarney 250: 5 Year Target

- Provide logistical back-up for the **Killarney 250** initiative to the maximum extent possible – 2005

Objective 5: To establish and continue effective liaison with all parties with an interest in the management of KNP and to maintain a good relationship with the local community.

There are many groups, organisations and statutory bodies with specific interests in KNP. This Plan acknowledges that achievement of the conservation and other objectives outlined herein requires the full co-operation of all interested parties. It is a primary objective of NPWS to continue effective liaison with interested parties and bodies, both to give and receive advice on the management of the site. These include the TMH, the KNPLC, Killarney Working Group, the OPW, KCC, KTC, commercial interests, the EPA, Teagasc, South-Western Regional Fisheries Board, Fáilte Ireland, anglers, landowners and rights holders adjacent to the National Park, conservation groups, community groups and other interested parties.

Strategy 5.1 Consultation within the Department of the Environment, Heritage and Local Government & with other Government Departments

In addition to NPWS, a number of other sections of DEHLG such as the National Monuments Section, and other Departments – such as the OPW, may be directly involved in aspects of National Park management. This is particularly relevant to the management of demesne lands and buildings, including areas intensively used by visitors. NPWS will ensure that consultation between these parties will continue to be improved in order to ensure that conflicting management issues do not arise.

5.1 Consultation within the Department of the Environment, Heritage and Local Government & with other Government Departments: 5 Year Target

- Maintain and improve consultation between all relevant Government Departments and agencies – ongoing

Strategy 5.2 Consultation with National Park Liaison Committee

The KNPLC has been established to represent the views of the local communities and groups which have a legitimate interest in the management of KNP. To date, it has *inter alia* worked constructively with NPWS to finalise this Management Plan. The Committee will now continue to meet with NPWS regularly to review the ongoing implementation of the Plan. This committee has 26 nominated members, comprising representatives from local groups associated with the Park as well as KCC, KTC and the TMH. A copy of the list of organisations currently represented is contained in Appendix 12.

5.2 Consultation with National Park Liaison Committee: 5 Year Target

- Hold regular meetings with KNPLC to review implementation of Plan – ongoing
- Advise KNPLC of research/experimental projects to be undertaken – ongoing, as necessary

Strategy 5.3 Liaison with Local Authorities

Liaison with KCC and KTC will continue in relation to water quality, control of dumping, and any other activities carried out by, or under the control of, local authorities, such as road maintenance and road closures.

NPWS will liaise with KCC and KTC in order to advise on any development works proposed by either Council that might have a negative impact on KNP. NPWS will continue to monitor applications for planning permissions and licences for lands adjacent to the National Park.

NPWS will seek planning permission, where necessary, for any proposed developments in the National Park.

5.3 Liaison with Local Authorities: 5 Year Target

- Liaise with local authorities to advise on development works that may impact on KNP – as necessary
- Seek planning permission for developments in KNP – as necessary

Strategy 5.4 Liaison with other Parties

NPWS will liaise with any other parties who are interested or involved in management of the KNP, including community and user groups and non-governmental organisations (NGOs), to both give and receive advice on the management of the National Park.

Liaison with research groups/individuals working in the National Park is essential and will be encouraged to the maximum extent possible.

Specialised interest groups may liaise with, and offer advice on, specific management issues.

NPWS will ensure that significant management recommendations made by groups/individuals working within the National Park will be referred to the Liaison Committee for review and comment.

5.4 Liaison with other Parties: 5 Year Target

- Liaise with groups involved in using and working in KNP – ongoing

Strategy 5.5 Liaison with the General Public

NPWS acknowledges that KNP belongs to the people of Ireland and will accept representations from individual members of the public and/or representative groups on all matters pertaining to the management of the National Park.

5.5 Liaison with the General Public: 5 Year Target

- Accept representations from members of the public – ongoing

Objective 6 To maintain the aesthetic and other qualities of KNP and its environs.**Strategy 6.1 Siting of Aerials**

The siting of radio, television and telecommunications aerials on any of the mountain peaks within KNP will not be permitted. Moreover, it is the intention of NPWS to seek consultation with the relevant authorities and oppose, where necessary, any proposed siting of aerials around the National Park which may impinge on the overall scenic quality of the National Park.

6.1 Siting of Aerials: 5 Year Target

- Maintain ban on siting of aerials, etc within KNP – ongoing
- Seek consultation with authorities in relation to siting of communications aerials adjacent to KNP – ongoing

Strategy 6.2 Siting of Overhead Lines

NPWS will review the siting of overhead electricity and telephone lines through KNP and will seek to place them underground or re-route them to pass through cover.

6.2 Siting of Overhead Lines: 5 Year Target

- Carry out review of overhead lines – 2005

Strategy 6.3 Control of Dumping, Litter, Graffiti and Fly Posting

Dumping of household refuse is a sporadic problem in the National Park. Where they can be identified, NPWS will seek to have the refuse removed by the perpetrators. Where this approach fails, a prosecution will be sought in co-operation with KCC under the terms of the Litter Act, 1997.

Litter generated by visitors to KNP will continue to be collected and removed to the local authority tip on a regular basis. NPWS will develop a detailed strategy on litter collection and management.

NPWS will seek to educate visitors of the problems caused by casual littering and will encourage visitors to take their rubbish away with them. Graffiti and fly-posters will be removed.

Plastic and other debris is washed ashore at the high water mark, particularly of Lough Leane. Voluntary workers have been active in clearing stretches of the lake shore line. NPWS continue to support this by arranging collection and disposal of the debris collected.

6.3 Control of Dumping, Litter, Graffiti and Fly Posting: 5 Year Target

- Liaise with KCC in relation to dumping – ongoing
- Develop detailed strategy on litter collection & management – 2006
- Continue to educate visitors re the problems caused by littering – ongoing
- Continue to support volunteer cleanups of lake shores – annual

Strategy 6.4 Protection of Tranquillity

The sense of tranquillity to be found in the National Park is considered a special quality which must be protected. To achieve this, it is necessary to control noise levels within the National Park, particularly noise emanating from engines and other machines. Controls are necessary in respect of the following:-

6.4.1 Control the use of Radios, Tape Recorders, etc.

The playing of radios and similar apparatus by National Park visitors to the detriment of other users is inappropriate in the National Park and their use will be discouraged.

6.4.1 Control the use of Radios, Tape Recorders, etc.: 5 Year Target

- Continue to discourage inappropriate use of radios etc – ongoing

6.4.2 Control of Disturbance by Aircraft

NPWS will seek to prevent aircraft flying below a height of 750m over KNP, except for occasional NPWS operational reasons such as aerial monitoring. The Aviation Authority has been approached and they have agreed to ask operators to fly at reasonable altitudes over the National Park, to minimise disturbance.

Applications to provide regular helicopter or light aeroplane landing facilities on land and water will not be considered. This does not include permissions in relation to search, rescue and safety operations as well as occasional NPWS operations.

The possible development of “Air Tours” of the National Park by commercial operators or by private individuals will also be opposed. The over-flying of the National Park by passenger aircraft at high altitudes is not affected by this policy.

6.4.2 Control of Disturbance by Aircraft: 5 Year Target

- Maintain ban on commercial helicopter/light plane landing facilities – ongoing

6.4.3 Control of Disturbance by Boats

Engine size will be limited to under 6 HP or under for non-commercial boats, and to 10 HP and under for commercial boats. NPWS will also liaise with the commercial operators regarding noise reduction from commentaries.

6.4.3 Control of Disturbance by Boats: 5 Year Target

- Limit boat engine sizes – as per strategies 4.6.1 & 4.6.2
- Liaise with commercial operators in relation to noise from commentaries – 2005

6.4.4 Control of Motor Sports

The noise levels generated by motor sports disturbs the tranquillity of the National Park and is incompatible with National Park objectives. No motor events will therefore be permitted in KNP. Furthermore, the National Park or its facilities will not be made available for purposes relating to motor events such as assembly points, official starts, press conferences etc. The control of this activity on public roads is a matter for the local authority but it will be National Park policy to oppose any extension of traditional motor events on public roads through or adjoining the National Park. The prohibition of off-road motoring activities, particularly motorbike scrambling, will be rigorously enforced, since these not only destroy the tranquillity of the National Park but can cause serious damage to fragile plant communities.

6.4.4 Control of Motor Sports: 5 Year Target

- Maintain prohibition on motor-sports/scrambling in KNP – ongoing

Strategy 6.5 Waste Management and Protection of the Wider Environment

KNP is not isolated from its surroundings or from outside influences. The National Park will strive throughout to carry out best practice in relation to waste management and energy use, and will work generally to promote the welfare of the wider environment.

Strategies 1.5.1 and 1.5.2 deal with waste water and effluent treatment.

Any organic waste produced by farming activities will be dealt with as specified in the farm plan (see strategy 1.6.1).

Organic waste generated through maintenance of the gardens and other landscaped areas (see strategy 3.5) will continue to be recycled by mulching shredding, and composting as appropriate.

There is a policy of reduce, re-use and recycling in KNP.

6.5 Waste Management and Protection of the Global Environment: 5 Year Target

- Examine and promote methods of energy conservation in the management practices of KNP – ongoing
- Continue to ensure that waste-water emanating from the National Park is treated to the highest possible level prior to discharge – as per strategies 1.5.1 & 1.5.2
- Treat farm waste as specified in farm plan – see strategy 1.6.1
- Process organic waste from gardens by shredding/mulching/composting – ongoing
- Examine and promote waste reduction and the use of recyclable products in KNP management and in the provision of visitor services by the National Park or its licencees – ongoing
- Refrain from using products which are known to have a detrimental effect on the global environment – ongoing

Objective 7: To undertake or facilitate research necessary to achieve the above objectives and monitor the effectiveness of conservation management in KNP.

Strategy 7.1 Application of Research in KNP

Research and monitoring are essential tools for management in KNP. Research and data collection has been, and will continue to be conducted and facilitated to provide an accurate scientific basis for planning, development and management decisions within KNP. Research projects that are currently in progress or have recently been completed include: a study of the restoration of native woodland in former conifer plantations; a study of the ecology of yew; a study of the ecology of woodland gaps; an investigation of pine marten populations using DNA analysis and a comparative examination of extant and extinct deer species.

NPWS will continue to carry out, commission and encourage such work in the National Park. The Conservation Rangers, Divisional Ecologist and staff of the Research Branch of NPWS, which amongst its 23 permanent staff includes experts on woodlands, wetlands and birdlife, will all continue to contribute to scientific investigations within KNP.

All research, whether carried out by NPWS staff or by other workers, will be carried out with due regard for current planning legislation and will include adequate baseline surveys and impact assessments in their project design.

During the lifetime of this Management Plan, studies necessary to investigate the effects of human interactions on the natural and cultural features of the National Park will be identified and prioritised, particularly in areas likely to undergo change. Any such investigations will be carried out as far in advance as feasible of such change.

Other work to be carried out during the 5 year period of this Management Plan includes the assembling of baseline inventory data describing the natural resources of the National Park, working towards the completion of a comprehensive database. The undertaking of a detailed vegetation survey and mapping of the National Park (see strategy 1.1) will greatly add to this knowledge.

The baseline data will also provide reference points for more altered environments outside the National Park.

7.1 Application of Research in KNP: 5 Year Target

- Identify and prioritise studies to investigate the effects of human interactions in KNP – 2006 and ongoing
- Assemble baseline inventory data for KNP – ongoing
- Carry out vegetation survey and produce map – as per strategy 1.1

Strategy 7.2 Facilitation of Research in KNP

NPWS will continue to facilitate, as far as possible, research projects in KNP. NPWS will liaise with relevant faculties of third level institutions to promote the National Park as an area with large potential for research projects on a wide variety of topics.

NPWS will have a role in approving the design of projects to ensure that the research methods are non-harmful or damaging to fragile habitats or plant or animal populations. NPWS will encourage research that expands knowledge on species populations and conservation status as well as research that examines the effects of management intervention. Any research project proposed for the National Park requires a permit from NPWS. Permits will be issued on condition that results of research are made available to National Park management.

Relevant research that has been carried out in or adjacent to the National Park will be collated to ensure that all available information is being utilised.

7.2 Facilitation of Research in KNP: 5 Year Target

- Continue to encourage and support research in KNP – ongoing
- Collate research that has already been carried out – 2006 and ongoing

Strategy 7.3 Provision of Logistical Assistance for Research in KNP

NPWS will continue to provide logistical support to researchers who are carrying out work in the National Park. Hitherto, this has included practical support such as provision of accommodation, help with transport and the storage of samples at the National Park Ranger Base.

NPWS is aware of the views of some interests that a National Park of the significance of Killarney should have a dedicated laboratory to facilitate researchers and research in the National Park. However, the experience has been that researchers welcome logistical support for their work, but refer back to third level institutions such as University College, Cork, and the Institute of Technology, Tralee to undertake more detailed research in the laboratories available at these locations. In summary, experience has shown that, while a case can be made for a dedicated facility to support field research work, more specialised work is appropriate to dedicated laboratories which, because of their sophistication and the frequency of their use, are more appropriate to third level institutions.

This Plan is committed to the provision of better and more focused logistical support for researchers in KNP. Mindful of the fact that optimum performance of fieldwork would benefit from access to a Field Station – where the quality of samples taken could undergo early assessment so that samples subsequently transferred to laboratories are of sufficient quality to undergo useful analysis – this Management Plan makes provision for such a facility.

7.3 Provision of Logistical Assistance for Research in KNP: 5 Year Target

- Provide a dedicated Field Station at a location in KNP – 2006

Strategy 7.4 Continuity of Ongoing Projects

Biological monitoring and survey work that is currently ongoing has been previously described will be continued.

Monitoring of other species and habitats within KNP may be carried out as part of monitoring requirements under the Habitats, Birds and Water Framework Directives. Detailed work plans will be developed and will be discussed with the KNPLC as necessary.

7.4 Continuity of Ongoing Projects: 5 Year Target

- Continue full co-operation with KCC on comprehensive monitoring and improvement of water quality in the Lough Leane catchment – as per strategy 1.5.1
- Monitor woodland exclosures in all areas of the National Park – as per strategy 1.4.1
- Monitor upland exclosures on Mangerton – as per strategy 1.3.1
- Carry out water sampling programme – as per strategy 1.5.1
- Carry out waterfowl and other bird counts – as per strategy 2.2
- Carry out monitoring of deer, sheep and goat numbers – as per strategy 2.3.4
- Monitor lesser horseshoe bat roosts – as per strategy 2.3.5

8.5 ZONING WITHIN THE NATIONAL PARK

Zoning system

The zoning system for the National Park, based on evaluation and classification of lands and waters and reflecting broad management priorities, provides a framework for achieving objectives and reconciling any conflicting pressures that may arise.

There are three categories of management zone identified within the National Park, called A, B and C zones which are explained in the text following. These are further broken down into zones that have individual numbers, i.e., A1 and A2; B1 to B5; C1 to C7. Within each of these zones, the relevant management strategies are listed below.

See Map 6.

Description of Each Zone

It is important to emphasise that some strategies are relevant to more than one zone, i.e. are relevant to the National Park as a whole.

The main ones are as follows:

- Preparation of a vegetation map (strategy 1.1)
- Provision of adequate manpower (strategy 1.2)
- Strategies relating to liaison with a wide range of groups/agencies (listed under objective 5)
- Strategies relevant to certain aspects of visitor usage of the National Park (listed under objective 4)
- Strategies relevant to research and monitoring (listed under objective 7)

Zone A: Natural Zone

Nature conservation is of paramount importance in the A zones. Facilities and activities, intended for the attainment of other objectives (e.g. interpretation) are permitted and encouraged, provided they are compatible with nature conservation. High level wardening and monitoring of A zones is essential to detect any damaging factors or changes, and this Management Plan is committed to ensuring that this will take place over the Plan period.

A1 Lakes, Rivers, Streams & Other Wetlands

Water quality monitoring, prevention of pollution and protection of aquatic species such as freshwater pearl mussel and fish are relevant in this zone (strategies 1.5 and 2.3).

Muckcross Lake and the Upper Lakes are used for swimming, fishing and boating. The relevant strategies for recreational use are 4.6.1, 4.6.2, 4.6.5 and 4.6.6. Water safety is dealt with under strategy 4.2.3.

A2 Blanket Bog, Heath, Rocky and other Upland Habitats

This zone applies to areas of blanket bog, heath and other upland habitats that are relatively undamaged. Establishment of sustainable grazing regimes and control of burning are the main issues relating to this zone (strategies 1.3.1 and 1.3.2).

Zone B: Active Management Zone

Areas of high conservation potential where high management input is often needed to return them to a more desirable state. The long-term aim of is to upgrade the natural value of zone B areas, possibly to the level where they can be re-classified as zone A.

B1 Lough Leane

Lough Leane has been zoned as a B zone as it is classified as eutrophic and requires active management to improve water quality (strategy 1.5.1) and effluent treatment (strategy 1.5.2). The relevant strategies for recreational use are 4.6.1, 4.6.2, 4.6.5 and 4.6.6. Water safety is dealt with under strategy 4.2.3.

B2 Dry broad-leaved woodland, wet woodland and mixed woodlands

The main management issues to apply are the establishment of sustainable grazing and the removal of rhododendron. The relevant strategies are 1.4.1 and 1.4.2.

B3 Conifer Plantations

These will be removed under a continuing programme, strategy 1.4.5.

B4 Blanket Bog, Heath, Upland Grasslands, Rocky Habitats

These are areas that are subject to heavy visitor use and grazing pressure. Strategies that apply are 1.3.1 to 1.3.3.

B5 Yew Woodland

This woodland has been fenced to keep out grazing animals. The relevant strategy is 1.4.3.

Zone C: Intensive Use Zone

This zone includes areas used intensively by visitors, National Park administration, or areas subject to intensive landscaping, or suitable for such use or management. It also includes areas of considerable conservation value that are also used for other activities, such as agriculture.

Note: Due to the scale of the map, all of the buildings including historic monuments, residential lodges, cottages and boathouses are not shown on the zoning map, though there are strategies relating to them. See strategies under objective 3.

C1 Demesne lands and lowland grasslands

Strategies that apply are 1.6.1, 3.1 and 3.5



C2 Walking Routes/Roads

This includes public and National Park roads, as well as tracks regularly used by walkers. Certain areas are under threat from erosion and trampling. The relevant strategies are 1.3.3, 4.3.1, 4.4.3 and 4.4.4.

C3 Muckross House Complex

Strategies relating to the conservation of Muckross House and its continuing use as a centre for visitors are 3.4.1, 4.3.2, 4.4.2 and 4.5.1.

C4 Ross Castle

The strategy relating to the conservation of Ross Castle and environs is 3.3.2.

C5 Knockreer House

This will continue to be the principal education centre in the National Park. The relevant strategies for Knockreer and the Education Centre are 3.4.3 and 4.7.

C6 Killarney House

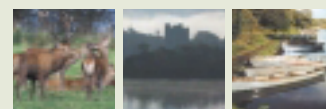
Parts of Killarney House will be restored and opened to the public. See strategy 3.4.2.

C7 Innisfallen and Muckross Abbey

These two national monuments will continue to be conserved and to be maintained accessible to the public. The relevant strategy is 3.3.3.

Section 9

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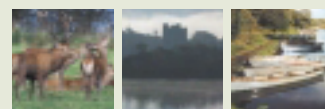
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Appendix 1



Origins of the National Park Concept

The term “National Park” dates back to the foundation of Yellowstone National Park in the United States of America in 1872. However, the concept of the preservation of a large area of natural landscape for “public use, resort and recreation” was already in place in the USA, in that Yosemite Valley had been protected by an Act of Congress since 1864. Since then, the term “National Park” has been applied to many other protected areas both in the USA and subsequently world-wide. It has thus become an international concept which has been taken up by international organisations.

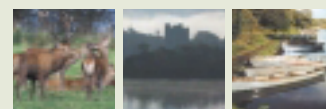
The World Conservation Union (IUCN) has developed criteria for National Parks and for other categories of protected area. The IUCN publishes, at the request of the United Nations, a list of Protected Areas meeting these criteria, which is known as the United Nations List of National Parks and Protected Areas. The criteria serve, therefore, as international standards for National Parks and other categories of protected areas.

Ireland’s National Parks have been managed in accordance with these international criteria for the past 25 years and are included in the UN list. Ireland has 5 other National Parks; Wicklow Mountains National Park, The Burren National Park, Connemara National Park, Glenveagh National Park and Ballycroy National Park, Co. Mayo, which, like Killarney National Park, are managed in accordance with IUCN Category II, described in Box 2 (page 13).

INTERNATIONAL REQUIREMENTS FOR PROTECTED AREAS CLASSIFIED AS NATIONAL PARKS

In an effort to standardise the guidelines for designation of areas as National Parks, the General Assembly of the IUCN first recommended a set of criteria for the definition of National Parks in 1969, which were later amended. The 1978 guidelines were widely used and formed the organisational structure for the United Nations List of National Parks and Protected Areas. Nonetheless, some shortcomings and anomalies were subsequently identified. In response, revised guidelines to replace those published in 1978 were prepared by the IUCN Commission on National Parks and Protected Areas (CNPPA). These were adopted by IUCN Council in 1994. The criteria for National Parks have been revised to reflect, *inter alia*, the recognition that traditional practices by local people can maintain and enhance natural features and biological diversity. This applies in different situations ranging from the activities of indigenous communities at subsistence level in tropical forests, to European landscapes where some semi-natural ecosystems owe their very existence to harmonious interaction of human activities and natural processes. It is therefore increasingly accepted that national authorities must take such issues into account in considering what may be regarded as natural areas or landscapes and what human activities are appropriate in National Parks.

Appendix 2



Designations Affecting Killarney National Park

Special Area of Conservation and Special Protection Area

In 1992 the Council of the European Communities adopted the Habitats Directive, on the conservation of natural and semi-natural habitats and species of flora and fauna. The Directive seeks to establish “Natura 2000”, a network of protected areas throughout the European Community. It is the responsibility of each Member State to designate SACs to protect habitats and species, which, together with Special Protection Areas (SPAs) designated under the 1979 Birds Directive (Council Directive 79/49/EEC), form Natura 2000. A site is selected for designation on the basis that it contains habitats and/or species that are of conservation importance in a European context. Annex I of the Habitats Directive lists such habitats, including ‘priority’ habitats, which require particular attention. Annex II of the Habitats Directive is a list of species that require designation of sites, while Annex I of the Birds Directive lists bird species which require particular conservation measures.

The National Park lands form part of the ‘Killarney National Park, Macgillicuddy’s Reeks and Caragh River Catchment’ candidate Special Area of Conservation (cSAC) (site code: IE0000365). This has been proposed for designation under the EU Habitats Directive (Council Directive 92/43/EEC) and encompasses a much larger area of land than the National Park. The cSAC boundary is the same as that for the proposed Natural Heritage Area (pNHA). This is a national designation, identifying areas of high ecological value. In Ireland, SACs are mostly a sub-group of NHAs, that is, they are sites that are not only of national importance, but are also significant on a European scale.

The Habitats and Birds Directives were transposed into national legislation by the European Union (Natural Habitats) Regulations, 1997 and sites are legally protected once they are publicly advertised.

The National Park is designated as an SPA (code: IE000 4038).

The following tables list the habitats and species for which the cSAC is selected for designation:

Habitats for which the Killarney cSAC is designated

Habitats Directive Annex I Habitat Classification	Explanation	¹ Described Under
Blanket bog (*active only) ²	Actively peat forming blanket bog	Blanket bog
* <i>Taxus baccata</i> woods of the British Isles	Yew woodland	Yew woodland
*Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Pandion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	Woodlands that flood regularly	Wet broadleaved woodland
Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	Oak woodlands	Dry broadleaved woodland
<i>Juniperus communis</i> formations on heaths or calcareous grasslands	Juniper heath/scrub	Heath
Northern Atlantic wet heaths with <i>Erica tetralix</i>	Wet heath	Heath
European dry heaths	Dry heath	Heath
<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	Wet meadow	Grasslands
Calaminarian grasslands of the <i>Violetalia calaminariae</i>	Grassland on mine spoil	Grasslands
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorellaetia uniflorae</i> and/or <i>Isoeto-Nanojuncetia</i>	Lowland lakes with low nutrient status	Lakes and ponds
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorellaetia uniflorae</i>)	Upland lakes with low nutrient status	Lakes and ponds
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	Floating river vegetation	Rivers, streams and waterfalls
Caves not open to the public	Caves	Caves

¹ In this plan, the Annex I Habitats are encompassed by the following habitat descriptions which are described in Appendix 3

² * denotes a priority habitat

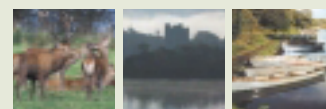
Species for which the Killarney cSAC is designated

Species listed in Annex II of the Habitats Directive		
Slender naiad	Killarney fern	Freshwater pearl mussel
Marsh fritillary	Brook lamprey	Sea lamprey
River lamprey	Killarney shad	Salmon
Otter	Lesser horseshoe bat	Kerry slug

A conservation plan for the entire cSAC is currently being drafted

Appendix 3

Inventory of Resources and Values



A3.1 NATURAL RESOURCES

Geological Features and Soils

Rock Formations

KNP is underlain by two distinct and contrasting rock formations. A major geological boundary runs across the National Park, generally from north-west to south-east, mostly beneath the waters of Lough Leane and Muckross Lake. It separates a mountainous area of Devonian rocks to south and west from a plain underlain by Carboniferous rocks to north and east.

The Devonian rocks, generally referred to as Old Red Sandstone, consist of numerous layers of sandstone interbedded with grits, slates and conglomerates. The oldest Devonian rock formations, exposed in the valley of the Upper Lake, are predominantly green in colour, while the succeeding formations are generally red, purple or grey. The proportion of fine-grained rocks among the hard erosion-resistant sandstones also tends to increase from older to younger. The Devonian bedrock outcrops very extensively at the surface, and is only very locally covered by deep glacial deposits, soils or peats.

The Carboniferous rocks are predominantly limestone, including both massive unbedded reef limestone formations and bedded calcarenites. There are also relatively thin but significant chert (i.e. siliceous) formations, comprising layered and nodular black cherts among finely stratified limestones and calcareous mudstones. The Carboniferous formations outcrop extensively along and near the Muckross Lake and Lough Leane shores, the outcrops including expanses of irregular limestone pavement with numerous vertical fissures. Away from the lakes the Carboniferous rocks are generally covered by thick glacial deposits.

One of the chert formations has been partially altered to form the hard white and pink Killarney marble, which outcrops on the Muckross Peninsula and elsewhere, and was occasionally quarried in the past for local building use. A considerable amount of mineralisation also occurred in some Carboniferous strata, with the formation of copper minerals which were mined in prehistoric times and again at Ross Island and at Muckross in the 18th century.

For the most part the Devonian/Carboniferous boundary near Killarney is marked by the Millstreet – Muckross Fault Line, an enormous thrust fault which raised the lower older Old Red Sandstone beds high above the younger Carboniferous limestone. However, transitional formations from Devonian to Carboniferous do outcrop on the Muckross Peninsula. These consist of grey sandstones and laminated black siltstones and claystones.

Glacial Features and Other Landforms

The contrasting influence of the two main rock formations on the landforms of the National Park has already been referred to. The Old Red Sandstone is relatively resistant to weathering, and forms rugged mountainous country. Various forms of erosion have worn down the Carboniferous rocks to form a low-lying plain.

Apart from the nature of the rock formations, the strongest influence on the landforms of the area was Quaternary ice movements. While the smooth summit ridges of Mangerton, Purple and Tomies Mountains may represent pre-glacial surfaces that stood above the ice as nunataks, the predominant landforms of the mountain area are those of glacial erosion. At high levels, erosion by frost and ice carved out horseshoe-shaped corries, some now filled by lakes, such as the Devil's Punchbowl. At lower levels pre-glacial valleys, including the major valley now containing the Upper Lake and Long Range, were deepened by glaciers, most recently those that advanced north-eastwards during the last glaciation. Many rock surfaces were moulded and striated by the passing ice.

In the lowlands, landforms derived from glacial deposition predominate. The widespread glacial drift material include large crescentic terminal moraines north of Lough Leane and irregular kame and kettle-hole deposits east of Muckross Lake, laid down by the ice when it reached the limestone lowlands and subsequently retreated. In addition to extensive sand and clay deposits, there are occasional erratic rocks. Deposits laid down beneath the ice and at its edge as it retreated also occur locally at the edge of and within the mountain area.

Fretted cliffs and caves along the limestone lake shores are the results of limestone solution by lake waters, possibly combined with the earlier effects of glacial meltwaters and ice erosion. The same combination probably formed the basins of the lakes themselves. A small lake in Dromyrouk townland, similar to turloughs elsewhere, has seasonal changes of water level controlled by water levels in underground drainage channels in the limestone.

Soils

The soils of the National Park are strongly influenced by the underlying rock formations. On the Devonian rocks the soils are generally acid and relatively infertile. Podsolised soils are widespread, with mor humus, usually sandy mineral soil of variable depth and often a pronounced iron pan. In the uplands and in other non-wooded areas, high rainfall and acidity have led to the development of peaty soils, culminating in the formation of blanket bog over considerable areas. Locally there are peaty gleyed soils where winter flooding or waterlogging occurs, and gravelly skeletal soils where peat is absent at high altitudes.

Over Carboniferous rocks the pattern of soil types is closely related to parent material. On limestone there is often only a thin layer of skeletal soil beneath a carpet of moss, but there are pockets of slightly deeper reddish brown calcareous rendzina soils. Over chert layers and glacial drift, deeper moderately acid soils occur. These are commonly well-drained brown earth soils with mull humus. In low-lying level areas near Lough Leane there are waterlogged soils, often with a deep organic layer.

Hydrology and Water Quality

The Upper Lake, Muckross Lake and Lough Leane together cover almost 2500 ha, or 24% of the National Park area. The catchments of the Upper Lake and Muckross Lake as well as those of the

Rivers Flesk and Deenagh, totalling 560 km², drain into Lough Leane, which in turn is drained by the River Laune, which enters the sea at Killorglin 22 km downstream. The catchment of Lough Leane extends beyond the boundary of the National Park as far as the source of the Owenreagh river in the south, the source of the Clydagh River in the Derrynasaggart Mountains in the east, and the source of the Quagmire River to the north-east of Killarney. Much of the catchment in the east and north-east lies outside the boundaries of both the National Park and the cSAC. Flash flooding can occur in the system because of the mountainous terrain and high rainfall.

Physico-chemical measurements of the waters of the rivers and lakes since 1971 indicate that the majority of these are naturally oligotrophic (low in nutrients), mainly due to the dominance of Old Red Sandstone in the region. The Upper Lake and Muckross Lake are oligotrophic. The smaller corrie lakes in the south-west of the National Park have been little studied, but are almost certainly highly oligotrophic.

Lough Leane, while naturally mesotrophic, has become eutrophic (highly nutrient loaded) due mainly to agricultural run-off, discharge from the Killarney Wastewater Treatment Plant and septic tanks within the lake's catchment.

The effects of this process of eutrophication were initially concentrated in Ross Bay, but chemical and biological changes later extended to other parts, culminating in severe algal blooms throughout the Lake during the summers of 1983, 1984 and 1997. The improvement in water quality in the 1980s was due to the introduction of phosphorus removal at the Killarney Wastewater Treatment Plant.

In response to the extensive algal bloom that occurred in Lough Leane during the summer of 1997, a working group was established to co-ordinate efforts to monitor and manage water quality within the catchment. The project partners for the Lough Leane Catchment and Monitoring System (LLCMS) include Kerry County Council (implementing body), NPWS, other statutory bodies and interest groups.

Climate, Weather and Air Quality

The moderating effect on temperatures of the moist warm air moving in from the Atlantic Ocean, and the upward movement of this air over the mountains causing precipitation, are the two most important factors governing the climate of KNP.

The climate is extremely oceanic, and is characterised by mild winters, cool summers and rainfall spread throughout the year.

Temperature

Air temperature data from the Valentia weather station (65 km west of Killarney) for 1961-1990 show a range of only 8.2°C between the means of the coldest (February 6.6°C) and warmest (July 14.8°C) months. Between the years 1990-98, the range was 8°C, the coldest month on average being January at 7.5°C, and the warmest month on average being August at 15.5°C. Extremes are almost unknown and since the establishment of a weather station at Muckross House, the lowest temperature recorded was -8.8°C while the highest was 30.1°C.

Soil temperatures remain relatively high throughout the year with few ground frosts, thus the growing season for plants is long.

Precipitation

In Killarney town, rain days average 223 days per annum. In the mountains, this rises to more than 250 days per year. The 30-year mean (1961-1990) for annual rainfall at Muckross was 1,589 mm, with July being the driest (77 mm) and January the wettest (214 mm). This contrasts with a station on Mangerton Mountain (808 m altitude) with a total of 3,230 mm (168 mm in July and 402 mm in January).

Falls of snow, even on the higher hills, are usually confined to a few weeks in January and February. Even on the hills, except in very severe winters, snow rarely lies on the ground for more than a week or so.

Generally, precipitation exceeds evapo-transpiration over both winter and summer although a deficit in soil moisture may occur in very dry summers. Humidity is very high throughout the year.

Wind

Prevailing winds are from the south and south-west, with winds from the south-east being the least frequent. More than 50% of winds in the south-west quadrant are in excess of 10 knots (measured at Valentia). Winds of more than 25 knots are infrequent while calms are recorded approximately 3% of the time. Wind directions and speeds are, of course, modified by local topography.

Sunshine

Because of the oceanic nature of the climate, with moist warm air off the Atlantic rising over the mountains to form cloud, sunshine totals are low. These vary from a mean of 0.9 hours/day in December to 4.5 hours/day for the period April/August, May being the sunniest month with 5.2 hours/day.

Air Quality

In view of the location of the National Park and the prevailing winds off the Atlantic Ocean, high standards of air quality with very low pollution levels are to be expected. The nearest air quality measurements, taken daily at Valentia, confirm this.

Habitats and Vegetation

See Map 3 for habitats & Appendix 5 for Latin names.

Appendix 2 gives the habitats listed in Annex II of the Habitats Directive.

Yew Woodland

Woodland dominated by yew covers some 25 ha of Carboniferous limestone reef and pavement in Reenadinna Wood on the Muckross Peninsula. In addition to yew, hazel, oak, ash, holly, alder and willow are locally common where soil-filled hollows are present. *Arbutus* (strawberry tree), whitebeam, bird cherry and aspen also occasionally occur, particularly along the lake shore margins of the woodland.

Reenadinna Wood is the only significant stand of yew woodland in Ireland and indeed Western Europe. The limestone outcrops are largely enveloped by a thick blanket of bryophytes which is notable for the presence of the southern Atlantic liverwort *Marchesinia mackaii*.

Due to the deep year-round shade cast by the yew canopy, the ground flora supports few herb species. Moonwort, a small rare fern, has been recorded in grassland on the woodland margins.

In recent times, the yew wood has been seriously damaged by de-barking of trees by deer and overgrazing of ground vegetation. Despite the fencing off of parts of the yew woodland since 1969, regeneration is not occurring and is possibly related to the closed canopy structure of the mature woodlands limiting light.

At present, understanding of the ecology of the yew woodland is limited, but a research project to investigate some aspects of its ecology has recently been completed.

Wet Broadleaved Woodland

KNP contains the most extensive wet woodlands in Ireland, covering an estimated area of 155 ha.

This category includes woodlands that are flooded in winter, but dry out in summer as well as woodlands that are permanently waterlogged. The former occurs on low-lying Carboniferous limestone areas at lake edges, most notably along the north-eastern side of Lough Leane (e.g. at Reen and on Ross Island). Most of this area is flooded during the winter with little or no standing water present during the summer. However, the surface soil remains wet or very damp.

This woodland type is dominated by alder with willow, ash and oak also present. In most cases the canopy is low being about 8-10 metres high. The field layer tends to be rich in summer, with species such as remote sedge, meadowsweet, cuckoo-flower and angelica commonly occurring. Bryophytes are well represented, as are lichens.

Other areas of wet woodland, most notably around the Cloghereen Pool, have much more constant water levels throughout the year due to the presence of active springs. The field layer here is dominated by greater tussock sedge.

Dry Broadleaved Woodlands

The oak woodlands on Old Red Sandstone in Killarney constitute the most extensive remaining area of native woodland in Ireland. These woodlands range from relatively extensive lakeside tracts, such as Tomies Wood to more fragmented high valley woodlands such as Upper Doogary and Glaisín na Marbh. In all, they cover an area of approximately 1220 ha. They exhibit different characteristics reflecting aspect, altitude, climate and human influence.

In well-developed woodland, the canopy is almost exclusively sessile oak, usually between 13 and 20 m high, with an open under-storey of holly. Birch and rowan are also frequent, but rarely form pure stands. Arbutus is sometimes common in woodland margins. Other species occasionally occurring include ash, aspen and yew.

In general the woods do not show a gradual transition to open vegetation at their edges, but usually cease abruptly. This appears primarily to be the result of previous fires and grazing pressure. However, there are some transition areas of “dwarf forest” dominated by holly with stunted oak and birch.

The field layer varies from well-developed to extremely scanty, depending on the amount of light entering through the canopy and grazing levels. The vegetation is dominated by bent-grass, hard

fern, woodrush and wood-sorrel, with bracken locally abundant. The dwarf shrub component of ling heather and bilberry also tends to be very restricted due in part to excessive grazing by deer and trespassing sheep.

Below the field layer, bryophyte (mosses and liverworts) growth tends to be luxuriant, with rocks covered in a thick green mantle of a diversity of species. The Killarney woodlands are considered to be of international importance for their oceanic bryophytes.

Oak trees also support a rich epiphytic flora of mosses, liverworts and lichens, with different dominant species on trunks near the ground, on boughs and on smaller branches. Thick growths of moss on horizontal boughs support ferns such as polypody, and in the angles of the lower boughs a variety of other species may occur, including small saplings of holly and rowan. Wilson's filmy fern is also common, particularly in woodlands with high rainfall.

Within the woods there are open glades, which are often marshy and dominated by purple moor-grass with frequent patches of bog moss. On better drained soils, such glades may have stands of ling heather.

Many of the features described above are no longer present in large areas of formerly natural oak-holly woods that have been invaded by the exotic shrub rhododendron. This develops into thick impenetrable thickets which suppress the herb layer and tree regeneration and even impoverishes bryophyte growth.

Limestone areas with continuous soil cover can support a rich woodland flora. Such woodlands are noted for their spring flowering field layer which includes such species as bluebell, wood anemone, ransoms, pignut and cuckoo-pint.

Mixed Woodland (native and non-native species)

Some woods in or near the demesnes of the two estates display many features of natural woodlands, but also have numerous exotic species in them. These woods include the Game Wood, remnants of Bellview Wood, parts of Ross Island and Reen, as well as the Monks Wood and other parts of Muckross. Some exotic trees and shrubs including beech, hornbeam, sycamore, rhododendron, cherry-laurel and Portugese laurel regenerate freely, in some cases from seed and in others vegetatively.

Blanket Bog

Bog occurring on deep, flat areas of peat in lowland areas is characterised by bog moss hummocks separated by pools, and has some features in common with the vegetation of midland raised bogs. Looscaunagh, Newfoundland and Oak Island Bogs can be described in this category.

Blanket bogs at higher altitudes typically support species such as ling heather, crowberry, bilberry, cotton-grass and heath rush, along with a variety of bog mosses and distinctive lichens. This type of blanket bog can be found on the Mangerton Mountain.

A number of distinct areas of active blanket bog have been described within the National Park. Other areas do occur, particularly in mosaic with wet heath. Old peat cuttings are visible at a number of locations, but these have largely re-vegetated. There is no active peat cutting in the Park.

Cores Bog includes extensive areas of interconnecting pools and the bog's surface is very wet and quaking. A number of bog moss species are abundant, particularly in the wettest areas. The pools are also colonised by brown-beaked sedge, bogbean and bog asphodel. Low hummocks of silver-haired moss, ling heather, and *Cladonia* species (lichens) occur also. The dominant species over the entire area are deer-grass, purple moor-grass and white-beaked sedge. Ferta and Eskalougha bogs are adjacent to Cores and while not as extensive and with some old peat cuttings, they still contain some active wet areas.

Oak Island Bog occurs on a peninsula that extends into the Upper Lake. It has a uniform covering of good interconnecting pools, flats and hummocks over its surface. Most of the pools are dominated by algae and the bog moss *Sphagnum cuspidatum*. White-beaked sedge, bog asphodel and sundew dominate the surrounding flats with some low hummocks of bog moss and silver-haired moss occurring sporadically.

Newfoundland Bog also occurs on a peninsula of the Upper Lake. The bog is very wet, merging into lakeshore fringes of sedge species. It contains characteristic plant species of Kerry bogs such as greater butterwort and along the lakeshore, pillwort occurs on flooded ground.

Dinis Bog lies in a shallow basin surrounded on three sides by low rocky ridges. An excellent interconnecting pool complex covers the slightly domed surface, which is quaking and intact. Pools are mostly colonised by algae with some bog moss species and sundew. Drier flats are dominated by white-beaked sedge with bog moss and there are frequent black bog rush tussocks and low bog moss hummocks with thick layers of the lichen, *Cladonia portentosa*.

Looscaunagh bog is characterised by scattered rocky ridges with areas of bog in between. There are localised interconnecting pool systems. The pools are mostly bare with some algae, sundew, white-beaked sedge, some bog asphodel and very little bogbean. Inter-pool areas are dominated by tall white-beaked sedge and bog myrtle with sundew. The hummocks are low and consist mainly of bog mosses *Sphagnum capillifolium* and *S. subnitens* topped with purple moor-grass, ling heather and cross-leaved heath. *S. fuscum* and *S. imbricatum* are also present locally. On gentle slopes where there are no pools purple moor-grass, black bog rush, ling heather and white-beaked sedge are abundant.

There are two small lakes in the south-east of this bog. The margins of the smaller lake are infilling with floating mats of bog moss, bog pondweed and sundew. Patches of great fen sedge are also present around the lake shore.

Heath

Wet heaths are botanically similar to blanket bogs. They can occur on varied types of terrain, but are best represented on moderately steep, badly drained moraine slopes, where the peat is rarely much more than one metre deep. Typical species include ling heather, cross-leaved heath, gorse and bog myrtle, with purple moor-grass, deer-grass, cotton-grass, tormentil, heath rush and some bog moss species.

The best developed dry heath in the National Park occurs on the mountain slopes immediately west of Lough Leane, such as Shehy, Tomies and Purple Mountains. The dominant species is ling heather with frequent bell heather. Western gorse is a common component, with bilberry and

crowberry occurring less frequently. Typical herbs include tormentil, heath bedstraw and heath milkwort. Purple moor-grass is perhaps the most common grass, although in areas heavily grazed by trespassing sheep and deer, common bent and mat grass become more frequent. Bryophytes often form an understorey beneath the shrub layer.

Juniper heath/scrub occurs on islands in the Upper Lake and on headlands of the Muckross Peninsula over both Old Red Sandstone and Limestone. In general, it occurs in association with ling heather and gorse, while on some of the drier ridges within Newfoundland Bog adjacent to the Upper Lake, it occurs with arbutus.

Lakes, Ponds and Associated Wetlands

See also section on hydrology and water quality, page 93.

Many of the upland lakes are small corrie types, occurring at cliff bases and impounded by glacial moraines. Examples of classic corrie lakes include the Devil's Punch Bowl on Mangerton and Lough Crincaum on the north of Cromaglan Mountain. Such lakes are naturally oligotrophic and species poor, with characteristic species including shoreweed, quillwort and water lobelia.

The National Park also contains a number of lowland oligotrophic lakes. These are generally larger than the upland ones, with a wider range of plant species present. Good examples include the Upper Lake and Muckross Lake. Typically these lowland lakes have sand, rock or gravel in the shallows and finer sediments in deeper waters. Characteristic vegetation includes shoreweed, bulbous rush, quillwort, awlwort, six-stamened waterwort and slender naiad in the submergent zone. The emergent vegetation includes common club-rush and common reed, while floating vegetation is dominated by broad-leaved pondweed. Pillwort occurs around the lakes' margins.

Lough Leane is the largest of Killarney's lakes and is naturally mesotrophic in status but is subject to eutrophication. Much of the lake's basin is underlain by limestone and scattered rocky islets of limestone dot the lake. Despite its size, Lough Leane, has few well developed emergent plant communities, due to its steeply shelving shores, allowing sediments to accumulate only as alluvial fans at river mouths (particularly the mouths of the Flesk and the Deenagh) and in sheltered inlets.

At the northern-most shore of the lake there is a series of sheltered muddy bays containing beds of common reed as well as yellow water lily, white water lily, water lobelia and hornwort. Other species recorded in the lake include slender naiad, awlwort and quillwort.

As light decreases with increasing depth, higher plants are replaced by various species of stonewort.

Rivers, Streams and Waterfalls

See also section on hydrology and water quality, page 93.

Numerous small rivers and streams flow into Lough Leane, Muckross Lake and the Upper Lake. The nature of the underlying geology and the climate means that these are subject to flash-flooding. Although generally acidic and low in nutrients, in places these flowing waters support important stands of floating and submerged vegetation and unusual invertebrates.

The Owengarriff River forms a well-known cascade, Torc Waterfall, before entering Muckross Lake. Rocks around the waterfall support a lush vegetation of ferns and bryophytes. There are a number of smaller waterfalls to be found at other locations in the National Park.

Grasslands

Grassland types within the National Park range from un-improved species-rich grasslands to intensively managed swards around areas heavily used by visitors.

Damp meadows with purple moor-grass, found to the east of Lough Leane, support scarce species such as whorled caraway and ivy-leaved bellflower. Other species include sharp-flowered rush, jointed rush, carnation sedge, devils-bit scabious, creeping bent, tormentil, marsh violet and many-headed woodrush.

Areas of wet and semi-improved grassland also occur at Muckross and Knockreer. These areas are important for grazing red deer and are also grazed by Kerry Cattle. Betony and butterfly orchids are found in good numbers in the Mines Paddock on the Muckross Peninsula.

Grasslands that grow on areas contaminated with heavy metals are known as Calaminarian grasslands. These occur around the old copper mines on Ross and probably on the Muckross Peninsula. The spoil heaps support characteristic species for this habitat type such as thrift, bladder campion and eyebright. The rare liverwort *Cephaloziella rubella* also occurs here. Unusually, these species occur beneath a canopy of oak and yew.

Conifer Plantation

There are three main areas within the Bourn Vincent Memorial Park where the former Department of Lands established commercial conifer plantations between 1933 and 1953. 538 ha on the slopes of Torc Mountain/Muckross was allocated for forestry in 1933, 371 ha of Derrycunihy/Looscaunagh in 1958 and 328 ha in Tomies, also in 1958. The principal tree species planted were sitka spruce and lodgepole pine. Other species include Norway spruce, Monterey pine, Scots pine, European larch, silver fir, Douglas fir, hemlock and cedar.

Parts of the plantation around Torc/Muckross date back to the nineteenth century, when stands of Scots pine and European Larch were established.

These afforested areas were handed over to National Park management in 1984 and clearfelling and thinning is ongoing.

Flora

See Appendix 5 for list of species mentioned in text and Appendix 2 for species listed in Annex II of the Habitats Directive.

Bryophytes

The Killarney area is now well known for the diversity of its bryophytes (mosses and liverworts), most of which occur within the National Park. It has been described as a “district unmatched in Europe for its richness in bryophytes” and the woods and glens around the lakes and Torc attract enthusiasts from many countries. Some species are confined in Ireland to Killarney and are found outside Ireland and Britain only at distant locations in the Iberian Peninsula, Macaronesia and in some cases in North

and South America, Africa and other parts of the tropics. Noteworthy examples are *Lejeunea flava* found in most of these regions and *Cephalozia hibernica* found otherwise only in Iberia and Macaronesia. A number of species found in the National Park are listed in the Flora Protection Order (1999). The commoner Irish bryophytes are also well represented in the National Park.

Lichens

The lichen flora of the National Park is of similar importance to the bryophytes. The diversity of lichens can be attributed to the presence of a wide range of habitats, particularly mature woodlands, the humid temperate climate, and the absence of air pollution. Notable lichens found here, such as species of *Lobaria*, *Parmeliella*, *Sticta* and *Pannaria*, have become locally extinct in various parts of Europe as a result of air pollution.

Some species are noteworthy for their cosmopolitan distribution, for example *Parmeliella atlantica* and *Porina hibernica* also occur in Madeira and the Azores, *Psuedocyphellaria crocata* in Africa, *Parmelia sinuosa* in Australia and New Zealand and *Nephroma laevigatum* in North America.

Higher Plants

A number of plant species found within the National Park have discontinuous geographic distributions and are of localised occurrence within Ireland. The reasons for these wide gaps in the ranges of these species have not been fully explained and it is now suggested that some may have been introduced to this country.

Two saxifrages, St. Patrick's cabbage and kidney saxifrage, both frequent in the National Park, are found in western Ireland and northern Spain and Portugal, but not in Britain or France. Greater butterwort, also frequent in the National Park, occurs in the Pyrenees, Jura and western Alps. *Arbutus*, which can be frequent in woodland margins in Killarney, is rare in other parts of Ireland and occurs elsewhere only in western France and in its main range in the Mediterranean region.

Blue-eyed grass, found in the west and centre of Ireland and occasionally in Kerry, is otherwise known only from North America.

Some plants occurring on the uplands of the National Park have their main distributions in northern and mountainous regions of Europe. Of these, mountain sorrel is an example of a true Arctic-Alpine species, while others such as green spleenwort, Alpine clubmoss and *Saxifraga rosacea* are somewhat more widely distributed.

Other plants in the National Park are noteworthy for their rarity in Ireland. A number of these are listed under the Flora Protection Order (1999), including Killarney fern, pillwort, betony, slender cudweed and slender naiad. Opposite-leaved pondweed seen in Killarney in the last century, is also on the protected list.

The Killarney fern was formerly quite widespread around Killarney, but was severely depleted in the 19th century by commercial collection and sale of living specimens associated with the Victorian craze for ferns. As a result only a few populations now survive in the Killarney district.

Other noteworthy rare species include alder buckthorn and whitebeam which occur on limestone outcrops around the lakeshores, bird's-nest orchid in the woodlands and shepherds cress recorded in the past on sandy shores of Lough Leane.

Fauna

See Appendix 6 for the Latin names of species mentioned in the text and Appendix 2 for species listed in Annex II of the Habitats Directive.

Invertebrates

The Kerry slug is notable for its distribution, being found only in Kerry and West Cork in Ireland as well as in northern Spain and Portugal. This is a similar distribution to some of the plant species mentioned earlier. The slug is widespread in the Old Red Sandstone areas of the National Park and populations there are contiguous with those outside the National Park boundaries. It is more active at night, when it grazes on a wide variety of mosses, lichens and liverworts in oak woodlands. During the day, particularly when the weather is dry, the slug retreats to cracks and crevices in trees, particularly under the bark. The slug can also be found in open heath habitats, where it grazes on lichen covered sandstone boulders.

The freshwater pearl mussel has been recorded in the Owenreagh River where it forms the boundary of the National Park as it flows into the Upper Lake. Survey work has indicated that mussels as young as eight years may be present and that there are up to 3,000 individuals occurring.

The aquatic snail, *Limnaea peregra* var. *involuta* has only been recorded from two locations in Ireland, one of these is in the National Park, in Lough Crincaum, in the townland of Gortroe.

A number of aquatic insect species which are either rare or unique in Ireland were identified during the course of the Killarney Valley Lake Survey 1971-75. A number of these species are usually Fennoscandian in distribution and would therefore appear to be glacial relicts in Killarney. They include the following three species:-

<i>Capnia atra</i>	Plecoptera (Stoneflies)
<i>Apatania auricula</i>	Trichoptera (Caddis flies)
<i>Larsia atrocinta</i>	Diptera, Chironomidae (Non-biting midges)

In addition, a chironomid species *Buchonomyia thienamanni*, known previously from a single specimen taken in Germany and one fossil found in the Baltic, was identified. A caddis fly, *Setodes argentipunctellus*, is unknown elsewhere in Ireland and only has two stations in Britain, while Killarney is also one of two Irish locations at which the downy emerald dragonfly has been found and the only station for the northern emerald dragonfly.

Extensive collections of invertebrates have been made from Lough Leane and other lakes in the National Park, including a number of rare species. In general the fauna is typical of oligotrophic lakes but in Lough Leane the fauna is more typical of a eutrophic lake.

Formica lugubris, a wood ant, is present in small numbers of nests in the National Park is known only in four other localities in Ireland.

Purple hairstreak butterfly, a species restricted to the oak woodland canopy has been recorded in the National Park.

There are known to be a number of small to medium sized, highly mobile populations of marsh fritillary scattered throughout the National Park. The associated habitat is damp acidic grassland rich in devil's-bit scabious, the caterpillars' food plant.

Other habitats that support notable invertebrate communities include small waterbodies; particularly those with fluctuating water levels, and mature birch and willow woodland.

Fish

In total, fourteen fish species have been identified from lakes within the National Park. Of these, two are of particular interest. The Killarney shad is a small land-locked sub-species of the twaite shad. This sub-species is unique to Lough Leane. Other populations exclusive to freshwater occur in some Italian lakes.

The Arctic char, basically a fish of the sub-Arctic is presumably a relict species. More widely spread in glacial or post-glacial times, its range contracted as the climate became milder to a small number of Irish water bodies, including Lough Leane. A survey of Lough Leane carried out in 1999 concluded that the Arctic char population had expired or had fallen to such a low level as to be undetectable in a netting survey. brown trout and Killarney shad populations had also reduced since a previous survey in 1991 (King and Roche, 1999).

All three Irish species of lamprey – sea, brook and river have been recorded in the lakes or in the Long Range River.

From economic and recreational viewpoints, the most important species are salmon and trout. Both species spawn in the rivers of the catchment and have been recorded in the lakes.

Amphibians and Reptiles

The common frog is widespread, breeding even in tiny bodies of water. Common newt and viviparous lizard, Ireland's only native reptile are also found within the National Park.

Birds

See Appendix 6 for a full species list.

The diversity of habitats in KNP is reflected in the wide range of bird species occurring. More than 140 species have been recorded in the National Park. This includes resident species as well as migrants, which spend only part of the year in the south-west of the country. Others have been recorded on passage during the spring and autumn migrations and a few are vagrants, possibly blown off-course during winter storms. Particularly notable species that occur include Greenland white-fronted goose, kingfisher, redstart, garden warbler, wood warbler, ring ouzel, peregrine falcon and merlin.

50% of the world's population of 30,000 Greenland white-fronted geese over-winter in Ireland, feeding on wetlands and farmland from mid October to early April. The Killarney flock is the only Irish bog feeding flock to winter almost entirely within a protected area, feeding on the underground bulbils of the white-beaked sedge in areas of lowland blanket bog. Numbers within the National Park have declined from a maximum of 65 in 1986 to the most recent count of 18 in October 2000. Other species found on lowland bogs include common snipe and the smaller jack snipe which occurs in small numbers in winter.

Kingfishers occur regularly on the Deenagh, Cloghereen and Gearhameen Rivers. The breeding population in the National Park is estimated at 2-5 pairs. Heron and dipper are also regularly seen on flowing waters and also breed in the National Park.

34 species of wildfowl have been recorded on the Lakes of Killarney, 21 on a regular basis. Nine are breeding species, including little grebe, great-crested grebe, red breasted merganser, tufted duck and mallard. Five are present around the year but not breeding in the National Park, and seven are regular winter visitors, including bewick and whooper swans, goldeneye, teal, wigeon and pochard. In addition to these, eight species of wader (two recorded as breeding) and two species of rail (one breeding) have been recorded on the lake margins. Common Tern was recorded as a vagrant in Ross Bay during the 1980s, but has not been recorded since then.

Hatching aquatic insects also provide food for the swallows, martins and swifts which feed over the lakes. In addition, certain species of warblers commonly nest in lakeside vegetation. Thus, over 50 bird species frequent lakes and rivers and their margins.

Reasonable breeding populations of most Irish woodland species, both resident and migrant occur in the National Park. Breeding densities vary between the various woodland types, with robins being one of the most abundant species in the oak woodland and goldcrest in the yew woodland. Rare breeding species include wood warbler, garden warbler and blackcap, all of which appear to be increasing in range. The redstart, a rare breeder in Ireland, has nested in the past within the oak woodlands of the National Park, but has not been recorded for at least ten years. The woodlands also provide important food reserves for winter immigrants such as redwing, fieldfare and immigrant populations of blackbird, mistle thrush and chaffinch. Nightjar, now a very rare nocturnal summer migrant, was reported as breeding on the Muckross Peninsula during the 1970s. Singing males were occasionally recorded during the 1980s and early 1990s.

The upland areas of blanket bog support a small wintering flock of golden plover, while red grouse occur in very small numbers (less than 10 birds) in areas of heath in summer. Ring ouzels are rare summer visitors to upland areas, and only one pair was proved breeding in the 1980s, with a number of single birds also recorded. The commonest bird of the uplands is meadow pipit, which together with the skylark moves to lowland farmland in the winter. Stonechat and wheatear are common summer visitors while raven breed throughout the area.

At least one pair of peregrine falcons nest in the National Park most years. Merlin, one of Ireland's rarest birds of prey also breeds in the National Park with a possible three to five nesting sites, either in old crows' nests or in heather.

Mammals

The last surviving indigenous herd of red deer in Ireland occurs in the Killarney Valley. While all other red deer herds in the country are descended from re-introduced stock (mainly of Scottish origin), the Killarney herd has had a continuous existence for at least 4000 years and possibly even since the last Ice Age. The population is estimated to number between 800 and 1000 animals.

Japanese sika deer, a species threatened elsewhere were introduced to Killarney Valley in 1865. Today there are approximately 900-1100 sika deer in the National Park. This population is of international genetic conservation interest as it has remained genetically un-introgressed with

other (red and other sika) types which has occurred both in this country and elsewhere, including Japan.

There are eight known lesser horseshoe bat roosts in the National Park including a summer roost at Tomies Wood, a hibernation site at Muckross Peninsula and a nursery site on the Muckross-Torc Road. Other roosts have been recorded at Killarney House, Derrycunihy Church and Knockreer. This bat species is listed in Annex II of the Habitats Directive and all of these roosts are of international importance. Seven other species of bat have been recorded in the National Park.

Other species worthy of note include the pine marten, a rare and secretive predator that has become more widespread in the National Park in recent times, particularly since the release of additional animals into the National Park. Otter is widespread in aquatic habitats of KNP. Mink are also present.

Most of the rest of Ireland's indigenous terrestrial mammals, including Irish hare, red squirrel, badger, stoat and fox have been recorded in the National Park. Indeed some marine species have also been recorded, with seals having been seen in Lough Leane.

Bank voles, first recorded in Ireland in 1964 and present in Killarney since 1969, may have been introduced to the country accidentally. Now common in the National Park woodlands, they feed on fruit, seeds and other plant material, and so may have a slight impact on woodland regeneration as well as competing with other small mammals.

A3.2 CULTURAL RESOURCES

Prehistoric and Medieval Sites and Buildings

Bronze Age Copper Mines

Copper was mined at Ross Island about 4,000 years ago at the beginning of the Copper Age, pre-dating the Bronze Age. This means that this mining activity is the oldest discovered in northwest Europe. The original mines at Ross and also on the Muckross Peninsula were later extensively re-worked in the 18th and 19th centuries until they were finally abandoned around 1830. During the Industrial Revolution, local mines and quarries contributed to the development of the Kenmare and Muckross estates and to Killarney town itself.

Other Prehistoric Sites

A fulacht fiadh, or ancient open air cooking place, was recorded by the Ordnance Survey at Ballydowney, within the Kenmare demesne. A souterrain, or underground chamber, dating from the early Christian period or earlier, has been discovered at Dundag, beside Muckross Lake. Cloghmochuda, a stone with two hollows in its surface, was almost certainly a bullaun originally used for grinding corn. Associated with the legend of Cuddy and long visited as a place of healing, it is located near Knockreer House. There is also evidence of a ring fort in the Reenadinna area of the Muckross Peninsula.

Innisfallen

A monastery was founded on the island of Innisfallen in Lough Leane, reputedly by St Fionan in the 7th Century. The monastery became an important seat of learning, and the Annals of Innisfallen, a major source of information on the early history of Ireland, were written or at least completed here

between the 11th and 13th centuries. In addition to a 12th century oratory with a fine Romanesque doorway, there are remains of extensive monastic buildings, probably from a slightly later period, when it became an Augustinian priory.

Tooreencormick Battlefield

A battle took place in 1262 at this site on the slopes of Mangerton, which represented the last unsuccessful attempt by the Normans to wrest control of south Kerry and west Cork from the McCarthys, Gaelic overlords of Desmond. The site as shown by the Ordnance Survey is just outside the National Park boundary.

Castlelough Castle

The scanty remains of the McCarthy Mór Castle originally associated with the demesne lands of Muckross stand on a promontory on the shore of Lough Leane, on lands now owned by the Lake Hotel.

Ross Castle

This castle is situated within the National Park on the shore of Lough Leane, on the isthmus leading to Ross Island. It comprises a large square 15th century tower house, once the residence of the chieftain O'Donoghue Mór. It is surrounded by a fortified bawn, its curtain wall defended by circular flanking towers, of which two remain. Much of the bawn was removed by the time the Old Court Mansion was added by the Brownes, ancestors of the Earls of Kenmare, at the end of the 17th century. The Castle has been restored and is now open to visitors.

Muckross Abbey

The Franciscan friary of Irrelagh, now known as Muckross Abbey, was founded at Muckross about 1448. The well-preserved remains include a church with a wide square tower and fine windows, and vaulted cloisters with an arcade of arches around a square courtyard containing an ancient Yew tree traditionally said to be as old as the Abbey. The Abbey was the burial place of local chieftains and of three famous Gaelic poets, Geoffrey O'Donoghue, Aodhagan O'Rathaille and Eoghan Ruadh O'Suilleabhain. The Abbey and the surrounding burial ground contain several interesting memorials.

Demesne Landscapes & Principal Houses

In Ireland in the 18th and 19th centuries the term “demesne” was used to refer to the ornamental parts of a gentleman's estate associated with a principal house. There was an important inter-dependant relationship between the design and layout of the principal house and ancillary buildings and the design and layout of the demesne landscape. A feature of the demesne lands was that they were usually untenanted, unlike the major portion of an estate that was generally let out to tenants.

Both the Muckross and Kenmare estates included significant demesne landscapes on lands attached to their principal residences which were elaborately designed and developed by the Herbert and Browne families in 18th and 19th centuries. The extensive nature of the designed landscape of the Muckross and the Kenmare demesnes can be clearly seen on 1st edition O.S. maps of the 1840s.

These demesne landscapes consisted of decorative pleasure gardens incorporating arboretums, walled gardens, formal and flower gardens, rock gardens etc. around the main house, and large areas of open parkland judiciously planted with trees, both individually and in groups, and larger areas of woodland. These woodlands and belt plantations on the demesne boundaries formed both aesthetic and shelter belt functions. The layout and shape of the woodlands and groups of tree plantings were designed to take advantage of the natural topography, to create a pleasing variety of views within the demesne landscape and to frame vistas to the surrounding lake and mountain scenery.

There are numerous individual trees, avenues and groups of trees of specific historical and arboricultural merit. The older demesne woodlands are of mixed deciduous trees, mostly introduced species, with occasional conifers. Use of conifers increased during the 19th century and are of significant historic and aesthetic value.

The botanical composition of the parkland grassland is that of old permanent pasture. Ha-has (sunken fences) are associated with the parkland grasslands, particularly where attractive vistas would have been interrupted by other kinds of fencing. The extensive grasslands in and adjoining the demesnes of the two old estates are maintained by grazing of Kerry cattle with small areas of high amenity or recreational use maintained by mowing.

Muckross Demesne

From the mid 18th century Muckross was known and visited for its unrivalled beauty and picturesque scenery. The first Muckross House was located on the Muckross Peninsula. Later, a road was built along the peninsula to Dinis Island. The second 18th century Herbert residence had a garden, which extended down to the lakeshore and its grounds included the parkland and woodlands and the ruins of Muckross Abbey. Remains of old avenues of trees are still evident in the parkland. The demesne landscape was further improved in the early and mid 19th century, around the time of the building of the present Muckross House and later, in preparations for Queen Victoria's visit in 1861. This mainly involved opening up new paths in the pleasure grounds and woodlands in the demesne, preparing picturesque viewing sites with platforms and seats in the demesne, and large scale planting of trees shrubs and flowers in the gardens and Pleasure Grounds. The main approach avenue to the house was diverted in the early 20th century by the Bourn Vincents and they also removed most of the 19th century copse planting framing views to and from the house.

Muckross House and Predecessors

The present Muckross House dates from 1843 and was designed by the Scottish architect, William Burn. It is in the Elizabethan Revival style with large mullioned windows, stepped gables and tall chimneys and is faced with cut Bath stone. The house was the residence of the Herberts in the 19th century and of the Vincent family for twenty years in the early part of the 20th century, and is located in a beautiful situation overlooking Muckross Lake. It is the focal point of Muckross demesne and of the National Park.

The house was unused from 1933 to 1964, when it was opened to the public by a group of local people who had come together and formed the Trustees of Muckross House (Killarney) Limited, with the agreement of the Minister for Finance. Subsequently the fabric of the house was restored and renovated by the State and serves as the major visitor centre for the Park. It also houses a museum

of Kerry folk life operated by the TMH. The house also contains the Park headquarters offices and the old laundry wing houses an audio-visual room and Park information and displays.

Close to Muckross House, a new Walled Garden Centre containing craft workshops, restaurant and retail outlet has been constructed and is run by the TMH with the agreement of the Minister for Environment, Heritage and Local Government.

The site of the earlier 18th century Muckross House is located about 500 metres north of the present house in the demesne parkland. The foundations and cellars of this house have been uncovered.

The late 18th century Torc Cottage, demolished in the early 20th century, was another residence of the Muckross Estate and was the principal home of the Herberts from 1837 until the present Muckross House was completed. The stables remain in modified form as an L-shaped terrace of small houses. Parts of the foundations of the house itself can be found nearby.

Muckross Pleasure Gardens

Extensive gardens and pleasure grounds including a walled garden were laid out as the new Muckross House was being built by the Herberts in 1840s. The house was well sited on a series of descending terraces, with framed views to Muckross Lake and surrounding mountain scenery. Woodland copses located at either end of the terraces were important in framing the views from the house to the north and to the west. To the south-east side of the house a 19th century sunken parterre garden was linked to the ornamental walled gardens.

Between the years of 1911 and 1932, during the Vincent ownership, the gardens were further developed. New features added during this period include a parterre, a formal terrace and sunken garden adjacent to the House, as well as the rockery and stream garden. Greenhouses were erected in 1911.

The principal features of the gardens today are the large expanses of lawns punctuated by mature Scots pines and large groups of Rhododendron hybrids, extensive borders and plantings of choice ornamental trees and shrubs. Other features include a rock garden an informal stream garden with a formal sunken garden and formal terrace beside the house.

To the south and east of the house, woodland gardens and an arboretum enclose the features described above. A large collection of less hardy trees and shrubs, many from the southern hemisphere, has been established in a sheltered site adjoining the main gardens, and this area now contains one of Ireland's premier collections of camellias. Drumrower Arboretum, which covers approximately 10 ha, was begun in 1972. The range of plants in the Arboretum is being extended to include warm temperate collections grown in the cast iron conservatory which has been restored and re-erected in the walled garden. The performance and growth-rates of many of the plant collections in the Arboretum has been exceptional. This is particularly noteworthy in the case of Australasian, South American, and oriental trees and shrubs.

Commemorative trees planted by Queen Victoria in 1861 occur in the parkland to the north of the house. More recently planted commemorative trees are found in the lawn area near the house. There are also many exceptional specimens of conifers, dating from the 19th century, in the environs of the gardens and arboretum. However, to the south of the house only one pine tree remains from the original copse plantings at either end of the terraces.

Public car and coach parking with toilet areas and a hard-stand for jaunting cars have been added and expanded since the 1960s.

Walled Gardens and Glasshouses

The main 1895 path layout of the walled garden has now been restored including the range of Edwardian glasshouses. The major part of the walled gardens is now accessible to the public.

Muckross Gardens and the other horticultural sites of the National Park are serviced from the new garden service area including new greenhouses and potting sheds, stores and offices, located in the northern section of the Walled Garden at Muckross.

Lodges and Cottages of the Muckross Estate

Numerous Muckross Estate lodges and cottages of distinctive architectural character survive. Among the more noteworthy are Torc Lodge, one of the oldest buildings on the estate, the Main Gate Lodge, built about 1860, the castellated Tower Lodge, which is no longer habitable, and Dinis Cottage, built about the same time as Muckross House as a hunting lodge on the site of an earlier thatched caretakers cottage. Around Dinis Cottage there is a small landscaped garden containing interesting specimens of magnolia, rhododendron, camellia and some conifers.

There are also remains and sites of a number of other estate lodges and labourers cottages in various parts of the National Park. Many were built prior to the erection of Muckross House to provide accommodation for the labourers and tradesmen brought over from Scotland by Burn to build the house.

Muckross Farmyard

The Muckross farmyard, dating from the mid 19th century, is situated on the Killarney-Kenmare Road. The complex consists of a series of fine stone buildings, which are currently used as vehicle garages, machinery stores, and staff facilities. They also house the general National Park stores, joinery workshops and dairy cattle. The front wing of this building complex was partially restored in 1999 to house the Conservation Rangers.

The remains of the stone walls around the farmyard of the 18th century Muckross House are visible among trees northwest of Muckross House. This area has recently seen the addition of a boathouse which is used by the Muckross Rowing Club. The boathouse is constructed mainly in stone to match the old walls behind which it is concealed.

The Kenmare Demesne

The Kenmare Demesne like Muckross is set in the topography of the mountainous scenery of Killarney. However, unlike Muckross, it is situated adjacent to Killarney town and had an extensive early formal layout in the late 17th century style with axial planning, formal vistas, tree lined avenues and a long canal centred on the early 18th century house. In 1788 Daniel Beaufort described Lord Kenmare's formal gardens with broad gravel walks and hedges around a former central canal, which is now converted to grass. In the 18th century the demesne lands included both Ross Island and Innisfallen Island and a significant section of the demesne near the lake was described as bogland. By the early 19th century large scale bog reclamation resulted in extensive landscaping to the demesne with open parkland, woodlands and drives and vistas. Landscaping was also carried out around Ross Island by Lady Kenmare in the early 19th century.

Killarney House

The present Killarney House (previously known as Kenmare House) is the original stable wing of a classical 18th century mansion dating from the 1720s, seat of the Earls of Kenmare. This mansion, located at the edge of Killarney town, was demolished in the late 19th century and the Browne family moved in 1881 to a newly built Victorian mansion, designed by the British architect George Devey, on an elevated site at Knockreer. When this house was accidentally destroyed by fire in 1913, the family decided to restore the stable wing of the original 18th century mansion, which was still in existence. This building, which is an attractive two storey symmetrical building set around a landscaped courtyard, was converted to residential use in 1915 under the supervision of R. Caulfield Orpen in the Arts and Crafts style which also extended to the courtyard layout.

Knockreer House

Knockreer House stands on the site of the aforementioned Victorian mansion which was destroyed by fire in 1913. This house, completed in 1958, was designed in a classical style by Francis Pollen. It stands in a position commanding fine views of lake and mountain. It was in private residential use until 1974. It is now used as the National Park Education Centre.

Traces remain of a house called Prospect, which was probably a dower house of the Kenmare estate. Some old avenues of trees associated with the house still survive in the demesne.

A collection of farm buildings at Knockreer are of little architectural merit, some of which are currently used as a weaving facility by the TMH, with the agreement of the State, while others continue to be used for National Park management purposes.

Kenmare Estate Pleasure Grounds and Gardens

Extensive classical style formal pleasure grounds and gardens were remarked on and recorded by visitors in 18th and in early 19th centuries at the original Kenmare House. It was unusual for this type of formal layout, which included tree lined vistas to the lake, long terrace and broad walks on axis with the house, a designed 17th century “wilderness” feature and a “patte d’oie” (or goose foot) feature, and a geometric flower garden, to survive past the early-mid 18th century. This formal layout extended down to a ha ha and actually survived with some modifications into the late 19th century. Elements of the “patte d’oie” and “wilderness” survived into the 20th century. Numerous works in the demesne and pleasure grounds were carried out for Queen Victoria’s visit in 1861 including a new parterre garden in front of the stable building and terraces to the back of Kenmare House overlooking the lower terrace vista to the lake.

In the late 19th century, when the original Kenmare House was demolished, extensive terrace gardens were created around the new Victorian Killarney House at Knockreer, whose site was reputedly selected by Queen Victoria for its extensive views. This series of elaborate connected descending terraces was designed by John Sedding, a landscape designer friend of architect George Devey and was planted up in the highly decorative style of the early 20th century. This terrace layout still survives today with the former dairy building to the western end of the terraces.

Around Killarney House today are informal lawns with shrub borders, a small walled garden and a dovecote, all of which are surrounded by mixed woodland. An avenue of mature ornamental cherries lines what was the drive to the late 19th century Victorian mansion. Two large yew trees located in grassed area in front of the present Killarney House are possible remnants of an earlier

formal parterre. Other remnants of the garden may exist underground. The original pleasure ground area within the ha ha is now mainly grassland with remains of some old trees.

Around Knockreer House today are fine terraced lawns with shrub borders and specimen Rhododendron, laid out in between 1958 and 1960 on the site of the extensive late 19th century formal terrace gardens. Most of the terrace gardens structure exists but is covered or obscured by over growth. Historic views out over the lake and parkland from the terraces are also obscured in places by vegetation.

Lodges and Cottages of the Kenmare Estate

A number of ornamental thatched cottages were built in various parts of the Kenmare Estate in the early nineteenth century. Deenagh Lodge is the only one remaining. It is a delightful example of a Victorian Cottage Orn  . The exterior has been extensively restored after a fire caused serious damage in 1990 and is now used as a tea-room.

The ruins of Glena Cottage and Ross Cottage, where Shelley may have stayed still exist, but only the site remains of Derrycunihy Cottage. The Ornamental Dairy Cottage, which is situated close to Knockreer House, was designed by George Devey. It was built at the same time as the late 19th century Victorian House, and shows some of its distinctive architectural features.

Farm Buildings and Stables of the Kenmare Estate

The farm buildings and stables of Killarney House adjoin the Ross Road. This complex dates from the mid 19th century and incorporates a fine dovecote. Some of the buildings were converted to house staff who worked for the Mc Shain family, while others require restoration.

Boathouses

There are six old boathouses built of local stone at several locations along the eastern shores of Lough Leane and Muckross Lake, which are of architectural merit, and three others at Ross Bay, as well as the boathouse recently constructed adjacent to the old farmyard, which are not. All are in use for the storage of boats which are owned either by the National Park, private individuals or rowing clubs. Some are State owned, others are owned by individual rowing clubs.

Stone Arched Bridges

A number of mostly arched old bridges, built of local stone, having some architectural or historical interest, exist within the National Park. The best known are Brickeen Bridge linking Brickeen Island to the tip of Muckross Peninsula, and the picturesque double-arched Old Weir Bridge, near Dinis.

Stone Quays

There are about 20 old stone quays around the lakeshores, mostly around Lough Leane.

Old Walls, Fences, Gates and Gate Piers

These include fine gateways such as the original Main Gate entrance to Muckross demesne, and the Golden Gates entrance to Killarney House. There are also several old gate piers, the old deer fence that kept deer to the western end of Muckross Peninsula, parts of the old demesne boundary wall, and internal estate walls including mid 19th century walled gardens, which are of considerable importance as indicators of estate history and past management.

Other Historical Industrial/Agricultural Features

Mines and Associated Buildings

There are remains of old mines in two areas within the National Park. Copper was first mined on Ross Island during the early Bronze Age. These deposits were again exploited from the late 18th century until 1829, when the mining operations were finally abandoned.

Copper and other minerals were also mined at Muckross, near the Colleen Bawn Rock between 1749 and 1754 and then sporadically until 1818. There are several old mine shafts and remains of associated buildings, including a miner's cottage and the old powder house. There are also ruins of 18th century ironworks at Muckross village and at Derrycunihy.

Quarries and Lime Kilns

There are sites of marble and limestone quarries at Victoria Point (Muckross), Ross Island and Brown Island, and a traditional source of clay adjoining Reenadinna Wood, Muckross. There are the remains of at least eight old lime kilns within the National Park.

Outlying Clusters of Old Habitations and Field Systems

Small tenant farms within the old estates reached their peak of occupancy in the first half of the 19th century. Remains today include ruins of cottages, small stonewalled fields, lazy beds (potato ridges) and sometimes turf cuttings nearby. Those in remote places best preserve their original character. The best examples are in the townlands of Crinnagh, Cloghfune, Ferta and Cores, near the old Kenmare Road, and at Gallavally, Doogary, Glena (Glaisín na Marbh) and Cullinagh, west of the lakes.

Other Isolated Habitation and Cultivation Sites

In addition to the clusters of old farms representing sites of permanent small communities in the past, there are other traces of former habitation and cultivation, particularly within woodlands such as Reenadinna and Tomies. These include remains of buildings, which may have been booleys (summer dwellings), and isolated traces of lazy beds and turf cuttings apparently not associated with permanent habitations.

Miscellaneous Features of Historical Interest

There are a variety of other features of historical interest within the National Park. They include: the Fair Green at Muckross Village; tan holes at Ross Island and several saw pits; the old Killarney water works and a former reservoir for Muckross House water supply; a turbine pit and stream near Muckross farmyard; remains of salmon hatcheries at Ballydowney; and numerous benchmarks dating from the first Ordnance Survey.

See Appendix 7 and Map 5 for the entire list of recorded monuments found in the National Park.

Kerry Cattle and Other Rare Breeds

A pedigree herd of Kerry cattle is maintained in the National Park. Kerry type cattle were at one time the dominant breed of cattle in Ireland. They are primarily a dairy breed and whilst capable of coping with rough grazing, they are not suited to year round mountain grazing. Pure-bred cattle have been largely confined to Kerry for the past 200 years. The National Park herd was established in about 1916 by the Muckross Estate and was handed over to the State along with the Bourn Vincent Memorial Park. The herd is registered in the R.D.S. Kerry Cattle Herd Book.

Other rare cattle breeds reared in the National Park include Droimean, Maol, Dexter, Scottish Highland, and a Kerry/Highland cross, which is adapted to year round grazing in upland areas.

A3.3 OTHER VALUES

Scenic Quality

The scenery of the Killarney area, including the National Park, is world-renowned. It continues to be a major attraction for visitors and must be included in any inventory of Park resources and values. The Victorian poet Alfred Austin wrote about Killarney that “if mountain wood and water harmoniously blent constitute the most perfect and adequate loveliness that nature presents, it surely must be owned that it has, all the world over, no superior”. To this it might be added that for many visitors the harmonious blending of man-made features with natural ones further enhances the scenic quality of Killarney. Any listing of categories of key features that go to make up the scenic beauty of Killarney is necessarily arbitrary and subjective but few would disagree that it includes the following:-

1. The three Lakes of Killarney, viewed from close by and from distant vantage points.
2. Lake shores, sometimes with low rock-cliffs, and lake-islands.
3. Waterfalls and other rapidly flowing waters.
4. Rugged sandstone mountains with moorland and some bare rock surfaces.
5. Glacially moulded valleys with some precipitous slopes.
6. Deciduous woodlands, blanketing much of the landscape and changing subtly with the seasons.
7. Landscaped demesnes associated with individual trees and plantations of distinctive character.
8. Historic buildings and bridges, cottages and other structures built of natural materials.
9. Subtle and frequently changing atmospheric conditions and quality of light.

Tranquillity and Solitude

Tranquillity in the modern world is rarely a matter of total silence. It is characterised by relatively low intensity of sounds, particularly those caused by vehicles and machines or arising directly from other human activities. The absence or low level of such sounds makes it easier to hear natural sounds of wildlife and water, which make a positive contribution to the sense of tranquillity. The related quality of solitude is based on the perceived absence of other people in the vicinity and involves a feeling of isolation of an individual or group from others. While concerned solely with human perceptions, it is influenced by the physical characteristics of the environment, and in some settings, e.g. dense woodland, it may be more imagined than real. Both tranquillity and solitude are highly valued and widely experienced in KNP.

Associations with Famous Visitors

Killarney has been visited by tourists since the 18th century. Many well-known people including Queen Victoria and General de Gaulle as well as famous literary figures such as Shelley, Tennyson and Yeats have stayed in Killarney. The area is widely celebrated as a result of their writings and of popular songs and ballads. Many localities within the National Park are renowned for their association with the visits of famous individuals. This increases their value as National Park resources and is certainly of considerable interest to present-day visitors.

A3.4 NATIONAL PARK INFRASTRUCTURE

Public Roads

Public roads traverse KNP or run close to its boundary for a total distance of approximately 25 km (Map 1). The busiest is the N71 Killarney to Kenmare Road, which runs right through the middle of the National Park. The N72 Killarney to Killorglin road adjoining the northern boundary is the only other trunk road impinging on the National Park. Both roads form part of the important Ring of Kerry tourist route. The Ross Road also carries substantial local and tourist traffic. The inner relief road for the town of Killarney, which was completed in 2000, skirts the edge of the Kenmare Estate, close to the entrance of Knockreer House.

National Park Roads, Paths, Bridges and Car Parks

There are systems of internal National Park roads suitable for vehicles in the demesne areas of the Muckcross and Kenmare Estates and in the forestry plantations. Only a few short stretches are open to motor vehicle use by the public. Some of them are traditional jaunting-car routes and are maintained as such. All National Park roads are open to bicycle and pedestrian use. The National Park road network incorporates a number of bridges.

A network of paths also exists within the National Park. Most of the paths are long-established having been laid down by private estate owners in the 19th century or earlier. Some are signposted or waymarked for general pedestrian use or as part of nature trails. Part of the Kerry Way long distance walking route passes through KNP.

There are developed car parks of varying sizes at a number of locations along the public roads and at the ends of vehicle access roads within the National Park. All are directly controlled by the National Park, except for one opposite the old main gates to Muckcross demesne, on the N71, which is on land leased to Kerry Co. Council.

Services

The greater Muckcross area and Knockreer and Reen areas are traversed by overhead power-lines from Killarney, while the southern extremities of the National Park, at Gearhameen and Looscaunagh, are traversed by power-lines from Kenmare. The National Park is also served by telephone cables, some overhead and some underground.

Water supply for many of the National Park buildings are taken from the mains supply of the Kerry Co. Council network. Some outlying buildings have their own individual supplies, the quality of which is monitored regularly.

All building areas have drainage and sewer networks, some of which, at Killarney House, feed into the Killarney town system.

An emergency water storage reservoir is located near Muckcross House for use in the event of a fire at the premises.

A major waste water treatment plant catering for Killarney town and environs, with its accompanying wayleaves, is located in the Demesne townland. This plant is owned and managed by Kerry Co. Council and the discharge is via the Folly Stream through the Reen woodland to Ross Bay.

A sewage treatment plant for Muckross House, located near Monks Wood discharges to Castlough Bay. Treatment is to tertiary level and is subject to limits laid down in a licence provided by Kerry Co. Council. Discharge from this treatment plant is monitored weekly during off peak times and twice weekly during the peak tourist season by Kerry Co. Council. The capacity of the plant is 90 cubic metres per day, though the actual flow rarely exceeds 30 cubic metres per day. Sludge from the treatment plant is pumped out once or twice annually. It is added to slurry from slatted sheds in the farmyard and is spread out on pastureland. Spreading is always on high dry land away from streams and rivers.

Other buildings and dwellings within the National Park are served by septic tanks and other treatment systems. Effluent from Killarney House is pumped to the town's treatment system.

Modern Buildings

Modern buildings in KNP include:

- restaurant and shop close to Muckross House (the Walled Garden Complex)
- houses on the traditional farm
- visitor centre at Lord Brandon's Cottage
- national monuments depot at Carraigfreahane
- garden services buildings

Management Infrastructure

NPWS Staff

Regional Manager

Based at Muckross House

Deputy Regional Manager

Based at Muckross House

District Conservation Officer

Based at Muckross House

Conservation Rangers

There is currently a Head Ranger and six Conservation Rangers employed in KNP. They are based at Muckross Farmyard.

Guides

There are full time and part-time guides – a total of 11 – employed in KNP.

Other Staff

Gardeners, carpenters, general operatives, cleaners and other ancillary staff – a total of 36 – make up the full complement of NPWS staff working in the National Park.

Education Officer

An Education Officer is employed by Cappanalea Outdoor Education Centre to run the National Park Education Centre in conjunction with NPWS and Kerry Education Service.

Trustees of Muckross House

The Trustees of Muckross House (Killarney) Limited is a voluntary not for profit group and having charitable status whose membership is open to the general public and which elects its Board at an AGM. The group was established to research and conserve the folk life of Kerry. Under a succession of management agreements, the Trustees have, since 1964, presented aspects of Kerry folk life to the public at Muckross House. The Trustees also operate, under agreement with DEHLG, a shop, restaurant, craft workshops and a traditional farm within the National Park. Negotiations regarding a new agreement are in progress.

Appendix 4

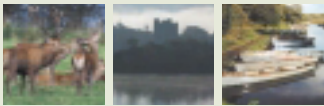


Table of Management Strategies, Targets and Zones

The following table lists the management strategies for KNP with the corresponding targets and relevant management zones. These are explained in more detail in sections 8.4 and 8.5.

Strategy	Detailed Strategy	Targets	Management Zones
1.1 Preparation of National Park Vegetation Map		<ul style="list-style-type: none"> Commission vegetation map of Park by funding a PhD project – 2005 Final version of map completed – 2008 	Not Zoned
1.2 Provision of Adequate Manpower		<ul style="list-style-type: none"> Increase the number of patrols – ongoing Implement systematic rostering of Conservation Rangers for day and night patrols – ongoing 	Not Zoned
1.3 Conservation and Management of Bog/Heath/Upland Grassland Habitats	1.3.1 <i>Establishment and maintenance of a sustainable grazing regime for uplands</i>	<ul style="list-style-type: none"> New arrangements put in place with DAF – 2006 Establish sustainable grazing regime, including population targets for ruminant species – 2005 Produce monitoring reports for Mangerton grazing trials – 2005, 2007 Full assessment of Mangerton grazing trial – 2008 	A2 B4
	1.3.2 <i>Control of Burning</i>	<ul style="list-style-type: none"> Update Fire Fighting Action Plan – 2005, 2007 & 2009 Commence fire-fighting training – 2005 	A2 B4
	1.3.3 <i>Limiting Peat Erosion</i>	<ul style="list-style-type: none"> Carry out identified path-work either by National Park staff or under contract – by 2009 Undertake training in footpath assessment, construction and maintenance – as necessary 	B4 C2
	1.3.4 <i>Prohibition of Peat Cutting</i>	<ul style="list-style-type: none"> Maintain prohibition of peat-cutting within the National Park – ongoing 	Not Zoned
1.4 Conservation and Management of Woodland and Scrub Habitats	1.4.1 <i>Establishment of sustainable grazing regimes in woodlands</i>	<ul style="list-style-type: none"> Set population targets in all woodlands for red and sika deer – 2005 Control grazer numbers – as per strategy 2.3.4 Survey woodland plots – summer 2006 	B2
	1.4.2 <i>Rhododendron Eradication Programme</i>	<ul style="list-style-type: none"> Prepare comprehensive management programme for Rhododendron control in KNP – 2005 Carry out work programme as identified – ongoing Produce progress reports on works undertaken – end 2005 2006, 2007, 2008, 2009 Carry out research into new treatment methods – ongoing 	B2
	1.4.3 <i>Management of the Yew Woodland</i>	<ul style="list-style-type: none"> Survey permanent quadrats – 2006 Continue deer removal on Muckross Peninsula – as per strategy 1.4.1 	B5
	1.4.4 <i>Management of Other Exotic Species</i>	<ul style="list-style-type: none"> Monitor and carry out limited clearance by National Park Staff – ongoing Obtain scientific advice on exotic species from NPWS research staff – ongoing 	B2
	1.4.5 <i>Removal of Conifer Blocks</i>	<ul style="list-style-type: none"> Produce prioritised list of conifer blocks to be removed – 2005 Clear non-native species from 250 ha of former commercial conifer plantation – 50 ha per year Fence and plant above areas – as necessary 	B3



Strategy	Detailed Strategy	Targets	Management Zones
1.5 Conservation and Management of Aquatic Habitats	1.5.1 <i>Improvement of Water Quality in Lakes and Rivers</i>	<ul style="list-style-type: none"> Continue to work with Kerry County Council on water sampling programme – ongoing Sample Upper Lake – 6 times per year Respond to pollution incidents as soon as they are identified – ongoing Produce and implement nutrient management plans for all National Park lands – as per strategy 1.6.1 Address the problem of overgrazing in order to reduce siltation and erosion – as per strategy 1.3.1 Reduce inputs of soiled water and phosphates at all sources in the National Park by separating clean and soiled water – ongoing Actively participate in the implementation of the Lough Leane Catchment Management Plan – ongoing 	A1 B1
	1.5.2 <i>Improvement of Effluent Treatment</i>	<ul style="list-style-type: none"> Carry out impact assessments for ICWs at Torc and Dinis – 2005 Apply for planning permission for ICWs at Muckross, Torc and Dinis – 2005 Consult with KCC re options for sewage treatment at Muckross – 2005 Consult with KCC re discharge into Lough Leane – ongoing 	Not Zoned
	1.5.3 <i>Protection of Small Waterbodies and Streams</i>	<ul style="list-style-type: none"> Integrate conservation management for small water-bodies and streams into the wider conservation management strategies for KNP – as per strategies 1.3.1; 1.5.1 Prioritise removal of conifers within 20m of streams – to tie in with strategy 1.4.5 	Not Zoned
1.6 Management of Lowland Grasslands	1.6.1 <i>Management of Demesne Grasslands</i>	<ul style="list-style-type: none"> Produce farm plan – 2005 Implement plan – 2006, 2007, 2008, 2009 Convert to organic status (transitional period of two years) – 2005-2007 Achieve full organic status for farm – 2007 Produce progress reports on works undertaken – 2007 and 2009 	C1
	1.6.2 <i>Conservation of Wet Grasslands and other Semi-Natural Grasslands</i>	<ul style="list-style-type: none"> Maintain wet and semi-natural grasslands in present state – ongoing 	Not Zoned
1.7 Conservation of Inland Cliffs, Scree & other Areas of Exposed Rock		<ul style="list-style-type: none"> Strictly regulate rock climbing by permit system – ongoing Produce annual reports on numbers of permits issued and for what areas of National Park – end of each year Monitor permit compliance – ongoing Implement pathway restoration/maintenance programme – as per strategy 1.3.3 	A2

Strategy	Detailed Strategy	Targets	Management Zones
1.8 Protection of Geological Features and Soils		<ul style="list-style-type: none"> Retain Government policy that prospecting licences will not be granted in National Parks – ongoing 	Not Zoned
1.9 Land Purchase		<ul style="list-style-type: none"> Consider land purchases as opportunities arise, subject to the availability of resources – ongoing Address development adjacent to KNP – as per strategy 5.3 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
2.1 Conservation of Annex II, Protected and Rare Plant Species		<ul style="list-style-type: none"> Undertake surveillance by regular Conservation Ranger patrols – ongoing 	Not Zoned
2.2 Conservation of species listed in Annex I of the Birds Directive and other notable bird species	2.2.1 Protection of Wintering Population of Greenland White-fronted Geese	<ul style="list-style-type: none"> Continue investigations into decline of national population by NPWS Research Branch – ongoing Continue monitoring of the existing flock by Conservation Rangers – 4 times each winter 	Not Zoned
	2.2.2 Protection of Other Bird Species Breeding and Wintering in the Park	<ul style="list-style-type: none"> Continue monitoring of wader and duck species on Lough Leane – 1 count per month Continue monitoring of peregrine breeding within the National Park – Each spring Disseminate bird monitoring data – annually 	Not Zoned



Strategy	Detailed Strategy	Targets	Management Zones
2.3 Conservation of Other Notable Fauna	2.3.1 Management for Invertebrates	<ul style="list-style-type: none"> ■ Erect and maintain signs cautioning against the introduction of the zebra mussel – 2005 ■ Establish scheme of certification for boat cleaning – 2005 ■ Prevent gravel extraction in areas where it will cause negative impacts on freshwater pearl mussel populations – ongoing ■ Carry out survey work on freshwater pearl mussel and habitat – 2006 ■ Maintain suitable habitat for marsh fritillary – as per strategy 1.6.2 ■ Establish standard survey protocol for the marsh fritillary – 2005 ■ Continue rhododendron clearance from potential Kerry slug habitat – as per strategy 1.4.2 	Not Zoned
	2.3.2 Conservation of Fish Species	<ul style="list-style-type: none"> ■ Finalise agreements for management of fisheries – 2005 ■ Complete study on Killarney shad and devise monitoring protocol – 2005 ■ Carry out survey of lamprey spawning grounds – 2006 	A1 B1
	2.3.3 Conservation of Amphibians and Reptiles	<ul style="list-style-type: none"> ■ Continue habitat protection – as per strategies under objective 1 	Not Zoned
	2.3.4 Conservation and management of Deer & Goats	<ul style="list-style-type: none"> ■ Census deer numbers and determine sustainable level in all areas – mountain, woodland & pastureland (see also strategy 1.3.1) – 2006 ■ Maintain red deer populations on uplands at present rates (500-700). This figure may be adjusted based on the above – as per strategy 1.3.1 ■ Determine sustainable levels of red deer populations on lowlands. Reduce numbers if necessary – as per strategy 1.6 ■ Reduce red deer populations in areas adjoining the National Park as need arises – as necessary ■ Continue to reduce sika populations throughout the National Park to limit of 400-500 during period of Plan. This figure may be adjusted based on the above <ul style="list-style-type: none"> – remove c. 100 per year ■ Monitor deer farms in a 50km radius of the National Park – as necessary ■ Remove goats as need arises – as per strategy 1.3.1 	Not Zoned
	2.3.5 Conservation of Bats	<ul style="list-style-type: none"> ■ Consolidate and protect bat roosts and populations – ongoing ■ Monitor populations at roosts – annual summer and winter counts ■ Promote the importance of bats for biological diversity through promotion by National Park personnel, regular “bat nights” and focused lectures – ongoing 	Not Zoned
	2.3.6 Conservation of other Mammal species	<ul style="list-style-type: none"> ■ Conserve habitats – as per strategies listed under objective 1 ■ Determine conservation status of selected mammal species – 2009 	Not Zoned
	2.3.7 Prohibition of Hunting and Shooting	<ul style="list-style-type: none"> ■ Maintain ban on hunting in, and shooting on or over the National Park – ongoing ■ Carry out anti-poaching patrols – ongoing 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
3.1 General Protection of Built Heritage and Demesne Landscapes		<ul style="list-style-type: none"> ■ Survey and record all features of the designed landscapes including field and tree surveys and major planting features within the demesne landscapes and pleasure gardens of Muckross House and Killarney House – ongoing from 2005 ■ Survey and record the built heritage and structures including special features and furniture of Muckross House, Killarney House and Knockreer – ongoing ■ Prepare conservation plans for built heritage and demesne landscapes in conjunction with the OPW – ongoing from 2005 	C1
3.2 Conservation of Archaeological Monuments		<ul style="list-style-type: none"> ■ Comply with the National Monuments Acts 1930-1994 – ongoing 	Not Zoned
3.3 Conservation of National Monuments	3.3.1 General protection of Monuments	<ul style="list-style-type: none"> ■ Initiate formalised liaison between NPWS and the OPW – twice yearly ■ Prevent incursions on National Monuments – ongoing 	Not Zoned
	3.3.2 Ross Castle and its Environs	<ul style="list-style-type: none"> ■ Landscape area to north and east of Castle – 2005 ■ Have two cannon carriages manufactured to specified design – 2005 ■ Carry out works to walls of Castle and mount cannons if sufficiently consolidated – 2005 ■ Carry out conservation works 1 tapestry – 2005 ■ Upgrade existing exhibition – 2005 	C4
	3.3.3 Innisfallen and Muckross Abbey	<ul style="list-style-type: none"> ■ Continue maintenance of sites to facilitate visitor access – ongoing ■ Complete conservation works to Muckross Abbey – 2005 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
3.4 Conservation of Principal Houses and Other Buildings	3.4.1 <i>Muckross House</i>	<ul style="list-style-type: none"> ■ Carry out full survey of Muckross House – 2005 ■ Carry out roof repairs over Servant's Wing – 2005 ■ Install passenger lift – 2006 ■ Relocate reception and restore main entrance hall – on completion of lift ■ Finalise and agree utilisation plan for Muckross House – 2005 ■ Implement utilisation plan – ongoing from 2005 ■ Continue repairs and conservation works to paintings, picture frames and other furnishings and artefacts – ongoing ■ Conserve a second pair of original dining room curtains to complement the conservation works carried out on the first pair in 1991 – 2005 ■ Upgrade the fire and security systems – ongoing ■ Assess and carry out conservation works on the original 18th century Muckross House – initial work complete by 2005; further work complete by end 2007 ■ Prepare maintenance programme – 2005 ■ Provide details of maintenance and refurbishment work to KNPLC – as necessary 	C3
	3.4.2 <i>Killarney House</i>	<ul style="list-style-type: none"> ■ Ensure adequate security arrangements to protect property – 2005 ■ Refurbish ground floor – 2006 ■ Open new visitor facility – 2006 ■ Supply details of any refurbishment work to KNPLC – as necessary ■ Comply with best practice when designing and erecting signs – as necessary ■ Consult on extension of opening hours – 2005 	C6
	3.4.3 <i>Knockreer House</i>	<ul style="list-style-type: none"> ■ Maintain education and research facilities – ongoing, see also strategy 4.7 	C5
	3.4.4 <i>Residential Lodges/Cottages</i>	<ul style="list-style-type: none"> ■ Maintain architectural integrity of buildings – ongoing ■ Continue to secure properties as necessary – ongoing ■ Complete survey on occupancy of dwellings – 2006 ■ Maintain Arthur Vincent House in compliance with appropriate standards – ongoing, as necessary 	Not Zoned
	3.4.5 <i>Dinis Cottage</i>	<ul style="list-style-type: none"> ■ Apply for planning permission – 2005 ■ Review and implement findings of survey report – 2006 	Not Zoned
	3.4.6 <i>Muckross House Farmyard</i>	<ul style="list-style-type: none"> ■ Complete remedial works necessary for health and safety regulations – 2005 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
3.4 Conservation of Principal Houses and Other Buildings	3.4.7 <i>Buildings at Muckross Walled Gardens</i>	<ul style="list-style-type: none"> ■ Install shading and restore planting – 2005 	Not Zoned
	3.4.8 <i>Knockreer Farmyard</i>	<ul style="list-style-type: none"> ■ Consider proposal/plans for farmyard – 2005 ■ Decide on future of farmyard – 2005 	Not Zoned
	3.4.9 <i>Killarney House Farmyard</i>	<ul style="list-style-type: none"> ■ Undertake survey and works to dovecot – 2005 ■ Consider all options for utilisation of this space and make recommendations – 2006 	Not Zoned
	3.4.10 <i>Boathouses</i>	<ul style="list-style-type: none"> ■ Maintain boathouses as required – ongoing ■ Where appropriate, facilitate rowing clubs to upgrade facilities in boathouses used by them from funds at their disposal – ongoing, as necessary 	Not Zoned
	3.4.11 <i>Other Features</i>	<ul style="list-style-type: none"> ■ Survey all bridges and upgrade as necessary – ongoing ■ Maintain features as required – ongoing ■ Maintenance to structures will be detailed in the appropriate area action plan (strategy 4.1) – ongoing 	Not Zoned



Strategy	Detailed Strategy	Targets	Management Zones
3.5 Conservation of Demesne Landscapes	3.5.1 Conservation of Demesne Landscapes	<ul style="list-style-type: none"> ■ Maintain existing view-points and sight lines – ongoing ■ Maintain grasslands for cattle and red deer grazing – as per strategy 1.6.1 	C1
	3.5.2 Muckross Demesne	<ul style="list-style-type: none"> ■ Restore the important mid 19th century picturesque foreground views of the lake from the terrace and dining room window of Muckross House, created by the former owners, the Herberts and for which historical evidence exists – 2005 ■ Maintain and restore historic vistas from approaches to lakes and mountains and to and from Muckross House, Muckross Peninsula and Muckross Abbey by the coppicing or removal of vegetation – ongoing ■ Maintain and conserve the existing horticultural collections at Muckross Gardens, and their attendant landscape design features – ongoing ■ Restore key historical garden features and planting as appropriate – ongoing ■ Continue to develop the Arboretum at Muckross, with suitable additions to the current plant collection – ongoing from 2005 ■ Complete an arboricultural survey of existing tree cover, with species, location, condition and maturity indicated to aid ongoing cycles of management – ongoing ■ Maintain and record notable tree and shrub specimens as appropriate – ongoing ■ Restore and conserve historic drives, walks and viewing points in the demesne, including 19th century woodland walks and routes as appropriate – ongoing from 2005 ■ Assess further planting in the vicinity of Muckross House to improve the visual amenity following recent developments such as extended car parks and new roads etc. once all works are completed and survey work mentioned above is carried out – 2005 ■ Initiate conservation proposals for the gardens at Dinis Cottage – 2006 	C1
	3.5.3 Killarney House and Knockreer Demesne	<ul style="list-style-type: none"> ■ Carry out field and tree surveys of demesne – from 2006 ■ Carry out field/tree survey of former gardens in ha ha area of Killarney House – 2005 ■ Complete preliminary historical report and conservation/restoration proposals – 2006 ■ Remove vegetation and survey terrace gardens at Knockreer House – 2005 ■ Initiate restoration of important 19th century vistas from terraces of Knockreer House – from 2005 ■ Ensure adequate security in place to protect Deenagh Lodge – ongoing ■ Ensure protection of other important historical landscape features – ongoing 	C1
3.6 Conservation of other Important Landscape Features			
3.7 Conservation of Native Breeds		<ul style="list-style-type: none"> ■ Maintain Kerry cattle herd at appropriate levels – ongoing ■ Convert to organic status – see strategy 1.6.1 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
4.1 Provision of General Access to the National Park		<ul style="list-style-type: none"> Facilitate appropriate access to KNP – as per strategies 4.2-4.8 Draw up area action plans – as necessary 	Not Zoned
4.2 Visitor Safety and Protection		<ul style="list-style-type: none"> Carry out review of visitor Health and Safety requirements – ongoing Sensitisation of visitors to their own responsibilities through literature and signage – ongoing 	Not Zoned
	4.2.1 Implementation of Emergency Plan	<ul style="list-style-type: none"> Establish cross-agency group to draw up Emergency Plan – 2005 Complete and adopt above Plan – 2005 Carry out formal review of Emergency Plan – 2006, 2007, 2008, 2009 	Not Zoned
	4.2.2 Facilitation of Search and Rescue Operations	<ul style="list-style-type: none"> Review search and rescue arrangements with Gardaí – annually Provide search and rescue training for National Park staff – as required 	Not Zoned
	4.2.3 Maintenance of Water Safety	<ul style="list-style-type: none"> Maintain stand-by rescue boat and inflatable craft to highest safety standards – ongoing 	Not Zoned
	4.2.4 Crime Reduction and Security	<ul style="list-style-type: none"> Maintain contact with Gardaí and Community Alert Groups – ongoing Increase the number of National Park personnel patrolling and in residence in the National Park – see strategies 1.2 and 3.4.4 	Not Zoned
4.3 Maintenance of Roads and Car Parks	4.3.1 Maintenance of Public Roads	<ul style="list-style-type: none"> Minimise impact of any alterations to public road network on the National Park, while being mindful of wider local/ national priorities – ongoing 	Not Zoned
	4.3.2 Maintenance of National Park Roads, Car-Parks and Picnic Areas	<ul style="list-style-type: none"> Assess additional sites for car parks, viewing points and picnic areas – 2005 Implement conclusions, as appropriate – 2006 	C3



Strategy	Detailed Strategy	Targets	Management Zones
4.4 Visitor Facilities and Provision of Information	4.4.1 <i>Provision of Visitor Services Staff</i>	<ul style="list-style-type: none"> ■ Provide new Guide Service for Killarney House – 2006 ■ Provide Guide training to highest standards – ongoing 	Not Zoned
	4.4.2 <i>Provision of Indoor Interpretation</i>	<ul style="list-style-type: none"> ■ Improve Visitor facilities at Muckross House – ongoing ■ Maintain indoor interpretation to highest standards, subject to resources – ongoing ■ Carry out review of indoor interpretation – annually ■ Review presentation of material relating to rare plants in order to provide information without compromising their conservation in situ (strategy 2.1) – 2006 	C3 C6
	4.4.3 <i>Maintenance of Existing Nature Trails/Paths</i>	<ul style="list-style-type: none"> ■ Undertake works in uplands areas – as per strategy 1.3.3 ■ Carry out identified work either by National Park staff or under contract 	C2
	4.4.4 <i>Development of New Paths</i>	<ul style="list-style-type: none"> ■ Complete new Dinis – Torc path – 2005 ■ Review new pathway needs – ongoing 	C2
	4.4.5 <i>Maintenance and Improvement of Outdoor Display Panels & Signs</i>	<ul style="list-style-type: none"> ■ Support concept of nationwide standard NPWS signage – ongoing ■ Provide signs as necessary – ongoing ■ Provide outdoor display panels at various agreed locations – ongoing 	Not Zoned
	4.4.6 <i>Provision of Talks and Lectures</i>	<ul style="list-style-type: none"> ■ Continue autumn talk series – annually ■ Continue to support the KNP Environmental Spring School (see also strategy 4.7) – annually 	Not Zoned
	4.4.7 <i>Provision and Development Publications and other media</i>	<ul style="list-style-type: none"> ■ Continue to expand publications on aspects of KNP – ongoing ■ Develop comprehensive strategy for provision of information – 2007 	Not Zoned
4.5 Provision of Refreshment, Toilet, Craft and Retail Facilities	4.5.1 <i>Operation of Walled Garden Centre</i>	<ul style="list-style-type: none"> ■ Prepare maintenance programme – 2005 ■ Finalise and implement agreement with the TMH – 2005 	C3
	4.5.2 <i>Maintenance of Other Facilities</i>	<ul style="list-style-type: none"> ■ Upgrade and maintain existing toilet facilities, including access for visitors with disabilities – ongoing ■ Examine provision of further toilet facilities – as necessary ■ Continue to provide and maintain picnic facilities – ongoing ■ Consider provision of small sweet shop near Muckross House – 2006 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
4.6 Management of Recreational Activities	4.6.1 <i>Management of Commercial Boating</i>	<ul style="list-style-type: none"> Continue to operate permit system for commercial boating activity – ongoing Rigorously monitor boating use to ensure compliance – ongoing 	Not Zoned
	4.6.2 <i>Management of Non-commercial Boating</i>	<ul style="list-style-type: none"> Continue to facilitate non-commercial boating through mooring disc system – ongoing Rigorously monitor boating use to ensure compliance – ongoing Facilitate canoeing via permit, consistent with conservation imperative – ongoing Where appropriate, facilitate upgrading and maintenance of facilities by rowing clubs from funds at their disposal – as necessary 	Not Zoned
	4.6.3 <i>Facilitation of access by Jaunting Cars</i>	<ul style="list-style-type: none"> Facilitate jaunting car access, subject to a maximum of 95 permits per year and at specified locations – ongoing Undertake research and demonstrate best methods for disposal of horse dung – 2005 Implement above methodology in consultation with Jarveys – 2006 	A1 B1
	4.6.4 <i>Management of Pony Trekking</i>	<ul style="list-style-type: none"> Apply new arrangements for Ross Island – ongoing Develop a permit system to facilitate recreational users within the existing capacity of pony trekking trails – 2006 Consider further development of pony trekking trails – as necessary 	Not Zoned
	4.6.5 <i>Management of Fishing</i>	<ul style="list-style-type: none"> Conserve fish stocks – as per strategy 2.3.2 Agree new strategy for angling – 2005 	Not Zoned
	4.6.6 <i>Management of Swimming and Diving</i>	<ul style="list-style-type: none"> Confine recreational/casual swimming to Dundag Point – ongoing Review swimming at Sandy Bottom – 2007 Continue regulation of scuba diving by permit – ongoing 	A1 B1
	4.6.7 <i>Control of Rock Climbing</i>	<ul style="list-style-type: none"> Continue to facilitate limited activity under conservation restrictions – as per strategy 1.7 	A1 B1
	4.6.8 <i>Management of Cycling and Mountain Biking</i>	<ul style="list-style-type: none"> Continue to facilitate recreational cycling within current permitted zones – ongoing Review policy on cycling in the National Park and erect appropriate signage – ongoing, as appropriate 	Not Zoned
	4.6.9 <i>Maintenance of playing area</i>	<ul style="list-style-type: none"> Continue to facilitate use of this pitch as a recreational resource – ongoing Provide playground – see target 4.8.4 	Not Zoned
	4.6.10 <i>Management of Camping</i>	<ul style="list-style-type: none"> Draw up Code of Conduct for wild camping in consultation with users (i.e. MCI) – 2005 Implement Code of Conduct on a trial basis – 2006 Review the Code – 2007 & annually 	Not Zoned
	4.6.11 <i>Control of Other Activities</i>	<ul style="list-style-type: none"> Continue policy of not permitting activities that visually intrude on KNP – ongoing 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
4.7 Provision of Education Programmes		<ul style="list-style-type: none"> ■ Maintain current relationship with KNPPEC – ongoing ■ Target Primary school children, particularly from local and disadvantaged communities – ongoing ■ Provide curriculum-based field studies for geography and biology Junior and Leaving Certificate students and support for Third Level courses and field trips – ongoing ■ Continue to support the KNPPEC Environmental Spring School – ongoing ■ Continue to provide in-service teacher-training courses for primary school teachers – summer, annually ■ Maintain outreach service to local communities and organisations – ongoing ■ Review outreach service – 2005 and 2007 ■ Enhance the educational role of school outings to Muckross House – ongoing ■ Continue to support education programme run by the TMH – ongoing ■ Review educational services being provided by NPWS partners – annually ■ Hold formalised meetings on educational programmes in other National Parks – annually ■ Allocate specific funding for National Park related education initiatives and publications – annually 	Not Zoned

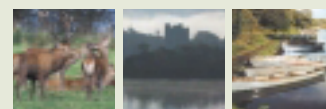
Strategy	Detailed Strategy	Targets	Management Zones
4.8 Management for Special Categories Of Visitor Use	4.8.1 <i>Facilitation of Special Interest Groups</i>	<ul style="list-style-type: none"> ■ Maintain links with special interest groups – ongoing 	Not Zoned
	4.8.2 <i>Facilitation of Voluntary Work Groups</i>	<ul style="list-style-type: none"> ■ Facilitate and support the valued contribution of voluntary work groups such as Groundwork – ongoing 	Not Zoned
	4.8.3 <i>Facilitation of Visitors with Disabilities</i>	<ul style="list-style-type: none"> ■ Carry out access audit to identify the current and potential access arrangements for visitors to KNP – 2006 ■ Implement findings of audit as resources permit – 2007-2009 ■ Provide facilities in Muckross House-as per strategy 3.4.1 ■ Upgrade River Walk – as per strategy 4.4.3 ■ Receive suggestions from interest groups – ongoing ■ Provide wheelchair access, where possible, to all buildings open to the public – 2009 	Not Zoned
	4.8.4 <i>Provision of Additional Facilities for Children</i>	<ul style="list-style-type: none"> ■ Assess feasibility and location of children's playground – 2005 ■ Open new facility to highest safety standards in full co-operation with KTC – 2005 ■ Monitor and review the use and value of facility – ongoing ■ Examine the creation of walkways focused on children – 2007 	Not Zoned
	4.8.5 <i>Facilitation of Elderly/Infirm Visitors</i>	<ul style="list-style-type: none"> ■ Review and identify new locations throughout KNP where seating warranted – 2005 and ongoing ■ Provide additional seating on phased basis – ongoing 	Not Zoned
	4.8.6 <i>Management of Public Performances and Ceremonies</i>	<ul style="list-style-type: none"> ■ Permit public performances within strictly defined criteria – ongoing ■ Consult KNPLC for major events – ongoing ■ Promote Walled Garden Centre as venue in preference to Muckross House – ongoing ■ Monitor and review impact of such events – ongoing 	Not Zoned
	4.8.7 <i>Control of Trading in KNP</i>	<ul style="list-style-type: none"> ■ Ensure that the main commercial focus remains outside KNP – ongoing ■ Control commercially operated guided tours and walks by permit – ongoing ■ Restrict and control trading within KNP and immediate environs – as per strategy 4.5 	Not Zoned
	4.8.8 <i>Management of the Use of KNP and KNP Facilities for Filming, Advertising or Promotion</i>	<ul style="list-style-type: none"> ■ Facilitate filming, advertising etc within strict limits – ongoing ■ Continue not to permit the promotion of specific products – ongoing 	Not Zoned
	4.8.9 <i>Facilitation of Killarney 250</i>	<ul style="list-style-type: none"> ■ Provide logistical back-up for the Killarney 250 initiative to the maximum extent possible – 2005 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
5.1 Consultation within the Department of the Environment & Local Government & with other Government Agencies		<ul style="list-style-type: none"> ■ Maintain and improve consultation between all relevant government departments and agencies – ongoing 	Not Zoned
5.2 Consultation with National Park Liaison Committee		<ul style="list-style-type: none"> ■ Hold regular meetings with KNPLC to review implementation of plan – ongoing ■ Advise KNPLC of research/experimental projects to be undertaken – ongoing, as necessary 	Not Zoned
5.3 Liaison with Local Authorities		<ul style="list-style-type: none"> ■ Liaise with local authorities to advise on development works that may impact on KNP – as necessary ■ Seek planning permission for developments in KNP – as necessary 	Not Zoned
5.4 Liaison with other Parties		<ul style="list-style-type: none"> ■ Liaise with groups involved in using and working in KNP – ongoing 	Not Zoned
5.5 Liaison with the General Public		<ul style="list-style-type: none"> ■ Accept representations from members of the public – ongoing 	

Strategy	Detailed Strategy	Targets	Management Zones
6.1 Siting of Aerials		<ul style="list-style-type: none"> ■ Maintain ban on siting of aerials etc within KNP – ongoing ■ Seek consultation with authorities in relation to siting of communications aerials adjacent to KNP – ongoing 	Not Zoned
6.2 Siting of Overhead Lines		<ul style="list-style-type: none"> ■ Carry out review of overhead lines – 2005 	Not Zoned
6.3 Control of Dumping, Litter, Graffiti and Fly Posting		<ul style="list-style-type: none"> ■ Liaise with KCC in relation to dumping – ongoing ■ Develop detailed strategy on litter collection & management – 2006 ■ Continue to educate visitors re the problems caused by littering – ongoing ■ Continue to support volunteer cleanups of lake shores – annual 	Not Zoned
6.4 Protection of Tranquillity	<i>6.4.1 Control the use of Radios, Tape Recorders, etc</i>	<ul style="list-style-type: none"> ■ Continue to discourage inappropriate use of radios etc – ongoing 	Not Zoned
	<i>6.4.2 Control of Disturbance by Aircraft</i>	<ul style="list-style-type: none"> ■ Maintain ban on commercial helicopter/light plane landing facilities – ongoing 	Not Zoned
	<i>6.4.3 Control of Disturbance by Boats</i>	<ul style="list-style-type: none"> ■ Limit boat engine size – as per strategies 4.6.1 & 4.6.2 ■ Liaise with commercial operators in relation to noise from commentaries – 2005 	Not Zoned
	<i>6.4.4 Control of Motor Sports</i>	<ul style="list-style-type: none"> ■ Maintain prohibition on motor-sports/scrambling in KNP-ongoing 	Not Zoned
6.5 Waste Management and Protection of the Wider Environment		<ul style="list-style-type: none"> ■ Examine and promote methods of energy conservation in the management practices of KNP – ongoing ■ Continue to ensure that waste-water emanating from the National Park is treated to the highest possible level prior to discharge – as per strategies 1.5.1 & 1.5.2 ■ Treat farm work as specified in farm plan – see strategy 1.6.1 ■ Process organic waste from gardens by shredding/mulching/composting – ongoing ■ Examine and promote waste reduction and the use of recyclable products in KNP management and in the provision of visitor services by the National Park or its licencees – ongoing ■ Refrain from using products which are known to have a detrimental effect on the global environment – ongoing 	Not Zoned

Strategy	Detailed Strategy	Targets	Management Zones
7.1 Application of Research in KNP		<ul style="list-style-type: none"> ■ Identify and prioritise studies to investigate the effects of human interactions in KNP – 2006 and ongoing ■ Assemble baseline inventory data for KNP – ongoing ■ Carry out vegetation survey and produce map – as per strategy 1.1 	Not Zoned
7.2 Facilitation of Research in KNP		<ul style="list-style-type: none"> ■ Continue to encourage and support research in KNP – ongoing ■ Collate research that has already been carried out – 2006 and ongoing 	Not Zoned
7.3 Provision of Logistical Assistance for Research in KNP		<ul style="list-style-type: none"> ■ Provide a dedicated Field Station at a location in KNP – 2006 	Not Zoned
7.4 Continuity of Ongoing Projects		<ul style="list-style-type: none"> ■ Continue full co-operation with KCC on comprehensive monitoring and improvement of water quality in the Lough Leane catchment – as per strategy 1.5.1 ■ Monitor woodland exclosures in all areas of the National Park – as per strategy 1.4.1 ■ Monitor upland exclosures on Mangerton – as per strategy 1.3.1 ■ Carry out water sampling programme – as per strategy 1.5.1 ■ Carry out waterfowl and other bird counts – as per strategy 2.2 ■ Carry out monitoring of deer, sheep and goat numbers – as per strategy 2.3.4 ■ Monitor lesser horseshoe bat roosts – as per strategy 2.3.5 	Not Zoned

Appendix 5



Plants mentioned in Text and Appendices

		Red Data Book ¹	Flora Protection Order ²	Habitats Directive ³
Mosses & Liverworts				
	<i>Cephalozia hibernica</i>			
	<i>Cephaloziella rubella</i>			
	<i>Lejeunea flava</i>			
	<i>Marchesinia mackaii</i>			
Silver-haired Moss	<i>Racomitrium lanuginosum</i>			
Bog Mosses	<i>Sphagnum</i> spp.			
Lichens				
	<i>Cladonia portentosa</i>			
Lungwort	<i>Lobaria</i> species			
	<i>Nephroma laevigatum</i>			
	<i>Pannaria</i> species			
	<i>Parmelia sinuosa</i>			
	<i>Parmeliella atlantica</i>			
	<i>Parmeliella sinuosa</i>			
	<i>Porina hibernica</i>			
	<i>Pseudocyphellaria crocata</i>			
	<i>Sticta</i> species			
Stoneworts				
Fragile Stonewort	<i>Chara globularis</i>			
	<i>Nitella</i> species			
Green Alga				
	<i>Ulothrix</i> species			
Ferns & their Allies				
Green Spleenwort	<i>Asplenium viride</i>			
Hard Fern	<i>Blechnum spicant</i>			
Moonwort	<i>Botrychium lunaria</i>			
Alpine Clubmoss	<i>Diphasiastrum alpinum</i>			
Scaly Male Fern	<i>Dryopteris affinis</i>			
Tunbridge Filmy Fern	<i>Hymenophyllum tunbrigense</i>			
Wilson's Filmy Fern	<i>Hymenophyllum wilsonii</i>			
Quillwort	<i>Isoetes lacustris</i>			
Pillwort	<i>Pilularia globulifera</i>	Rare	Yes	
Polypody	<i>Polypodium</i> species			
Bracken	<i>Pteridium aquilinum</i>			
Killarney Fern	<i>Trichomanes speciosum</i>	Rare	Yes	Annex II



		Red Data Book ¹	Flora Protection Order ²	Habitats Directive ³
Grasses, Sedges & Rushes				
Heath Rush	<i>Juncus squarrosus</i>			
Soft Rush	<i>Juncus effusus</i>			
Sharp-flowered Rush	<i>Juncus acutiflorus</i>			
Bulbous Rush	<i>Juncus bulbosus</i>			
Jointed Rush	<i>Juncus articulatus</i>			
Woodrush	<i>Luzula sylvatica</i>			
Many-headed Woodrush	<i>Luzula multiflora</i>			
Bulrush	<i>Typha latifolia</i>			
Deer-grass	<i>Trichophorum cespitosum</i>			
Hare's-tail Cotton-grass	<i>Eriophorum vaginatum</i>			
Common Cotton-grass	<i>Eriophorum angustifolium</i>			
Black Bog Rush	<i>Schoenus nigricans</i>			
Remote Sedge	<i>Carex remota</i>			
Carnation Sedge	<i>Carex panicea</i>			
Green-ribbed Sedge	<i>Carex binervis</i>			
Purple Moor-grass	<i>Molinia caerulea</i>			
Common Reed	<i>Phragmites australis</i>			
Mat Grass	<i>Nardus stricta</i>			
Common Bent	<i>Agrostis capillaris</i>			
Creeping Bent	<i>Agrostis stolonifera</i>			
Brown-beaked Sedge	<i>Rynchospora fusca</i>			
White-beaked Sedge	<i>Rynchospora alba</i>			
Common Club-rush	<i>Schoenoplectus lacustris</i>			
Greater Tussock Sedge	<i>Carex paniculata</i>			
Great Fen Sedge	<i>Cladium mariscus</i>			
Herbs				
Awlwort	<i>Subularia aquatica</i>			
Yellow Water-lily	<i>Nuphar lutea</i>			
White Water-lily	<i>Nymphaea alba</i>			
Red Hornwort	<i>Ceratophyllum demersum</i>			
Six-stamened Waterwort	<i>Elatine hexandra</i>			
Shepherd's Cress	<i>Teesdalia nudicaulis</i>	Rare		
Marsh Violet	<i>Viola palustris</i>			
Meadowsweet	<i>Filipendula ulmaria</i>			
Cuckoo flower	<i>Cardamine pratensis</i>			
Angelica	<i>Angelica sylvestris</i>			
Bladder Campion	<i>Silene vulgaris</i>			
Wood-sorrel	<i>Oxalis acetosella</i>			
Tormentil	<i>Potentilla erecta</i>			
St. Patrick's Cabbage	<i>Saxifraga spathularis</i>			
Kidney Saxifrage	<i>Saxifraga hirsuta</i>			
	<i>Saxifraga rosacea</i>			
Thrift	<i>Armeria maritima</i>			
Whorled Caraway	<i>Carum verticillatum</i>			
Eyebright	<i>Euphrasia sp</i>			
Mountain Sorrel	<i>Oxyria digyna</i>			
Betony	<i>Stachys officinalis</i>	Vulnerable	Yes	
Greater Butterwort	<i>Pinguicula grandiflora</i>			

		Red Data Book ¹	Flora Protection Order ²	Habitats Directive ³
Herbs (contd.)				
Shoreweed	<i>Littorella uniflora</i>	Rare	Yes	Annex II
Water Lobelia	<i>Lobelia dortmanna</i>			
Ivy-leaved Bellflower	<i>Wahlenbergia hederacea</i>			
Slender Cudweed	<i>Logfia minima</i>			
Blue-eyed Grass	<i>Sisyrinchium bermudiana</i>			
Bird's Nest Orchid	<i>Neottia nidus-avis</i>			
Greater Butterfly Orchid	<i>Platanthera chlorantha</i>			
Lesser Butterfly Orchid	<i>Platanthera bifolia</i>			
Broad-leaved Pondweed	<i>Potamogeton natans</i>			
Opposite leaved				
Pondweed	<i>Groenlandia densa</i>	Vulnerable Rare	Yes Yes	
Slender Naiad	<i>Najas flexilis</i>			
Heath Bedstraw	<i>Galium saxatile</i>			
Heath Milkwort	<i>Polygala serpyllifolia</i>			
Devil's-bit Scabious	<i>Succisa pratensis</i>			
Sundew	<i>Drosera</i> species			
Bluebell	<i>Hyacinthoides non-scripta</i>			
Wood Anemone	<i>Anemone nemorosa</i>			
Ramsons	<i>Allium ursinum</i>			
Pig-nut	<i>Conopodium majus</i>			
Cuckoopint	<i>Arum maculatum</i>	Rare		
Bogbean	<i>Menyanthes trifoliata</i>			
Bog Asphodel	<i>Nartheceium ossifragum</i>			
Bog Pondweed	<i>Potamogeton polygonifolius</i>			
Shrubs				
Western Gorse	<i>Ulex gallii</i>			
Juniper	<i>Juniperus communis</i>			
Alder Buckthorn	<i>Frangula alnus</i>			
Bog Myrtle	<i>Myrica gale</i>			
Bilberry	<i>Vaccinium myrtillus</i>			
Rhododendron	<i>Rhododendron ponticum</i>			
Ling Heather	<i>Calluna vulgaris</i>			
Cross-leaved Heath	<i>Erica tetralix</i>			
Bell Heather	<i>Erica cinerea</i>			
Crowberry	<i>Empetrum nigrum</i>			
Cherry -laurel	<i>Prunus laurocerasus</i>			
Portugese Laurel	<i>Prunus lusitanica</i>			
Cotoneaster	<i>Cotoneaster</i> sp.			
Japanese Knotweed	<i>Reynoutria japonica</i>			
Clematis	<i>Clematis vitalba</i>			



		Red Data Book ¹	Flora Protection Order ²	Habitats Directive ³
Trees				
Yew				
Scots Pine	<i>Taxus baccata</i>			
Willow	<i>Pinus sylvestris</i>			
Birch	<i>Salix</i> spp.			
Alder	<i>Betula pubescens</i>			
Hornbeam	<i>Alnus glutinosa</i>			
Hazel	<i>Carpinus</i> spp.			
Beech	<i>Corylus avellana</i>			
Sessile Oak	<i>Fagus sylvatica</i>			
Rowan	<i>Quercus petraea</i>			
Whitebeam	<i>Sorbus aucuparia</i>			
Whitebeam	<i>Sorbus rupicola</i>			
Bird Cherry	<i>Sorbus anglica</i>			
Holly	<i>Prunus padus</i>	Not Threatened		
Sycamore	<i>Ilex aquifolium</i>			
Arbutus	<i>Acer pseudoplatanus</i>			
Ash	<i>Arbutus unedo</i>			
Sitka Spruce	<i>Fraxinus excelsior</i>			
Lodgepole Pine	<i>Picea sitchensis</i>			
Norway Spruce	<i>Pinus contorta</i>			
Monterey Pine	<i>Picea abies</i>			
European Larch	<i>Pinus radiata</i>			
Silver Fir	<i>Larix decidua</i>			
Douglas Fir	<i>Abies alba</i>			
Hemlock species	<i>Pseudotsuga menziesii</i>			
Cedar species	<i>Tsuga</i> species			
Aspen	<i>Cedrus</i> species			
	<i>Populus tremula</i>			

¹**Red Data Book**

Species with threat status as listed in the Irish Red Data Book (Curtis & McGough, 1988)

²**Flora Protection Order**

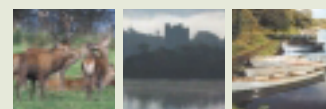
Species listed in the Flora (Protection) Order, 1999. S.I. No. 94 of 1999

³**Habitats Directive**

Species listed in Annex II of the EU Habitats Directive (species whose conservation requires the designation of Special Areas of Conservation)

Appendix 6

Fauna Recorded in KNP



N.B THE LIST OF INVERTEBRATES GIVEN HERE IS NOT COMPREHENSIVE
– more than 500 species have been recorded in the National Park

Species	Red Data Book ¹	Habitats Directive ²	Wildlife Acts ³
Invertebrates			
Molluscs:			
Gastropoda (Snails):			
Kerry Slug		Annex II	Protected
Water Snail			
Bivalva (Mussels):			
Freshwater Pearl-mussel		Annex II	Protected
Insects:			
Odonata (Dragonflies):			
Downy Emerald Dragonfly			
Arctic Emerald Dragonfly			
Plecoptera (Stoneflies):			
Hemiptera (Bugs):			
Trichoptera (Caddisflies):			
Lepidoptera (Butterflies & Moths):			
Wood White			
Clouded Yellow			
Brimstone			
Large White			
Small White			
Green-veined White			
Orange Tip			
Green Hairstreak			
Purple Hairstreak			
Small Copper			
Common Blue			
Holly Blue			
Red Admiral			
Painted Lady			



Species	Red Data Book ¹	Habitats Directive ²	Wildlife Acts ³
Insects (contd.)			
Small Tortoiseshell	<i>Aglais urticae</i>		
Peacock	<i>Inachis io</i>		
Dark Green Fritillary	<i>Argynnis aglaja</i>		
Silver Washed Fritillary	<i>Argynnis paphia</i>		
Marsh Fritillary	<i>Euphydryas aurinia</i>	Annex II	
Speckled Wood	<i>Pararge aegeria</i>		
Wall Brown	<i>Lasiommata megera</i>		
Grayling	<i>Hipparchia semele</i>		
Meadow Brown	<i>Maniola jurtina</i>		
Small Heath	<i>Coenonympha pamphilus</i>		
Large Heath	<i>Coenonympha tullia</i>		
Ringlet	<i>Aphantopus hyperantus</i>		
	Diptera (True-flies):		
	<i>Larsia atrocinta</i>		
	<i>Hybomitra muhlfeldi</i>		
	<i>Tetanocera freyi</i>		
	<i>Brachyopa insensilis</i>		
	<i>Salicella fasciata</i>		
	<i>Buchonomyia thienamanni</i>		
	<i>Cricotopus lygroposis</i>		
	<i>Eurycnemus crassipes</i>		
	<i>Achalcus vaillanti</i>		
	<i>Systemus alpinus</i>		
	<i>Stegana coleoptrata</i>		
	<i>Aulogastromyia anisodactyla</i>		
	<i>Antichaeta brevipennis</i>		
	<i>Sciomyza dryomyzina</i>		
	<i>Meliscaeva analis</i>		
	<i>Ctenophora pectinicornis</i>		
	Coleoptera (Beetles):		
	<i>Pyropterus nigroruber</i>		
	<i>Leptura aurulenta</i>		
	<i>Chlaenius tristis</i>		
	<i>Lebia crux-minor</i>		
	<i>Macrophyta duodecempunctata</i>		
	<i>Aromia moschata</i>		
	<i>Callidium violaceum</i>		
	<i>Plateumaris braccata</i>		
	<i>Zoroachros minimus</i>		
	<i>Glischrochilus quadriguttatus</i>		
	<i>Soronia punctatissima</i>		
	Hymenoptera (Wasps & Ants):		
	<i>Ablaxia anaxenor</i>		
	<i>Mesoplobius tibialis</i>		
	<i>Miscogaster maculata</i>		
Wood Ant	<i>Formica lugubris</i>		
	<i>Nematus frenalidis</i>		

Species		Red Data Book ¹	Habitats Directive ²	Wildlife Acts ³
Invertebrates				
Fish:				
Sea Lamprey	<i>Petromyzon marinus</i>	Indeterminate	Annex II	
River Lamprey	<i>Lampetra lampetra</i>	Indeterminate	Annex II & V	
Brook Lamprey	<i>Lampetra planeri</i>	Indeterminate	Annex II	
Killarney Shad	<i>Alosa fallax killarnensis</i>	Endangered	Annex II & V	
Atlantic Salmon	<i>Salmo salar</i>	Internationally Important	Annex II & V	
Sea Trout /Brown Trout	<i>Salmo trutta</i>			
Arctic Char	<i>Salvelinus alpinus</i>	Vulnerable		
Amphibians:				
Frog	<i>Rana temporaria</i>	Internationally Important	Annex V	Protected
Smooth Newt	<i>Triturus vulgaris</i>			Protected
Reptiles:				
Viviparous Lizard	<i>Lacerta vivipera</i>			Protected
Mammals:				
Hedgehog	<i>Erinaceus europaeus</i>	Internationally Important		Protected
Pygmy Shrew	<i>Sorex minutus</i>			Protected
Lesser Horseshoe Bat	<i>Rhinolophus hipposideros</i>	Internationally Important	Annex II	Protected
Whiskered Bat	<i>Myotis mystacinus</i>	Indeterminate	Annex IV	Protected
Natterer's Bat	<i>Myotis nattereri</i>	Indeterminate	Annex IV	Protected
Daubenton's Bat	<i>Myotis daubentonii</i>	Internationally Important	Annex IV	Protected
Leisler's Bat	<i>Nyctalus leisleri</i>	Internationally Important	Annex IV	Protected
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	Internationally Important	Annex IV	Protected
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	Internationally Important	Annex IV	Protected
Brown Long-eared Bat	<i>Plecotus auritus</i>	Internationally Important	Annex IV	Protected
Irish Hare	<i>Lepus timidus hibernicus</i>	Internationally Important	Annex V	Protected
Rabbit	<i>Oryctolagus cuniculus</i>			
Bank Vole	<i>Clethrionomys glareolus</i>			
Woodmouse	<i>Apodemus sylvaticus</i>			
Red Squirrel	<i>Sciurus vulgaris</i>			Protected
Fox	<i>Vulpes vulpes</i>			
Pine Marten	<i>Martes martes</i>	Internationally Important	Annex V	Protected
Badger	<i>Meles meles</i>	Internationally Important		Protected
Otter	<i>Lutra lutra</i>	Internationally Important	Annex II & IV	Protected

Species		Red Data Book ¹	Habitats Directive ²	Wildlife Acts ³
Mammals (contd.)				
Stoat	<i>Mustela erminea</i>			Protected
Mink	<i>Mustela vison</i>			
Red Deer	<i>Cervus elaphus</i>			Protected
Sika Deer	<i>Cervus nippon</i>			Protected
Feral Goat	<i>Capra hircus</i>			Protected

¹Red Data Book

Species with threat status as listed in the Irish Red Data Book (Whilde, 1993) NB There is no Red Data Book for invertebrates

²Habitats Directive

Species listed in the following Annexes of the EU Habitats Directive:
 Annex II (species whose conservation requires the designation of Special Areas of Conservation)
 Annex IV (species in need of strict protection)
 Annex V (species whose taking in the wild and exploitation may be subject to management measures)

³Wildlife Act

Species protected under the Wildlife Act 1976 & the Wildlife (Amendment) Act 2000

Birds:

Species		Status ¹	Habitat ²	BoCCI Listing ³	Birds Directive ⁴
Great Northern Diver	<i>Gavia immer</i>	V	L		Annex I
Little Grebe	<i>Tachybaptus ruficollis</i>	BR	L		
Great Crested Grebe	<i>Podiceps cristatus</i>	BR	L	A	
Cormorant	<i>Phalacrocorax carbo</i>	NBR	L	A	
Grey Heron	<i>Ardea cinerea</i>	BR	L		
Mute Swan	<i>Cygnus olor</i>	BR	L		
Whooper Swan	<i>Cygnus cygnus</i>	W	L	A	Annex I
Greenland White-fronted Goose	<i>Anser albifrons</i>	W	B	A	Annex I
Goose	<i>flavirostris</i>				
Greylag Goose	<i>Anser anser</i>	W	L B	A	
Shelduck	<i>Tadorna tadorna</i>	V	L	A	
Wigeon	<i>Anas penelope</i>	W	L	A	
Gadwall	<i>Anas strepera</i>	V	L	A	
Teal	<i>Anas crecca</i>	BR & W	L	A	
Mallard	<i>Anas platyrhynchos</i>	BR	L		
Shoveler	<i>Anas clypeata</i>	V	L		
Pochard	<i>Aythya ferina</i>	W	L	A	
Tufted Duck	<i>Aythya fuligula</i>	BR	L	A	
Long-tailed Duck	<i>Clangula hyemalis</i>	V	L		
Goldeneye	<i>Bucephala clangula</i>	W	L	A	
Red-breasted Merganser	<i>Mergus serrator</i>	BR	L	A	
Goosander	<i>Mergus merganser</i>	V	L	A	
Hen Harrier	<i>Circus cyaneus</i>	V	U	R	Annex I
Sparrowhawk	<i>Accipiter nisus</i>	BR	W		
Osprey	<i>Pandion halietus</i>	V	W D		
Kestrel	<i>Falco tinnunculus</i>	BR	U D		
Merlin	<i>Falco columbarius</i>	BR	U C	A	
Peregrine Falcon	<i>Falco peregrinus</i>	BR	U	A	Annex I
Red Grouse	<i>Lagopus lagopus</i>	BR	H B	R	
Pheasant	<i>Phasianus colchicus</i>	BR	D S W		
Water Rail	<i>Rallus aquaticus</i>	BR	L	A	
Moorhen	<i>Gallinula chloropus</i>	BR	L		
Coot	<i>Fulica atra</i>	BR & W	L	A	
Oystercatcher	<i>Haematopus ostralegus</i>	PM	D		
Golden Plover	<i>Pluvialis arquata</i>	W	H B	A	Annex I
Lapwing	<i>Vanellus vanellus</i>	W	D	R	
Dunlin	<i>Calidris alpina</i>	PM	L	A	
Jack Snipe	<i>Lymnocyptes minimus</i>	W	B	A	
Snipe	<i>Gallinago gallinago</i>	BR & W	B M	A	
Woodcock	<i>Scolopax rusticola</i>	BR & W	W C	A	
Whimbrel	<i>Numenius phaeopus</i>	PM	L		



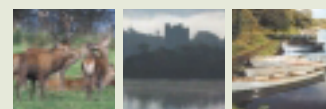
Species		Status ¹	Habitat ²	BoCCI Listing ³	Birds Directive ⁴
Curlew	<i>Numenius arquata</i>	W	L D	R	Annex I
Redshank	<i>Tringa totanus</i>	PM	L	A	
Green Sandpiper	<i>Tringa ochropus</i>	PM	L		
Common Sandpiper	<i>Actitis hypoleucos</i>	BS	L R		
Black-headed Gull	<i>Larus ridibundus</i>	NBR	L	A	
Common Gull	<i>Larus canus</i>	NBR	L	A	
Lesser Black-backed Gull	<i>Larus fuscus</i>	V	L		
Herring Gull	<i>Larus argentatus</i>	NBR	L		
Great Black-backed Gull	<i>Larus marinus</i>	NBR	L		
Common Tern	<i>Sterna hirundo</i>	V	L	A	
Black Tern	<i>Chlidonias niger</i>	V	L		Annex I
Stock Dove	<i>Columba oenas</i>	BR	W D	A	
Woodpigeon	<i>Columba palumbus</i>	BR	W D		
Collared Dove	<i>Streptopelia decaocto</i>	BR	W D		
Cuckoo	<i>Cuculus canorus</i>	BS	W H D	A	
Barn Owl	<i>Tyto alba</i>	BR	D A	R	
Long-eared Owl	<i>Asio otus</i>	BR	W D		
Nightjar	<i>Caprimulgus europaeus</i>	BS	W	R	
Swift	<i>Apus apus</i>	S	A		
Kingfisher	<i>Alecedo atthis</i>	BR	R	A	
Skylark	<i>Alauda arvensis</i>	BR	D H B	A	Annex I
Sand Martin	<i>Riparia riparia</i>	S	R L	A	
Swallow	<i>Hirundo rustica</i>	BS	A	A	
House Martin	<i>Delichon urbica</i>	BS	A		
Meadow Pipit	<i>Anthus cervinus</i>	BR	H B		
Grey Wagtail	<i>Motacilla cinerea</i>	BR	R		
Pied Wagtail	<i>Motacilla alba</i>	BR	D		
Dipper	<i>Cinclus cinclus</i>	BR	R		
Wren	<i>Troglodytes troglodytes</i>	BR	W S		
Dunnock	<i>Prunella modularis</i>	BR	W S		
Robin	<i>Erithacus rubecula</i>	BR	W		Annex I
Redstart	<i>Phoenicurus phoenicurus</i>	S	W	A	
Stonechat	<i>Saxicola torquata</i>	BR	H S	A	
Wheatear	<i>Oenanthe oenanthe</i>	BS	D H		
Ring Ouzel	<i>Turdus torquatus</i>	BS	U	R	
Blackbird	<i>Turdus merula</i>	BR & W	W D		
Fieldfare	<i>Turdus pilaris</i>	W	W D		
Song Thrush	<i>Turdus philomelos</i>	BR & W	W		
Redwing	<i>Turdus iliacus</i>	W	W D		
Mistle Thrush	<i>Turdus viscivorus</i>	BR	W U		
Grasshopper Warbler	<i>Locustella naevia</i>	BS	M S	A	

Species		Status ¹	Habitat ²	BoCCI Listing ³	Birds Directive ⁴
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	BS	M		
Reed Warbler	<i>Acrocephalus scirpaceus</i>	PM	M	A	
Whitethroat	<i>Sylvia communis</i>	S	S W		
Garden Warbler	<i>Sylvia borin</i>	BS	W		
Blackcap	<i>Sylvia atricapilla</i>	BS	W		
Wood Warbler	<i>Phylloscopus sibilatrix</i>	S	W	A	
Chiffchaff	<i>Phylloscopus collybita</i>	BS	W		
Willow Warbler	<i>Phylloscopus trochilus</i>	BS	W S		
Goldcrest	<i>Regulus regulus</i>	BR	W C		
Spotted Flycatcher	<i>Muscicapa striata</i>	BS	W	A	
Long-tailed Tit	<i>Aegithalos caudatus</i>	BR	W		
Coal Tit	<i>Parus ater</i>	BR	W C		
Blue Tit	<i>Parus caeruleus</i>	BR	W		
Great Tit	<i>Parus major</i>	BR	W		
Treecreeper	<i>Certhia familiaris</i>	BR	W C		
Jay	<i>Garrulus glandarius</i>	BR	W C		
Magpie	<i>Pica pica</i>	BR	D W		
Chough	<i>Pyrrhocorax pyrrhocorax</i>	V	U	R	Annex I
Jackdaw	<i>Corvus monedula</i>	BR	W D		
Rook	<i>Corvus frugilegus</i>	BR	W D		
Hooded Crow	<i>Corvus cornix</i>	BR	W D		
Raven	<i>Corvus corax</i>	BR	U		
Starling	<i>Sturnus vulgaris</i>	BR	W D		
House Sparrow	<i>Passer domesticus</i>	BR	A D		
Chaffinch	<i>Fringilla coelebs</i>	BR	W		
Brambling	<i>Fringilla montifringilla</i>	W	W C		
Greenfinch	<i>Carduelis chloris</i>	BR	W		
Goldfinch	<i>Carduelis carduelis</i>	BR	W C		
Siskin	<i>Carduelis spinus</i>	BR	W		
Linnet	<i>Acanthis cannabine</i>	BR	S H		
Redpoll	<i>Acanthis flammea</i>	BR	W C	A	
Crossbill	<i>Loxia curvirostra</i>	W	C		
Bullfinch	<i>Pyrrhula pyrrhula</i>	BR	W C		
Snow Bunting	<i>Plectrophenax nivalis</i>	W	U		
Yellowhammer	<i>Emberiza citrinella</i>	BR	D W H	R	
Reed Bunting	<i>Emberiza schoeniclus</i>	BR	M S		

¹ Status	<p>BR = Resident present throughout the year and breeding</p> <p>NBR = Non-breeding Resident present throughout the year, but not breeding in the National Park</p> <p>S = Summer summer visitor but not breeding</p> <p>BS = Breeding Summer summer visitor and breeding</p> <p>W = Winter winter visitor</p> <p>PS = Passage Migrant species passing through on spring/autumn migration</p> <p>V = Vagrant</p>
² Habitat	<p>A = Artificial structures/Buildings</p> <p>B = Bog</p> <p>C = Conifer plantation</p> <p>D = Demesne lands/farmland</p> <p>H = Heath</p> <p>L = Lake</p> <p>M = Marsh/Reedbed</p> <p>R = River</p> <p>S = Scrub</p> <p>U = Uplands heath/bog/upland grassland/exposed rock</p> <p>W = Deciduous/mixed woodland</p>
³ BoCCI Listing	<p>Birds of Conservation Concern in Ireland (Newton, Donaghy, Allen & Gibbons, 1999)</p> <p>R = Red breeding population or range has declined by more than 50% in the last 25 years; their breeding population has undergone a significant decline since 1900; they are of global conservation concern</p> <p>A = Amber their breeding population has declined by 25-50% in the last 25 years; they are rare or sporadically breeding species; their breeding or wintering population is internationally important and/or localised; they have an unfavourable conservation status in Ireland</p>
⁴ Birds Directive	<p>Species listed in Annex I of the EU Birds Directive (species that are subject to special conservation measures concerning their habitats; for which SPAs must be designated)</p>

Appendix 7

Recorded Monuments in KNP



See also map 5

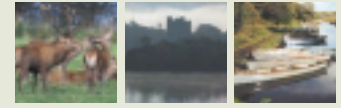
The following lists recorded monuments within KNP. In a small number of cases the exact location of the site is not known, thus, instead of a grid reference (nat. grid e/n), NPL (no precise location) appears in the list.

MONUMENT NO.	6 INCH MAP NO.	NAT. GRID E/N	TOWNLAND	CLASSIFICATION
KEo66-059001-	66- A	90520/91300	MAULAGH	Rath
KEo66-059002-	66- A	90580/91290	MAULAGH	Bullaun stone
KEo66-061----	66- A	91430/91650	FOSSA	Rath
KEo66-064----	66- B	95010/91700	BALLYDOWNEY	Fulacht fia
KEo66-065001-	66- B	95010/90920	KNOCKREER	Bullaun stone
KEo66-065002-	66- B	95010/90920	KNOCKREER	Holy well
KEo66-072001-	66- C	93432/89374	Innisfallen	Abbey
KEo66-072----	66- C	93430/89390	Innisfallen	Ecclesiastical remains
KEo66-072002-	66- C	93490/89411	Innisfallen	Oratory
KEo66-072003-	66-	NPL	COOLLEGREAN (MA. BY.)	Stoup (present location)
KEo66-072004-	66- C	93432/89374	Innisfallen	Grave-slab(s)
KEo66-072005-	66- C	93432/89374	Innisfallen	Bullaun stone
KEo66-072006-	66- C	93445/89332	Innisfallen	Clochan
KEo66-072007-	66- C	93491/89402	Innisfallen	Church
KEo66-072008-	66- C	93390/89369	Innisfallen	Church
KEo66-072009-	66- C	93432/89374	Innisfallen	Cross-slab
KEo66-072010-	66- C	93432/89374	Innisfallen	Cross-slab
KEo66-072011-	66- C	93432/89374	Innisfallen	Cross-slab
KEo66-072012-	66- C	93432/89374	Innisfallen	Cross-slab
KEo66-074001-	66- D	94950/88740	ROSS ISLAND	Tower house
KEo66-074002-	66- D	94950/88740	ROSS ISLAND	Causeway
KEo66-079----	66- D	97070/88230	CASTLELOUGH	Tower house
KEo66-080----	66- D	96820/87130	Friar's Island	Oratory
KEo66-081----	66- D	97430/87010	MUCKROSS	Ecclesiastical remains
KEo66-081001-	66- D	97440/87010	MUCKROSS	Abbey
KEo66-081002-	66- D	97410/86980	MUCKROSS	Graveyard
KEo66-081003-	66- D	97440/87000	MUCKROSS	Grave-slab
KEo66-081004-	66- D	97430/87020	MUCKROSS	Armorial stone
KEo66-081005-	66- D	97460/87020	MUCKROSS	Holy tree
KEo66-081006-	66-	NPL	MUCKROSS	Church
KEo66-095----	66- D	94440/88020	ROSS ISLAND	Mine
KEo66-096---*	66-	NPL	GLENA	Unknown
KEo66-101----	66-	NPL	MUCKROSS	Castle
KEo66-102---*	66-	NPL	MUCKROSS	Mine
KEo66-103----	66-	NPL	MUCKROSS	Souterrain(s)
KEo66-108----	66- B	95200/90990	KNOCKREER	Enclosure



MONUMENT NO.	6 INCH MAP NO.	NAT. GRID E/N	TOWNLAND	CLASSIFICATION
KE066-127----	66- B	95582/91628	BALLYDOWNEY	Bridge
KE066-128----	66- B	95839/90688	DEMESNE	Bridge
KE066-132----	66- D	97821/87093	MUCKROSS	Iron working
KE066-133----	66- D	94393/88017	ROSS ISLAND	Mine
KE066-137----	66- D	97517/87554	CARRIGAFREAGHANE	Quay
KE066-138----	66- B	96537/90411	DEMESNE	Country house
KE074-002----	74- D	96990/80790	CORES	Hut site
KE074-003001-	74- D	98030/80790	CORES	Cairn
KE074-003002-	74- D	98030/80790	CORES	Burial
KE074-004----	74-	NPL	MUCKROSS	Mine
KE074-005---*	74-	NPL	MUCKROSS	Souterrain(s)
KE074-010----	74- D	94260/80640	POULAGOWER	Enclosure
KE074-011----	74- B	95710/86472	MUCKROSS	Rath
KE074-011001-	74- B	95713/86472	MUCKROSS	Souterrain
KE074-012----	74- B	96360/85730	MUCKROSS	Souterrain
KE074-014----	74- A	89780/86810	GORTADIRRA	Cairn
KE074-015----	74- D	97460/81470	FERTA	Cairn
KE074-016----	74- D	96940/81020	CORES	Natural feature – modified
KE074-020----	74- B	95889/86154	MUCKROSS	Hut site
KE074-021----	74- A	93121/86365	GLENA	Fishery
KE074-022----	74- B	95099/85815	MUCKROSS	Quarry
KE074-023----	74-	94364/95949	MUCKROSS	Mine
KE074-024----	74- B	94148/85875	MUCKROSS	Mine
KE074-025----	74- D	97990/81074	CORES	Cairn
KE074-026----	74- A	93631/85037	GLENA	Bridge
KE074-027----	74- B	95887/86140	MUCKROSS	Country house
KE074-028----	74- B	93730/86559	MUCKROSS	Country house
KE074-029----	74- B	96248/84749	TORC	Country house
KE074-030----	74- B	96797/86132	MUCKROSS	Country house
KE074-031001-	74- D	95396/82254	CORES	Hut site
KE074-031002-	74- D	95390/82242	CORES	Hut site
KE074-032----	74- D	98045/82668	COOLIES	Road
KE074-033----	74- B	93810/85873	BRICKEN ISLAND	Bridge
KE074-034----	74- C	91055/81018	DERRYCUNIH	Iron working
KE074-035----	74- B	94874/86022	MUCKROSS	Iron working
KE074-036----	74- B	96520/84758	DROMYRURK	Bridge
KE074-037----	74- B	96547/83804	CLOGHEREEN UPPER	Bridge
KE074-038----	74- C	91908/82100	GORTROE (MA. BY.)	Tunnel
KE074-039----	74- C	92972/82821	MUCKROSS ED	
KE074-040----	74- B	96324/84817	GORTDERRAREE	Tower
KE074-041----	74- D	95839/82854	MUCKROSS	Bridge
KE074-042----	74- B	95982/84742	FERTA	Lime kiln
KE074-043----	74- B	95982/84742	TORC	Quay
KE074-044----	74- B	96663/86642	MUCKROSS	Quay
KE074-044----	74- A	93605/84938	GLENA	Quay
KE084-036----	84- A	92530/80190	POULAGOWER	Circular enclosure
KE084-037----	84- A	92850/80070	POULAGOWER	Enclosure
KE084-039----	84-	NPL	ULLAUNS	Hut site
KE084-059001-	84- B	96250/80102	POULAGOWER	Hut site
KE084-059002-	84- A	92620/80086	POULAGOWER	Enclosure
KE084-059003-	84- A	92575/80085	POULAGOWER	Hut site
KE084-059004-	84- B	92575/80085	POULAGOWER	Hut site
KE084-064	84- B	96250/80102	POULAGOWER	Hut site
KE084-069	84-	97929/80157	CORES	Road
KE084-070----	84	NPL	DERRYCUNIH	Barrack – police
KE084-071----	84-	NPL	DERRYCUNIH	Bridge
KE084-071----	84-	NPL	INCHEENS	Bridge

Appendix 8



Conditions attached to Boating Permits

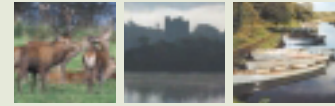
Commercial Covered Pleasure Craft

- Craft dimensions – 21 metres maximum length, 5.1 metres maximum width, 2 metres draught
- Craft Colour – Craft must be painted in a colour scheme acceptable to NPWS
- Passenger Number Limits – Minimum of 20 passengers Maximum of 78 passengers
- Speed and Route of Craft – Determined by NPWS. A map of the route is supplied to tenderers
- Sale of alcohol on board is prohibited
- Smoking on board is prohibited
- Only daytime operations are permitted
- Any boat that has been launched in waters outside KNP must have a certificate to demonstrate that it has been adequately steam cleaned to prevent zebra mussel transfer, prior to launch in KNP

Commercial Open Boats

- Craft Dimensions – Maximum engine size 10 hp
- Colour – Must be acceptable to NPWS
- Passenger Limits – Maximum 12
- Licence disc must be displayed
- Embarkation and Disembarkation points will be determined by NPWS
- Plying for hire restricted to areas prescribed by NPWS
- Any boat that has been launched in waters outside KNP must have a certificate to demonstrate that it has been adequately steam cleaned to prevent zebra mussel transfer, prior to launch in KNP

Appendix 9

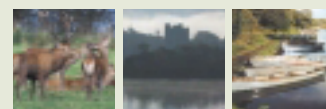


Conditions Attached to Mooring Discs (Private Boats)

- Craft Dimensions – Boats must conform to the traditional lake boat form. All new or replacement engines are limited to 6 hp
- Passenger limits – Passengers may not be carried for reward
- Mooring disc must be displayed
- Any boat that has been launched in waters outside KNP must have a certificate to demonstrate that it has been adequately steam cleaned to prevent zebra mussel transfer, prior to launch in KNP

Appendix 10

Zebra Mussel



Introduction

Zebra Mussels (*Dreissena polymorpha*) are thumbnail-sized shellfish that live in lakes and canals. They are not native to Ireland and are an aggressive invader. They were first noticed in the lower Shannon in 1997 and have spread rapidly throughout the Shannon and Erne systems. Once Zebra Mussels have invaded an aquatic system, it is impossible to eradicate them and they can have widespread economic and ecological impacts.

Life History

Zebra Mussels have a life span of 2-4 years. Each female can release up to 1 million eggs annually. The larvae are carried in water currents and settle after about 3 weeks. In favourable conditions they can reproduce when less than a year old. They attach to almost any surface, either hard (e.g. rocks, boats) or soft (e.g. plants, soft substrates).

Zebra mussels are filter feeders and an individual can filter up to 1 litre of water a day, removing plankton and other particles from the water.

Impacts

- Filter feeding increases water clarity but does not reduce nutrients. This encourages the growth of water plants, often to excessive levels, thus congesting areas usually vegetation free.
- Zebra Mussels can reduce the amount of food available to other organisms, including fish. This affects the ecology of the lake as well as impacting on fisheries.
- Zebra Mussels are capable of rejecting blue-green algae (which can be toxic) as they feed. These then flourish in the absence of other algae. This impacts on other organisms and can prevent recreational and other uses of the lake.
- Zebra Mussels form dense clusters which can weigh down chains, buoys, moorings and other floating objects as well as block pipes and engine cooling systems.

Preventing Zebra Mussels spreading into KNP

Zebra Mussels attach to hulls of boats and on weed caught in boat trailers which can then be transferred when boats are launched elsewhere. They can also be spread via equipment such as fishing gear and pumps as well as via bilge water. To prevent Zebra Mussel infestation into the lakes of Killarney, it is essential that transfer via these routes is avoided.

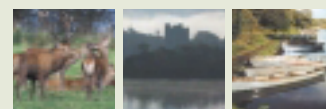
- All boats entering KNP that have been in waters outside the National Park must notify KNP in advance in writing of their proposed arrival.
- Such boats must be steam cleaned internally and externally and certified as such by an independent cleaning agent or person or firm. High-pressure steam cleaning at temperatures



above 40°C will remove the majority of attached mussels and will kill the remainder. All bilge water must be removed. All weed should be removed from trailers before leaving a zebra mussel infested area. Any water or material removed from boats or trailer must not be allowed to enter any water body.

- The certificate of cleaning must be surrendered to KNP who will inspect the boat prior to it being launched in the National Park. Self-certification will not be accepted by KNP.
- Flushing of outboard engines will remove cooling water that may contain larvae. Attached individuals should be removed manually.
- Fishing equipment must be fully dried out or immersed in hot water if it has been used outside the National Park. Bait that has been exposed to infested water and bait bucket water from elsewhere must not be used in KNP.
- Any other equipment/apparatus that has been used in waters outside KNP must be cleaned and inspected in advance by KNP before being used in the National Park.

Appendix 11



Bye-laws of the Bourn Vincent Memorial Park

STATUTORY INSTRUMENT No. 234 of 1971.

BOURN VINCENT MEMORIAL PARK

BYE-LAWS MADE BY THE COMMISSIONERS OF PUBLIC WORKS IN IRELAND (WITH THE APPROVAL OF THE MINISTER FOR FINANCE) BY VIRTUE OF THE POWERS CONFERRED ON THE SAID COMMISSIONERS UNDER THE BOURN VINCENT MEMORIAL PARK ACT. 1932.

Definitions

1. In these Bye-laws: –
 - the expression “the Park” means the Bourn Vincent Memorial Park in the County of Kerry;
 - the words “the Commissioners” mean the Commissioners of Public Works in Ireland;
 - the expression “park constable” means a person appointed by the Commissioners under the Bourn Vincent Memorial Park Act (No. 31 of 1932) to be a park constable;
 - the expression “the Demesne Section of the Park” means that area of the Park between the main Killarney-Kenmare Road and Muckross Lake and Lough Leane and it shall also be deemed to include the car park opposite the main gate.

Opening and Closing Hours

2. The gates to the Demesne Section of the Park shall be open on such days and during such hours as shall be fixed by the Commissioners from time to time. The opening and closing hours will be subject to variation by the Commissioners as circumstances may require.
No vehicle shall remain in the Demesne Section of the Park after the prescribed hours of closing save with the permission of the Commissioners.

Vehicular Traffic

3.
 - (1) Save with the permission in writing of the Commissioners no vehicle other than a pedal cycle or a horse-drawn vehicle shall be admitted to the Demesne Section of the Park by the Main Gate or the Muckross Abbey Gate except motor vehicles in a funeral to Muckross Abbey.
 - (2) Jaunting cars shall not enter the Demesne Section of the Park other than by the Main Gate or the Muckross Abbey Gate.
 - (3) Vehicles entering the Demesne Section of the Park by the Main Gate or the Muckross Abbey Gate shall leave by Dinis or Torc Gates except motor vehicles in a funeral to Muckross Abbey which shall leave the Park by the Muckross Abbey Gate.
 - (4) Motor vehicles entering the Demesne Section of the Park by the Muckross House Gate shall not proceed beyond the parking place at Muckross House and shall leave by the Muckross House Gate.

- (5) Drivers in the Park shall comply with the provisions of these bye-laws and shall conform to such orders verbal or written for the regulation of traffic in the Park, as may be given by any member of the Garda Síochána, by the Park Superintendent or any Park Constable or contained in any notice by the Commissioners exhibited in the Park.
- (6) No vehicle shall remain stationary on any road in the Park except at such places thereon as the Commissioners shall authorise and shall specify in a sign exhibited at such places.
- (7) No vehicle shall be driven on or across the grass in the Park except during such times and at such places as the Commissioners shall authorise and shall specify in notices exhibited at such places.
- (8) No bicycle, tricycle or other vehicle shall be ridden or driven at any time on or across any footpath in the Demesne Section of the Park.
- (9) No jaunting car or other horse-drawn vehicle engaged in the carriage of passengers for reward shall enter the Demesne Section of the Park unless the vehicle has been duly licensed by the Commissioners for operation in the Park and the driver is in possession of a driver's permit from the Commissioners.
- (10) The following roads are one way roads: Main Gate to Dinis exit: Muckross Abbey Gate to Muckross Abbey and Muckross House to Torc exit. No vehicle shall proceed in a contrary direction on any of these roads: neither shall any vehicle enter the Demesne Section of the Park by the Dinis or Torc exits.

Animals

4. No person shall turn out to graze in the Park or allow or suffer to stray or remain in the Park any cattle, sheep, horse, or other animal without the consent in writing of the Commissioners.

Bye-Laws to be Observed by Persons Riding or in Charge of Horses in the Park

5. (1) No person shall ride a horse
 - (a) in any enclosure in the Park, or
 - (b) in any place in the Park where the riding of a horse is prohibited by the Commissioners by a notice exhibited at such place, or
 - (c) on any footpath, or
 - (d) on any tilled or cultivated ground or newly-laid turf or space newly sown with grass.
- (2) No person riding or in charge of any horse or pony in the Park shall engage such horse or pony or permit such horse or pony to be engaged in the exercise of jumping or in the exercise of being lunged or in racing or in a trotting match in the Park.

Bye-Laws Relating to Dogs in the Park

6. (1) Every person in charge of a dog in the Park shall take reasonable care to prevent such dog from
 - (a) causing annoyance to any person using the Park, or
 - (b) worrying, chasing, injuring or disturbing any deer or other animals in the Park.
- (2) No person in charge of a dog in the Park shall engage such dog in coursing or permit such dog to be engaged in coursing in the Park.
- (3) No person shall take into or suffer to remain in Muckross Gardens any dog unless such dog is led by such person upon a leash, cord, chain or other sufficient fastening.

General, in Relation to Persons Using the Park

7. No person shall
- (1) Walk upon any flower bed or through any shrubbery, enclosed plantation or other enclosed land in the Park;
 - (2) enter upon any portion of the Park enclosed for any special purpose in pursuance of a licence granted by the Commissioners to any person save with the permission in writing of the Commissioners or the permission of the licensee of the portion or the Park so enclosed;
 - (3) destroy or injure any tree, shrub or plant growing in the Park or pluck or cut any flower or any blossom on any tree, shrub, or plant growing therein;
 - (4) climb any tree or shrub in the Park or climb any fence, railing or wall in the Park;
 - (5) injure or disfigure any building, shelter, fence, railing, wall or other structure in the Park;
 - (6) injure, disfigure or mark any seat or chair in the Park;
 - (7) injure, deface, disfigure, mark or in any way interfere with any notice or notice board in the Park;
 - (8) take from the Park or destroy or injure or otherwise interfere with any bird, bird's nest or bird's eggs in the Park or ill-treat, worry or disturb any deer or other animal in the Park;
 - (9) throw any missile in the Park to the damage or danger of any other person, or molest, annoy, or otherwise interfere with any person using or enjoying the Park in a lawful manner;
 - (10) take or remove any soil, sand, gravel, stone or timber from the Park, save with the permission in writing of the Commissioners;
 - (11) fish in that part of the River Laune administered by the Commissioners save with the permission in writing of the Commissioners or their Licensees;
 - (12) dump or dispose of any bottle, glass, china, tin, container or other refuse in the Park except in receptacles provided for the purpose therein;
 - (13) discharge any firearm, or make any bonfire or throw or set fire to any firework in the Park;
 - (14) enter or go upon any part of any deer forest in the Park on any day when shooting of deer is taking place, as indicated by notices exhibited at the entrances to such deer forest;
 - (15) enter or go upon any part of the Park while carrying or being in possession of any firearms except with the permission in writing of the Commissioners or their licensees.

Games

8. No person shall take part in the game of football or other game save in such places in the Park as the Commissioners shall set apart for the playing thereof respectively, and subject to and in accordance with such directions (if any) as may be given by a Park Constable or by the Superintendent of the Park.

Camping and Caravanning in the Park

9. (1) No person shall erect any tent or camp in any part of the Park except at a place appointed by the Commissioners for camping and indicated by notice.
- (2) No person shall place or keep any caravan or dormobile in any part of the Park except at a place appointed by the Commissioners as a caravan park and indicated by notice.

*Musical Performances and Dances*

10. No person shall save with the permission in writing of the Commissioners, and subject to such conditions as the Commissioners may prescribe.
 - (a) conduct or take part in any musical performance which of vocal or instrumental music, dance, concert or other like entertainment in any part of the Park, or
 - (b) operate any radio, cinema, television or gramophone apparatus in the Demesne Section of the Park.

Public Addresses and Assemblies

11. No person shall, save with the permission in writing of the Commissioners granted to such person, deliver a public address in any portion of the Park or take part in or be present at any meeting which would obstruct any road or footpath in the Park.

Trading, etc. in the Park

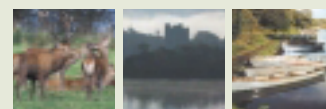
12.
 - (1) Save with the permission in writing of the Commissioners, and subject to the terms and conditions of such permission in writing, no person shall sell, offer, or expose for sale in the Park any commodity of any kind whatsoever or exhibit any sign, poster, handbill, or other notice in the Park or engage therein in the business of taking photographs for payment.
 - (2) No person in charge of a vehicle engaged in the carriage or passengers for reward shall ply for hire at any place in the Park other than a place appointed by the Commissioners.
 - (3) No person shall keep any boat for hire in the water, in the Park, save with the permission in writing of the Commissioners.
 - (4) No person shall moor or beach any boat in the Park except at a place appointed by the Commissioners.
 - (5) No person shall place any chair or seat in the Park for hire save with the permission in writing of the Commissioners, and subject to the terms and conditions of such permission in writing.

Penalties for Breaches of Bye-Laws

13. Any person who shall do any act or thing (whether of commission or omission) which is a breach of or in contravention of any of these Bye-Laws shall be guilty of an offence against these Bye-Laws and may be removed from the Park by a park constable in uniform and shall on summary conviction of such offence, be liable to a penalty not exceeding FIVE POUNDS.

Appendix 12

KNP Liaison Committee



The following is a list of the organisations/sectors represented on the Killarney National Park Liaison Committee.

Kerry County Council
Killarney Town Council
Trustees of Muckross House (Killarney) Ltd

Conservation

An Taisce
Countrywatch Ireland
Kerry Deer Society
Killarney Environmental Protection Group
Killarney Nature Conservation Group

Recreation

Gaelic Athletic Association
Lough Lein Anglers Association
Killarney Horse Riding Association
Killarney Rowing Clubs
Killarney Salmon & Trout Angling Club
Muckross Rowing Club
Walking Group

Commercial

Chamber of Commerce & Tourism
Commercial Boatmen's Association
Killarney Town Jarveys
Muckross Jarveys
Ross Castle Boatmen's Association

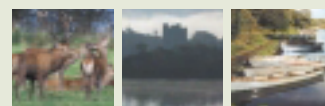
Community

Disability Access Group & Disability Anglers
Muckross Community Association

Education

Environmental & Outdoor Education (KNP Education Centre)
Formal Education (Killarney Community College)
Informal Education (Killarney Girl Guides)

Appendix 13



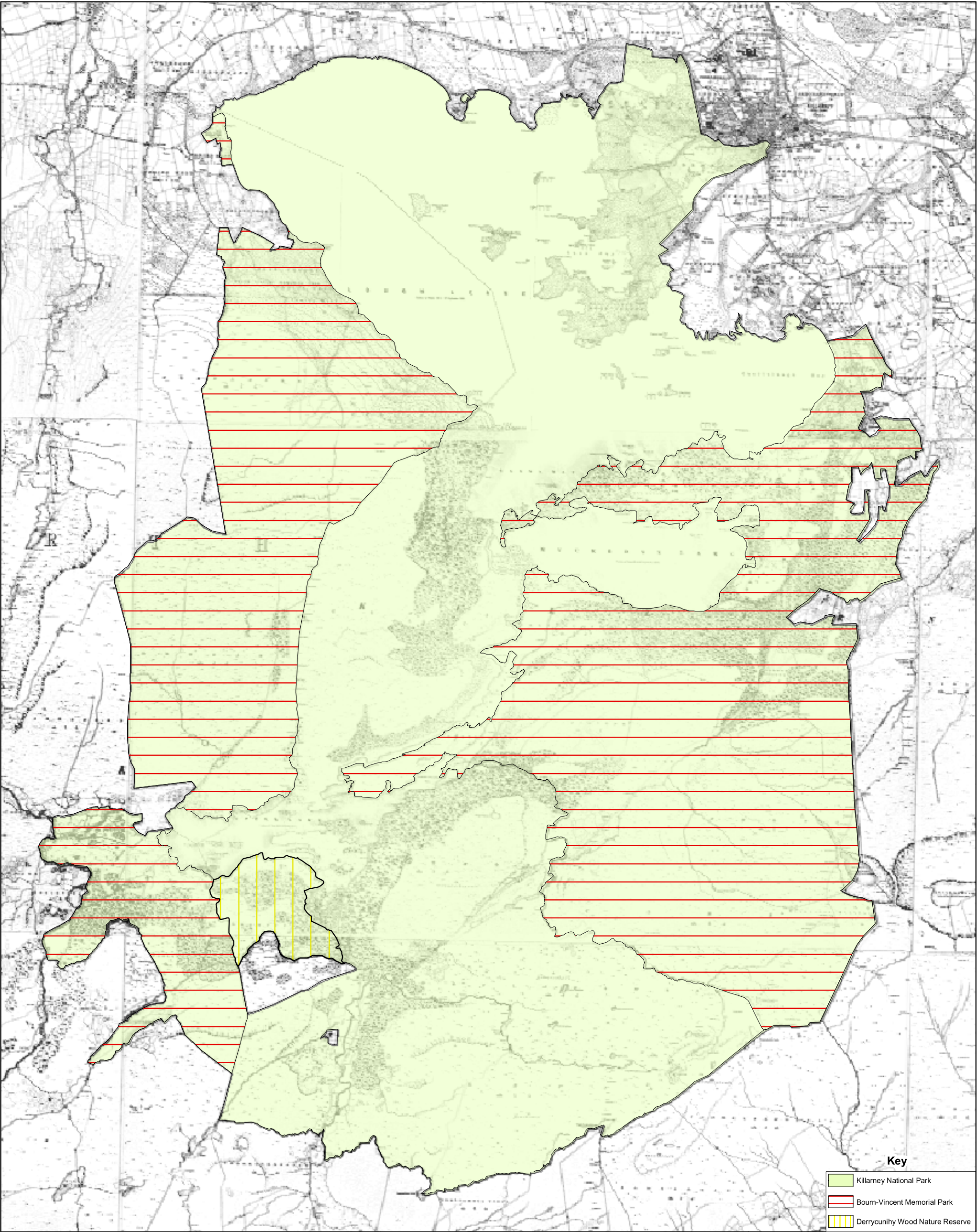
Muckross Visitor Numbers 1996–2003

The following table gives the numbers of tickets sold for entry to Muckross House and the Traditional Farms Complex, 1996-2000. Joint tickets are those which allow entry to both attractions.

	1996	1997	1998	1999	2000	2001	2002	2003
Muckross House (MH)	195,641	180,682	184,645	187,802	184,421	159,667	189,756	182,055
Traditional Farm (TF)	52,259	61,367	69,272	71,160	65,283	17,823	20,487	19,517
Joint Tickets sold at MH	22,696	21,964	24,682	22,509	18,551	15,405	16,270	13,827
Joint Tickets sold at TF	7,476	11,757	11,691	12,628	10,943	6,981	6,536	4,750
Total Individual Visits	278,072	275,770	290,290	294,099	279,198	199,876	233,049	220,149

Picture Credits:

Page	Description	Photographer
Front cover	Long Range & Eagles Nest Red deer on demesne grasslands Ross Castle Boats at Ross	Con Brogan Eddie Dunne Paudie O'Leary Paudie O'Leary
Back cover	Brickeen Merlin Muckross House	Con Brogan Eddie Dunne Con Brogan
page 1	View from beside the Upper Lake	Paudie O'Leary
page 1	Muckross Gardens in spring	Con Brogan
page 2	Oak woodland	Chris Barron
page 2	Red deer on demesne grasslands	Eddie Dunne
page 3	Kerry Slug	Eddie Dunne
page 3	Merlin	Eddie Dunne
page 4	Copper mines	Con Brogan
page 5	Muckross House	Con Brogan
page 7	Ross Castle	Paudie O'Leary
page 8	Limestone shore	Con Brogan
page 14	Long Range & Eagles Nest	Con Brogan
page 15	Greenland white-fronted geese in flight	Eddie Dunne
page 17	Marsh Fritillary	Eddie Dunne
page 19	Brickeen Bridge	Con Brogan
page 24	Boats at Ross	Paudie O'Leary
page 26	Muckross House & surrounds	Con Brogan
page 27	Torc waterfall	Paudie O'Leary
page 29	Yew woodland	Con Brogan
page 30	Volunteers clearing rhododendron	Chris Barron
page 32	Torc Mountain	Con Brogan
page 33	Sika Hind	Paudie O'Leary
page 34	Parterre at Muckross Walled Garden	Paudie O'Leary
page 37	Rhododendron infesting woodlands	Rebecca Jeffrey
page 37	Fire	Chris Barron



KILLARNEY NATIONAL PARK

Map 1: Killarney National Park

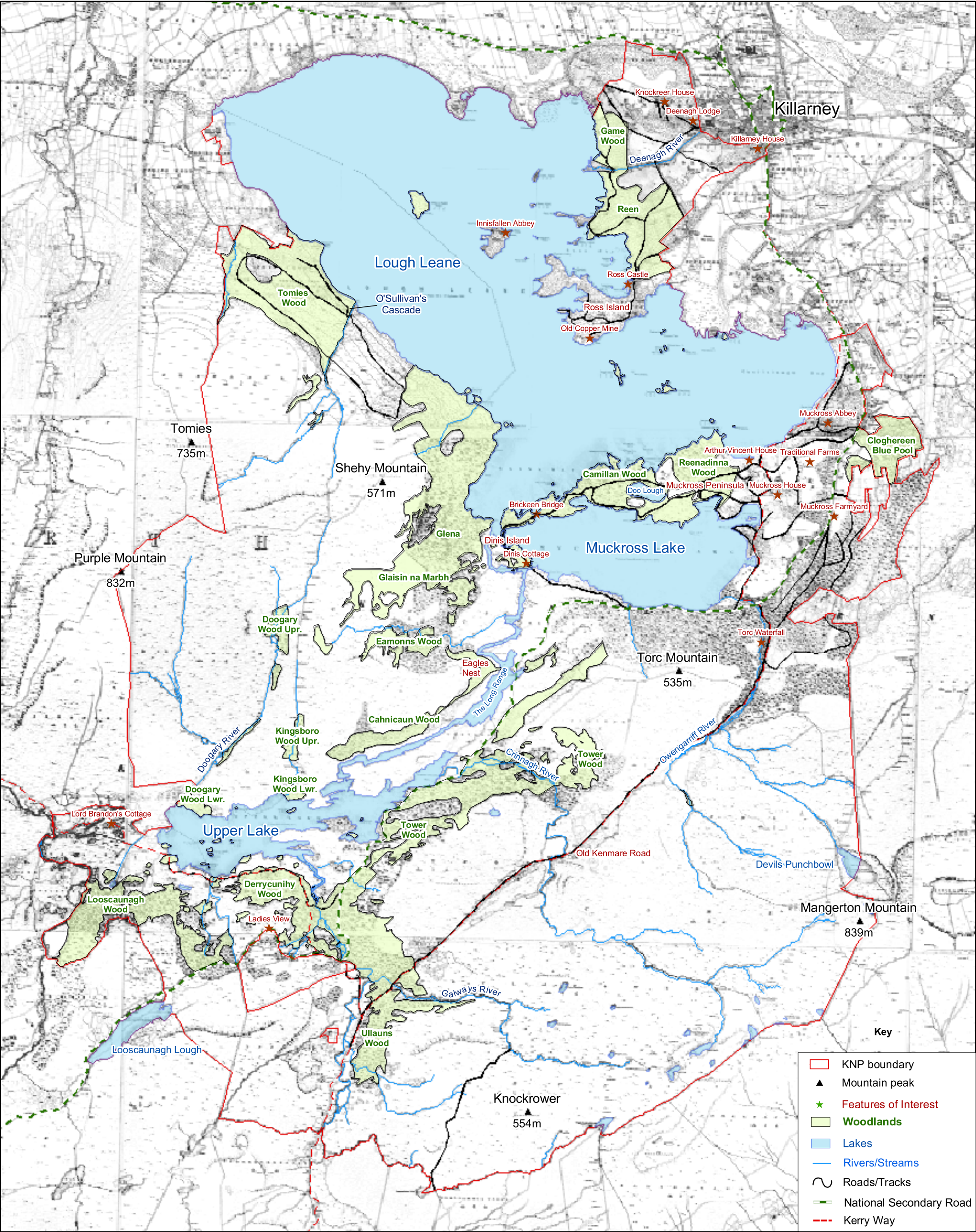
Map to be read in conjunction with draft KNP management plan.

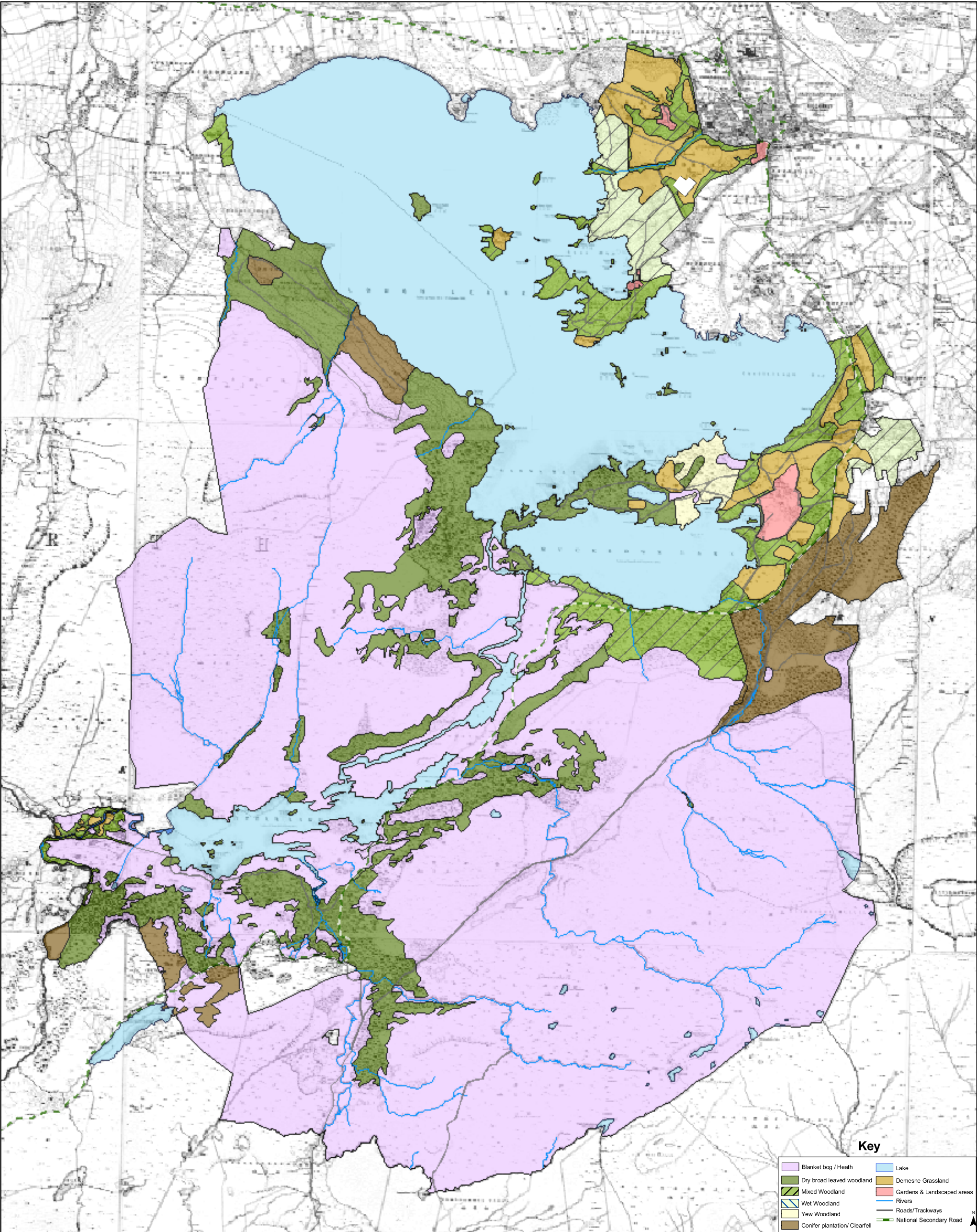
Scale 1: 45,000

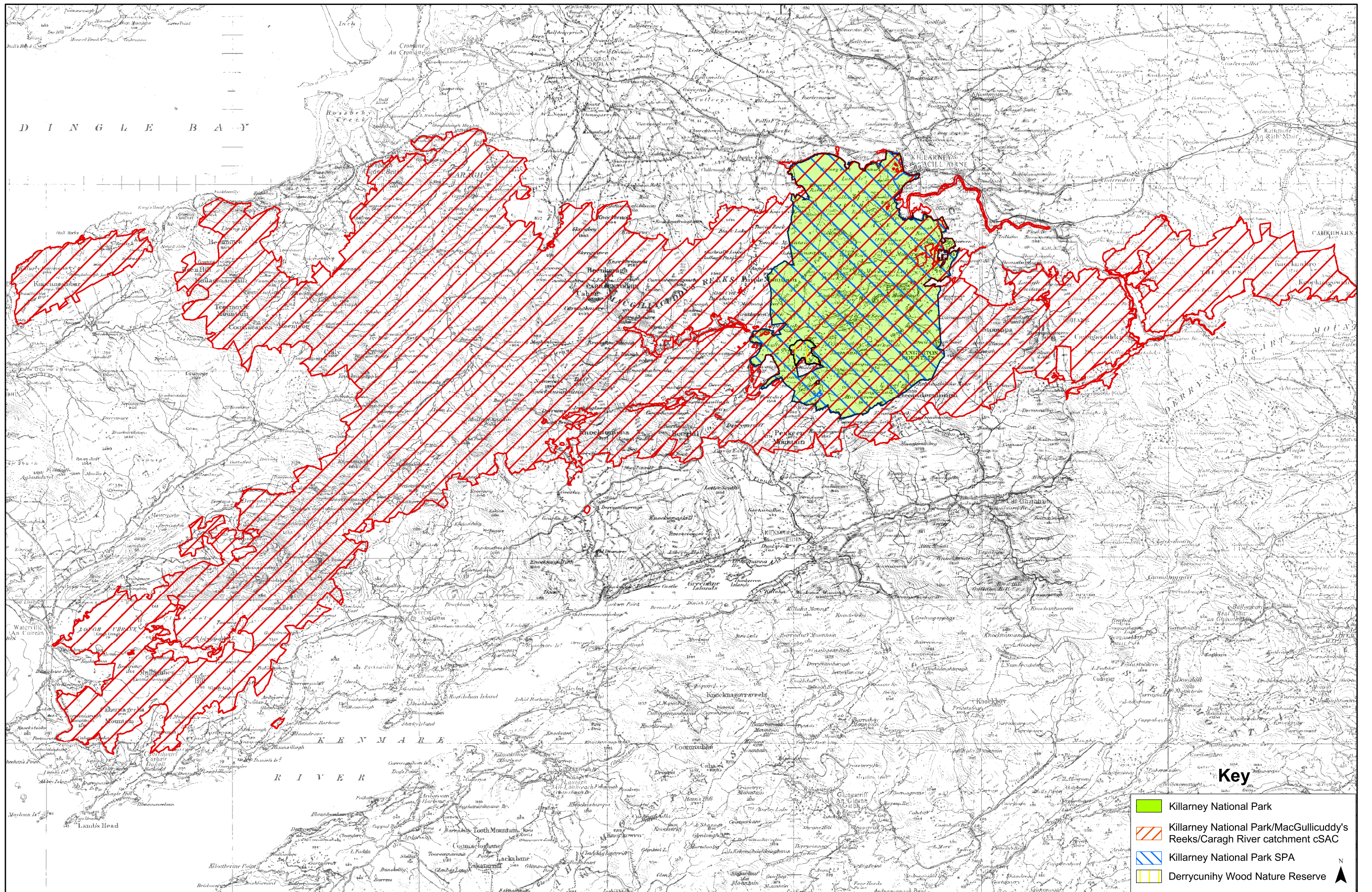


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KILLARNEY NATIONAL PARK

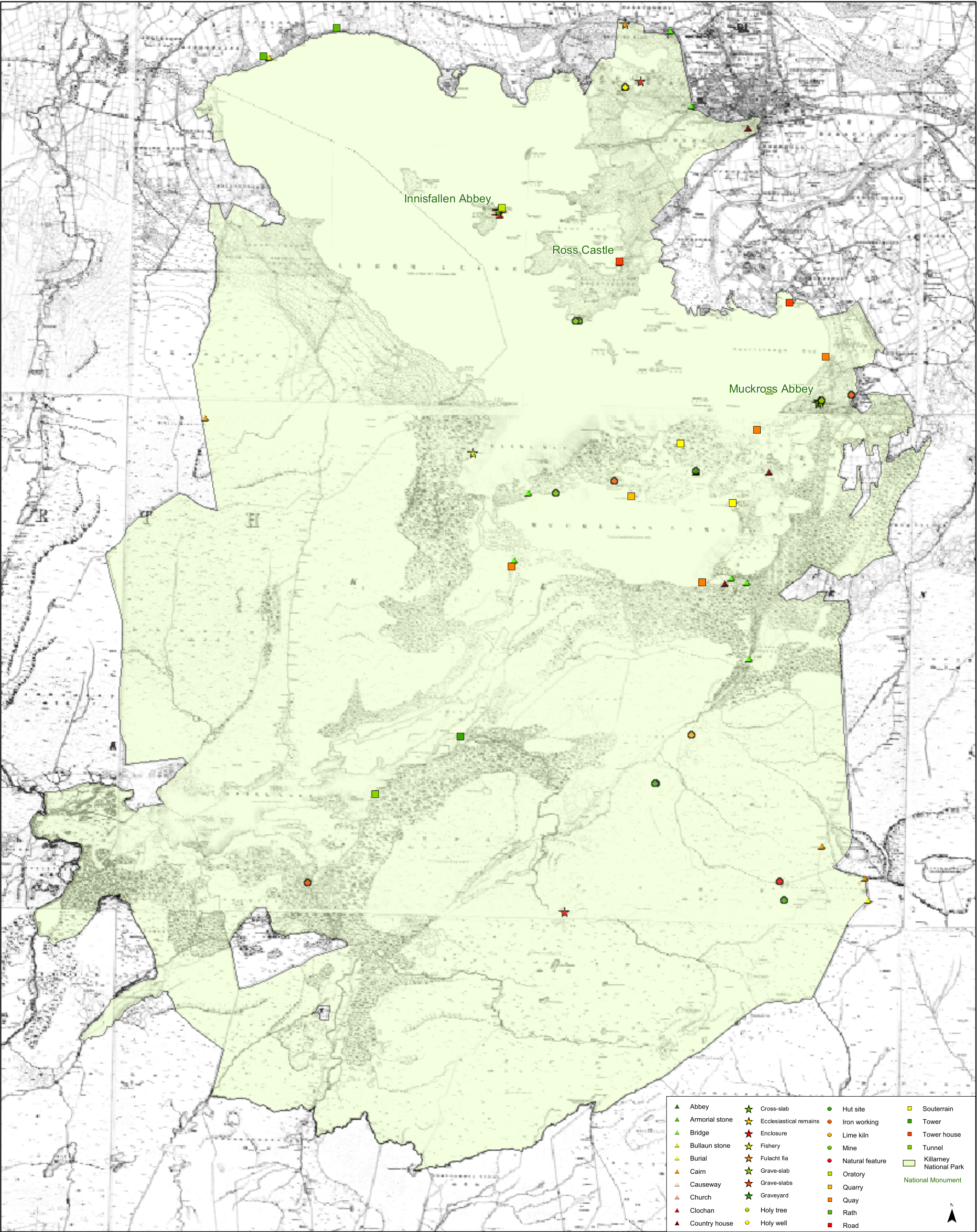
Map 4: Designations

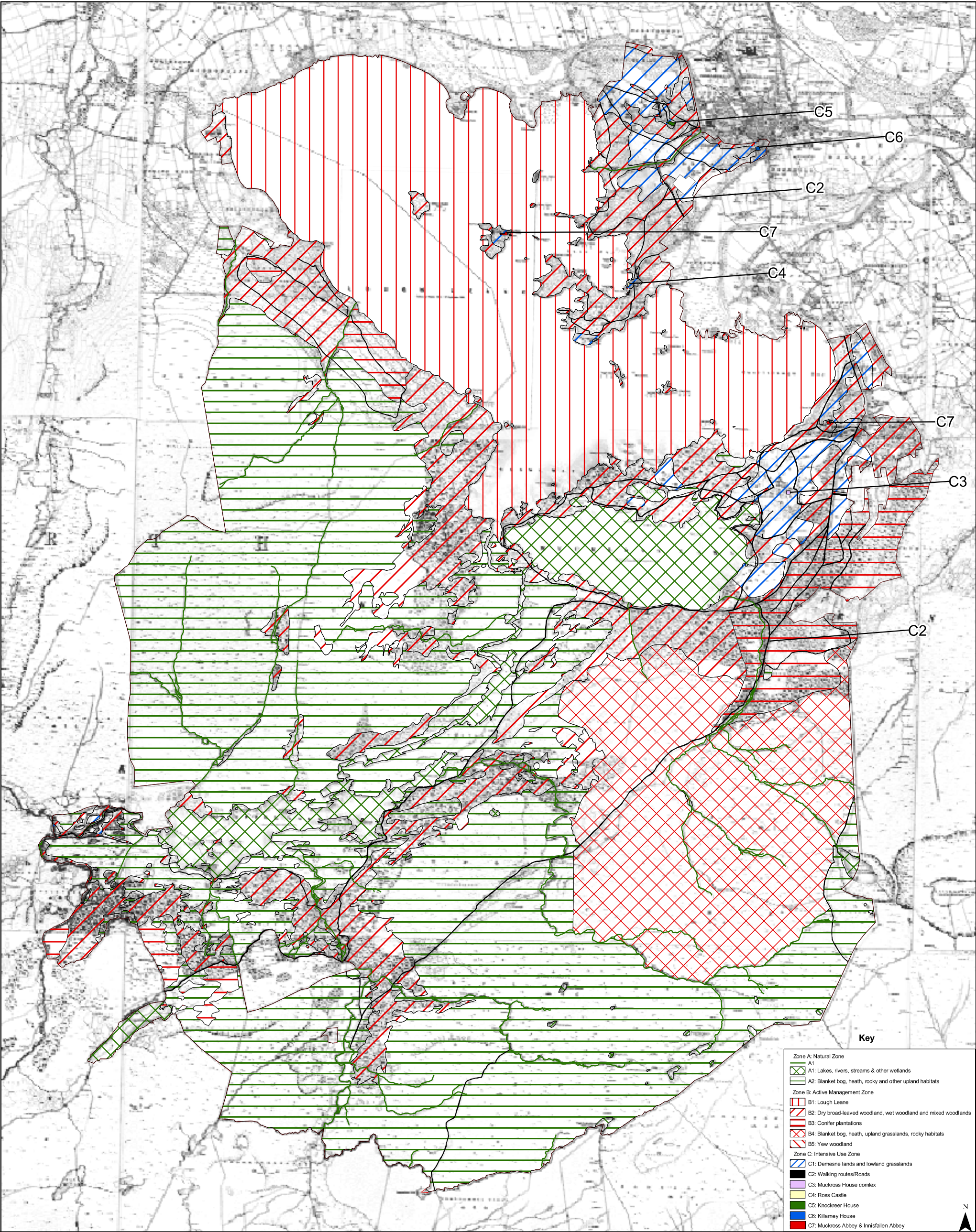
Map to be read in conjunction with draft KNP management plan.

Scale 1: 200,000

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KILLARNEY NATIONAL PARK

Map 6: Management Zones

Scale 1: 45,000

Map to be read in conjunction with draft KNP management plan.

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