

Waterways Corridor Study 2002

A study of the area surrounding ● The Grand Canal from Ballycommon to Shannon Harbour ● The Shannon from Shannonbridge to Meelick

ROSCOMMON

WESTMEATH

GALWAY

OFFALY

In association with ● Galway County Council ● Offaly County Council ● Waterways Ireland ● Offaly and Kildare Waterways

Pilot Waterways Corridor Study

Prepared for



Sponsored by

Galway County Council Offaly County Council

In association with

Offaly and Kildare Waterways Waterways Ireland

This study won for Cunnane Stratton Reynolds
the Irish Landscape Institute's Award for Landscape Planning Projects, 2002



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TABLE OF CONTENTS

SECTION ONE Introduction1

1.1	Project History	1
1.2	Project Brief	1
1.3	Approach and Methodology	2
1.4	How to Use the Document	3

SECTION TWO The Waterways Corridor - Definition4

2.1	The Study Area - Introduction	4
2.2	Waterway Corridor Definition	7
2.2.1	Canal Waterway Corridor	7
2.2.2	River Waterway Corridor	8
2.2.3	Waterways Corridor - Landscape Appraisal	10
2.3	Socio-economic Component	11
2.3.1	Communities and Settlements	10
2.3.2	Development Pressure	12
2.3.3	User Groups and Commerce	12
2.4	Ecological Component	14
2.4.1	Habitats of the Grand Canal	14
2.4.2	Ecological Value of the Grand Canal	14
2.4.3	Habitats of the River Shannon	18
2.4.4	Ecological Value of the River Shannon	20
2.4.5	Water Quality in the Waterways Corridor	21
2.4.6	Ecological Significance of the Waterways Corridor	21
2.5	Built Component	22
2.5.1	Industrial Archaeology	22
2.5.2	Cultural Archaeology	25
2.6	Landscape / Visual Component	28

SECTION THREE The Waterways Corridor Issues and Opportunities .32

3.1	A Vision for the Waterways Corridor	32
3.2	Themes and Issues	32
3.3	Policies	38
3.4	Waterway Protection Zone - Landscape Character Protection Guide	40
3.4.1	The Canal or River Waterway Corridor	40
3.4.2	The Area of Immediate Influence	40
3.4.3	The Outer Area of Influence	41

3.5	Tourism, Recreation and Amenity	42
3.5.1	Cycling and Walking - Concepts	42
3.5.2	Eco-holidays	42

SECTION FOUR Character Areas of the Waterways Corridor - Assessment and Policy Applications44

Guide to Character Area Sheets		44
4.1	Character Area One - Between Ballycommon and Lock 24	46
4.2	Character Area Two - Between Lock 24 and Tullamore	48
4.3	Character Area Three - Tullamore	50
4.4	Character Area Four - Between Tullamore and Rahan	52
4.5	Character Area Five - Between Rahan and Pollagh	54
4.6	Character Area Six - Between Pollagh and Glyn Bridge	56
4.7	Character Area Seven - Between Glyn Bridge and Shannon Harbour	58
4.8	Character Area Eight - Shannon Harbour and West to the Shannon	60
4.9	Character Area Nine - Between Shannonbridge and Banagher	62
4.10	Character Area Ten - Between Banagher and Victoria Lock, Meelick	64

SECTION FIVE Conclusions66

APPENDIX ONE Planning and Socio-economic Review - Cunnane Stratton Reynolds

APPENDIX TWO Ecological Report - KT Cullen - White Young Green

APPENDIX THREE Cultural and Built Heritage - Archaeology - Cultural Resource Development Services Architecture - O'Brien & Kaye

APPENDIX FOUR Landscape and Visual Appraisal - Cunnane Stratton Reynolds

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SECTION ONE INTRODUCTION

1.1 Project History

"Ireland's inland navigations have been used since people first sailed up our river estuaries nine thousand years ago. Our man-made inland waterways were created at the beginning of the [nineteenth] century as a means of transporting goods. The development of road and rail networks over the past two hundred years have now made that primary transport function redundant.

The potential of the inland waterways as a multi-use tourism resource, and as an amenity for their local communities is currently being realised. They have important potential for nature conservation and the industrial archaeology of the waterways is gaining appreciation..." (The Heritage Council's Policy Paper on the Future of Ireland's Inland waterways, Foreword, 1999).

In July 2001 the Heritage Council commissioned this Pilot Waterways Corridor Study as a means to recognise, and seek ways to realise, the inherent potential of the waterways as a heritage, amenity and tourism resource. Intrinsic to this aim is that of protection or enhancement, where necessary, of those aspects of the waterways corridor that generate its particular heritage value.

The aim is in keeping with the recently published "National Heritage Plan" (April 2002) and Government Policy Statements therein to ensure the protection of our heritage and to promote its enjoyment by all, specifically to:

- place the promotion and enjoyment of heritage at the heart of public life;
- promote the measures required for the protection of our heritage;
- encourage the accumulation of the knowledge necessary to protect our heritage;
- promote awareness and enjoyment of our heritage; and,
- play an active role in heritage protection in a cross-border and international context.

A study area comprising the Grand Canal between Ballycommon in Co. Offaly and the Canal's junction with the River Shannon near Shannon Harbour, and the Shannon Navigation between Shannonbridge and Meelick (Victoria Lock), was selected for the pilot study. A Steering Committee for the project was set up to represent the major stakeholders in the study, namely:

- The Heritage Council, represented by Ruth Delany and Colin Becker of the Council's Standing Committee on Inland Waterways and the Council's Inland Waterways Officer, Beatrice Kelly.

- Offaly County Council, represented by the Laois / Offaly Heritage Officer, Amanda Pedlow.
- Galway County Council, represented by the Galway Co. Co. Heritage Officer, Marie Mannion.
- Offaly and Kildare Waterways, a NGO charged with the promotion, facilitation and co-ordination of social, economic and environmental regeneration of the Grand Canal and Barrow Line and the surrounding communities, represented by the Regeneration Officer, Patricia Keenan.
- Waterways Ireland, a north / south Irish implementation body responsible for the management, maintenance, development and restoration of the inland navigable waterway system throughout Ireland, principally for recreational purposes, represented by the Eastern Regional Manager, John McKeown and the Regional Engineer, Joe O'Sullivan.

The team of consultants selected by the Steering Committee to undertake the study, comprised the following members.

- Cunnane Stratton Reynolds Town Planners and Landscape Architects (CSR, team co-ordinator), represented by Senior Partner Christopher Stratton, Principal Landscape Architect Declan O'Leary and Richard Butler, Senior Landscape Planner.
- KT Cullen / White Young Green Environmental Consultants (KTC), represented by Principal Environmental Scientist Dearbhla Ledwidge and Dr. Fiona MacGowan, Senior Ecologist.
- Cultural Resource Development Services Archaeological Consultants (CRDS), represented by Dr. Steven Mandal, Director, and Aislinn Collins.
- O'Brien and Kaye Architects (OBK), represented by Arthur O'Brien, Director, and Architects Seona Tait and Liann Furlong.

1.2 Project Brief

"The overall aim is to identify how the waterways corridor environment can be managed for the benefit of all, i.e. heritage, land and water-based users.

To improve understanding of an area, and by this understanding, ensure retention of the distinctiveness of a place, while allowing for the development and evolution of use for the future.

The study should ensure that the distinctive aspects of the waterways corridor are identified, and their significance assessed. As a result of this assessment, policies for the retention and enhancement of its significance will be drawn up, along with policies

for appropriately designed and located regeneration projects. Actions will be proposed to realise these policies over a ten year period." (The Heritage Council's Brief for Pilot Waterways Corridor Study, Purpose of the Study, 2001).

The consultants were instructed that the study should encompass the following:

- Heritage, including archaeology, industrial heritage and canal history, architecture, waterways features, landscape character, habitats, species, ecological issues / biodiversity opportunities such as heritage value.
- Recreation / tourism, including water based such as boats, rowing and canoeing, and land based such as walking, angling and cycling.
- Education and interpretation.
- Access, including disabled access and car parks.
- Planning context.

The consultants were further instructed to take account of existing studies of the Grand Canal such as Brady Shipman Martin's National Canals and Waterways Study, 1992.

1.3 Approach and Methodology

"As well as being an important part of people's lives—giving individuals and communities a sense of identity and belonging and bestowing a sense of place on our surroundings—landscape is the context in which all change takes place. No development can take place which does not change the landscape. As has happened right throughout history, the landscape is constantly changing both through the actions of nature and human intervention. The challenge to our generation is to bring about change in a way that is respectful and creative..." (The Department of the Environment and Local Government's Landscape and Landscape Assessment Consultation Draft of Guidelines for Planning Authorities, Broader Definition of Landscape, 2000).

Since the term Waterway Corridor refers to an essentially spatial or geographic concept, a landscape assessment based approach was applied in the study of the area. This approach, as advocated in the Draft Guidelines referred to above, involves characterisation of the landscape based on landform and landcover (vegetation, settlements, etc.) and also the assessment of values associated with the landscape, e.g. historical, cultural, economic, etc. Where-as the Draft Guidelines propose a methodology for assessment of landscape at a county level within a defined (but extensive) area, this study assesses landscape from a particular vantage or reference point (the waterways) within an undefined area. Thus the methodology differs slightly.

The following methodology was followed by the consultants in order to fulfil the brief and the aim of the study:

• Each consultant undertook a desktop study of salient publications, websites, etc. to gain a basic understanding of the subject and the context in which its study would take place. The topics covered by the consultants' research included the following:

- Planning and socio-economic context (CSR)
- Landscape (CSR)
- Ecology (KTC)
- Cultural history and archaeology (CRDS)
- Architecture (OBK)
- Use, access and tourism (CSR)
- Resource management (CSR)

An initial reconnaissance survey of the study area was undertaken by the consultants from a barge in late October 2001, to further familiarise themselves with the subject and the study area. For this survey, Ordnance Survey Ireland maps at 1:50,000 (no's. 47, 48, 53, 54) were used as reference and for annotation. In addition, the Office of Public Works' Guide to the Grand Canal and Shannon Navigation Charts were useful.

A theoretical exercise of definition of the waterways corridor was undertaken to inform further research, survey and eventually, policy formulation. This is illustrated in Section Two of this document. The significance of the various aspects of the landscape (physical and value) was explored, as well as how these aspects relate to the waterways corridor and to its management.

Applying the methodology proposed in the Draft Guidelines referred to above, CSR delineated physical units within the landscape through which the waterways traverse. The definition of these draft Character Areas was based on landform and land use / landcover. This exercise was supplemented by a broad definition of the ecological units based on KTC's research, review (of designated sites, etc.) and observations. The emerging Landscape Character Areas would form the spatial framework for further study, description and eventually, policy formulation.

Working individually and cooperatively, CRDS and OBK identified significant archaeological and architectural sites and structures associated with the waterways, and also those not related to the waterway but within view or walking distance (roughly 0.5 km).

A second survey of the study area was undertaken by each of the consultants to verify and refine the findings of the earlier exercises. The canal portion of the area was surveyed on foot and the Shannon portion from the water due to a lack of access to the callows. 6 inch maps of the adjacent lands were used to map detailed ecological / landscape information obtained by KTC.

With the ultimate goal of proposing policies and actions in mind, the consultants identified recurring and specific themes and issues regarding planning, management, ecology, use / access, interpretation and tourism throughout the study. Concurrently, a vision for the waterways corridor and measures to achieve the evolution required for its realisation with reference to threats and opportunities, were explored. This constitutes Section Three of the document.

Throughout the study the consultants sought to consult with all interested and affected parties, to obtain relevant information already existing on the study area and to gather the views of those parties concerning management, use, etc. of the waterways. In January 2002, a stakeholders workshop was held in Tullamore, at which the Heritage Council formally introduced the project and the consultants explained to the stakeholders the findings of the study up until that point.

Following input from the Steering Committee and the stakeholders, the results of the four consultants' studies were assimilated. Section Four of this document comprises the result of that exercise. Each character area is described and its principal features and detractors illustrated on a map and photographically. Pertinent issues relating to the planning and socio-economic component, the cultural and built component, the natural component and the landscape component of each character area are identified. Appropriate policy response to those issues, and specific actions required to address them, are also proposed.

Once the full suite of policies and actions for management of the waterways corridor was identified, the bodies responsible for adopting or applying the measures were identified and a time-frame for the implementation of the various measures was determined.

Section Five, as a conclusion, sets out an overview of the recommendations of the study and the potential of the many assets found within the study area.

1.4 How to Use the Document

Use of this document will vary according to the reader's field of interest. This, the main body of the report, is a concise description of the results of the study, the culmination of which is illustrated in Section Four. The waterways corridor as defined by the consultants is described, the issues relating to discrete sections of the waterways identified, and measures to be taken to address those issues proposed.

This report is thus essentially a management tool for authorities charged with management of the various aspects of the waterways, and for parties interested in the development of the resource.

Appendices One to Four are the reports completed by the consultants on each of the major aspects of the study, namely:

- Planning and socio-economic context (CSR)
- Ecology (KTC)
- Cultural heritage, archaeology and architecture (CRDS / OBK)
- Landscape and visual (CSR)

These reports outline the approach and methodology applied by each consultant in their study, and describe the results of their studies in detail. This information will provide additional detail for management and planning operations. It may also be of academic or educational value, to a wider audience.

Similarly, the theory of waterways corridor definition and the application of character appraisal methodology is explained in Section Two of this document, followed by a descriptive summary of the study area and those aspects of the surrounding landscape relevant to the waterways' heritage value.

Section Three sets out a vision for the waterways corridor, and policies for the management, use and protection of that corridor in terms of planning issues, maintenance, ecology, use / access, interpretation and tourism.

It is the intention of the authors to display the output of the study in as accessible and useful a manner as possible. Section Four of this document describes each character area and the application of the above policies specifically in that area.

Using the document - A tool for local planners:

It is intended that the report act as a support tool for the proper planning and economic development of the waterways corridor. To this end the report contains:

- A database of factual information regarding local heritage assets - cultural, socio-economic, ecological and landscape - which contribute to the character of the waterway corridor (Section 2.3 - 2.6). This information is assimilated in Section Four, with each of the ten identified character areas described and assessed in detail. The appendices offer further detail on particular components or aspects of the waterways corridor.
- A Schedule of policies setting out aims and objectives as part of a vision for the corridor (Section 3.3), and specifically for individual character areas within the corridor (Section 4). These policies should be adopted into the relevant development plan.

- Specific tasks or projects to sensitively develop, manage and protect the resource of the waterway corridor.

It is important that this report is used as a positive pro-active development study, i.e. Its purpose is both to preserve the best aspects of the waterway corridor as they are now and to encourage new developments, interventions and initiatives to enhance the corridor.

The report also sets out a flexible but useable definition of what the waterway corridor is (Section 2) and therefore the zones or areas to which policies should be applied. It also applies the rationale that the sensitivity of the corridor and potentially its spatial extent is a function of particular individual developments proposed (Section 3.4).

There are a range of tasks / recommendations which would be important for planning authorities to take forward in the short term:

- Incorporation of recommended policies in local development plans.
- Initiation of master planning, framework planning and village design statements as proposed to take control of and manage development pressures to enhance the corridor and maximise opportunities arising.
- Develop a design guide to articulate approaches to development uses and styles that enhance the waterway corridor.
- Initiate and support local development initiatives to ensure that the value of heritage is reflected in sustainable benefit to local communities.

SECTION TWO - THE WATERWAY CORRIDOR DEFINITION

2.1 The Study Area - Introduction

The area selected for this study comprises two sections of inland waterway with very different characteristics.

The River Shannon is Ireland's largest river, with a catchment of 15,000 sq. km (one fifth of Ireland's landmass) and 344 km in length between the source at Shannon Pot, County Cavan, and the Atlantic Ocean. The stretch of the Shannon between Athlone and Portumna (incorporating the study area section) is broad and sluggish owing to a very slight gradient. The adjacent landscape is devoid of major topographical variations apart from occasional eskers bisected by the river and in areas, extensive peatlands. The expansive floodplain or callows (derived from the Irish, 'caladh', meaning river meadow) is the defining characteristic of the river in this section. In winter and spring the Shannon callows, up to 1 km in width to either side of the main channel, become inundated, resulting in a seasonal landscape that harbours a unique and dynamic natural ecosystem and a traditional, low intensity farming practice in harmony with the rhythm of the river.

The River Shannon has most likely performed a function as a waterway for as long as humans have inhabited Ireland. It played an important part in Ireland's history as such, providing for the carriage of goods but also a route into the interior for Viking invaders and a line of defence against the anticipated Napoleonic attack in the early 19th century. In the 1750s improvement of the navigation began with the construction of Hamilton Lock at Meelick, followed by flash locks at Banagher and Shannonbridge, and various works extending the navigation as far as Carrick. Further works were undertaken at the turn of the century, but in the 1840s the Shannon Commissioners were authorised to reconstruct the works completely. The navigation as constructed then is still in use today, including the new canal and Victoria Lock at Meelick and the abandonment of the short canals at Banagher and Shannonbridge.

In an Act of Parliament in 1715, the idea of building a canal to link Dublin with the rivers Shannon and Barrow was first touted. Such a development was seen as vital to bring the industrial revolution to the midlands and to provide for the transport of goods and passengers across the country in the absence of good roads. It was not until 1756, after the Commission for Promoting and Carrying on an Inland Navigation in Ireland had been formed and a budget of £20,000 granted by the Irish Parliament, that work on the Grand Canal began in earnest.

The 'Grand' route to the Shannon was selected ahead of the alternative 'Royal'

route and the first section, commencing in Clondalkin and extending 12 miles westwards, was completed in 1763. Dublin Corporation then became involved in the scheme due to the potential of the canal as a water supply to the city but the Corporation's and Parliament's interest in the project began to wane after two failed attempts to fill the canal. The future of the canal was eventually secured by the formation of a private company, the Company of the Undertakers of the Grand Canal, which assumed all of the powers, privileges, advantages and authorities of the Commission in relation to the Grand Canal in 1772.

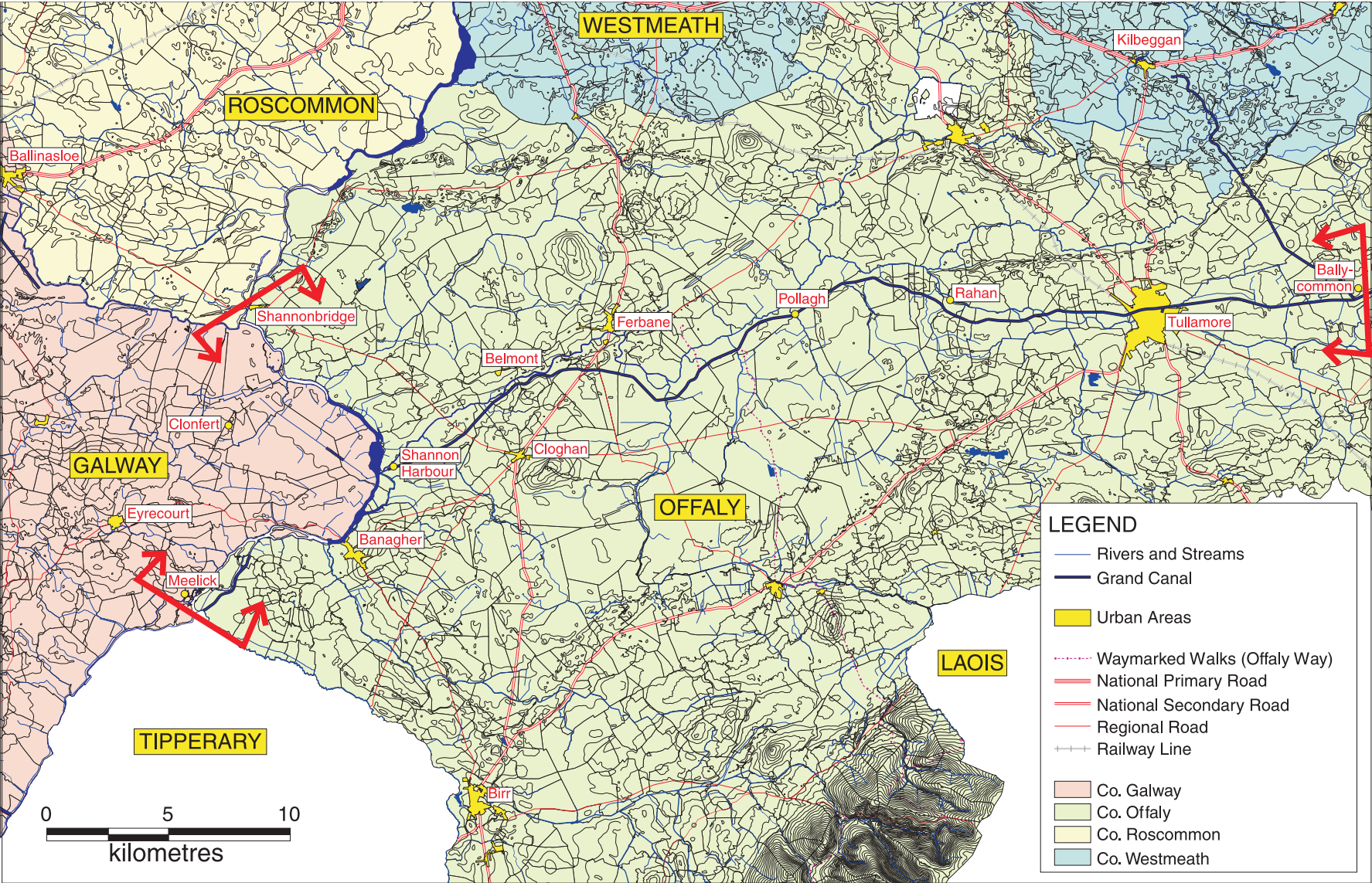
Work began on the Shannon Line in 1789 and was opened from the already advanced Barrow line to the terminus harbour in Tullamore in 1798 after an extended effort to traverse the Bog of Allen. Of three options for the alignment of the remainder of the route to the Shannon, it was decided to construct the canal alongside the route of the River Brosna. It would join the Shannon just north of Banagher 'at a place described as a "wild and unfrequented situation", which was to become known as Shannon Harbour'. (this quote, and various information in this section, is sourced from Ruth Delany's Ireland's Inland Waterways, 1992 Revised Edition).

In 1804 the first trade craft arrived in Shannon Harbour from Dublin and the cross-country link was complete. Trade and passenger services on the canal then increased rapidly. A journey from Dublin to Shannon Harbour would take about eighteen hours, at a speed of four miles per hour. Later branches included the Ballinasloe line, which after numerous difficulties with labour and with crossing the extensive bogs in East Galway, was opened to traffic in 1829 and the equally troublesome Kilbeggan line, a flat, eight mile extension northwards from Ballycommon, which was completed in 1835. Both branches proved unsuccessful in terms of trade and profit and both are now derelict and dry. The Ballinasloe line has largely disappeared as a result of peat harvesting, however access to Ballinasloe has recently been restored via improved navigation on the River Suck which enters the Shannon just downstream of Shannonbridge. The Kilbeggan line is largely intact and there is an active campaign for its restoration.

The study area incorporates roughly 45 km of the Grand Canal from Ballycommon to the canal's junction with the Shannon River (including 16 locks, one of them a double), and roughly 21 km of the Shannon Navigation between Shannonbridge and Victoria Lock at Meelick. The canal traverses Ireland's central lowlands east to west through County Offaly, while the Shannon, the major drainage channel of the Lowlands, forms the border between County Offaly and County Galway to the west of the river.

Map One on the following page shows the extent of the Study Area.

Map One The Study Area



2.2 Waterway Corridor Definition

The waterways, both river and canal, are linear features of the landscape, reflecting their functional nature as corridors of movement for people and goods. They are given their landscape and visual character by the varying environment through which they traverse. To facilitate their description, appraisal and ultimately the formulation of policies and strategies for their management, the waterways have initially to be theoretically deconstructed into their component parts. Once identified, these parts or zones can be assessed in terms of their condition, significance and sensitivity. Specific and practical measures for the management of each zone, and the enhancement of their combined heritage value, can then be compiled.

The zoning of the waterways corridor involves the delineation of linear zones to each side of the canal and river according to criteria including proximity to, and visibility from the waterways, land use and land cover, ecological aspects and land ownership. A distinction has to be made between the river waterway and the canal waterway.

The canal does not necessarily relate to or reflect the surrounding landscape other than through proximity; it is an imposed feature designed to facilitate transport. The river is integral to, and has in part shaped the surrounding environment. A river thus relates directly to the adjacent topography, land use and ecology. Accordingly, the appraisal of, and ultimately the proposals for these discrete sections of the waterway, must vary.

The following sections describe and illustrate the theory for the linear zoning of the canal waterway corridor and the river waterway corridor.

2.2.1 Canal Waterway Corridor - Definition

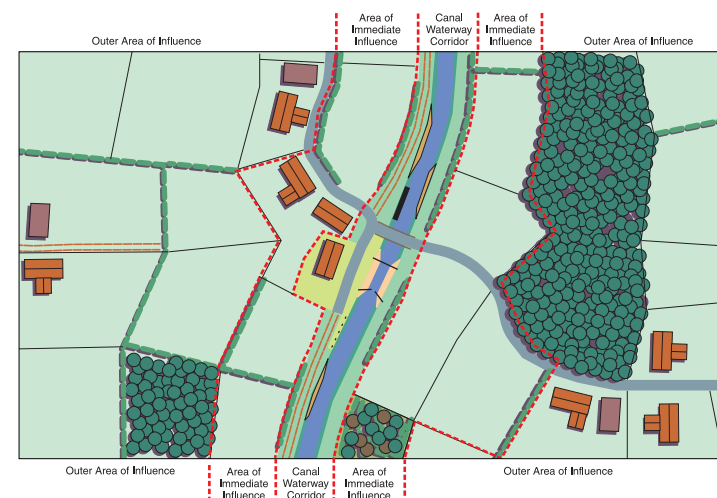
Three linear spatial zones are recognised along the canal waterway corridor, defined by ownership / management and relative visual and ecological influence. Central to the three zones is the canal waterway itself, to each side of which the lateral landscape is divided into two linear zones, namely, the area of immediate influence and outside of that, the outer area of influence. Figure 1 illustrates the canal waterway corridor's zones.

The Canal Waterway Corridor

This zone is the area of land in ownership of Waterways Ireland. It comprises the canal channel and banks, the locks, masonry features (bridges, culverts), landing jetties, furniture (mooring posts, lighting), the towpaths and margins up to the adjacent property boundary (hedgerow, fence or wall) and the associated buildings (e.g. lock-keepers houses). Those stretches of the towpath that are surfaced are maintained by the local authorities, but are considered integral to the Canal Waterway Corridor in this study. Waterways Ireland are responsible for the management, maintenance, development and restoration of this zone.

The remaining two linear zones are distinguished from each other only by virtue of their varying influence on the canal waterway corridor. They jointly comprise the lateral landscape of the canal waterway corridor.

Figure One Linear Zones of the Canal Waterway Corridor



The Canal's Area of Immediate Influence

This zone comprises the land immediately adjacent to the canal waterway on each side. Depending on the topography, land use (e.g. rural or settled) and vegetation cover in an area, the area of immediate influence may extend as far as one or two fields from the canal / river waterway corridor, or as far as the nearest significant vertical feature such as a substantial hedgerow, a line or cluster of buildings or a stand of trees.

The width of this zone is also determined to an extent by its components. For example, an imposing built feature some way from the canal waterway corridor, draws the boundary of the area of immediate influence around itself by virtue of its visual prominence in the landscape as observed from the canal.

Any changes within this zone could have a direct influence on the visual / landscape experience as perceived from the canal waterway. Wildlife habitats within and adjacent the waterway could also be affected by changes to this area.

The canal's area of immediate influence is in ownership or under varying degrees of control of a variety of individuals (farmers, or residents in urban areas) and institutions such as local authorities, Dúchas in the case of designated areas and Bord na Mona in the Peatlands.

Due to the potential impact on the canal waterway corridor of any changes to this area of immediate influence, it should be defined and be subject to specific appraisal and

planning policies. These should ensure that land use changes and development within the zone have regard to, and thus enhance the character of the canal waterway corridor.

The Canal's Outer Area of Influence

The zone comprises the land extending beyond the area of immediate influence as far as the horizon, as observed from the canal waterway corridor. Although this area does contribute to the over-all character of the waterway corridor, its influence on the experience and ecology of the canal waterway zone is limited and primarily visual in nature. The outer area of influence may be very broad, for example in areas where the canal is elevated above the surroundings, or non-existent in the case of urban areas.

Changes to this zone are likely to have a less pronounced or more subtle impact on the ecology and the experience of the canal waterway corridor, although they may well contribute to broader changes in the character of an area and thus affect the canal's heritage value.

This zone is in the ownership or under varying degrees of control of numerous private individuals and bodies. Due to the more limited influence of any changes to this zone on the canal corridor and in recognition of the limited influence of waterway-related concerns on its management / development, policies and strategies for this zone should be less specific than for the area of immediate influence.

2.2.2 River Waterway Corridor - Definition

Two linear zones are recognised along the river waterway, defined by ownership / management and relative visual and ecological influence (See Figure 2, following page). The central zone is the river waterway itself, to each side of which the visible landscape constitutes the river's area of influence.

The River Waterway Corridor

This zone is defined as the area between the high-water marks of the river. It incorporates the permanent natural and constructed channel and the river's floodplain or callows and any built infrastructure within or crossing these components, e.g. locks, bridges and power lines.

Ownership / management of the river waterway corridor rests with both Waterways Ireland and the adjacent land owners. The channel (as defined by the 1841 survey of the River Shannon was, through the Act for Improvement of the Navigation of the River Shannon, 17th August 1839, made the responsibility of the "Commissioners for the Execution of this Act". The Act further states that "...Works which shall be vested in the said Commissioners ... for the Improvement of any of the Rivers aforesaid ... and also of all such Canals, Locks, Harbours, Wharfs, Landing Places, Piers, Quays and other Matters..., shall from the passing of this Act ... be vested exclusively in the Commissioners of this Act...". The Act also stated that:



The canal waterway corridor and zone of immediate influence in an urban location (Tullamore)

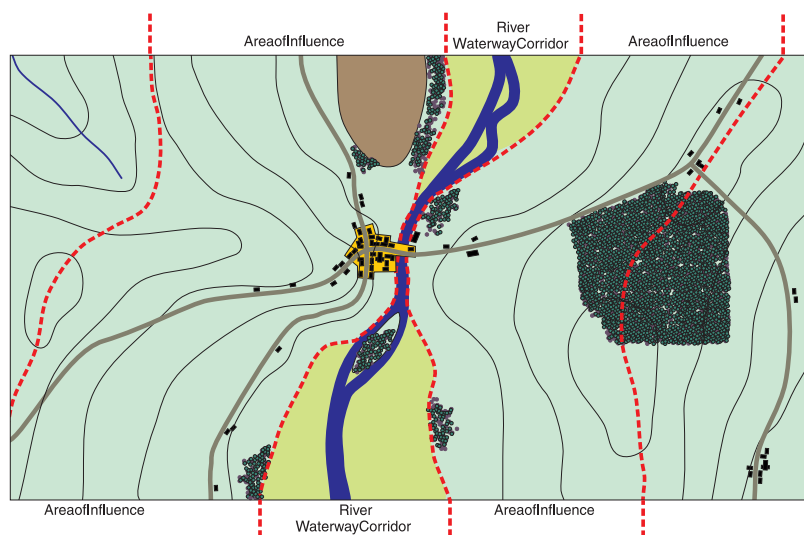


The canal waterway corridor and zone of immediate influence in a scattered rural settlement (Pollagh)



The canal waterway corridor and zone of immediate influence in a rural location

Figure Two Linear Zones of the River Waterway Corridor



"...the said Commissioners shall ... fix and determine the Limits of the said River Shannon..., within which all the Powers and Authorities by this Act given to the Commissioners for the Care and Conservancy of the said Rivers shall and may be exercised...". The 1941 maps indicate a line that is "described by the edge of the Waters of the Shannon when they are at their Ordinary Summer level that is to say 7 Feet on the Upper Sill of Hamiltons Lock". Thus, the property and jurisdiction of the permanent river channel (as defined on the 1841 maps), has become that of Waterways Ireland, essentially the 'descendents' of the Commissioners. The 1839 Act was subsequently reinforced by the Shannon Navigation Act, 1990. The remainder of river waterway corridor, i.e. the callows, is in ownership of the adjacent farmers but managed in agreement with Dúchas since the river and floodplain are designated Proposed Natural Heritage Area (pNHA).

The River's Area of Influence

There is a natural distinction between the nature of the river's area of influence and that of the canal. The landform invariably rises away from the river, even if only gradually, where-as in the case of the canal it does not. The river's lateral area is more physically (and visually) remote from waterway users, the river corridor being much wider than the canal corridor.



A view of the Shannon's narrow River Waterway Corridor at Shannonbridge, and the area of influence characterised by the village itself, the late 18th century fortifications, peatlands and the peat-fuelled power station in the distance



A lateral view of the river waterway corridor north of Banagher during a dry period. The fields/callows in the foreground flood seasonally, changing the landscape dramatically



A view to the west of the river (Co. Galway) of one of the few isolated houses in the Area of influence between Banagher and Meelick

Since all practices within the river’s catchment area impact on the condition of the river (unlike the canal), there can be no area of immediate influence delineated on ecological grounds.

For the sake of this study, landscape / visual aspects primarily have been used to determine the boundary of the lateral zone. The outer boundary of the river’s area of influence is drawn along the crest of the nearest raised topographical feature. Thus, all land within view of the river channel is considered to be within the river’s area of influence and should be addressed accordingly in appraisal and policy formulation. Land beyond that line, although potentially relevant in ecological terms, is excluded from consideration in this study. Other policies and legislation should be in place to govern activities within the river catchment that impact on the river.

This zone is in ownership or under varying degrees of control of numerous individuals and institutions such as local authorities, Dúchas in the case of designated areas and Bord na Mona in the Peatlands.

Due to the potential impact on the river waterway corridor of any changes to the area of influence, it should be subject to specific appraisal and planning policies. These should ensure that land use changes and development within the zone have regard to, and enhance the character of the river corridor.

2.2.3Waterways Corridor - Landscape Appraisal

The methodology for description and appraisal of the waterways corridor landscape is based on that proposed in the guidelines for landscape assessment (See Section 1.3). This process, adapted for this study, involves the division of the waterways into discrete segments based on the socio-economic, natural heritage and built heritage aspects or components of the lateral landscape. The segmentation of the waterways corridor results in the definition of landscape character areas, discrete but connected landscapes through which the waterways traverse.

Appraisal of the character areas, involves awarding each area a condition or quality grading of A to E according to the attractiveness of its key components and the presence or absence of detractors. Attractiveness does not necessarily imply scenic quality only, but may also recognise ‘uniqueness’ or ‘character’ of an area. It is an essentially subjective exercise, but ordered by the identification and description of the components, features or characteristics considered to be attractive or unattractive. An area with a quality grading of A is considered outstanding or exceptionally attractive, B above average, C average with no exceptional features or detractors, D below average and E of poor quality.

The ability of an area to withstand change is evaluated based on the integrity of the area’s landscape patterns, also termed robustness. An area’s robustness is graded strong, moderate or weak according to the clarity and consistency of its landscape pattern (e.g. field / hedgerow pattern in rural areas and streetscape in urban areas) and the presence or absence of inappropriate elements.

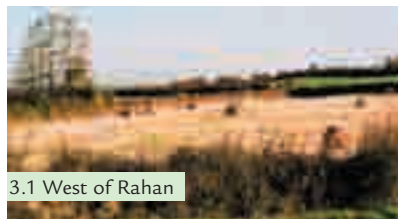
By combining the condition / quality grading and the perceived robustness of a character area, the sensitivity of the area is determined and a guiding management priority proposed. This is achieved using the standard matrix illustrated in Figure Three. The guiding priority should in-turn influence the compilation of specific planning policies and implementation strategies for each area.

Figure Three Sensitivity Appraisal Matrix for Landscape Character Area

		Condition and Quality				
Robustness		A	B	C	D	E
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Enhance	Improve and Restore	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

For example, the guiding priority for a rural area of quality grading A (See photograph 3.1 below - undulating topography, abundant mature vegetation, etc.) and strong robustness (well-defined land use, field pattern, etc.) should be to safeguard and manage / protect the landscape. Similarly, an urban area of quality grading A (photograph 3.2 - exceptional architecture, presence of canal) and strong robustness (established, uncompromised streetscape) should be to safeguard and manage.

A rural area of quality grading D/E (photograph 3.3 - unkempt fields, patchy vegetation) and weak robustness (field pattern and use unclear, encroachment of urban housing) should be reconstructed to establish a recognisable character. An urban area of quality grading D (no exceptional features, somewhat untidy) and moderate robustness (established residential area beside canal but without distinct urban structure) should be improved and restored.



3.1 West of Rahan



3.2 Tullamore



3.3 East of Tullamore



3.4 Tullamore

2.3 The Study Area - Socio-economic Component

2.3.1 Communities and Settlements

East Galway and West Offaly are among the least populated and economically undeveloped areas of Ireland. Primary industry in the form of agriculture (primarily livestock) and peat harvesting dominates the economic sector. The population, typical of rural Ireland and the midlands in particular, is in decline, with urbanisation and out-migration prevalent. The study area includes a variety of settlement types and sizes, with varying connections to the waterways.

From being a small village of little regional consequence in the late 18th century, Tullamore grew, in part as a result of the arrival of the Canal, into an important market town by the 1830s. In 1833 Tullamore became Offaly County town at the expense of nearby Daingean. Tullamore is the principal town within the study area, with a growing population of in excess of 12,000 in 1996. The Grand Canal bisects the town and is integral to its urban structure, although recognition of the Canal as an amenity and heritage resource, as well as potentially a catalyst for development, is limited. Auxiliary uses of the Canal are however well developed, with active angling and rowing clubs based in Tullamore.

Banagher, on the eastern bank of the Shannon River at one of the of the two crossings of the river in the study area, is the second largest settlement in the study area, with a population of 1,700 in 1996 and a thriving navigation-related tourism sector which helps to attract 50,000 to 60,000 visitors per year.

Shannonbridge is similar to Banagher in that it is located on the rise of an esker at the point at which the river bisects it. Much smaller in scale than Banagher, Shannonbridge (population 390), is nonetheless intricately linked to the river in proximity, urban form and use (tourism).

Of the lesser settlements associated with the waterways, only Shannon Harbour and Pollagh, can be said to be situated on the waterways (the Grand Canal, in both cases). Shannon Harbour (population 291) is dominated by navigation-related buildings and uses; it provides an almost complete suite of services for waterways users. The settlement has not developed beyond that function since its foundation however; its condition and outlook remains intricately linked to that of the waterways, the Canal in particular. Pollagh, a dispersed settlement of 1020 people in the midst of the West Offaly peatlands, has its core, comprising a church, school, post office, several houses and a pub, on the northern bank of the Canal.

Kilbeggan in County Westmeath (outside of the study area) is at the terminus of the now derelict Kilbeggan Branch. The now dry harbour with refurbished stone buildings along one side, is situated a short distance from the town centre, surrounded by farmland. The harbour is the starting point of a walkway along the canal. There is an active campaign for the restoration of the branch.

Ferbane (population 1,200) and the villages of Belmont (population 377), Rahan (population 681, growing) and Ballycommon (population 400) are all situated within 1 km from the Canal, with currently tenuous links to the waterways in the form of a pub or scattered houses beside the Canal.

In County Galway to the west of the Shannon River, the broad callows and extensive peatlands have not allowed for settlement of the lands adjacent to the river. Only at Meelick can the scattered farmhouses be said to constitute a 'river-side' community, although there is no discernable settlement structure relative to the river.

The nearest town to the River is Eyrecourt (population 548), some 4.5 km north west of Meelick, too far from the river to have any discernable relationship with the waterway.

Clonfert, the site of Clonfert Cathedral and a celebrated centre of learning in the 6th Century, is a scattered settlement of some 465 people surrounding the cathedral and the Emmanuel House of Providence, a Catholic centre for prayer. Peatlands separate the village from the river, but it provides a cultural-historic amenity for river users and was situated specifically for its proximity to the navigation.

2.3.2 Development Pressure

Development pressure along the Grand Canal is concentrated in and around the existing settlements, with Tullamore and environs to east and west along the Canal (between Rahan and Lock 24) most sought after, especially for dwellinghouses. The applications are predominantly for sites along the existing roads, which approach or cross the Canal only at Rahan, Ballycowan (Lock 29), Tullamore and Digby Bridge (Lock 25). Most affected are two roads heading east from Tullamore parallel to the Canal. These are developing rapidly as residential and commercial spines. A small number of sites adjacent or close to the Canal in Pollagh and Belmont have been the subject of planning applications in the last five years, mostly for single dwellinghouses, extensions, etc. Shannon Harbour has seen applications for similar, including two developments of multiple residential units.

The extensive peatlands immediately south and to the north of the Grand Canal between Pollagh and Shannon Harbour are likely to become cutaway (i.e. peat deposits exhausted) incrementally over the next thirty years. Current Bord na Mona policy suggests that these lands will be converted to forestry and pasture if conditions permit, or allowed to revegetate naturally in areas with lesser productive potential.

An additional development pressure has arisen as a result of Government policy on forestry, which encourages farmers to convert pasture to plantations. Several conifer and broadleaf plantations have been established in close proximity to the Canal in the last five years.

Along the Shannon River, there have been applications for navigation-related developments in both Banagher and Shannonbridge (i.e. floating jetties with access, etc.) and for another between Banagher and Victoria Lock. The land in between the settlements, being subject to seasonal flooding, is under no pressure for development. Four planning applications for additions and alterations to the existing power station adjacent the river just south of Shannonbridge were received by Offaly County Council in the last five years. Planning permission has recently been granted for the construction of a second peat fuelled power station between the village and the existing plant.

Development pressure in the County Galway portion of the study area is limited. A small number of planning applications for dwellinghouses in Clonfert have been lodged since 1996 and several applications for navigation-related developments (e.g. mooring berthage for eighteen pleasure craft) were received for Banagher Bridge (the County Galway bank of the Shannon at Banagher). Several applications for minor works in Meelick have been received. The remainder of the area comprises mostly peatlands and marginal agricultural land.

The most significant planning development in this area is likely to occur in approximately twenty years time as the Bord na Mona peatlands immediately west of the callows between Banagher and Shannonbridge become cutaway. The selection of after-use for these areas should be influenced by their proximity to the environmentally sensitive Shannon River and callows.

2.3.3 User Groups and Commerce

Current uses of the waterways include boating, angling, walking, rowing and appreciation of nature such as bird watching, etc. These uses all contribute to some extent to the commercial / tourism value of the waterways.

The Inland Waterways Association of Ireland was founded in 1954 to promote the development, use and maintenance of Ireland's navigable rivers and canals. When the Shannon was almost totally underdeveloped for pleasure boating, the IWAI fought against the building of low bridges, thus ensuring the development of the river as a national asset. Later, the association successfully resisted the threatened closure of the Grand Canal in Dublin...

The main objects for which the Association was formed are:

- *To promote the use, maintenance and development of the inland waterways of Ireland, and in particular, to advocate and promote the restoration to good order, and maintenance in good order of every navigable waterway and the fullest use of every navigable waterway by both commercial and pleasure traffic provided such is not injurious to the environmental health of the waterways and the surrounding areas.*
- *To support any proposal that may be calculated to maintain or improve Irish waterways, and also to improve navigation, lay moorings and carry out other works of improvement on and adjacent to the waterways.' (taken from the IWAI web site, IWAI Submissions and Policy Documents.).*

Colin Becker, President of the IWAI, was also on the steering committee of the project on behalf of the Heritage Council. He was an invaluable consultee in the project providing an insight into the requirements and aspirations of the boating public.

Users of the waterways for navigation include private motorised craft owners, cruiser and barge hire companies and rowing clubs. Celtic Canal Cruisers, a barge hire

company, operates from a base just east of Tullamore at Lock 24. Silver Line Cruisers and Carrick Craft, both based at Banagher, hire out craft for cruising on the Shannon. Apart from retaining a number of racing teams, which train on the Canal in the area of Tullamore, the Offaly Rowing Club also aims to promote touring rowing along the navigation, an activity already gaining in popularity on the Shannon.

Angling generates a significant amount of commerce in areas adjacent the waterways. Specialist tackle and bait dealers operate in Shannonbridge and Banagher along the Shannon, and in Rahan along the Canal. Angling provides a significant portion of the clientele for accommodation providers in the area.

Walking along the waterways is developed to the extent of there being a waymarked way along the full length of the Grand Canal (the Grand Canal Way). The Offaly Way joins it at Pollagh, linking the Slieve Bloom Way to the Canal Way. A proposal exists for the development of a Shannon Crossing as part of the Beara Breiffne Greenway, which would provide a walking and cycling route from Portumna via Meelick to Eyrecourt or Banagher, as part of a long distance Cork to Leitrim route. The proposal has yet to be implemented.

Cycling is not promoted along the waterways. The towpaths are not adequately surfaced (except where tarred), nor wide enough for the activity to be considered appropriate considering the potential conflicts with existing waterways users (walkers, anglers). There are concerns that making provision for cycling on the towpaths would attract undesirable vehicles such as motorcycles, and would require excessive maintenance as well as compromise the waterway's ecological status. The activity is therefore not developed to a point of generating economic return to adjacent communities. However, there is potential for the development / promotion of a road-route that follows the Canal along existing tarred sections and turns away to take in other local attractions elsewhere.

Due to the absence of any significant tourist attractions in the midlands other than the Shannon, accommodation and tourism service provision in the study area is limited. Only Tullamore and Banagher, and to a lesser extent, Fermoy and Shannonbridge, provide a range of hotels, bed and breakfast accommodation and catering facilities. B&Bs operate in Shannon Harbour, Belmont and Rahan but these centres and the other, smaller settlements in the study area cannot be said to cater for the tourist market specifically. There are no caravan or camping facilities in the study area.

The Shannon Navigation is a well-developed and well-used amenity, manifest in Banagher's harbour, jetties and services (including a thriving chandlery). Specifically navigation-related facilities are however relatively undeveloped along the Grand Canal. Only Shannon Harbour provides secure, permanent mooring for craft but the harbour's capacity (and other services such as the dry docks) is permanently exceeded. Tullamore and Pollagh provide mooring posts for craft, but no related services. Pump-out stations recommended in the National Canals and Waterways Strategy (Brady Shipman Martin, 1992) have yet to become fully operational, although installation of the pumps is complete.



Shannon Harbour provides permanent mooring for many private river and canal - going craft.



Celtic Canal Cruisers, a barge hire company, located at Lock 24, east of Tullamore.



Floating jetties at Banagher, a popular navigation-related tourism centre on the Shannon

2.4 Study Area - Ecological Component

The ecological study of the waterways corridor was carried out by KT Cullen / White Young Green Environmental Consultants. The full Ecological Component report constitutes Appendix Two of this document.

To establish the extent of the study corridor from an ecological perspective, the initial step was to prepare a map illustrating the relevant sections of the Grand Canal and River Shannon, all sites designated for nature conservation, and rivers and streams within 5km. Field surveys were subsequently carried out to refine the preliminary map and to include any additional significant habitats visible from the waterways.

For the purpose of the ecological assessment, the study corridor is taken to mean the canal waterway corridor, the land adjacent to it and significant habitats which are connected to and visible from the waterway. Habitats were identified to the third hierarchical level described in Fossitt (2000). Given the scale and timing (late autumn) of the study and also time available, it was not possible or appropriate to prepare comprehensive species lists for the habitats identified. Outline species lists were prepared for each of the habitat types with particular emphasis given to key species, which are indicative of the habitat type, and dominant species.

At present no detailed methodology has been developed for Fossitt (2000). Therefore, for the purposes of this study the methodology of the standardised Phase 1 habitat assessment was employed. This is a standard method of habitat classification developed by the Joint Nature Conservancy Council, U.K. (Joint Nature Conservation Committee 1993). There are many similarities between the Phase 1 and Fossitt classification schemes; both are based principally on vegetation classification and both have a similar level of application.

Habitat maps at a scale of 1:10,560 were prepared for the entire length of the study corridor. A system of colour coding was used to illustrate the location and approximate extent of habitats. These colour codes are based on the code system employed in the Phase 1 habitat methodology but some changes have been made to allow for easier visual interpretation. Descriptive 'target notes', as employed in the Phase 1 Habitat methodology, were also used. Target notes are used to provide supplementary information on sites of interest or sites too small to map. They provide a succinct picture of the nature conservation interest of a site in the context of its land use and management (Joint Nature Conservation Committee 1993). The target notes are included on the maps in Chapter Four and are described in Appendix IV of the Ecological Element report, Appendix Two of this document.

A review of the Dúchas designated sites database indicates that there are a number of designated sites both within and adjacent to the waterways corridor. The Grand

Canal is a proposed Natural Heritage Area (pNHA). The section of the River Shannon within the study areas falls within The Middle Shannon Callows Special Protection Area (SPA) and Special Area of Conservation (SAC). In addition, there are a number of designated sites within the wider ecological corridor, namely, Charleville Wood SAC, Lough Boora pNHA and Little Brosna Callows SPA.

2.4.1 Habitats of the Grand Canal

Habitats along the canal study corridor were identified to level 3 (habitat level) in Fossitt (2000). A total of 17 habitat categories were identified (See Map 2 Ecological Assessment - Grand Canal):

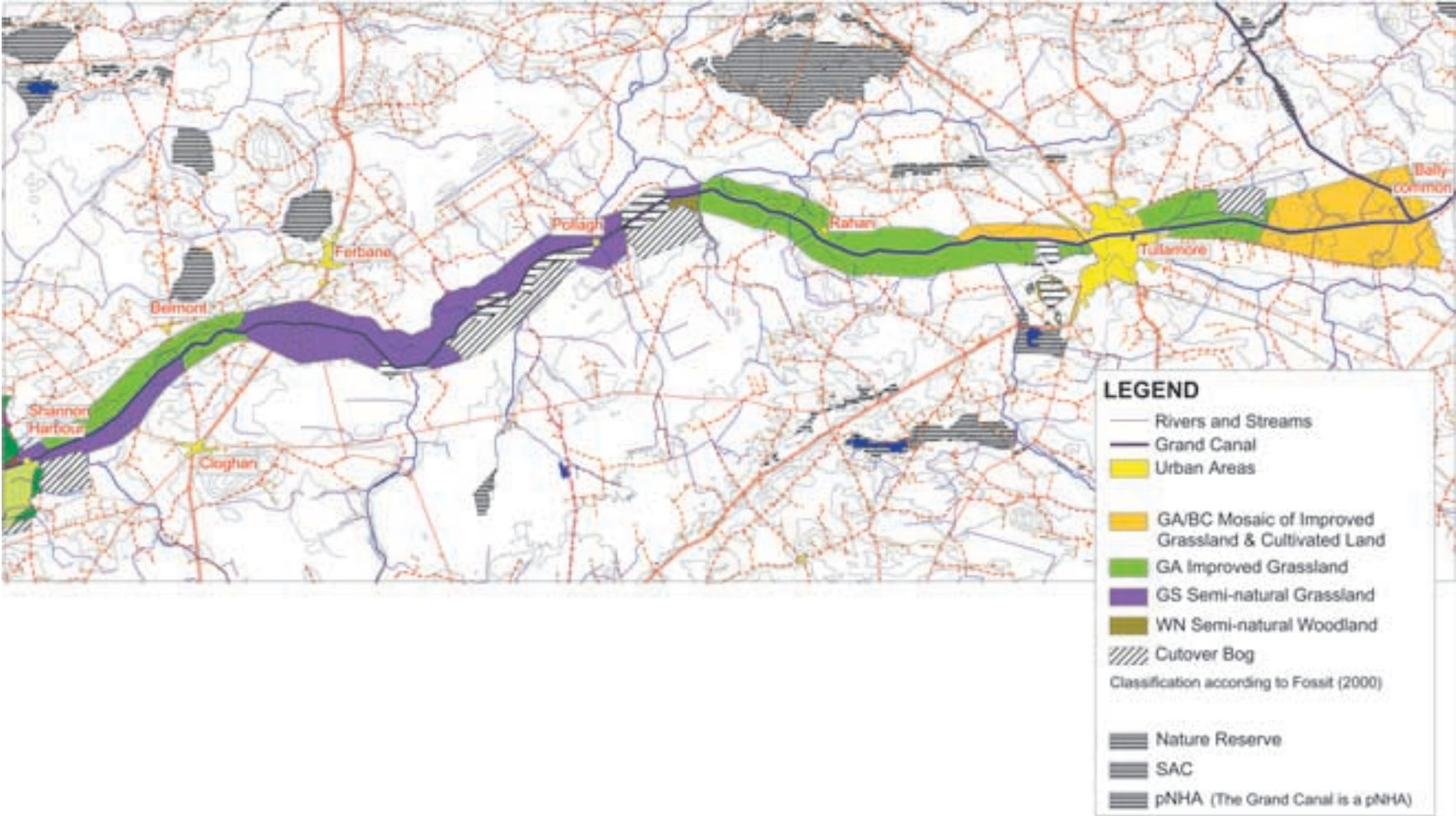
- Reed and Large Sedge Swamps
- Dry Calcareous and Neutral Grassland
- Canal
- Hedgerows
- Treelines
- Stone Walls and other Stonework
- Bog Woodland
- Drainage Ditches
- Improved Agricultural Grassland
- Wet Grassland
- Amenity Grassland
- Arable Crops
- Cutover Bog
- Raised Bog
- Mixed Broadleaved Woodland
- Oak-Ash-Hazel Woodland
- Scrub
- Depositing Lowland River

2.4.2 Ecological Value of the Grand Canal

The significant ecological value of the Grand Canal can be attributed to a number of factors:

- A) Its value as an ecological corridor
- B) Its diverse range of habitats and species
- C) It supports a number of rare and protected plant and animal species

Map Three Ecological Assessment of the Grand Canal





Reeds (*phragmites australis*) on the canal bank with birch woodland in the background



Typical canalside hedgerow in the background with ash (*fraxinus excelsior*) saplings along the canal



Underside of the bridge at Killiskea, west of Tulamore. Niches suitable for bat use visible

Fauna

Many mammal species are known to occur in the Grand Canal study corridor and several of these such as the otter, badger, hedgehog, mountain (Irish) hare, red squirrel, pine martin, pygmy shrew, stoat and various species of bat are protected. Other mammals likely to occur in the farmland habitats on the corridor's edges are wood mice, fox, brown rat, rabbit (Dromey & Johnston 1997). It is also likely that bank voles are present in the south-western section of the area under study.

The canal habitats are host to a number of fauna species of international importance.

Desmoulins' Whorl Snail (Vertigo moulinsiana)

This species, protected by the Habitats Directive, is known to occur along the Grand Canal. It is associated with reed fringe vegetation. Dredging and vegetation removal along the canal are considered to be threats to the species.

Otter (Lutra lutra)

This species, listed as a priority species in the Habitats Directive, is known to feed along the canal. It builds its holts in the banks of rivers and streams and is known to occur in areas where the canal crosses rivers or streams. The main threats to this species are considered to be decreasing water quality, disturbance by man due to recreational pressure and changes in land use, with particular reference to afforestation. The status of the otter within the study area is not clear.

Whiteclawed crayfish (Austropotamobius palipes)

There are records of the whiteclawed crayfish, an Annex II species, in the Grand Canal. However, it is not clear if this species is recorded in the section of the canal within the study area. This species requires good water quality and thus is a sensitive indicator of pollution.

Bats

Bats, protected by the Wildlife Act, 1976 and the Habitats Directive, are associated with the Grand Canal. Whilst no detailed bat survey of the canal has been undertaken it is considered likely that the canal is an important habitat for them. The habitats along the canal provide suitable feeding, roosting and hibernation sites for a number of bat species.

Birds

Birds associated with the aquatic habitats on the canal include grey wagtails, kingfishers, mallard, coot, moorhens and swans. The two most commonly observed birds along the canal corridor during the habitat survey were grey herons and kingfishers. The passerines appear to do very well in the thick hedges that bound

much of the canal's length. Robins, blackbirds, wrens, blue-tits, long-tailed tits and mistle thrushes were commonly seen. Both grey and yellow wagtails were frequently noted around the locks.

In terms of protected species, the canal provides suitable habitat for a number of bird species including the Annex I species, the kingfisher (*Alcedo atthis*), which feeds on fish in the canal and nests in excavated tunnels on banks of canals, rivers and streams. The kingfisher was often observed during the habitat surveys for this study. Threats to the kingfisher along the canal may include loss of bankside habitat for nesting sites due to bank erosion or disturbance and also deterioration of water quality.

Threats to waterfowl on the canals may include loss of habitat e.g. cutting of reed fringe used by species such as moorhen and coot.

Fish

The Grand Canal is known among anglers for its coarse fishing. The main species found are bream, roach, rudd, pike, perch, tench and carp.

Invertebrates

The Study corridor provides suitable habitats for a rich diversity of invertebrates including Desmoulins' whorl snail and white clawed crayfish (both protected species), and various dragonflies and damselflies.

Habitats and Flora

A number of important habitats occur along the canal.

Calcareous Grassland

The Annex I (Habitats Directive) habitat, "grasslands on calcareous substrates" (*Festuco-brometalia*) is recorded, along the length of the canal. Whilst the status and extent of this habitat along the canal requires to be established, nonetheless its presence increases the ecological significance of the canal. Orchids are recorded along the canal banks, but the level of diversity is strongly reliant on the management regimes in the area. This habitat is sensitive to inappropriate mowing and/or application of herbicides, revegetation and dumping of spoil.

Peatlands

The midlands region of Ireland is renowned as being the centre of raised bog distribution in Ireland. Ireland's raised bogs are acknowledged as being of international importance. Clara Bog and Raheenmore Bog, both candidate Special Areas of Conservation, located at the north of the waterways corridor, are among the best examples of active midland raised bogs in the country. There are also examples of revegetated peatlands within the study corridor such as at Lough Boora and Turraun.

Potential threats to raised bog habitat include harvesting of peat for fuel, and drainage for agricultural reclamation. Whilst the best examples of this habitat are protected via nature conservation designation, most areas are still subject to damaging operations.

Whilst active raised bogs can withstand only low levels of recreational activities, the revegetated bogs possess considerable opportunities for both educational and recreational facilities.



Lough Boora Parklands, view south east across the lough

Woodland

Charleville Wood, a candidate Special Area of Conservation, is linked to the canal corridor by an area of scrub woodland in Ballynagh townland, just west of Tullamore. It is an old planted wood, which may include areas of ancient woodland, surrounded by estate parkland and agricultural grassland. Oak and ash are the predominant tree species. There is a well developed fungal flora in the woodland which is notable for the presence of several rare myxomycete species. The site is also notable for the presence of a population of the rare snail species, *Vertigo moulinsiana*, centred around Charleville. The lake is an important wildfowl habitat.

Issues relating to the conservation and management of Charleville Wood will be addressed in detail in the forthcoming Conservation Plan, currently in preparation by Dúchas.

The area between 33rd Lock at Belmont and L'Estrange Bridge is notable for the number of mature deciduous trees along both towpaths. Despite the generally high quality of the hedgerows along the Canal study corridor, groups of mature deciduous trees are uncommon. Therefore this heightens the ecological value of this length of the canal as the presence of several mature trees expands the numbers of

microhabitats available for colonisation. These microhabitats are necessary for the success of a large number of invertebrate, mammal (especially bats) and lichen species in particular. The conservation and management of such mature trees is important.

A number of rare plant species have recently been recorded along the canal.

Bee orchid (*Ophrys apifera*)

Variegated horsetail (*Equisetum variegatum*)

Opposite-leaved pondweed (*Groenlandia densa*)

Other areas of ecological significance

Dromey et al. (1992) identifies a number of "Areas of High Ecological Interest" along the Grand Canal corridor. These are areas which have not been over-managed and which support a particularly high diversity of plant species, habitat, invertebrate and bird species. Three such areas are identified within the study area. Details of the areas and the reason for identifying them as outlined by Dromey et al. (1992) are as follows:

West of Ballycowan

A species rich, old hedgerow is recorded here. The area contains a diverse bank flora including the wild herb marjoram (*Origanum vulgare*).

West of Pollagh

The bank, towpath and boundary verge are very diverse. Lime and acid loving plants exist side by side. The canal passes through raised bog in this area. The presence of the River Brosna, close to the canal adds to the diversity in this area.

Judges' Bridge to Belmont

The boundary verge and bank verge is a species rich grassland with many orchids and lime-loving species. An old quarry and an esker ridge are located on the south bank and now support an esker woodland.

2.4.3 Habitats of the River Shannon

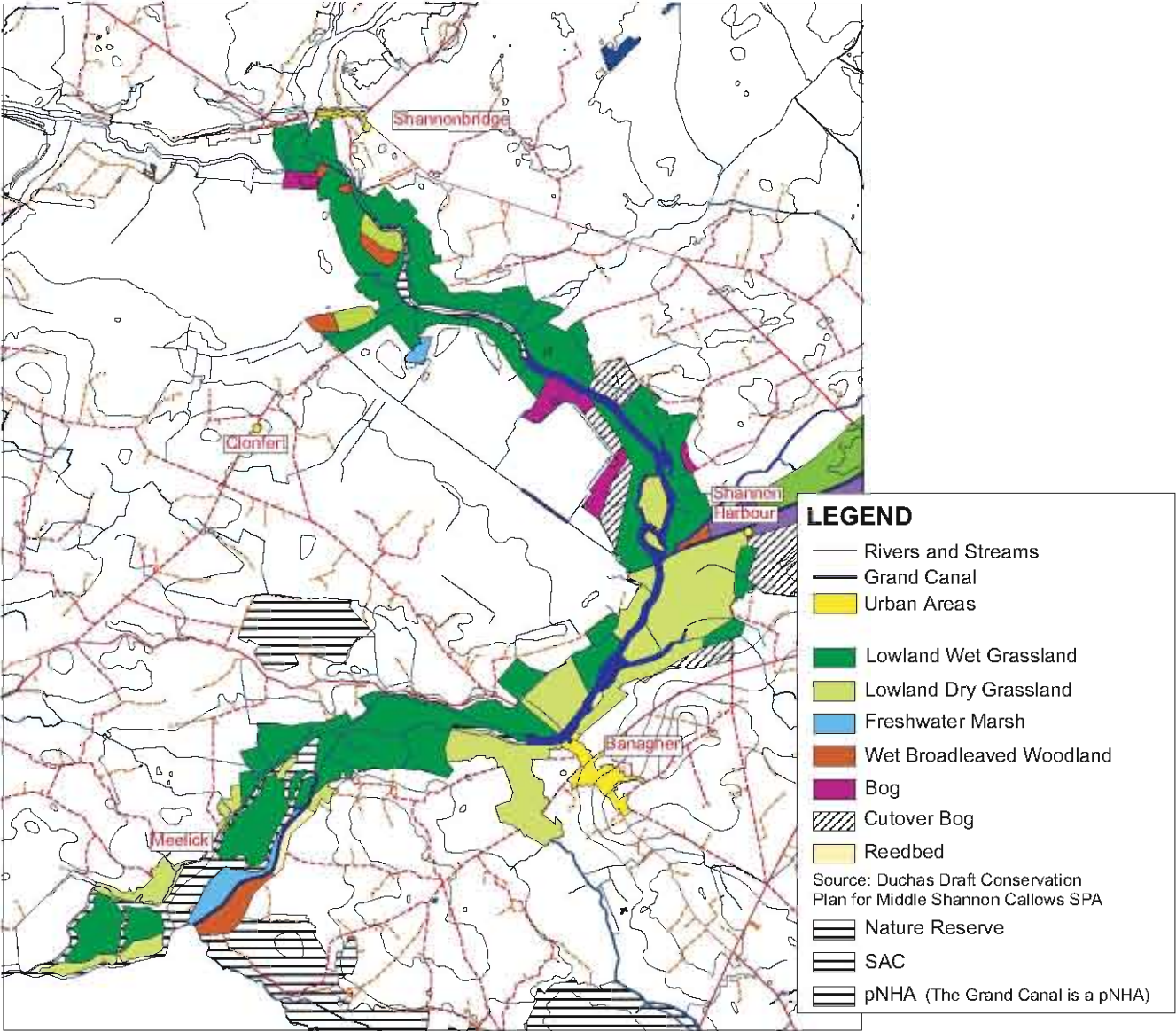
The Shannon Callows is an area of semi-natural grassland which lies adjacent to the river Shannon and which floods in the winter and spring. The callows have a rich assemblage of flora and provide feeding grounds for internationally important numbers of waterfowl. The width of the callows varies. In a few places they are only as wide as the river but they can be as wide as one mile, as at Shannonbridge.

Due to difficulties encountered in mapping, the habitat assessment of the River Shannon is based largely on information gathered from Duchas.

The Draft Conservation Management Plan, prepared for Dúchas, for the callows SPA identifies 17 different habitat categories within the designated site (Guest, in preparation) (See Map 3 Ecological Assessment - Shannon River). Most of these habitat types are likely to be present within the study area. Not all habitats recorded are mapped due to their small area (e.g. exposed rock) or extensive nature (e.g. drainage ditches). In addition, the habitats mapped comprise only those that occur within the SPA and not those within the wider corridor. The habitats recorded in the callows SPA are as follows:

- Lowland wet grassland
- Rivers and streams
- Lowland dry grassland
- Raised bog
- Wet Broad-leaved semi-natural woodland
- Drainage ditches
- Reedbeds and other swamps
- Non-marine islands
- Cutover bog
- Canals
- Lakes and Ponds
- Freshwater marsh
- Fens and flushes
- Dry broadleaved semi-natural woodland
- Improved grassland
- Scrub
- Exposed rock

Map Three Ecological Assessment of the Shannon River



2.4.4 Ecological Value of the River Shannon

The unique plant communities and habitats associated with the callows result from a complex interaction of flooding, especially spring flooding, soil type, the movement and chemistry of surface and groundwater and historical and current land management practices (Heery 1993). It is the largest area of such habitat in the country. They are former fens, which have been modified by man over the years.

The ecological value of the Shannon Callows is well documented. Its value can be attributed to a number of factors:

- A) It is of international importance for a large number of bird species
- B) It supports a number of rare and protected habitats, plant and animal species
- C) It is of significant value as an ecological corridor and has links to other internationally important habitats

Fauna

Birds

The Shannon Callows are of international importance for wintering wildfowl. There are important populations of wading birds also. The callows are host to a number of Annex I species including Bewick's, whooper swan, greenland white-fronted goose, merlin, hen harrier and peregrine falcon. Almost half the Irish population of the globally endangered corncrake (*Crex crex*) was recorded on the callows in 1998.

Areas of grassland along both sides of the Shannon from Shannonbridge to south of Banagher have been highlighted by Birdwatch Ireland as the main corncrake breeding habitats (Birdwatch Ireland data in Guest in prep.).

The Little Brosna callows and the Little Suck callows, both adjacent to the study corridor are important habitats for the Annex I Greenland white-fronted goose. These areas along with the Shannon callows provide ideal feeding habitat, namely wet grassland plants, for the species. The numbers recorded on the Shannon callows has declined since the 1940s, whilst the Little Brosna has become a more important habitat for this species.

Threats to these species arise predominantly from agricultural activities. There is however concern that the recreational activities of boaters (e.g. stopping to walk or picnic in the grasslands along the river's edge) and anglers could constitute a disturbance to the birds (Birdwatch Ireland pers. comm. and Guest, in prep.).

Dúchas has indicated concerns regarding the disturbance to wintering waterfowl from commercial cruiser traffic along the River Shannon (Dúchas pers. comm.). Studies conducted in Britain and the U.S. have

highlighted the negative effects of disturbance on waterfowl associated with recreational activities such as power boating, water skiing, cruising, fishing, hiking and picnicking (in decreasing order of effect). Wave action associated with the wash from boats can negatively effect nests, bankside vegetation and can lead to erosion of banks (Warrington 1999; Dromey et al. 1992). Such disturbance causes an increase in predation and brood loss resulting in a long-term decline in waterfowl. There is however no documented data regarding the impacts of recreational activities on wildlife in the study area.



December flocking of the Shannon callows with the central line of reeds (*phragmites australis*) marking the river's normal edge.



Mute swan (*Cygnus olor*) on the River Shannon facing some typical summer traffic, a barge and a cruiser.

Mammals

Many mammal species are known to occur in the River Shannon study corridor and several of these such as the otter, badger, hedgehog, mountain (Irish) hare, red squirrel, pine martin, pygmy shrew, stoat and various species of bat are protected. Other mammals likely to occur in the farmland habitats on the corridor's edges are wood mice, fox, brown rat, rabbit. It is also likely that bank voles are present in the area. The main threats to the otter, listed as a priority species in the Habitats Directive, are considered to be decreasing water quality, disturbance by man due to recreational pressure and changes in land use.

Amphibians

The common frog (*Rana temporaria*) is found across a broad range of wetland habitats in Ireland including the wet fields, drains and cutover bog edges along the length of the Shannon study corridor. The frog is widespread and common in Ireland but it is a Red Data Book species ranked as internationally important due to its scarcity in the rest of Europe. The smooth newt (*Triturus vulgaris*) also occurs in the Shannon callows.

Fish

The river Shannon contains some game fish, namely brown trout and salmon, and an abundance of coarse fish. The main coarse species found are bream, roach, rudd, perch, tench, carp and eels. Pike are a prized catch and the Meelick area is reputedly the best for pike in the mid-Shannon area.

Flora & Habitats

The callows are host to a number of rare plant species and also a number of habitats which have links to Annex 1 habitats listed in the Habitats Directive. The backwaters of Meelick-Redwood are of high ecological significance for the presence of a number of scarce and / or rare plant species. Areas of freshwater marsh which host a number of scarce species such as marsh bedstraw, greater water parsnip, greater spearwort and water dock, are well developed in the backwaters of Meelick-Redwood. Summer snowflake is recorded here also (Guest, in preparation). These areas of marsh may be sensitive to changes in water quality, drainage activities and vegetation clearance.

Fen

An area of fen, fed by a petrifying spring, which is thought may conform to the Annex 1 habitat "Alkaline Fen" is recorded near Banagher at Cloncallow (Guest, in preparation). This type of habitat is considered to be sensitive to changes in groundwater quality associated with agricultural run-off etc.

Woodland

A large dry, broad-leaved semi-natural woodland dominated by hazel is recorded near Banagher at Cloncallow (Guest, in preparation).

Calcareous Grasslands

Some areas of species rich calcareous grasslands, occurring in hay meadows which have links with the Annex 1 habitat "Semi-natural dry grasslands and scrubland facies on calcareous substrate (*Festuco-Brometalia*)" are recorded around Banagher, Shannonbridge, Inishee and Lehinch. These habitats include a number of orchid species including the rare Green-winged orchid.

Levéés in hay meadows in the vicinity of Banagher are host to communities of species rich calcareous grassland habitat which has characteristics of the Annex 1 habitat "mesophile grassland lowland hay meadow". The rare plant meadow barley and marsh stitchwort, an uncommon species found mainly in central Ireland is recorded from hay meadows near Banagher. There are records of the rare summer snowflake from a hay meadow in the vicinity of Shannon Harbour (Guest, in preparation). The grassland habitats are sensitive to agricultural management practices.

2.4.5 Water Quality in the Waterways Corridor

Water quality monitoring on the Grand Canal and Shannon-Erne Waterway is conducted by the Central Fisheries Board. Overall water quality in the Canal and the Shannon is good and commensurate with their use as multi-purpose amenity resources. In both systems however, breaches of nutrient threshold levels occur, increasing the risk of eutrophication and accelerated aquatic weed growth.

2.4.6 Ecological Significance of the Waterways Corridor

There is presently no commonly accepted, standard methodology for the rating of habitats to local, regional, national and international level in Ireland. Therefore, this study has relied on the existing rating of designated sites proposed by Dúchas. The assessment of the significance of these habitats is based on data currently available. However it should be noted that there are many gaps in current ecological data on the study corridor.

According to Dúchas NHA files, based on results of ecological surveys conducted in 1993/1994, the Grand Canal pNHA is of regional ecological importance. However, a report undertaken by a number of non-governmental organisations, calls for the Grand Canal pNHA to be upgraded to SAC status, due to the presence of the priority habitat type "grasslands on calcareous substrates" (*Festuco-brometalia*) (Hickie 1999).

The Shannon Callows Special Protection Area and candidate Special Area of Conservation is of international ecological importance (Colhoun 2000).

2.5 The Study Area - Built Component

The archaeology of the study area was investigated by Cultural Resource Development Services to determine its significance in the context of the waterways corridor's heritage value. O'Brien and Kaye Architects assessed the value and enhancement potential of structures identified in the archaeological and landscape assessments. This section summarises the findings of both studies (See Appendix 3 for details)

The significance of the industrial archaeology, the tangible evidence of social, economic and technological development in the period since industrialisation (thus including canal, navigation and related infrastructure), is apparent and is made vivid by its continued usage. Those sites not integral to the Canal itself were for the most part built and located to make use of the transport corridor and are thus equally apparent, significant and accessible.

Although specific elements of the cultural heritage of the waterways corridor are of special interest it has an intrinsic value as a diachronic landscape, i.e. a spatial area containing clusters of archaeological sites of different periods.

The Grand Canal was constructed through an archaeological landscape that has existed for 8,000 to 9,000 years. All sites within 500m from the Canal (a five to ten minute walk) dating from the Prehistoric, Medieval, Post-medieval and Modern periods have also been recorded and researched. Although these sites may have no direct relevance to the waterways and vice versa, the waterways afford the opportunity for the interpretation / appreciation of these often remote sites. The status and value of such sites is thus enhanced, as is the value of the waterways as an amenity route.

2.5.1 Industrial Archaeology

The history of the Grand Canal and Shannon Navigations is described in Section 2.1 of this report. The following describes the structures built as part of the navigations, and subsequently for other industries.



Victoria Lock at Meelick



Lock 26 and the renovated lock-keeper's house known locally as the 'Round House' east of Tullamore.



The short branch off the Grand Canal to Tullamore Harbour, obscured here by Waterways Ireland's workshops and offices

Navigation Infrastructure

Four sites along the Shannon River required canalisation when work commenced on the Navigation in the mid-18th century. A lateral canal (Clonaheenogue Canal) and single conventional lock (comprising two sets of gates and a chamber - Hamilton Lock) was built at Meelick to by-pass extensive rapids. A single-storey stone lock house was built on the east bank of the river at this time. This infrastructure was abandoned in the 1840s and a new canal and a larger lock, Victoria Lock, were built to allow the passage of larger steamers. These remain in use today.

In the mid-1750s a short section of canal was also constructed at Banagher. The section consists of a c. 600m length of lateral canal running in an east-west direction to the north of the river. A flash lock consisting of a single set of gates through which a craft must be towed (travelling upstream), was constructed. The flash lock was replaced by a conventional lock in the early 19th century. The lateral canal was abandoned at Banagher in the 1840s after construction of the present bridge with its navigation channel on the east side of the river. The lateral canal, lock, and a lockhouse near the bridge are still in existence. The canal, now derelict and almost completely filled in, is included in the Record of Monuments and Places for County Galway.

A short canal with a flash lock at the east side of the Shannon at Shannonbridge was built in the 1750s. Elements of the canal architecture built as part of the early navigation scheme includes the small square two-storey lockhouse now in use as the Heritage Centre. A conventional lock replaced the flash lock in the early 19th century. In the 1840s the canal wall and lock at Shannonbridge were removed by the Shannon Commissioners and replaced by a navigation channel along the same line. One side of the original canal and lock was retained and the original lock gate recesses are still visible under the road bridge.

The 1715 Act, which initiated development of the Shannon Navigation, also contained plans to connect Dublin to the main river systems of the Shannon and the Barrow. In the mid-18th century the plan for the "Grand" canal line, which would run south of the Liffey, cross the Bog of Allen and connect with the River Brosna and the Shannon, was begun with the appointment of Thomas Omer. He began by surveying the route and taking levels for the canal in 1757 and construction work commenced the following year. The canal was constructed as far as Daingean in 1797 and completed as far as Tullamore in 1798. The large harbour at Tullamore was constructed on completion of the canal and acted as the terminus while options were discussed for the route from Tullamore to the Shannon. A range of canal-related buildings such as warehouses and docks were constructed at the harbour at the beginning of the 19th century, but were demolished in the 1940s. The canal hotel was constructed in 1800-1801 by Michael Hayes, the same

contractor who was responsible for the construction of the lock keepers house at the 26th lock. Low passenger numbers led to the hotel's closure in the 1830s and it was subsequently used as a presbytery until 1974 when it was demolished.

Between Ballycommon and Tullamore Harbour there are six locks (Locks 21 to 26) with lock-keepers' houses at Locks 21, 24, 25 and 26. Bridges along this section include Chenevix Bridge at Ballycommon, Campbell's Bridge over the entrance to the Kilbeggan Branch, Capproe Bridge, Digby Bridge near Lock 25 and a bridge over the entrance to the harbour at Tullamore.

Once work was underway on the remainder of the Grand Canal from Tullamore to the Shannon in the valley of the Brosna River, work commenced on the facilities at Shannon Harbour. It developed as a major terminus for commercial traffic with the completion of the line in 1805. The village contains a number of extant buildings directly associated with its use as a transshipment centre for goods and passengers such as the dry docks and repair yard. The Grand Canal Company Hotel was completed there in 1806.

Between Tullamore and the Shannon river there are ten locks (Locks 27 to 36) including one double lock (Lock 33 at Belmont), with lock-keepers' houses at all but Lock 36 (the house at Lock 32 is derelict and the house at 35 is of recent construction). Bridges along this section of the canal include Cox's Bridge at Lock 27 in Tullamore, the contemporary road and rail bridges at the western fringe of Tullamore, Shra Bridge, a bridge at Lock 29, the Huband and Charleville aqueducts (crossing the Tullamore and Clodiagh Rivers), Corcoran's and Becan's Bridges near Rahan, Henesy's Bridge, Balincloghan Bridge at Lock 30, Cornalaur Bridge at Lock 31, Plunkett Bridge in Pollagh, a contemporary Bord na Mona swing bridge (light rail) near Turraun Peat Works, Derry Bridge, the Macartney Aqueduct crossing the Silver River, Armstrong or Gallen, Noggus and Glyn Bridges near Ferbane, Judges Bridge, Belmont Bridge at Lock 33, L'Estrange Bridge, Clononey Bridge at Lock 34 and Griffith Bridge at Shannon Harbour.

The extension of the Grand Canal system with the construction of the Ballinasloe Branch was proposed in 1817 and a loan was raised by the Grand Canal Company in 1822. It was decided to construct a canal which joined the Shannon opposite the entrance to the Grand Canal. The canal was opened in 1829. This section of the canal is listed in the Record of Monuments and Places for County Galway. The remains of Fanning's Lock, one of only two locks on the Ballinasloe branch, is still visible on the west side of the Shannon opposite the entrance to the Grand Canal. It carried traffic until 1959 and was officially closed in 1961. Sections of the line of the now dry canal have been subsumed by the Bord Na Mona bog workings and a light industrial railway line has been laid along much of its length. Between 1830 and 1835 the construction of a new branch line from Ballycommon to Kilbeggan was undertaken. The canal was 8 miles in length and had no locks. The branch was

closed in the early 1960s and allowed to become derelict though the Harbour at Kilbeggan has been restored for use.

Peat Extraction

Though documentary evidence provides evidence for the collection of turf for fuel in late medieval Ireland the move towards the industrialisation of peat extraction did not start until the 18th century. One of the major influences for this was the drainage of the midland bogs in advance of the construction of the Grand Canal (Egan 1999, 123). This provided firmer working conditions and a transport network for transferring the peat for sale in Dublin markets. The secondary industry of brick making also developed around Gallen and Pollagh in County Offaly as raw materials could be sourced under the peat and the turf could be used to fire the brick kilns. The sites for brick manufacturing were carefully chosen in order to provide access to water transport which in this case was facilitated by the Grand Canal.

The early development of the industry took place at Turraun bog near Pollagh. In the early 19th century the Farrelly family were involved in the manufacture of Gallen brick and iron ochre and by the 1850s they were involved in the extraction of peat moss. Kieran Farrelly recognised the need for dried moss peat litter, which was used by the British Army for horse bedding (Egan 1999, 123), and built a litter works, marked on various editions of the OS 6" inch, Sheet 15. By 1890 he had constructed a factory type building containing machines to grind and bail the large sods of moss peat. The drainage process and the construction of access roads altered an extensive part of the local terrain. Following the flooding of the works by a breach of the Grand Canal at the beginning of the 20th century, Farrelly lost the business. In 1924, a Welsh engineer, Sir John Purser Griffith, acquired Turraun and built his own peat-fuelled power station using electricity to power his large German excavating machines. Griffith continued the production of peat moss litter but extended the drainage systems and manufactured fuel peat, poultry peat and garden moss peat (Egan 1999, 124).

Peat-fired generating stations are still a dominant part of the landscape of the waterways corridor. The generating station at Shannonbridge uses milled peat from the Blackwater Bog and draws cooling water from the Shannon.

Distilling

The availability of constant supplies of the two main raw materials associated with the distillation process, namely clean water and corn, lead to the establishment of the first distillery in Tullamore by Michael Molloy in 1829. The distillery was taken over by Bernard Daly in the mid-19th century and passed to his son in 1887. Daniel Edmond Williams, who had trained as a distiller in the company, was promoted to the position of general manager at this time. Williams undertook the modernisation



A view eastwards from Ballincloghan Bridge over Lock 30. A tarred road to each side of the Canal is rare outside of urban areas.



Campbell's Bridge over the entrance to the now derelict Kilbeggan Branch, near Ballycommon above Lock 21.



A view towards Belmont Bridge over the double lock (Lock 33) showing the old mill, now converted to a residence and artist's studio, and workshops in the left foreground.

and expansion of the distillery. Williams initials were used in the naming Tullamore DEW which was produced at the distillery. A contemporary visitor described the buildings and associated machinery in the late 19th century. There were eight granaries from which the corn was sent to the kilns for drying, a mill building with eight pairs of stones and eleven large warehouse buildings covering nearly 5 acres (Barnard 1887, 387-9). The distillery also supported a large number of crafts and tradespeople such as coopers, millwrights, carpenters and engineers. The remnants of the distillery consisting of a large bonded warehouse and bottling plant built in 1897 has housed the Tullamore Dew Heritage Centre since 2000 and is located on the south bank of the Canal to the west of the town.

2.5.2 Cultural Archaeology

Few permanent settlement sites dating to the prehistoric period have been discovered in the waterway corridor. This may be due to the nature of the landscape surrounding the Grand Canal and the River Shannon, which would have been unattractive to prehistoric settlers. Prehistoric activity is attested to however by the wide scale deposition of stray finds and concentrations of finds along the River Shannon.

Prehistoric Period

The Shannon would have functioned as an imposing boundary to prehistoric peoples especially when the river was in flood. The first stone bridge across the river is not recorded until the mid-11th century and prior to this use would have been made of fording points such as Keeloge ford and Raghra (renamed Shannonbridge in the mid-18th century). Large-scale deposition of material in the river is evident from as early as the Neolithic period. Five stone axeheads were discovered in the Shannon at Keeloge, along with the greatest concentration of the one hundred and forty eight Bronze Age artefacts found in the river.

Medieval Period

County Offaly as a territorial unit was only formed following the plantation of Leix-Offaly in the early 17th century. In the early medieval period the area surrounding the waterway consisted of a series of four distinct tribal units namely Ely O' Carroll, Delbna Ethra, Fer Ceall, Ui Failghe and two smaller units Ui Maine and Kinelaeagh. The area was also significant because it was located at the boundary between the ancient provinces of Mide, Munster, Leinster and Connacht. The social-geographical status of the area at that time is attested to by the siting of several ecclesiastical sites within the waterway corridor. Proximity to the Shannon, allowing for travel and communication with the outside world also had a part to play in the location of the churches and ecclesiastical settlements. Most important of the Medieval sites are the cathedral at Clonfert dating from the 10th century and built



The remains of Church Two at Rahan, rebuilt in the 15th Century and incorporating features of an earlier Romanesque building



Church Three at Rahan. The original monastery was founded in the 6th Century by St. Carthage



Shra Castle in the townland of Ballydrohid at the western outskirts of Tullamore in County Offaly, dating from the Post-medieval period

on the grounds of the monastery founded by St. Brendan the Navigator in the 6th century, and the monastery at Rahan (including three churches), also founded in the 6th century.

Evidence of urban settlement in the study area begins with the development of monastic towns at Rahan and Gallen (near Ferbane) by c. 800. There are little surface archaeological remains and evidence for their urban status is primarily historical (Fitzpatrick 1998, 96). Within County Offaly only two medieval boroughs were set up at Dunkerrin and Seirkieran, both of which are outside of the study area. In County Galway a small rural borough was founded at Meelick, which had acted as an important crossing point on the River Shannon since the prehistoric period. In 1414 a Franciscan settlement was established here around a church, which was subsequently renovated and refurbished and still functions today.

Post-medieval Period

The plantation of Offaly took place in the period from c. 1556 to 1626 AD, heralding the Post-medieval period. Previous to the plantation the County comprised a series of lordships and the area surrounding the Grand Canal and to the east of the river Shannon was held by the MacCoughlans. The MacCoughlan lordship is largely coterminous with Garrycastle barony and was settled by Matthew de Renzy in the early 17th century. De Renzy proposed that fifteen of the twenty-eight castles that were in Irish hands should be given to English settlers. De Renzy chose the 16th century tower house at Clonony as his seat. The tower house at Coole and Srah Castle in Ballydrohid townland (western outskirts of Tullamore) are also significant sites from this period.

Along with the reallocation of the castles to English settlers De Renzy also stressed the importance of securing the Shannon as a gateway to Connacht. A settlement at Banagher may have existed in the Early Medieval period centred at the church of Cill Rignaigi, though there is little evidence that the town developed prior to the early 17th century. The settlement was granted a weekly market in 1610 and a fort was completed on the east bank of the Shannon by 1624. In 1628 the town was granted borough status by Charles I with the right to hold a weekly market and annual fair.

With the consolidation of the plantation, the design of houses was less influenced by the need for defence and more by the need for comfortable accommodation. Examples of buildings from this period include the fortified house at Ballycowan characterised by a five-storey tower and tall chimneystacks, and Ballysheil House on the south bank of the Brosna River close to Belmont.

Later medieval churches are also found within the visual corridor of the waterway. The church and graveyard at Kilbride, Ballycowan barony is situated on high ground commanding extensive views in all directions.

Napoleonic Fortifications

The possibility of war with France was recognised at the end of the 18th century. French invasion plans included a proposed landing of troops at Galway Bay followed by an overland advance to take Dublin. The crossing points on the River Shannon, between Lough Derg and Lough Ree, were therefore of strategic importance to the British in the protection of both Ireland and Britain. With the renewal of the war with France, from 1803 to 1814, plans were put forward for the construction of permanent defences at Athlone, Shannonbridge, Banagher, Keelogue and Meelick to replace earlier fieldworks. The Shannon fortifications are of special significance due to their inland location.

Due to its proximity to a possible landing point at Galway Bay the crossing point at Shannonbridge was heavily defended. The remains of the tetes-de-pont or bridgehead fortifications, which were constructed between 1803 and 1816, still dominate the western side of the river and are considered to be some of the most important fortifications of this period left in Great Britain and Ireland. The western end of the bridge was protected by a small arms barracks north of the bridge and a large bomb-proof barracks to the south of the bridge. The east front of the building faces the river and is generally unprotected and more typical of a Georgian domestic building in design.

In the early 19th century Banagher was identified as a suitable defensive position. Cromwell's castle at Banagher was strengthened and converted into a powder magazine and a gun was mounted on the roof in 1806. A Martello tower constructed c. 1812, stands on the west side of the river and was protected by one gun. The east end of the bridge was protected by the strongly fortified barracks, called Fort Falkland. Fort Eliza, a short distance downstream, was a five-sided battery protected by four guns, a small guard-house and surrounded by a moat. The building in the centre of the fort, which still retains its brick vaulting, functioned as a powder magazine. The combination of Cromwell's Castle, the Martello tower and Forts Falkland and Eliza would have protected both the town and the river crossing from all angles.



A view from the bridge at Shannonbridge of the Napoleonic fortifications built in the early 19th century in anticipation of a French landing in Galway Bay.



A view of Cromwell's Castle west of the bridge at Banagher, strengthened and converted into a powder magazine in 1806 as part of preparations for the anticipated French landing.



A view from the Shannon of Napoleonic fortifications at Keelogue near Meelick, built in the late 18th century.

Early maps of the area around Meelick show a series of earthwork defences and a fort guarding the rapids on Cromwell's Island. In the late 18th century the earthwork defences were strengthened and the Keelogue Battery and blockhouse were constructed. The battery was a strong, 6-sided, stone building larger and more elaborate than Fort Eliza. It was surrounded by a moat and access to the battery was via a drawbridge. A second battery was located to the north and consisted of an irregular enclosure surrounded by a dry moat. A strong blockhouse provided accommodation for the magazine and garrison. An unusual cam-shaped Martello tower constructed in the 1840s, now stands on the island created by the new canal.

By 1806 there was an extensive barracks at Clonony, housing about 2000 men with stores, a barracks master's house and a parade ground. The Grand Canal had at this stage been completed as far as Shannon Harbour and the barracks functioned as a central garrison to aid troop movements along the canal to and from Dublin (Kerrigan 1975a, 63). The remains of the gatelodge are visible to the west of the road leading to the castle.

2.6 The Study Area - Landscape / Visual Component

The study and survey of the waterway corridor's socio-economic, natural heritage and built heritage components resulted in the definition of ten landscape character areas. These form the framework for detailed appraisal of the waterways corridor in Section Four:

1. Between Ballycommon and Lock 24
2. Between Lock 24 and Tullamore
3. Tullamore
4. Between Tullamore and Rahan
5. Between Rahan and Pollagh
6. Between Pollagh and Lock 32, Glyn Bridge
7. Between Glyn Bridge and Shannon Harbour
8. Shannon Harbour and West to the Shannon River
9. Between Shannonbridge and Banagher
10. Banagher and West to Victoria Lock, Meelick

The character areas are briefly described below, and illustrated on Map Four – Landscape Character Assessment.

Character Area One - Between Ballycommon and Lock 24

The land use pattern is dominated by grassland with confined patches of arable land / tillage, forestry (more so to the north) and occasional saturated fields of heather. There is little topographical variation. The canal follows a very direct east-west route, with the Tullamore River running parallel some 1.5 km to the south. Structures are few and concentrated in the adjacent land (area of immediate influence) north of the canal. Ballycommon at the eastern extent of the area is the only notable settlement in the vicinity of the Canal although the scattered village structure does not successfully integrate the Canal.

Character Area Two - Between Lock 24 and Tullamore

The land use capability of this area (for farming, according to the Atlas of the Irish Rural Landscape, 1997) is limited, with improved grasslands of poor agricultural quality, well below the level of the canal, dominating the land use pattern. There is no topographical variation in the landscape; the canal follows a direct east-west route. There are no settlements in the area. Busy third class roads running parallel to the Canal (0.5 km to the south and 1 km to the north), leading to Tullamore at the western extent of the area, are prominent in the landscape. The development and traffic along these roads is visible, and this in combination with the views towards Tullamore, results in an over-riding character of urban influence.

Character Area Three - Tullamore

Tullamore, the Offaly County town, is a busy urban centre with a population of over 10,000. The canal bisects the town and separates the largely residential and industrial northern half of the town, from the predominantly commercial centre amidst mixed use to the south. The canal is fronted by housing to the north for most of the urban stretch and by a variety of uses including a school and community facilities, shopping area, heritage / tourist facilities and houses to the south. The harbour and remaining harbour buildings at the eastern extent of the town house the central engineering works depot for Waterways Ireland's Eastern Region.

Character Area Four - Between Tullamore and Rahan

Similar to Area One, the land use pattern is dominated by grassland, but with substantial patches of forestry and wilderness to the south (Charleville and adjacent to the Tullamore River). There are notable variations in landform, including a prominent esker running parallel to the Canal some 2km to the north. Crossing two rivers there are minor deviations in the Canal's otherwise direct east-west route. Roads nearby to the north of the Canal near Carton West / Ballycowan have resulted in a fairly densely settled rural character in the immediate area. In the vicinity of Rahan at the western extent of the area, road access to the south alters the pattern from predominantly agricultural to predominantly settled.

Character Area Five - Between Rahan and Pollagh

Land use capability in this area ranges from wide in the east through somewhat limited to very limited (in the bogs) in the west. This is clearly reflected in the pattern of use. The Canal passes through undulating topography in the east, where its route deviates slightly around the hills, before entering a long straight stretch through a peatland dominated landscape. A feature of this area is the extent of road access, most dense in the east where the houses adjacent the Canal result in a suburban-like character. The village core of the otherwise scattered settlement of Pollagh at the western extent of the area is situated adjacent to, and structurally incorporates the Canal, unlike most of the rural settlements in the study area.

Character Area Six - Between Pollagh and Lock 32, Glyn Bridge

Through this area the Canal follows the path of the Brosna River (parallel, less than 1 km to the north), dividing the extensive complex of Bord na Mona peatlands adjacent to the south, from Lemanaghan bog to the north. While industrial peat harvesting dominates the area's land use, marginal areas through which the canal and river pass, are a matrix of improved grassland, some cutaway bog, coniferous forestry and regenerating wilderness on areas no longer in production. There is negligible topographical variation. Limited access to the surrounding land results in few visible structures, except to the west where Noggusboy bog is somewhat

removed from the Canal and the lands adjacent are farmed.

Character Area Seven - Between Glyn Bridge and Shannon Harbour

The only significant variation in the study area's geology occurs in the eastern portion of this area resulting in a landscape of pronounced topography. Following the route of the Brosna River the canal meanders through an elevated, undulating landscape. The proximity of the river results in a relatively densely wooded landscape, especially to the north of the Canal. The wide land use capability in the east of the area is reflected in the patchwork of high quality pasture, which deteriorates to the west. The village of Belmont is located close to the Canal and a cluster of buildings once servicing the Canal, now mostly refurbished for other uses, are a prominent, attractive feature of the area. In the east the landform mostly obscures roads giving access to houses and farms to north and south, and in the west there is limited access with few buildings in the landscape.

Character Area Eight - Shannon Harbour and West to the Shannon River

Shannon Harbour is situated just east of the junction of the Canal and the rivers Brosna and Shannon. Its once pivotal role as the terminus the Canal is belied by the derelict state of its grand hotel, police barracks and various other buildings. However, Shannon Harbour remains a bustling centre of canal activity, providing permanent mooring and dry docks for maintenance of numerous canal and river-going craft. The canal and harbour are the focus of much of the activity in the village. West of the village towards the Shannon, the callows lie adjacent to the south of the Canal, while to the north there is dry grassland beside the Brosna and the confluence of the rivers.

Character Area Nine - Between Shannonbridge and Banagher

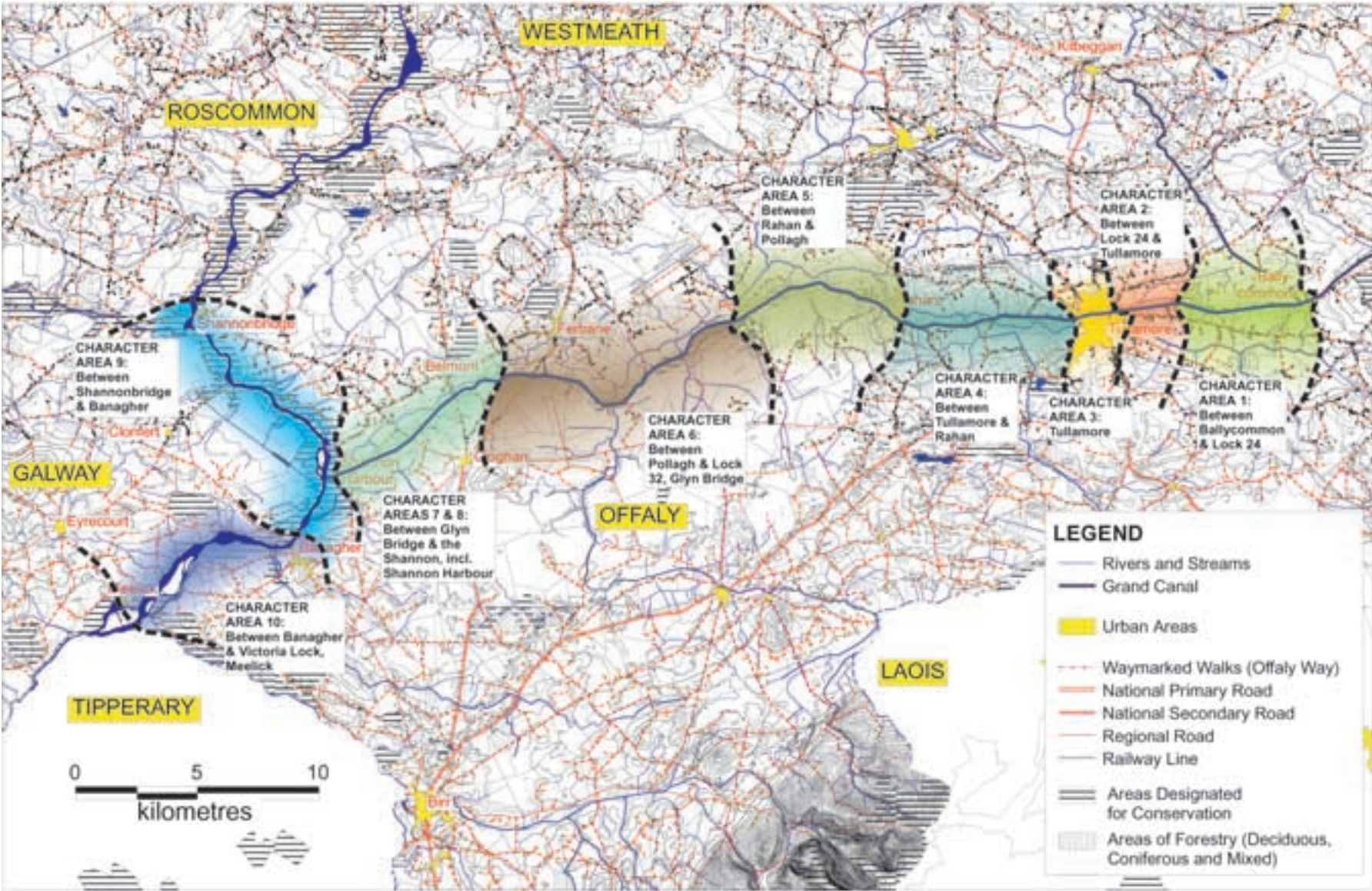
To the west of the river (County Galway), beyond the callows, productive Bord na Mona peatlands dominate the land use in a predominantly flat landscape. To the east, mineral soils with wide to somewhat limited land use capability support a typical patchwork of grasslands with a sparse scattering of farm houses and buildings on the slopes above the callows. There is a concentration of infrastructure to the north of the area centred around the obtrusive power station just south of Shannonbridge. Shannonbridge, the site of one of two road bridges that cross the Shannon in the study area, lies at the northern extent of the area. The small village is given prominence by the bridge, extensive Napoleonic fortifications, and the adjacent power station.

Character Area Ten - Banagher and West to Victoria Lock, Meelick

West and south of Banagher, the land on the Galway side of the Shannon is dry (i.e. no callows) for the most part. The callows to the east of the river (County Offaly) extend only half way from Banagher to Meelick and are narrow relative to the

floodplain to the north of the town. The land use capability is variable on both sides resulting in a typical agricultural land use pattern. Banagher is situated on elevated land beside the river where it cuts through an esker and the floodplain is restricted by high firm ground to both sides. The town is home to 1,800 people and its extensive navigation-related infrastructure and services help to attract over 50,000 visitors per year. A road heading south from the town to the west of the river, and one heading north to the east for short distances, give access to a mix of urban land use. At the southern extent of the area near Victoria Lock at Meelick, a few scattered buildings are visible in the landscape beside a road west of the river.

Map Four Landscape Character Assessment



SECTION THREE ISSUES AND OPPORTUNITIES

3.1 A vision for the Waterways corridor

In drafting a vision for the waterway corridors there is a recognition of a certain post study rationalisation of a vision based on:

- The close relationship between the definition of the waterway corridor and the vision.
- The relative randomness of the study area.
- The likely capacity of such a vision being applicable to a wide range of inland waterways in Ireland.
- The difference between the two waterway corridors – one based on a major relatively untamed river the other based on a manmade canal.

The purpose of setting out a vision is to describe a concept or ideal for the / a waterway corridor so that stakeholders can agree on what the waterway corridor is, should or could be and can therefore devise policies and actions to ensure that the vision is achieved and managed.

The previous sections and detailed analysis in the appendices, schedule the components of the waterway corridor involving:

- adjacent landscapes which influence the waterway,
- associated built, archaeological, cultural and architectural heritage within those landscapes,
- natural and ecological components that create and enrich those landscapes,
- and the social and economic activities of the local people that have over centuries moulded the other aspects of the landscape to create what we see today, and which will continue to operate to develop that landscape into the future.

The following paragraph attempts to both define the waterway corridor in a philosophical sense but also encapsulate an aspirational vision equally applicable to the Grand Canal and the River Shannon and perhaps other waterways but perhaps expressed differently in each.

"The waterway corridor should provide unique access to and an experience of the identity of the regions through which it passes offering positive images and attractions to residents and visitors.

It should provide an opportunity to experience and participate in a range of places where man, nature and history combine in varying proportions to create beautiful and spectacular, complex and simple, built and wild, but always rich and valuable, places.

The corridor should be managed to protect and enhance these places, to repair where

necessary and enhance in a considered and appropriate way.

The waterway corridor is an amenity for all which provides waterside settings and activities, navigational access and facilities, wildlife refuges and habitats, accessible where appropriate by foot or boat, attractive towns and villages, archaeological and built heritage - and emotional sustenance.

It should be managed and protected in partnership with the local communities to ensure it remains a sustainable resource to them and their descendants and a showcase of sustainable environmental quality management"

The above vision complements the general approach, policies and ethos of the National Heritage Plan, April 2002, and the lead given by specific actions proposed in the plan to:

- examine with local authorities the means by which investment, including investment by local authorities, in the waterways network and waterway corridors can act as a catalyst for greater development in local areas and define the extent of waterway corridors.
- ensure the protection and enhancement of hedgerows as a natural and archaeological heritage resource through the use of the regulatory, educational and financial measures as appropriate.
- ensure the conservation of the natural, archaeological and architectural heritage is an integral part of the future development of the waterways system.
- promote general actions relating to the protection of archaeological and architectural heritage.
- undertake an inventory of the natural, archaeological, and architectural heritage of the inland navigable waterways (including underwater sites).
- provide greater access to the waterways system, and from the waterways system to local areas, by improving the existing facilities and infrastructure. Ensure that such access is inclusive and is carried out in partnership with local authorities, local communities and other relevant groups.
- place interpretative panels containing information on aspects of heritage occurring locally at appropriate locations along the waterways system.

3.2. Themes and Issues

The vision set out above is a concept or ideal towards which stakeholders in the waterway corridor should constantly strive within a range of policy arenas and activities. The investigation of the various components of the waterways corridor (discussed in Section Two) in light of the project brief, highlighted a number of themes, each of which can be broken down into generic issues requiring management / policy response. The themes are as follows:

- Planning and development
- Economic development
- Tourism, recreation and amenity
- Community and local development
- Interpretation
- Wildlife and habitat
- Management

The identified issues are translated into opportunities for attainment of the vision for the waterways corridor through the formulation and implementation of policies. The tables on the following pages set out the identified issues and opportunities relating to the waterways, arranged according to the themes.

In Section 3.3 following the tables of themes, issues and opportunities, generic policies for the management, development and protection of the waterways are proposed. The application of the policies to the issues arising from the appraisal of the waterways character areas will inform the compilation of actions to be taken to address those issues. This process is illustrated in Section 4.

3.2.A. Themes and Issues		3.2.	B.Opportunities - to contribute to the vision
Planning & Socio-Economic			
Planning and development			
A.1.	Currently there is relatively low development pressure on both the canal corridor and its area of immediate influence, and the river corridor and its area of influence.	B.1.	A major opportunity to protect and enhance the quality of place inherited.
A.2.	There is a need to promote the consolidation of some of the smaller, embryonic villages associated with the waterways to achieve a distinct urban / built environment experience with sufficient critical mass to support services for waterway users and encourage them to stop and visit.	B.2.	An opportunity for residential and commercial investment and development to compliment the waterways experience.
A.3.	There is a need to ensure that industrial, commercial and residential development and policy is complementary to the development of an agreed vision and purpose for the waterways.,	B.3.	Investment will follow a quality environment.
A.4.	How do we devise appropriate development control mechanisms to balance economic development requirements with protection of both amenities.	B.4.	An opportunity to devise planning / development control mechanisms tailor made for the local issues.
A.5.	Cutover peatlands as they become available create the potential in both the Shannon and Grand Canal corridors to significantly contribute to the new use options to support local development objectives.	B.5.	Commence planning long term solutions for the cutover peatlands to optimise local economic and environmental return.
Economic development			
A.6.	Only one urban area fully exploits the potential of its relationship with its waterway corridor – Banagher.	B.6.	Waterways are a focus internationally for urban and rural regeneration.
A.7.	Other villages within the waterway or close to it, aspire to take advantage of their potential relationship with the waterway or do not maximise the opportunities presented.		
A.8.	The entire study area is within the BMW region. The western section of the study area is within Shannon Development's area of remit and they would be the main agency responsible for tourism development. There is a grant fund available under the National Development Plan for major investment in the waterways tourism product.	B.7.	The waterway corridors if carefully presented and marketed could play a significant role in bringing a wider range of visitor types (not just water-related visitors) to the area as well as highlighting a quality of life attractive to potential residents and commercial investors. Rural tax incentive schemes combined with a targeted strategy for balanced development of the corridor could address some aspects of regional disadvantage.
Tourism, recreation and amenity			
A.9.	The Grand Canal (corridor) is a linear park as well as a boating resource (with a finite capacity); its potential as a flagship corridor or attraction capable of generating a wider range of visitors is underplayed. Accommodation and facilities in the region for alternative users – walkers, cyclists, anglers, rowing / canoeing - is limited.	B.8.	There is an opportunity to broaden and enrich the waterway experience and appeal to a wider range of countryside and cultural activity interests.
A.10.	The Shannon corridor is also a linear park as well as a boating resource with a significant capacity; its potential as a flagship corridor or attraction, capable of generating a wider range of visitors is being realised. Accommodation and facilities in the region for alternative users – walkers, cyclists, anglers, rowing / canoeing - is improving.	B.9.	There is an opportunity to broaden and enrich the waterway experience and appeal to a wider range of countryside and cultural activity interests.
A.11.	Tourism marketing in the study area is carried out by a range of different bodies resulting in mixed or incomplete messages regarding the product.	B.10.	There is an opportunity for the waterways to become the focal point of regional identity of their respective areas.
A.12.	Increased success (use) will raise other difficulties for management and protection of the resource.	B.11.	There is an opportunity to plan for success in the development and management of the resource to avoid conflict.
Community and local development			
A.13.	There is a perception amongst local communities and farmers in particular in the Callows REPS areas that they as individuals are not receiving benefits from the environmental management of restrictions on their land.	B.12.	There is an opportunity for environmental management / protection schemes to be closely linked to local communities and integrated with other local and rural development initiatives to ensure acceptance, compliance and community ownership of the aims of such schemes, and the benefits.
A.14.	The communities of East County Galway do not have an obvious relationship with the Shannon, however the River has traditionally been central to their way of life and the towns of west Offaly are often the principal local towns. The River is not regarded as a barrier or edge but as a link; however there are currently minimal benefits accruing to these communities from their proximity to one of the country's major natural amenities.	B.13.	An opportunity exists to link the Shannon to the nearest villages / centres through appropriate infrastructure – jetty / pier and footpaths, however there is also an opportunity to re-envision the nature of the waterway resource to benefit these communities.

Themes and Issues - continued		Opportunities - continued	
Natural Component			
Planning and development - Statutory protection and water quality			
A.15.	The Grand Canal is a proposed Natural Heritage Area	B.14.	Opportunity to confirm and safeguard the importance and significance of the Canal Corridor
A.16	There are three other significant designated sites within or associated with the Canal Corridor - Charleville Wood (SAC), Lough Boora (pNHA), Little Brosna Callows (SPA)	B.15.	Opportunity to confirm and safeguard the importance and significance of the wider Canal Corridor and this region of Offaly.
A.17.	The Shannon corridor is part of the middle Shannon SPA and an SAC.	B.16.	Internationally recognised and protected area.
A.18.	The water quality of the canal and Shannon is quite high.	B.17.	This is a major positive aspect of the waterway and not commonly appreciated. It raises the potential to improve further to facilitate angling, wildlife and other amenity uses. Quality of water issues may be caused by actions significantly removed from the corridor and therefore will need to be integrated with river basin management plans prepared under the Water Framework Directive.
Wildlife and habitat			
A.19.	Less intensively (more traditionally managed) agricultural areas have the highest wildlife value.	B.18.	Opportunity to integrate environmental objectives with local farming practices.
A.20.	Rare flora and fauna is associated with the canal corridor e.g. bats and bridges. Regular maintenance staff may be unaware of the importance of particular habitat types.	B.19.	Opportunity to enhance the skills base of the relevant authorities.
A.21.	Coniferous plantations close to the canal threaten to change the quality of adjacent habitats.	B.20.	Opportunity to vary the species mix in plantations close to the canal.
A.22.	The Shannon callows is a wildfowl habitat of international importance.	B.21.	Opportunity to improve access for viewing/bird-watching as well as to restrict access to sensitive areas.
A.23.	The Shannon callows is an important habitat for the Corncrake which is threatened with extinction. The Corncrake is not only an indicator of an environment of particular quality but also a culturally important species, its call being identifiable with traditional agricultural practice.	B.22.	Opportunity to further enhance and protect this habitat and interpret it.
A.24.	Cutover peatlands as they become available create the potential in both the Shannon and Grand Canal corridors to significantly contribute to the ecological quality of the corridors.	B.23.	Commence planning long term solutions for the cutover peatlands to optimise ecological return.
Management			
A.25.	There is potential conflict between the management requirements of the Canal corridor for navigation purposes, various amenities and ecological purposes. Waterways Ireland management regime needs to accommodate the varying requirements.	B.24.	Opportunity to devise a fair and balanced management to achieve a range of objectives.
A.26	Hedgerow maintenance of the Canal corridor and surrounding lands is not uniform; in places it is far from optimal.	B.25.	Opportunity to introduce traditional hedgerow management skills through corridor - potentially using the canal itself as a highly visible pilot example, maximum public visibility.
A.28.	The ecology of the canal corridor is complex but subtle, requiring expertise in understanding and devising management regimes.	B.26.	Opportunity to enhance the skills base of the relevant authorities.
A.29.	Use of herbicides in the canal can cause problems of de-oxygenation due to decomposition of dead vegetation.	B.27.	Opportunity to vary maintenance regimes to identify more ecologically responsible regimes.
A.30.	There is a potential conflict between navigational / recreational uses and wildlife objectives on both the Shannon and the Grand Canal. Erosion from wakes, speed itself, engine noise, effluent / discharges and general disturbance can affect the wildlife in the waterway.	B.28.	Opportunity to introduce over time improved and acceptable practices by users possibly with zoning of areas of the canal and Shannon as to sensitivity and appropriate behaviour in terms of wildlife e.g. no wake zones.
A.31.	Management aims should be to protect and where possible enhance the ecological status of habitats, biodiversity, and increase populations of flora and fauna.	B.29.	Opportunity to devise a fair and balanced management plan to achieve a range of objectives.
A.32.	It is clear that the two waterway corridors provide an experience of wilderness which is unique. This wilderness value is probably highest on the Shannon.	B.30.	Opportunity to introduce over time improved practices and acceptable behaviours by users possibly with zoning of areas of the canal and Shannon as to wilderness value.
Interpretation			
A.33.	Although the canal creates a unique ecological corridor in itself, it also passes through and links a very wide range of habitat types including peatlands, pastureland, woodland and rivers.	B.31.	The value of habitats associated with the corridor needs to be interpreted and communicated to the public.

Themes and Issues - continued	Opportunities - continued
cultural/Built Component	
Planning and development	
A.34. Existing settlements would benefit from the provision of guidance in terms of appropriate development / built / urban form to optimise the quality of place created.	B.32. There is an opportunity to develop framework plans, masterplans and village design statements to create consensus, investor confidence and ensure balanced and considered development of urban areas and village settlements particularly in relation to their interaction and role in the waterway corridor.
A.35. Key buildings of architectural significance / presence require management plans / conservation plans and where appropriate feasibility studies to ensure appropriate and optimum management and development.	B.33. Appropriate plans will ensure that such buildings continue, maintain or enhance their significance in the corridor.
A.36. Design guidance is required for development - residential and other - in areas not covered by existing or other proposed guidance	B.34. There is an opportunity to create a new layer in the landscape of considered, sensitive and appropriate architecture.
<i>Protection</i>	
A.37. There is a need for similar standards for inclusion of features in the Register of Monuments for Protection to be applied by both local authorities.	B.35. There is an opportunity for cultural heritage in the corridor to be more formally recognised and enjoy fuller protection, in accordance with the National Heritage Plan.
A.38. There is a need to devise a workable method of legal protection for the Grand Canal itself and associated buildings and structures which is complementary to the management and maintenance requirements of a working navigable waterway and areas with development potential. This could be addressed through a policy approach by the owners—Waterways Ireland and for relevant adjacent areas by the local authority.	
A.39. Underwater archaeology should be protected and surveyed, e.g. fording points.	
A.40. There is no inventory of Industrial archaeology for the Waterways Corridor. Long term management and monitoring should seek to maintain the integrity of features, update inventories (including full photographic and condition surveys) and ensure adequate conservation and interpretation ref: A38.	
Interpretation	
A.41. The industrial features – the canal itself, locks, distilling, peat exploitation and transport heritage are quite accessible and have some existing interpretation. However the Napoleonic, medieval and prehistoric landscape is poorly interpreted.	B.36. Add colour and depth to experience of region.
<i>Archaeological</i>	
A.42. The Grand Canal cuts a route through landscape with prehistoric, medieval, post-modern and modern components. This landscape is not a function of the canal until modern times as the canal is of modern times. However this relative lack of logic and haphazardness of features is part of the charm of the route.	B.36. There is an opportunity to use the canal as a vehicle for access / experiencing these historical components. Many of the features require signage and interpretation from the canal.
A.43. The Shannon on the other hand has created the historical landscape through which it passes. The same eras are present however they relate to the river in terms of crossing points, settlements and fortifications.	B.37. The archaeological components of the Shannon add to and further enrich the quality of experience of that corridor.
<i>Industrial</i>	
A.44. The Grand Canal is an impressive example of 18th Century engineering.	
A.45. The Shannon is an ancient natural waterway with a number of engineering features to facilitate navigation across and along the river.	B.38. There is an opportunity to experience a fascinating story whilst travelling the corridor—this story is still ongoing.

Themes and Issues - continued	Opportunities - continued
cultural/Built Component	
Planning and development	
A.47.. Overall the quality of the landscape is average to good to high with occasional detractors. To analyse the nature of the landscape experience has involved the categorisation of zones associated with the waterway corridor in terms of their influence on the corridor. The structure of these zones is different in the canal corridor and the river corridor.	B.39.. There is an opportunity to maintain and enhance this quality whilst addressing detractors.
The Canal	
A.48.. The canal waterway requires management, protection and regulation to ensure a balance between functionality and ecological and aesthetic considerations.	B.40.. A balanced management regime is required
A.49.. The canal area of immediate influence requires support, guidance, protection and regulation to maintain and improve the quality of the rural and associated urban environments.	B.41.. This should offer a clear but flexible approach to planning and development issues within the corridor.
The Shannon	
A.50.. The Shannon waterway corridor requires protection and regulation of activities and uses to ensure ecological and aesthetic objectives predominate.	B.42.. An opportunity to ensure that the river corridor remains predominantly natural in character.
A.51.. The Shannon area of influence requires support, guidance, protection and regulation to maintain and enhance the quality of the wild and rural. The associated urban environments are features within that context.	
A.52.. The Shannon, within the study area, generally lies within an enclosed corridor bounded by adjacent relatively higher ground, although this corridor is narrow in places, where towns / bridges are located, generally it is expansive but rarely extending to the horizon and generally a visual boundary is identifiable.	B.43.. There is an opportunity to define an unambiguous boundary to the corridor, achieve consensus, and focus management and planning guidelines on a discrete area.
Interpretation	
A.53.. The landscape provides a range of subtle and dramatic character variations travelling from the east, where rural practices provide an orderly agricultural field pattern, through urban areas such as Tullamore, through "post-industrial" zones of interest - the cutover peatlands, through historical settlements and features, to less productive wetter western sections and ultimately the unique, relative wilderness of the River Shannon callows.	B.44.. This is a significant and relatively unspoilt resource, there is an opportunity to interpret, educate and inform visitors and residents.
A.54.. Both waterways provide a unique experience of nature, a varying but quality rural environment and wilderness. On the canal the manmade and natural appear in balance and harmony, on the river there is a stronger dominance by nature which is the essence of the Shannon experience.	
Management	
A.55.. The canal waterway corridor requires active management or maintenance as a manmade functional structure, striking a balance between functional, ecological and aesthetic objectives.	B.45.. Opportunity to devise a fair and balanced management to achieve a range of objectives.
A.56.. The Shannon waterway corridor is currently protected as a Special Area of Conservation and a Special Protection Area. It is managed by Waterways Ireland as a navigable river in agreement with Dúchas as such a designated site. Waterlevels are controlled by the ESB.	B.46.. Decisions have already been made about the importance / significance of this environment and mechanisms are in place for management objectives to build on.
A.57.. The landscape quality, beyond the immediate waterway corridor in both the canal and the Shannon is highly dependent on a wide range of individual landowners, farmers and others and is subject to threats in terms of changes of use, practices and development pressures.	B.47.. There is an opportunity to extend the management approaches to designated areas to adjacent areas of influence through dialogue, statutory guidelines and community partnership.

Ref	Policy	Objective		Who
		Theme / Issue (Ref 3.2A)	Opportunity (Ref 3.2B)	
Planning and Development				
3.3.1.	Develop framework plans, action area plans, village design statements, as appropriate, for all settlements within the waterway corridor. These should specifically address / guide the potential of settlements, consolidation of settlements, relationship with the waterway, urban and rural issues including built form, commercial, residential and industrial / tourism development and appropriate access to the waterway.	A.6., A.7., A.2., A.34.	B.6., B.2., B.32.	OCoCo, GCoCo., Local communities, Shannon Development.
3.3.2.	Establish a Waterway Protection Zone as set out in section 3.4. below to ensure only "considered" development is permissible within the waterway corridor.	A.1., A.4., A.36., A.47.,A.49., A.52.	B.4., B.34., B.39., B.41.	OCoCo, GCoCo
3.3.3.	Ensure River Basin Management Plans prepared under the Water Framework Directive address both the Canal and the Shannon and the potential as set out in this study. Abolish / control / regulate all discharges into the waterways from users or land based activities and manage water quality to achieve good water quality for ecological gain and also to enhance the amenity of the waterway. Ensure that the water quality levels are communicated so local people and visitors are aware of this quality.	A.8.	B.17.	OCoCo, GCoCo. DoELG., Central & Shannon Fisheries Board,
3.3.4.	Apply consistent standards to the Register of Monuments for Protection including: The protection of the canal itself, features and associated structures, through an agreed management policy.The preparation of a full inventory of Industrial Archaeology in the corridor. The protection and exploration of underwater archaeology. The initiation of long term management and monitoring procedures to ensure adequate conservation and interpretation.	A.37., A.39., A.40.	A.38., B.35.	OCoCo, GCoCo, Dúchas, Heritage Council, Waterways Ireland .
3.3.5.	Encourage and support the preparation of management / conservation plans and appropriate feasibility studies for key buildings/ groups of buildings within the study corridor.	A.35.,	B.33.	OCoCo, GCoCo, Dúchas
3.3.6.	Prepare a design guide for developers and planning authorities to guide new development in the waterway corridor where not addressed by existing or other proposed guidance i.e. predominantly outside of settlements. There would generally be a presumption against such development – Ref. Policy 3.3.2.	A.36.	B.34.	OCoCo, GCoCo,
Wildlife and Habitat				
3.3.7.	Develop long term strategic plans for associated peatlands to ensure that after-use is complimentary to the vision for the adjacent waterways, particularly in the area of habitat enhancement, water catchment area management, interpretation and access, and where appropriate the incorporation of infrastructure in accordance with local development objectives.	A.5., A.24.	B.5., B.23.	OCoCo, GCoCo, The Heritage Council, Bord na Móna
3.3.8.	Ensure the maximum protection and designation of ecologically valuable areas within the corridor. Encourage the creation of networks and groupings of such areas for maximum environmental gain and perceptions of the area as of high environmental quality. Confirm current proposed designations. Interpret and communicate associated habitats to the public.	A.15., A.17., A.23.	A.16., B.14., A.18., B.16., B.22.	B.15., OCoCo, GCoCo, Dúchas, B.17., Heritage Council, Birdwatch Ireland
3.3.9.	Protection of Habitats. Canal waterway Corridor to be managed sensitively to protect habitats and encourage species diversity. This includes the appropriate management of the reed fringe, hedgerows, grasslands, bridges and water quality.	A.25., A.28., A.30., A.31.	A.26., B.24., A.29., B.26., B.28., B.29.	B.25., OCoCo, GCoCo., Waterways Ireland,
Economic Development				
3.3.10.	Develop a marketing strategy and investment support mechanisms for the regions through which the waterway passes to use the corridor and the vision for the corridor as a focus for strengthening local identity and image. Ensure residential, commercial and industrial / tourism development and investment is in compliance with policies 3.3.1., 3.3.2., 3.3.5., and 3.3.6. above.	A.8., A.11.	B.7., B.10.	OCoCo, GCoCo, Bord Fáilte, Shannon Development
Tourism Recreation and Amenity				
3.3.11.	Develop an integrated plan for increases in visitor numbers based on a broader range of activities in the corridor including cycling, walking, angling and rowing / canoeing. Develop facilities and associated accommodation in the waterway corridor and manage to ensure that excessive additional pressure does not cause conflict with the navigational character nor ecologically sensitive sites. See Section 3.5. Below.	A.9., A.10., A.12.	B.8., B.9., B.12.	OCoCo, GCoCo, Bord Fáilte, Shannon Development, Waterways Ireland, Local communities

Community and Local Development

3.3.12. Integrate local development, environmental management and tourism development schemes to maximise local acceptance, compliance and community ownership, and visibility of community gain.	A.13., A.23.,	A.14., B.12., B.22.	B.13., OCoCo, GCoCo, Bord Failte, Shannon Development, Dept of Agriculture
3.3.13. Develop an integrated rural plan for the East Galway area of the study involving the villages of Clonfert, Eyrecourt, Laurencetown and Meelick. The plan to address village improvements / development, countryside management, access to the Callows for walking, cycling, angling and small scale boating via the network of lanes currently through this area and in particular the development of an identity / image for this region complimentary to Banagher and focused on the Shannon. The plan to be a pilot for integrated local development and environmental management. Link to existing REVER ./ Greenway initiative between Portumna and Eyrecourt.	A.14.	B.13.	OCoCo, GCoCo, Shannon Development, The Heritage Council, Local communities
3.3.14. Throughout the corridor area seek to integrate environmental objectives with local farming practices.	A.19.	B.18.	Dept of Agriculture, / Teagasc, The Heritage Council, Fisheries Boards.
3.3.15. As well as policies and actions to protect the landscape initiate actions to address detractors and improve.	A.57.	B.47.	OCoCo, GCoCo,

Management

3.3.16. Develop a detailed and balanced management plan for all areas actively managed by Waterways Ireland ensuring a balance between landscape, ecological, built / archaeological heritage and navigational requirements on the Grand Canal and relevant areas of the Shannon navigation. The plan should seek to maximise the quality of the environment and ensure a continuity of management regimes to appropriate functional, ecological and aesthetic standards. Baseline data in this report should provide the foundations of such a plan. The plan should ensure an appropriately skilled workforce and management is available to take forward the implementation of such a plan.	A.25., A.28., A.30., A.55., A.56.	A.26., B.24., A.29., B.27., A.31., B.29., B.47.	B.26., Waterways Ireland, The B.28., Heritage Council, IWA B.45.,
3.3.17. Develop a pilot hedgerow management programme in the Canal Waterway Corridor to showcase traditional management techniques and skills and for ecological benefit. Use this project to encourage local landowners / farmers to adopt similar practices.	A.26.	B.25.	Waterways Ireland, GCoCo, OCoCo, , OKW, Networks for Nature, Env. groups
3.3.18. Establish, publicise and adopt a good practice guide for waterway users addressing speed issues, protection of wildlife e.g. possible tranquil or sensitive zones / times identified - no wake / reduced speed zones., no-landing zones This is particularly important on the Shannon where a "go as you please" image is often portrayed which may be detrimental with increased use to its wilderness value and ecology.	A.30., A.32.	B.28., B.30.	Waterways Ireland, The Heritage Council, IWA, Shannon Development.

Interpretation

3.3.19. Ensure appropriate interpretation of the Shannon Callows habitat. Work with state agencies and landowners to develop / map existing lane network sensitively as a local environmental asset.	A.53., A.14.	A.54., B.44., B.13.	GCoCo, OCoCo, Dúchas, Birdwatch Ireland and local communities.
3.3.20. Develop a plan to interpret and bring to life the archaeological and historical landscape of the waterway corridor through appropriate information panels, repair and / or restoration of key historical features / aspects. Where necessary negotiate access with local landowners.	A.41., A.43.	A.42., B.36., B.37.	B.36., Waterways Ireland, local communities. GCoCo, OCoCo.
3.3.21. Develop a plan to tell the story of the transport and industrial development of the corridors using the waterways as a focus.	A.31., A.45.	A.44., B.36., B.38.	GCoCo, OCoCo, Waterways Ireland, Local Communities
3.3.22. Alongside built, cultural and ecological heritage ensure a programme of landscape interpretation to develop an understanding of the value of landscape whether in its rural and agricultural form to the east or in its more natural / wilderness form to the west. It is likely that such a programme would be innovative and may require a pilot approach	A.33., A.54.	A.53., B.31., B.44.	The Heritage Council, Waterways Ireland, GCoCo, OCoCo, Local Communities

3.4 Waterway Protection Zone - Landscape Character Protection Guide

Section 2.2 identifies three linear zones associated with the waterway corridor. They are the Canal or River Waterway Corridor, the Area of Influence or Immediate influence (in the case of the canal) and the Outer Area of Influence (also associated only with the canal).

3.4.1 The Canal or River Waterway Corridor

Effectively that land owned and or managed by Waterways Ireland in the case of the canal, and the land in between the high water marks in the case of the Shannon. This area is subject to existing management and statutory controls and policies and recommendations developed in this document will be relatively easily applied within existing management structures. This could be called the Waterway Management Zone.

3.4.2 The Area of Immediate Influence

Effectively the fields immediately adjacent to the canal but potentially extending to the nearest vertical or screening feature, e.g. trees, hedgerows or similar.

The essence of the Grand Canal and the Shannon experience, and most waterway experiences unique to Ireland, is the relatively underdeveloped and unspoiled quality of the landscape through which the corridor passes. There is currently minimal development between settlements that is intrusive within an extremely rural or wilderness experience. Therefore any land use change or development in this area would have an impact on the waterway. In order to protect this experience and quality this area could be called the Waterway Protection Zone. A number of objectives are set for this area:

- Ensuring that only development and land use changes that enhance the character of the waterway are permitted, i.e. only 'considered development'.
- Mitigating the impact of existing unsightly or inappropriate development.
- Maintaining the ecological integrity.

This land is not in the ownership of any agency or generally under any managing or statutory designation. The main threat to and protection of this zone will be through the planning and development process. In our view there should be a presumption against development that will not meet the above objectives. Only development that enhances the character of the waterway should be permitted.

In order to translate this into a useable planning tool it is important to recognise

how it might be applied differently in association with a waterway such as the canal or the river.

The Canal

Due to the expansive nature of views from the canal, which often lies above the surrounding landscape, it is not proposed to define a line on a map for the zone as in Figure 1 Section 2.5. The zone is a conceptual area that will change and is:

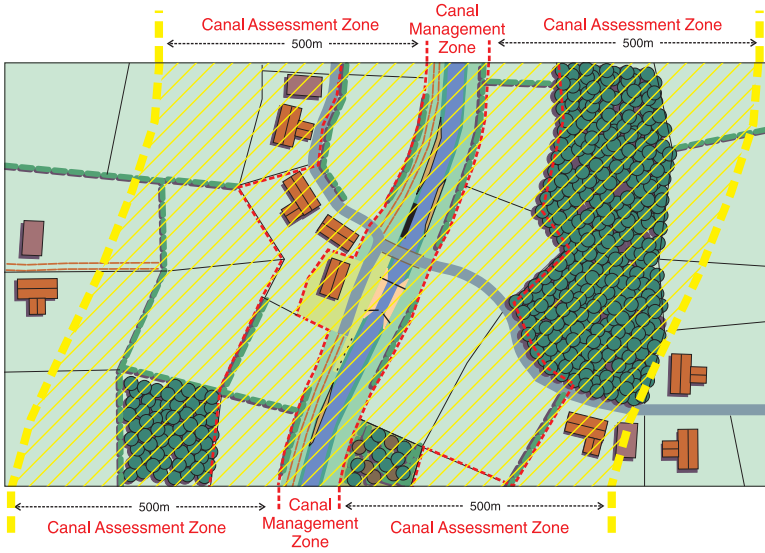
- a) A function of the location of a proposed development in relation to the canal, and
- b) A function of the nature and scale of a proposed development

An appropriate and workable policy could be:

- To define an Assessment zone within say 0.5 km of the canal. (See fig 4 below)
- Within this zone the canal's Area of Immediate Influence must be defined in relation to a particular development. The following question should be posed: Is the proposed development of such a nature or scale and in such a location that it would exert an immediate influence on the canal and therefore merits inclusion in the Waterway Protection Zone?
- If the proposed development lies within this zone an Impact Assessment will be required specific to the impact of the development on the waterway corridor.
- There will be a presumption against development unless it can be shown that a proposal actually enhances or adds to the character of the waterway.

It would be envisaged that criteria or a methodology would be set out indicating the different information required to make the above analysis and this could be carried out by the planning authority or required of the developer similar to an EIS. Additionally, design guidelines should be put in place to define development that enhances the corridor and would be viewed favourably. Assessment criteria and guidelines would include location, siting, form and scale, design style / language and appropriateness / relevance to area character, including the type of use. An assessment would interpret the landscape character of the immediate environs of the development and specifically the waterway. If the development adds to or enhances that character (including its physical qualities (ecology / culture) as established by the above criteria, then it may be permissible.

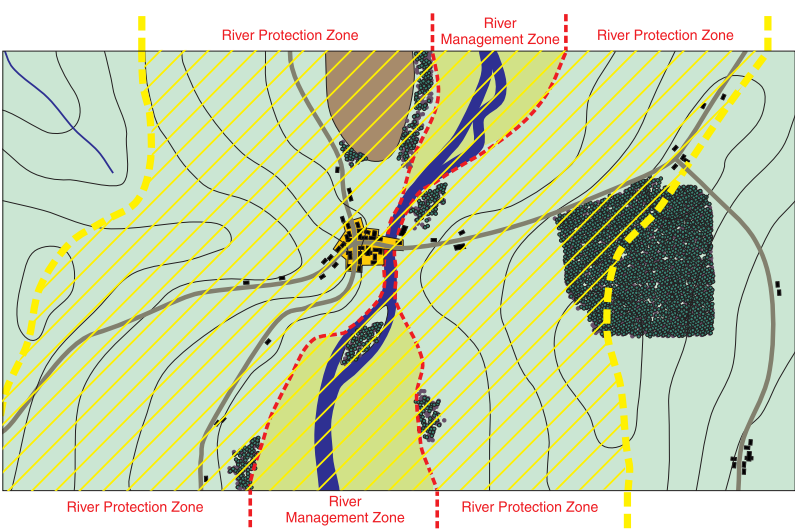
Figure Four Canal Assessment Zone



The River

The river's Area of Influence is generally more definable as it is a function of a generally identifiable visual boundary as set out in Figure 2 Section 2.2. Although also expansive and wide the objective would be to protect and preserve the essential wilderness qualities of the corridor. This area would become a clearly defined Waterway Protection Zone with a presumption against development, as with the canal, unless it can be shown that a proposal actually enhances or adds to the character of the waterway. GIS based contour maps should be used to define this zone accurately, coupled with site visits to verify the digital delineation.

Figure Five River Protection Zone



3.4.3The Outer Area of Influence

This area lies outside the limit of the Waterway Protection Zone and it is not subject to the specific recommendations of this study other than:

- Establishing that the area or specific development does not lie within the Waterway Protection Zone (by means of assessment in the case of the canal, and by topographical definition in the case of the river)
- Developments should have regard to the waterway as part of the surrounding landscape context.
- Developments should respect the general aims and goals of the County Development Plans.

3.5 Tourism, Recreation and Amenity

The vision statement sets out a role for the waterway corridor as a sustainable resource. Indeed the navigable features of both waterways were originally developed as economic development activities and clearly their future is linked to the future and sustainability of the adjacent communities. The current main economic output from the canal and in particular the Shannon is navigation related tourism. Whilst there is clearly a physical limit to the capacity of the canal (opening and closing locks uses up water) there is also a limit to the level of use of both waterways before the visitor experience is affected by excessive visitor numbers.

This study (and many of the waterway guide books) articulates a range of features of interest within the waterway corridor. Seen individually many of these places and features have limited interest but when linked to the adjacent waterway and to each other acquire a significance which is enhanced by the overall environmental quality throughout the corridor.

This study has described the cultural, heritage and ecological assets of the area and in doing so has articulated what are fundamentally the local tourism, recreation and amenity assets. There is a need to develop these assets as attractions for the benefit of local communities. The protective policies currently in place and suggested in this study could then be seen to play a role for the benefit of the community.

It is clearly not sustainable to constantly increase boating visitor numbers, however there is enormous potential to use the waterways as a focus for the various local attractions and develop a range of land based alternative visitor experiences associated with the waterway corridor. Angling and canoeing / rowing already take place, other activities could include cycling and walking, and eco-holidays.

3.5.1 Cycling and Walking - Concepts

Although cycling is not permitted along unsurfaced lengths of the canal-side towpaths for reasons of public liability, many sections of the canal are bounded by local country roads which can run alongside for many miles. As most of the features of significance and villages within the waterway corridor are not actually on the water itself, and the rural landscape itself is worth experiencing, an attractive cycleway could be created running along the canal where feasible and then deliberately leaving the water to take the cyclist to adjacent villages, castles or scenic areas.

A feature could be made of inaccessible stretches of towpath through designation as ecological zones requiring minimal disturbance. Waterways Ireland maintenance

practices could be altered / adapted to specifically enhance the ecological quality / integrity of such stretches.

Once a viable route is mapped and signposted a new visitor attraction is created which will develop its own demands for services, including accommodation and / or camping facilities, shops and related services. Such a route may be aimed at the week-end visitor, day-tripper (possibly shorter circular routes), or as an additional feature in a wider cycling trip or holiday possibly linking to related adjacent routes. It may be necessary to introduce signposting and speed controls on local roads for safety purposes and again a feature can be made of a zone with particular controls friendly to visitors.

In the Shannon corridor there is a wealth of small unsurfaced lanes throughout the callows areas where similar routes could be planned linking to the adjacent towns, villages and features. Many of these routes are privately owned and public use and management would require the full agreement and co-operation of local landowners. Additionally such use would need to be carefully managed to avoid intrusion on more sensitive areas of the callows, however control of access needs to be presented and explained positively to the public in terms of appreciating and understanding the local ecology.

The canal itself is a long distance waymarked footpath - the Grand Canal Way - and the Beara Breiffne Greenway (Cork to Leitrim) is planned to run adjacent the Shannon, however as with cycling, there is potential to develop footpaths further. The development of circular day / week-end routes, aimed at visitors who prefer the flatter walks but which create an interesting rural experience taking in the local heritage features and villages, would create another tourism product to draw people to the area. Again the focus of attraction is the waterway but the experience could be deliberately planned to create interest beyond the water itself. It would be important to develop off road routes for walking through negotiation with local landowners. Again the generation of demand for campsites, farmhouse or village accommodation and related services would create economic benefit for local people.

3.5.2 Eco-holidays

Ecotourism is one of the fastest growing tourism niche markets in the world. It is environmentally responsible and sustainable, with a focus on conservation and on the local communities who benefit from the local environmental assets and therefore are motivated to manage and protect them. It can involve visitors coming to walk in, cycle in or experience particular areas of environmental quality or possibly coming to work on environmental projects - conservation volunteers.

Clearly the canal corridor in many places and the Shannon corridor offer an ideal

backdrop for expanding this area of tourism whilst protecting the "product" or context in which it takes place. A strategy for developing sustainable ecotourism in the two waterway corridors could involve:

1. A partnership approach involving local community organisations, local farmers / landowners, statutory agencies and tourism interests.
2. Agreement re the environmental "product" and the range of actions required to protect, manage, improve and develop that product - see sections 3.2, 3.3, and 4.0.
3. Marketing and clear designation of the "eco-area" to create a distinct regional identity or series of regions.

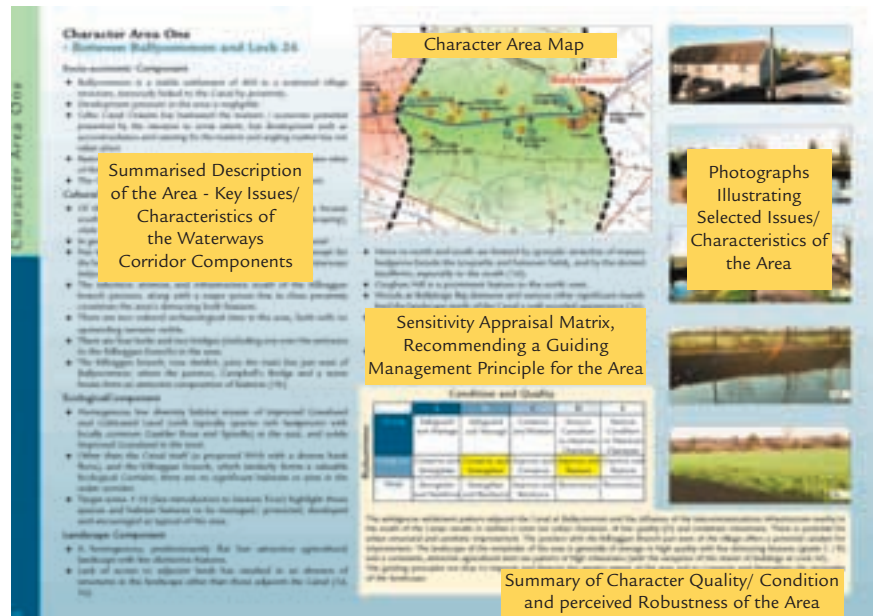
Although the ecological credentials of the Shannon corridor are obvious they are perceived locally in a restrictive manner. Local people need to be closely linked to the potential benefits which should accrue from such quality locations and this process needs to be proactively managed in terms of community development approaches, micro-enterprises and environmental education and community based planning.

However the more "ordinary" landscape of the canal corridor is where significant potential exists to create real value for the local community from a perception of minimal value. The policies and management actions set out in this study will only be worthwhile and sustainable if they generate a perceived return to local communities. Alternative rural enterprises based on an increasing visitor profile will contribute to this.

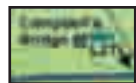
A voluntary community based approach to managing and developing the local environment may prove the most effective. Public agency support is also essential including recognition of achievement as is already the case in Tidy Towns initiatives and Blue Flag beaches. Perhaps such an award could be initiated for rural areas with good models of sustainable / voluntary environmental management.

SECTION FOUR - Character Areas of the Waterways Corridor

Assessment and Policy Applications



Target Notes - features of ecological interest within the area (See list to right of this page. Further detail provided in Appendix Two).



Built/infrastructural features of interest in the area, e.g. locks (number included), bridges and aqueducts. Further detail provided in Appendices Three and Four.



Key Archaeological features of the area. Further detail provided in Appendix Three.

Each character area sheet represents a summary of the information collated in the ecological, socio-economic, cultural / built heritage and landscape / visual assessment of the area.

Conclusions are made regarding the area's condition / quality and robustness. Using the sensitivity appraisal matrix, a guiding management principle is recommended for the area.

Each area sheet is followed by a table of recommended management actions for the area, intended to address the issues highlighted on the the character area sheets and derived from the policies proposed in Section Three of this report.

Target Notes for all Character Areas - features of ecological interest, to be read with Appendix Two.

1. Common Reed (*Phragmites australis*) dominated, lush bank vegetation.
2. Row of planted poplar (*Populus* sp.) trees.
3. Small area of mature Oak (*Quercus robur*).
4. Mature trees planted around old house and probably along its driveway. As for many of the mature, planted trees in the area, they are mostly Beech (*Fagus sylvatica*) and Oak (*Quercus robur*).
5. Hedgerow with several mature Ash (*Fraxinus excelsior*).
6. Unusual section of bankside vegetation where the banks are lined with many young Ash trees, several of which have been cut right back and many have grown again.
7. Rows of mature beech (*Fagus sylvatica*), oak (*Quercus robur*) and ash (*Fraxinus excelsior*) behind houses.
8. Old cutover bog, criss-crossed by many tracks – people seen walking along them.
9. Hedgerow featuring ash (*Fraxinus excelsior*), oak (*Quercus robur*) and Scot's pine (*Pinus sylvestris*).
10. Birch (*Betula pubescens*) dominated scrub at the edge of the old cutover bog.
11. Area of scrub dominated by willow (*Salix* spp) and brambles (*Rubus fruticosus* agg.).
12. Birch (*Betula pubescens*) dominated scrub at the edge of the cutover bog.
13. Branched bur-reed (*Sparganium erectum*) in the canal water on its southern edge at this point.
14. Row of planted Lombardy poplars (*Populus nigra 'italica'*)
15. Small amenity area beside car park and Tullamore Dew Heritage Centre.
16. Hedge beside Srah Castle dominated by box (*Buxus sempervirens*) bushes.
17. The hedges here are all cut back into the ditch, thus they are not visible from the canal.
18. Scrub dominated by hawthorn (*Crataegus monogyna*), willow (*Salix* spp) and birch (*Betula pubescens*). This scrub stretches back to wards Charleville Wood pSAC.
19. Saw a mink (*Mustela vison*) and heard a jay (*Garrulus glandarius*) in this area.
20. Row of mature Horse chestnuts (*Aesculus hippocastanum*) along the tow path on the northern side of the canal here.
21. Crossing point for livestock, the bank is seriously eroded here from the poaching damage.
22. Cattle grazing along the southern towpath here, has resulted in erosion damage to the bank.
23. Domestic geese in canal here.
24. Birch (*Betula pubescens*) dominated scrub growing between the Clodiagh and Tullamore rivers.
25. Ring of mature beech trees (*Fraxinus excelsior*).
26. Views of the lines of mature beech (*Fagus sylvatica*) which surround the St. Ignatius Nursing Home (formerly St. Stanislaus College) in Rahan village.
27. Lush edge vegetation on both sides of the canal between Becan's Bridge and Henesy's Bridge. Several different herons (*Ardea cinerea*) were noted fishing here.

- 28 Scrub dominated by gorse (*Ulex europaeus*) on this small hill above the fields north of the canal.
- 29 The surrounding landscape changes from improved pasture to rough pasture.
- 30 The land here has been cleared and quarrying operations are taking place.
- 31 Derrycooly Bog which is being milled for peat by Bord na Móna. The edges near the canal feature birch (*Betula* spp) scrub and ling heather (*Calluna vulgaris*) dominated vegetation.
- 32 A wide band (ca 10m) of scrub woodland dominated by birch (*Betula pubescens* and *Betula pendula*) with Scot's pine (*Pinus sylvestica*) and gorse (*Ulex europaeus*). There are several cottages situated at the edges of these scrubwoods.
- 33 Old remnant of cutover bog dominated by gorse (*Ulex europaeus*) with birch (*Betula* spp) to the immediate north.
- 34 The canal is going through cutover bog edges here and the hedgerows give way to lines of bushes dominated by gorse (*Ulex europaeus*).
- 35 A plantation of birch (*Betula pubescens*).
- 36 Two rows of ash (*Fraxinus excelsior*).
- 37 A row of mature lodgepole pine (*Pinus contorta*) and Horse chestnut (*Aesculus hippocastanum*).
- 38 Narrow band of birch (*Betula pubescens* and *B. pendula*) with a few ash (*Fraxinus excelsior*).
- 39 Small plantation of silver fir (*Abies alba*).
- 40 Row of birch (*Betula pendula*) at the edge of the old cutover bog with scrub of birch and bracken (*Pteridium aquilinum*) at the tow path edge.
- 41 Area of dense birch (*Betula* spp) wood with gorse (*Ulex europaeus*) and bracken (*Pteridium aquilinum*) at its edges.
- 42 The hedgerows here feature several young beech (*Fagus sylvatica*) and ash (*Fraxinus excelsior*).
- 43 The tow path on the south side of the canal here appears to be an amenity area with a couple of benches and picnic tables and a wide band of grass.
- 44 Active Gravel quarry.
- 45 Scrubland area dominated by birch (*Betula* spp).
- 46 Area of planted trees with beech (*Fagus sylvatica*) and oak (*Quercus robur*).
- 47 Small wood dominated by hazel (*Corylus avellana*).
- 48 This stretch of canal between Belmont and L'Estrange bridges has the longest section of tow path bounded by mature deciduous trees. The main trees are ash (*Fraxinus excelsior*), oak (*Quercus robur*) and beech (*Fagus sylvatica*).
- 49 Plantation of ash (*Fraxinus excelsior*).
- 50 Row of beech (*Fagus sylvatica*) beside coniferous plantation.
- 51 Area of willow (*Salix* spp) dominated scrub.
- 52 Row of beech trees (*Fagus sylvatica*).
- 53 Row of maturing oak (*Quercus robur*) trees.
- 54 Northern banks of River Brosna lined by willow (*Salix* spp) bushes.

Character Area One
- Between Ballycommon and Lock 24

Socio-economic Component

- Ballycommon is a stable settlement of 400 in a scattered village structure, tenuously linked to the Canal by proximity.
- Development pressure in the area is negligible.
- Celtic Canal Cruisers has harnessed the tourism / economic potential presented by the resource to some extent, but development such as accommodation and catering for the tourism and angling market has not taken place.
- Restoration of link to renovated Kilbeggan harbour would increase value of this stretch of the canal.
- The Offaly Rowing Club jetty at lock 23 requires improvement.

Cultural and Built Component

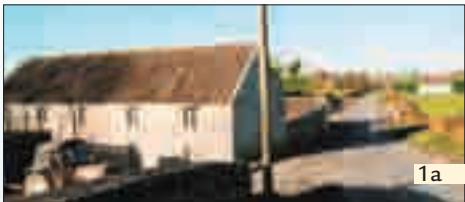
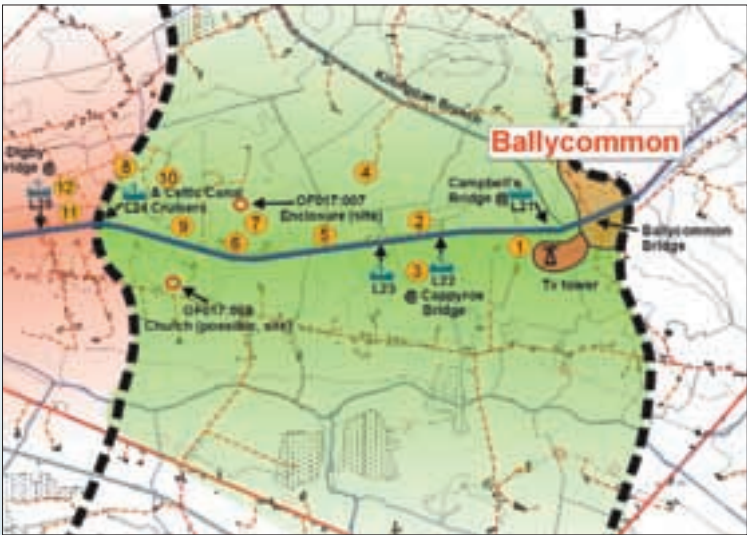
- Of the buildings adjacent the Canal at Ballycommon, the houses south of the bridge do address the Canal spatially (with landscaping), while the pub does not (photo 1a).
- In general the village structure ignores the presence of the Canal.
- Few buildings abut the Canal in the remainder of the area except for the lock houses at Locks 21 (privately owned - 1c) and 24 (Waterways Ireland), and a concentration of buildings around Lock 24.
- The television antenna and infrastructure south of the Kilbeggan branch junction, along with a major power line in close proximity constitute the area's detracting built features.
- There are two cultural archaeological sites in the area, both with no upstanding remains visible.
- There are four locks and two bridges (including one over the entrance to the Kilbeggan branch) in the area.
- The Kilbeggan branch, now derelict, joins the main line just west of Ballycommon, where the junction, Campbell's Bridge and a stone house form an attractive composition of features (1b).

EcologicalComponent

- Homogenous low diversity habitat mosaic of Improved Grassland and Cultivated Land (with typically species rich hedgerows with locally common Guelder Rose and Spindle) in the east, and solely Improved Grassland in the west.
- Other than the Canal itself (a proposed NHA with a diverse bank flora), and the Kilbeggan branch, which similarly forms a valuable Ecological Corridor, there are no significant habitats or sites in the wider corridor.
- Target notes 1-10 (See introduction to Section Four) highlight those species and habitat features to be managed / protected, developed and encouraged as typical of the area.

Landscape Component

- A homogenous, predominantly flat but attractive agricultural landscape with few distinctive features.
- Lack of access to adjacent lands has resulted in an absence of structures in the landscape other than those adjacent the Canal (1d, 1e).



- Views to north and south are limited by sporadic stretches of mature hedgerow beside the towpaths and between fields, and by the domed landform, especially to the south (1d).
- Croghan Hill is a prominent feature to the north west.
- Woods at Ballyteige Big demesne and various other significant stands lend the landscape north of the Canal a well-wooded appearance (1e).
- South of the Canal the Slieve Bloom mountains are prominent along the horizon beyond the Tullamore River, occasionally visible in the middle distance (1d).
- Ballycommon needs to integrate the canal into a more defined village structure and relate to a potentially navigable junction with the Kilbeggan branch to form a canalside village hub.

Condition and Quality						
Robustness	A	B	C	D	E	
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

The ambiguous settlement pattern adjacent the Canal at Ballycommon and the influence of the telecommunications infrastructure nearby to the south of the Canal, results in neither a rural nor urban character, of low quality (D) and moderate robustness. There is potential for urban structural and aesthetic improvement. The junction with the Kilbeggan Branch just west of the village offers a potential catalyst for improvement. The landscape of the remainder of the area is generally of average to high quality with few detracting features (grade C / B) and a consistent, attractive agricultural land use pattern of high robustness (with the exception of the cluster of buildings at Lock 24). The guiding principles are thus to Improve and Restore the eastern extent of the area and to Conserve and Strengthen the remainder of the landscape.

Character Area One - Between Ballycommon and Lock 24

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop Ballycommon Village Design Statement to address interface between village and canal and encourage a canalside village ambience, with buildings addressing an enhanced harbour with associated improvements. Direct new development towards the village where possible by ensuring attractive village environment.	Short - Medium
3.3.2.	Waterway protection zone	Protect / Improve surrounding rural landscape from intrusive development. Discourage the provision of additional access into the canal area of influence which might facilitate a proliferation of new development.	Ongoing
3.3.4.	Protection of monuments	Monitor / manage canal structures - bridges, locks, acknowledging these features' sensitivity as wildlife habitats.	Ongoing
3.3.5.	Key buildings	Facilitate / encourage the refurbishment / development of the building adjacent the harbour at the Kilbeggan Branch junction as canal-side B&B or similar.	Short - Medium
3.3.6.	Design guidelines	Design guidelines for rural buildings need to take account of the limited capacity of this predominantly flat landscape of large fields.	Short
Wildlife and Habitat			
3.38.	Protection of habitats / ecology	Canal waterway corridor to be managed sensitively and in accordance with the objectives of the pNHA designation to encourage most diverse habitat possible.Tree pruning should completely remove unwanted young trees whilst selecting for some (where appropriate) to develop to maturity.	Immediate - Short
3.3.3	Water quality	Continue to monitor water quality and address issues arising accordingly.	Ongoing
Economic Development			
3.3.10.	Strengthen local identity / image		
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Encourage angling, cycling (only where appropriate surface is in place), walking. Support development of B&B accommodation and examine the feasibility of a campsite in the village.	Medium - Long
Community and Local Development			
3.3.12.	Integration of local development, environmental and tourism objectives	Set up a forum / network of local development groups, focused in Ballycommon to ensure community ownership of objectives.Establish relationship between Kilbeggan Canal associations (Canal Group and Harbour Association) and Ballycommon community / development fora, as poles of a common resource (the Kilbeggan Branch) and seek to adopt common objectives for the resource.	Short - Medium
3.3.14.	Integration of environmental objectives with farming practices.	Link forum both to local farmers as residents, farming organisations and Teagasc advisors. Develop a landscape design statement as simple guidelines to facilitate the enhancement / improvement of the waterway corridor by landowners.	Short - Medium
3.3.15.	Address detractors in the landscape.	Plant screening vegetation to reduce the impact of the buildings surrounding the radio antenna.	Short
Management			
3.3.16.	Detailed management / maintenance plan	Facilitate / encourage the development of facilities for the Offaly Rowing Club at lock 23.	Short
		Develop and / or maintain the north towpath as a safe, consistent, surfaced road / track throughout the area. Leave the south towpath unsurfaced throughout.	Ongoing
3.3.17.	Hedgerow management project	Plant screening vegetation to reduce the impact of the buildings surrounding the radio antenna. Locally neat and organised countryside would benefit from the definition that a well laid hedgerow would provide - it would underline the sense of good local land management.	Short Short
3.3.18.	Good practice for users	n/a	
Interpretation			
3.3.21.	Bring to life the cultural landscape Bring to life the transport/ industrial story	n/a Provide interpretative map at Ballycommon, the bridge or the Kilbeggan branch explaining its presence and future plans.	Short - Medium
		Examine the feasibility of opening the Kilbeggan branch to create more interest / value in this area and link the refurbished harbour to the waterway.	Medium - Long
3.3.22.	Pilot landscape . interpretation project	At appropriate locations, locks or bridges, interpret the landscape, local agricultural practices and provide information on local habitats / vegetation	Short - Medium

4.2 Character Area Two

- Between Lock 24 and Tullamore

Socio-economic Component

- There is growing development pressure in this zone, with busy roads to the north and south of the Canal becoming densely developed in a linear pattern (2b, 2c).
- Increasing development to the west of the zone is indicative of the urban pressure and an improving local economy in this area. However there is fortunately minimum development adjacent to the canal (2b, 2c).
- Lands adjacent the Canal are of poor quality in agricultural terms (2b, 2c).
- The south towpath is predominantly driveable.

Cultural and Built Component

- The area includes three locks, no’s. 24, 25 and 26, with lockkeepers houses at all three. Those at locks 24 and 26 are in private ownership.
- The refurbished lock keepers house at lock 26, the Round House, is very fine example of canal-side architecture, contributing to an attractive cluster of built features at the lock (2a).
- Historical features are limited to the built elements of the canal itself - the three locks and houses, and Digby bridge.
- The presence of Tullamore at the western extent of the area is prominent throughout the area, its influence in the form of encroaching urban development.

Landscape Component

- The predominantly flat, low-lying agricultural landscape is of lesser quality than the adjacent Area One, decreasing towards the west.
- The elevated Canal waterway corridor affords panoramic views to north and south as well as to the west towards Tullamore and its distinctive skyline of church spire, larger buildings and canal-side planting.
- Middle distance views to the north and south, along main roads, show increasing ribbon development diluting the rural character.
- Hedgerows are inconsistent.

Ecological Component

- Homogenous low diversity habitat of predominantly Improved Grassland with typically species rich hedgerows and locally common Guelder Rose and Spindle.



- Other than the Canal itself, a proposed NHA with a diverse bank flora and the cutover peatland to the north of Lock24 there are no significant habitats or sites in the wider corridor.
- Target notes 11 – 13 highlight species and habitat features requiring management / protection and / or encouragement in the area.



		Condition and Quality				
Robustness		A	B	C	D	E
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

The area’s quality / condition is below average, predominantly grade D. It is characterised by poor quality fields adjacent to the Canal and various unattractive built features (including new detached housing, warehouses and factories, etc.), mostly on the skyline adjacent to the roads. The inconsistent land use pattern of poor agricultural land and encroaching housing and industry (in the west of the area) contributes to an ambiguous character and weak robustness. The eastern extent of the area is of better quality, grade B/C and moderate robustness resulting in an overall impression of area in a state of transition.

The guiding principle is thus to Reconstruct the western portion of the area, defining an urban edge and concurrently Improve and Restore the landscape in the remainder of the area. There is enormous potential for improvement / consolidation of the urban elements and for restoration of the agricultural element.

Character Area Two - Between Lock 24 and Tullamore

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop a framework plan for eastward growth of Tullamore, that addresses the potential of the Canal corridor as the area becomes urbanised.	Ongoing
3.3.2.	Waterway protection zone	Protect / Improve the remaining / surrounding rural landscape from intrusive development. Discourage the provision of additional access into the canal area of influence which might facilitate a proliferation of new development without a framework plan in place. Build capacity of the landscape (plant screening woodlands / trees) in middle distance where new development along approaches to Tullamore threatens character.	
3.3.4.	Protection of monuments	Monitor / manage canal structures - bridges, locks, acknowledging these features' sensitivity as wildlife habitats.	Ongoing
3.3.5.	Key buildings	Protect the setting of the Round House.	Short - Medium
3.3.6.	Design guidelines	Design guidelines for rural buildings need to take account of the limited capacity of this predominantly flat landscape lying lower than the canal.	Short
Wildlife and Habitat			
3.3.8.	Protection of habitats / ecology	Canal waterway corridor to be managed sensitively and in accordance with the objectives of the pNHA designation to encourage most diverse habitat possible. Tree pruning should completely remove unwanted young trees whilst selecting for some (where appropriate) to develop to maturity.	Immediate - Short
3.3.9.	Water quality	Continue to monitor water quality and continue to address issues arising accordingly	Ongoing
Economic Development			
3.3.10	Strengthen local identity / image		
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Encourage angling, walking - particularly along southern towpath which is generally accessible. Support development of B&B accommodation.	Medium - Long
Community and Local Development			
3.3.12	Integration of local development, environmental and tourism objectives	Encourage the extension of the influence and actions of the Tullamore Grand Canal Committee to the adjoining rural areas and integrate objectives with local and regional tourism bodies, etc.	Short - Medium
3.3.14.	Integration of environmental objectives with farming practices.	Link these fora to local farmers / landowners and where appropriate involve farming organisations and Teagasc advisors. Develop a landscape design statement as simple guidelines to facilitate the enhancement / improvement of the waterway corridor by landowners.	
3.3.15.	Address detractors in the landscape.	Build capacity of landscape close to Tullamore (by for example, establishing hedgerows) to ensure that poor quality suburbia and industry does not dominate an already weakened landscape.	Short
Management			
3.3.16.	Detailed management / maintenance plan		Short
3.3.17.	Hedgerow management project	Hedgerows are patchy in this area. The generally low landscape quality would benefit enormously from the scenic contribution of well crafted/ laid hedgerows.	
3.3.18.	Good practice for users	n/a	
Interpretation			
3.3.20.	Bring to life the cultural landscape	Provide some local interpretation at the Round House.	Medium
3.3.21.	Bring to life the transport/ industrial story	n/a	
3.3.22.	Pilot landscape . interpretation project	At appropriate locations - locks or bridges interpret the landscape, local agricultural practices and provide information on local habitats / vegetation	Short - Medium

4.3 Character Area Three - Tullamore

Socio-economic Component

- Tullamore is the County town of Offaly and a busy urban centre with a population exceeding 10,000.
- The County and town development plans both recognise the importance of the canal as an amenity and feature of the town and its potential for increased traffic and visitors to the town. However it currently plays a very passive role despite being an essential stop for boat users. A range of improvements are proposed to the canal corridor which have not progressed and require co-ordination.
- The Tullamore Dew Centre is an attractive and popular facility on the Canal bank. However it is not fully integrated into an overall defined vision for the canal corridor through the town, highlighted by the lack of access from the Canal.

Cultural and Built Component

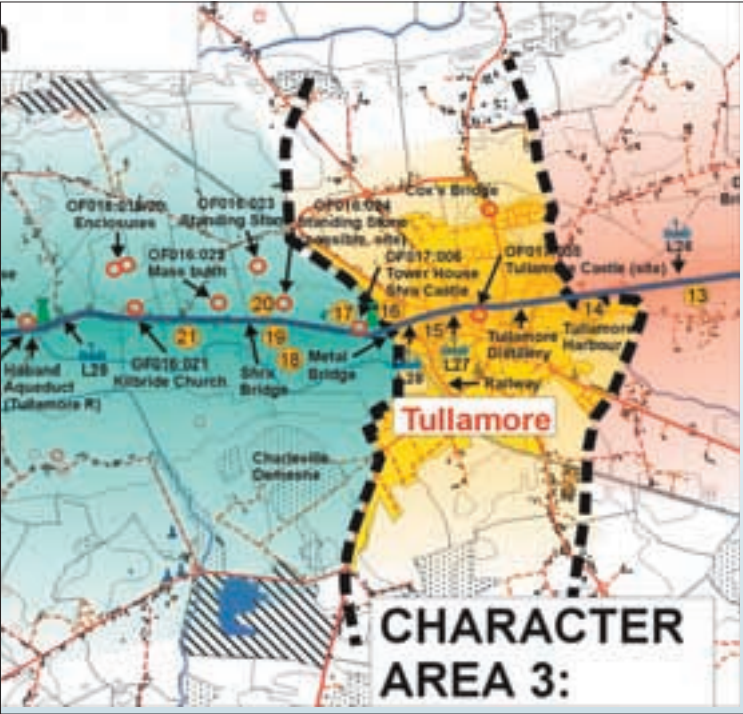
- Tullamore grew in part as a result of the development of the canal in the early 19th century and is one of the few urban areas to have a long standing built environment associated with the Canal and related activities.
- There are two locks in the area, no's. 27 and 28, with lock keepers houses at both (that at lock 28 is in private ownership).
- The Tullamore Dew Centre, an attractive, refurbished distillery building, now serves as a heritage centre adjacent to the Canal. However its environs, access in particular, are generally poor.
- The extensive harbour and associated warehouses are used by Waterways Ireland and are not available for public use. The short branch between harbour and Canal is used for public mooring and a pump out facility is provided, but the facility is without signage and somewhat isolated from the town's attractive centre (3b).
- The harbour has great potential as a development catalyst for the town as a whole as well as the Canal. It should be fundamental to a new vision for the canal corridor in Tullamore.

Ecological Component

- There is little of ecological significance in Tullamore other than the continuation of the canal corridor itself (pNHA) through the town.
- Target notes 14 - 16 comment on the poplars planted along part of the canal bank, and the dominance of "box" in the hedgerows around Shra Castle.

Landscape Component

- The town should offer a clear contrast with the surrounding rural areas but the eastern urban edge is poorly defined, except by the dominant row of poplar trees on the south towpath (3a).
- There are clearly features of quality and potential (buildings and spaces - 3b,c,d) within the canal corridor. However, isolated detracting features (neglected buildings and spaces), occasional litter and Canal banks compromised by adjacent road infrastructure - 3e) detract from the quality of the corridor.



Condition and Quality					
Robustness	A	B	C	D	E
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore
Robustness	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct

The waterway corridor as it passes through Tullamore is divided into three distinct zones of quality / condition. East of Convent Road including the harbour, the quality is average at best (grade C), with the urban pattern (robustness) weak, there being no recognisable land use pattern and excessive unused space. Between the harbour and Cox's Bridge, L27, the landscape is of exceptionally high quality (grade A) and generally strong robustness. Between Cox's Bridge and the railway bridge at the western extent of the town, the landscape is of low quality (grade D) and moderate robustness being without distinct urban structure.

The guiding principle thus ranges from Improve and Reinforce for the eastern portion of the area, Safeguard and Manage for the central portion of the corridor, and Improve and Restore for the western portion.

Character Area Three - Tullamore

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Prepare detailed masterplan for canal corridor through all of Tullamore integrating the individual objectives of the current development plan and action area plans with the potential to establish an urbanised waterway and unique identity for this corridor through the town. The plan should address and encourage re-use of buildings, new architecture, the use of the harbour area, canal-side walks and "quayside" pedestrian friendly ambiance, with marina facilities. The corridor is currently variable in identity and quality and requires a strong simple concept developing the existing strong positive features - tree lines, enclosure, neat or hard edges, park-like qualities, and the industrial heritage. Tullamore is the biggest town in the study area and offers a unique opportunity to be "urban" in contrast to the surrounding rural environment. The harbour has great potential as a development catalyst for the town as a whole as well as the Canal corridor. It should be fundamental to a new vision for the canal corridor in Tullamore.	Short
3.3.2.	Waterway protection zone	Zone would be addressed by masterplan.	Short
3.3.4.	Protection of monuments	Monitor / manage canal structures - bridges, locks.	Ongoing
3.3.5.	Key buildings	To be addressed by masterplan where not already in place	Short - Medium
3.3.6.	Design guidelines	To be addressed by masterplan. Encourage quality new architecture which enhances corridor.	Short
Wildlife and Habitat			
3.3.8.	Protection of habitats / ecology	Although an urbanised environment is envisaged, the provision of suitable habitat / circumstances for wildlife normally associated with towns and parks should be encouraged - swans, ducks and urban trees - to be addressed by masterplan.	Ongoing
3.3.9.	Water quality	Continue to monitor water quality and continue to address issues arising accordingly.	Ongoing
Economic Development			
3.3.10.	Strengthen local identity / image	The masterplan would be key to developing a waterside identity for Tullamore, complementing its strong market town character and heritage features, and adding to its visitor attractions.	Medium - Long
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Encourage angling, cycling, walking. Support development of B&B accommodation, and additional hotels. Support and involve minority water-based sports such as local rowing clubs in developing the facilities of the canal corridor through Tullamore and in adjacent rural areas. Provide public toilets at the harbour.	Medium - Long
Community and Local Development			
3.3.12.	Integration of local development, environmental and tourism objectives	Involve local community groups / residents (e.g. Tullamore Grand Canal Committee) and the local business community in the development of the masterplan for the Canal corridor through the heart of the town.	Short - Medium
3.3.15.	Address detractors in the landscape.	Ensure that unsightly features and impacts to the Canal banks, both physical and visual, as a result of adjacent infrastructure, are corrected. Support the efforts of the Tullamore Grand Canal Committee in the regular clean-up of the corridor.	Short
Management			
3.3.16.	Detailed management/ maintenance plan	This area must be kept in excellent condition - functionally, environmentally etc - it is under extreme pressure being central to a busy urban centre but equally, is seen / experienced by the most people, local and visiting. If not currently in place, schedule a regular clean-up day.	Ongoing
3.3.17.	Hedgerow management project	n/a	
3.3.18.	Good practice for users	Information concerning pump-out, waste disposal and berthing facilities in the branch to the harbour should be provided on the Canal.	
Interpretation			
3.3.20.	Bring to life the cultural landscape	To be addressed in masterplan - should also involve the potential for performance related cultural activity / festivals etc.	Medium
3.3.21.	Bring to life the transport/ industrial story	There is the potential in Tullamore to be the focus of this interpretation. The Tullamore Dew Centre already fulfills this role to an extent.	Medium

4.4 Character Area Four - Between Tullamore and Corcorans' Bridge Rahan

Socio-economic Component

- This is predominantly a rural area with little commercial or economic activity other than agricultural.
- The area lies between the well-defined western extent of Tullamore in the east and the Thatch pub near Rahan in the west. A small jetty on the south bank at the Thatch and Corcoran's bridge nearby, allow access to the village of Rahan roughly 1km to the north. The pub is a focus for overnight stops on the Canal and has potential for sensitive improvement and development.
- The north towpath is a maintained gravel track for much of the distance (4a), but badly rutted and narrow in places. The south towpath is mostly grassed.

Cultural and Built Component

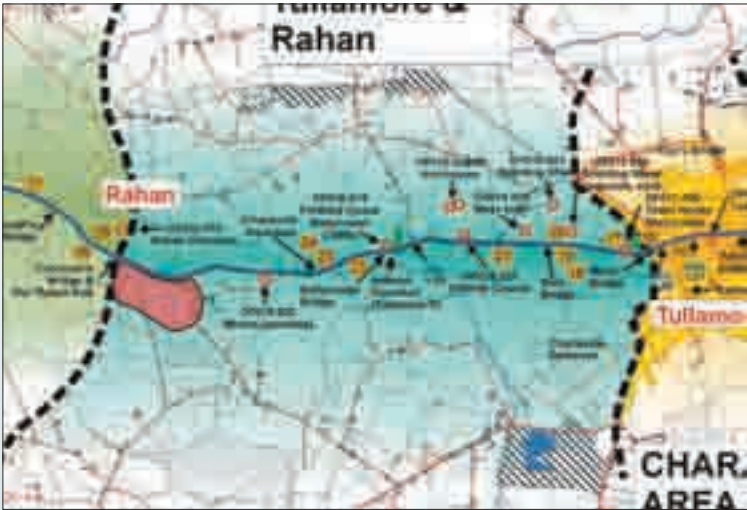
- There are three bridges, one lock (29) and functioning lock keeper's house at Ballycowan and two aqua-ducts in this section.
- Shra castle on departing Tullamore at Ballydrohid provides not only a 16th century tower house but extensive earthworks which extend south of the canal - these need to be fully interpreted / protected possibly forming the basis of an urban park due to their proximity to Tullamore.
- Charleville Castle demesne is visible to the south near Tullamore.
- There is an impressive and historic fortified house (ruin) at Ballycowan adjacent the canal, dating from the 17th century. However the character of the ruin is compromised by agricultural buildings and rubble / rubbish (4b).
- Medieval church complexes are present at Rahan and Kilbride. Although poorly preserved and interpreted, they offer significant tourism potential.
- Close to Rahan is an impressive former Jesuit College.

Natural component

- Mosaic of improved grassland and cultivated land to the north bank west of Tullamore evolving to improved grassland throughout. Hedgerow landscape, flora and fauna as in Character Areas One and Two.
- The near-by Charleville Demesne cSAC is an important woodland habitat and is connected to the Canal via an area of scrub woodland.
- The area west of Ballycowan has been recognised as being of high ecological interest with a high diversity of plant species, habitat and fauna.
- Target notes 17 - 24 highlight the important ecological network/s of this area, and examples of typical local flora and fauna of interest.

Landscape Component

- Variable Canal corridor with wide open views and enclosing mature hedgerows (4a, 4c) in places - a more dynamic landscape than that further east.



- Generally attractive, strong field pattern with hedgerows, more wooded and wild to the south.
- Repairs to leaks in the bank (4c) and erosion due to cattle crossing are frequent between Rahan and Kilgortin.
- A prominent factory to the south at Ballycowan would benefit from vegetative screening. Maintained gravel towpaths to north and south give access to a scattering of bungalows here, giving the place some prominence.
- A building cluster at Kilgortin (4e) and disused stone mill adjacent the Canal are especially attractive features and could be brought back into use.
- A number of obtrusive modern buildings (residential - 4d, and agricultural) east of Corcorans bridge compromise the rural character and require mitigation or consolidation.



Condition and Quality						
Robustness	A	B	C	D	E	
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

The landscape quality of this area is predominantly high, for the most part grade A and B with a variety of ecologically and visually interesting / attractive features within view of the Canal. It is moderately robust for the most part, with a mix of agriculture and wilderness in the east and agriculture with scattered but arranged housing (along roads) in the central portion of the area. The western extent of the area, near Rahan, is negatively affected by several obtrusive built features, mostly houses, resulting in a quality grade of D. The robustness is weak, the houses having compromised the rural landscape.

The guiding principles are thus to Conserve and Strengthen the majority of the area but to Reconstruct the extreme western portion near Rahan.

Character Area Four - Between Tullamore and Rahan

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop a Rahan Village Design Statement that addresses the interface between village and Canal. Encourage a canal-side village ambience, with improved buildings at and adjacent to the Thatch addressing an enhanced jetty / harbour with associated improvements (e.g. provision of a jetty, picnic tables / chairs, waste disposal, signage / information, etc.). Direct new development towards the village where possible by ensuring an attractive village environment.	Short - Medium
3.3.2.	Waterway protection zone	Protect / Improve surrounding rural landscape from intrusive development. Discourage the provision of additional access into the canal area of influence which might facilitate a proliferation of new development.	Ongoing
3.3.4.	Protection of monuments	Monitor / manage canal structures - bridges, locks, acknowledging these features' sensitivity as wildlife habitats.	Ongoing
3.3.5.	Key buildings	Establish a park associated with Shra Castle, restore the surrounding medieval landscape to both sides of the canal to re-create a unique feature and amenity for Tullamore as well as a gateway entering a valuable heritage section of the canal.	Medium
3.3.6.	Design guidelines	Examine the feasibility of partial or full restoration of Ballycowan Castle, possibly with usable facilities, as a significant visitor attraction.	Medium—Long
		Examine the feasibility of partial restoration and full interpretive facilities at Rahan churches to illustrate its former scale and importance.	Medium—Long
		Investigate refurbishment and re-use of the derelict old mill / house building adjacent to south of Canal between Kilgortin and Killina.	Medium—Long
		Subject to local landowners approval, establish landing jetty and picnic facility at or near Kilgortin (possibly on north bank to minimise disturbance to residents) to make best use of the exceptional scenery / buildings in the immediate vicinity.	Medium
3.3.6.	Design guidelines	Design guidelines for rural buildings need to take account of the limited capacity of this predominantly flat landscape of large fields.	Short
Wildlife and Habitat			
3.3.8.	Protection of habitats / ecology	Canal waterway corridor to be managed sensitively and in accordance with the objectives of the pNHA designation to encourage most diverse habitat possible.Tree pruning should completely remove unwanted young trees whilst selecting for some to develop to maturity.	Immediate - Short
3.3.9.	Water quality	Continue to monitor water quality and continue to address issues arising accordingly.	Ongoing
Economic Development			
3.3.10.	Strengthen local identity / image	Cultivate the image and status of the Thatch pub and environs as a means to strengthen local Canal-related identity.	Medium - Long
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Encourage angling and walking. Support development of B&B accommodation and examine the feasibility of a campsite between the Canal and Rahan village.	Medium - Long
Community and Local Development			
3.3.12.	Integration of local development, environmental and tourism objectives	Set up a forum / network of local development groups, focused in Rahan to ensure community ownership of objectives.	Short - Medium
3.3.14.	Integration of environmental objectives with farming practices.	Link such a forum both to local farmers as residents, farming organisations and Teagasc advisors. Develop a landscape design statement as simple guidelines to facilitate the enhancement / improvement of the waterway corridor by landowners.	Short - Medium
3.3.15.	Address detractors in the landscape.	Initiate development and implementation of a management / protection plan for Ballycowan Castle, including the removal of all temporary / semi-temporary agricultural structures from the building and the clearing of the immediate area.	Short
Management			
3.3.16.	Detailed management/maintenance plan	The banks of the Canal, between Kilgortin and Rahan in particular, are in need of general maintenance / repair, to a suitable structural, ecological and aesthetic condition.	Short
3.3.17.	Hedgerow management project	Establish Rahan Canal Clean-up Committee and erect signage to counteract dumping on and littering of the banks, towpath and hedgerows in that area.	Short
Interpretation			
3.3.20	Bring to life the cultural landscape	The majority of the area is characterised by exceptionally good hedgerows. This would be sustained by an appropriate hedgerow initiative.	Short
3.3.20	Pilot landscape interpretation project.	Provide interpretative map at the Thatch pub concerning the medieval church complex at Rahan, the church and school at Killina and the former Jesuit College.	Short - Medium
		At appropriate locations - locks or bridges interpret the landscape, local agricultural practices and provide information on local habitats / vegetation.	Short—Medium
		Provide interpretative signage along the Canal for Shra Castle, Ballycowan Castle and various buildings at and near Rahan, including the medieval church complex and former Jesuit College.	Short—Medium

4.5 Character Area Five
- Between Rahan and Pollagh

Socio-economic Component

- Although still predominantly agricultural in character, there is a relatively high number of Canal-side houses in the eastern portion of the area, and to the west near Pollagh the land use changes to predominantly peat related.
- Pollagh is a dispersed settlement of around 1,020 people, with a village core comprising church, school, post office and several houses (5b) fronting the north bank of the Canal at Plunkett bridge. It appears to have evolved initially, with or as a result of, the Canal.
- There are mooring posts for stopping at the village and picnic benches. However the village does not appear to be a service point for canal related travellers.
- There are five bridges and two locks (no. 30 at Ballincloghan Bridge and 31 at Cornalaur Bridge) in this section, with lock keeper's houses at both (the house at lock 31 is now in private ownership).
- Stretches of the towpath, notably between Henesy's and Ballincloghan Bridges in the east and nearing Pollagh in the west, are tarred. The remainder are grassed.

Cultural and Built Component

- In the east of the area, just west of Corcoran's Bridge (Rahan) and between Henesy's and Becan's Bridges, there is an almost constant line of houses adjacent the Canal, creating an almost suburban, though not unattractive character.
- Towards Pollagh the increasing presence of the peatlands bears witness to the local industrial activity/ economy, its relationship with the Canal, and potential after use of the extensive bogs.
- Pollagh village itself with its small church, school, shop and houses fronting the north bank would benefit from consolidation and sensitive further development to the south of the Canal where the housing is scattered and untidy.
- Some of the older cottages in Pollagh are built on timber rafts due to the nature of ground here.
- Becan's Bridge is an unusual modern concrete structure, more peculiar than inappropriate.
- Lock 31 and the adjacent cottages are simple and attractive (5c).
- Plunkett Bridge, Pollagh, is an elaborate structure but cluttered with safety barriers, reducing its quality.

Ecological Component

- Habitat types become increasingly varied and complex towards the west - improved grassland in the eastern half of the area to semi-natural grassland, semi-natural woodland and peatland around Pollagh.
- Target notes 25 - 32 indicate survey sightings and documented presence of interesting / significant flora including extensive gorse, birch, pine and scrub woodland on peatlands in various stages of harvesting or neglect (5a, 5d, 5e), and fauna including mink, fox and otter.



- A particular feature around Pollagh is the mixed calcicole and calcifuge flora.
- West of Lock 31 the increasing dominance of poor drainage and peatlands results in a higher ecological value (5a, 5d, 5e).

Landscape Component

- The canal itself is wide in this area - up to 15m.
- Near the Clodiagh River an obtrusive quarry / gravel pit requires mitigation.
- The landscape is increasingly varied - dense hedgerows and fields in the east to increasingly wooded and peatland in the west and variation in height and colour of vegetation as it responds to the underlying variation in geology and varying management regimes in the surrounding landscape.
- At Pollagh development needs to be guided to counteract the currently scattered urban pattern and create an attractive Canal destination.



5a



5b



5c



5d



5e

Condition and Quality						
Robustness	A	B	C	D	E	
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

This Area is of high condition / quality (grade B), with numerous attractive built, natural and topographical features throughout except at the western extent of the area near Pollagh (grade E). Robustness is mostly strong, with an attractive settled landscape pattern in the east, typical agricultural pattern in the middle portion and a peatland matrix in the west of the area. The exception is at Pollagh at the western extent of the area where (to the south of the Canal) the urban pattern is unclear and the robustness weak.

The guiding principle is thus to Safeguard and Manage the majority of the area and to Reconstruct the landscape at Pollagh, especially to the south of the Canal.

Character Area Five - Between Rahan and Pollagh

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop a Pollagh Village Design Statement to address the very scattered existing pattern, cementing the existing canal-side buildings as the core and encouraging a Canalside village ambiance. Direct new development towards the village core where possible by ensuring an attractive village environment. Development adjacent to the south bank of the Canal is hampered by concerns over the integrity of the bank (the Canal is elevated well above the surrounding landscape here). A strategy should be developed to counteract this issue.	Short -Medium
3.3.2.	Waterway protection zone	Protect / Improve surrounding rural landscape from intrusive development including forestry / plantations and other potential peatland after uses.Discourage the provision of additional access into the Canal area of influence which might facilitate a proliferation of new development.Encourage infill where Canal-side development has come to be dominant over the rural landscape.	
3.3.4.	Protection of monuments	Monitor / manage canal structures - bridges, locks, acknowledging these features’ sensitivity as wildlife habitats.	Ongoing
3.3.5.	Key buildings	Ensure that all buildings including the church, post office, school, houses and pub adjacent to north of the Canal in Pollagh (the village core) are acknowledged and protected by the village statement and initiate a cycle of maintenance to ensure their long-term condition. Propose infill / other appropriate measures for improvement of the building line south of the Canal.	Short - Medium
3.3.6.	Design guidelines	Design guidelines for rural buildings need to take account of the limited capacity of this predominantly flat landscape of large fields. Encourage infill development adjacent to the south of the canal in the Pollagh village core, to compliment the existing built features to the north.	Short
Wildlife and Habitat			
3.3.7.	The peatlands	Ensure that current and future management plans for adjacent peatlands (Pollagh Bog), seek to optimise habitat conditions and thus enhance biodiversity within the waterway corridor.	Immediate-Short Ongoing
3.3.8.	Protection of habitats / ecology	Canal waterway corridor to be managed sensitively and in accordance with the objectives of the pNHA designation to encourage most diverse habitat possible. Tree pruning should completely remove unwanted young trees whilst selecting for some (where appropriate) to develop to maturity	
3.3.9.	Water quality	Continue to monitor water quality and address issues arising accordingly.	
Economic Development			
3.3.10.	Strengthen local identity / image	Through measures proposed regarding a village design statement, as well as employing the settlement’s proximity to Lough Boora and Turraun Bog, seek to strengthen Pollagh’s identity and image as a focus for the Canal and adjacent wetlands and peatlands of high ecological value.	Medium -Long
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Encourage angling, cycling (where appropriate surface exists) and especially walking (in recognition of the connection with the Offaly Way, Slieve Bloom Way and Lough Boora / Turraun). Support development of B&B accommodation and examine the feasibility of a campsite in or near the village.	Medium - Long
Community and Local Development			
3.3.12.	Integration of local development,	Set up a forum / network of local development groups, focused in Pollagh to ensure community ownership of objectives.	Short -Medium
3.3.14.	Integration of environmental objectives with farming practices.	Link forum both to local farmers, farming organisations, Teagasc advisors, residents and land owners such as Bord na Mona. Develop a landscape design statement as simple guidelines to facilitate the enhancement / improvement of the waterway corridor by landowners.	Short - Medium
3.3.15.	Address detractors in the landscape	Investigate the refurbishment of Plunkett Bridge.Mitigate the impact of the gravel pit adjacent to the Canal near the Clodiagh River.	Short
Management			
3.3.16.	Detailed management / maintenance plan		
3.3.17.	Hedgerow management project	Locally variable countryside would benefit from the definition that a well laid hedgerow would provide - it would underline the sense of good local land management in the east and contrast with the "wilder" landscape to the west.	Short
Interpretation			
3.3.20.	Bring to life the cultural/ industrial landscape	At the mooring site in Pollagh, provide an interpretative map showing the local brickfields sites and the archaeological finds at Lough Boora.	Short -Medium
3.3.22.	Pilot landscape interpretation project.	At appropriate locations - locks or bridges interpret the landscape, local agricultural or industrial practices and provide information on local habitats / vegetation.	

4.6 Character Area Six - Between Pollagh and Glyn Bridge

Socio-economic Component

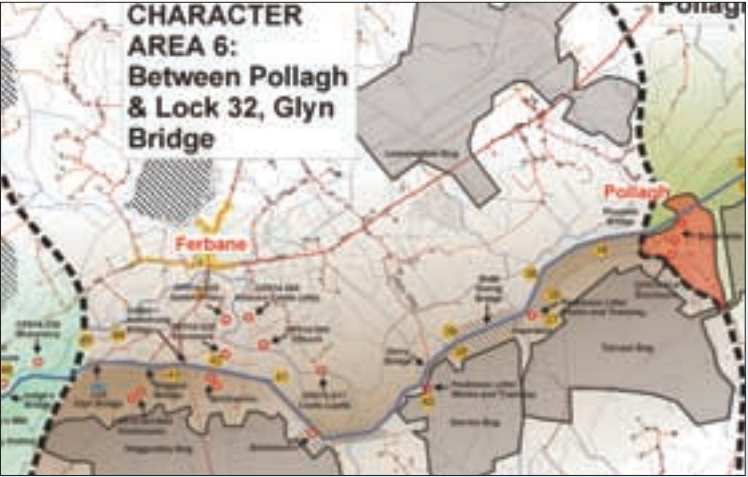
- Although not adjacent the Canal the town of Ferbane (population 1,200) is located roughly 1.5km to the north of the Canal in the west of the area.
- Ferbane grew from its association with the vast areas of peatlands in the surrounding countryside. It is currently in decline along with Bord na Mona activities. The town development plan expresses the wish to build a relationship / link with the canal. A mooring point is provided at the near-by Gallen Bridge.
- Land use in this area is dominated by peat harvesting and increasingly forestry, although marginal agricultural activity is carried out on drier sites (6d, 6e).
- Towpaths are grassed / muddy throughout this section (6d).
- There is one lock (no. 32) with a derelict Waterways Ireland lock keeper's house, one three-arched aqueduct (Macartney Aqueduct - 6c) and four bridges in this area.

Cultural and Built Component

- At the extreme east and west of the area, near Pollagh and Ferbane (6b), houses adjacent to or along roads near-by the Canal announce the urban centres, again creating an almost suburban character.
- In the land in between, land ownership, industry, lack of access, etc. has resulted in a landscape mostly devoid of dwellings and agricultural buildings.
- A towerhouse at Coole although not clearly visible from the canal, is an interesting and legible 16th century keep a short stroll from the canal.
- Industrial features of peatlands - litter works, light railways, a swing bridge over the Canal and brickfields provide interest but interpretation is required.
- Generally built development is not found close to the canal unless associated with peatland or related industrial activity.
- The privately owned buildings around Gallen bridge are derelict and require removal or renovation.
- Noggus bridge is a utilitarian modern canal bridge with little respect for its context or precedents.

Ecological Component

- Considerable variation in habitat due to underlying geology / hydrology and stages of succession / management - improved grasslands, semi-natural grassland, and peatland matrix (6d, 6e).
- Extensive nature of peatlands, particularly Turraun and Lough Boora, create a critical size of habitat (6d).
- Flora increasingly dominated by heath, willows and birch, also pine and gorse, with bracken and bog myrtle and in wetter areas, sphagnum (6d, 6e).
- Mixed calcicole and calcifuge flora found.
- Target notes 34 - 45 indicate typical species mixes / habitat types of the area.



Landscape

- There is minimal topographical variation, especially to the south of the area while to the north, near Ferbane, there are several attractive variations (6a).
- The Canal is in places significantly higher than the surrounding, now drained and harvested peatlands, affording broad and extended views in places.
- The peatlands provide a very diverse flora and landscape mix including brownfield peat production, heather, naturally regenerating scrub / birchwoods and planted conifers (6a) - in some instances young plantations close to the canal will create dark enclosures in time and may require intervention even at this stage to maintain the quality of the landscape.
- The peat fuelled power station at Lumcloon, 2km south of the Canal, is an imposing but appropriate symbol in the landscape (6e).



Condition and Quality					
Robustness	A	B	C	D	E
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct

The area is dominated by a unique and interesting matrix of peatland related land use. The area of Turraun and between the Silver River and Ferbane are of particularly high quality (grade A), while the remainder of the area is grade B. The peatland landscape pattern is in transition, with patches in varying stages of industrial use and after-use revegetation. There is however no distinct landscape pattern in these areas so the robustness is considered weak. In the vicinity of Ferbane and Pollagh, the same can be said where at present neither an urban nor rural pattern dominates and the quality / condition of the landscape is average (grade C) at best.

The guiding principle is to Strengthen and Reinforce a landscape pattern as the peatland areas become cutaway, and to Improve and Reinforce the urban fringe areas near Pollagh and Ferbane.

Character Area Six - Between Pollagh and Glyn Bridge

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Amend the Ferbane Town Development Plan to include more focused measures to integrate the Canal into the town structure, including a surfaced, signposted path between the town centre and the Canal, sufficient mooring, picnic facilities and possibly ablution facilities at Gallen Bridge (also to cater for the town park along the Canal between Gallen and Noggus Bridges), improved management of and facilities in the park, and signage for Canal users (walking and barging) concerning the town facilities and attractions, etc.	<i>Short - Medium</i>
3.3.2.	Waterway protection zone	Develop a Pollagh Village Design Statement to address the very scattered existing pattern, cementing the existing canal-side buildings as the core and encouraging a Canalside village ambiance. Direct new development towards the village core where possible by ensuring an attractive village environment and encourage infill to the south of the Canal.	<i>Ongoing</i>
3.3.4.	Protection of monuments	In the west of the area, protect / improve surrounding rural landscape from intrusive / inappropriate development (including forestry / plantations) and land use (such as dumping). Discourage the provision of additional access into the canal area of influence which might facilitate a proliferation of new development, but encourage infill where the precedent has been set east of Gallen Bridge. Also encourage further / better built definition of the junction of the Canal and the road to Ferbane at Gallen bridge.	<i>Ongoing</i>
3.3.5.	Key buildings	Monitor / manage canal structures - bridges, locks, acknowledging their existing and potential role as habitats.	<i>Ongoing</i>
3.3.6.	Design guidelines	n/a Encourage infill development adjacent to the south of the canal east of Gallen Bridge, to compliment / strengthen the existing row of houses and further integrate the Canal into the town structure / layout. Investigate the potential refurbishment and re-use of several disused buildings at Gallen Bridge.	<i>Short</i>
Wildlife and Habitat			
3.3.7.	The peatlands	Ensure that current and future management / development plans for the extensive adjacent peatlands (Turraun, Derries and Noggusboy Bogs) seek to optimise habitat conditions and thus enhance biodiversity within the waterway corridor.	<i>Immediate - Short</i>
3.3.8.	Protection of habitats / ecology	Recognise the particularly high value and sensitivity of the ecosystems in this area and manage accordingly, i.e. prioritise habitat and biodiversity over other issues. Discourage all access except for Canal traffic, walkers and the few canalside residents / land owners. Seek to harness the interest and efforts of local schools (Ferbane) in acknowledging and protecting the area's ecological assets.	
3.3.9.	Water quality	Continue to monitor water quality and address issues arising accordingly.	<i>Ongoing</i>
Economic Development			
3.3.10.	Strengthen local identity / image	Through measures proposed regarding town development plan and design guidelines and employing the benefits of the substantial settlement's existing service infrastructure, etc, seek to establish Ferbane's identity and image as a Canal-related settlement.	<i>Medium - Long</i>
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Encourage walking and boating only, as a means for ecological appreciation, in this area. Support development of B&B accommodation (possibly at Gallen Bridge) and examine the feasibility of a campsite in the area (possibly in the park adjacent the canal between Gallen and Noggus Bridges).	<i>Medium - Long</i>
Community and Local Development			
3.3.12.	Integration of local development, environmental and tourism objectives	Set up a forum / network of local development groups from both Ferbane and Pollagh, to work in partnership and with the authorities to ensure community ownership of objectives. Engage Bord na Mona in a discussion and in the planning of after use of the bogs prior to their becoming cutaway.	<i>Short - Medium</i>
3.3.14.	Integration of environmental objectives with farming practices.	Link forum both to local farmers and residents, farming organisations, Teagasc advisors and Bord na Mona. Develop a landscape design statement as simple guidelines to facilitate the enhancement / improvement of the waterway corridor by landowners.	<i>Short - Medium</i>
3.3.15.	Address detractors in the landscape.	n/a	<i>Short</i>
Management			
3.3.16.	Detailed management/ maintenance plan	Maintain only the essential stretches of towpath track for existing canal-side residents' access and allow for the planned return to grassed or vegetated surface elsewhere i.e. encourage a much wilder ambiance, subject to navigational requirements.	<i>Short</i>
Interpretation			
3.3.20., 3.3.21.	Bring to life the cultural/ industrial landscape	At the mooring site at Gallen Bridge, Ferbane, provide an interpretative map showing Gallen Priory, Coole Castle and other (Brosna) riverside sites, as well as the local brickfields sites.	<i>Short - Medium</i>
3.3.22.	Pilot landscape interpretation project.	At appropriate locations - locks or bridges (e.g. the Bord na Mona swing bridge) interpret the landscape, local agricultural / industrial practices and provide information on local habitats / vegetation.	

4.7 Character Area Seven - Between Glyn Bridge and Shannon Harbour

Socio-economic Component

- The eastern section of the area contains the village of Belmont (population 377). Although the village is some way from the canal itself there is a cluster of Canal-side buildings some of which are now converted to residential and arts use (7c) and a boat repair and sales establishment still operates here.
- Land use is more characteristic of the drier areas of the study and appears generally to be agricultural in nature.
- Access to the canal corridor is limited resulting in less housing in the immediate environs of the canal than elsewhere. The towpaths are grassed throughout (7b) except the south side close to Belmont.
- There are mooring and picnic facilities at Belmont Bridge / Lock 33, although the attractive stop lacks further facilities such as ablutions or restaurant / pub except in Belmont village, 1.5km north of the Canal.
- There are five bridges and two locks (33, a double lock at Belmont Bridge, and 34), both with lock keeper's houses now in private ownership.

Cultural and Built Component

- Clonony Castle dating from the early 17th century is an interesting and highly legible structure close to the canal.
- Ballyshiel House and near-by monastery east of Belmont, Perry's Mill, the railway station, Canal House and Goods Shed, the castle site at Belmont Bridge (7a) and the Clononey Tower House are all protected structures giving this area its particular significance. The bridge and double lock (7c) and near-by Brosna River bridge and weir, also contribute to Belmont's unique character and timelessness.

Ecological Component

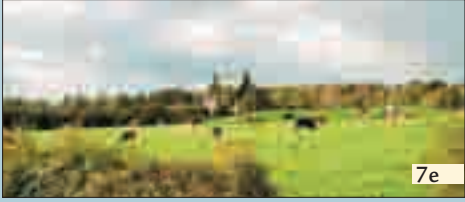
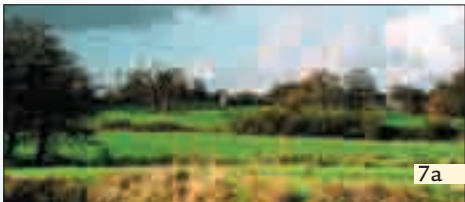
- Habitats in this area are again dominated by semi-natural grassland and improved grassland and the beginnings of the Brosna Callows.
- There is evidence of mink, fox and otter.
- Between Judges Bridge and Belmont, species rich calcareous grassland with orchids can be found.
- Target notes 46 - 53 highlight the range of species and habitat types of the area, particularly the numerous small woods and mature trees creating an almost parkland environment.
- In a number of areas forestry plantations threaten the biodiversity and thus the ecological quality (7d).

Landscape Component

- The surrounding landscape consists of high quality woods and rural fields particularly in the eastern half around Belmont. The canal, following the path of the Brosna River, meanders through variations in topography creating views out across fields to the River to the north and to low wooded hills to the south (7e).



- Mature vegetation, hedgerows and woods, is prominent in the eastern portion of the area.
- Harmony between the natural and the built environment is achieved to an extent seen nowhere else in the study area in the immediate vicinity of Lock 33 (7e). However, an inappropriate service yard / dump for vehicles, visible from the Canal, does detract to some extent from the quality of the area.
- The presence of barbed wire east of lock 34 is unfortunate.
- The imminent emergence of new plantations adjacent to the Canal, especially in the area of L'Estrange Bridge, will dramatically alter the landscape in the future (7d).



Condition and Quality						
Robustness		A	B	C	D	E
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

The eastern portion of the area is unique within the study area in its high quality landscape and abundance of attractive features. Despite the few notable detractors to the landscape it is grade A throughout. The landscape pattern is variable (agriculture, vs. river-side scrub woodland) but legible, and uncompromised; the robustness is strong. The remainder of the area, between Belmont and the Shannon, is less spectacular, with a general quality of grade B, becoming C towards the west. The pattern is typical of the central lowlands, i.e. mostly grassland and improved grassland, but recent changes, particularly conifer plantations, have reduced the robustness to moderate. The guiding principle is to Safeguard and Manage the eastern portion of the area including Belmont and surrounds, and to Conserve and Strengthen and / or Improve and Conserve the remainder of the area.

Character Area Seven - Between Glyn Bridge and Shannon Harbour

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop a Belmont Village Design Statement to address the interface between village and canal, i.e. the extension of services from the village to waterway users and to control and / or limit land use to that which is appropriate considering the particularly high quality landscape in the immediate area.	<i>Short - Medium</i>
3.3.2.	Waterway protection zone	Protect / improve surrounding rural landscape from intrusive / inappropriate development (including housing and forestry / plantations) and land use (such as dumping).	<i>Ongoing</i>
3.3.4.	Protection of monuments	Monitor / manage canal structures - bridges, locks, acknowledging their existing and potential role as habitats.	<i>Ongoing</i>
3.3.5.	Key buildings	Ballyshiel House and near-by monastery east of Belmont, Perry's Mill, the railway station, Canal House and Goods Shed, the castle site at Belmont Bridge and the Clononey Tower House are all protected structures giving this area its particular significance. Examine the feasibility of the restoration and re-use of Clononey Castle currently for sale as medieval local attraction—guest house or restaurant.	<i>Short - Medium</i>
3.3.6.	Design guidelines	Disallow any development that compromises any of these sites or the character of the area around Belmont Bridge and the route from the bridge to the village, but encourage development that compliments them and provides access (e.g. appropriate accommodation).	<i>Short</i>
Wildlife and Habitat			
3.3.7.	The peatlands	Ensure that current and future management / development plans for Noggusboy Bog seek to optimise habitat conditions and thus enhance biodiversity within the waterway corridor.	<i>Medium</i>
3.3.8.	Protection of habitats / ecology	Recognise the particularly high value and sensitivity of the ecosystems in this area and manage accordingly, i.e. prioritise habitat and biodiversity over other issues. Discourage all access except for Canal traffic and walkers.	<i>Immediate - Short</i>
3.3.9.	Water quality	Continue to monitor water quality and address issues arising accordingly.	<i>Ongoing</i>
Economic Development			
3.3.10.	Strengthen local identity / image	Through measures proposed regarding a village design statement and design guidelines to enhance the already high quality landscape of this area, seek to protect and enhance Belmont's identity and image as a Canal-related settlement of substantial heritage value.	<i>Medium - Long</i>
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Encourage walking as a means for landscape / ecological appreciation in this area, and fishing. Support development of B&B accommodation in Belmont village or making use of existing or sensitively located and designed buildings close to the Canal and examine the feasibility of a campsite in the area.	<i>Medium - Long</i>
Community and Local Development			
3.3.12.	Integration of local development, environmental and tourism objectives	Establish / support a forum of local development groups to ensure community ownership of objectives.	<i>Short - Medium</i>
3.3.14.	Integration of environmental objectives with farming practices	Link forum both to local farmers and residents, farming organisations, Teagasc advisors and Bord na Mona. Develop a landscape design statement as simple guidelines to facilitate the enhancement / improvement of the waterway corridor by landowners.	<i>Short - Medium</i>
3.3.15.	Address detractors in the landscape.	Improve the condition of the south towpath immediately east of Belmont bridge. Restore / improve the canal banks and towpaths just east of Lock 34 where (presumably) adjacent landowners' intervention has led to an unsightly situation.	<i>Short</i>
Management			
3.3.16.	Detailed management/ maintenance plan	Maintain only the essential stretches of towpath track for existing canal-side residents / land owners' access and allow for the planned return to grassed or vegetated surface elsewhere.	<i>Short</i>
Interpretation			
3.3.20., 3.3.21.	Bring to life the cultural/ industrial landscape	At the mooring sites at Gallen Bridge, Ferbane and Belmont Bridge, provide an interpretative map showing Ballyshiel House and near-by monastery east of Belmont, Perry's Mill, the railway station, Canal House and Goods Shed and the castle site at Belmont Bridge and the Clononey Tower House.	
3.3.22.	Pilot landscape interpretation project.	At appropriate locations - locks or bridges (e.g. Ballyshiel House, etc.) interpret the landscape, culture, local agricultural practices, etc. and provide information on local habitats / vegetation.	<i>Short - Medium</i>

4.8 Character Area Eight - Between Shannon Harbour and West to the Shannon

Socio-economic Component

- Shannon Harbour is a settlement of roughly 300 with the Canal as its central feature. It is unique in that the village was developed as the terminus of the Canal; it is thus intricately connected to the waterways in structure, use and character.
- The village remains important in the context of the waterways as a junction between canal and river, a permanent mooring point and service centre for craft making use of both waterways.
- The village and surroundings are under some pressure (though limited) for residential development.
- Three pubs in the village and a recently opened B&B cater to the needs of waterways users.
- Development of waterways uses other than navigation is negligible considering the village's pivotal location.

Cultural and Built Component

- The area includes one bridge (Griffith Bridge), Lock 35 (with a new lock keeper's house - 8b) and Lock 36, which brings the canal down to the Shannon River level, the harbour itself and numerous related industrial and other structures.
- Buildings and infrastructure of note include the derelict hotel and old school building (8a), transshipping shed, old stores, police barracks, bell house and various sundry structures, along with the refurbished harbour master's house (B&B - 8a).
- There are two functional dry docks providing an important facility for craft-owners although there is a requirement for further such facilities.
- The village structure has developed little since its conception as a harbour.

Ecological Component

- The dominant habitat in the area is wet grassland; the canal and the village are raised several metres above the Shannon and Brosna River callows (8c).
- This habitat contains a diversity of wetland plants including scarce species such as marsh pea, marsh stitchwort and summer snowflake.
- It is an important feeding ground for internationally important numbers of wintering wildfowl.

Landscape Component

- The village / urban landscape is in keeping with the harbour's once important role and status as the Grand Canal terminus. The imagery of the apparently organised chaos of the moored boats in the harbour and the adjacent maintenance facilities, has an evocative quality that is undoubtedly attractive, notwithstanding the majority of the built features' (along the south towpath in particular) state of disuse and dereliction.
- Those facilities still functioning such as the dry docks and transshipping shed provide for a level of activity within the canal



corridor and zone of immediate influence unlike anywhere else along the Canal.

- The Transition between the village and the rural landscape to the west is abrupt although the canal corridor itself is more cluttered by craft than elsewhere.
- The landscape to the south consists of predominantly large fields within the low, flat callows. The hill / esker at Banagher is however prominent some 3km away, as are the Slieve Bloom mountains along the horizon.
- The landscape to the north is similar between mature hedgerows and dense riverine vegetation along the Brosna River and further west beside the Shannon (8c).



Condition and Quality						
Robustness	A	B	C	D	E	
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

The prevailing character of Shannon Harbour is one of dereliction and neglect, the majority of buildings and infrastructure being in varying states of disrepair. Although the dereliction and the clutter of craft and infrastructure has an appeal that lends some quality to the landscape and creates a powerful sense of place or *genus loci*, the landscape quality / condition can only be described as being of average (grade C). The robustness is strong, the urban pattern created with the completion of the Canal having changed little with time.

West of the village the callows and river-side landscape are of high quality / condition and strong robustness.

The guiding principles are thus to Conserve and Restore the village (recognising the potential for sensitive infill and expansion) and to Safeguard and Manage the area between the village and the river.

Character Area Eight - Between Glyn Bridge and Shannon Harbour

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop a Shannon Harbour Action Area Plan (AAP) to comprehensively investigate and address both, (a) the need for refurbishment (where possible) and protection of the many historical built assets of the village, and (b) the potential for development and expansion of the village in accordance with its pivotal position on the waterways and its role as a centre / focus for navigation-related activities, facilities and services.	Short - Medium
3.3.2.	Waterway protection zone	Protect surrounding rural landscape from intrusive development.	Ongoing
3.3.4.	Protection of monuments	Monitor / manage canal structures - bridges, locks.	Ongoing
3.3.5.	Key buildings	Investigate the potential for refurbishment and re-use of all buildings in the village as part of the AAP. Where no longer suitable for use, develop management plans for their protection, maintenance and interpretation.	Short - Medium
3.3.6.	Design guidelines	To be comprehensively addressed by an AAP.	Short
Wildlife and Habitat			
3.3.7.	Protection of habitats / ecology	An urbanised environment is envisaged however wildlife should be encouraged as part of this scene. The AAP should address this.	Immediate - Short
3.3.9.	Water quality	Pump-out facilities in process of being installed. Continue to monitor water quality regularly and address issues arising accordingly.	Short Ongoing
Economic Development			
3.3.10.	Strengthen local identity / image	Through the AAP and focused, co-ordinated efforts of all parties, seek to re-establish Shannon Harbour's original identity and status on the waterways. This would be accomplished in part by the improvement / development of ancillary facilities and services to navigation such as dry docks, etc, which could be initiated by appropriate authorities, at least initially.	Medium - Long
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Harness and encourage development of all navigation-related activities and encourage angling and walking in the area. For the realisation of the village's aspirations, further attractions / amenities will have to be created to support such facilities as a hotel, restaurant, etc. Therefore, as part of an AAP, investigate the potential for development of further attractions. Provide toilets, showers and related facilities. Provide power to shore in harbour area.	Medium - Long
Community and Local Development			
3.3.12.	Integration of local development,Set up a forum / network of local and regional development groups and authorities to ensure community ownership of objectives and also environmental and tourism objectives	planning and investment support. Support ongoing local initiatives such as the barge restoration.	Short - Medium
3.3.14.	Integration of environmental objectives with farming practices.	n/a (Callows managed in accordance with designated cSAC objectives).	Short - Medium
3.3.15.	Address detractors in the landscape.	n/a	Short
Management			
3.3.16.	Detailed management/maintenance plan	Complete the provision of the pump-out facility as part of a complete suite of essential services provided to the highest possible standard including mooring, water and fuel supply, etc.	Short
Interpretation			
3.3.20., 3.3.21., 3.3.19., 3.3.22.	Bring to life the cultural/ industrial landscape Pilot landscape interpretation project.	At a prominent location in the village, provide an interpretative map showing the local buildings and sites of historical interest. At appropriate locations - locks, bridges or buildings in the village interpret the landscape, local agricultural practices and provide information on local habitats / vegetation.	Short - Medium

4.9 Character Area Nine
- Between Shannonbridge and Banagher

Socio-economic Component

- Shannonbridge is a settlement of 387 persons. The population is in decline, falling by 9% between 1991 and '96 with a relative increase in the older age groups.
- The village is surrounded by BnM peatlands, which provide employment for much of the working population and fuel the nearby power station. The bogs are nearing the end of their productive life, resulting in dramatic changes in employment opportunities and the local economy.
- Apart from the imminent construction of a second peat fuelled power station adjacent the village, development pressure in the area is negligible.
- Located at an important point on the Shannon River, there is some seasonal waterway-related economic activity in the form of pubs, B&Bs, etc.
- Formal access, use and interpretation of the abundant heritage features in the area of the village is however negligible.
- Population and development of any sort other than agriculture-related, are limited in the remainder of the area by the callows.

Cultural and Built Component

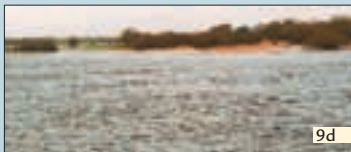
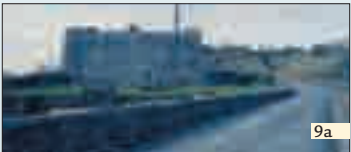
- Shannonbridge, originally Raghra, one of few crossing points of the river has a long history of cultural significance. Prehistoric artefacts have been retrieved from the river at the fording point, now the site of the present day bridge.
- Navigation infrastructure developed at Shannonbridge in the 1750s with the construction of a flash lock, which was replaced by a conventional lock at the turn of the century and subsequently by a navigation channel. Traces of the earlier infrastructure are visible in the bridge. The original lock house east of the bridge now functions as the village's tourist centre.
- Shannonbridge was heavily fortified against Napoleonic invasion at the beginning of the 19th century. The tete-de-pont or bridgehead west of the river is of international significance. There are also a small arms barracks and larger bomb-proof barracks adjacent the bridge (9a).
- A church and children's burial ground at Cloniffeen are also listed although these are not visible from the river.
- The cathedral at Clonfert dating from the 10th century was built on the grounds of the monastery founded by St. Brendan the Navigator in the 6th century.
- The remains of the now derelict Ballinasloe line (and the horse ferry) are visible reflecting previous links to the Shannon from this town, now served by the River Suck navigation further north.

Ecological Component

- The predominant habitat type is lowland wet grassland, i.e. the callows (9c, 9d). This habitat contains a diversity of wetland plants including scarce species such as marsh pea, marsh stitchwort and summer snowflake.
- It is an important feeding ground for internationally important numbers of wintering wildfowl.
- Other habitat types in the area are lowland dry grassland, occurring extensively east of the river north of Banagher, several isolated patches of wet broadleaved woodland, significant areas of raised bog between the river and the cutover BnM peatlands and an area of freshwater marsh.
- The callows being an SPA and cSAC, are in their entirety considered of international importance, with numerous important and threatened plant and animal species represented.
- As a breeding ground for the threatened corncrake, the area of grassland between Shannonbridge and Banagher has been identified by Birdwatch Ireland as of exceptional importance.
- The habitats in general, including that of the corncrake, are under threat from human activity including farming, tourism and navigation activities close to the riverbanks.

Landscape Component

- The river waterway corridor is most notable for its seasonal flooding that results in very different landscapes at different times of year (9c, 9d).
- The presence and extent of the callows has limited land use to marginal agricultural resulting in an uncluttered landscape with a distinctive wilderness character (9c, 9d).
- Shannonbridge is characterised by extensive fortifications and predominantly uncompromised linear village structure that relates directly to the river / bridge (9a).
- The presence of the nearby power station (9b) is dominant from many locations in and around the village, especially from the river (for much of the remainder of the area also). The proposed new power station provides an opportunity to construct a new building of merit and perhaps dismantle or re-use the existing.



Condition and Quality					
Robustness	A	B	C	D	E
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore
	Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct

There is little visible variation in the character of the area, and few notable features or detractors apart from the hill and town of Banagher at the southern extent and the fortified village of Shannonbridge, somewhat compromised by the adjacent power station. The landscape quality / condition is above average in the rural sections and in the attractive, historic village (grade B). In the immediate area of the power station the quality is reduced to E; the impact of the structures reduces with distance. Robustness is moderate in the rural sections and in the village (the presence of the power station precludes

these areas from a strong grading). In the immediate vicinity of the power station, robustness is weak. The guiding principles are thus to Conserve and Strengthen the callows area and the village and to Reconstruct the area around the existing and proposed power stations including Shannonbridge where it has been impacted upon.

Character Area Nine - Between Shannon Harbour and Banagher

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop a masterplan focused on the bridge and waterfronts to the east and west of the river examining the potential of the Napoleonic Fortifications, the bridge and the existing waterfront and its potential for sensitive development, enhancement and interpretation, in order to support tourist related activity in the town.	Short - Medium
3.3.2.	Waterway protection zone	Ensure expansion of Shannonbridge does not detract from the surrounding landscape - maintain tight urban form, avoid sprawling housing estates.Although the power station at Shannonbridge may be perceived as a detractor, its scale demands an imaginative response to after use. The countryside generally should remain development free with the emphasis on retaining its semi-natural qualities.	Ongoing
3.3.4.	Protection of monuments	Monitor / manage both built structures and archaeological finds.	Ongoing
3.3.5.	Key buildings	Examine the feasibility of refurbishment and / or use of the Napoleonic fortifications and barracks as interpreted ruins or useable structures that contribute to local attractions.Examine the feasibility of creative re-uses of the ESB power station and the associated light railway bridge across the Shannon.	Short - Medium
3.3.6.	Design guidelines	Although there is a presumption against development within the corridor outside of existing settlements design guidelines should explore options for structures which respond to the seasonal flooding or possibly of a minimum ecological footprint for provision of limited countryside accommodation outside of immediately protected areas.	Short
Wildlife and Habitat			
3.3.8.	Protection of habitats / ecology	Management objectives for the Callows and where possible the defined Waterway Protection Zone should be in accordance with those for the cSAC / SPA.	Immediate - Short
3.3.9.	Water quality	Continue monitoring water quality and addressing issues arising accordingly. Ensure adequate sewage treatment for villages within the catchment area.	Ongoing
Economic Development			
3.3.10.	Strengthen local identity / image	Clonfert and its relationship with the river and the surrounding peatlands should be addressed under the East Galway Integrated Rural Plan proposed in Section 3.3, and the Conservation Plan for Clonfert Cathedral.	Medium - Long
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Although the Callows are particularly sensitive, controlled footpath access around the network of lanes on the Galway side of the river especially, needs to be planned for to benefit the local villages in this region - to be addressed in an East Galway Integrated Rural Plan. There is potential to link into the local bog railway and the potential for this to travel across the river and link to a similar project on the Offaly side of the river. Such an initiative should be part of, or complimentary to the Greenways route currently in the planning stage of development.	Medium - Long
Community and Local Development			
3.3.12.	Integration of local development, environmental and tourism objectives	Set up a forum / network of local and regional development groups and authorities to ensure community ownership of objectives and also planning and investment support, probably focused around Shannonbridge and East Galway.	Short - Medium
3.3.13.	Integrated rural plan - East Galway.	East Galway gains limited access / benefit from the Shannon yet it offers a unique land environment associated with the river including extensive peatlands due to become cutaway within the medium future interspersed by a network of lanes, cultural sites and villages. An integrated plan as a pilot project could look at innovative local development linked to sustainable use of environmental assets. This should link closely to the existing REVER / Greenway project.	
3.3.14.	Integration of environmental objectives with farming practices.	Link fora to local farmers as residents, farming organisations and Teagasc advisors. Develop a landscape / environmental design statement as a simple guide to facilitate landowners' enhancement / improvement of the waterway corridor.	Short - Medium
3.3.15.	Address detractors in the landscape.	Shannonbridge power station and bridge need creative approaches to planning new uses and their appearance.	Short
Management			
3.3.16.	Detailed management/ maintenance plan	Establish a good practice guide reflecting no-wake zones, speeding, access and noise / disturbance controls to protect the value and quality of the amenity and its ecology for all.	Short
Interpretation			
3.3.20., 3.3.21.	Bring to life the cultural/Shannonbridge the village and its military and historic features has considerable atmosphere and presence. The character and story industrial landscape	needs to be brought to life and illustrated. Clonfert in contrast has a spiritual character which needs to be more accessible. The St Brendan connection is of significant value.	Short - Medium
3.3.19., 3.3.22.	Pilot landscape interpretation project.	At appropriate locations in Shannonbridge and Clonfert interpret the landscape, local agricultural practices and provide information on local habitats / vegetation.	Short - Medium

4.10 Character Area Ten - Between Banagher and Victoria Lock, Meelick

Ecological Component

- The predominant habitat type is lowland wet grassland, i.e. the callows. This habitat contains a diversity of wetland plants including scarce species such as marsh pea, marsh stitchwort and summer snowflake.
- It is an important feeding ground for internationally important numbers of wintering wildfowl.
- Other habitat types in the area are lowland dry grassland, occurring east of the river south of Banagher, an area of freshwater marsh and reed bed.
- The callows being an SPA and cSAC, are in their entirety considered of international importance, with numerous important and threatened plant and animal species represented.
- As a breeding ground for the threatened corncrake, an area of grassland south of Banagher (as well as between Banagher and Shannonbridge) has been identified by Birdwatch Ireland as of exceptional importance.
- The habitats in general, including that of the corncrake, are under threat from human activity including farming, tourism and navigation activities close to the riverbanks.

Socio-economic Component

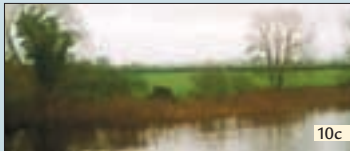
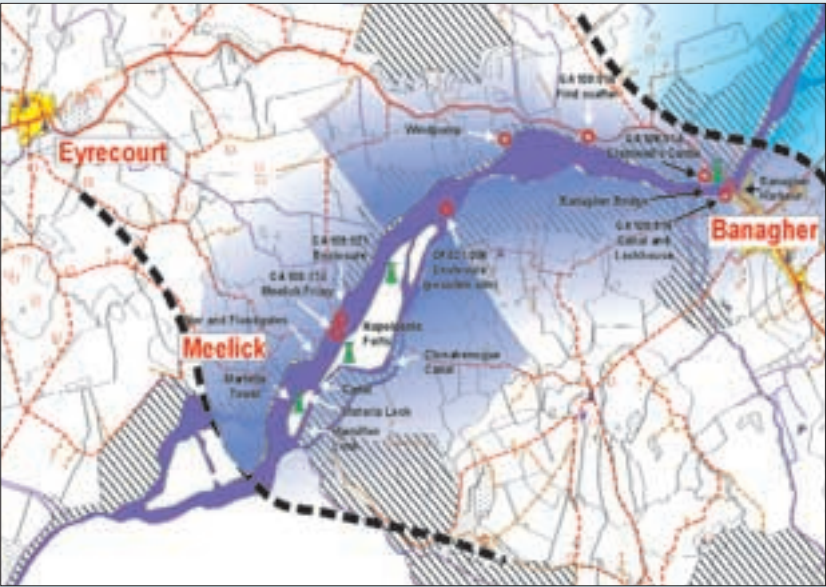
- Banagher is a settlement of 1,719 persons showing an increase in population between 1991 and '96.
- It functions as the principle town for the Shannon section of the study area including east Co. Galway.
- The development of Banagher has been driven by its location at a fording point across the Shannon. The town maintains a prominent role and status as a centre of waterways infrastructure and activity and attracts 60,000 visitors per year.
- A harbour and extensive floating jetties (10a) provide mooring for visiting craft and craft rental companies. Several hotels, B&Bs, pubs and restaurants rely to a large extent on waterways-related commerce for their business. There is also a marina at Shannon Grove, south of Banagher on the Co. Galway bank.
- Development pressure is relatively high. Several planning applications are pending in Banagher and also between Banagher and Meelick.
- Population and development of any sort other than agriculture-related is limited elsewhere in the area by the presence of the callows except at Meelick where access to and around Victoria Lock has resulted in a slightly higher density.

Cultural and Built Component

- Banagher is located and structured relative to the river and bridge. The central urban remains similar to at its inception in the 17th century.
- Navigation infrastructure was first developed at Banagher in the mid-1750s with a short canal and single lock to the north of the river. The canal remains and is listed by Co. Galway but is mostly filled in.
- The current bridge including navigation channel was built in the 1840s resulting in the abandonment of the lateral canal.
- Several buildings remain from the period during which Banagher was an important port including a derelict grain store and a hoist (10b).
- Fortifications of the fording point (Banagher Bridge) include Cromwell's Castle, Fort Falkland, a Martello Tower and Fort Eliza, all built or renovated in the early 19th century.
- Further defences exist in the area of Meelick including a fort and Martello Tower, the elaborate Keelogue Battery and Blockhouse and various earthwork defences.
- None of the historic structures are formally interpreted or accessible.
- Between Banagher and Meelick there are few buildings owing to the seasonal flooding of the Callows (10c).
- Only a road west of the river leading towards Eyrecourt from Banagher has been developed in a linear form. The roofs of houses and an old limestone school building are visible, but most prominent is an extensive factory complex adjacent to the river.
- Victoria Lock at Meelick, built in the 1840s to replace Hamilton Lock and Clonaheenogue Canal, is significant for its size, which allowed the passage of larger steamers used on the river at the time. The old canal and lock, dating from the 1750s, are still present.

Landscape Component

- Banagher is characterised by its navigation-related infrastructure including harbour and jetties and an urban structure that relates directly to the river, bridge and surrounding landscape (the town is built on a esker - 10b).
- Similarly, Meelick is given distinction by Victoria Lock (10d), the canalisation of the river and the various fortifications along the river.
- The river waterway corridor throughout this area except at Banagher, which is on high ground, is most notable for its seasonal flooding that results in very different landscapes at different times of year.
- The presence and extent of the callows has limited land use to agricultural activity resulting in an uncluttered landscape with a distinct and valuable wilderness character (10c).



Condition and Quality

Robustness	Condition and Quality				
	A	B	C	D	E
	Strong	Safeguard and Manage	Safeguard and Manage	Conserve and Restore	Restore Condition to Maintain Character
	Moderate	Conserve and Strengthen	Conserve and Strengthen	Improve and Conserve	Improve and Restore
Weak	Strengthen and Reinforce	Strengthen and Reinforce	Improve and Reinforce	Reconstruct	Reconstruct

The character / condition of this area is high to exceptional (grade B/A) throughout. Banagher is prominently located in the landscape and is a town with few detracting features and numerous built assets. It is a well-defined, modern town that has retained its historic integrity but could be susceptible to insensitive built additions in the ample open space (at the harbour) and at the edges of the town where definition is now required. Through the remainder of the area the agricultural land use pattern beyond the apparently pristine river channel is clear,

uninterrupted and devoid of any significant detracting features. The combination of landscape and functional built features at Victoria lock / Meelick is equally attractive. The robustness of the area is strong in general. The guiding principle in this area is Safeguard and Manage throughout.

Character Area Ten - Between Banagher and victoria Lock, Meelick

POLICY REF	POLICY AREA	ISSUE / MANAGEMENT / ACTION	TIMEFRAME
Planning and Development			
3.3.1.	Develop framework plan	Develop a masterplan (or Area Action Plan - AAP) for the harbour and associated historical features to the south of Banagher bridge and their relationship with the existing marina north of the bridge.	Short - Medium
3.3.2.	Waterway protection zone	Ensure expansion of Banagher does not detract from the surrounding landscape—maintain tight urban form, avoid sprawling housing estates.Prepare design guidelines for the composition of built form extending beyond current urban area on hill, allowing for high visibility.	Ongoing
3.3.4.	Protection of monuments	Monitor / manage both built structures and archaeological finds.	Ongoing
3.3.5.	Key buildings	In Banagher to be addressed by masterplan above. Other key buildings are of a military or industrial historical character in generally good condition, repair and restoration should be carried out where necessary and ivy removed as well as views to key features from river opened up e.g. Napoleonic forts.	Short - Medium
3.3.6.	Design guidelines	Although there is a presumption against development within the corridor outside of existing settlements, design guidelines should explore options for structures which respond to the seasonal flooding or possibly of a minimum ecological footprint for provision of limited countryside accommodation outside of immediately protected areas.	Short
Wildlife and Habitat			
3.3.8.	Protection of habitats / ecology	The approach to protection and management in the SAC should where possible be applied in practice to the Waterway Protection Zone to maximise habitat advantage I.e. an ecologically minded culture should be fostered.	Immediate - Short
3.3.9.	Water quality		
Economic Development			
3.3.10.	Strengthen local identity / image	Banagher is the main urban settlement on the waterway and has the most capacity to service visitors. In Co.Galway, Eyrecourt has a tenuous relationship with the river, this relationship and opportunities should be addressed under the East Galway Integrated Rural Plan proposed in Section 3.3.	Medium - Long
Tourism Recreation and Amenity			
3.3.11.	Develop wider visitor interest	Although the Callows are particularly sensitive, controlled footpath access around the network of lanes on the Galway side of the river especially, needs to be planned for to benefit the local villages in this region - to be addressed in an East Galway Integrated Rural Plan. There is potential to cross the river at Meelick / Victoria Lock to give access to the old canal infrastructure there. Such an initiative should be part of or complementary to the Greenways route currently in the planning stage of development.	Medium - Long
Community and Local Development			
3.3.12.	Integration of local development, environmental and tourism objectives	Set up a forum / network of local and regional development groups and authorities to ensure community ownership of objectives and also planning and investment support , probably focused around Banagher, Meelick and East Galway.	Short - Medium
3.3.13.	Integrated rural plan - East Galway.	East Galway has limited access / benefit from the Shannon yet it offers a unique land environment associated with the river with a network of lanes, cultural sites and villages. An integrated plan as a pilot project could look at innovative local development linked to sustainable use of environmental assets.	
3.3.14.	Integration of environmental objectives with farming practices.	Link fora to local farmers as residents, farming organisations and Teagasc advisors. Develop a landscape / environmental design statement as a simple guide to facilitate landowners’ enhancement / improvement of the waterway corridor.	Short - Medium
3.3.15.	Address detractors in the landscape.	N/a	Short
Management			
3.3.16.	Detailed management/ maintenance plan	Establish a good practice guide reflecting no-wake zones, speeding, access and noise / disturbance controls to protect the value and quality of the amenity and its ecology for all.	Short
Interpretation			
3.3.20., 3.3.21. 3.3.19., 3.3.22.	Bring to life the cultural/ industrial landscape Pilot landscape interpretation project.	Industrial architecture / structures such as Victoria Lock, Clonaheenogue navigation and military fortifications provide the basis of interesting stories to be told throughout this area. At appropriate locations, e.g. at Victoria Lock / Meelick and Banagher harbour, interpret the landscape, local agricultural practices and provide information on local habitats / vegetation.	Short - Medium

SECTION FIVE CONCLUSIONS

The overall aim of this study is to identify how the waterways corridor can be managed for the benefit of all. The study identifies the various components of the corridor and assesses their contribution to the local distinctiveness, it sets out a methodology and identifies policies, opportunities and projects for the management and development of the waterways and their surroundings.

There are a number of key principles which have guided the output of the study:

1. The waterway corridor is a wide spatial concept and the corridor experience involves far more than the navigational channel - the local villages, towns, landscape patterns and features, ecology and the built and cultural heritage which interact to create the experience.
2. Although the nature of the two waterways (canal and river) are different they could make a major contribution to the identity of their regions creating strong positive images. Both the Canal and the Shannon can positively unite related features such as settlements, archaeological sites and habitats to create such an identity (the Shannon already achieves this identity).
3. A balance between varying objectives - ecology, landscape, economic development, heritage - is required in the management of both the canal and the Shannon. The Shannon is characterised by a sense of wilderness and tranquillity whilst the canal is clearly a man-made feature, although highly naturalised and with some of the qualities of wilderness and tranquillity encountered on the Shannon. Development within the Shannon corridor could significantly detract from these natural qualities whilst considered development within the canal corridor could engage positively with its "built" nature.
4. There is a need for integrated economic, tourism, community and local development initiatives to ensure a link between environmental practice and the "use" of that environment for local gain. This is best achieved by partnership between stakeholder organisations, such as need to include related interests, in particular farming and waterway users, and will require adequate resourcing.

The steering group for this project has involved The Heritage Council, Offaly County Council, Galway County Council, Offaly and Kildare Waterways and Waterways Ireland. The policies emanating from this study need now to be adopted by the relevant organisations and implemented.

Only the canal, towpath and bankside vegetation fall within the remit of Waterways Ireland, and they are only partially responsible for the Shannon. Dúchas are the statutory body responsible for administering sites designated for nature conservation. This involves the Shannon callows SAC and the Grand Canal NHA. The ESB also have a role in water level management. Many of the proposals suggested in this document rely on the active involvement of the planning authorities to ensure that development within the protection zones is carefully designed and only permitted if it actually enhances the waterway. The local

authority and related agencies also have an important role in developing appropriate tourism and recreation initiatives which makes use of but does not exploit the waterway corridor. Adjoining landowners would also be invited to participate by ensuring that this land is managed to enhance the ecological and visual qualities of the waterway.

The Heritage Council has provided a valuable service in seeking to set out the value of the waterway corridor within the study area and its potential. Sustainable development involves using and managing resources without depleting them. Such an approach requires the ownership of the policies set out in this study by those concerned with the planning and development of the regions - Galway and Offaly County Councils, those concerned with tourism and economic development - Shannon Development, Midlands Tourism, County Enterprise Boards, as well as local community organisations and partnerships, and the farming community.

The potential and the vision described in the study must now be realised. It will be the product of concerted effort by development agencies and the local community working in partnership to create and develop a sustainable resource based on the qualities and features associated with each waterway.

Using the Offaly and Kildare Waterways project as a model, development agencies need to create the capacity and awareness amongst local communities to sustain the micro-planning required and to create the political will to support environmental protection.

The sections of the Shannon and Grand Canal which are the subject of this study are part of a network of waterways throughout the country. Although there has been significant investment to date in making the waterways work as navigable entities this project is the first to look broadly at the "places" the waterways pass through and which provide some of the reasons / attractions for travelling on them. In many ways it is a natural follow-through on the physical improvements to the waterways to look at the environment and communities through which they pass to ensure that the investment is not devalued by the deterioration of the "visitor experience" but, equally, is not dissipated through lost opportunities within the waterway corridors. The overall concept emerging is one of a quality environment associated with the waterway which requires repair in places, management and protection, but which is also significantly undervalued as an economic resource.

The information contained in this study is the baseline data for both the protection of the environmental resource and the creation of an integrated rural development plan for sustainable tourism / recreation based development in the Grand Canal and Shannon areas covered by the study. Such a plan is exciting in concept, scale and innovation as it provides a context within which the ideas and policies within this study can retain their critical mass. The plan in its very development as well as its implementation would create a national / European profile for the corridors, attracting visitor interest and investment, and repositioning the less advantaged parts of the region.