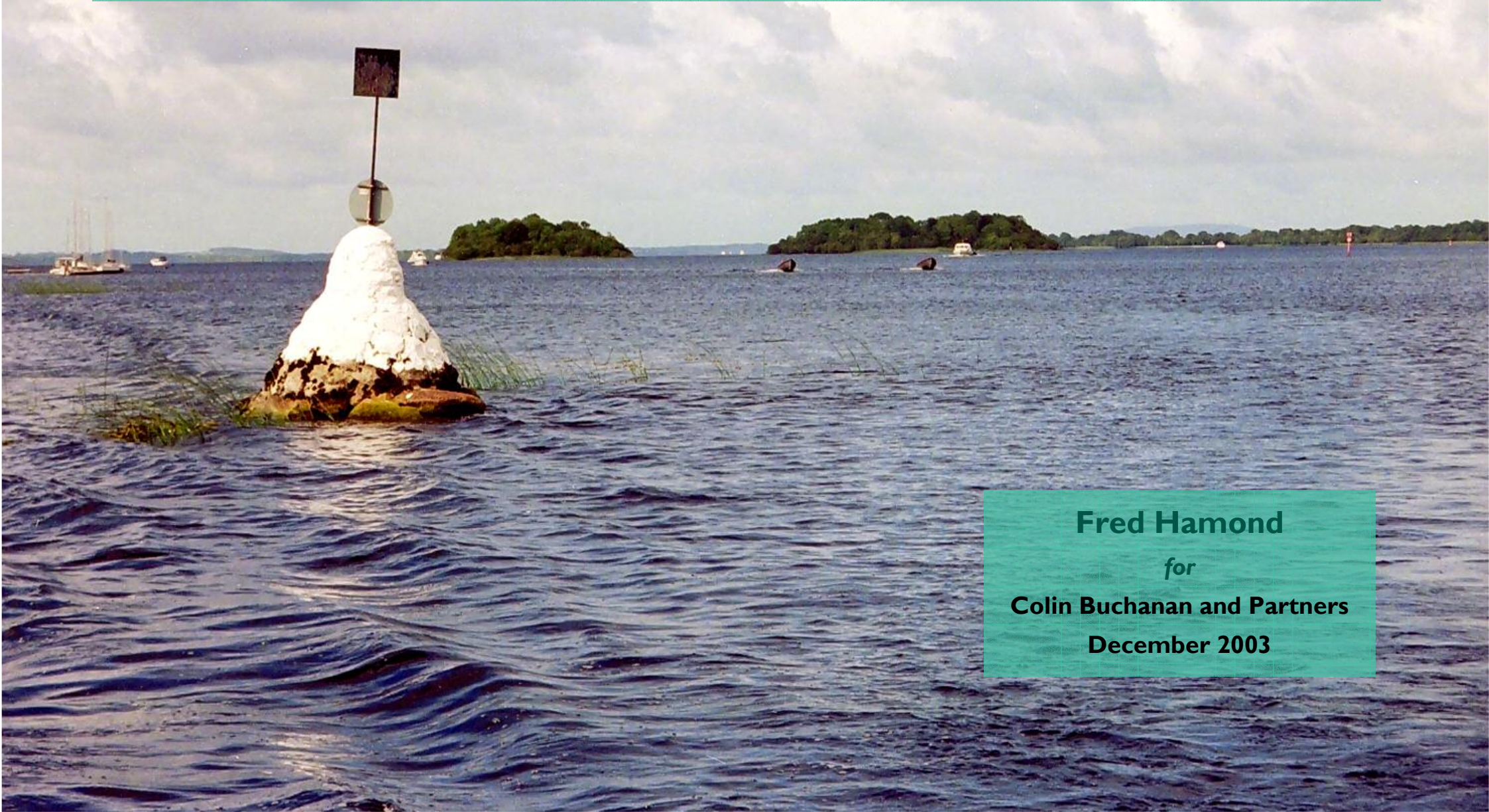


# INDUSTRIAL HERITAGE OF THE SHANNON WATERWAY: LANESBOROUGH TO SHANNONBRIDGE



**Fred Hamond**  
*for*  
**Colin Buchanan and Partners**  
**December 2003**

## CONTENTS

<b>PREFACE</b>			
<b>1. INTRODUCTION</b>	<b>1</b>	<b>4. THREATS TO HERITAGE SIGNIFICANCE</b>	<b>18</b>
1.1 Paper survey	1	4.1 Threats to physical survival	18
1.2 Field survey	1	4.2 Public awareness	18
1.3 Heritage significance	1	4.3 Statutory Protection	19
1.4 Database		<b>5. POLICIES AND ACTIONS</b>	<b>20</b>
<b>2. INDUSTRIAL DEVELOPMENT</b>	<b>2</b>	5.1 Site identification and recording	20
2.1 Navigations and Canals	2	5.2 Statutory protection	20
2.2 Roads	4	5.3 Raising awareness	21
2.3 Railways	6	<b>APPENDIX: REFERENCES</b>	<b>23</b>
2.4 Manufacturing industries	6		
2.5 Peat extraction/ power generation	9		
<b>3. INDUSTRY BY ZONE</b>	<b>11</b>		
3.1 Lough Ree	11		
3.2 River Shannon	13		
3.3 River Suck	15		
3.4 Sites of special heritage significance	17		



## PREFACE

This report examines the industrial heritage of the Shannon Waterway between Lanesborough and Shannonbridge, including the River Suck and Ballinasloe Canal as far as Ballinasloe. It forms part of a broader study being undertaken by Colin Buchanan and Partners on behalf of the Heritage Council in partnership with Waterways Ireland and Galway, Longford, Offaly, Roscommon and Westmeath county councils.

The focus of this particular report is on the region's industry and transport infrastructure from the mid 18<sup>th</sup> to mid 20<sup>th</sup> centuries. Two contemporary industries - peat extraction and power generation - are also included because of their impact on the landscape. Its objective is two-fold: (1) to identify those key facets of the region which make it distinct, and (2) to formulate policies which will sustain its distinctive character for future generations.

Chapter 1 sets out the methodology by which the relevant data were gathered and analysed. Chapter 2 presents an overview of the main facets of industry and transport in this region from the mid 18<sup>th</sup> century onwards. Chapter 3 assesses the industrial heritage of the three zones into which the region has been subdivided – Lough Ree, River Shannon (from Athlone to Shannonbridge), and River Suck (from Shannonbridge to Ballinasloe) – and highlights those sites which are of special industrial heritage significance. Chapter 4 identifies various factors which potentially threaten the survival of these sites. Chapter 5 sets out policies and actions to mitigate the effects of these threats and thus enhance the long-term survival of the region's industrial heritage.

I am grateful to the following individuals for their assistance in the preparation of this report: Colin Becker (Inland Waterways Association Ireland), Christy Cunniffe (Clonfert Development Group), Ruth Delany, Kevin MacDermott. (ESB), Dr Harman Murtagh (Athlone), the Heritage and Conservation Officers of the above county councils, and last, but by no means least, the project team: Guy Bartley, Amanda Browne, John Cronin, Lisa Grainger, Mary Hughes, Christina Kelly and Kate Rob.

Fred Hamond, BA, PhD  
*Industrial Archaeologist*  
75 Locksley Pk.  
Belfast BT10 0AS  
December 2003

## I. INTRODUCTION

No general synthesis of this region's industrial heritage has yet been published. It was therefore necessary to consult a wide range of documentary sources in order to identify relevant industrial sites, all of which were subsequently visited in the field.

### I.1 Paper survey

There exists a sizeable body of documentation on specific facets of this region's industrial heritage, notably the Shannon Navigation, Ballinasloe Canal and industries in Athlone. Coupled with data gathered from various local history publications, over 100 sites of industrial heritage interest were thus identified. All relevant publications are listed in the appendix.

Ordnance Survey six-inch (1:10,560 maps) also proved invaluable in pinpointing the locations of the above sites and also in revealing others about which nothing had been published. The region is covered by three map editions compiled in 1837-40, 1876-92 and 1909-13. Ballinasloe and Athlone were also surveyed in the period 1945-53.

### I.2 Field survey

All sites identified in the paper survey were subsequently visited in order to establish their extent, survival, condition and present usage. Photographs of upstanding remains were also taken. First-hand acquaintance with the sites enabled any threats to their future survival to be identified and facilitated the evaluation of their heritage significance.

### I.3 Heritage significance

The heritage merits of all sites built before the mid 20<sup>th</sup> century were evaluated in terms of their history, architecture, technical content (where applicable), and landscape impact.

Outstanding examples of particular site types were accorded 'national' significance. Those which reflected the industrial heritage of the Midlands were given a 'regional' rating. Those which were considered special within their particular localities were accorded 'local' status.

### I.4 Database

The data thus gathered are held in a Microsoft Access database under the following headings:

- Site number: each site is uniquely identified according to the zone within which it lies. Sites 101+ and 151+ lie on the east and west sides of Lough Ree respectively; 201+ lie along the Shannon between Athlone and Shannonbridge; 301+ are on the River Suck and include those in its vicinity in Ballinasloe; 351+ lie on the Ballinasloe Canal. Where a site contains more than one distinguishable feature, it has been sub-numbered.
- Name.
- Site type, e.g. corn mill, canal lock, bridge.
- County, Townland, National Grid (to 100m)
- Period. Date range within which the site was built.
- Statutory Protection: sites which are in the Record of Monuments & Places and/or Record of Protected Structures are noted.

- Survey details: survey date, surveyor, and outline description of buildings and structures.
- Photographs: date of photograph and depiction.
- Historical details as determined from published sources and OS maps.
- Ordnance Survey map depictions.
- Documentary references
- Evaluation of heritage significance on the basis of the paper and field data.
- Heritage merit: none, local, regional or national significance.
- Actions: recommendations are made for the statutory protection of significant sites and/or their fuller recording.

This Access database, in Access 2000 format, is appended to this report and full details of all sites are to be found therein.

The collation and analysis of this diverse range of information has made it possible to establish the nature, extent and development of all facets of industrial activity in this region from the mid 18<sup>th</sup> century onwards.



Shannon Waterway and related canals (Delany 1986).

## 2. INDUSTRIAL DEVELOPMENT

Structures and buildings relating to water, road and rail transportation, manufacturing, peat extraction and electricity generation are the dominant industrial features of this region.

### 2.1 Navigations and Canals

The main waterway in this area is the north-south running River Shannon which flows through Lough Ree and which was made navigable in the mid 18<sup>th</sup> century. Ballinasloe was linked to it by a purpose-built canal in the 1820s. Lecarrow was also connected to Lough Ree in the 1840s by a short canal. Finally, in the 1990s, the River Suck was made navigable from Ballinasloe to its confluence with the Shannon just south of Shannonbridge.

#### 2.1.1 Shannon Navigation

Although the first proposal to improve the navigability of the Shannon upstream of Limerick was mooted in 1697, it was to be almost another 60 years before work commenced under the auspices of the government-appointed Commissioners of Inland Navigation.

In 1755, Thomas Omer was commissioned to undertake this work and he began on the stretch between Portumna and Lanesborough. By 1759 he had built locks at Meelick, Banagher, Shannonbridge and Lanesborough. He also excavated a 2.5km canal (with a full- and half-lock ) around the west side of Athlone in order to bypass the shallows at the town bridge. By 1770, the upper section of the river had also been made navigable as far as Carrick-on-Shannon.

Unfortunately, his work brought little benefit as it was not until 1799 that the upgrading of the section between Limerick and Killaloe was completed by the Limerick Navigation Company.

Simultaneously with the above works, the Grand Canal Company was building a canal from Dublin to the Shannon in order to create a trading link with Limerick. Work on the canal had started in 1757, but it was not until 1804 that it finally arrived at Shannon Harbour, between Shannonbridge and Banagher.

The Grand Canal Co also took over the upkeep of the middle section of the Shannon Navigation, much of which was poorly maintained and failing into disrepair. By 1810 they had replaced all of Omer's original locks. The lower section of the navigation was also upgraded by the Directors General of Inland Navigation (established in 1800). By 1814 the stretch from Limerick to Lanesborough was, at last, fully navigable.

In 1817, the Royal Canal was completed between Dublin and Termonbarry, between Lanesborough and Lough Forbes. This provided the impetus for the Directors General to improve the upper Shannon as far as Lough Allen in Co Leitrim. The expectation was that coal from Arigna could be brought to Dublin and Limerick. This never materialized and traffic north of Lough Ree was never on the same scale as on the middle and lower stretches of the navigation.

Such was the volume of traffic between Dublin and Shannon Harbour that the Grand Canal Company extended it on the west side of the Shannon to Ballinasloe in 1828.



Athlone Lock c.1910 (Delany 1986).

In 1835, the government placed the entire navigation under the control of the Shannon Commissioners. In 1839, they embarked on an ambitious scheme to upgrade it so that it could be used by steam boats. Over the next 11 years, extensive dredging and construction work took place under the direction of Thomas Rhodes.

Within the study area, the locks at Shannonbridge and Lanesborough were removed and the river dredged. The bridges at Athlone and Lanesborough were rebuilt and both they and the existing one at Shannonbridge were fitted with opening sections over their navigable channels. The Athlone canal was also abandoned in favour of the river, which was deepened and where a substantial weir, lock and quay were constructed.

With the completion of these works in 1850, the Board of Works assumed responsibility for the entire navigation.

Although these works had been carried out to facilitate steamers, their advent also heralded the age of the train. Athlone was linked to Dublin by railway in 1851 and Limerick was similarly connected in 1858. The speed, reliability and flexibility of this new mode of transport stymied the growth of river traffic and undoubtedly rendered the Commissioners' £½m expenditure much less cost-effective than it would otherwise have been.

The next major development on the Shannon Navigation came in 1929, when the Electricity Supply Board (ESB) opened Ireland's first hydro-electric power station at Ardnacrusha near Limerick. Lough Ree became a back-up water storage facility along with Lough Derg. During the 1930s, dredging took place between Athlone and Termonbarry in order to maintain a sufficient





Cruising at Shannonbridge.

navigable depth over the summer months when water was being abstracted by the power station.

The withdrawal of commercial traffic by CIE in 1960 coincided with a growing interest in leisure cruising, an activity that was actively encouraged by the Inland Waterways Association of Ireland. Such was this interest that the Office of Public Works was persuaded to refurbish the entire navigation for amenity use. Since 1994, the north end of the Shannon has been linked to Lough Erne and the entire network is now the responsibility of Waterways Ireland.

### 2.1.2 Lecarrow Canal

This 1.5km long canal links Lough Ree with Lecarrow, on the west side of Lough Ree. It was cut in the 1840s for the carriage of limestone from a nearby quarry to Athlone for the new bridge, weir, lock and quay then being constructed by the Shannon Commissioners. It eventually fell into disuse, but was dredged in the 1960s by the Office of Public Works for recreational boating. The



Kylemore Bridge, Ballinasloe Canal.

existing harbour at the Lecarrow end was also refurbished and subsequently extended.

### 2.1.3 Ballinasloe Canal

In 1822, the Grand Canal Company embarked on the construction of a 23km canal from the Shannon to Ballinasloe. Although a route via the River Suck had been proposed initially, this entailed a towpath up the Shannon and along the Suck. The canal was adopted as the cheaper option and was completed in 1828.

The topography being relatively flat, only two locks were necessary, the first being a short distance in from the Shannon, directly opposite to where the main line entered the river. A timber bridge over the river facilitated the passage of tracer horses between the two canals (with the upgrading of the river in the 1840s, it was superseded by a ferry).

Although the railway, which arrived in Ballinasloe in 1851, robbed the canal of much of its potential trade, it continued to function until closure in 1961.



Pollboy lock.

### 2.1.4. Suck Navigation

As noted above, the proposal to make the Suck navigable as far as Ballinasloe had been dropped in favour of a canal. It was not until the 1990s that the original scheme came to fruition with the widening and deepening by the Office of Public Works of the river for a distance of 16km between the Shannon and Ballinasloe. A new lock was also built at Pollboy and a harbour constructed at the east end of Ballinasloe on the defunct west channel of the river.

## 2.2 Roads

Historically, Athlone, at the south end of Lough Ree, has been the gateway to Connaught, being the main crossing point on the Shannon between Dublin and Galway. The narrowing of the north-south running river between glacial ridges aligned east-west has made this a natural crossing point, the strategic importance of which was recognised



Athlone Bridge of 1567 as depicted by Thomas Phillips in 1685 (Murtagh 1980).



Shannonbridge (1759).



Replacement Athlone Bridge (1844).

in the early 12<sup>th</sup> century when a castle and bridge were first built. Because of the town's subsequent development as an administrative and commercial centre, it also became the hub of the regional road network, with routes radiating north-east to Longford, north-west to Roscommon, south-east to Roscrea, and south-west to Ballinasloe.



Athlone by-pass bridge (1991).

The most striking features of this road network are the bridges over the Shannon at Lanesborough, Athlone, and Shannonbridge, and over the Suck on the east side of Ballinasloe. Because these two rivers have relatively wide channels, their bridges are more substantial and have a higher landscape impact than those on their various tributaries.

Athlone boasts the first bridge across the Shannon, a timber structure of c.1120. This was superseded in 1210 by a masonry bridge built by Bishop John de Grey, King John's representative in Ireland. Although supposedly more substantial than the earlier timber bridge, it required frequent repair and was replaced by a ferry in the early 1300s. This operated until the opening of a new stone bridge by Sir Henry Sidney, Lord Deputy of Ireland, in 1567. His intent was to facilitate military access to the rebellious Connaught and it was for the same reason that he also erected a stone bridge over the Suck at Ballinasloe around 1575.

Lanesborough and Shannonbridge were also strategic crossing points in medieval times but it was not until the 18<sup>th</sup> century that stone bridges were built, in 1706 and 1759 respectively. Like the Athlone and Ballinasloe bridges, these had multiple rubble masonry arches, angled cutwaters and narrow carriageways with pedestrian refuges. However, unlike the earlier bridges financed by the Crown, the cost of these 18<sup>th</sup> century ones were met by the County Grand Juries of Longford, Roscommon and Offaly. The necessary finance was raised through the levy of rates on the baronies and counties where they were erected.

The improvements to the Shannon Navigation in the 1840s resulted in the replacement of the bridges at Athlone and Lanesborough. Their design typifies mid 19<sup>th</sup> century bridge construction with their wide segmental arches, broad carriageways, rounded cutwaters, use of ashlar stone and decorative embellishments such as vee-jointing and string courses. This new style of bridge is also evident at Ballinasloe where a section of the 16<sup>th</sup> century bridge was rebuilt in 1887 as part of the drainage works on the Suck.





Shannon railway bridge, Athlone (1851).



MGWR Station, Athlone (1851).



GSWR Station, Athlone (1859).

In recent years, the bridge at Athlone has become a major bottleneck for the ever increasing volume of traffic. To relieve congestion, a by-pass was opened to the north of the town in 1991. This entailed the construction of a 200m long triple-span concrete box-girder bridge over the Shannon.

The bridges within the study area illustrate key stages in the development of Irish bridge building – the 18<sup>th</sup> century multiple stone arches at Shannonbridge and Ballinasloe, the elegant 19<sup>th</sup> century ashlar bridges at Lanesborough and Athlone, and the soaring 20<sup>th</sup> century span over the Shannon north of Athlone.

## 2.3 Railways

This region is presently served by a railway from Dublin which bifurcates to the west of Athlone. One line runs west of Lough Ree to Roscommon and Westport, and the other south-west to Ballinasloe and Galway. There is also a service line between Mullingar and Athlone.

The Midland Great Western Railway (MGWR) arrived in Athlone from Dublin via Mullingar in 1851, en route to Ballinasloe and Galway. It crossed the Shannon on a magnificent 165m long bowstring truss bridge and halted at the company's equally impressive station opened in 1852 on the west side of the river.

From 1859, Athlone was also served by the Great Southern & Western Railway (GSWR) from Portarlinton and Dublin. This company had its own station on the east side of the river. The two lines were connected in 1860s, the same year in which Athlone was linked to Roscommon by the

Great Northern & Western Railway. This line was extended to Castlebar in 1862 and to Westport in 1866. The MGWR leased this line in 1870 and absorbed it in 1890.

Between 1927 and 1985, Athlone was served by the MGWR station alone and since then by the former GSWR station on the east side of the Shannon. On the Westport line, all the minor stations such as Knockcroghery were closed in 1963. The Mullingar line was closed to all but specials from 1987.

The fact that all the original lines are still in use despite these rationalisations is testimony to the fact that Athlone continues to be an important node in Ireland's railway network.

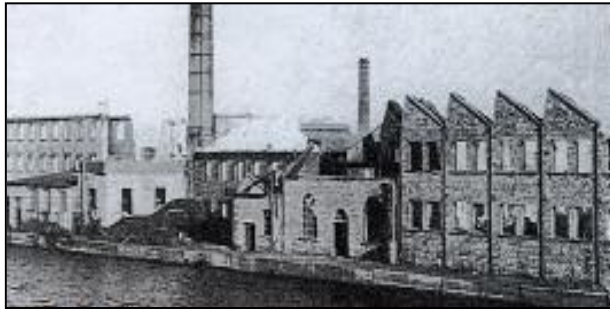
## 2.4 Manufacturing industries

Athlone and Ballinasloe are the two main towns within the study area and the only ones to have supported major industries.

### 2.4.1 Athlone industries

Despite its location on a navigable river, Athlone was primarily a commercial rather than an industrial town until the mid 19<sup>th</sup> century. What industries as there were – grain milling, brewing, distilling, malting, and felt hat production – were on a relatively small scale and geared to meet the demands of the town and its hinterland.

Prior to the inception of steam engines in the early 1800s, manufactories of any size were reliant on water for their motive power. The topography of Athlone is such that only the Shannon could be harnessed. Although there was no significant head

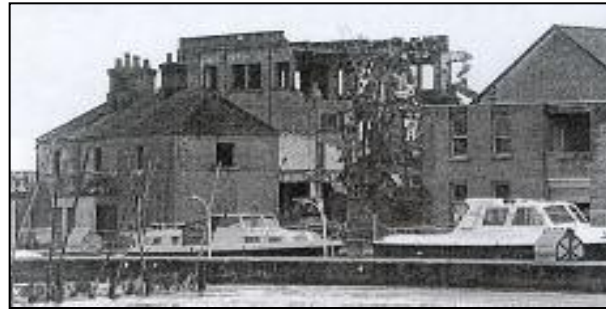


*Top: Athlone Woollen Mills after fire in 1940 (O'Brien 2002). Bottom: apartments on the site of the mills, 2003.*

of water, the substantial flow of water ensured a sufficiency of power.

By the later 1700s, four mills – three corn mills and a tuck (wool fulling) mill – were at work in the arches of the old town bridge. Several nearby breweries, distilleries and a tannery were also operational at this time.

Although the Shannon Navigation was upgraded in the 1840s and new quays constructed, it was the arrival of the railway in 1851 that had the most lasting impact on Athlone's industrial development.



*Top: Demolition of former distillery adjoining Athlone lock (O'Brien 2002). Bottom: the same scene today.*

The most significant development in the second half of the 19<sup>th</sup> century was the opening of the Athlone Woollen Mills. These were established in 1859 by Dr Edward Gleeson on the site of a defunct brewery north-east of the new town bridge. By 1900, it was the town's biggest employer, with over 400 engaged in the spinning and weaving of tweed. The mill survived partition and continued to operate successfully until destroyed by fire in 1940. Although rebuilt in 1948, it went into receivership in 1952. The site has since been redeveloped for apartments and a hotel.

In 1860, a corn mill was erected by Jonas Swain at the lock on Omer's defunct canal. The canal served as a headrace to the mill, with the drop at the lock providing the necessary head of water. Appropriately known as the Lock Mills, this was, in fact, the town's only corn mill, those at the old town bridge having been demolished with the upgrading of the river. Although gutted by fire in 1881, the corn mill was rebuilt but closed three years later. It reopened as a woollen mill in 1893. The remains of the mill have recently been demolished to facilitate an adjoining housing development.

The advent of the railway was a double-edged sword. Although it facilitated the distribution of goods and materials to and from Athlone's hinterland, it also opened up the area to outside competition. This seems to have been the case with its distilling industry. Robinson's Distillery opened in 1821 and closed in 1850 whilst the nearby Pottsdam Distillery of 1816 ceased work in 1854. The latter was reopened as the Shannon Saw Mills but has recently been cleared to make way for a housing development.

There were no further major developments until 1936 when General Textiles Ltd set up a cotton factory just north of the Army Barracks on the west side of the river. Due to the government's embargo on imported foreign goods, the factory enjoyed a virtual monopoly for the production of cotton fabric. At its peak in the 1950s, it employed almost 1000 people and became the most significant industry in Athlone after the demise of the Woollen Mills. Renamed Gentex in 1975, the factory eventually succumbed to competition from synthetic fabrics and closed in 1984. The extensive premises have since been reutilized as an industrial estate.



Former Gentex Factory, Athlone.

### 2.4.2 Ballinasloe industries

Ballinasloe developed as a market town for its hinterland and its industries were geared primarily to the processing of agricultural products. The extension of the Grand Canal from the Shannon in 1828 undoubtedly facilitated the town's role as a distribution centre.

In the 1830s, the town boasted two breweries and two corn mills in the immediate vicinity of the River Suck; there was also a large flour mill on the Suck at nearby Pollboy. The canal also made the importation of coal economically viable to such an extent that a gasworks was opened in 1840.

As with Athlone, the town's industries were also increasingly exposed to outside competition once the railway came in 1851. Despite this, the canal remained an important conduit for bulky items such as Guinness stout, as evidenced by the opening of a company store at the canal basin in the 1860s.



Ballinasloe Harbour (*MacLochlainn 1971*).

### 2.4.3 Rural industries

Today, virtually all the cultivated land in this region is put to animal grazing. Prior to the 1840s' famine, cereals were extensively cultivated and this is reflected in the fact that 22 corn and flour mills are shown on the first edition OS maps. There were clusters of mills at Athlone and Ballinasloe. However, most of the tributary streams were of limited power potential so most of mills on these watercourses were geared to the production of oatmeal for their respective local communities.

The paucity of water power is also reflected in the relatively large number of windmills in this region. Five such mills are strategically located on the glacial hills and ridges bordering Lough Ree, the wind power being enhanced by the lack of impediments as it blew across the expanse of water. Rindown Windmill appears to have been extant by the 1630s but the others were probably



Lanesborough Windmill.

built in the mid to late 1700s in response to a dramatic increase in cereal growing in Ireland due to growing urbanisation and the Napoleonic wars.

All the corn mills ground oats into oatmeal and were also capable of milling wheat into flour. There were only two purpose-built flour mills - at Shrule on the Inny, and south-east of Ballinasloe on the Suck. These are much more sizeable mills than the corn mills on account of the need to store quantities of grain, meal and flour. Flour milling was also more capital intensive than corn milling. It is probably no coincidence, therefore, that the Inny and Suck are the only rivers of any size within the study area (apart from the Shannon) and the only ones capable of powering flour mills.

After the famine, rural depopulation and a switch to animal husbandry resulted in the demise of many of these rural mills and all but three were defunct by the early 1900s. None of them now work.



Shannonbridge Power Station.

## 2.5 Peat extraction/ power generation

Since the late 1950s, the raised bogs of this region have been intensively exploited by Bord na Mona for peat to fire the Electricity Supply Board's power generating stations at Lanesborough and Shannonbridge.

### 2.5.1 Lanesborough

The creation of Bord na Mona under the Turf Development Act 1946 paved the way for the extraction of sod peat from raised bogs in the vicinity of Lanesborough. This entailed the footing of turf by hundreds of temporary workers over the

summer months and the development of a 3ft gauge railway for conveying the dried sods to tip heads for onward distribution. The peat was initially sold on the domestic market but the ESB's 20MW power station at Lanesborough became the main focus of the bogs' output from 1958 onwards. Hand-won turf proved uneconomic and milled peat became the norm when the 40MW Lanesborough 'B' station opened in 1966. With the ever increasing demand for electricity, the 45MW Lanesborough 'C' was opened in 1983 and the inefficient 'A' station closed. Today, the station is supplied by the Mountdillon group of bogs. These extend south-east of Lanesborough towards Ballymahon, eastwards over the Royal Canal and northwards over the Shannon into Co Roscommon.

### 2.5.2 Shannonbridge

Bord na Mona also began extracting peat in the vicinity of Shannonbridge in 1959, primarily for horticultural use. With the opening of a 125MW power station south-east of the village by the ESB in the 1960s, the focus shifted to milled peat for electricity generation.

Initially extraction was confined to the Blackwater Bog east of Shannonbridge. In the mid 1960s, the Lismanny and Garryduff bogs, on the Co Galway side of the Shannon, also began to be exploited. A narrow-gauge railway was laid along part of the defunct Ballinasloe Canal and a 180m long reinforced-concrete bridge constructed over the Shannon to convey the milled peat directly to the station. Operations subsequently expanded over the River Suck into Co Roscommon. Since 1995, Shannonbridge also receives peat from the Boora group of bogs in Co Offaly.



At both Lanesborough and Shannonbridge new power stations are currently under construction. The existing stations will be decommissioned and the new ones will come on stream in 2004 and 2005 respectively. In line with international standards, both plants will have a 15-year life expectancy, by which time the peat will be nearing exhaustion. It is anticipated that both stations will then be demolished and the cutaway bogs put to commercial and amenity uses.

*Left: Peat extraction on Garryduff Bog, Ballinasloe.*

*Middle: Clonmacnoise & West Offaly tourist railway, Shannonbridge.*

*Above: New power station at Lanesborough.*

### 3. INDUSTRY BY ZONE

Each of the three zones within the study area has its own particular combination of past and present industrial sites. Besides characterising each zone, some sites are also of intrinsic interest in illustrating episodes in the historical progress of the industries which they represent.

The reader is referred to the database for details of the various sites discussed in this section.

#### 3.1 Lough Ree

This zone extends south from Lanesborough around both sides of Lough Ree to just above the new Athlone bypass bridge. It encompasses Newton Cashel, Glassan and Ballykeeran on the east side of the lough, and Knockcroghery and Lecarrow on the west.

This zone is characterised by sites relating to rural industry and water transport. Of the 32 sites identified, just over half (18) relate to rural industry and seven to the Shannon Navigation and Lecarrow Canal.

##### 3.1.1 Rural industry

A total of 17 mill sites were located, of which nine still have visible remains, albeit disused. All these mills predate the 1840s' famine and reflect the importance of cereal growing hereabouts in the late 1700s and early 1800s.

Although watermills remained in use for longer than windmills, they have also been more susceptible to destruction. Whereas only four of



Millstone floor, Lecarrow corn mill.



Shrule flour mill.

the 12 watermills survive, all five windmills are still standing, albeit as roofless shells.

Of the watermills, the corn mill at Lecarrow and flour mill at Shrule are the most significant. The former is largely intact and typifies medium-sized 18<sup>th</sup> and 19<sup>th</sup> century Irish oatmeal mills. The much larger flour mill at Shrule is also typical of its type and period, although only the shell and waterwheel survive in this instance.

All five windmills have prominent hilltop locations around the margins of Lough Ree. The 17<sup>th</sup> century (or earlier) example at Rindown provides an interesting structural contrast to the other four, being of a more massive construction. Although none contain machinery, all are nevertheless of heritage interest in again indicating the importance of cereal cultivation in this zone prior to the famine.

The only other identified rural industry in this zone was a quarry at Lecarrow, said to be where the stone for Athlone Bridge was obtained. The

adjoining Lecarrow Canal was dug in order to facilitate its carriage to Athlone.

##### 3.1.2 Shannon Navigation and Lecarrow Canal

Although both the navigation and canal were refurbished by the Office of Public Works (OPW) in the 1960s, they are essentially the same waterways as those developed some 120 years previously by the Shannon Commissioners.

The most significant heritage features are the navigation channel, quays and harbour at Lanesborough.

##### 3.1.3 Roads and railways

Four road bridges and a railway station were identified in this zone. The most prominent bridge is that at Lanesborough, built by the Shannon Commissioners in the 1840s to replace an early 18<sup>th</sup> century multi-arched one. Although upgraded in the 1990s by the addition of cantilevered



Lanesborough Harbour.



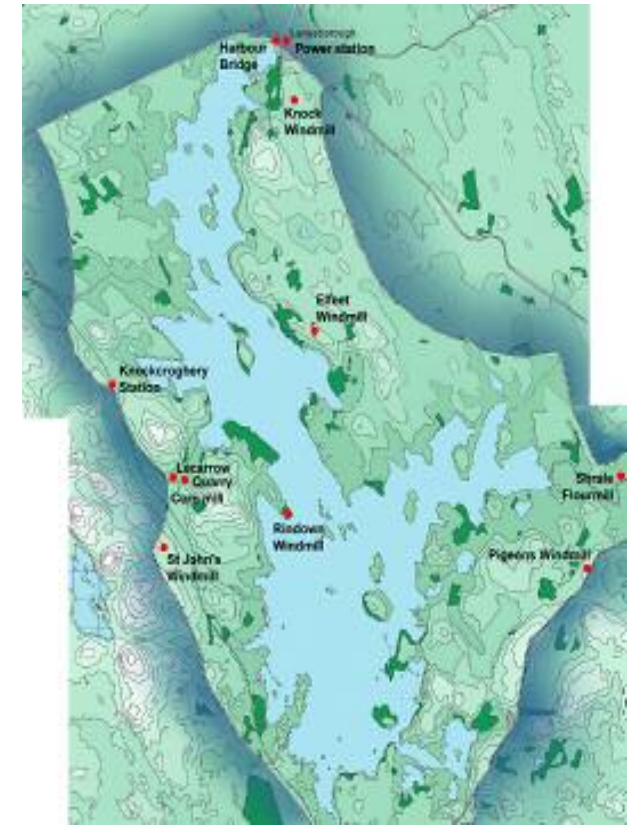
Lanesborough Bridge.



Knockcloghery Railway Station.



Lanesborough Power Station.



Significant industrial sites in Lough Ree zone.

footpaths, its original character is still recognisable. The three other bridges around the lakeside were rebuilt in reinforced concrete during the 1960s and are of no special heritage merit.

The railway complex at Knockcloghery, opened in 1860 on the Athlone-Roscommon line, encompasses a station house, offices, goods shed

and signal box. Although the station has been privately owned since the 1960s, its character has been retained in its adaptive reuse as housing.

#### 3.1.4 Peat extraction and electricity generation

Although the most recent industrial site in this zone, the scale of Lanesborough power station is

such that it dominates the landscape for miles around, with its tall chimney stacks and smoke plume. Even when the new station closes in 2020, extensive tracts of land between Lanesborough and Ballymahon will be irreversibly changed due to Bord na Mona's extensive peat milling operations, by which the station is supplied with fuel.

### 3.2 River Shannon

This zone extends along either side of the river from the Athlone by-pass to Shannonbridge, taking in Athlone and Clonmacnoise en route.

Transport sites predominate in this area. Of 31 recorded sites, 14 are linked with the Shannon Navigation and nine with roads or railways.

#### 3.2.1 Shannon Navigation

Features relating to the Shannon Navigation are to be found at Athlone and Shannonbridge. Of Omer's original 1750s' works, the Athlone canal survives intact, albeit mostly de-watered and partly infilled. However, the only surviving canal-related features are the side walls of the full- and half-locks. Neither the lock house nor either of the two original canal bridges survives.

The Shannon Commissioners' works, carried out in the 1840s, are particularly evident at Athlone where the weir, lock, quays and town bridge (with navigable channel at its west end) are all still in active use.

At Shannonbridge, the Commissioners' quay and navigable channel are also still in use at the east end of the road bridge. The former swing bridge has also been re-erected for display purposes on the quay. Nearby is one of Thomas Omer's lock houses, now restored for use as a tourist information centre.

#### 3.2.2 Roads and railways

The Athlone by-pass marks the transition from Lough Ree to the River Shannon and is a fine example of modern bridge construction.



Railway bridge at north end of former Athlone canal.



Athlone Quay and site of old town bridge.

In Athlone itself, the riverscape is dominated by the railway and road bridges. The Shannon railway bridge, opened in 1851, is an impressive structure of bowstring girder construction and is of national significance. The railway also has significant related features in the form of the former GSWR



Athlone Lock.

and MGWR stations, and composite masonry/girder bridge over Omer's canal.

Although the town's mid 16<sup>th</sup> century road bridge was demolished in the 1840s, the original medieval street pattern is still evident on both sides. The





Quay, bridge and fort at Shannonbridge.

replacement bridge, just upstream, is a fine example of mid-19<sup>th</sup> century bridge architecture.

At Shannonbridge, the 1759 road bridge escaped the Shannon Commissioners' attention unscathed and continues in use to this day. Its high landscape value is enhanced by its proximity to the Napoleonic fort on the west bank and navigation channel, quay and lock house on the east side. Traces of the early 19<sup>th</sup> century lock chamber are also evident along the east face of the navigation channel and the former swing bridge has been relocated to the quayside as a heritage feature.

### 3.2.3 Athlone industries

Although Athlone was the focus of this region's industry, virtually all trace of this heritage has been obliterated by modern developments. Most of the buildings, particularly the distillery south-west of the lock and woollen mill north-east of the town bridge have been demolished to make way for new housing developments.

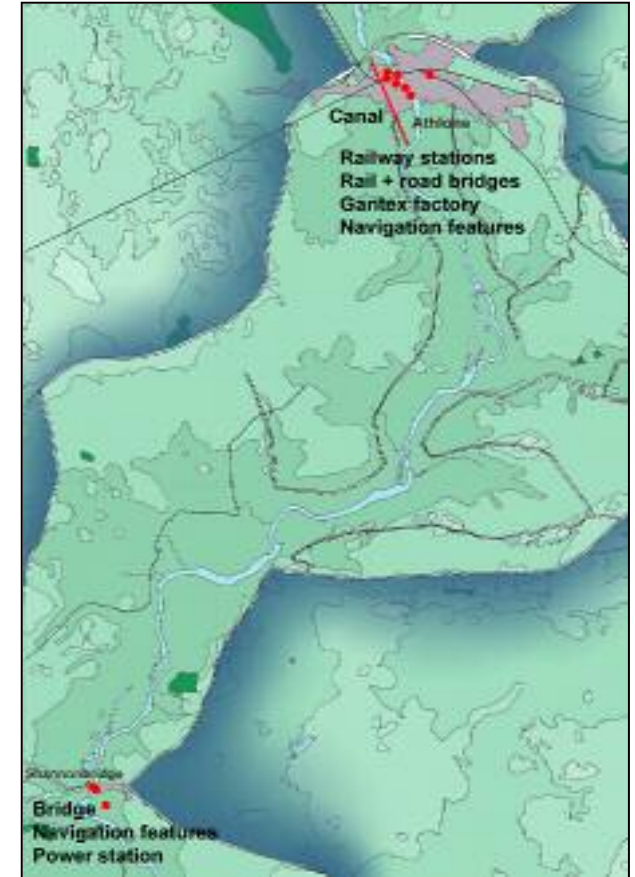


Navigation channel and lock house at Shannonbridge.



Section of former bridge over navigation channel.

The only surviving significant site is the Gentex industrial estate. This is primarily of historical interest in reflecting the drive towards greater economic self-sufficiency by the government of the fledgling Republic in the 1930s. Most of the original buildings appear to survive intact.



Significant industrial sites in River Shannon zone.

### 3.2.4 Peat extraction and electricity generation

The Shannonbridge landscape is dominated by the power station south-east of the village. Although there are extensive peat extraction operations along the east side of the river, these are more apparent from the road than the river.

### 3.3 River Suck

This zone encompasses the Suck Navigation, Ballinasloe Canal and that part of Ballinasloe town which adjoins the river and canal. In terms of present-day industry, this zone is characterised by the navigation and peat extraction. However, in terms of features of the zone's industrial past, 22 of the 43 identified sites are associated with the canal.

#### 3.3.1 Ballinasloe Canal

Although this canal, opened by the Grand Canal Company in 1828, is infilled at its north end and partly used by a peat extraction railway, much of it is still open (albeit dry) and its entire course can still be traced between the Shannon and Ballinasloe. Of the 24 identified features along it, 17 survive. The survivals include both lock chambers and their associated lock keeper's houses, all four canal bridges, and four canal-related stores/offices. Four of the seven aqueducts which carried the canal over existing watercourses also survive. Although small, they are nevertheless of high quality construction.

#### 3.3.2 Peat extraction

Since the 1960s, the extraction of milled peat has been a major feature of this area, with bogs being worked throughout the Suck catchment to supply Shannonbridge power station. Just over half of the former Ballinasloe Canal now lies within a peat extraction zone. The area to the north of the Suck is also worked for peat.

A network of narrow gauge railway tracks, part of which is laid along c.13km of the canal bed (and



Fanning's Lock.



Kylemore lock and lock house.



Store, Ballinasloe Harbour.



Canal aqueduct over Cloonascragh River.

through Kylemore lock), conveys the peat over the Suck and Shannon on multi-span concrete bridges to Shannonbridge power station. The bridge which carries a minor road over the former canal at Kylemore lock bears the date 1966.

#### 3.3.3 Suck Navigation

The upgrading of the river to navigable status by the OPW in the 1990s necessitated the construction of a lock at Pollboy and harbour at Ballinasloe. Although these features are obviously



Ballinasloe Bridge (1887).

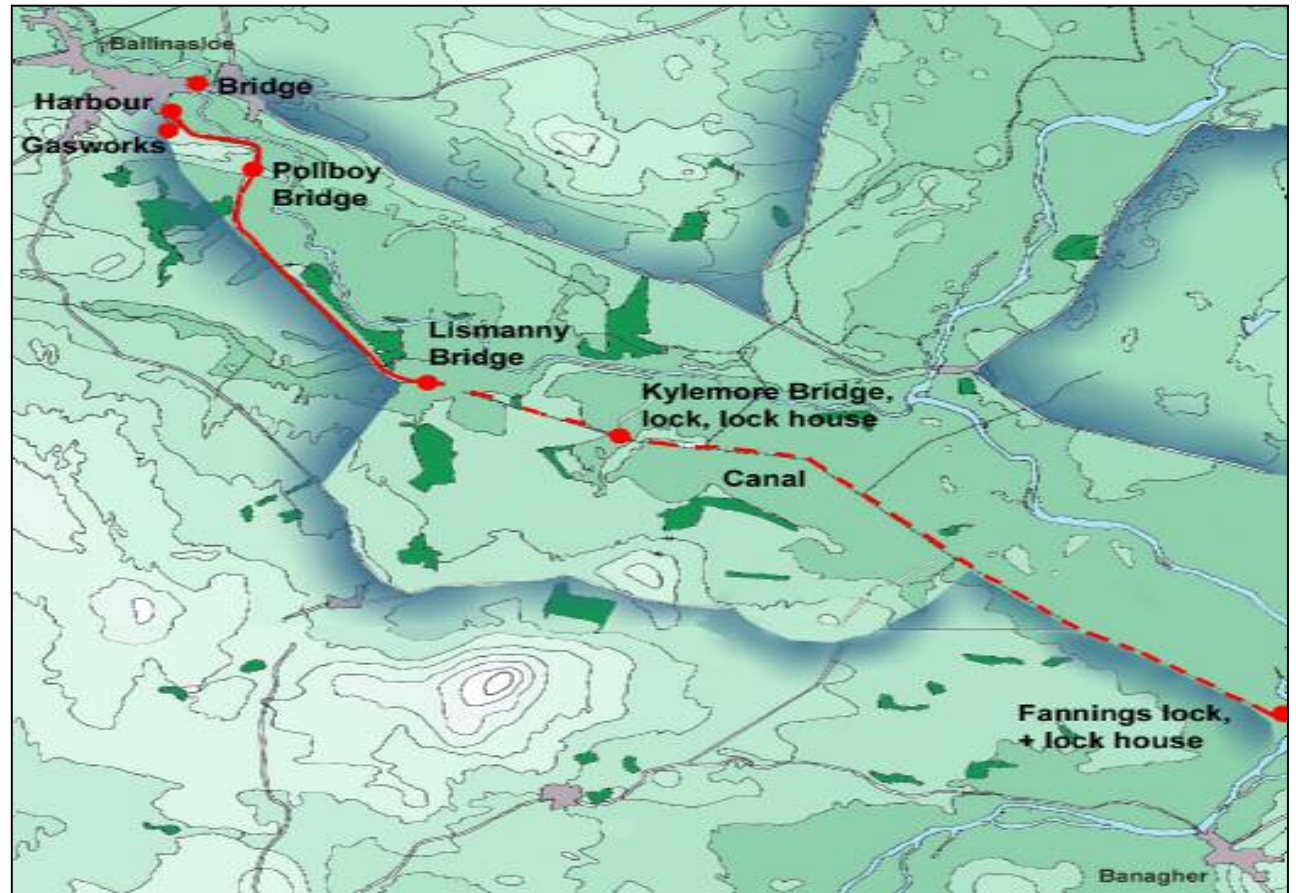


Ballinasloe Gasworks.

of high amenity value for waterway users, they are of no particular heritage merit.

### 3.3.4 Roads

Two road bridges cross the Suck at Ballinasloe, just above the new harbour. There were formerly



Significant sites in River Suck zone.

two channels, each served by a multi-arched bridge. The east bridge was rebuilt in the 1880s in connection with a drainage scheme. Although both structures are of landscape interest, they are also of historical interest as they encompass much narrower bridges, possibly of mid 16<sup>th</sup> century date.

### 3.3.5 Ballinasloe industries

Few traces now survive of Ballinasloe's 19<sup>th</sup> century industries apart from a former brewery on the west bank of the eastern channel of the Suck, and a building associated with the former town gasworks near the canal harbour.

### 3.3.6 Rural industries

Apart from a derelict lime kiln near the canal and the ruinous shells of two water-powered grain mills, there are no industrial sites in this zone.

### 3.4 Sites of special heritage significance

Apart from characterising each zone, some sites are also of special heritage significance in their own right as they contribute to our understanding and appreciation of the past.

The following sites are, in the author's opinion, of special heritage merit in enhancing our understanding of the past. Fuller details and evaluations will be found under their respective site numbers, in brackets, in the appended Access database.

	Lough Ree	River Shannon	River Suck
<b>Waterways</b>	<ul style="list-style-type: none"> <li>▪ Lanesborough. navigation channel, quay and harbour (101)</li> <li>▪ Lecarrow harbour (154.2)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Athlone canal, including lock remains (202)</li> <li>▪ Athlone weir, lock, quays and navigation channel (207.2, 209)</li> <li>▪ Quay/slip at Athlone barracks (204) [L]</li> <li>▪ Shannonbridge navigation channel, quay and lock house (212)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ballinasloe canal and all surviving associated buildings and structures (351, 352, 357-61, 364)</li> </ul>
<b>Roads</b>	<ul style="list-style-type: none"> <li>▪ Lanesborough bridge (101.1)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Town bridge, Athlone (207.1)</li> <li>▪ Bridge, Shannonbridge (212.1)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ballinasloe bridge west (308)</li> <li>▪ Ballinasloe bridge east (311)</li> </ul>
<b>Railways</b>	<ul style="list-style-type: none"> <li>▪ Knockcroghery station (158)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Rail bridge over canal, Athlone (202.3)</li> <li>▪ Rail bridge over Shannon, Athlone (203.1) [N]</li> <li>▪ Athlone railway stations (203.2, 203.3)</li> </ul>	<i>None</i>
<b>Industry</b>	<ul style="list-style-type: none"> <li>▪ Knock windmill (103)</li> <li>▪ Elfeet windmill (104)</li> <li>▪ Shrle flour mill (108.2)</li> <li>▪ Shrle corn mill (108.3) [L]</li> <li>▪ Pigeons windmill (110.1)</li> <li>▪ St John's windmill (152)</li> <li>▪ Rindown windmill (153)</li> <li>▪ Lecarrow corn mill (155)</li> <li>▪ Lecarrow quarry (156)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gentex factory, Athlone (205) [L]</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ballinasloe gasworks (363)</li> </ul> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>[L] = Local significance                      [N] = National significance                      All other sites are of regional significance</p> </div>

## 4. THREATS TO HERITAGE SIGNIFICANCE

Sites of industrial heritage significance are potentially vulnerable to the loss and degradation of those attributes which make them special. Threats include unsympathetic redevelopment, demolition and neglect. Such threats are exacerbated by a general lack of public awareness of these sites' role in characterising the region's built heritage and shedding light on its social, economic and industrial development.

### 4.1 Threats to physical survival

Most of the significant industrial heritage sites within the study area which are still in use - notably the waterways structures, road and railway bridges - have been sympathetically upgraded to take account of modern usage requirements; those attributes which make them special are still clearly evident. The fact that they remain in use, even though many are over 150 years old, is testimony to their robust design and quality of construction.

#### 4.1.1 Redevelopment

Ireland's rapid rate of economic growth since accession to the European Community has resulted in a significant acceleration of development pressure on the country's built heritage. Industrial sites are particularly vulnerable to loss due to the difficulty of adapting them to new uses. Those in urban areas are under most threat because of their generally derelict state and fact that they lie on prime development land.

Within the study area, redevelopment pressure has been especially acute in Athlone, particularly along the Shannon which is now regarded as a prime housing location. In the very recent past, two major industrial complexes - the Shannon Saw Mills and Athlone Woollen Mills - have been replaced with apartment blocks, the designs of which take no cognisance of their historical antecedents. Pollboy Mill was also demolished to make way for a new lock on the Suck Navigation.

Defunct industrial sites can have a future, as has been demonstrated at Knockcroghery railway station and Ballymahon Mill (just outside the study area); these buildings have been converted into a house and apartments respectively.

#### 4.1.2 Peat working

Large-scale peat extraction poses little threat to the region's industrial heritage save along the Ballinasloe Canal, part of which now runs through Bord na Mona's Garryduff Bog. Although the banks have largely been removed along this section of canal, its course is still discernible as it is followed by an industrial railway along its bed.

#### 4.1.3 Neglect

In many instances, defunct sites lie neglected and a significant number of mills have already disappeared for this reason. The surviving ones are difficult to adapt to new uses due to their inaccessible location, derelict state and/or function-specific design. Moreover, most owners of these sites can ill-afford to preserve them as archaeological monuments, a situation which is exacerbated by the lack of any financial return.



The derelict lock-keeper's house at Fanning's Lock.

### 4.2 Public awareness

Since the 1960s, there has been a growing public appreciation of Ireland's industrial heritage. The Inland Waterways Association of Ireland, founded in 1954, has been particularly active in promoting boating on navigable rivers and canals and was instrumental in persuading the Office of Public Works to renovate and upgrade the Shannon and its associated canals.

The *Shell Guide to the River Shannon* presents an excellent synthesis of the historical development of the Shannon Navigation. More detailed information about it and the Grand Canal is also to be found in Ruth Delany's many publications. Athlone industries figure prominently in the writings of the town's local historians but there is otherwise little readily available literature on other aspects of the region's industrial heritage, or a general overview thereof.

Although information boards have been erected at Barley and Ballinasloe harbours, there is a general dearth of material on the area's built heritage and nothing, apart from the *Shell Guide*, which is readily accessible to waterway users.

As a consequence of this lack of information, many people, even locals, are unaware of the region's surviving built heritage and do not fully appreciate its cultural significance.

### 4.3 Statutory Protection

There are a number of statutory mechanisms by which sites of special heritage significance can be protected against unsympathetic alteration or demolition.

#### 4.3.1 Record of Monuments and Places

The National Monuments Acts (1930-94) encompass a variety of devices for protecting sites of special heritage interest. The most pertinent of these in the present context is the *Record of Monuments and Places* (RMP), set up under the Local Government (Planning and Development) Act 1994. The term 'monument' can embrace buildings or structures relating to past industry, irrespective of age, survival and condition. A 'place' is defined as an area where such monuments are believed to exist, even if no longer upstanding.

Once a site is included in the RMP, it is a criminal offence to carry out works which may affect it directly or encroach on its surrounds unless the Department of Local Government has been given two months' advance notice of the proposal. This

gives the Department an opportunity to negotiate with the developer should a site be threatened and stipulate whether an investigative assessment, full excavation or watching brief on the work is necessary. Where it is deemed that such works are inappropriate but the site is still under threat, a Preservation Order can be made (as is the case at Rindown Windmill).

#### 4.3.2 Record of Protected Structures

Under the Planning and Development Act 2000, local authorities are obliged to note in their respective Development Plans those sites which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. Details of each site are entered in the *Record of Protected Structures* (RPS). Once a site is thus designated, explicit permission must be obtained from the planning authority to alter or demolish it. This enables the extent and nature of such work to be controlled and permission may be refused. Owners and occupiers of such structures are also eligible to apply for conservation grants towards their repair and upkeep.

#### 4.3.3 Protected sites

A total of 17 industrial sites within the study area are included in the current RMP and/or RPS. Comparison against those which are of special heritage merit (section 3.4) indicates that a substantial number of significant sites do not enjoy any form of statutory protection. Their special characteristics are therefore potentially vulnerable to diminution or loss due to the factors discussed in section 4.1.

	RMP	RPS
Lanesborough bridge (101.1, 101.2)	X	
Knock windmill, Lanesborough (103)	X	X
Elfeet windmill (104)	X	
Shrule flour mill (108.2)		X
Ballykeeran corn mill (113)		X
St John's windmill (152)		X
Rindown windmill (153)	X	
Rail bridge over Shannon, Athlone (203.1)		X
Athlone railway station (east) (203.2)		X
Athlone railway station (west) (203.3)		X
Athlone old town bridge (208)	X	
Bridge, Shannonbridge (212.1, 212.2)	X	X
Lock house, Shannonbridge (212.4)		X
Ballinasloe bridge west (308)	X	X
Ballinasloe bridge east (311)	X	X
Ballinasloe canal	X	X
Canal store, Ballinasloe (364.3)		X

## 5. POLICIES AND ACTIONS

A key element of the Heritage Council's brief is the formulation of sustainable policies and actions which will retain this region's significant built and natural character, whilst allowing for development and evolution. Such policies may be considered under the headings of (1) site identification and recording, (2) statutory protection, and (3) raising awareness of the built heritage.

### 5.1 Site identification and recording

Although it has been possible to identify most of the region's 19<sup>th</sup> century industrial heritage, there is a gap in our knowledge of significant items dating from the later 20<sup>th</sup> century peat extraction and power generating industries.

By the time the new power stations at Lanesborough and Shannonbridge are decommissioned, most of the region's raised bogs will have been worked out. These industries are associated with a diverse range of buildings and structures - power stations, engineering workshops, industrial railways and bridges. However, the rapidity with which they could disappear with little or no trace is evident at the recently decommissioned peat-fired stations at Allenwood (Co Laois) and Ferbane (Co Offaly).

It is recommended that a detailed study be carried out of Bord na Mona's peat cutting activities and the ESB's power generating in order to identify any buildings and structures of special heritage merit. Such a study should also access the resources required to make detailed records of selected examples and also examine the feasibility of preserving especially significant remains.

### 5.2 Statutory protection

It is the policy of all local authorities within the study area to conserve sites of special heritage significance and these are listed in their respective county development plans.

As a result of the fieldwork for this project, it is evident that these lists are incomplete as a number of newly identified sites of special merit are not included.

In general, the *Record of Monuments and Places* is appropriate for buried sites of archaeological interest and those upstanding sites which are unlikely to be reused or which should be preserved in their existing state. The *Record of Protected Structures* is more suited to those sites which are still in use, or which have the potential for reuse.

Where a site has an 'archaeological' and 'architectural' dimension, both types of protection may be appropriate.

	RMP	RPS
Lanesborough bridge (101.1, 101.2)		X
Lanesborough quay (101.3)		X
Lanesborough harbour (101.4)		X
Shrulle flour mill (108.2)	X	
Shrulle corn mill (108.3)	X	
Pigeons windmill (110.1)	X	
St John's windmill (152)	X	
Lecarrow harbour (154.2)	X	

Lecarrow corn mill (155)	X	X
Lecarrow quarry (156)	X	
Knockcroghery station (158)		X
Athlone Canal, including locks and bridges (202)	X	
Railway bridge over Athlone canal (202.3)		X
Quay/slip adjoining Athlone barracks (204)		X
Gentex factory, Athlone (205)		X
Town bridge, Athlone, including section over navigation (207.1, 207.2)		X
Weir and lock, Athlone (209.1, 209.2)		X
Quay, Athlone (209.4)		X
Quay, Shannonbridge (212.3)		X
Fanning's lock house (352.2)		X
Kylemore bridge (358.3)		X
Kylemore lock house (358.6)		X
Lismanny bridge (359.2)		X
Lime kiln, Cloonascragh (359.4)	X	
Pollboy bridge (361.2)		X
Ballinasloe gasworks (363)		X

The inclusion of Athlone Canal in RMP will afford protection to all its associated features, both upstanding and buried. The upstanding features along the Ballinasloe Canal are, in theory, protected as the canal is explicitly listed in the RPS. The explicit listing of particular features (as is already the case with Pollboy Bridge) will ensure that this fact is not overlooked.

It is also important to ensure that appropriate conditions are put on planning applications to ensure retention of significance. Such measures could include detailed descriptions, photographs and scale drawings of the site prior to any extensive work starting. Shrule flour mill and Lecarrow corn mill in particular would merit more thorough inspections and the recording of their surviving machinery.

Whilst statutory protection cannot guarantee a site's future well-being or prevent unauthorised destruction, it at least improves the chances of future development proposals giving cognisance to features of a site which are of special character.

### 5.3 Raising awareness

The Heritage Council's *Proposals for the Future of Ireland's Inland Waterways* (1999) highlighted the importance of conserving Ireland's waterway heritage and enhancing its appreciation and enjoyment by the public. Dissemination of, and ready access to, information on industrial heritage is a prerequisite to its understanding, appreciation and enjoyment by visitors and educators.

It is recommended that the theme of industrial heritage be featured in the general provision of

information on this region's built and natural heritage and disseminated by means of interpretative displays, information boards, leaflets and via the internet. Walking routes could also be devised so that visitors have the opportunity to experience sites of special interest.

#### 5.3.1 Interpretative displays

Visitors to this area can learn of Bord na Mona's peat extraction activities through the Clonmacnoise and West Offaly Railway, a tourist facility run from its Blackwater Works east of Shannonbridge. This railway utilizes part of the existing network of operational tracks and for this reason is limited to a short circular route close to the Works.

Whilst there is possibly limited scope for the extension of the network to which the public have access, the interpretative display at the Blackwater Depot could be greatly enhanced by additional displays on the archaeological, historical, social and technical dimensions of peat working.

The ESB has recently started work on the creation of a facility at Shannonbridge power station for the storage and presentation of artifacts used since the company's inception in 1927. This depot is intended to become a visitor centre when the new power station comes on stream in 2005. Such a facility is also ideally located to tell the story of peat-fired electricity generation in the Midlands, possibly in conjunction with a site tour.

Athlone Museum is also well situated, both in terms of its central location on the Shannon and proximity to the quay, for a major interpretative display on all aspects of the waterway.



Information board at Barley Harbour.

#### 5.3.2 Information boards

Information boards could be provided at Lanesborough, Lecarrow, Athlone and Shannonbridge (ones are already in place at Ballinasloe and Barley Harbour). Appreciation of the old Athlone Canal would also be enhanced by appropriate interpretative signage along the footpath which follows much of its length.



### 5.3.3 Information leaflets

Detailed information might be made available in the form of photocopied leaflets from the tourist information centres at Lanesborough and Shannonbridge, the lock houses at Athlone and Pollboy, and from Athlone Museum, cruiser hire operators and district council offices.

### 5.3.4 Internet access

Information might also be placed on the internet, with hyperlink access from the home pages of Waterways Ireland, the Heritage Council, boat hire companies and local authorities. This would enable visitors, particularly those from overseas, to plan ahead and devise itineraries according to their particular interests.

### 5.3.5 Self-guided trails

Although the network of peat railways was never intended to be permanent, there are substantial concrete bridges across the Shannon just south of Shannonbridge and north of Lanesborough, and across the Suck near its confluence with the Shannon. These have the potential, once peat milling ceases, to become vital links on any walking/cycling tracks which may eventually be created through the abandoned cutaways. The entire course of the Ballinasloe Canal also has enormous potential in this respect.

Subject to the landowner's consent, a self-guided trail might also be created at Lecarrow Harbour, taking in the nearby quarry and watermill.



Peat railway bridge over Shannon, south of Shannonbridge power station.

## APPENDIX: REFERENCES

- Athlone Civic Week brochures, 1945-51.
- Brady Shipman Martin, 1992. *National Canals and Waterways Strategy* (Dublin: Office of Public Works, Waterways Section).
- Burgess Dr. (N.D.) *Know Your Town* (typescript in Athlone Library).
- Cahill, S. and Casey, J. (eds), 1995. *Rathcline: Pathways to the Past* (Lanesborough: Rathcline Heritage Society).
- Carty, J.J., 1997. 'The Office of Public Works and the Shannon Navigation'. In *Administration: Journal of Public Administration in Ireland*, vol.25 (2), pp 220-228.
- Casey, J., 1995. 'Crossing the Water'. In Cahill, S. and Casey, J. (eds), *Rathcline: Pathways to the Past*, pp 92-96 (Lanesborough: Rathcline Heritage Society).
- Claffey, J.A., 1980. 'Rindoon windmill tower', in Murtagh H. (ed.) *Irish Midland Studies*, pp 84-88 (Athlone: Old Athlone Society).
- Commissioners for the Improvement of the River Shannon, 1838. 'Second Report'. In *House of Commons Sessional Papers, 1837-38*, vol.34.
- Cox, R.C. and Gould, M.H., 1998. *Civil Engineering Heritage Ireland* (London: Thomas Telford).
- Currivan, P.J., 1957. Athlone as a railway centre. In *Journal Irish Railway Record Society*, vol.4, pp 209-218.
- Daly, L., 1979. *The Midlands* (Albertine Kennedy Publishing).
- Delany, R., 1980. Athlone Navigation Works, 1757-1849. In Murtagh, H. (ed), *Irish Midland Studies*, pp 193-204 (Athlone: Old Athlone Society).
- Delany, R., 1986. *Ireland's Inland Waterways* (Belfast: Appletree Press).
- Delany, R., 1987. *By Shannon Shores: an Exploration of the River* (Dublin: Gill & Macmillan).
- Delany, R., 1991. 'The River Shannon, Lough Ree and Athlone', in Keaney, M. and O'Brien, G. (eds), *Athlone: Bridging the Centuries*, pp 22-33 (Mullingar: Westmeath County Council).
- Delany, R., 1995. *The Grand Canal of Ireland*, pp 86-94 (Dublin: Lilliput Press, 1995).
- Delany, R., 2000. *The Shell Guide to the River Shannon* (Dublin: ERA-Maptec).
- Delany, V.T.H. and Delany, D.R., 1966. *The Canals of the South of Ireland* (Newton Abbot: David & Charles).
- Fitzgerald, M. 1991. 'Industry and Commerce in Athlone', in Keaney, M. and O'Brien, G. (eds), *Athlone: Bridging the Centuries*, 34-46 (Mullingar: Westmeath County Council).
- Harte, J. 1995. 'Bord-na-Mona, the ESB and St Columcille'. In Cahill, S. and Casey, J. (eds) *Rathcline: Pathways to the Past* (Lanesborough: Rathcline Heritage Society).
- Harvey, R., 1896. *The Shannon and its Lakes* (Dublin: Hodges, Figgis & Co).
- Hearn, J.P., 1991. 'The Athlone Relieve Road and Shannon Bridge', in Keaney, M. and O'Brien, G. (eds), *Athlone: Bridging the Centuries*, pp 47-61 (Mullingar: Westmeath County Council).

- Heritage Council, 1998. *Rindown, Co Roscommon: a Management Plan*, p.13 (Kilkenny: Heritage Council).
- Johnson, S., 1997. *Johnson's Atlas & Gazetteer of the Railways of Ireland* (Leicester: Midland Publishing).
- Keaney, M., 1982. *Westmeath Local Studies: a Guide to Sources* (Mullingar: Longford-Westmeath Joint Library Committee).
- Keaney, M. and O'Brien, G. (eds), 1991. *Athlone: Bridging the Centuries* (Mullingar: Westmeath County Council).
- Kelly, E., 1995. Lanesboro and the Grand Canal Company. In Cahill, S. and Casey, J. (eds) *Rathcline: Pathways to the Past* (Lanesborough: Rathcline Heritage Society).
- MacLochlainn, T., 1971. *Ballinasloe: a Story of a Community over the past 200 years*.
- Mallagh, T., 1977. 'The Inland Waterways of Ireland and the development of the River Shannon'. In *Administration: Journal of Public Administration in Ireland*, vol.25 (2), pp 229-234.
- McCutcheon, A., 1969. *Railway History in Pictures: Ireland*, vol.1 (Newton Abbot: David & Charles).
- Murray, T., 1995. 'The Knock Windmill'. In Cahill, S. and Casey, J. (eds), *Rathcline: Pathways to the Past*, pp 97-104 (Lanesborough: Rathcline Heritage Society).
- Murtagh, H., 1980. 'The town wall fortifications of Athlone'. In Murtagh, H. (ed), *Irish Midland Studies*, pp 89-106 (Athlone: Old Athlone Society).
- Murtagh, H., 1991. 'Old Athlone', in Keaney, M. and O'Brien, G. (eds), *Athlone: Bridging the Centuries*, pp 11-21 (Mullingar: Westmeath County Council).
- Murtagh, H., 1996. *Irish Historic Towns Atlas Vol.6: Athlone* (Dublin: Royal Irish Academy).
- Murtagh, H., 2000. *Athlone: History and Settlement to 1800* (Athlone: Old Athlone Society).
- O'Brien, G., 1996. 'The Woollen Mills Fire'. In *Westmeath Independent* centenary issue, 1846-1966, p.20.
- O'Brien, G., 2002. *Athlone in Old Photographs* (Dublin: Gill & Macmillan).
- O'Brien, G.L., 1983. *Towards a Bibliography of Athlone and its Environs* (Thesis submitted to Library Assn. Ireland; copy in Athlone Library).
- O'Leary, D.P., 1997. 'The Shannon as a source of power'. In *Administration: Journal of Public Administration in Ireland*, vol.25 (2), pp 160-165.
- 'Oisin'. Various articles in *Westmeath Independent* (cuttings in Athlone Library).
- O'Keefe, P. and Simington, T., 1991. *Irish Stone Bridges*. (Dublin: Irish Academic Press).
- Rhodes, T., 1832. Report contained in 'Third Report upon the State of the River Shannon and its Navigation'. In *House of Commons Sessional Papers*, 1833, vol.34.
- Shepherd, E., 1994. *The Midland Great Western Railway of Ireland* (Leicester: Midland Publishing).
- Stokes, G.T., 1897. *Athlone, the Shannon and Lough Ree*.
- Trodd, V., 1998. *Clonmacnoise and West Offaly* (Banagher: Sceal Publications).
- Weld, I., 1832. *Statistical Survey of the County of Roscommon*.