

## **Broad Character: Industry**

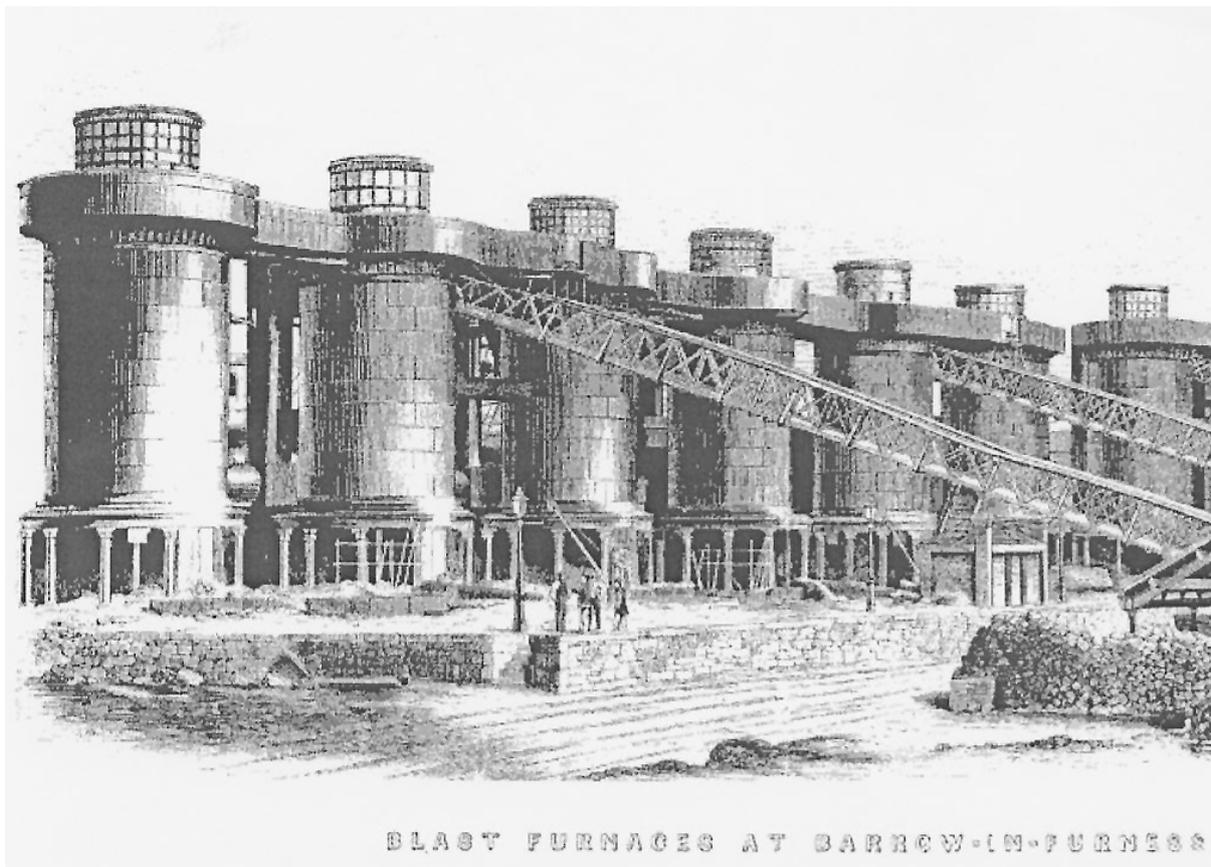
### **Character Type: Processing Industry**

#### **Irish Sea Regional Perspective**

##### **Introduction: Defining/Distinguishing Attributes**

The character of large areas of north-west England dependent upon the Irish Sea for raw materials and trade has been shaped by various processing industries, in particular the manufacture of cotton, iron and steel, and chemicals. The 19<sup>th</sup> century development of the Liverpool and Manchester conurbations, as well as the towns of north Cheshire, east Lancashire and west Cumbria, was shaped by manufacturing industries. The region's ports developed to serve the export and import needs of the industries, and also became the focus of processing industries in places such as Barrow-in-Furness, Runcorn and Whitehaven. The original industries along the coast and around ports have now mostly gone and the sites redeveloped, often replaced by light industrial or business parks.

As well as the major industries, salt production was an important small-scale coastal industry (McNeil and Newman 2006, 158-9). In addition to the inland rock salt workings of Cheshire, coastal salt processing has been documented around most of the Cumbrian coastline and around the mouth of the Wyre, Mersey and Dee estuaries. Individually these sites tend to be on a small scale and scattered. One of the largest and best-preserved salt making sites is at Crosscanonby, Cumbria, where the remains are a Scheduled Monument and have been conserved for display to the public.



*Bessemer convertors at the Haematite Steel Works, Barrow-in-Furness*

## **Historical Processes; Components, Features And Variability**

By the late 18<sup>th</sup> century capital investment, the growth of markets and improved transport links transformed production and patterns of consumption. International links through the ports along England's Irish Sea coast were reflected in the growth and range of new industries. In Liverpool, for example, imports of sugar from the West Indies saw the growth of sugar refineries in the town from the 18<sup>th</sup> century (University of Liverpool 1981).



*Allonby salt pans, Cumbria, a post medieval salt works, now a Scheduled Monument*  
*(photograph English Heritage)*

Coal and iron mining, especially after the development of a railway infrastructure, particularly in Cumbria, led to substantial iron and steel manufacturing industries and to urban growth in the coastal areas. Iron works were established at Ulverston, Barrow, Askham, Millom, Harrington, Workington and Maryport. The two main urban centres at the heart of the iron manufacturing industry in Cumbria were Workington and Barrow-in-Furness, both of which grew significantly in the second half of the 19<sup>th</sup> century (Davies-Shiel and Marshall 1969, 205-6). Workington originated as a small medieval market town with a harbour and its development was encouraged by the main landowners, the Curwens (Davies-Shiel and Marshall 1969, 267-8). Its earliest industry was in coal mining for export, but in the 19<sup>th</sup> century coal was mined largely to supply the local ironworks. The industry included the Mossbay and Derwent Iron and Steel Works, and the Haematite Steel Works, occupying extensive areas either side of the town and River Derwent, but have now all gone out of use, and the sites have been redeveloped. The port which developed around the existing harbour is still in use. South of Workington was the smaller town of Harrington which also developed as a port and iron manufactory under the Curwens (Davies-Shiel and Marshall 1969, 244). As the ironworks were developed in the 19<sup>th</sup> century, a small planned town was laid out around the harbour, and port facilities were developed. The iron and steel works were converted to a "Magnesite" plant in the Second World War, using seawater to react with calcined dolomite to make magnesium. As a result the port was closed and converted to a reservoir to supply the works with seawater (Newman 2008).

The other main centre of iron and steel production in Cumbria was around Barrow-in-Furness, which developed as a new town in the later 19<sup>th</sup> century. Barrow was at first dependent on the extensive iron mines in its hinterland, but was later supplied with ore mainly through its port, and with coal and limestone by rail (Davies-Shiel and Marshall 1969, 225). The Barrow Haematite Steel Company's works occupied an extensive area north of the town, and have now been demolished and redeveloped. Millom was also a major area of iron mining, where the Millom Iron and Steel Works opened next to the mines in 1867 (Cumbria HER 4667 and 122244). The iron works was served by substantial rail sidings and an adjacent harbour, known as Borwick Rails (<http://www.cumbria-industries.org.uk/ports.htm>). The iron works have been demolished, and the remains and associated spoil heaps are now a local nature reserve, managed for general nature conservation but also for its population of Natterjack Toads. North east of Barrow, a smaller iron and steel works developed at the end of the Ulverston Canal in the 19<sup>th</sup> century.

The scale of the iron and steel industry in Cumbria and north Lancashire produced large quantities of slag, much of which was dumped in coastal locations. For example, there are slag banks forming coastal cliffs at Carnforth and Barrow, the Millom slag bank has altered the entrance to the Duddon Estuary and now provides a haven for small boats. At Askham, the slag bank extends into the estuary and forms a pier. In north Lancashire the Carnforth Iron Works, was built in 1864, sited to take advantage of the junction of the Lancaster and Carlisle Railway with the Furness Railway (Ashmore 1982, 194). The iron works led to the planned development of a small town on the west side of the original village settlement. Spoil from the iron works was taken by a mineral railway to the local saltmarshes, along an embankment designed to protect against flooding. Although the works closed in 1929, the slag banks still form a distinctive feature, clearly visible from the railway and from various points around this part of Morecambe Bay.

Spoil was also dumped as a result of dredging to keep navigable waterways open, including on the River Ribble and on the Manchester Ship Canal. Out to sea, there are areas marked for spoil and waste dumping off the Mersey Estuary, around the seaward edges of Morecambe Bay and off the coast of Workington. Following the Cumbrian floods of 2009, large deposits of silt and rocks were removed from Workington Harbour and dumped out at sea (pers comm. Cumbria County Council).

With a rapidly growing population, particularly in the industrial towns of north-west England, diseases such as cholera and typhoid fever became a major problem. In the second half of the 19<sup>th</sup> century most of the major industrial towns and coastal resorts had built sewerage and drainage systems to deal with the issue, the foul water being drained either directly or via rivers and the major canals to the sea. There are substantial coastal sewage works north of Workington, Maryport, Ulverston, Lancaster/Morecambe and Fleetwood. There are also substantial sewage works serving the Manchester conurbation along the Manchester Ship Canal. The sewage works at Barton upon Irwell was established by the end of the 19<sup>th</sup> century, whilst on the opposite bank of the Ship Canal the extensive filter beds and bacteria beds at Davyhulme sewage works were in place by 1910. Likewise the Irlam Sewage Works were also established by 1910.

The Irish Sea's English coastline has been an important centre for salt production since prehistoric times. There are documentary records and physical evidence for widespread coastal salt production on a small scale from the medieval period onwards. Nevertheless, there is documentary, place-name and field evidence for coastal salting along many areas of this coastline, particularly around Cumbria, Morecambe Bay and the Dee and Ribble estuaries (Newman 2006, 135). Coastal saltworks operated by boiling concentrated brine

extracted from salt-encrusted silts, a process called 'sleeching', associated with extant mounds of waste and filter pits. From the late medieval period, coal-fuelled direct boiling of seawater dominated: associated coastal features include embanked 'salt pans' to trap quantities of seawater, especially along the Cumbrian coast. Mined Cheshire rock salt and cheap sea-salt imports from Brittany rendered most English coastal sea-salt production uneconomic in the 18<sup>th</sup> century.

In Cheshire, salting is associated with the chemical industry, including alkali production on Merseyside and Deeside. When mixed with fat, alkali was used to make soap, and the industry grew and developed with the introduction of industrial-scale cloth production. When mixed with lime and sand, alkali was used to make glass, and industrial-scale glass production became an important industry on Merseyside. Chemical products like soap, dyes and bleach were increasingly in demand and the need for glass also encouraged the industry (McNeil and Newman 2006, 183). The biggest concentration of chemical industries facing the Irish Sea is around the River Mersey and Manchester Ship Canal, particularly Ellesmere Port, Runcorn and Bromborough. At Bromborough Pool, beyond the jurisdiction of the Liverpool Port Authorities, Lever Brothers established the Sunlight Soap factory in the 1880s with its own private wharf. The Port Sunlight model village was laid out next to the factory. In Cumbria, a chemicals industry was established at Ulverston, on the site of the old iron works by the Ulverston Canal. This site is now run by GlaxoSmithKline and is still a major employer in the area. Further north, south of Whitehaven, the Marchon chemical works was established in 1940. It made firelighters and detergents, importing raw materials through Whitehaven, but also used anhydrite/gypsum from local mines to make sulphuric acid. The effects of discharging its waste products into sea can still be seen along the shoreline (Cranstone 2006/7, <http://www.whitehavencoast.co.uk>).

### **Values And Perceptions**

This Character Type is a significant one for England's Irish Sea coastal areas, as it provided employment and led to the development of new towns in Cumbria as well as the expansion of traditional settlement centres, with large numbers of people migrating to west Cumbria, for example, from Liverpool and the North East. Although they provide a link to the recent industrial past, and its associations with pollution and difficult working conditions, they also provide a strong sense of place and identity.

Chemical works along the River Mersey and Manchester Ship Canal are still important economic drivers, whereas the industries in Cumbria have largely disappeared, apart from the chemical works in Ulverston. In Cumbria, heavy manufacturing industries have been replaced and the land they occupied redeveloped for light industry or commercial and business parks. North of Workington, the site of the former iron and steel works is now a site for renewable energy with two wind farms at Oldside and Siddick.

### **Research, Amenity And Education**

The facility for amenity access to these sites is limited, particularly those still in operation. Many of the disused sites have issues over contamination, whilst others have been redeveloped. Only in Barrow have archaeological investigations taken place in advance of redevelopment. The extensive remains of the iron mines and iron works at Millom, however, have been left undeveloped and the spoil heaps and ruins have been left as a local nature reserve, linked particularly to the Natterjack Toad. Here there are also interpretation panels for both nature conservation and the history of the site as an iron works.

### **Condition And Forces For Change**

In many cases, particularly in Cumbria, the industrial remains relating to processing industries have gone and the sites redeveloped or, in the case of Millom, demolished then left as ruins and earthworks. The main area of surviving processing industries is in the south of the region, along the River Mersey and the Manchester Ship Canal. Although many of these have histories dating back to the late 19<sup>th</sup> century, changes in technology and the need to rebuild and update facilities means that there could be little surviving of historic fabric.

Below-ground and upstanding remains are vulnerable to neglect and vandalism, as well as to redevelopment. However, where appropriate, the sites of former industries are prime targets for public awareness initiatives in the provision for the coming coastal access requirements. This access will need to be carefully routed to avoid increased visitor erosion to surviving features.

### **Rarity And Vulnerability**

The decline of industries in general, and in Cumbria in particular, have left a legacy of brownfield sites which are under pressure for redevelopment. They tend to be polluted and are thus targets for remediation. This process of redevelopment and remediation is ongoing and the remains of once common industries are becoming rarer. Brownfield sites are good for biodiversity, however, and they often have values related to nature conservation, providing habitats for rare species including amphibians, reptiles and butterflies. It is the by-products of processing industries, such as the slag banks from iron works, which are especially vulnerable to change. The banks at Workington, Barrow and Carnforth, for example, are being or have been quarried for aggregates.

In terms of vulnerability, raising awareness of the significance and unique value of industrial remains in England will make them more sustainable as a resource and accessible to present and future generations. These industries have left a distinctive imprint on their surrounding landscape and seascape, with many areas now at risk of dereliction.

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