

Conceptualisation, Content and Boundaries: Defining World Heritage Landscapes in Wales

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Fig. 1: The iron furnaces at Blaenavon in an engraving of the 1790s

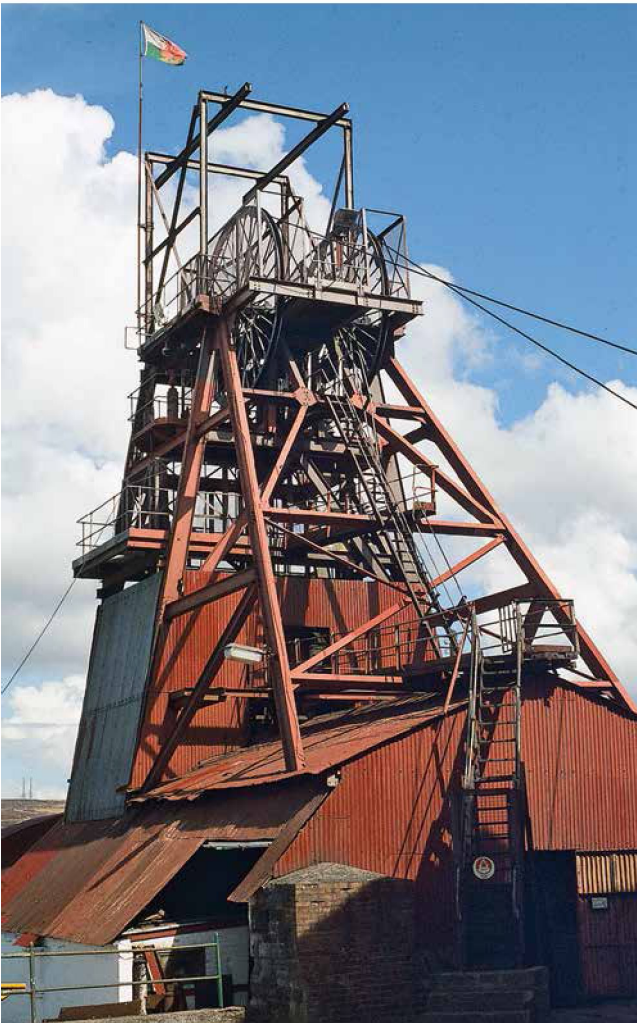


Fig. 2: Big Pit at Blaenavon

A landscape-based approach to outstanding universal value had been adopted by both of the two industrial World Heritage sites in Wales. A third Welsh industrial nomination currently in preparation is also landscape-based. This paper explores the issues of conceptualisation, content and boundaries for these industrial landscapes, with a particular focus on Blaenavon Industrial Landscape, where the site's name directly expresses the landscape concept. Blaenavon is one of the very few industrial sites that have so far been recognised as cultural landscapes by UNESCO.¹

Blaenavon was inscribed on the World Heritage List in 2000. It is an upland area on the eastern rim of the South Wales Coalfield. The land remained virtually unsettled before 1788, when entrepreneurs took a lease on a large tract of property rich in the essential raw materials for ironmaking – iron ore, coal and limestone. These ironmasters created a major new ironworks that put into practice the latest industrial methods (fig. 1). Unlike almost all previous ironworks, Blaenavon was built with three blast furnaces and utilised steam power from the beginning, and integrated all the processes necessary to ironmaking in one organisation. In the preserved sites of Blaenavon Ironworks and Big Pit, together with the relict remains of mineral workings, manufacturing, transport and settlement that surround them, can be seen evidence of all the crucial elements of the early process of industrialisation (fig. 2).

The Blaenavon World Heritage site extends to 33 sq. km, some 8 km north to south and 5 km west to east. It includes historic properties owned by national heritage organisations and some large areas of land in the hands of local authorities, but the majority of the landscape is privately owned by hundreds of separate individuals and corporate bodies. The area incorporates new settlements and light industrial developments unrelated to its outstanding universal value, and it is a living community. Management of the World Heritage site is led by a partnership of public bodies and supported by statutory protection of heritage assets and by the systems and policies for planning of land use.

Conceptualisation of Blaenavon

The theme at the heart of the Blaenavon Industrial Landscape nomination was that of iron and coal in the Industrial Revolution. The arguments for the proposed in-

scription therefore hinged upon four criteria for Outstanding Universal Value. The World Heritage Committee accepted two of these criteria in the final inscription but did not accept two others. The criteria under which the site was inscribed were (iii) that it provided outstanding testimony to a cultural tradition associated with the coal and iron industries in the late 18th and early 19th centuries and (iv) that it was representative of a significant stage in human history, namely industrialisation.² The site was not inscribed finally under criterion (ii) related to the interchange of human values in industrial organisation and technology, nor criterion (v) that it represented a form of traditional land use.³

The notion that the historical theme selected could best be represented by a landscape and its surviving or relict features is rooted in the tradition of landscape history that is best expressed by the words of Professor W. G. Hoskins in his 1955 book *The Making of the English Landscape*: “To those who know how to read it aright, the English landscape is the richest historical record we possess.” The features of the Blaenavon landscape, whether complete or vestigial, can be interpreted through analysis and interpretation to shed important light on the development of industrial society.

The site is consistent with the characteristics of cultural landscapes under the World Heritage Convention:

- It is a “combined work of nature and man” in that man-made features were formed in response to the opportunities and constraints of the presence and disposition of minerals and the mountainous setting.
- Its remains illustrate the way in which people were brought together in new forms of social relationships to provide for the needs of industry and grasp its opportunities, constituting “exceptional evidence of the evolution of human society and settlement over time”.
- It is “an organically evolved landscape which results from an initial social and economic imperative”, namely the increasing pace of industrialisation and its changing nature during the 18th and 19th centuries.
- It comprises elements that are both “a relict or fossil landscape” and a “continuing landscape” that shows the marks of changes and developments during the era of industrialisation and afterwards.

Content of Blaenavon

Following the establishment of the ironworks in the late 18th century a landscape of industrial exploitation spread over the adjacent hills, the relict and continuing features of which can be read as a historical document of industrial society.⁴ At the heart of the landscape is Blaenavon Ironworks itself (fig. 3), which today retains substantial evidence of blast furnaces as



Fig. 3: Blaenavon Ironworks

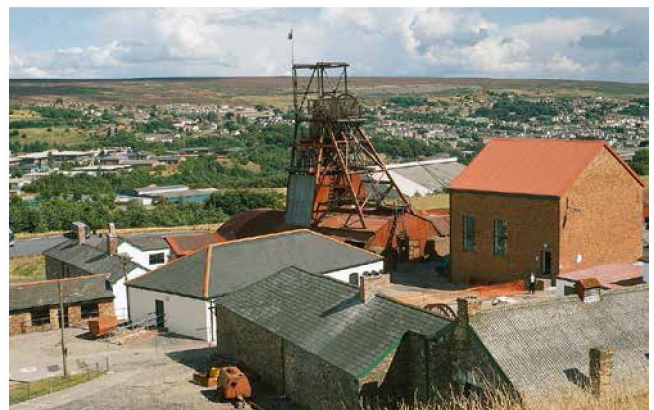


Fig. 4: Big Pit at Blaenavon



Fig. 5: Spoil heaps and relict landscape at Blaenavon

they evolved during its lifetime, cast houses and a foundry, blowing engine houses, calcining ovens for roasting ore, and ancillary buildings that include a group of key workers' houses, a shop, and a lift for materials. The whole ironworks is in the care of the Welsh Government.

Remains of mineral extraction abound on the hills around the ironworks. The forms of early iron ore and coal production can be seen in surface diggings, “scours” where water has been collected and runs down the slopes to clear overburden, level mines into the hillsides and shaft workings. The principal shaft mine, Big Pit (fig. 4), is in the care of the National Museum of Wales and preserves surface build-

ings typical of Welsh coal mining in the late 19th and early 20th centuries and accessible underground workings, some dating to the early 19th century. While some of the largest former waste tips from the mining industry have been reclaimed, extensive tips can still be seen spread across the heathland moors (fig. 5). The quarries for the flux material



Fig. 6: Church at Blaenavon

Fig. 7: Former workers' houses

to be put into the blast furnaces, on the outcrop of carboniferous limestone to the north and east of the World Heritage site, are a remarkable relict landscape in themselves.

Among other related relict sites in the landscape are those of a brickworks where fire-bricks were made for lining the furnaces, two forges where pig iron was converted into wrought iron and rolled into bars and rails, some buildings from the steelworks developed in the late 19th century, and reservoirs with many kilometres of leats to manage water on the mountains and supply water power. Extensive features survive of the transport infrastructure, including the routes throughout the landscape of the network of primitive railways on which wagons were drawn by horses, sections of the later locomotive-hauled railways, and a canal completed in 1812 to link the area to the port of Newport.

The population of Blaenavon grew from almost nothing prior to industrialisation to some 13,000 at its peak. The social infrastructure of the new community began soon after 1800 with a church built by the ironmasters and an elementary school for the children of the company's employees (fig. 6). The sites of former workers' houses, contrasted with the mansion of the ironmasters, can be identified throughout the landscape (fig. 7). Workers coming into the unpopulated area were initially housed in rows of cottages built by the iron company near to the individual sites where they were needed – a few of these earliest houses survive in a complete condition at the ironworks and at Cwmavon, but most now exist only as platforms and plots of land. Workers also came from nearby settlements and from cottages they built as squatters on the common land. In the mid and late 19th century the scattered village grew into a town with nonconformist chapels, shops, a market, public houses, a workers' institute and rows of terraced houses built by the iron company, the workers themselves and by private developers (fig. 8). In the late 19th century a secondary company village was built adjacent to the new steelworks at Forgeside.

Boundaries of Blaenavon

During the preparation of the Blaenavon nomination, considerable attention was given to where to draw the geographical boundaries of the proposed site. As is the case for many industrial landscapes, features extend over wide areas and clear boundaries do not exist. To a great extent the landscape of Blaenavon may be considered to be part of a continuous landscape related to the central theme of ironmaking and coal mining that stretches across the whole of the South Wales Coalfield, an area some 80 km by 40 km. Numerous historical features of value survive in a good state of preservation within the coalfield, for example an ironworks and ironmaster's mansion at Merthyr Tydfil, a well-preserved 19th-century coal mine at Rhondda Heritage Park, 19th-century urban fabric and large areas of mineral workings and spoil tips. Even within a few miles of Blaen-

avon are outstanding features such as the emotive Nantyglound towers, which were built as defences for an ironmaster's family in the event of an uprising by the workers, the preserved ironworks at Clydach, and the continuation of the canal to the sea at Newport.

While additional sites within this larger area might have been included in a serial nomination for the south Wales iron and coal industries, for a continuous, landscape-based nomination the state of preservation of intermediate areas was believed to be insufficient. Much of the South Wales Coalfield has been subject to such a high level of redevelopment and reclamation of despoiled land. By contrast,



Fig. 8: Townscape at Blaenavon

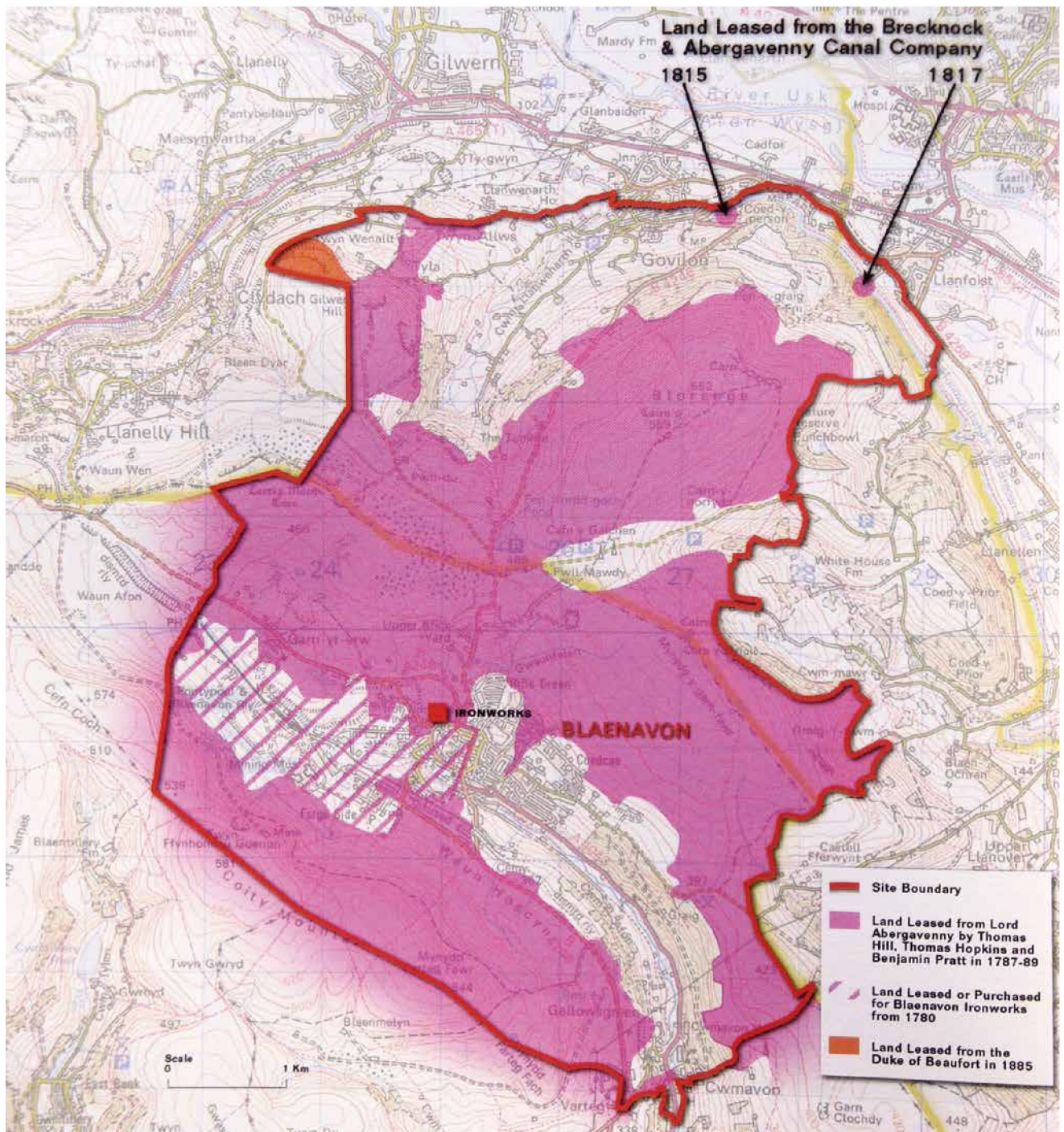


Fig. 9: Historic land ownership and the World Heritage site boundary at Blaenavon

the area of high landscape survival around Blaenavon, although there had been some reclamation, had a great degree of overall integrity.

In determining exact boundaries for the Blaenavon landscape, a clear rationale was developed for the nomination. This was that it would focus on the extent of operation of a single enterprise. As a result of taking this approach, the remains in the landscape could be seen to represent in microcosm the history and significance of the larger region. Documentary research was carried out to establish the historical boundaries of the land leased or purchased by the iron company to supply its minerals, energy and infrastructure, and other areas that were directly associated with the operation or its supporting communities. Most of the boundaries of the nominated site followed these historical boundaries exactly, notably on the east and south. In the south-west, the land leased by the iron company partners was larger than that utilised by Blaenavon Ironworks and the surplus land was eventually sub-let to another company in the next valley – this was therefore excluded from the site and the boundary was drawn along the ridge line of the dividing mountain (fig. 9). On the north, the very irregular boundaries of the iron company's land-ownership and the presence of the canal that exported its products justified the inclusion of some areas not

owned by the company. Some peripheral plots of land that had been subject to reclamation were excluded.⁵

In the preparation of the nomination, serious consideration was given to excluding an area nearly at the centre of the proposed site and at the heart of the iron company's original ownership. This was a large mountain-top tract that had been subject to opencast mining during the 20th century and remained in an unrestored state, with black, un-vegetated waste tips and open cuts into the underlying mineral seams. Some partners in the nomination felt that there was an argument for permitting reworking and land reclamation to remove features widely considered to be an eyesore. However, further research identified that these workings related to some of the earliest mechanised opencast mining in Britain, begun during World War Two to raise coal production rapidly and enable steam ships to be brought back into service for the war effort. Further to this, it was found that all other opencasts in the country of this early generation had been reclaimed, leaving no physical evidence. The logic for including this area within the nomination was therefore strong, on the grounds that it represented the continuation of the theme of coal mining by illustrating newer methods and that it had particular historical and archaeological significance. It is now valued as part of the site as a whole.



Fig. 10: Pontcysyllte aqueduct

The addition of buffer zones was considered at the time of the nomination. As the site was large and incorporated a generous setting for almost all the key assets, a buffer zone was not judged necessary. Consideration continues to be given to this issue by the Steering Group in the light of opportunities to promote understanding of the heritage over a wider area and potential future threats from large developments such as opencast mines or wind turbines that could affect the setting of the site.

Pontcysyllte Aqueduct and Canal

Following the inscription of Blaenavon, another industrial site in Wales was nominated. This was inscribed in 2009 under the title Pontcysyllte Aqueduct and Canal.⁶ Pontcysyllte Aqueduct itself is a pioneering structure of canal engineering that crosses the Dee Valley in north Wales at a height of 30 m on 19 cast iron spans (fig. 10). It was designed by William Jessop and Thomas Telford and completed in 1805.⁷ The original conception for the nomination at the time of the United Kingdom's tentative list was to inscribe the aqueduct and its immediate approaches on either side as a masterpiece of human creative genius. However, closer consideration of the issues for a nomination made it clear that the canal needed to be seen as part of a linear landscape of civil engineering works that brought water transport to the Denbighshire coalfield through an area of particular topographical challenges. The site as inscribed is 11 km long with Pontcysyllte Aqueduct near its centre. The whole canal is owned by a charity, the Canal and River Trust. It can readily be seen as a cultural landscape that is the combined work of nature and man in that the engineers made their great achievements in direct response to the challenges of the natural topography and the locations of minerals.

The conception of the Pontcysyllte inscription was to represent the theme of transport and engineering in the Industrial Revolution. It was inscribed as a linear engineering work with surviving features that together give outstanding testimony to "human creative genius" (criterion i) in the form of the daring and innovation of the canal's designers, to the "interchange of human values" (ii) with regard to the engineering of later transport infrastructure and the use of iron and steel world-wide, and to "a significant stage in human history" (iv), namely the Industrial Revolution.

The content of the site comprises a series of major engineering works along the line of the canal. As well as two major aqueducts at Pontcysyllte and Chirk and two tunnels, they include numerous cuttings, embankments, over-bridges, wharves and weirs. The boundaries of the nomination could have extended along the canal for many more miles – indeed there was even a proposal to nominate the whole of the British canal network. However, given the focus of the arguments for outstanding universal value upon ambitious engineering works, it was possible to delimit the outstand-

ing length of the canal where it leaves the north Shropshire plain and enters the more varied relief of the Welsh border. A report to the canal company during its construction described this section as "composed of works more difficult of execution than can perhaps be found anywhere within an equal distance of canal navigation".

Another line of argument about the boundaries of the proposed site was concerned with the extent to which the setting of the canal and the industries it served should be included. The boundary was extended beyond the canal's physical formation itself in three locations where the visual setting was considered fundamental to the visual design of the engineering features historically and their appreciation today – at the two major aqueducts and at the graceful weir on the River Dee that supplied the canal with water. As an industrial transport canal it would have been logical to include the remains of the industries whose goods it transported. These included coal mines, ironworks, slate quarries, brick and tile works and limestone quarries and kilns, together with the networks of primitive railways that connected them to wharves on the canal. However, studies carried out in preparation for the nomination identified that the level of survival and preservation of those industrial sites specifically served by the canal was sporadic and that the key coal and iron industries could not be represented substantively. They were therefore left outside the site itself. Nevertheless, the physical fragments of the industries that do remain were all included within a generous buffer zone, which extends to the hilltops on either side, and they are identified and explained in the official guidebook.⁸

The Slate Industry of North Wales

A further industrial nomination in Wales is in initial preparation. This is for the slate industry of north-west Wales, which was developed primarily between the late 18th century and the early 20th century. The industry presents a different model of industrialisation than those for coal, iron and transport and a remarkable and dramatic array of historical features in the outstanding natural landscape settings of north Wales. The industry provided roofing slates and slate slabs that were used world-wide. Expertise and methods from the industry were exchanged with quarrying areas in other parts of the world.⁹

The physical heritage of the slate industry is necessarily seen in the context of a cultural landscape. Its features are extensive, comprising quarries, workshops, power systems, waste tips, dedicated transport routes, grand houses, workers' settlements and social infrastructure. These occupy a mountainous setting, to which they are adapted in technology and layout, and respond explicitly to the disposition of the slate veins. The nomination has yet to be completed, but it is likely that it will consist of serial landscapes, each of which demonstrates over an area of several square kilome-

tres with a high degree of preservation the most characteristic landscapes of the industry.¹⁰

Outcomes

For some of the famous heritage sites that were already well developed, strongly branded and publicly appreciated before joining the World Heritage List, it has been judged that the impact of inscription on them has been small.¹¹ For industrial landscapes, however, the impact can be, and has often been, considerable.

Blaenavon has benefited significantly from its status as a World Heritage site.¹² With deindustrialisation in the 20th century, the population dwindled and it became an area of deprivation and under-employment. Since it obtained World Heritage status in 2000, there has been an economic impact of some £ 8.5 millions (€ 11.8 millions) a year and 65 full-time jobs in tourism have been created. Visitor numbers have doubled to around a quarter of a million a year and continue to grow; at Pontcysyllte they have increased to half a million a year. The recognition of World Heritage status often enhances greatly the opportunities for sites to receive grants and private investment. Blaenavon has attracted investment of some £ 49 millions (€ 68 millions) from the EU, charities, the Welsh Government, local authorities, the Heritage Lottery Fund, and others, and this has conserved heritage assets, improved the environment and urban fabric and invested in people and skills.

Most importantly, World Heritage status has changed perceptions of industrial landscapes, not just within them but more widely too. At Pontcysyllte, new pride has been generated in the adjacent community of Cefn Mawr, which has suffered from multiple deprivation. In south Wales the Blaenavon effect has been to allow large areas of landscape that were previously seen as derelict and a source of shame to be reimagined and understood as sources of pride and assets that bring distinction and well-being to the region.

Abstracts

Conceptualisation, Content and Boundaries: Defining World Heritage Landscapes in Wales

This paper introduces the frame conditions for the recognition of two Welsh industrial landscapes as World Heritage, with special focus on Blaenavon – one of the few sites characterised by industry which have been recognised by UNESCO as cultural landscapes. The Blaenavon site measuring 33 km² documents the processing of coal and iron in the early phase of the Industrial Revolution. Today, the area is largely owned by diverse shareholders; the management lies in the hands of several public corporations. As requirement for the inscription on the World Heritage List the sites are legally protected, and there are restrictions by

the systems and policies for planning of land use. In each case, the Outstanding Universal Value (OUV) was deduced from a landscape-oriented approach. This applies also to the currently prepared nomination of a third industrial site in Wales. Four criteria were chosen for the recognition of the OUV of the Blaenavon industrial landscape: ii, iii, iv, and v. However, the criteria ii and v were not accepted for the inscription as World Heritage. The site fulfils the characteristics of cultural landscapes as defined in the Operational Guidelines: It is a “combined work of nature and of man”, “illustrative of the evolution of human society and settlement over time”, an “organically evolving landscape”, and “results from an initial social, economic, administrative, and/or religious imperative”. At the same time, it is a “relict (or fossil) landscape”, an “organically evolved landscape” and a “continuing landscape”.

The remaining evidence in the landscape of cultivation and settlement (for instance structural remains of the ironworks, houses for the foremen) goes back to the time of industrialisation and documents the social, technical and infrastructural development. Before, the region was almost uninhabited. To a large extent mining and smelting characterise the landscape of South Wales. A serial nomination could have included a number of different sites; however, for the justification of a larger landscape-based nomination the state of preservation of intermediate areas was believed to be insufficient. By focussing on the area of activity and the adjacent area of a single ironworks (Blaenavon) it was possible to nominate a connected landscape which as microcosm illustrates the history and relevance of the larger region. In the course of the nomination process the designation of buffer zones was considered. However, the layout of nearly all key factors of the site is so generous that the designation of buffer zones was not considered to be necessary.

In an excursus the author also refers to the nomination of the linear industrial World Heritage Pontcysyllte Aqueduct and Canal, whose OUV is based on the fact that it is a pioneering accomplishment of canal construction in the early 19th century and part of an industry-related network of artificial waterways. (LMJZ)

Konzeptentwurf, Inhalt und Abgrenzung: Zur Definition von Welterbe-Landschaften in Wales

Vorgestellt werden die Rahmenbedingungen zur Anerkennung zweier walisischer Industrielandschaften als Welterbe, insbesondere von Blaenavon – eine der wenigen bisher als Kulturlandschaft von der UNESCO anerkannten industriell geprägten Stätten. Auf der 33 km² großen Fläche von Blaenavon wird die Verarbeitung von Kohle und Eisen in der Frühphase der Industriellen Revolution dokumentiert. Das Areal befindet sich heute überwiegend im Streubesitz von Einzeleigentümern; das Management liegt in Händen mehrerer öffentlicher Körperschaften. Wie für die Aufnahme in die Welterbeliste vorausgesetzt, stehen die eingetragenen Anlagen unter Schutz und sind planungsrechtlich abgesi-

chert. Der außergewöhnliche universelle Wert (OUV) wurde jeweils aus einem landschaftsbezogenen Ansatz hergeleitet; dies gilt auch für die aktuell vorbereitete Nominierung einer dritten industriellen Stätte in Wales. Vier Kriterien wurden für die Anerkennung eines OUV für die Blaenavon Industrielandschaft angeführt: ii, iii, iv und v; die Kriterien ii und v wurden für die Einschreibung des Welterbes jedoch nicht akzeptiert. Die Stätte erfüllt die in den Operational Guidelines festgelegten Eigenschaften von Kulturlandschaften: Sie ist ein „gemeinsames Werk von Natur und Mensch“, „beispielhaft für die Entwicklung der menschlichen Gesellschaft und Ansiedlung im Verlauf der Zeit“, eine „organisch entwickelte Landschaft“ und „Ergebnis einer ursprünglichen gesellschaftlichen, wirtschaftlichen, verwaltungsmäßigen und/oder religiösen Notwendigkeit“; sie ist gleichzeitig „Relikt-Landschaft oder fossil geprägte Landschaft“, „sich entwickelnde Landschaft“ und „fortbestehende Landschaft“.

Die verbliebenen Zeugnisse der Bewirtschaftung und Besiedlung in der Landschaft (u. a. bauliche Reste der Hütte, Vorarbeiterhäuser) gehen sämtlich auf die Industrialisierung zurück und dokumentieren die soziale, technische und infrastrukturelle Entwicklung; vorher war die Region

nahezu unbesiedelt. Das Thema Bergbau und Verhüttung bestimmt in weiten Teilen die Landschaft von Süd-Wales. Eine serielle Nominierung hätte verschiedene Stätten aufnehmen können, für die Begründung einer größeren landschaftsbasierten Nominierung wurde der Erhaltungszustand der dazwischen liegenden Flächen jedoch als unzureichend angesehen. Mit der Abgrenzung des Aktions- und Verflechtungsraums einer einzelnen Eisenhütte (Blaenavon) gelang es, einen zusammenhängenden Landschaftsraum zu benennen, der als ein Mikrokosmos beispielhaft die Geschichte und die Bedeutung der größeren Region repräsentiert. Die Ergänzung der Welterbestätte um Pufferzonen wurde im Verlauf der Nominierung erwogen; die Stätte bietet jedoch für fast alle Schlüsselfaktoren einen großzügigen Rahmen, sodass eine solche Ausweisung schließlich als nicht notwendig angesehen wurde.

Der Autor geht in einem Exkurs auch auf die Nominierung des linear konstituierten industriellen Welterbes „Pontcysyllte Aquädukt und Kanal“ ein, das den OUV aus seiner Bedeutung als kanalbautechnische Pionierleistung des frühen 19. Jahrhunderts und als Teil eines industriebezogenen Netzes künstlicher Wasserwege bezieht. (LM)

Credits

Fig. 1–8, 10: Peter Wakelin, Fig. 9: Map devised by Peter Wakelin in Blaenavon Industrial Landscape World Heritage Site Nomination Document

- ¹ Cultural Landscapes, UNESCO web-page, downloaded 27 September 2015. <http://whc.unesco.org/en/culturallandscape/>
- ² Wakelin, P. ed. 1999. *Nomination of the Blaenavon Industrial Landscape for Inclusion in the World Heritage List*. Cwmbran: Torfaen County Borough Council. Available online at <http://www.visitblaenavon.co.uk/en/Publications/WorldHeritageSite/LookingAfterBlaenavon/NominationDocument.pdf>
- ³ UNESCO description of Blaenavon Industrial Landscape World Heritage site, downloaded 27 September 2015. <http://whc.unesco.org/en/list/984/>
- ⁴ Wakelin, P. 2006, 2nd edn. 2011. *A Guide to Blaenavon Iron-works and World Heritage Landscape*. Nantgarw: Cadw.
- ⁵ see footnote 2, p. 4.
- ⁶ Wakelin, P. ed. 2008. *Pontcysyllte Aqueduct and Canal Nominated World Heritage Site: Nomination Document*. Wrexham: Wrexham County Borough Council.
- ⁷ Wakelin, P. 2015. *Pontcysyllte Aqueduct and Canal World Heritage Site*. Milton Keynes: Canal & River Trust.
- ⁸ see footnote 7.
- ⁹ Gwyn, D. Rh. 2015. *Welsh Slate: Archaeology and History of an Industry*. Aberystwyth: Royal Commission on the Ancient and Historical Monuments of Wales.
- ¹⁰ Slate Industry of North Wales tentative list description, UNESCO website. <http://whc.unesco.org/en/tentativelists/5678/>
- ¹¹ PricewaterhouseCoopers 2007. *The Costs and Benefits of World Heritage*. London: Department for Culture, Media and Sport. Available online at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/78452/PwC_full-report.pdf
- ¹² PricewaterhouseCoopers 2007 (see footnote 11), paragraphs 209, 227.