
Crossing the Straits



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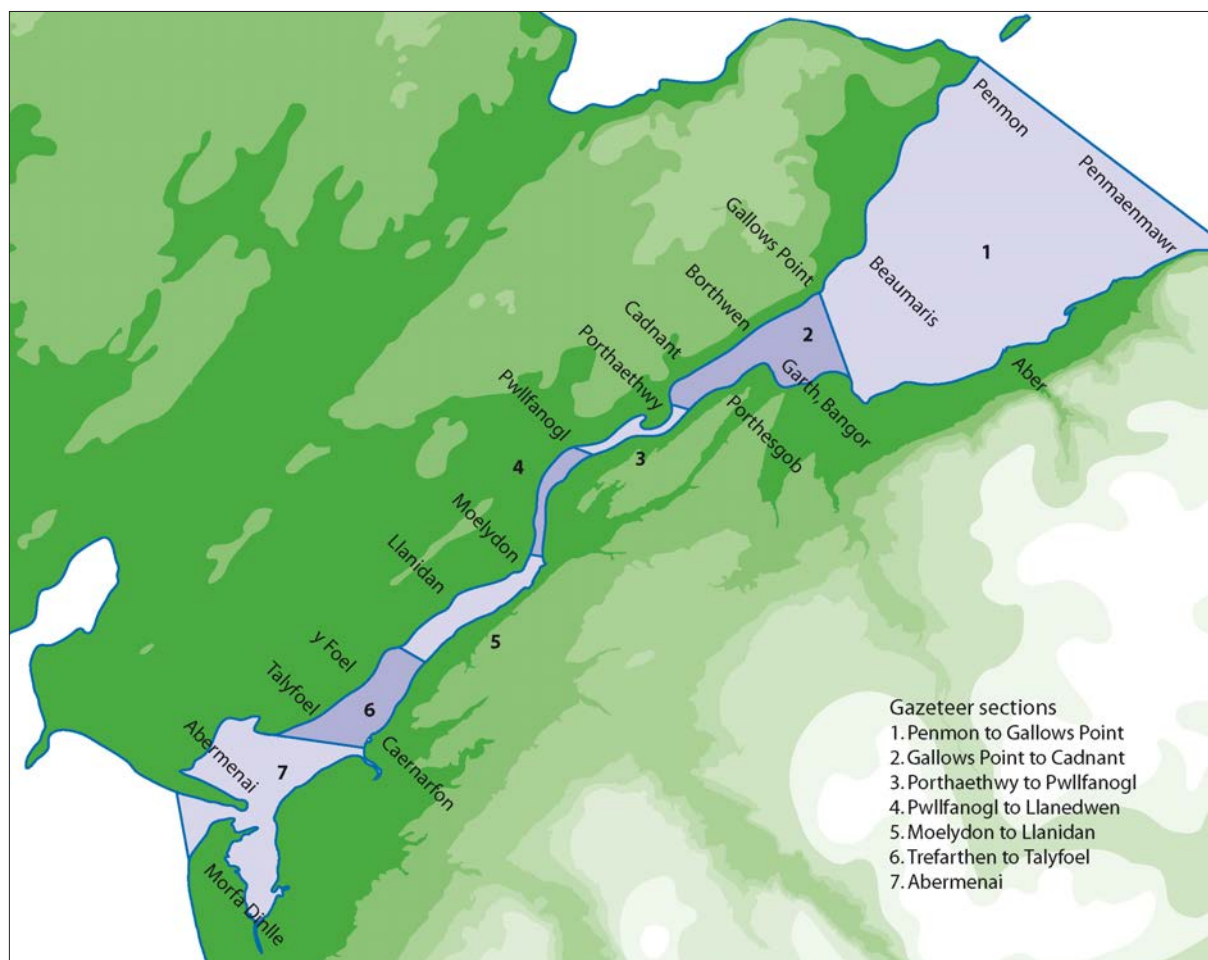
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Summary

The Menai Straits between the island of Anglesey and the mainland of North West Wales has been an obstacle and a means of communication for thousands of years. The Menai, with its extreme tidal range has also been a source of power and a source of food, with many shoreline fish-traps in evidence. This report considers the operation of the ferries over a period of 800 years and attempts to identify the location and the archaeological evidence of their use, including landings, ferry houses, and routeways to and from the ferries. The report also considers the surviving archaeological evidence for certain infrastructural elements of Bridge building at Menai Bridge and Llanfairpwll.

Six principal ferries were in operation, under the control of major landed interests which included the Welsh Princes and, subsequently, the English Crown, the Bishop of Bangor and private estates such as the extensive lordship of Porthamel. The ferries operated within defined and jealously guarded waters - at Llanfaes/Beaumaris; Porthesgob (Bangor); Porthaethwy; Llanidan/Moel y Don; Talyfoel and Abermenai.

The changing requirements of land-based travel necessitated changes in the way in which the ferries operated. Road improvements in the eighteenth century and an increase in coach traffic determined a re-orientation in the volume of traffic along certain reaches of the Straits. Bridge building at Porthaethwy in the 1820s rendered that ferry redundant and hastened the demise of the Beaumaris ferry. The Talyfoel, Moel y Don and Garth ferries, on the other hand, continued to operate into the second half of the twentieth century.



Acknowledgement

Any study of the complex history of the Menai ferries must take account of H R Davies' monumental contribution to this theme and the writer of this report is very pleased to acknowledge this. I am also very grateful to the staff of the University of Wales Bangor Archive, the Anglesey Record Office, Llangefni and the National Archive, Kew, for assistance and the supply of documents.

Crossing the Straits

The Menai Straits

The Menai Straits are a long, narrow flooded trough that has separated the island of Anglesey from the adjacent mainland for around 8000 years. The waters constitute a saline, tidal arm of the sea and came into being at the end of the last glaciation by a combination of ice action and melt water drainage as sea levels rose.

The geological trend and the orientation of the Straits is north-east to south-west. The constraining banks of the 'valley' are relatively gentle towards the south but significantly more steep at the northern end. The ice exploited the fault lines and banding in the rock but encountered a band of harder rock at around 4km south of Garth Point, Bangor. Here islands occur in the stream, near Porthaethwy and, just to the south of the present suspension bridge the obstacle was enough to create, initially, a dam and subsequently, a waterfall, as Irish sea melt water broke through to complete the flooding of the valley.

At the south-western end, the Menai Straits open into Cardigan Bay at Abermenai. At the north-eastern end the steep banks of the mainland coastline terminate at Garth Point opening into Conwy Bay. At low tide, however, the deep channel continues, hugging the Anglesey coastline as far as Trecastell with the wide expanse of the Lavan Sands dry from Penmaenmawr, 6km distant, to within a few hundred metres of the Anglesey shore.

The total length of the Straits, from Abermenai to Trecastell is 25km. The length from Aber Menai to Garth Point is 18.5km. At Aber Menai a long sandbar, known to English incomers in the fourteenth century as Southcrook, extends from the Anglesey coastline near Newborough to within 350m of Belan on the west side of the Gwyrfaï estuary at Y Foryd. North-

east and into the Straits the distance widens at the estuary of the Anglesey river Braint to over 1.5km and a wide channel of around 800m continues north-east as far as Y Felinheli (Port Dinorwic). North of this point the channel is constrained to a width of 370m, flanked by the estates of Plas Newydd, on the Anglesey side, and Vaynol on the mainland side.

Islands of harder rock occur between Llanfairpwllgwyngyll and Porthaethwy and at Porthaethwy the rocky headland of Cerrig y Borth approaches to within 260m (at high tide, 150m at low tide). Between Porthaethwy and Bangor, the channel widens again to 700m. Beyond Garth Point, Bangor, the mainland coastline swings eastward and the distance between the Anglesey short at Trecastell and the mainland opposite at Penmaenmawr reaches 6km. Nevertheless, at low tide the sands are dry – except for the deep channel against the Anglesey shoreline that represents a continuation of the Straits as far as Trecastell. At its narrowest, at the lowest tides, this channel is restricted to less than 200m at Gallows Point, Beaumaris.

Although several hundred ships a year passed through the Straits in the age of sail, these waters are not easily navigable. Equally, crossing the Straits is not a straightforward process. The tidal range is great and there is the additional complication that the tides ebb and flow at different times in Conwy Bay, at the north end of the Straits, and in Cardigan Bay, at the south end. Tides meet at Porthaethwy causing turbulence near Pwll Ceris, a whirlpool already famous by the ninth century. Sand bands form in the channel at the south end, opposite Caernarfon and at the north end, beyond Garth Point. Some are dangerous quicksands.

Crossing the Straits

The long history of human settlement on Anglesey is well attested in the archaeological record and it must be presumed that contact with the mainland and travel to and from the island was regular and frequent. The earliest documentary record of crossing the Straits refers to the campaign of the Roman general Suetonius Paulinus in the summer of AD60. Paulinus contemplated an attack on the island of Anglesey, which had become a safe haven for refugees. The event is both famous and notorious on two counts. It is the only documented instance of a direct military confrontation between the Roman army and druids and, although initially successful, the consolidation of Paulinus' success was curtailed by momentous events further south – the rebellion of Boudica in Icenian territory.

For our present purpose, Tacitus' description of the Straits' crossing and its context is worth considering in detail. Although written a generation after the events described, Tacitus, as son-in-law of Agricola, who, at one time served in Suetonius Paulinus' army in Britain and later became governor of the province, had access to first-hand and possibly eyewitness material. In Tacitus' words the crossing progressed as follows:

He prepared to attack and had flat boats or rafts made, against the varying channels or shallow water – in this way, the infantry crossed. The cavalry followed, wading or, in deeper water, they crossed by swimming with their horses.

Notwithstanding the formulaic element in the description of set pieces in classical history writing, there are two reaches of the Straits that might conform to the description, and a third, postulated by Henry Rolands in the seventeenth century and followed by many writers subsequently. The first is that between Caernarfon on the mainland and Talyfoel on the Anglesey side. Here sandbanks form and the channel splits into several runs. One bank, in particular, Traeth Gwyllt, is a notoriously unstable quicksand. The Roman auxiliary fort at Segontium is generally regarded to have been established during the governorship of Agricola in the late 70s AD. No earlier campaign base in the vicinity has been identified but the suitability of the location, in respect of its strategic siting with regard to Anglesey, may have been perceived earlier.

The second crossing point, where flat-bottomed boats or rafts might usefully be employed and where cavalry troops could at one time wade and, in deeper water, swim with their horses, is at the northern end of the Straits, across the Lavan Sands. Here, as near Caernarfon, the sands could be treacherous and there are rivulets across the sands. The course of the campaign in North Wales in AD60 is not well understood. If the approach came along the coastal route, from the Conwy Valley across the ancient mountain track and later Roman road at Bwlch y Ddeufaen, dropping down to the coastal plain between Llanfairfechan to Aber, then the most prominent feature on the Anglesey skyline

wood by the drum-shaped profile of Din Silwy. Din Silwy is the largest hill fort in southern Anglesey. The direction of Roman military campaigns was often determined by significant political or military objectives that were themselves, often-significant landmarks. The military road meets the coastal plain at a point of departure across the Lavan Sands which makes a beeline towards Din Silwy. One can almost imagine the island's defenders, and their supporters and onlookers, women and druids, lined up on the shoreline and the low eminence behind, between Beaumaris and Llanfaes.

Rowlands' favoured crossing was between Llanfair Isgaer and the Llanidan shoreline opposite. He suggests that 'the horse swam it at the ford; and that the ford is just under Llanidan; and it seems their foot landed in their flat-bottomed vessels near Pwll y Fwch, where there is a place called Pant yr Ysgraphie to this day' (Rowlands, 1723, 98). *Ysgraff* is a ferry boat.

However that may be, the Lavan Sands route remained a regular point of access to the island, throughout documented history, until the nineteenth century. The Caernarfon – Talyfoel route appears not to have become established until the fourteenth century, some while after the completion of the castle. The more ancient crossing at the south end of the Straits was from Belan to Aber Menai. The Llanidan and later relocated and renamed Moelydon ferry worked the stretch from Llanidan to below Porthamel.

The Ferries

While ad hoc crossing of the Straits must always have taken place, by the thirteenth century at least, and presumably earlier, the provision of ferry services was regularised and controlled. Early references to the ferries may be inferred from a poetic reference to a famous victory won by Llywelyn ap Iorwerth in the 1190s at the 'passage of Porthaethwy'. A little earlier Gerald of Wales accompanied Archbishop Baldwin across the Straits where the bishop preached the third crusade to the people of Anglesey and the retinue of Rhodri ap Owain Gwynedd 'among the rocks on the shoreline'. The two clerics had been the guests of the Bishop of Bangor the previous night and almost certainly crossed to Porthaethwy in the Bishop's 'Porthesgob' ferry.

There were six ferries, operating in the waters of the Menai Straits, 'from Penmon to Southcrook' as the phrase goes. These were:

- The Llanfaes (later Beaumaris) ferry, taking passengers who had crossed the Lavan Sands, to within shouting distance, into Beaumaris;

- The Porthesgob ferry which plied the waters between Cadnant, Porthaethwy and Gallows Point, Beaumaris from its wharves at Gorad y Git and Garth Point, Bangor;
- The Porthaethwy ferry that ran two ancient routes between Carreg yr Halen, Porthaethwy and Treborth Mill and the main Porthaethwy landing stage to the adjacent mainland shore. Much later a third route brought coaching traffic from the George Hotel on the mainland to Porth y Wrach, Porthaethwy;
- The Llanidan ferry, crossing from a location on the shoreline below Llanidan to Llanfair Is Gaer and later from Moel y Don to Felinheli;
- The Abermenai ferry crossing from the tip of the Abermenai sandbar to Belan, at the north end of Morfa Dinlle, the promontory formed by the estuary of the Gwyrfa;
- and, lastly, the Talyfoel ferry, working out of the Caernarfon quays to the Anglesey shore, opposite, and later re-established a little to the east at Y Foel.

The Llanfaes Ferry

The Llanfaes ferry is attested in documentary sources from 1292, nine years after the conquest of Gwynedd. A survey of Crown interests in Anglesey was compiled in 1294 and provides some information on the Llanfaes ferry. The ferry (passagium) is worth £12 to the king. In addition there are rent charges on the burgages of the ferrymen, expressed in the following terms;

‘from five ferrymen of the port who owe ferrying work in the King’s boat at their own charge, for 1 carucate and 2 bovates of land which they hold: 15s.8d.’

These five ferrymen worked the ferry at their own expense as part of the commuted rent they paid for the tenements they held. The king paid the cost of providing the boat and it seems clear that these ferrymen were tied estate workers, albeit specialised, on the demesne of the former Prince. The ferrymen are described as ‘of the port’ and in Minister’s Accounts of the same period the ‘ferry of the port’ is referred to. The port was, reasonably, considered by Davies to be situated in Friars’ Bay (Davies, 1942, 20). It was not located in the same place as the port of Beaumaris that succeeded it. However, there is good reason to suppose that the Llanfaes ferry plied from the southern end of Llanfaes township where the ‘Green’ now stands at Beaumaris, some distance from the anchorage in Friars’ Bay. The late thirteenth-century Sheriff’s Records, referred to above, account for land of the port of Llanfaes together with what would appear to be the tenements of the ferrymen. The explanation of this apparently confusing description of the ferry would seem to be that the ferry and the tenements of the ferrymen occupied land considered to belong to the port but not necessarily at the port. In other words, it is probable that the entire shoreline of the township of Llanfaes was demesne land of the Prince and ‘land of the port’. The ferry occupied the southern portion of this land.

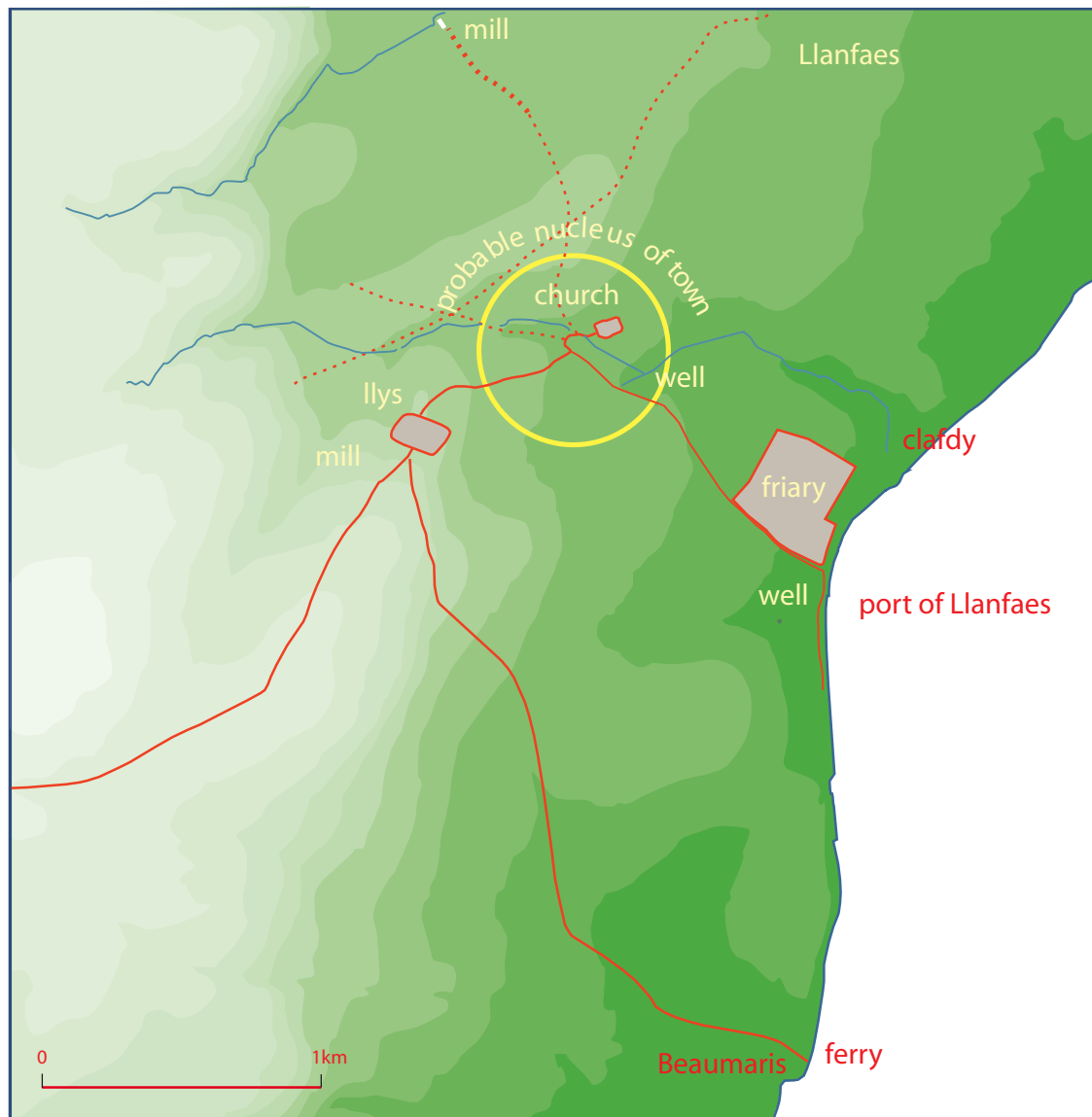
Despite the growth of Beaumaris after 1295 and the demise of Llanfaes, the ferry was still referred to as the Llanfaes ferry until the end of 1302. From 1303 the ferry was accounted for with the demesne of Beaumaris and held by the community of the town until 1562 when it passed to the burgesses in perpetuity.

With regard to the location of the Llanfaes or Beaumaris ferry, there are other indications to suggest a site on ‘the Green’. Firstly the ecclesiastical parish boundary between Beaumaris and Llanfaes (which retained its church after the eclipse of the town) runs west-east from Baron Hill to the Castle, closely skirting the castle on the north and east sides before running due south from the castle dock to the

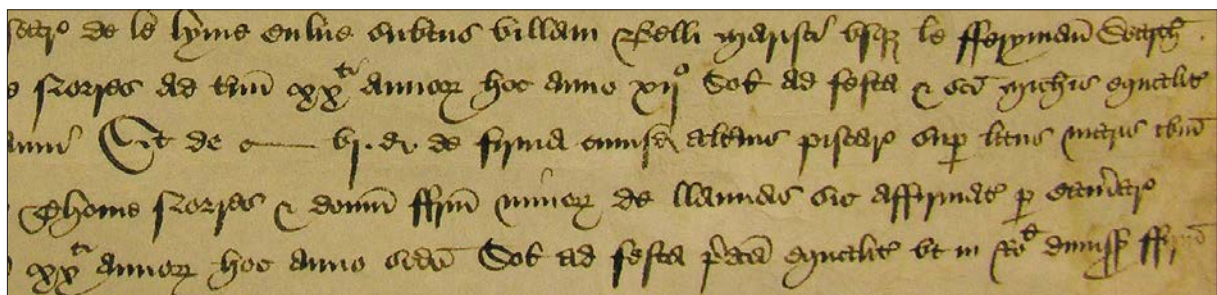
Straits. Almost the entire ‘Green’ lies within Llanfaes parish and the only plausible explanation for this is that the parish boundary at this point reflects the distinction between the Medieval township of Llanfaes and the new plantation of Beaumaris on Cerrig y Gwyddel land. The early history of Beaumaris identifies ‘ferrymanwarth’, or warf, as the Green, by then incorporated into the demesne of the castle. Two documents of the period 1438 to 1448 relate to the presence of fisheries in the town: One leased by Thomas Norres, lying between the lime kiln and ‘Ferrymanwarth’ and a second leased to Thomas Shirweyn lying between Thomas Norres’ fishery and the house of the Friars Minor of Llanfaes. Secondly, Henllys Lane, which now enters Beaumaris at its southern end at Wexham Street, is likely, in an earlier period, to have taken a route that followed, at its southern end, the parish boundary to the Green and the ferry. The original route of Henllys Lane can be traced from the Green at Beaumaris directly to the postulated royal llys at Henllys.

Thirdly, admittedly late, maps show the course of the route or routes across the Lavan Sands to Beaumaris. Greenville Collins’ Coasting Pilot of 1693 and John Ogilby’s route maps surveyed earlier than 1675, are among the most informative. Ogilby and Collins both show that travellers departed from the landward route and took to the sands as early as Penmaenbach, rather than face the rigours of negotiating the headlands of Penmaenbach and Penmaenmawr. Travellers from Conwy would cross the salt marsh and dunes of Conwy Morfa, seaward of Conwy mountain as far as Penmaenbach before venturing onto the tidal sands, keeping close to the shore until Penmaenmawr. If the sands were dry, travellers continued along the beach, skirting Penmaenmawr. If the tide was in, a route out of Conwy to Dwygyfylchi could be taken, south of Conwy mountain and through the pass at Sychnant and on to Penmaenmawr where the road rose up to round the headland. This route was notoriously dangerous, particularly in bad weather. Beyond Penmaenmawr the route branched out across the open sands to within shouting distance of Beaumaris. The deep channel at Beaumaris was never dry. Ogilby shows the point of arrival on Anglesey at Beaumaris itself. The road out follows Church Street and west in the direction of Llansadwrn. John Evans, a century later, shows the same point of departure from the mainland at the west end of Penmaenmawr headland. By this time, however, there had been some considerable improvements in the roads between Conwy and Bangor.

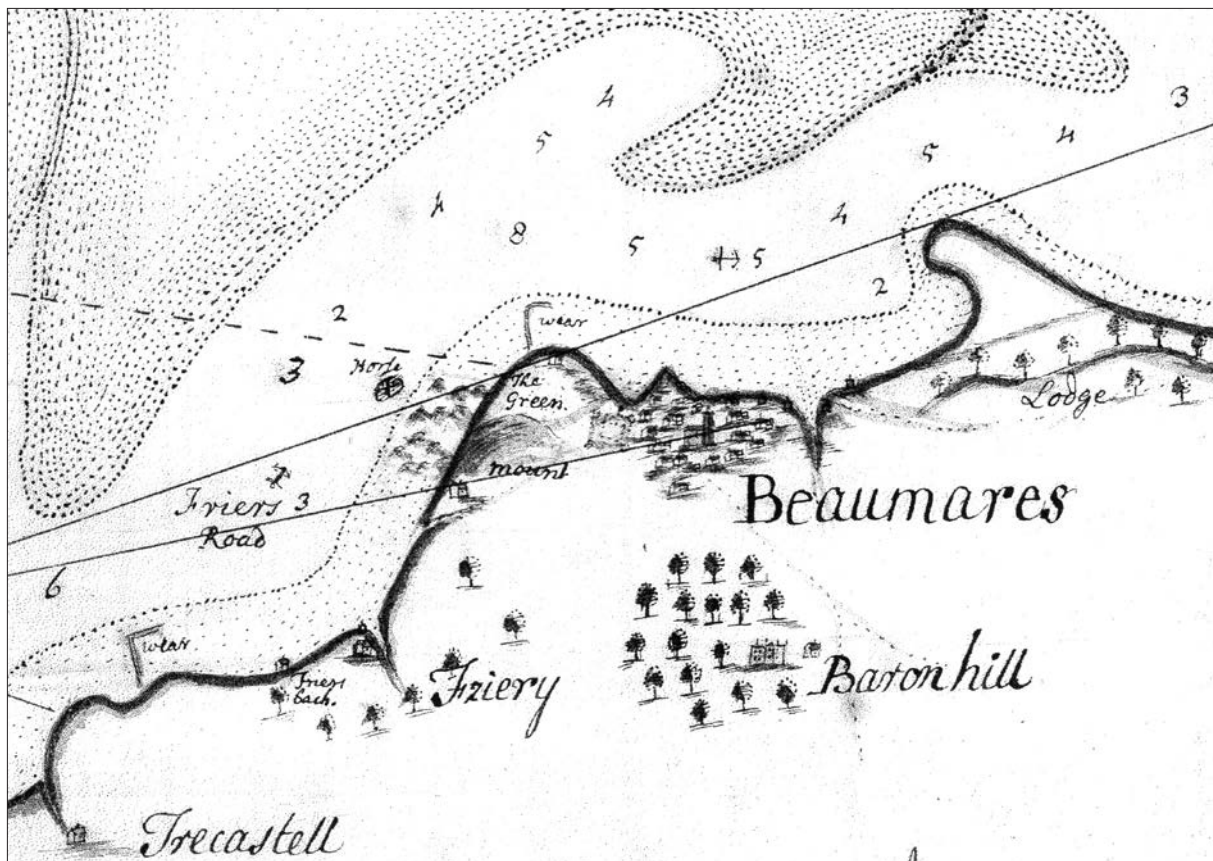
Evans also shows a crossing of the sands from Aber. Aber was a royal maerdref in the twelfth



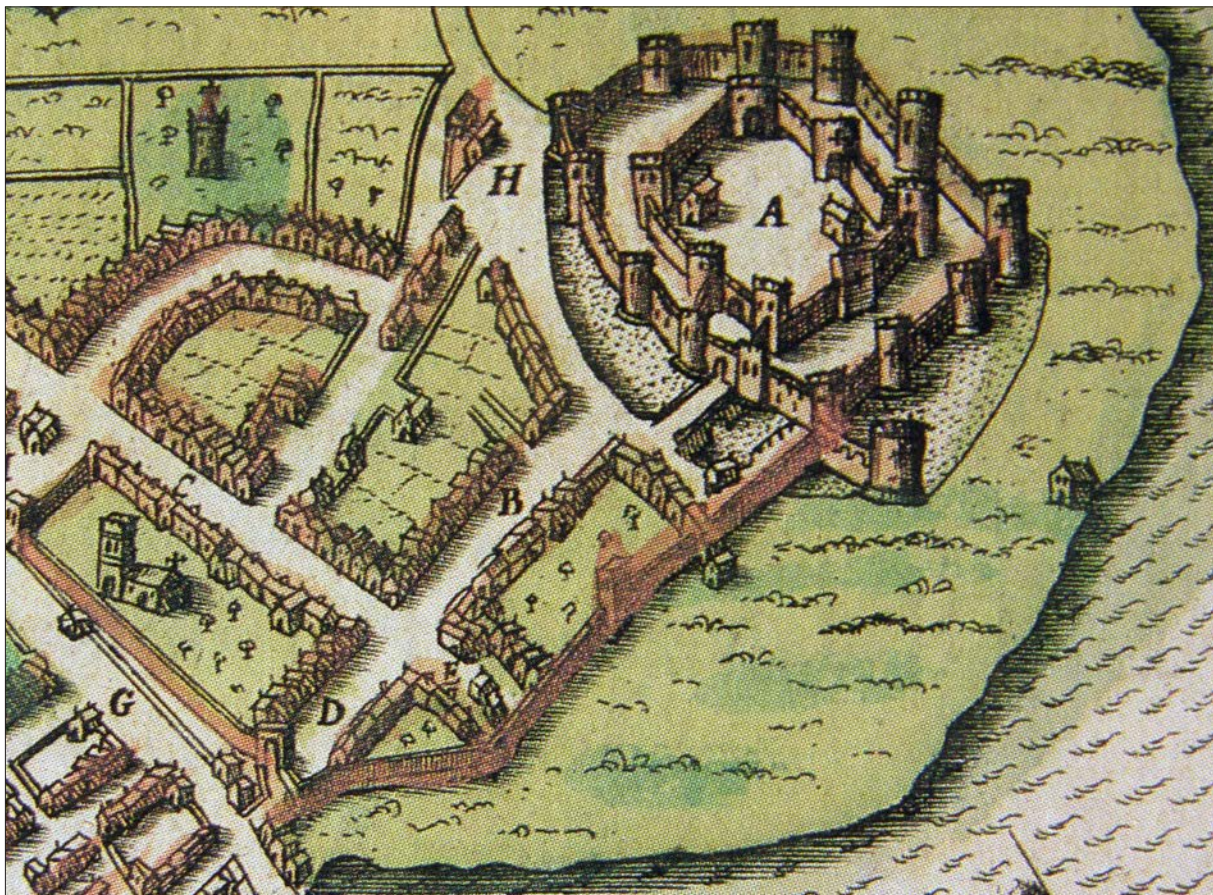
Llanfaes demesne, showing llys, friary, church, ferry and direct route from ferry to llys.

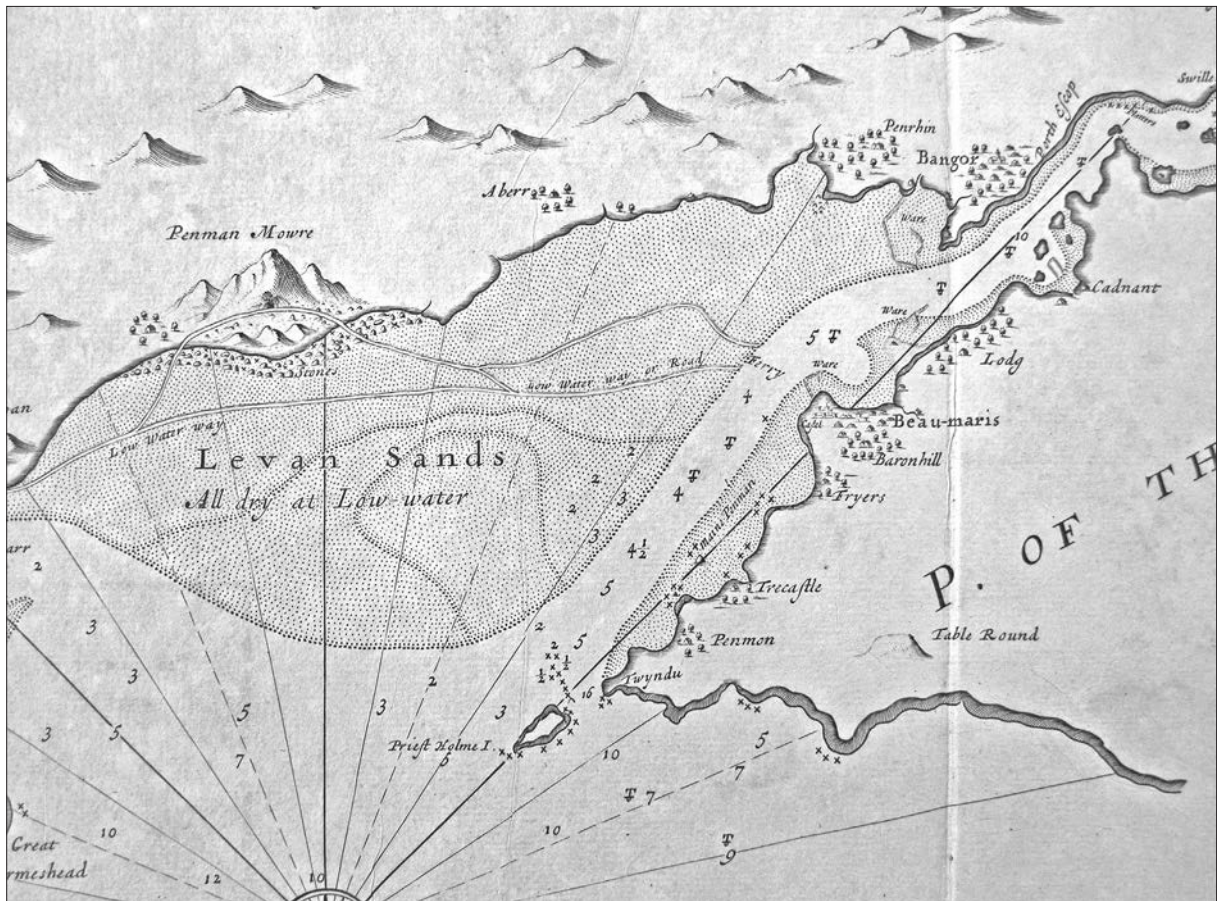


Extract from lease of 1439, of a fishery, to Thomas Norres (mentioned bottom left) and referencing the lime kiln and the Ferryman Warth (or Wharf). This is one of two documents which fixes the location of the ferry.



Lewis Morris manuscript map of 1720s showing Thomas Shirweyn's fishery at 'Ferrymanwarth', the Green, Beaumaris. Gallows Point is to the right. Below: speed's 1610 map of Beaumaris, showing the Green and the Watch House

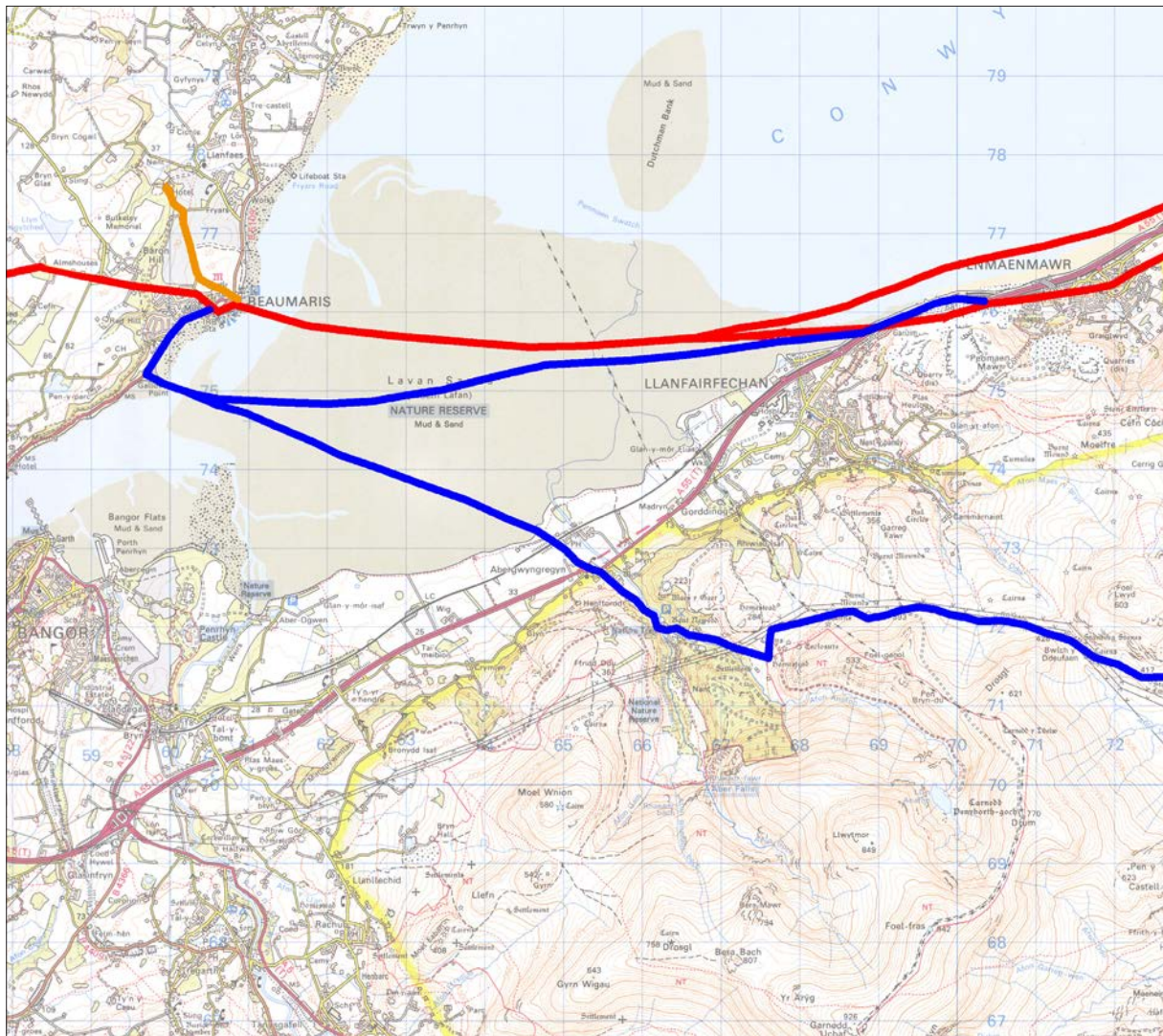




Greenville Collins, late 17th century, Lavan sands (north to bottom)



John Evans, late 18th century, Lavan sands



Earlier, red, (pre-1690s) and later, blue, routes across the Lavan sands

and thirteenth centuries, and possibly a centre of lordship before that. When Joan, wife of Llywelyn ap Iorwerth, died at Aber, her body was transported across to Llanfaes for burial in a consecrated enclosure on the shoreline, the site that was to become Llanfaes Friary. Communication between two commotal centres within sight of each other must have been regular and the Lavan Sands route and the Llanfaes ferry would have facilitated this. Taking a wider perspective, communication and the transportation of materials was particularly important to the powers-that-be and fetch-and-carry works are regularly listed among the obligations of the *tir cyfrif* tenants of the Welsh Prince, and later the King of England. The *tir cyfrif* tenants of Dinsilwy, on Anglesey, for example, were required to carry for the lord from Llanfaes as far as Caernarfon, or Penrhos or Conwy or anywhere else the lord may require, and it is obvious that these works could not be achieved without the services of the ferrymen (Carr 1971-2, 234-5).

Aber stood at one end of an alternative route from the Conwy Valley to the Menai Straits shoreline. This, in part, followed the ancient prehistoric and Roman track across the watershed at Bwlch y Ddeufaen. This road could be joined from Llanbedrycennin in the Conwy valley and, more importantly, from the ferry crossing of the river Conwy at Tal y Cafn. The route is rough and unfenced across the mountains, dropping relatively gently down across the northern slopes of Foel Ganol and Foel Dduarth to the Anafon Valley near Hafod y Gelyn. The route crosses the Afon Aber at Bont Newydd and continues to follow the valley to the coast at Aber. It is unlikely to be a coincidence that, in the Age of the Princes, this important mountain road linked the two commotal centres of Arllechwedd Isaf and Arllechwedd Uchaf and that there was access to ferry services at both locations.

The Porthesgob Ferry

This ferry, as the name implies, was in the hands of the bishop of Bangor. Reference is made to the Bishop's ferry in the earliest Anglesey Sheriff's accounts of 1292. It is very likely, however, that the Porthesgob ferry had plied a route from the headland of Garth to the Dindaethwy shoreline for a considerable time before this. The bishop had extensive interests in the commote of Dindaethwy and maintained a manor there as Treffos where the ferry was listed as one of his assets, valued in 1308 at £4.0s.0d. An enquiry was made, in 1352, into various rights, freedoms and concessions claimed by the bishop in respect of his boats and many of these were upheld.

At the time of Collins and Ogilby's surveys, a point of departure across the Sands from Penmaenmawr was regularly frequented. The crossing could be dangerous, though, in fog and bad weather, and of course, when the tide was in, in which event Ogilby notes that the traveller 'must go by Bangor'. A Postmaster was installed at Beaumaris in 1562, and in 1620 and again four years later the postmaster, Rowland ap Robert, petitioned for mileposts and intermediate stakes to be set in the sands to mark the route (Davies, 1942, 111). Around 1690 the location of the ferry was moved from the Green to Gallows Point. An ancient name for the point was Penrhyn Safnes (Penryn Savynast, John Leland c.1540) or, alternatively, Osmund's Aire (Baron Hill MS.). The reason for the change of location is not clear, but changes in the channel and in the sands themselves maybe supposed. The channel at the Point is a little narrower and steeper than at the Green and the sands, a little higher, are drier longer. It is this point of entry to Beaumaris that John Evans charts in the late eighteenth century and whether or not Rowland ap Robert's posts were ever set up they certainly were along the Aber to Gallows Point crossing by the 1770s.

When records become available it would seem that the ferry house at the Point stood at the neck of the promontory, on land owned by Lord Bulkeley (BH4959-60). Bulkeley had a lease on the ferry in the late eighteenth and early nineteenth centuries and it is likely that the family of ferrymen, the Tyrers, were his tenants on his property there (Davies, 1942, 232-5). One traveller in the early nineteenth century describes how he crossed the sands to Beaumaris, keeping the 'white house opposite' in view. This would seem to have been Bulkeley's ferry house, long since demolished except for a portion of the structure that Davies saw incorporated into the roadside wall opposite the Point.

The Porthesgob ferry claimed landing places at Gorad y Git and Garth Point on the mainland and at Cadnant, Porth Philip Ddu, Borthwen and as far as Gallows Point on the Anglesey side.

Gorad y Git is the name of a large fish weir on the Straits shoreline on the north-west flank of the headland of Garth, Bangor (Gorad = fish trap). The name, and therefore the weir is attested as early as the 1580s (Gorad Kytte) but an earlier and more appropriate name would be Nant y Porth (the ferry valley), mapped as a place name south of the weir. The weir is marked on Collins' Chart of the 1680s (published 1693) with the legend Porthesgob above it. Lewis Morris, in the 1720s, identifies the weir as

Corad y Git. A winding, but nevertheless direct route, given the steepness of the hillside, leads from the Bishop's palace adjacent to the cathedral in Bangor, over the ridge of Garth and down to the waterside. The route may still be traced through present day streets of Bangor up Glanrafon Hill to College Road and down Gorad Road, branching off Siliwen Road. This was the only route to the shoreline in the near vicinity until the early nineteenth century. The fishweir is still visible at low tide although encroached upon by oyster beds in the nineteenth century.

Garth Point (Ygarth in 1531, Davies, 1942 48ff) is the northern tip of the headland that lies between Bangor, in the valley of the Adda, and the Menai Straits. Hyde Hall, in 1810, described the ferry, let by the Bishop of Bangor, with a cottage and half acre of land, as 'very rough, very inconvenient and very much in need of causeways and altogether destitute of shelter'. The Bishop of Bangor built a high water stone pier in the 1830s and a stone causeway was constructed, adjacent to it with the intention of providing a timber stage at low water level. It is now known whether the stage was completed but, in the 1850s, the high water pier was extended in timber to provide access to the boats at low water. The construction of the late Victorian pier in the last decades of the nineteenth century, however, saw the transference of the ferry from the Bishop's interest to the Corporation of Bangor.

The landing places on the Anglesey shore are less well known. In the sixteenth century Cadnant is frequently mentioned as one of the unloading places and Porth Daniel is recorded as the limit of the Porthesgob Ferry where it meets Porthaethwy waters.

Porth Daniel is a small inlet on the Porthaethwy shoreline, on Water Street, immediately adjacent to the promenade leading to St. George's Pier. It is shown on the Llantysilio Enclosure Award Map of c.1815 and on William Provis' Survey of Menai Bridge made around 1820, during the construction of the suspension bridge. In both instances, there is a track leading from Water Street to the shoreline at that location. Cadnant is the narrow, now wooded, valley of the Afon Cadnant that opens into the Straits at the north end of Porthaethwy between the islands of Ynys Geint and Ynys Castell. Melin Cadnant, a water mill, is referred to, in 1533, as being within the township of Trefelias, where, in the same township there was also a passage, or ferry, called Porthesgob (Davies, 1942, 140). In 1352, Trefelias is accounted for

as one of the townships of the Bishop of Bangor's manor of Treffos on Anglesey. The assets of the manor include a 'passagium aquae' with a value of £4 per annum. The assets of Trefelias do not specifically refer to the ferry but the survey does identify Ithel Borthwis (Ithel the ferryman) as one of the tenants. Ithel and his fellow bond tenants also pay eleven and one half pence annually towards the repair of a fish weir.

Another of the Porthesgob landing places on the Anglesey shore is referred to as Porth Philip Ddu (Davies, 1942 146-7). This has not been located but is said, in the sixteenth century, to have been remembered as the loading and unloading places for Treffos, the manorial centre. Davies has suggested that Porth Philip Ddu lay at Point Brynmedin (or perhaps, more correctly, Bryn Melin), marked on Rennie's map of 1810 (Davies, 1942 165, Rennie, 1810) where tracks lead down to the shore from the Llandegfan ridge. For what it is worth, a certain Philip Du is recorded as one of the free tenants of the Bishop of Bangor in the township of Bodffyddion in 1348. Philip Du is not a common name. It occurs only twice among the seven thousand or so names recorded within the fourteenth and fifteenth century surveys of Anglesey, Caernarfonshire and Meirionnydd brought together in the compilation known as the Record of Caernarvon. Bodffyddion was identified by Melville Richards as lying in the parish of Llandegfan and adjacent to, and east of, Trefelias. The second occurrence of the name Philip Du refers to a free tenant of the nearby Dindaethwy township of Llaniestyn, also in the Bishop's hands, and may refer to the same person (Melville Richards Archive UW Bangor, Bodffyddion; Baron Hill MS. 868, 869, 1257; Plas Coch Ms. 1582, 181).

A short distance to the east lies the small gravelly promontory of Borthwen. Borthwen lies directly opposite Garth point and the two locations are closely associated from the sixteenth century onwards. The crossing between the two points is short at very low tides (375m) but double the distance at high tide. It seems that, on occasion the Garth boats, and Porthesgob also, would ferry as far as Gallows Point. When the sea was full, and travellers could not cross the Lavan Sands, sixteenth century witnesses claimed that the Garth boats worked as far as Beaumaris. The distance from Garth to Gallows Point is 2.5km and, to Beaumaris, 3.5km. A stone pier was built at Borthwen at about the same time as the pier on the Bangor side. The pier has survived and the Gazelle Hotel now occupies the ferry house.

The Porthaethwy Ferry

Porthaethwy is first referred to in 1193, in a poem by Prydydd y Moch in praise of Llywelyn ap Iorwerth. The context is a campaign by Llywelyn against Rhodri, son of Owain Gwynedd, who held Anglesey at that time. Llywelyn's force crossed the Menai at 'Porth Aethwy' 'over the sounding surge, we rode our steeds as they swam' (Myvyrian Arch. 210-11; Lloyd vol. 2, 589). Llywelyn's horses clearly swam, but the prefix 'porth', carries the meaning 'ferry' and occurs, in one form or another, in almost every major landing place on the Straits.

Porthaethwy is a township at the western limit of the commote of Dindaethwy, on the Menai shoreline. The rocky headland of Cerrig y Borth extends from the Anglesey shore to within 250m of the mainland. Porthaethwy, in the Age of the Princes, had two parts. The first was the free gwely of David ap Mabon of which, by 1352, Griffuth ap Madog Gloddaith and Grono ap Bledd' ap Heilyn were the principal heirs; although there were, also, an unspecified number of other freeholding families within the gwely. The second element is represented by a half-gafael (or half-holding) of tir cyfri' land of which David and Cadwgan Morfudd were the two tenants. David and Cadwgan occupy their land under a very restrictive tenure characteristic of the demesne land of the Prince, albeit several miles away from the manorial centre of the commote at Llanfaes.

In 1294, a Crown survey valued the Porthaethwy Ferry at £2. 13s. 4d. in revenue for the Crown. In fact, the Sheriff's Accounts for the same period show that the ferry was actually bringing in 86s. and, by the time of the next great survey, in 1352, the assessment had risen to 90s. The greater detail provided by the 1352 survey allows us to square this apparent discrepancy and, at the same time, gain an insight into the particular nature of the Crown's interest in the ferry. The later survey tells us that of the 90s. value ascribed to the Porthaethwy Ferry, 45s. is to go to the King and the remaining 45s. to the free tenants. In addition, the King, through his Sheriff, paid half of the cost of running the ferryboats. Sheriff's Accounts in the fourteenth century, for example, account for 'half a boat' bought: 6s. out of 12s; total for pitch and tallow, 1s.4d; four days carpenter's work and other costs for ropes, oars, hurdles under the feet of animals, to protect the boats, and quantities of iron nails (Davies, 1942, 41). Nowhere does the Sheriff account for a ferryman's wages. It is reasonable to suggest that this was the function of the tied tenants in the half gafael of Crown land and, possibly, that the free tenants of Gwely David ap Mabon also contributed the labour of their tied tenants in a comparable half-gafael. The tir cyfrif tenants of the Prince in Porthaethwy

paid 10s. per annum in respect of their holding – a commutation of services – but, as was the case at Llanfaes, where the boatmen there paid rent for their burgages and worked the boats, the Porthaethwy men were also required, as part of their tenancy, to work the ferry.

Much later, in the aftermath of an Enclosure Award in the parish of Llantysilio in 1827, in which the shoreline at Porthaethwy had been reserved for the use of the ferry, enquiries were made into encroachment, the ferries having ceased to operate. The result of the enquiry, to the surprise of the civil servants in the Office of Woods, was that the reserved land was, and always had been, Crown land. This must surely identify the location of the demesne land in the Prince's interest and subsequently the English Crown interest in the ferry, corresponding to the half-gafael occupied by David and Cadwgan Morfudd in 1352 and the corresponding half gafael of bondmen of the free tenants after the ferry was taken entirely into the hands of the Crown in the sixteenth century. The extent of the ferry land ran the length of the customarily accepted waters of Porthaethwy, from Carreg yr Halen to Porth Daniel. The ferry claimed and worked landing places at Carreg yr Halen and Porthaethwy below the Cambria on the Anglesey side and at Treborth Mill and Borth (below Bodlondeb) on the mainland side. A third route began to operate in the 1760s from the George Hotel on the mainland to Porth Y Wrach.

The headland was common land until 1827 with the exception of a small number of ancient enclosures. Almost all the buildings and all the activity focussed on the shoreline and servicing the ferries. Certain footpaths and tracks crossed or circumnavigated the rocky headland. These led either to the landing places or to the church of St. Tysilio on Church Island.

Carreg yr Halen is a small tidal rock at low water mark on the shoreline south-west of the headland of Cerrig y Borth, some 300m west of the present suspension bridge. There is some discrepancy in the depiction of a track to Carreg Yr Halen Ferry. Rennie, in around 1810, shows a track crossing the headland from the north to drop down to the shoreline immediately to the east of Carreg yr Halen rock. The Enclosure Map shows the road to Carreg Yr Halen as a continuation of a circuitous route from the north-east, coming close to the shoreline near the Cambria Inn. The track continues west and north to the causeway to Church Island with a branch to the shoreline at Carreg yr Halen. Whether one or other, or both, of these tracts could be used to reach Carreg yr Halen, the location of the landing place is the same in both instances.

At the point where the track meets the beach there survives two stone piers, or walls, marked quays on a marine chart of 1853, perpendicular to the high water mark, 50m apart. A lime kiln had been inserted into the steeply rising ground at the back of the beach. It was certainly in place in the 1850s and may have been built during the construction phase of the suspension bridge. The stone quay walls may also date to around this period. After the demise of the ferry the space between these walls became a popular bathing place.

Immediately to the north west, above the level of the beach, there existed an 'ancient enclosure' of 2/3 of an acre in the hands of the Marquis of Anglesey. The Enclosure Award plan (1815), Rennie's map (1810) and Provis' Survey (1820s) all show a building, or buildings and a small garden within this enclosure. These structures represent the tenements of the ferrymen at Carreg yr Halen. The Carreg yr Halen Ferry plied a route to a landing place at Treborth Mill directly across the Straits. The journey is 300m at high tide slack. This is an area of dangerous tides and strong currents and the timing of the crossing is important. High tide slack occurs 1 hour and 40 minutes before high tide at this point.

Treborth Mill is the location of a former water mill, fed from the fast stream that cascades down the almost precipitous bank on the southern shore at this point. The site is now occupied by a private house with a landing stage at the high water line.

The main **Porthaethwy Ferry** operated from a pier 175m north-east of Ynys y Moch, the small island on which the main pier of the suspension bridge on the Anglesey side now stands. The point of embarkation and disembarkation on the mainland was a rocky shelf on the shoreline below the nineteenth-century house, Bodlondeb. The crossing involved, from the mainland, a westerly traverse of 300m.

There was a ferry house at the Porthaethwy Ferry towards the end of the fifteenth century, but this would seem to have been on the Caernarfonshire side, in Treborth, and in the private holding of Sir William Griffith who also had the ferry. In addition to land in Bangor and Treborth, the will of his son, Sir William Griffith junior, lists a fishery in his tenure. Davies suggested that this was 'the old Treborth weir' that was considered to be a navigational hazard when surveyed in 1847 (Bangor MS.; Davies, 1942 58). When William Griffith gave up or was forced to give up his lease, he retained the house. At this time the issues of the ferry were still divided between the Crown and private interests. During the first half of the sixteenth century, however, this distinction was removed and the king (Davies, 1942 48-58) claimed the entire ferry. From then on, nominally, the royal

interests in the Menai Ferries are combined in one lease. The lessee's only interest in the ferries was financial. He would farm out the individual ferries to one or more local entrepreneurs who sub-contracted the running of them to local operators and accounted for the Crown's reserved revenue directly.

In 1594 John Williams, brother of Hugh Williams of Cleifog, Anglesey, was granted a reversionary lease in the ferries, which was to come into effect in 1611. In the meantime, and subsequently, through various grants and transfers, the operation of the Porthaethwy Ferry passed into the hands of the Williams family in perpetuity.

In 1687 Coningsby Williams petitioned for a licence to build a house for ferrymen 'upon the waste called Porthaethwy Common ... in regard there are no houses for the habitation of the ferrymen, the passage is much incommoded'. This house still stands, as the oldest building in Menai Bridge, commonly known as the Cambria but also, at one time, the 'Three Tuns'. It stands on a terrace in the rising ground up from the shoreline, some 50m west of the landing place. The house is large, originally in two units with a central rear projection and modified in the early eighteenth century by extension to the south-west and an additional wing to the south-east. The building has been modernised internally but retains a significant presence as a component of the Porthaethwy waterfront.

The landing place is marked by a substantial stone pier which follows the slope of the shoreline to the low water mark, providing access at high and low water slack. The approach to the ferry house was via an inclined dog-leg at the upper end of the pier onto a track that was later to become Beach Road. The traveller crossed the track and ascended the slope to the Cambria. This access is still in use as a footpath marked by a flight of modern concrete steps. By the early nineteenth century a small cluster of buildings had accumulated in the immediate vicinity of the ferry and the ferry house. These included structures associated with servicing the ferries, stables and a small enclosure and tenement in the hands of the Marquis of Anglesey.

In the late seventeenth century the Bishop of Bangor established a cattle fair on the Caernarfonshire side, at Borth. By a process undocumented, the authority of the Bishop extended to cattle sales on the Anglesey side too, by which, part of the common or Porthaethwy came to be regarded as somehow within the Manor of Treffos (Davies, 1942 191-2). In the lead up to the Enclosure Award of 1827, the 1815 Enclosure map identifies the land behind the Cambria as reserved for the fairs. A secondary



The Porthaethwy waterfront. The Cambria is in the left middle distance. The Porhesgob ferry is in the far distance.

The Cambria pier sloping down from high to low water. Edward Edwards' 1830s foundry is in the background.



implication of the Bishop's involvement was that when the enclosure award was finally enacted, the Bishop received a significant portion of the common and a role in the future development of Menai Bridge.

The landing place of the Porthaethwy Ferry on the mainland side was, as described above, some 420m north-east of the later suspension bridge. No structures survive and there may never have been any, the rocky shelf on the shoreline serving as a pier. The routes to this landing place do survive however, and the significance of this ferry has had a marked impact on the transport infrastructure of this part of the Straits.

The main route to Caernarfon from Bangor, in the eighteenth century, and earlier, was not along the valley of the Adda as it is now. The road rose from the southern edge of the town, up Penchwintan and along the ridge of Penrhos Garnedd, rounding the southern edge of the Vaynol estate to Aber y Pwll, Felinheli, Llanfair and Caernarfon. At the top of Penchwintan the road diverged, heading north-west across Ffriddoedd towards the Straits shoreline and the ferry. From the direction of Caernarfon the road forked north-east at Garnedd Fach, south of Treborth, to meet the road from Penchwintan at a place marked on John Evan's late eighteenth-century map as Borth. Part of the diversion from Caernarfon is now followed by the A487 trunk road along Treborth Road. The last stage of this journey survives as a narrow track and overgrown footpath as it traverses the steep bank of the Straits. The route from Bangor is still traceable along Belmont Road and, close to the Straits, where it forks again to reach the later ferry at the George Hotel. The final stage of this route is just traceable at the south-western edge of the George boundary. The approaches to the ferry from both the Caernarfon and Bangor directions, largely redundant after 1826, have been severely truncated by Telford's A5 road as it approaches the southern end of the suspension bridge.

The George. In the 1760s a new ferry was introduced to Porthaethwy waters. This was to become known as the George and Dragon (later, simply, 'The George'). During the mid-eighteenth century several road improvements, particularly concerning the dangerous headland of Penmaenmawr, brought an increasing number of wheeled vehicles into North-West Wales. In 1686 Lord Clarendon took a wagon and coaches over Penmaenmawr 'a famous journey' and got at least one of the coaches across the Lavan Sands to Beaumaris. He had considerable assistance, however, and this sort of adventure would not be undertaken lightly or very often. The general opinion of the time with regard to Porthaethwy was that 'never was, or

can, a coach come into that part of the county'. But coaches could, and did, from the 1760s. In 1764 the presence of a stagecoach on the Chester to Holyhead run is worthy of notice. In 1765 the roads across Anglesey and Penmaenmawr became turnpikes. Coaches now began to travel regularly along the coastal route to Bangor Ferry (the George) and after 1808 via Capel Curig and Nant Ffrancon.

In 1768 the Bishop Bangor, seeing an opportunity, built an inn on a tenement of his at Cae'r Glowr. The Bishop's interests were set back when legal proceedings found against him as an intruder in the use of Porthaethwy landing places. The Inn was taken over, however, and enlarged, as the George. Access for wheeled vehicles to the landing place was provided with a curving ramp down to the shoreline and a covered walkway was provided, via steps, for foot passengers. The landing place on the Anglesey shoreline was at Porth y Wrach, a wide and convenient slipway that led directly to a block of coaching stables owned by the George. Stables were also provided on the Caernarfonshire side. Mail coaches and their teams were changed at these points, while private vehicles were ferried across. Orders for horses to be made ready were conveyed across the Straits by speaking trumpet (Davies, 1942, 243ff.). The crossing is 400m.

The George Hotel was taken over by the Normal College, Bangor in 1919 and the site continues to be used as a residence for students, offices and additional functions associated with its amalgamation with the University of Wales, Bangor. Elements of its original use as a coaching inn and ferry landing still survive. In particular there are still slight remains of the stone built landing stage on the shoreline, the curving carriageway to the shore, the once impressive flanking wall emblazoned with the 'George Hotel' sign and the covered stepped walkway for foot passengers. On the Anglesey side the Porth y Wrach landing stage still survives, now in use as a slipway for pleasure boats. The coaching stables and their curtilage was encroached upon in the 1830s as part of the developing warehouse, timber yard and shipping enterprise of the Davies family. This complex on the Porthaethwy shoreline is significant in itself as a direct consequence of the construction of the suspension bridge at Menai Bridge, the demise of the ferries and the commercial opportunities that good communications and an increasing population provided. New residential development is now taking place on the site of the old coaching stables yard. The high enclosing wall largely survives and will be retained as part of the development. Excavation during ground works for the development identified the location and footings of the eighteenth-century stables.

Llanidan/Moel y Don

The early history of the Llanidan Ferry is somewhat obscure. It is likely to have been an ancient ferry and is accounted for in the Sheriff's Account of 1296 at a value to the Crown of 20s. This, however, cannot have reflected its real value as, in 1303, the 20s. accounts for the moiety and not the whole. The implication is that there is another interest in the ferry and this is borne out by the absence of any Crown expenditure on the ferryboat. Neither is there any evidence for any tied bond tenants of the late Prince or the King in any township on this stretch of the river. The arrangement has some similarity with that at Porthaethwy, but there are also significant differences. At Porthaethwy the book value of the ferry was divided between the King's interest and that of the freeholders in the order of 45s. each. At Llanidan, the King's moiety is worth 20s. with the implication that someone else was also taking 20s. At Porthaethwy, however, the king supplied a half share of the boat and its expenses and, almost certainly, provided the boatmen, or at least some of them, who held the half gafael described above. At Llanidan, in contrast, it would seem that the unspecified 'other' provided the boat and the ferrymen, as representative of the original or ancient owner. The ecclesiastical parish of Llanidan has a long shoreline, which extends from south of Trefarthen to Porthamel in the north-east. A logical location for the crossing might be at the point where a road from Llanidan church strikes eastward to the Straits opposite Llanfair Isgaer Church. Another track, from the direction of Porthamel reaches the Straits 100m to the north-west. A little further along this reach, 700m from the Llanidan track, a coastal field carries the name Pant ysgraffia – the 'hollow of skiffs or ferry boats' – thought by Rowlands to be indicative of the Roman crossing of the Straits in AD60. Rowlands, writing towards the end of the seventeenth century but not published until 1723, suggests that 'the ford, or shallow (where the cavalry crossed) is just under Llanidan, and it seems their foot landed in their flat-bottomed vessels near the said Pwll y Fwch where there is a place called Pant yr Ysgraffie to this day' (Rowlands 1723, 98). The field called Pwll y Fwch (the cow pool) is the next field but one, north-eastward, to Pant Ysgraffia and both are recorded on an estate survey of the 1770s and the Tithe Survey of the 1840s. Other field names along the shore of the Straits in this area are indicative of traffic both across and along the shoreline. For example, adjacent to Pwll y Fwch is 'Y Store House' and, just inland, 'Gallt Pen y Storehouse' – the hill above the Storehouse. Several boat houses are depicted on the estate survey and adjacent to Porthamel house, alongside the track to Llanidan and, branching to the shore, referred to above, there lies a field named 'Cae Porthmawr', Great Ferry Field.

The most likely location for the original ferry is along the shore below Llanidan church. The main crossing would then have been directly across the Straits to Llanfair Isgaer church where a corresponding trackway reaches the water adjacent to Llanfair church. The original owner of the ferry remains unknown. One possibility, suggested by Davies, without much conviction, could be the Augustinian canons of Beddgelert Priory. Beddgelert held land in Tre'r Beirdd, granted by Owain ap Gruffydd between 1246 and 1255. They also held a small portion of land on the adjacent mainland in Llanfair Is Gaer, and controlled the churches of Llanidan and Llanfair (Dunn 2005, 89-90). If Llanidan demesne, as mapped in the 1770s, reflects the temporal interests of the Priory's association with the church, sequestrated in 1535 and subsequently re-granted by the Crown, then the case for Beddgelert's involvement becomes stronger. On the other hand the major secular power in this part of the commote of Menai was the great dynastic and territorial lordship of Porthamel. The Porthamel dynasty traced its lineage back to Llywarch ap Bran, 'Lord of Menai' in the twelfth century. Its tenurial associations were extensive, reaching across the parishes of Llanidan and Llanedwen on the Straits to Llanfihangel Ysceiriog on the northern fringe of Malltraeth. When it is possible to identify farmers of the ferry, Deicws ap Cynwrig ap Meredudd, in 1419, would seem to be one of the members of the Porthamel dynasty. Similarly, after the ferry lapsed to the Crown during the later fifteenth century, the ferry was let to another Porthamel man, Meredudd ap Thomas ap Meredudd, on favourable terms and a long fifty year lease from 1507. The inference to be drawn is that Porthamel has had a long and continuing interest in the ferry, reflected in the name of the estate itself and associated locational names such as Porthmawr and Pant Ysgraffia, both part of Porthamel demesne.

During the late fifteenth century the ferry seems to have been in decay. By the early sixteenth century the ferry, now in Crown hands, is seen to be operating from a new location at Moel y Don. The ferry has a new name to reflect the change 'Llanidan alias Bon y Don'. The reason for the move is unclear, as is the later history of the passage at the old location. A possible explanation might be to do with silting and sandbar formation along the Llanidan reach. At Moel y Don the crossing is shorter and clear and the ferry was once again profitable. The style of the ferry's name 'Moel y Don' is much more frequently used than the rare 'Bon y Don'. Nevertheless, the rare name is of interest as it closely resembles the Welsh name of the 'castle', built in Gwynedd, by Olaf the Viking king in Dublin, Man

and the Isles. In the Welsh life of Gruffudd ap Cynan the 'strong castle' is described as having a mound and ditch. 'It was called Olaf's castle. However, in Welsh, it was called Bon y Dom ('the bottom-of-the-mound-castle')'. Hogg suggested that the later ringwork overlying the circuit of the Neolithic henge at Castell Bryn Gwyn, in Llanidan parish, was the castle in question, with its name attached to the ferry. However, an alternative possibility is that the re-sited ferry, having been moved out of Llanidan parish, acquired a new name from the prominent topographic feature at the mainland shore landing at Felinheli. The landmark is a natural coastal mound, fortified around its base by an earthwork and now known simply as 'Dinas'. The shoreline location and the physical characteristics match the Bon y Dom

Abermenai

'Aber' describes a confluence of waters. Abermenai is the point at the southern end of the Menai Straits where the Menai meets the open sea of Cardigan Bay. The channel is constricted here to 350m between the peninsula of Morfa Dinlle and a long sand bar extending eastward from Newborough Warren on the Anglesey side. At the easternmost tip of the sandbar, the spit expands to the bulbous hook of Abermenai Point (Southcrook in its Anglicised medieval form). This is the exposed location from which the ferry operated. Through the channel and into the Straits the coastline recedes at high tide, creating a large bay at the estuary of the River Braint on the Anglesey side. At low tides the sand and mud of the estuary is dry and can be walked across with caution. It is within this area, known as Traeth Abermenai or Traeth Melynog that small boats could put up on the shore in the lee of the sand bar and larger vessels could lie at anchor in the deeper channel towards Caernarfon with some degree of protection.

Abermenai probably has a claim to be the earliest documented ferry on the Straits. The Welsh Life of Gruffudd ap Cynan, king of Gwynedd in the late eleventh and early twelfth century, mentions Abermenai no less than six times. The biography was written sometime around the middle of the twelfth century. There is an element of ambiguity, however, in the references. On every occasion the context is seafaring. We hear of Gruffudd returning to Wales, hoisting his sails to the wind and reaching Porth Abermenai; escaping from the Battle of Bron Yr Erw by taking ship at Abermenai; returning with a fleet of Irishmen and Vikings who disembarked at Abermenai; returning by sea, from a visit to Earl Robert at Rhuddlan, to Abermenai, receiving a messenger while waiting at Abermenai and, finally, conveying in his will, along with other property, the

association. With time it is plausible that the possible original name 'Bon-y-Dom' (bottom of the mound) became Bon y Don (Dom = bottom; Don = wave) and ultimately Moel y Don (Moel = bare hill; Don = wave) (Hogg, 1962, 56-8; Longley, 1991, 82-3; Evans, 1990, 24-55). In around 1540, John Leland noticed Porth Bon y Don but could also describe the same ferry as 'Moileeton (Moel y Don) a passage a little shot above Aber Poull. 'There lyith fery bootes to go ynto Terre Mone' (Tir Mon = Anglesey) (Toulmin Smith 1964, pt VI, 129; 83).

During the eighteenth century the Moel y Don boat was carrying fifteen men and ten horses at a time. The service continued into the twentieth century.

harbour of Abermenai. The harbour (porthladd) of Abermenai is mentioned twice. Porth Abermenai is referred to on one occasion only. Porth, in the strict sense of the word, means ferry but can be used to mean harbour. There is no certainty, then, that a ferry was in operation at Abermenai in the eleventh century, although given the location and its later history, it is probable that there was. The bequest by Gruffudd to Angharad was valuable because of the harbour dues which would accrue and, perhaps more importantly, the revenues from the ferry.

Abermenai ferry remained in the hands of the Welsh Princes and continued to be Crown property after the Conquest. The commote of Menai was initially granted to Eleanor of Castile, wife of Edward I, until her death in 1290 and to Isabella, wife of Edward II from 1309 to 1358. It is clear from Minister's accounts that the ferry was farmed by the Crown or by its grantees, although no accounts are available for the period when Isabella had the commote (Davies, 1942 77-79). Although still in Isabella's hands in 1352 an extent was made in comparable fashion to the extensive surveys of Crown lands in other North Wales commotes at that time. The Abermenai ferry is not recorded but, in the township of Rhosfair or Rhosyr, as distinct from the land of the burgesses of the new borough of Newborough, Ieuan ap Adda ap Tegwared, Madog ap William, David ap William and Madog ap Ieuan 'hold thereof one gafael called Gafael Porthwysion' for which they pay 12s.8d. per annum (Rec. Caern. 83). The gafael Porthwysion may be translated as 'the landholding of the ferrymen'. The tenants of the Gafael Porthwysion were, anciently, tenants of the Welsh Prince and the land they held was part of the demesne of the maerdref of Rhosyr. The term used in the 1352 extent to describe the tenure of the ferrymen is 'liberi nativi', confusingly, 'free bondmen' a relatively recent

distinction at the time to encourage tenants on to depopulated demesnes.

Although the burgesses of Newborough became the Crown farmers of the ferry of Abermenai, as, likewise, did the burgesses of Beaumaris, the ferry itself was some 4.7km distant from the town. The location of the gafael Porthwysion may be identified by a document of the early nineteenth century. In 1815 an Act for the Enclosure of some 2,300 acres of common and waste land in the former manor of Rhosfair was put in force across the parishes of Newborough and Llangainwen. At the very tip of Abermenai a small area of around fifteen acres, comprising the 'allotments of the King's Most Excellent Majesty' were reserved from within a sea of Parliamentary enclosures. It is within this reservation that the Ferry House once stood and where the Gafael Porthwysion lay.

Abermenai had a ferry house in the fifteenth century as, it would seem, did Porthaethwy. The Porthaethwy house cannot be precisely located. The Abermenai house, on the other hand, is mapped by Collins in the late seventeenth century, by William Morris in the early eighteenth century, by Evans in the late eighteenth century and appears on the Enclosure Award map of 1815. Collins shows a corresponding house at the tip of Morfa Dinlle, where Belan Fort was later built. Lewis Morris indicates two houses on each side of the channel. One of the two on the Anglesey side is described as Ferry house while one of the two on the mainland side is labelled 'Watch House'. There are three structures on the Enclosure Award map at Abermenai, one of which corresponds to the position in which a 'white powder magazine' stands on the OS 1:2500 map of 1889. The ferry ceased to operate officially in c.1849 and the ferry house is a ruin on an Admiralty chart of 1872. By the early twentieth century the ruin of the ferry house was distinguishable but barely so, 'a little to the northward of the Caernarfon Harbour Trust's powder magazine' (Davies, 1942, 314). The 'powder magazine' which now stands roofless has, however, blocked windows and openings. This structure almost certainly represents a survival of one of the ferry houses, converted after the demise of the ferry, into a gunpowder store.

The routes to and from the Abermenai ferry are indicative of longer and more ancient axes of communication than the present location suggests. The public carriage way of 10 yd. width, proposed by the Commissioner of the Enclosure Survey, beginning at the northern boundary of the parishes 'leading in a southerly direction over Newborough Common to the town or village of Newborough, thence in the same direction to another part of the

common and passing over the same to the Straits of Menai being the public road from Malltraeth to Aber Menai Ferry', was simply a redefinition of an existing and early route. Lewis Morris indicates the route on his manuscript drawings of the 1720s but not on the published version of 1748 (ARO ..., Morris 1748, 8). The route involves a journey of 1.5km across the tidal sands of Traeth Melynog to the high water mark of the Braint estuary. From there the track takes a direct route north-west for a further three kilometres to the centre of Newborough. The road continues in a north-westerly direction to the estuary of the Cefni and the sands of Malltraeth. The estuary was fordable here before the tidal marsh was drained and embanked (Jones, G.T., *The fords of Anglesey*, Bangor, 1992. 28ff). The present crossing of the estuary occurs at the village of Malltraeth. The more ancient route crossed 1.5km of sand and mud, a kilometre or so south of the present road to Aberhocwn on the west bank. From here the road led through Llangadwaladr and on to Aberffraw. The route is more clearly delineated on John Evans' map of 1795 where the tidal fords at both Traeth Melynog and Malltraeth are shown. The point of access to the Aberhocwn ford on the Newborough side is reflected in a footpath which leaves the present main road and leads towards the sands. On the Llangadwaladr side, the former principal routeway is now a little used lane which similarly, stops abruptly at the shoreline.

In Newborough the route shown by Lewis Morris and Evans passes through Newborough at the town's crossroads. This alignment of the road is a product of the layout of the new borough around AD1300. However, a short distance to the south-west of the town, there stood the royal llys of the commote, and adjacent church, on the highest point of the prominent ridge of Gallt Bedr. Midway between the llys and the new town two lanes or tracks branch out perpendicular to the road which connects the town and the llys. This crossroads of trackways to the south west of Newborough itself, may represent the original nucleus of the bond community of Rhosyr during the twelfth and thirteenth centuries. Both trackways extend, north-west and south-east respectively for some distance as if to pick up the line of the later road emanating from Newborough crossroads. In other words, these relict and possibly ancient trackways may represent the original route to the ferry from the twelfth/thirteenth century llys and on to the Malltraeth crossing and Aberffraw.

On the mainland side of the Abermenai channel, the route from the ferry crossing ran south down Morfa Dinlle towards Clynog and the Llyn peninsula or south-east into Eifionydd. In the later history of Abermenai ferry, boats plied a long route to

Caernarfon. In earlier times the traveller would land at Morfa Dinlle and cross the arm of the sea known as Foryd (Mor-rhyd = sea ford) at the estuary of the Gwyrfaï, travelling overland to enter Caernarfon from the south side. The location of the

Talyfoel

Although there are references to a ferry boat in Caernarfon during the late thirteenth and fourteenth centuries, it would seem that there was no regular passenger service there at that time, and the boat was mostly used for carrying materials associated with royal building works (Davies, 1942, 71-3). Attempts may have been made to establish a service out of Caernarfon but these remained unsuccessful until around 1426. The ferry became known as the passage of the Water of Seynt (that is, Seiont) or otherwise Talyfoel.

The Talyfoel ferry plied between the quay at Caernarfon and Talyfoel, almost directly opposite. It would seem logical that this ferry should become established but, in practice, there were difficulties which hampered the passage throughout most of its existence. The problems were principally to do with sand banks in the channel, some of which, notably Traeth Gwyllt, were quicksands. As late as the early nineteenth century it was necessary for passengers to disembark on adjacent sandbanks rather than at the ferry house when the water was low. On other occasions passengers were put off further up the Straits if suitable channels could be found (Davies, 1942, 196). Eventually, following attempts by other operators to set up, illegally, in competition, the landing point on the Anglesey side was moved to Y Foel, 1.3km to the north-east in 1850. Even so, the passage was not a direct one and in certain conditions of the tide a circuitous route had to be taken, for some distance up the Straits, to circumnavigate sandbars and find the channel.

A house still stands at Talyfoel. A blocked door and part of a wall of possible sixteenth or seventeenth

sea ford is identifiable by the surviving place name at two properties, Hen Foryd and Foryd Newydd, immediately south of the Gwyrfaï. John Evans' 1795 map shows a road from Caernarfon approaching the inlet at precisely this location.

century date has been incorporated into a field wall adjacent. The lower courses of piers or sea defences survive in front of the house on the shoreline. A short way along the shoreline stands the ruins of a structure, known as Ty Bach y Foel in the early nineteenth century, which provided some protection for ferry passengers who had been made to disembark at some distance from Tal y Foel itself because of the condition of the tide. At Y Foel, further north, the nineteenth- and early twentieth-century timber pier still stands, but derelict.

The landward route from Tal y Foel ran north-west towards Dwyran, Llangeinwen and Newborough. An alternative route a short distance north towards Llanfair y Cwmwd would reach the north-easterly road which for centuries provided communication between Rhosyr and Llanfaes and subsequently, their successors, Newborough and Beaumaris. From this road the traveller could take a north-westerly bearing, crossing Malltraeth some distance above Rhyd Aberhocwn, to Trefdraeth, Llanfaelog and on to Holyhead. The land behind Talyfoel was church and monastic land. Clynog held half of Dwyran, the Bishop of Bangor held the other half. Rhyddgaer and Gelliniog were in the holding of Aberconwy Abbey. Towards Dwyran lies the large property of Maes y Porth, a name which should imply some association with the ferry. The road from the nineteenth-century pier at Y Foel, although essentially serving local traffic, benefitted from significant road improvement in this area, connecting with routes through Dwyran towards Newborough and east and north-east towards Menai Bridge and the A5.

The Bridges

Telford's Suspension Bridge (1818-1826)

Porthaethwy had always been an important ferry. The poor state of roads in north west Wales had been an obstacle in an age of increasing use of wheeled vehicles during the eighteenth century. Significant improvements along the north Wales coast, particularly at Penmaenmawr, and also, later, through the mountains of Snowdonia, bringing traffic down the Ogwen valley, had meant that coaches were regularly arriving at the Menai Straits from the 1770s. The Coaching Inn, The George, at

the location now styled Bangor Ferry, was the focus of this traffic, providing for private vehicles and the Mail coaches, with stables on both sides of the Straits. The late eighteenth century and the early nineteenth century saw activity rise to record levels across the Porthaethwy ferries. But all was not well. In 1782 the 'Gentlemen of Anglesey' led by Holland Griffith of Garreglwyd, met at Gwyndy, a well known Inn on the turnpike road between Llangeinwen and Bodedern, to consider 'the several complaints of

imposition, delay and ill treatment experienced by the public at Porthaethwy Ferry'. The complaints included lack of maintenance of the boats, rendering them unsafe, and sharp practices on the part of the ferrymen. The complainants were unable to achieve any improvement in the ferry service and determined to seek an alternative remedy. Proposals for timber bridges, stone bridges, embankments with draw bridges for the passage of vessels were all put forward (Provis, 1828,3).

In 1800 the Act of Union of the Kingdoms of Great Britain and Ireland received royal assent and came into force on 1st January 1801. Fast communication between London and Dublin now became a pressing issue. Designs for bridging the Straits were submitted by Rennie (1802) and Telford (1811). A major consideration in the design was that no bridge should present any impediment to navigation. The Straits were used by a very considerable number of boats on a regular basis. It was estimated that around 800 vessels of between 16 and 100 tons burden used the passage, with occasional larger vessels, including, 'in one instance a sloop of war' (Provis, 1828, 2). In 1817, Telford, who was already working on an associated project, the engineering of the post-road from London to Holyhead, submitted an adventurous design for a bridge at Porthaethwy. The design was accepted. It involved a combination of topography and radical design to achieve its objectives. The site was one of the narrowest along the Straits. It was also a location where steep slopes on either side provided the opportunity for the bridge carriageway to be carried 100ft. above high water, suspended from chains strung across tall 'pyramids' at each end and anchored into the rock on both sides.

The bridge was opened to the public on 30 January 1826. The Porthaethwy ferries were rendered redundant and the owner, Miss Silence Williams was compensated. Silence Williams was a descendent of the two brothers John and Hugh Williams, who held an interest in the ferry from 1594, Coningsby Williams, who built the first ferry house on the Porthaethwy side in 1687 and which still stands, and Holland Williams, her uncle, who, in 1795, with great perspicience, bought out the Crown's interest in the

rents of the ferry, thirty-one years earlier (Davies, 1942, 242; 274-5) The sum in question was in the order of £26,000 being an estimate of thirty years loss of future revenue.

Building the suspension bridge was a massive undertaking. Telford and his resident engineer, William Provis, were at Porthaethwy in June and July 1818 and began to make arrangements for the work. The first tasks involved laying out and building workshops, and the construction of quays and piers. Good limestone was sourced, just beyond Penmon, with the intention of bringing the stone down the Straits on the tide. Cranes were set up on the quays and piers. The impact on Porthaethwy was enormous with initially around 200 men, increasing to 300 and then 400, at work on the bridge site and at the quarries by 1821. Five vessels brought stone to the quays.

Horse railways were established on both banks of the Straits. The stone, brought to the quays, was transferred to low railway wagons and carried by horse power up arcing inclines to the upper levels of the bridge. As the bridge rose, so did the railway. The stone was removed from the wagons using ropes, pulleys and shear legs.

A detailed plan of the construction site was made by William Provis and published in 1828. This shows the location of workshops on the Porthaethwy side; quays on both sides of the Straits and the position of cranes; horse railway inclines on both sides of the Straits and stables for the horses. Many of these elements are still recognisable landscape features.

The suspension bridge was built to carry the new turnpike road across the Straits. The new road cuts across earlier lines of communication in the immediate vicinity of the bridge, leaving the old track down to the ferry on the mainland side, redundant. On the Anglesey side, the bridge abutment cut across the earlier track which ran around, and just above, the shoreline of Porthaethwy, linking the ferries. This is the old road which runs immediately in front of the Cambria Inn. With the bridge in place, a diversion of this route, under the arch next to the bridge abutment, created the present Beach Road

Stephenson's Tubular Bridge (1846-1850)

The expansion of the rail network during the second quarter of the nineteenth century required that a good line of railway communication between London and Holyhead be established. A second bridge across the Straits was necessary and Robert Stephenson, son of the railway engineer George Stephenson, was commissioned to design a solution. Stephenson's design was as revolutionary

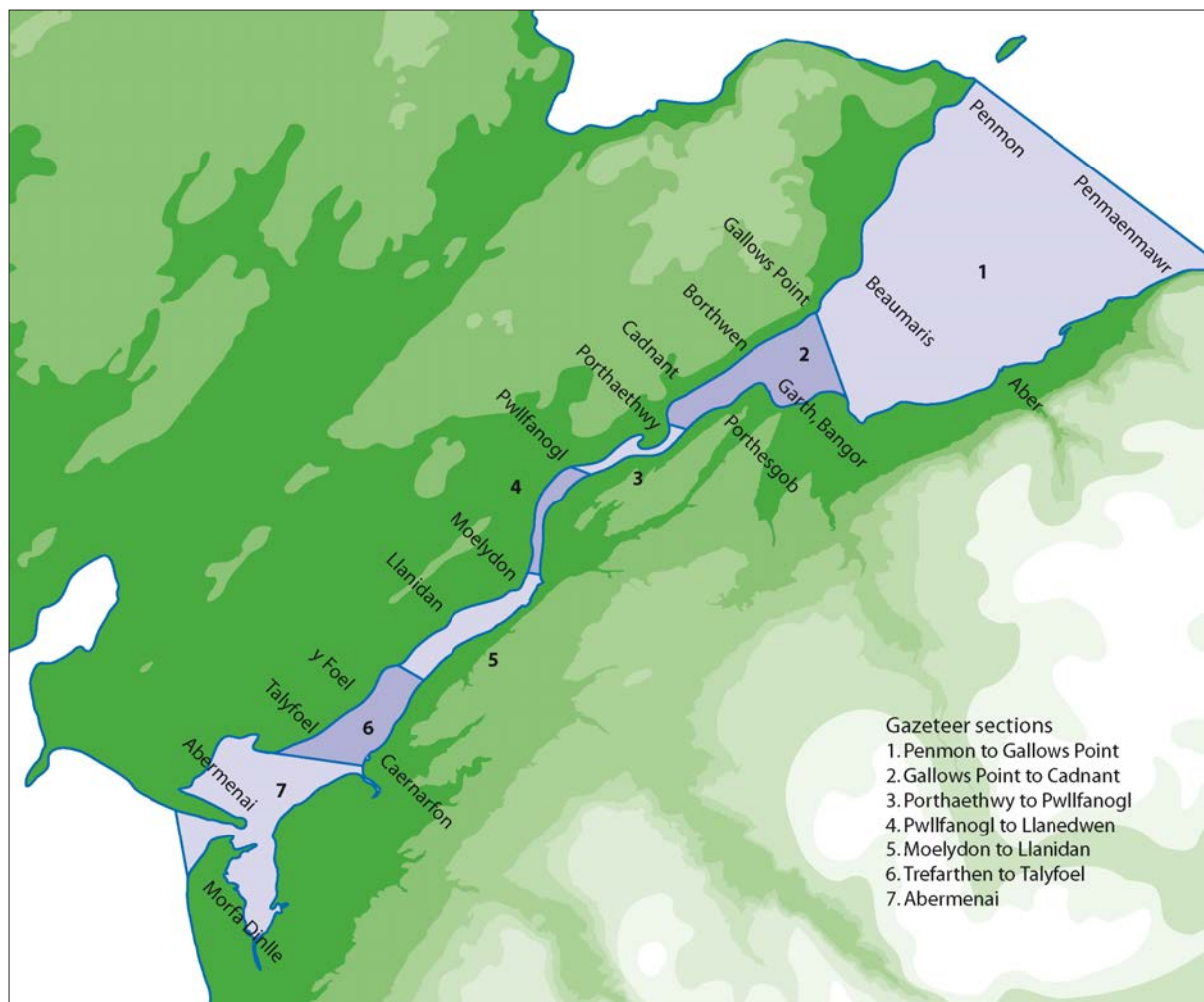
and imaginative as Telford's suspension bridge, a generation earlier. Stephenson's bridge comprised four spans of rivetted wrought-iron tubes, in pairs, supported by three free-standing piers and two piers on the shoreline at the end of masonry abutments. The rail lines were completely enclosed within the tubes. These properties of construction gave rigidity and strength.

The building of the bridge is well documented. There are several illustrations of the work in progress and there is, remarkably for the period (1849), a set of photographic images of the construction in progress. One thousand, five hundred men were employed in

the work. Extensive 'villages' for workmen and their families, comprising houses, shops and a school were laid out on both sides of the straits. Some elements of the temporary workshops and tracks survive in the area between Vaynol Park and the bridge.



The Britannia Bridge and discarded machinery



Gazetteer sections and principal ferry landings

Gazetteer of sites and features and recommendations

The following gazetteer provides a summary of sites and features recorded during the Cadw grant-aided Coastal Survey; the Cadw grant-aided assessment of coastal fish weirs and sites otherwise recorded on the regional Historic Environment Record relevant to those areas which fall within the subject area of this report.

Comments are made on the existing record, where appropriate, in the light of the present study and additional sites and features are identified with recommendations for further work.

The gazetteer is organised geographically to correspond, in general terms, with the principal areas of operation of the Menai Ferries. Catalogue numbers refer to previous project report numbers with the exception of new sites which are identified by the prefix 'Straits'.

Penmon to Gallows Point

571 Quarry? Fedw Fawr, Llangoed 260280 382140	624 Groynes, North of Beaumaris 260990 376780
594 Quarries, Penmon 263970 381070	625 Mussel Beds? and Wreck, N of Beaumaris 261100 376750
596 Flagstaff Quarry, Penmon 263550 380800	626 Boat Shed and Slipway, N of Beaumaris 260980 376680
607 Quarry and Buildings, Parciau Port 263000 380380	627 Mussel Beds? N of Beaumaris 261020 376600
611 Boathouse and Slipway, Lleiniog 262270 379350	628 Beaumaris Pier 260600 376000
613 Mound (possible motte), Llangoed 262100 379150	629 Beaumaris Castle 260730 376250
614 Hollow Way, Aberlleiniog 261810 379180	276 House 262030 372580
615 Motte and Bailey, Castell, Aberlleiniog 261630 379300	892 Fish Weir, Gorad Friars Bach, Beaumaris 261500 377700
621 Human Remains - Findspot, Near Beaumaris 261000 377600	1722 Fish Weir, Lleiniog 262500 379200
622 Jetty, Llanfaes 261200 377400	1723 Fish Weir, Tre Castell 262100 378600
623 Franciscan Friary - Site of, Llanfaes 260920 377340	1724 Fish Weir, Penmon Point 264100 380900

14605
Fish Weir, Lyme Kiln Weir
265600 374500

14606
Fish Weir, Ferryman Warth
261000 376300

14615
Fish Weir, Cored Lleiniog 3
262510 379300

4616
Fish Weir, Gallows Point
259200 375900

14620
Fish Weir, Cored Lavan
265600 374500

Ferry landings are at the Green, Beaumaris and Gallows Point, Beaumaris

Several limestone quarries are recorded along this stretch of the coastline (and round beyond Trwyn Du on the northern shore, but not included in this gazetteer). The quarries and associated lime kilns have an intimate relationship with coastal traffic and have been included in the catalogue for that reason. Similarly the several fish weirs which extend along this reach are not randomly sited. An important consideration, of course, would have been the known and regular patterns of the movement of fish. The erection of weirs, however, would have required a considerable outlay of resources and would, initially at least, have been generated by those in a position to control such resources. Similarly the operation of the ferries was, at the outset, in the hands of powerful men and it is not surprising that weirs and ferry landings frequently occur in close proximity to each other. The Friar's Bach weir, close to Llanfaes and two of the three Trecastell-Lleiniog weirs are scheduled.

The motte at Aberlleiniog is a very good example of a late eleventh century earthwork castle with historical associations. The small mound on the shoreline, at the estuary of the Lleiniog Creek has been considered to be a beach-head castle at the site of the Norman landfall in advance of the construction of the main earthwork, a very different category of 'crossing the Straits' to the majority of other sites listed. Aberlleiniog is scheduled but the small and possibly associated earthwork has no protection.

There are three documented weirs in the immediate vicinity of Beaumaris: 'Ferryman Warth', Lime Kiln Weir and Gallows Point. It was not possible to identify the precise location of the Lime Kiln Weir or the Gallows Point weir at the time of the coastal fish weir survey, although a plausible location for the 'Ferryman Warth' weir was suggested, underlying oyster beds just beyond the north end of the Green, Beaumaris. Some further light might be shed on this matter. The documents in question concern a lease on a weir near Gallows Point in 1451 (Carr 1982, 110, PRO.SC6/1154/2); a reference to building weirs or fishponds on Osmonde's Aire (that is, Gallows Point) and a fishhouse of 21sq ft, in 1590 (Baron Hill MS.

650); a lease to Thomas Norres of the farm of a fishery between the lime kiln and ferrymanwarth in 1438 and a lease of the farm of another fishery to Thomas Shirweyn between Thomas Norres' fishery and the house of the Friars Minor of Llanfaes in 1448 (Davies, 1942, 108; PRO SC 1153/5; 1153/6). Greenville Collins mapped weirs at the Green, Beaumaris, and on the west side of Gallows Point in the late seventeenth century. Lewis Morris also mapped a weir at The Green in the 1720s. His map shows a single house on the Green, between the castle and the sea and close to the shoreline. This is in the position of the 'Watch House' shown on Speed's map of 1610 and identified as such on a map of 1829 on the Llanfaes side of the parish boundary. A house on the northern tip of Morfa Dinlle, and associated with the Abermenai Ferry, was also called the 'Watch House'. It is probable, as discussed earlier, that the 'Green' is the location of Ferrymanwarth and by extension the original location of the Llanfaes (and, later, Beaumaris) ferry and that the weir mapped by Collins and Morris is at the location of Thomas Shirweyn's 1448 fishery.

Collins' map indicates the location of the Gallows Point weir on its south-western side, close to the Point. At low tide, a linear arrangement of largish stone takes a line perpendicular to the shore in this position. Collins' map also shows a small roofed building close to the landward end of the weir at the tip of the point. Further irregular lines of large stones run generally parallel with the shoreline close to the low water mark at the tip of the Point. These latter may be the remnants of protection against the sea during the late eighteenth and early nineteenth century, to prevent encroachment and to make the landing place safer (Davies, 1942, 236).

An estate survey of the 1770s locates the position of what is probably the ferry house at Gallows point after the relocation of the Beaumaris ferry to Gallows Point at the end of the seventeenth century. The house is now destroyed but the site, on the west side of the Beaumaris to Menai Bridge road has not been developed.

Additional sites and/or additional recommendations

613. *Small mound, Aberlleiniog.*

Category E: further assessment required

Recommendation: further field assessment of this mound and its potential for detailed recording.

Straits 1. *Beaumaris Green.*

Category B: Regional significance, as probable location of the Llanfaes/Beaumaris ferry

Recommendation: archaeological assessment and programme of archaeological recording as appropriate in advance of any proposed development

Straits 2. *Gallows Point Weir.*

Category C: Local importance and badly damaged

Recommendation: if development should take place then attempts should be made to establish a surveyed and photographic record of an important component of the local Medieval economy

Straits 3. *Gallows Point Ferry House.*

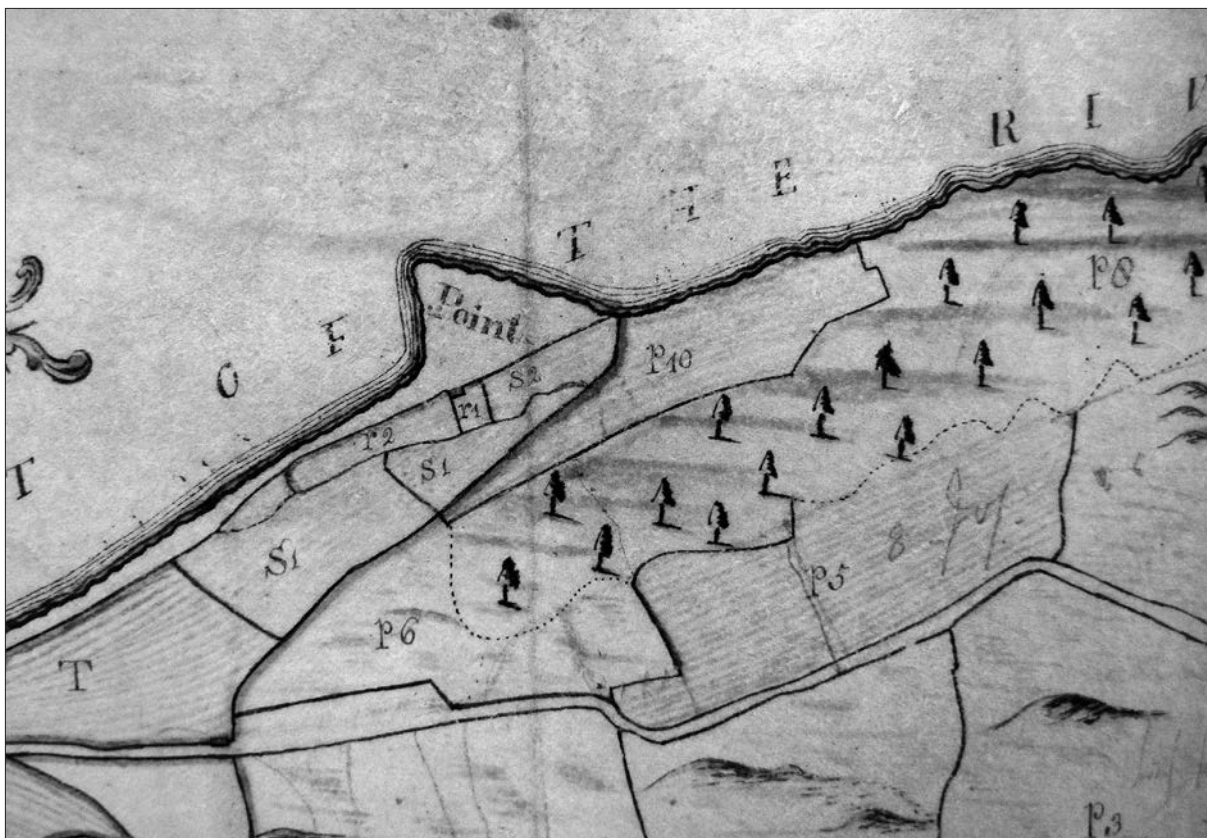
Category D: badly damaged.

Recommendation: archaeological assessment and programme of archaeological recording as appropriate in advance of any proposed development

Straits 4. *Gallows Point sea defences.*

Category C: Local importance and badly damaged.

Recommendation: photographic record and survey to fix location



Baron Hill estate survey, late 18th century, Gallows Point, showing possible ferry house

Gallows Point, 2006





The Green, Beaumaris

The Green, Beaumaris 1829, showing parish boundary and Watch House



Gallows Point to Cadnant

640
Boathouse. Coed Parc
258980 374680

641
Linear Feature (Landing Stage?).
257970 373970

644
Causeway?, Ynys Y Big
256420 372860

646
Platform. Pont Cadnant
256080 372880

269
Quay
256820 372370

270
Quarry
256860 372320

274
Sea-bath house

260530 373100

1719
Fish Weir, Bangor Pier
258400 373500

1725
Fish Weir, Gorad Y Gyt
257340 372670

5466
Fish Weir, Ogwen
260000 373000

7214
Fish Weir, Cadnant
256260 372750

14621
Fish Weir, Cored Cegin
259730 372900

Ferry landings are at Gallows Point (from Garth, Bangor), Borthwen, Porth Philip Ddu and Cadnant; and on the mainland at Garth and Gorad y Git.

Again, fisheries are well in evidence along this stretch of the Straits. There are large spectacular examples at the Ogwen Weir and the damaged Cegin Weir. Weirs are also recorded at the ferry landings at Gallows Point, Borthwen, Cadnant, Gorad y Git and, possibly, Garth Point.

The 'Borthwen Ferry House Weir' was noted in the Coastal Fish Weir Survey but the location was not identified. However, an estate survey of lands in Llandegfan in 1815 shows the sandy promontory immediately opposite Garth Point, Bangor, as Borth, with a house on the shoreline and a road leading down to it from Lord Viscount Bulkeley's new Porthaethwy to Beaumaris road. The property immediately behind is Borthwen Bach. The promontory itself has a weir marked on the western side, in a very similar position to the arrangement at Gallows Point. There is no doubt that this is one of the ancient landings of the Bishop of Bangor's Porthesgob ferry, plying the Garth to Borthwen route. There appears to be no pier at Borthwen at this date and the commentary of Hyde Hall comes to mind in respect of the Garth side: 'the ferry is very rough, very inconvenient, very much in need of causeways, and altogether destitute of shelter' (Hyde Hall, 1810, 150, pub. 1952).

In the 1830s a high water stone pier was built at Garth by the Bishop, and the pier at Borthwen may date from the same period. In the early nineteenth century a long causeway was built to the low tide mark on the Garth side but this was superseded by a timber extension to the stone pier. The two stone piers and the low water causeway are important components in the later history of the Garth-Borthwen ferry. The ferry house is now the Gazelle Hotel.

The main landing for the Bishop's Porthesgob ferry was at Gorad y Git. The route can still be traced over the ridge of Garth and on to the shore at Nant Porth where a well-defined valley, following the same geological trend that shaped the Adda valley, carries a stream, obliquely, to the Straits at Gorad y Git. The weir and later oyster beds at Gorad y Git have been surveyed by Hopewell at the time of water pipe-work operations there in 1996. The lane down to the shore has been little modified over the years and is in private hands. A private house now occupies what must have been the site of the ferry house if there was one here. Large blocks of stone and the foundations of a platform of wharf underlie the present house.

Additional sites and/or additional recommendations

Straits 5. *Borthwen Ferry House, pier and weir*

Category B: Regional importance

Recommendation: Measured survey and photographic record of the pier. There are indications, at low tide that elements of the Borthwen Weir survive, extending, at the landward end, from a point close to the Borthwen pier. This needs to be checked, with a recommendation for measured survey and photographic record if feasible.

Straits 6. *Garth stone pier and causeway*

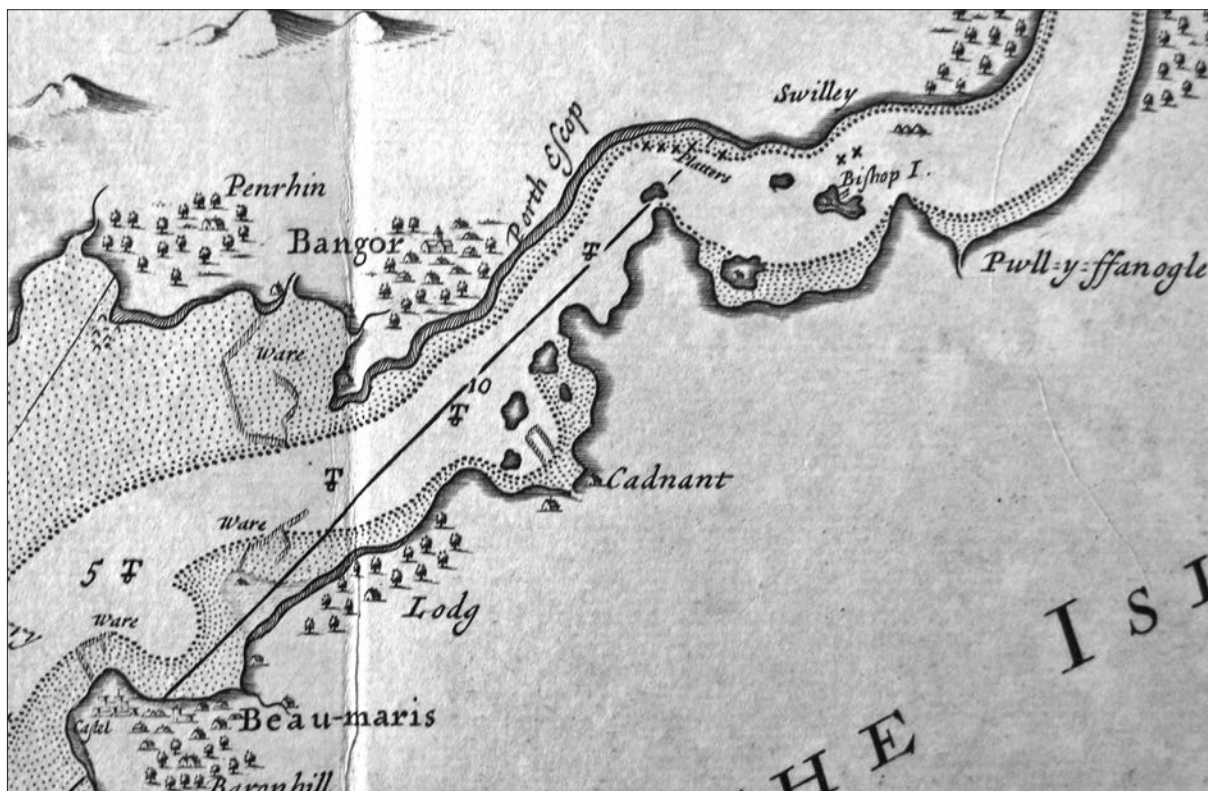
Category B: Regional importance

Recommendation: Measured survey and photographic record of the pier and causeway.

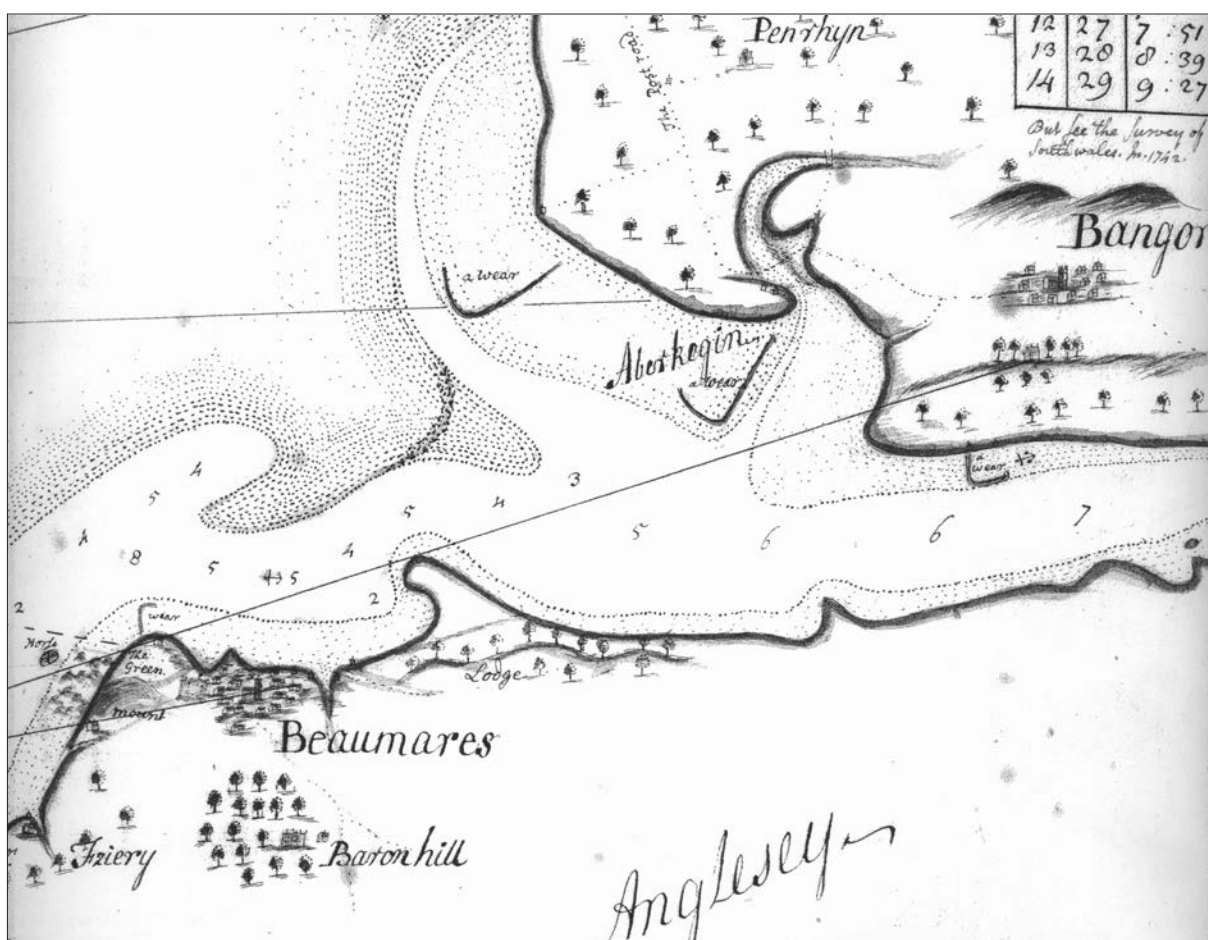
Straits 7. *Site of Porthesgob Ferry*

Category B: Regional importance

Recommendation: Assessment of the potential for surviving footings of a ferry house or wharf at the landward edge of Gorad y Git.



The approach to the Menai Straits from the north. Collins' map of the late 18th century identifies Porth Esgob on the Straits side of Garth Point. Lewis Morris identifies the fish weir, still known as Gorad y Git.





The north side of Garth Point from the air, showing the modern pier, and to the left, the early 19th century causeway. The fish weir and later oyster beds of Gorad y Git are clearly visible at low tide. The house on the shoreline is almost certainly a successor to an original ferry house here.



*The Garth causeway with Borthwen (the Gazelle) on the opposite shore.
The Bishop's 1830s high water pier*





The Borthwen pier on the Anglesey side



Porthaethwy to Pwllfanogl

647
Quay, Menai Bridge
255840 371850

648
Warehouse
255780 371880

650
Warehouse [foundry]
255780 371680

651
Quay, Menai Suspension Bridge
255650 371550

652
Menai Suspension Bridge
255650 371430

654
Building Terraces, Menai Bridge
255500 371520

655
Limekiln, Menai Bridge
255450 371550

659
St Tysilio's Church, Menai Bridge
255120371680

660
Dam?, Church Island Menai Bridge [tide mill dam]
255110 371840

661
Dam?, Church Island Menai Bridge [probable fish weir]
255050 371760

666
Fish Holding Pool?, Gorad Ddu
254450 371510

668
Fish Trap, Coed Mor
254270 371310

669
Two Posts (Part of Fish Trap?)
254220 371320

670
Low Stone Wall, S of Coed Mor
254260 371230

671
Ruined building?, S of Coed Mor
254210 371240

673
Winch. Coed Mor
254490 371180

674
Boathouse? Coed Mor
254110 371180

699
Tidal Mill (Site of), Church Island
255100 371840

701
Britannia Tubular Bridge
254160 371000

268
Industrial complex
255300 371170

285
Ferry quay
256090 371620

2757
Fish Weir, North Weir and Smoke Tower, Ynys Gorad Goch
254500 371300

7219
Fish Weir, Cored Ddu, Llanfairpwllgwyngyll
254640 371590

7221
Fish Weir, Coed Mor
254270 371310

14617
Fish Weir, beneath Gorad Ddu
254640 371590

7217
Dam, Church Island Menai Bridge
255110 371840

7222
Dam, south of Coed Mor
254190 371240

264
Quay
253920 370810

265

rectangular hut settlement [associated with construction of Britannia Bridge]
253620 370630

266

Trackway [associated with construction of Britannia Bridge]
253890 370780

267

rectangular hut settlement [associated with construction of Britannia Bridge]
254000 370800

Ferry landings are at Porthaethwy (below the Cambria), Carreg yr Halen, Treborth Mill, Porthaethwy (below Gorphwysfa), The George, Porth y Wrach

Again fisheries are in evidence in Porthaethwy waters. There is a concentration of weirs in the areas between and just beyond the two present bridges, from Britannia rock in the west to Ynys Tysilio in the east. Most of these are recorded on the Historic Environment Record but there are additional points to make. There is also, in this area, the ruins of a tide mill. The Gorad Ddu complex of weirs was surveyed as further work arising out of the Cadw grant-aided Coastal Survey. Ynys Gorad Goch weir was included in the Coastal Fish Weirs Survey as was a fishery on the site of the tidal mill. The weir on Ynys Gorad Goch is difficult of access and was not visited during the survey, however, it is known to have been in use since the sixteenth century. The weir at the site of the tide mill and the tide mill itself were also in use in the sixteenth century. An element of ambiguity remained, however, with regard to the relationship of the mill to the weir. Some further information can be brought to bear on this argument.

Ynys Tysilio, on which St. Tysilio's Church stands, lies towards the north eastern corner of an embayment in the northern coastline of the Straits, immediately to the west of the headland of Cerrig y Borth. A causeway from the headland provides access to the church. A second wall from the island runs north. This is the mill dam, built around 1589. Seventy metres to the west there is a second wall, or rubble bank, with a dog-leg kink, in a significantly more dilapidated condition.

In 1593 Sergeant Hugh Lloyd, farmer of the royal ferries in the Straits, petitioned against the mill having been built, on the grounds that it was reducing the Queen's revenue by obviating the

need for Anglesey farmers to ferry their corn to the mainland in dry times and, more pertinently, that the builders of the mill had intruded without warrant or title. There was a fishery at Porthaethwy in 1545 called 'le Borthan' (Davies, 1942, 137) but within twenty years it was in decay. If the mill builders had encroached upon the defunct fishery then Hugh Lloyd would have had a point. However, Sergeant Lloyd lost his case as the land 'with the two water wheels under one roof, called Melyne Hely, ... in a certain place called Traithe Tessilio, between the tenement called Tythyn y Cae and the Church of Tessilio ... and all that weir and fishery of ours within limits and circuits between flow and ebb of the sea, in the township or hard by the township of Dindaythwey', had already been granted by the queen as to concealed lands (Davies, 1942, 137). Tyddyn y Cae is identifiable on the northern shore opposite the church in a map drawn in 1815. The millpool is clearly identifiable as such as 'pool damm'd up for a Tide Mill' on William Provis' map of around 1820. Lewis Morris, on a manuscript map of the 1720s would appear to indicate the position of the mill house over the sluice of the mill dam. The chronological sequence would then appear to be that the fishery 'le Borthan' preceded the mill and that the two were not in operation contemporaneously.

There is a further weir, not included in the Coastal Survey or the Fish Weir Survey, on the mainland side to the west of the Britannia Bridge called Treborth Weir which was identified for removal in a survey undertaken in 1847, as an impediment to navigation. It is mapped in that survey (Beechy 1850).

Additional sites and/or additional recommendations

660, 661, 699. *Traeth Tysilio Tide mill and fish weir*

Category B; Regional importance

Recommendation: measured survey of the mill dam and the probable weir and photographic record.

Straits 8. *Treborth Weir*

Category D; Local importance, very probably badly damaged or destroyed, site only.

Several features relating to the infrastructure of the ferries have survived or may be located. These have been described above. They include:

Straits 9. *Stone pier or wharf on the shoreline below the Cambria*

Category B: Regional importance

Recommendation: This feature contributes and acquires enhanced significance and group value by association with other features representative of the operation of the ferries. The recommendation is for detailed recording by measured survey and photography.

Straits 10. *Site of Ferryman's cottages, Carreg yr Halen*

Category C: Local importance

Recommendation: archaeological assessment and programme of archaeological recording as appropriate in advance of any proposed development

Straits 11. *Porth y Wrach*

Category B: Regional importance

Recommendation: This feature contributes and acquires enhanced significance and group value by association with other features representative of the operation of the ferries, and in particular the site of the coaching stables immediately adjacent and the George Hotel directly across the Straits. The recommendation is for archaeological assessment and programme of archaeological recording as appropriate in advance of any proposed development

Straits 12. *Treborth Mill*

Category E: further assessment required

Recommendation: Further work would be necessary to establish whether any features survive pertaining to the old mill (Hen Felin in early nineteenth century) and to the operation of the ferry at this site. Archaeological assessment and programme of archaeological recording as appropriate in advance of any proposed development.

Straits 13. *George Hotel and features within its curtilage*

Category B: Regional importance

The hotel building is listed Grade II. Features within the extensive curtilage appear not to be included within the listing description. Features which were present and of which many still survive include the curving carriage way to the Straits foreshore; the covered, stepped pedestrian walk from the hotel lawn; the hotel sea walls emblazoned with the hotel's name; elements of the ferry quay on the foreshore. These features contribute and acquire enhanced significance and group value by association with other features representative of the operation of the ferries including the slipway on the opposite shore and the coaching stables adjacent to Porth y Wrach. The recommendation is for measured survey and photographic record and assessment of the extent to which surviving features are at risk from neglect or decay.

Several features relate to the construction of the Menai Suspension Bridge. These have been described above and include:

Straits 14. *the inclined terraced route of the horse railway on the mainland side,*

Straits 15. *the location of the stables,*

647. *the quay on the east, mainland side of the Suspension bridge,*

Straits 16. *the sea wall at the base of the Straits bank on the mainland side,*

Straits 17. *quays on Ynys y Moch, the furthest pier on the island side, and on the island, east of the suspension bridge,*

654. *the terraced platforms where the workshops stood on the island side, west of the suspension bridge and through which the horse railway, on this side, ran,*

655. *the lime kiln west of the suspension bridge near to the Carreg yr Halen quay.*

The construction phase of Stephenson's tubular bridge is well documented and illustrated by lithographs and, exceptionally, photographs. Certain features relating to the construction have survived. These include, for example, the platforms of a limited number of workmen's housing and a winch mechanism on the northern shoreline (265, 266, 267).

Features relating to the construction of the Menai Suspension Bridge

Category B: Regional importance

Recommendation: Measured survey and photographic record of these features which acquire enhanced significance and group value together and by association with the suspension bridge and the documentary record published by W. A. Provis in 1828. These infrastructural features are integral to, and illustrative of, the understanding of the way in which the work programme progressed

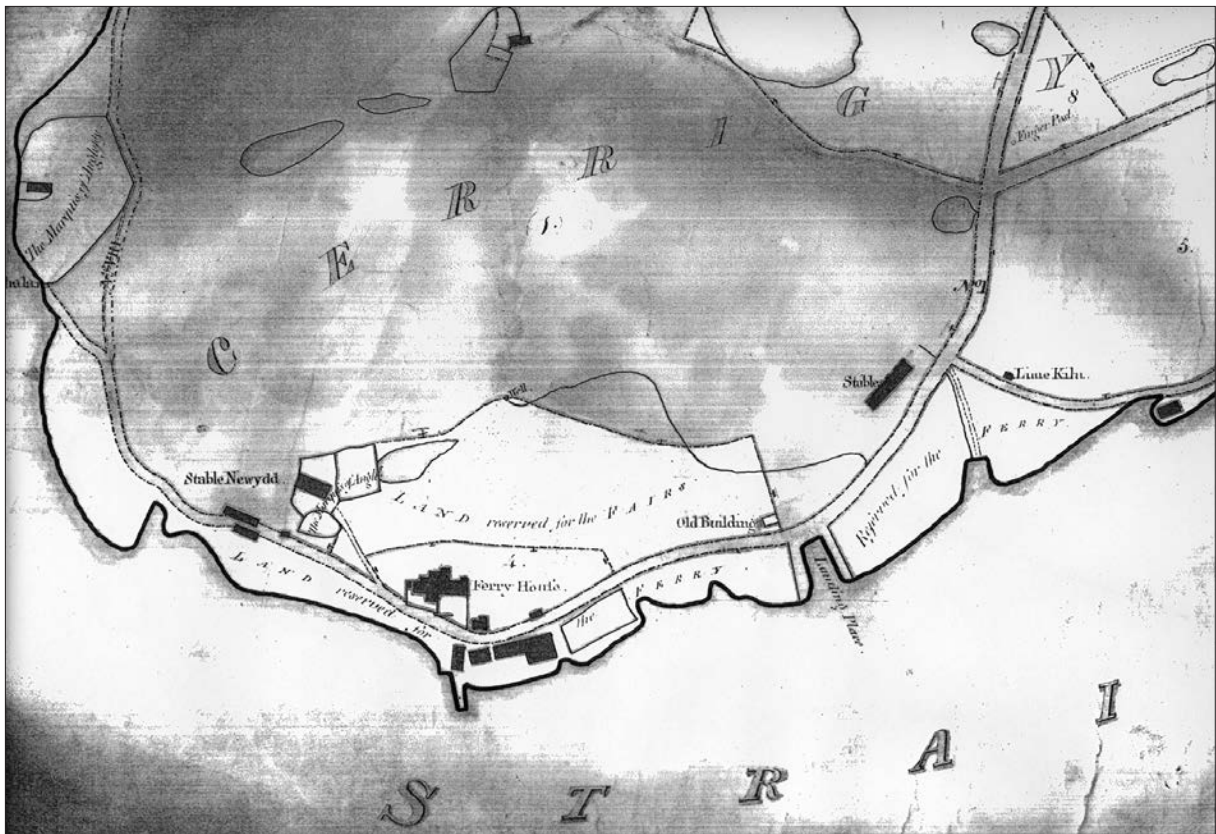
Infrastructural features of the Tubular Bridge

Category B: Regional importance

Recommendation: Record by measured survey and photograph. In addition it is proposed that an assessment should be made of feasibility of reconstructing the geography and layout of the extensive work camps from the documentary evidence in order to target fieldwork towards the identification and interpretation of further surviving features.

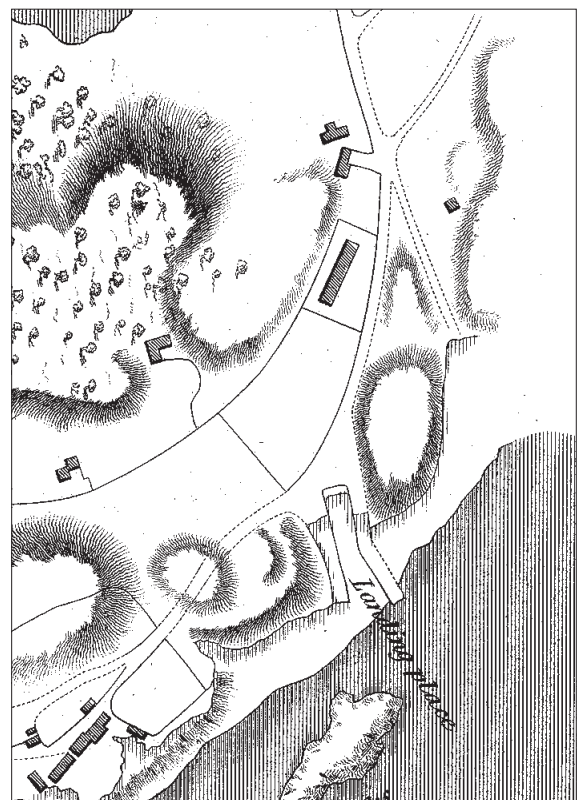
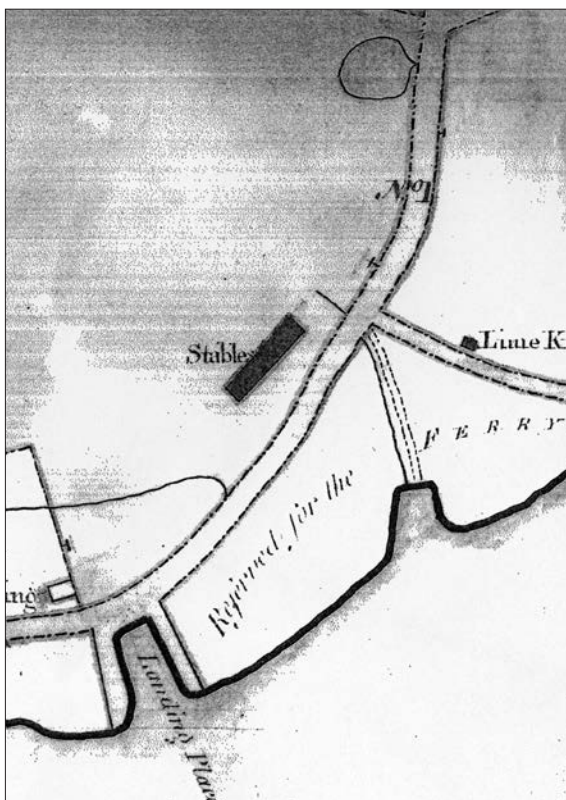


Tide Mill, Porthaethwy



The Porthaethwy waterfront in 1815. The 'Ferry House' is the Cambria; the 'George' coaching stables are to the right, near the lime kiln; the cottages and enclosure to the far left are the ferrymen's cottages associated with the Carreg yr Halen route.

Two views of the Mr Jackson's 'George' coaching stable and the Porth y Wrach slipway. 1815 enclosure survey, left; c. 1820, WA Provis, right.

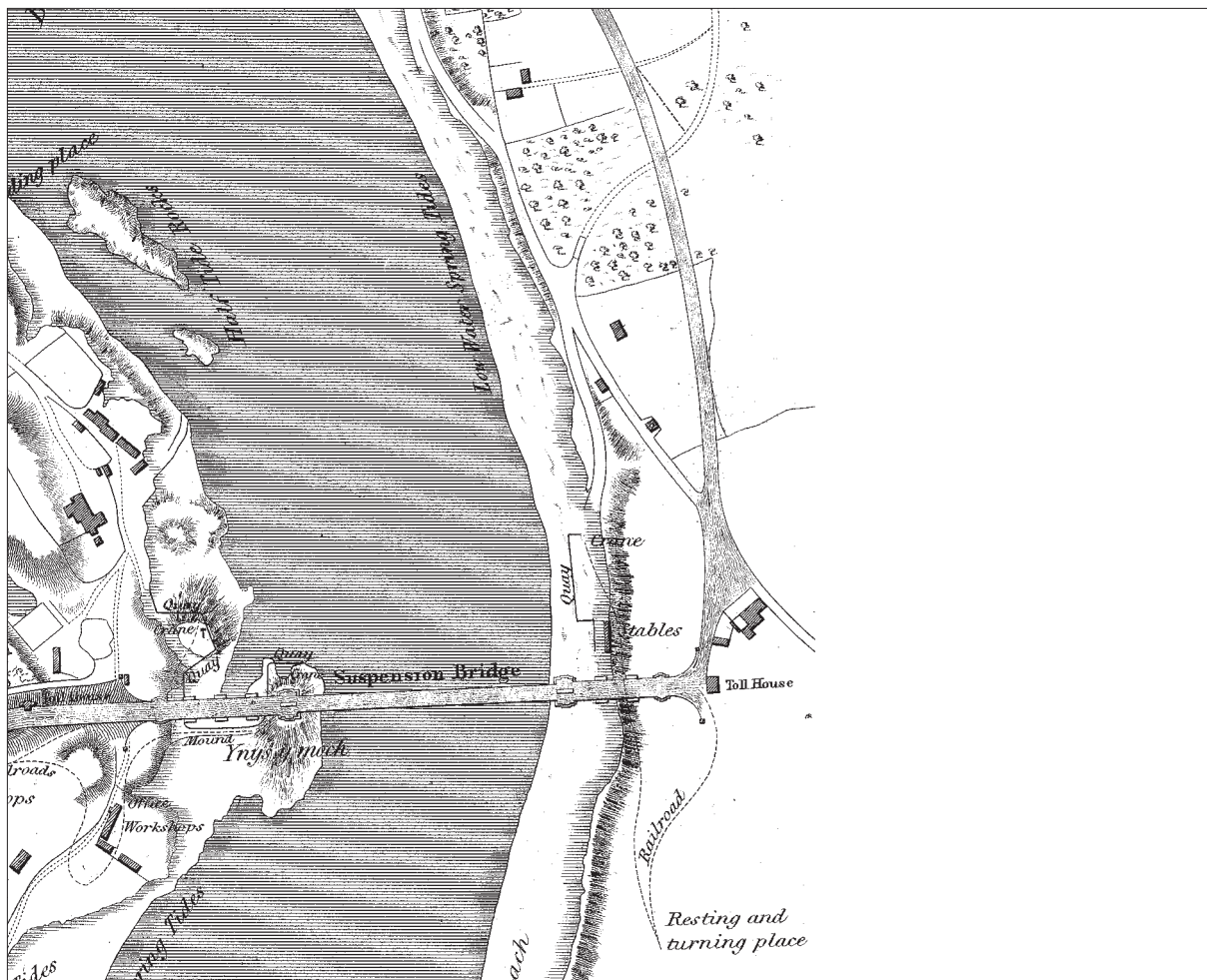




The carriage drive to the shoreline at The George Hotel.

The Porth y Wrach slipway with the George on the opposite shore.





The workcamps, quays, cranes and railways in place during construction of the bridge (William Provis c. 1820); The mainland shore immediately north of the bridge, where the quay and horse stables stood.

The track leading northward down the slope and doubling back to the shore was the road to the main Porthaethwy ferry

Pwllfanogl to Llanedwen

675

Stone Feature, SW of Britannia C
253850 371090

676

Ruined Building?, Llanfairpwllgwyngyll
253710 371090

677

Nelson's Statue, Llanfairpwll
253640 371030

678

Ruined Building and Wall, Nautical Training College
253480 371070

681

Pwll Fanog Shipwreck, Menai Straits
253000 350000

682

Stone Pier, Pwll-Fanogl
253040 370930

683

Blocked Gateway, SW of Plas Llanfair
253070 370980

684

Water.Mil - Pwll Fanogl
253010 370980

686

Slate? Quay, Pwll Fanogl
253020 370840

689

Dock. Plas Newydd
252120 369400

693

Limestone Quarry, Llwyn Chwarel
252040 368500

694

Remains of Structure, Llwyn Chwarel
252080 368360

261

Limekiln
252630 368340

262

anchorages [Vaynol Park]
253300 370450

263

Sea-wall
253830 370780

The archaeology of this reach of the Straits is dominated by the landscape features and buildings of two great landed estates, Plas Newydd on Anglesey and Vaynol on the mainland. The operation of the Crown ferries in these waters is not documented although, in the nineteenth century Moelydon claimed a right to operate as far as Pwllfanogl. In their later history, both estates maintained docks and there are several features of estate management which rely on or benefit from the use of the Straits

A small rectangular dock and square boat house was built on the Vaynol shore of the Menai Strait between 1840 and 1855 (Cadw: Welsh Historic Monuments 1998). The dock allowed supplies to be brought to the estate, particularly coal. The Vaynol dock is directly opposite Plas Newydd's dock and the Straits also offered a direct means of communication between the two families which, on one occasion, led to marriage when Sir Michael Duff married Lady Caroline Paget in 1949.

A substantial (4.5m by 5m), early 19th century, limekiln stands in Limekiln Covert immediately to the west of Bryn Adda and 130m from the Vaynol estate wall and the shoreline of the Menai Straits. It is approached by a track which ramps up to the top of the kiln from the west, providing access to the hopper, and from the north-east by 90m of tramway, built in 1872 (Snow, 1993). A well-made canal, stone-revetted at its seaward end, provides access from the Straits as far as the kiln. There are several stone quarries (limestone) in the immediate vicinity, particularly to the north of the canal with which the tramway connects. The canal would have facilitated the export of building stone from the quarries, communicating by barge with boats moored in the Straits. Slaked lime was sold to local tenant farmers.

Nineteenth century bathing places were established at several locations up and down the Straits - at Bangor and Menai Bridge, for example. An early private facility was created on the Vaynol estate at the picturesque Bath cottage. It is first shown on an

estate survey of 1832 but may have been planned earlier as there is a faintly sketched indication of a structure in this location added to an estate survey of 1777. The cottage would seem to have been devised

as a recreational bathing facility with a tidal bathing area beyond the estate wall, some 13m distant, on the shoreline

Additional sites and/or additional recommendations

Vaynol 60. *Limekiln*

Category A (group value with 61 and 62)

252660 368370

Vaynol 61. *Canal*

Category A (group value with 60 and 62)

252560 368380

Vaynol 62. *Tramway*

Category A (group value with 60 and 61)

252700 368300

Vaynol 71. *Bath Cottage and tidal bathing area*

Category B

253395 370400

Vaynol 48. *Dock at NW edge of Vaynol Park (including the boathouse)*

Category B

252550 369470

Boathouse, Vaynol



Moel y Don to Llanidan

2 Stone Jetty/Slipway 251340 367560	10 Gated Trackway, Hedsor Idan 250120 367040
3 Castell-Gwylan [?site of store house] 251150 367390	11 Terraced Trackway, Hedsor Idan 250010 366990
4 Trackway, Castell-Gwylan [quarry tramway] 251000 367320	12 Boathouse. Llanidan 249890 366790
5 Possible fish trap, Castell Gwylan 250930 367150	15 Jetty, Llanidan 249640 366580
6 Possible fish trap, Castell Gwylan 250850 367130	696 'The Old Cutter'. Moel Y Don Ferry House 251760 367900
7 Stone Jetty and Groynes 250750 367230	697 Wreck, Moel Y Don 251850 367850
8 Possible fish trap. Castell Gwylan 251700 367210	282 Oyster bed 250010 365900
9 Jetty, Castell Gwylan 250350 367160	438 Promontory fort 251900 367100

Ferry landings are below Llanidan Church (possibly) and Llanfair Isgaer Church (possibly), Moel y Don and Felinheli.

Transporting goods and commodities by water up and down the channel as well as across the channel is a recurring feature on the Menai Straits. There is clear evidence of storehouses accessed by tracks along the Llanidan reach and, as near Penmon, particularly, and in a more limited way on the Vaynol estate, the quarrying and movement of limestone. A particularly interesting feature, immediately south of Porthamel, is a stone-built pier, close to high water, which connects via a tramway to a stone quarry immediately to the south east of Porthamel House. The 'stone pier'(7) is recorded as part of the Coastal

Survey and the tramway as 'track' (4). An estate survey of the 1770s does not show the tramway but does indicate pencilled lines where new tracks were being created across the estate, including a road which was to form part of the tramway route. The tramway was in place by the early nineteenth century.

An otherwise unrecorded weir is mapped by Lewis Morris in the 1720s on the mainland shore between Plas Llanfair and Dinas, Felinheli.

Additional sites and/or additional recommendations

The Ferry Inn, 'the Old Cutter', stands at the neck of the Moel y Don promontory. It is Grade II listed building, dating from 1717. The slipway is in current use. It has a modern appearance, commensurate with the continued use of the ferry well into the twentieth century. There is the wreck of a wooden boat lying in mud on the eastern side of the promontory about 70m south of the Ferry Inn. The hulk is the 'Seven Sisters' a former ferry boat on this passage.

Straits 18. *Fish Weir*

Category C: Local importance, site only

697. *Wreck Moely Don*

Category E: Further investigation

Recommendation: Further investigation to establish the date of the ferry boat and the potential or feasibility of making a more detail record. At risk from decay.

7. *Stone pier* and 4. *Tramway*

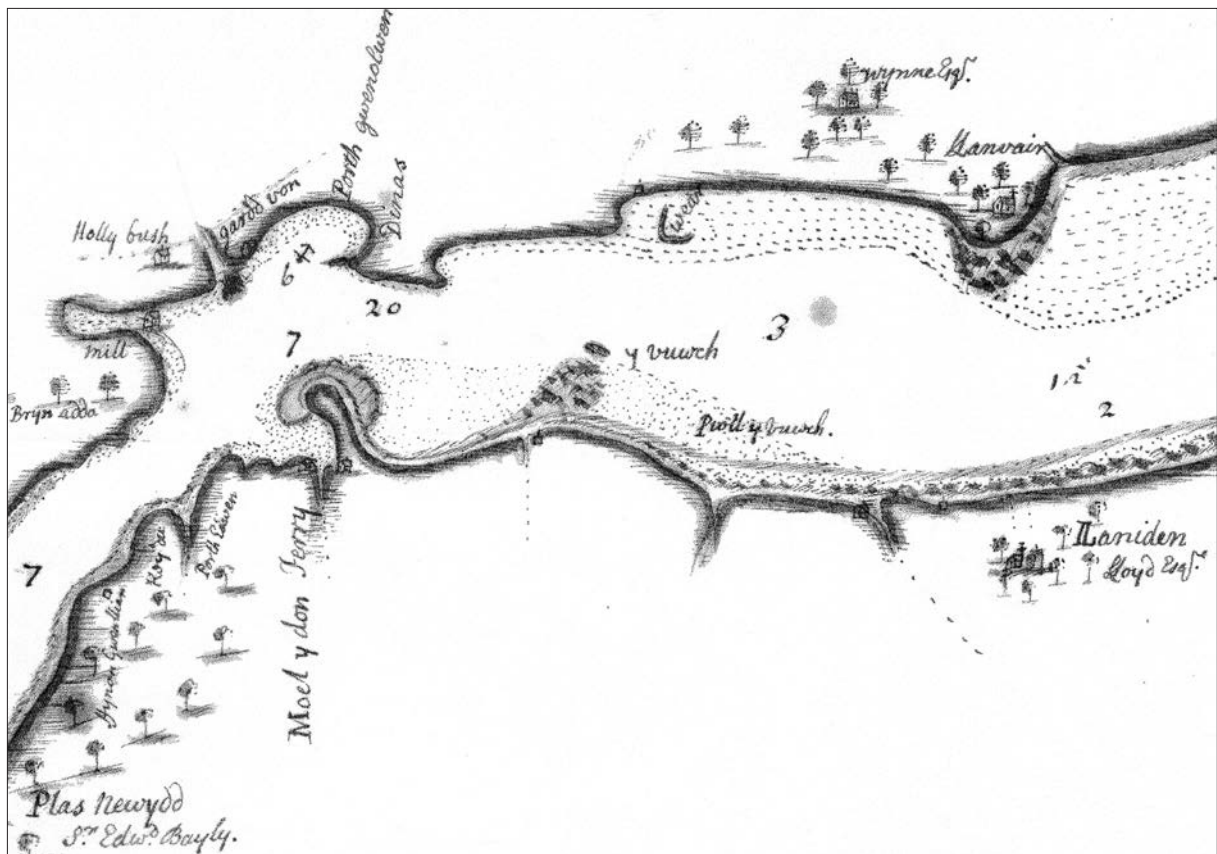
Category B: Regional importance;

Recommendation: The early tramway and associated pier, stone quarry and lime kiln (marked on 1889 OS 1:2500) deserves to be upgraded from the local importance/undetermined rating given by the Coastal Survey, as an example of the industrial component of estate management. The features acquires added significance and group value when considered together and by association with comparable features (such as the quarry, lime kiln, tramway and canal built by the Vaynol Estate) utilising the Straits as a means of transportation. Measured survey and photographic record.



The 'Seven Sisters' ferry boat and 'The Old Cutter' (1717) ferry Inn at Moelydon





Lewis Morris' 1720s manuscript map of the Llanidan reach, showing Moelydon, the Ferry Inn, and tracks to the shoreline below Llanidan and on the opposite shore at Llanfairisgaer.

The ?early 19th century stone pier at the shoreline end of a quarry tramway below Porthamel, looking towards Talyfoel



Trefarthen to Talyfoel

254
Quay
248930 364650

255
Ferry house
248980 364640

256
Trackway
249000 364700

257
Store building?
249150 365020

258
Store building?
249270 365140

22
Oyster Bed? Trefarthen
248700 365750

23
Boathouse. Trefarthen
248630 365790

24
Lime Kiln, Trefarthen
248640 365740

25
Fish Trap?, Trefarthen
248300 365550

27
Walls, Yr Unicorn
248100 365400

30
Jetty. Foel
247720 364730

31
Slipway. Foel
247010 364180

34
Boathouse, Plas Y Borth
246420 363840

Ferry landings at Caernarfon, Talyfoel (now Plas y Borth) and Y Foel.

Boat houses, slipways, oyster beds and stone buildings are all recorded in the Coastal Survey report. A possible fish trap (25) is less certain.

A possible ferry house is recorded near Plas Brereton on the mainland shore (255). This house is not to be linked with the Tal y Foel ferry but is most likely to be associated with the intrusion of an illegal service plying from Cae Pysgodlyn to Barras on the Anglesey side in the early 19th century (TM Hughes, *The Ferries to Anglesey*, undated, Caernarfon, 6). The boathouse at Plas y Borth is identified in the Coastal Survey (34). The house at Plas y Borth and an adjacent wall and doorway of possible seventeenth century date, not included in the survey, should be recognised as the site of the original landing of the Talyfoel ferry on the Anglesey side. The house was once an inn, carrying the name Talyfoel. Elements of a stone pier or shore defence are visible in the shingle shoreline adjacent to the house.

The modern Ordnance Survey 1:50,000 map omits the name Talyfoel altogether, although the 1:25,000 map marks 'Talyfoel pier' at the Mermaid Inn, 1.3km to the north east. This location is 'Y Foel' and the

re-sited landing for the ferry after 1850. The timber landing stage stands a further 300m to the north-east.

The Coastal Survey recorded a 'slipway' (31) midway between Tal y Foel and Y Foel. This feature is more like a groin or narrow pier, built of large stone blocks and, at high water, vertical timber posts. The feature runs perpendicular to the shoreline. Above high-water mark there are the remains of a small stone-built structure. This is almost certainly the 'Ty bach y Foel', a refuge where passengers could be landed when the boat could not reach Tal y Foel because of the state of the tide.

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Additional sites and/or additional recommendations

Straits 19. *Tal y Foel / Plas y Borth*

Category E: Further investigation

Recommendation: This site is potentially of regional importance. Further investigation is required into the date of any surviving features in the present house and its immediate environs.]

Straits 20. *Ty Bach y Foel*

Category C: Local importance

Recommendation: An eighteenth-nineteenth-building in ruins. Photographic record.

The road to Old Talyfoel, Caernarfon, and sandbars, beyond



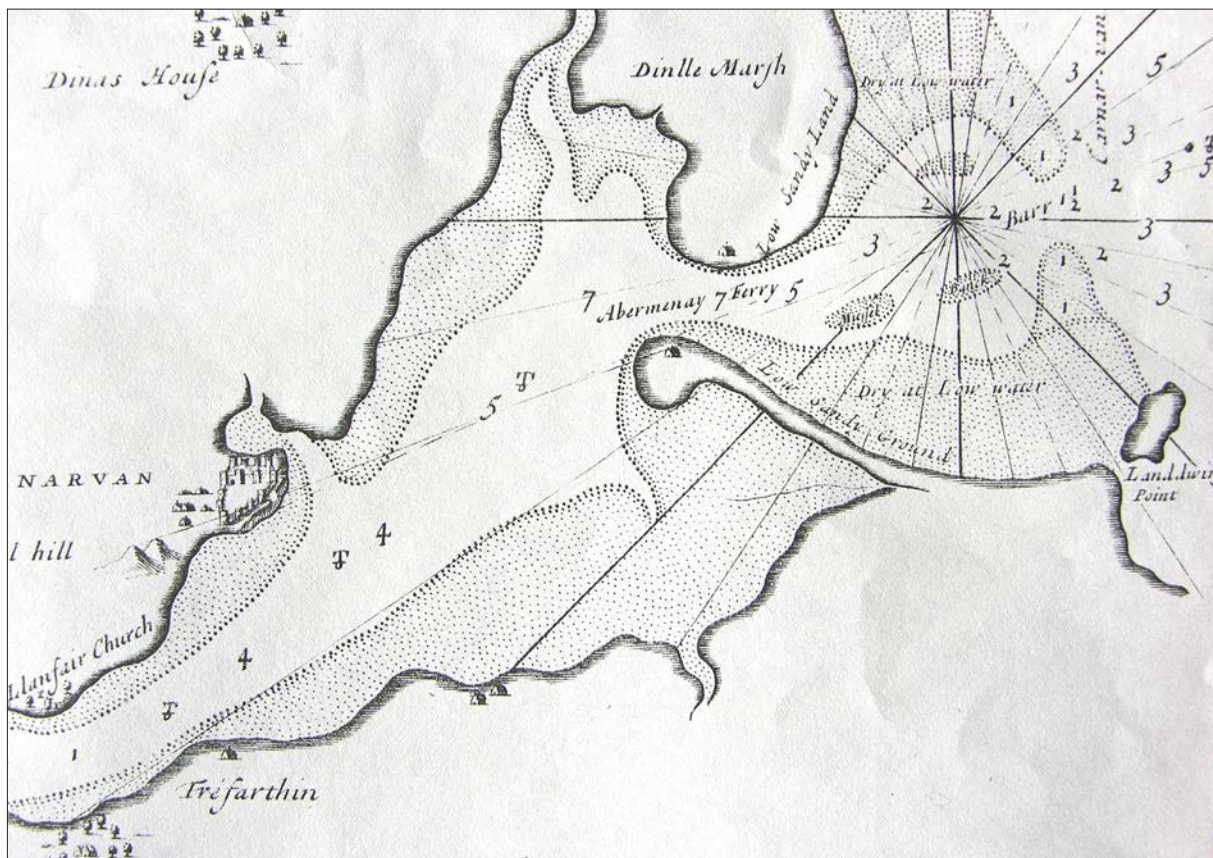
Abermenai

41 Jetty?, Penrhyn Bach 244610 363530	59 Consolidating Boulders (Braich Abermenai) 243200 361900
42 Dyke. Rhuddgaer 244780 363680	249 Lime kiln 245320 358800
44 Lime Kiln, Rhuddgaer 244420 363670	250 Trackway to shore 259220 345360
50 Jetty? Rhuddgaer 243860 364350	252 Quay 245300 361020
50 Jetty?, Rhuddgaer 243860 364350	283 Lime kiln 245440 361320
51 Ford?, Rhuddgaer 244010 364540	434 Artillery fort (Belan) 244050 360950
52 Stepping Stones. Rhuddgaer 244050 364680	14600 Fish Weir, Cored Aber Saint 247500 362700
56 Linear Concrete Feature (Braich Abermenai) 243400 361900	14601 Fish Weir, Cored Gwyrfa 245300 360700
57 Stone Building (Abermenai Point) 244280 361430	

Ferry landings are at Abermenai, Morfa Dinlle (Fort Belan) and later Caernarfon

The Coastal Survey recorded a 'stone building' (57) at the tip of Abermenai Point. This was taken to represent a structure associated with the Abermenai Ferry, perhaps that, in need of repair in 1741 (Coastal Survey Anglesey, GAT Report 251, 16). Davies, (1942, 314), however, regarded the surviving structure as the Caernarfon Harbour Trust's powder magazine, with the ferry house, a little to the northward, already in ruins, in 1872. The actual circumstance may be a little more complex. In 1695, or earlier, Collins charted two houses, one each side of the passage. The Abermenai house is, given the scale of mapping, broadly in the position of the present structure (57). In the 1720s Lewis Morris mapped two houses each side of the channel. One on the Dinlle side was labelled 'Watch House' and one of the two on the Abermenai Point side was labelled 'Ferry House'. In

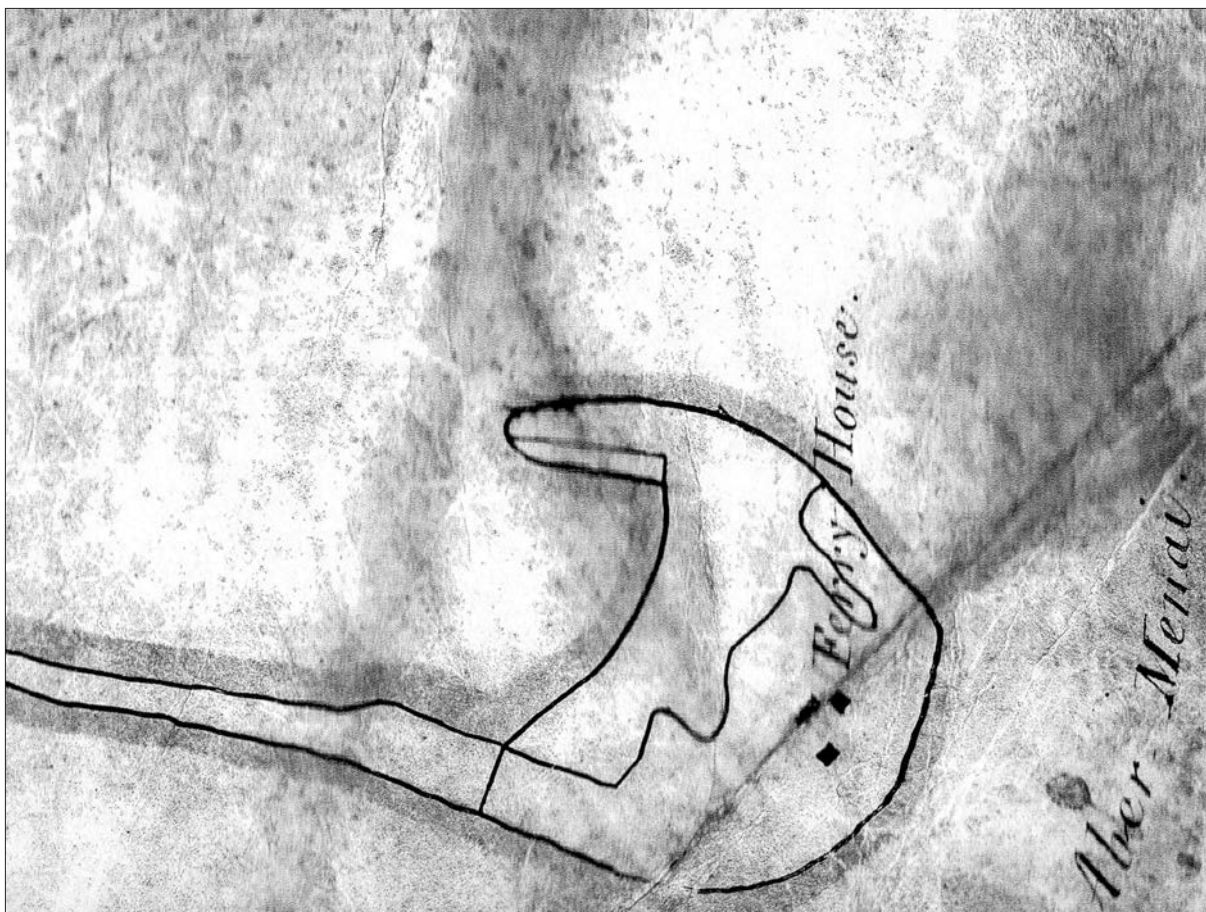
1815 three houses are identified on the Newborough and Llangeinwen enclosure award map, in a tight cluster, at the end of the point. In 1889 the OS 1:2500 map shows three features in the position of the three houses of 1815. The two southernmost are clearly buildings. The northernmost is a mound surmounted by a flagstaff. The south-eastern structure is identified, on the 1889 map, as 'White Powder Magazine'. This is the building which still stands. Aerial photography suggests the south-western building may still be recognisable as a low earth-work. This, however, is very difficult to identify on the ground because of the dense cover of marram grass. The surviving structure was not originally built as a powder store but may have been converted from one of the old ferry houses as the original windows have been blocked.



Abermenai in the late 17th century showing ferry houses (Collins, 1693)

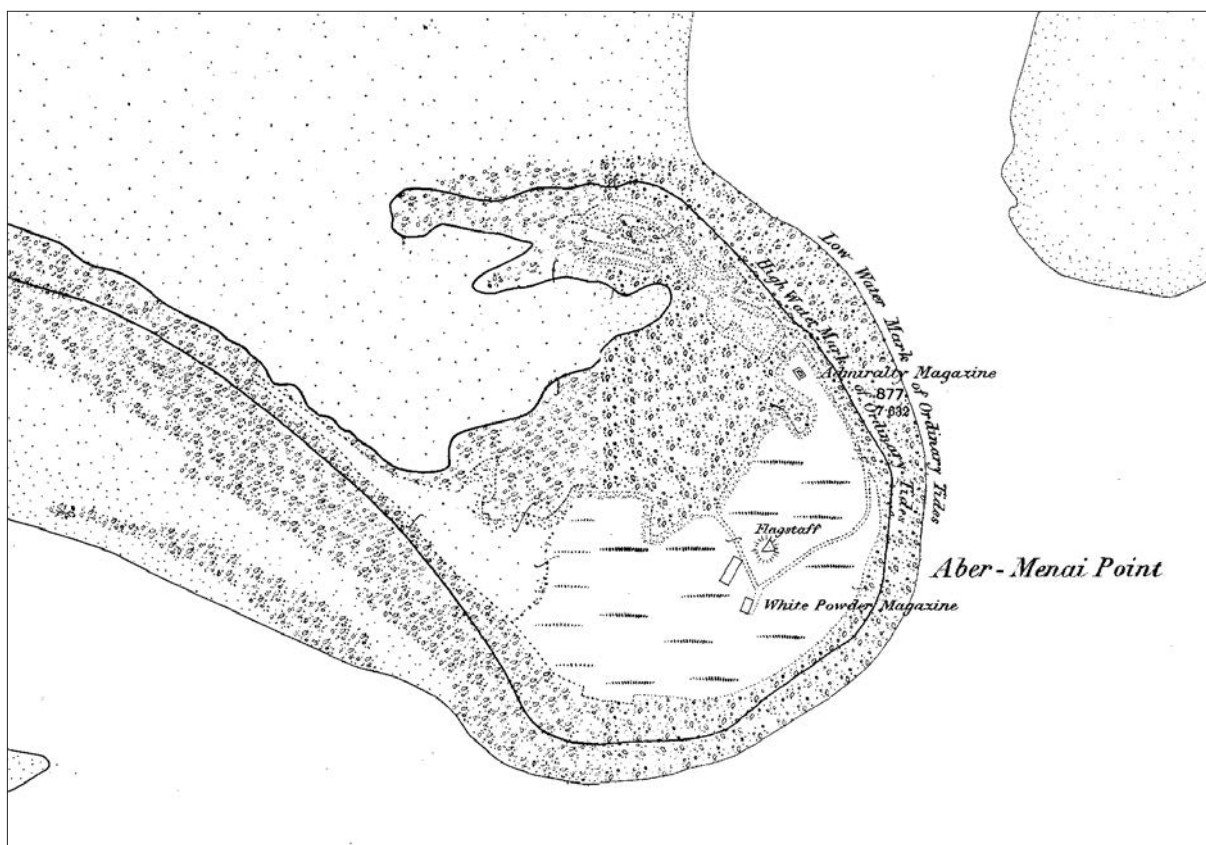
Abermenai in the late 18th century, showing road across Traeth Melynog to Newborough and on to the crossing of Malltraeth sands. The map also shows the sea-ford at Y Foryd, south of Llanfaglan





Abermenai in 1815 showing ferry houses.

Abermenai in 1889, showing site of ferry houses and Harbour Trust and Amiralty powder stores





Abermenai





The ferry house and later powder store at Abermenai

The timber stage at Y Foel



Bibliography and documents consulted

- Anthony, H 1974. Menai Bridge and its council
Carr, A D, 1972. 'The extent of Anglesey 1352', Transactions of the Anglesey Antiquarian Society, 1971-2, 150-72.
Carr, A D, 1982. Medieval Anglesey, Anglesey Antiquarian Society: Llangefni.
Davies, H R 1937. The Menai Ferries, RCAHM Anglesey Inventory App. XI
Davies, H R 1942. The Conway and Menai Ferries, Cardiff
Dunn 2005, The Priory and Parish Church of St Mary Beddgelert
Eames, A 1973. Ships and Seamen of Anglesey, Llangefni
Evans, D S 1990. A Medieval Prince of Wales, The Life of Gruffudd ap Cynan
GAT, 1997, Coastal Erosion survey, Anglesey, GAT Report, 251
Hall E Hyde 1952 A Description of Caernarvonshire 1809-1811
Hogg, 1962, Archaeologia Cambrensis, King Olaf's castle?, 56-8
Hopewell, D. 1997, Gorad y Git Fish Weir and Oyster Beds, GAT Report, 254
Hopewell, D. 2000, An Assessment of Coastal fish weirs and Traps, GAT Report, 363
Hughes, TM 1996, The Ferries to Anglesey.
Jones, G.T., The fords of Anglesey, Bangor, 1992
Jones, O, Williams, E & Pughe, W O, 1870, The Myvyrian Archaeology Of Wales.
Lloyd, J E 1911. A History of Wales, London
Longley, D. 1991, The Excavation of Castell, Porth Trefadog, a Coastal Promontory Fort in North Wales, Medieval Archaeol., 35 64-85
Lynch, F M 1991. Prehistoric Anglesey
Provis, W.A. 1828 'An Historical and Descriptive account of the Suspension Bridge constructed over the Menai Strait in North Wales, from Designs by and under the Direction of Thomas Telford FRSL and E.'
Rec. Caern: Registrum Vulgariter Nuncupatum 'The Record of Caernarvon', Ellis H. (ed) 1838, London
Rowlands, H. 1723 Mona Antiqua Restaurata: an archaeological discourse of the antiquities of the Isle of Anglesey
Rowlands H. 1849, Antiquitates Parochiales, Archaeol. Cambrensis, 37-41
Senogles. 1946 'The Parish of Llandysilio in 1815', Trans. Anglesey Antiq. Soc., 60-79.
Skinner, J. 1908, Ten days tour through the Island of Anglesey (1802), Archaeologia Cambrensis supplement.
Toulmin Smith, L. 1964, Leland's Itinerary of England and Wales (c.1540)

Documents consulted

University Wales Bangor Archives:

- Baron Hill MSs 650, Osmond's Aire; 605, Weir of Beaumaris, below the Green
Baron Hill MSs 4959-60, Estate Surveys made in 1776 by J Foulkes
Bangor MS 24530 (George Hotel); 3555, 3552 (HR Davies' archive, Beaumaris foreshore and land in Llandegfan and Llandysilio)
Bangor MS F.34081 OS 2 inch scale manuscript map c.1820
Lligwy MSs: 1410-1412 Survey of land in Llanidan and Porthamel
Mostyn MS 7290 (Garth causeway)
Melville Richards Archive (Bodffyddion; Baron Hill MS. 868, 869, 1257; Plas Coch Ms. 1582, 181)

National Archives

- Schedule of items searched in papers relating to encroachment on Crown Land in Porthaethwy c. 1847-1900.
PRO CRES Office of Woods
PRO SC6/1154/2
PRO SC 1153/5; 1153/6 (fisheries in Beaumaris between Lime Kiln, Ferrymanwarth and Llanfaes Friary)

Maps and charts (see also refs above)

Ogilby, J, 1675. Britannia (London to Holyhead route)
Collins, G, 1693 Great Britain's Coasting Pilot.
Lewis Morris 1720s, Manuscript Surveys of Conwy Bay and the Menai Straits (Anglesey Record Office)
Morris, Lewis. 1748, Plan of Harbours, Bays and Roads in St George's Channel
Beaumaris and Gallows Point, 1770s and 1829
John Evans, 1795, North Wales Map
Rennie, J. 1810. Plan of Part of the Straits of Menai
Rental, Llandegfan, 1815
Llanidan and Porthamel, estate surveys 1770s
Enclosure Award Maps, Newborough, Llangainwen and Porthaethwy (1815) (Anglesey Record Office W/Maps/5)
Provis, W.A. 1828, Menai Straits at Porthaethwy (Surveyed between 1818 and 1826, see ref above)
OS 2 inch scale manuscript map c.1820
Robinson, C. 1835, Plan of the Entrance to Conwy River on an enlarged scale
Tithe maps and schedules: Newborough, Llanidan, Porthaethwy parishes (1840s)
Tithe maps and schedules: Bangor (1840s)
OS 1 inch scale map c.1841
Beechy 1850, Survey of navigational impediments in the Swellies in 1847 (Admiralty, 1850)
Davies, HJ, and Haslam, J 1853. Chart of part of the Menai Straits called the Swellies. Bangor MS misc/6/106
OS 1:2500 maps 1889