AN ASSESSMENT OF COASTAL FISH WEIRS AND TRAPS

G1589

Report number: 363

Ymddiriedolaeth Archaeolegol Gwynedd
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By

David Hopewell

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DEVELOPMENT OF CRITERIA FOR ESTABLISHMENT OF MONUMENT VALUE.

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1. INTRODUCTION

The Salmon and Freshwater Fisheries act of 1865, introduced in response to over-fishing of certain rivers, decreed that 'no fishing weir or fishing mill dam which was not lawfully in use on the sixth day of August eighteen hundred and sixty one, by virtue of a grant or charter or immemorial usage, shall be used for the purpose of taking or facilitating the taking of salmon or migratory trout'. This Act along with a further Act in 1923 effectively signalled the end of an ancient tradition of fishing using fixed barriers or fish weirs.

The coastline and estuaries of the British Isles were once teeming with many varieties of fish and this source of high quality protein was exploited in many ways. Fishing techniques utilising nets, boats and hook and line have remained in use until the present day but the use of fixed barriers has largely died out. The fish weir was a very efficient method of catching large amounts of fish with a relatively low input of resources. The basic principles of fish weir construction are fairly simple. A permanent barrier is constructed across an area where fish are known to pass. This must be constructed in a way that ensures that the fish are deflected into an area from which they cannot escape. The mechanics of this process vary from trap to trap and are discussed more fully below.

The remains of numerous fish weirs can be seen both in the rivers and around the coast of the British Isles. These features have until recently been under-represented in the archaeological record. The first serious study of fixed barrier fishing techniques was carried out by F. M. Davis of the Fisheries Laboratory in Lowestoft (Davis, 1958). A study of Welsh fishing techniques was carried out by J. Geraint Jenkins of the Welsh Folk Museum (Geraint Jenkins, 1974). This publication also includes a useful list of fishing terms in Welsh place names, compiled by Melville Richards. Further pioneering work was undertaken in Wales by Cecil Jones in his study of the fish traps of the Menai Straits (Jones, 1983) and by Godbold and Turner in their study of Medieval fish traps in the Severn Estuary (Godbold and Turner, 1994). Nigel Bannerman and Cecil Jones have subsequently compiled a classification for fish trap types (Bannerman and Jones, 1999 and Campbell Bannerman, 2000). The present project will concentrate on the coastal traps of Gwynedd.

The lack of adequate recording of this site type has inevitably led to a low level of statutory protection and a number of important sites have been damaged or destroyed in recent years. The fact that many have gone unrecognised and therefore do not appear on the regional Sites and Monument Records has resulted in sites being overlooked during the consultation stages of the planning process, again resulting in damage to a number of weirs.

The present project aims to identify the remains of all of the fish traps and weirs around the coast of Gwynedd, to record their condition and present management regime and to recommend management options.

2. METHODOLOGY

2.1 Desktop Study

At the start of the project there were 21 sites recorded as fish weirs on the SMR. Further study revealed an additional 12 possible sites recorded under other site types. Much of this data was generated from the Coastal Erosion Survey (Gwyn and Dutton, 1996, Jones, 1997, and Smith, 1995). Study of aerial photographs held by GAT revealed two more possible weirs. A number of other sources were consulted the most significant being *An Account of the Fishing Gear of England and Wales* by F. M. Davis (Davis, 1958), *Fish Weirs and Traps* by J. Geraint Jenkins (Geraint Jenkins, 1974), which also contains *Some Fishing Terms in Welsh Place-Names* compiled by Melville Richards, *Walls in the Sea – The Goradau of Menai* by Cecil Jones (Jones, 1983) and *Fish-trap types – a component of the maritime cultural landscape* by Bannerman and Jones (Bannerman and Jones, 1999).

This study generated a database of 80 possible sites. Some of these were, however, only known as place names from Melville Jones' work and could not be located on the ground without a detailed archival search. This level of research was unfortunately beyond the scope of this project and only the most accessible primary sources were consulted. After further study it became clear that 23 of the 80 sites were either duplicates or could not be assigned even approximate locations on the ground.

2.2. Fieldwork

An attempt was made to visit all of the remaining 57 sites. The field work was carried out during October, November and December 1999. Weather conditions ranged from good to severe. The time available for site visits was limited to between one and three hours per day as tidal constraints applied to all of the sites. This resulted in a higher proportion of project time than usual being spent on travelling, as sometimes even adjacent weirs could not be recorded in one tide

Eleven of the 57 sites were found to be other site types, mainly artificial oyster beds, that had been mis-identified. The relevant information was passed on to the SMR and the sites were discounted from the study. The remaining 46 sites were recorded using a method based on that developed for the Deserted Rural Settlement project (GAT, 1996, 1997,1998,1999). Each site was recorded photographically using 35mm Kodak Gold colour print film. A measured sketch plan and a written description were produced and site details along with management and discrimination criteria were recorded on fieldwork forms. All details were then transferred to a database for analysis and inclusion on the SMR. Sites were visited at low tides that fell on or below the mean low water level, thus ensuring that the weirs were fully exposed and that there was time available to record the sites. Tidal conditions usually limited site visits to one per day. The results were compiled into the gazetteer included as Appendix 2 of this report.

3. THE HISTORICAL EVIDENCE FOR FISH WEIRS

No one knows when humankind first discovered that fish could be caught using a fixed barrier in a river or on the foreshore. The earliest evidence for the use of fixed barrier fishing techniques comes from Denmark, where a Mesolithic fish trap has been excavated (Pedersen, 1995).

The majority of fish weirs in Wales can be shown to date from Medieval times. There is, however, a growing body of evidence demonstrating the presence of pre-Medieval weirs. Recent work in the Severn Estuary is beginning to extend the archaeological record back towards an earlier tradition. Possible early evidence has emerged in the form of flounder skeletons dating from the early Bronze Age found behind a stake fence in a palaeochannel at Caldicot in Monmouthshire (Nayling and Caseldine, 1997). The first definite evidence for prehistoric fish trap technology in Wales consists of a fence and circular basket discovered in a late prehistoric palaeochannel during the intertidal peat survey of the Welsh Severn Levels. This produced a radiocarbon date of 2520 +/- 60 BP (Bell, Caseldine and Neumann, 2000). Fragments of hurdle fencing and a woven basket recovered from a palaeochannel at Redwick in the Severn Estuary produced a radiocarbon date of the 5th or 6th century AD (Allen and Bell, 2000). A further selection of traps of varying designs, recorded in advance of the construction of the Welsh abutment of the Second Severn Crossing, produced radiocarbon dates ranging from the 9th to the 14th centuries AD (Godbold and Turner, 1994).

Literary and documentary evidence provide useful information about the Medieval and post-Medieval distribution and ownership of the fish weirs of Gwynedd. The most common term for a fish weir in Welsh is *cored* (pl. *coredau*), which is derived from the term for plaiting or binding (Melville Richards, 1974, 10). Other terms that are occasionally used in North Wales are *argae*, which can be translated as enclosure and *pyscodlyn*, being a compound of the Welsh words for fish and lake or pool. One of the last manuscripts produced by Melville Richards, Professor of Welsh at UCNW, Bangor, before his death in 1973 was a list of fishing terms in Welsh place names. This was mainly derived from estate papers and other antiquarian references and has proved to be an invaluable source of information for workers in this field.

Several sources hint at an early tradition of the use of fish weirs. The most often quoted is a passage in the 15th-century *Hanes Taliesin* where Gwion accidentally drinks three drops of an elixir containing the distillation of all of the knowledge of the world. After a long chase he transforms himself into a grain of wheat and is swallowed by the witch Ceridwen. He is, however, reborn as a baby who the witch places in a leather bag and casts into the waters of a river. The bag is caught in Cored Wyddno which was 'located on the beach between The Dyfi and Aberystwyth'. The child was rescued by the young prince Elffin son of Gwyddno and named Taliesin. This tale can be demonstrated to contain elements of an earlier tradition dating back to the historical figure of the bard Taliesin in the 6th century. Unfortunately it cannot be shown that the specific details about a fish weir originate from this time. This reference could well have been incorporated at a later date to add local colour to the story. Other records suggesting an earlier tradition can be found in the letters patents of Edward (probably IV, therefore 15th century, Ellis, 1838), recording how 'in times before the memory of man a certain Gwithenit gave his town of Clynnog Fawr to God and Begnobus (St Beuno) as a stone erected on the land testifies'. The document then goes on to list donations of land from various Welsh princes, stating that 'Gwithenit son of Tridok gave Llanllifni and Coret Aber Saint' (presumably Aber Seiont) and 'Tridok gave Coret Gwrvai'. This document falls short of actually proving any early links, as it is again a reiteration of earlier traditions. It does, however, demonstrate the common link between ecclesiastical centres and fish weirs. Rhos Fynach at Llandrillo-yn-Rhos (just outside Gwynedd) is mentioned in a charter dated 1230 which identifies the weir as being transferred to the Cistercian Abbey of Aberconwy. The Bishop of Bangor owned lucrative fishing rights in, among other places, the Skerries islets off the north coast of Anglesey (Carr 1982, 111), and C.N. Johns (1960) links 'Gored Maelgwn' at Deganwy with the College of Caergybi (Holyhead).

Carr lists a number of Medieval references to other fisheries in Anglesey: Thomas Norreys leased a weir at Beaumaris in 1439 at an annual rent of sixpence. Thomas Sherwin leased another between Beaumaris and Llanfaes in 1448, and records show that there was a further weir close to Gallows Point to the south-west of the Borough

about 1451. The *rhingyll* of Talybolion answered for the farm of a new fishery or weir in the Alaw estuary in 1377-8.

Further documented *coreddau* stand in the narrower parts of the Menai Straits. A number of traps are mentioned in the Penrhyn estate papers (as listed by Melville Richards); Cored (river) Cegin was first mentioned in 1413, Gored Vcaph (upper) and Gored Wleb (wet) in 1488, Cored Newydd (new) and Cored Tegay (of Tygai) in 1499, Kored y Keven Gwyn (white ridge) and Kored issa (lower) in 1549, Gored y Gut in 1552, Cored Gwenllian in 1577, Gored Erw Sych (dry-acre) in 1614 and Cored Vod Vaio (Bodfaeo) in 1622. Further research of the relevant estate papers could help to pinpoint the location of some of these weirs and determine if the term *cored* was used in this case for fresh water weirs on the Ogwen and Cegin rivers as well as for coastal weirs. Three of the above weirs along with an additional trap in a remote location on the Lavan Sands (PRN 14620) were shown on the 1st edition OS map, although only Gored y Gut (PRN 1725) and Cored Cegin (14621) can be identified by name. Gored y Gut was converted into oyster beds in 1852. Gored y Borthwen, possibly standing at the mouth of the Cadnant (PRN 7214) on the Anglesey side of the Menai Straits, was recorded in the Baron Hill papers from 1720.

A further group of well-documented traps stands in the treacherous area of the Menai Straits called the Swellies. The most important of these are Gorad Ddu (PRN 7219), described as 'piscar y Gored ddy in Trevorion and Pwllgwngyll' in Baron Hill papers of 1602, and a complex and unique trap on an island called Gorad Goch (PRN 2757), which was first recorded in a lease from the Bishop of Bangor to Thomas Fletcher of Treborth in 1590 (Senogles, 1969, 30). A further weir, at Treborth, was destroyed in 1846 during the construction of the Britannia bridge. The tidal mill at Ynys Tissilio (PRN 7217) was also thought to have been used as a fish trap (Richards, 1998). A further cluster of weirs is recorded in the Mostyn papers (Melville Richards, 1974); a 'weir and fishyard called corred' at Llandudno in 1666, Cored Bach at Llan-Rhos 'on the other side of R. Conway' in 1732, and Cored Leave or Lif near Conwy in 1661.

Less documentary evidence has emerged for weirs around the rest of the coast of Anglesey and Gwynedd, although the well-known weir at Llanddona (PRN 7204) on the east coast of Anglesey is recorded in 17th century Baron Hill estate papers. This crescent-shaped weir is shown along with similar weirs at Penrhosllugwy (PRN 7228) and at the mouth of the river Conwy (PRN 14607) on Lewis Morris' 1748 plans in St. George's Channel (Bundenberg, 1987).

Melville Richards lists few references to *coredau* in Meirionnydd. The weirs that were documented appear to be on rivers and with the exception of one 'at Rhydygarnedd' in Llanegryn are clustered around the Dolgellau area, possibly indicating links with the Cistercian order at Cymer Abbey who were known to have fisheries in the Afon Mawddach (Williams, 1990).

The vast majority of the fish weirs listed above can still be located on the ground and a number of fisheries were still active until relatively recently. W. H. Jones recounts in his historical account of *Old Karnarvon* (1889) what appears to have been the demise of the weirs on the river Seiont through overfishing:

> 'Previous to the year 1799 salmon were taken in the river Seiont, where it touches the Menai near the castle of Carnarvon, in such large numbers early in the month of May, as to be sold about the streets so low in price as 3*d* per lb. In after years, in consequence of the destruction of the spawning salmon and fry, not one salmon for fifty were taken which was a serious loss for the neighbourhood. The magistrates endeavoured to put down the outrages by imposing the full penalty (10*l.*) on all offenders. The depredations then committed seem to have had a permanent and evil effect on the fishery in this part of the river, for the fish are now never even sought for.'

There are several accounts of the weirs close to Bangor. Edmund Hyde Hall describes two weirs in the parish of Llandegai (probably PRNs 5466 and 14621), in *A Description of Caernarvonshire* (1809-1811).

> Two weirs of considerable extent take here great numbers of fish – salmon herrings and flatfish. Ten percent on the original cost is the usual rent, and this ought to be at least quadrupled by the sale of the produce in order to secure a fair profit to the tenant. Herrings constitute his chief dependence, and the numbers taken are occasionally very great; but against these fortunate captives are to be set off the injuries sustained by the weirs in rough weather. The market has already extended itself as far as Shrewsbury and Bridge North, whence regular fish carts arrive in the season … The price of Herrings is about four shillings a hundred, and that of salmon one shilling a pound … The recent establishment of a curing house here, at which the salt is entitled to the draw back [refund of excise duty], has proved almost instantaneously a great and extensive advantage to the poor, who are now enabled to obtain salted herrings at a reasonable rate.'

A footnote records the cost of setting up a weir.

> The more recent one here was raised at an expense of £800. These contrivances consume a prodigious quantity of young timber both in their first formation and subsequent repair. There are therefore good markets for thinnings.

Further details are provided in *Hynafiaethau Llandegai a Llanllechid* by Hugh Derfel Hughes (1866). The historian gives details of the Coredau Abercegin (PRN 14621 and perhaps 5466) and notes that 'there have been two [weirs] here for many years, but there was only one formerly'. He records catches of salmon, plaice, cod and herring along with more unusual species such as sea devil (? monkfish) and porpoises and recalls that a number of small whales had also been caught. Fish stocks appear to be in decline by the time of this account (translation by Emrys Evans, 1995):

> In Lord Penrhyn's time more fish were caught here than these districts could receive, therefore they were sent to other places. It was almost too much to clear the weir before the second tide and a man could get a back-burden for a little help … it was common to hear of the weir being choked with fish, particularly when the wind blew in force from a landward direction, and a number of men with horses and carts would be unable to clear them before the second tide, and they would bring fish by the load to Cloddfa y Cae and other places: but the reporter has seen the contents of the two present weirs carried by only two men, and they had no more than a single load.'

Falling fish stocks and the introduction of the Salmon and Freshwater Fisheries Acts of 1865 and 1923 effectively signalled the end of the use of most of the fish weirs around the coast of Gwynedd. A few weirs continued in use for some time after this point, either illegally or by virtue of 'grant or charter or immemorial usage' as demanded by the Act.

The fish trap at the Cadnant Mouth (PRN 7214) to the east of Porthaethwy was fished by the Craig-y-Don Estate until the 1930s (Senogles, 1969). The massive weir of Rhos Fynach (in Llandrillo-yn-Rhos, Clwyd) was used until the First World War. Records exist of prodigious catches of fish from this weir. An estimated 35,000 herring were caught on one tide in 1850 and a catch of 10,000 mackerel was recorded in 1907. Emrys Evans recounts a tale in *Traditional Fishing in Wales* (1995) of how terriers were trained to retrieve fish from the weir. One dog named Jac y Teriar was allegedly able to catch salmon by the tail thus leaving them unmarked for market. The dog was given a silver collar for his valour but in the end was killed by a shark.

The importance of oral history in the study of fish weirs in Wales cannot be overemphasised. Two weirs in Gwynedd were still in use until the 1960s and not enough has been done to record accounts of the working practices on these weirs. Accounts of the use of two weirs were, however, collected during the project.

Details of the later use of the Ogwen or Penrhyn Weir (PRN 5466) were kindly provided by Mr John Duggan, landlord of the Union 'Garth' Inn in Bangor. Mr Duggan's mother owned salmon rights on part of the river Ogwen and fished in the vicinity of the weir. These accounts date from the 1950s and 60s when the weir was not well maintained and was used solely for catching salmon and bass. The outer end of the weir was still built from the traditional stakes and wattle (with the addition of a few metal posts) but the landward part of the weir was in poor condition. The stakes were, however, still standing, being made of slate, and it was observed that they still deflected the fish into the apex of the weir. The fish collected in a pool at the junction between the two arms and the salmon and bass were retrieved from this pool. A sluice gate was then opened allowing the egress of the smaller fish and whitebait. A slate track, shown on the 1920 1:1000 OS map (Fig. 1), ran from the apex of the weir to the shore and a horse and cart was used to transport the catch until the latter years of the weir's use. The weir was maintained and emptied by Tommy 'Gorad' for the Penrhyn estate. A photograph from the mid 1960s shows Tommy 'Gorad' and others sitting on the outer arm of the weir (Plate 1).

Friars Bach (PRN 892) near Llanfaes (Plate 2) was fished by the Girling family until the mid 1960s. The family still live in the cottage at the end of the weir and have kindly provided much information about its use and history.

The lease to the weir was taken by John Girling in the mid 19th century, some years after he moved from Essex and rented oyster beds below the present Beaumaris Green. A photograph of John Girling remains, probably dating from the end of the 19th century, showing him taking whitebait from the weir with a small net (Plate 3). The weir continued to be used by the family but was becoming somewhat uneconomical by the 1930s as a result of decreasing herring catches. The weir was badly damaged by a storm in the early 1960s (perhaps 1963). The resulting rebuild using local oak stakes and willow from Somerset was the last, and the weir fell out of use soon after.

A tradition of smaller-scale weirs was also recorded by F. M. Davis (1958) who noted that 'within the memory of the present generation, an old man used to build small temporary weirs at Aberdaron'.

4. THE MORPHOLOGY OF FISH WEIRS

F.M. Davis (1958) divides fixed fishing apparatus into two divisions:
Complete Barriers (Division A) can be classified as barriers completely stopping passage of fish within a waterway, e.g. creek stopping nets.

Guiding Barriers (Division B) are barriers that guide fish into an area where their egress is prevented, usually by falling water levels. The majority of fish weirs fall into this division.

Davis defines fish weirs as:

> 'Absolutely fixed and solid structures which have stood for a number of years and have been fished for generations, usually by the same family; and their original solidarity is increased by the silting up of soil around them. They are built between tide marks and their shapes are somewhat varied, but the essential idea is the same in all cases.'

A basic form that serves to illustrate the principle behind the workings of the majority of fish weirs is a V shape set at an angle to the shore, with the apex at low water mark, as shown in Fig. 2. The inner arm of the V runs from low water mark towards the shore and the outer arm runs along the shore towards the flow of the ebb tide. This outer arm usually incorporates an inturning element. The arms of the weir must be constructed in a way that allows the water to flow out of the trap while preventing the egress of the fish. Materials traditionally used are dry stone masonry and wattle fencing.

The flow of the ebb tide combined with falling water levels obviously plays a part in stranding the fish within the weir. Davis notes that most traps are in fact very sophisticated and are designed to take advantage of the behavioural characteristics of the fish. A number of species of fish are known to move towards the shore with the flood tide and then follow the ebb tide down and along the shore. The basic design, described above, therefore acts as a very efficient trap. As the fish move along the shore with the ebb tide they encounter the inner arm and head for deeper water where they become trapped behind the inturning outer arm by falling water levels.

The basic pattern of the extended V-shaped weir has been adapted to suit various environments, resulting in variations in the angle between the two arms, the addition of angled spurs to the end of the outer arm and the addition of various sluices and traps.

Not all traps are this sophisticated; simple curvilinear stone traps can be seen on the shore in a number of places in the British Isles. The writer has observed examples of this type of trap on the Isle of Skye. Mr R. Hopewell of Carbost reported that the Gaelic term for a fish trap, preserved in local place-names, is *cairidh.* This type of trap was typically a small-scale undertaking, the open side being approximately 4-5m wide. It seems that each trap was set up by one family on a fairly informal basis. The traps are said to have been used within living memory. The temporary weirs set up by an old man at Aberdaron (PRN 14596), as noted by F.M. Davis, were probably of this scale and may have been similar in form.

V-shaped weirs have also been observed that do not extend to the shore. These are often arranged in multiples forming a zig zag barrier and may incorporate additional features such as additional guiding fences. Numerous examples of this type of weir have been observed in the Severn Estuary (Godbold and Turner, 1994). Other more opportunistic weirs utilise outcrops and other features on the foreshore and exhibit great variations in size and sophistication.

A number of writers have carried out studies of fish trap types. C.R. Salisbury lists fourteen types of tidal weirs in *Primitive British Fishweirs* (Salisbury, 1991), most of which are located in estuarine channels.

Bannerman and Jones (1999) have devised a classification for the fish traps of Anglesey and north-west Wales, consisting of seven basic types as summarised below:

Type 1. Natural features adopted as a trap: a natural feature such as a tidal pool or lagoon, utilised as a trap with little or no additional equipment.
Type 2. Semi-permanent trap: rows of posts used to support wattle panels or nets.
Type 3. Modified natural feature: usually walls and sluices or other barriers built between rocks or islands in the inter-tidal zone.
Type 4. Crescent-shaped trap: a curving trap with one end abutting the shore.

Type 5. Rectilinear: a more robust version of Type 2 with one arm extending from the shore to low tide mark, at which point the barrier describes a right-angled bend and the second arm runs roughly parallel to the shore line, often incorporating an inturning section or additional spur at its furthest point.
Type 6. The 'Vee' or 'Double Vee' shaped trap: similar to Type 5 but with neither arm abutting the shore.
Type 7. The S- shaped weir: a long shallow S-shaped weir with a spur or additional arm at the offshore end.
Bannerman has also added a further type to the above classification (Campbell Bannerman, 2000).
Type 8. Curvilinear: as Type 5 but with curvilinear arms.

The above classification is very detailed and relates in part to regional variations within the fish trap types found in north-west Wales. The current project will hopefully act as a pilot study for a pan-Wales investigation of coastal fish weirs and a less specialised typological classification would be appropriate for this type of study.

The following proposed typology divides the weirs into classes according to basic design features. Weirs assigned to each class will inevitably exhibit a degree of variation and further subclasses can be added where necessary. Additional classes may also be added where the design of a weir varies significantly from the existing classes. Weirs may be constructed from stakes and wattle, stone, or ,most commonly, a combination of the two.

CLASS A Modified natural features.

This class is similar to Bannerman and Jones Type 3 and encompasses any weir that derives its design solely from an opportunistic utilisation of foreshore features. Weirs that incorporate natural features into designs that fall into other categories should not be included in this class. A good example of this class of weir can be see at Cerrig yr Adar (PRN 7170, Fig. 3)

CLASS B Curvilinear

This class refers to simple crescentic or semi-circular beach traps. The open side of the weir tends to face towards the general line of the shore.

Two sub-classes of this type have been identified.

1. Simple curvilinear. A simple weir not connected to the shore. This type of weir has not been definitely identified in Gwynedd but has been observed on beaches on the Isle of Skye (Fig. 4) and may include the temporary weirs recorded in Aberdaron (PRN 14596). This is a very basic small-scale trap relying on the fish being stranded behind its arms. The wall of the trap may also act to form a microenvironment, thus attracting feeding fish. This type of trap could be constructed by a single person.
2. Extended curvilinear. A larger-scale trap consisting of a single curvilinear wall running from the shore. The *coredau* at Llanddona and Traeth Lligwy (Fig. 5) on Anglesey along with Gorad Maelgwyn at Deganwy fall within this category (PRNs 7204, 7228 and 14607). These traps do not appear to utilise the design features outlined in Davis' basic V design. All three traps are built on headlands with the open side angled to a greater or lesser degree towards the flood tide. The two Anglesey traps could be interpreted as larger versions of the sub-class 1 trap with the headland forming one side of the trap. Further work may throw more light on the functioning of this sub-class.

CLASS C Simple or multiple V

This class consists of simple V-shaped traps, some times occurring in multiples, that do not connect to the shore. Possible examples of stone-built versions of this type can be seen in an early phase of Gored Tre-Castell at Aberlleiniog (PRN 1723, Fig. 8) and more contentiously at Llys Helig (PRN 14610) on the edge of the Conwy Sands (both Campbell Bannerman, 2000). Numerous examples of wooden versions of this trap type have been identified in the in the Severn Estuary (Fig. 6) (Godbold and Turner, 1994). These traps are differentiated from the class D traps by the fact that they do not connect with the shore and must therefore depend on careful positioning within the tidal flow to intercept the fish. The positioning of this type presumably also requires a good knowledge of fish behaviour and movements within the inter-tidal zone. The eccentric and unique trap on Ynys Gorad Goch (PRN 2757) in the Menai Straits could also tentatively be seen as a very heavily modified double V trap. The fish in this case are trapped by the force of the current behind two ramps.

Care must be taken to avoid allocating truncated class D weirs to this category; the inner arms may have been partially buried by sand, or in some cases, coastal erosion may have occurred, thus leaving the trap some distance from the present high tide mark.

CLASS D Extended V

This class consists of traps corresponding to F. M. Davis' general V type (Fig. 2 and above). The weir comprises two linked arms, the inner running from the shore to the low tide mark. The outer arm runs from the outer end of the inner, usually at an acute angle. The opening of the V shape thus produced faces towards the flow of the ebb tide. The outer arm generally runs along the line of low water mark or some other channel and may turn inwards towards its outer end.

This is the most common type of fish trap in Gwynedd. Traps falling within this class exhibit much variation but all share the same functional design. A common modification, seen on Cored Gwyrfai (PRN 14601), Cored Tre-Castell (PRN 1723, Fig. 8) and several other weirs is the addition of an acutely angled spur at the end of the outer arm.

Two methods of retrieving the catch from class D weirs have been noted; in some cases the water was allowed to drain away through the weir walls leaving a shallow pool. The fish were then scooped out using a net. The turn of the century photograph of Cored Friars Bach (PRN 892, Plate 3) shows John Girling removing whitebait from the weir in this fashion. Other weirs, such as Gorad Ddu (PRN 7219) in the Menai Straits, which appears to be a variation on the class D type weir, incorporated a sluice gate which presumably contained a grating acting as both a trap and a means of draining the last of the water from within the substantial walls of the *gored.* A further modification noted in Gorad Friars Bach is the addition of a recess in the outer arm of the weir, which could be closed off by a door. Carnivorous bass followed whitebait into this recess and could be therefore conveniently be concentrated into this area.

Bannerman and Jones divide this class of weir into two categories, one being rectilinear with straight arms and the other being S-shaped with curving arms. There does, however, seem to be a wide variation in both the shape and relative lengths of the arms. Some of these variations are clearly determined by the topography of the foreshore but others may reflect tradition or other factors. A large number of class D type weirs can be seen in and around the Menai Straits. A cluster of markedly linear traps originally consisting of stone walls or banks with a wattle superstructure can be seen around Aberlleiniog on Anglesey (PRNs 1722, 1723 and 14615). Their linear design, while possibly incorporating elements of a local tradition, strongly reflects the coastal topography with its expanse of stony foreshore and well-defined linear channel at low water mark. Several weirs within the Swellies area of the Straits (e.g. Gorad Ddu, PRN 7219) stand on a more steeply shelving shore that includes many small islands. The weirs here are more irregular and incorporate elements of the foreshore, but still utilise the basic pattern of one arm running from the shore and the other running along the low tide mark. The inner arms of the traps in this area are short, reflecting the steeper shore, and the outer arms are long, perhaps in an attempt to maximise the area of the trap. The massive weir at the mouth of the Ogwen (PRN 5466 Fig. 1) again follows the basic extended V pattern but the arms are curvilinear, the inner arm possibly following a natural bank on the shore and the outer reflecting the line of the Ogwen channel.

CLASS U Unclassified

Weirs that cannot be classified due to poor condition or visibility. Well-preserved weirs that do not fall into any of the above classes should not be listed as unclassified but should be assigned to a new class.

5. ANALYSIS

5.1 Typology and Distribution

The sites were initially classified according to Bannerman and Jones's typology but later reclassified according to the simplified typology described above. Fourteen weirs were listed as unclassified; one could not be visited, two were in a poor condition and 11 could not be located with certainty on the ground even though they had been identified in earlier studies or by detailed documentary evidence. These sites were assigned PRNs, the chance of sub-surface survival being high in most cases. It should also be noted that, in contrast to most land-based archaeology, the intertidal zone is constantly mobile and sites can be buried by sediment between one survey and the next. The substantial Cored Gwyrfai (PRN 14601) was only uncovered within the last few years and it is entirely possible, considering the constantly changing sediment levels in this area, that it will be buried again in the near future.

Of the remaining 32 sites, 3 (9%) were identified as class A traps, 5 (16%) as class B2, 3 (10%) as class C and 21 (68%) as class D. No class B1 traps were positively identified.

Examination of the distribution map (Fig. 9**)** reveals a degree of clustering both in the overall distribution pattern and according to trap class. Just over 45% of the sites can be seen to be clustered in the western end of the Menai Straits with another cluster (22%) in the vicinity of the Great Orme and another small cluster on the Alaw estuary at the north-west of Anglesey. These clusters contain all but one of the class D sites. The rest of the sites are

distributed quite evenly around the coast of northern Gwynedd with both of the most typical class B2 traps standing on the north-eastern coast of Anglesey. No coastal fish weirs were recorded in the southern half of Gwynedd.

The siting of fish weirs depends to a great extent on the topography of the intertidal zone. The most basic requirement for most traps is a large area of accessible, shallowly sloping, foreshore. The distance from the apex of the traps to the shore varied from 60m to 800m, with class D traps representing both of the extremes. The mean distance was 220m. A large proportion of the coastline of Gwynedd can be seen to be unsuitable for the erection of fish traps as the foreshore is too steep and narrow. The eastern end of the Menai Straits along with parts of the eastern part of the northern Gwynedd coastline and the coast of Anglesey include many ideal sites for fish traps. Estuarine waters and river mouths also provide ideal conditions and 38% of fish weirs are found in these locations. It should also be noted that the large tidal range, extremely strong currents and unusual tidal patterns in the otherwise sheltered Menai Straits have produced ideal conditions for fish trap use, and the majority of the less steeply sloping shoreline exhibits the remains of fishing gear of some form or other. In some cases the usual form of the class D trap has been heavily modified, to exploit a fairly narrow foreshore. Both Gorad Ddu (PRN 7219) and the trap at Coed Mor (PRN 7221) have short inner arms incorporating small islands along with greatly extended outer arms in order to maximise the area within the trap. Few traps were found on the more exposed parts of the coastline. The pounding of winter storms would probably have destroyed the relatively fragile post and wattle superstructure employed on most weirs.

Shore topography is not, however, the only factor determining the distribution of fish weirs. No coastal weirs were recorded in Meirionnydd even though the Mawddach estuary, Traeth Bach at the mouth of the Glaslyn and several other places would seem to be topographically suitable. One obvious factor that has skewed the distribution towards northern Gwynedd to some extent is the differing intensity of study and data collection throughout the county. The area around the Great Orme has been studied in great detail by Bannerman as has the Menai Straits by Jones. Another primary source for much of the present study is Melville Jones' list of place-names. This was derived to a large extent from various estate papers and may therefore contain a bias towards the large estates of the north-west. A number of river *coredau* were, however, mentioned in Meirionnydd demonstrating that the area was not excluded from this study. Other factors would therefore seem to be significant as it unlikely that major weirs could have been overlooked by the OS, the Coastal Erosion Survey and all the other sources of data that inform the SMR. Almost all of the larger weirs so far recorded were part of the holdings of wealthy individuals or organisations; either ecclesiastical centres or large estates. A considerable amount of capital was required to erect a large weir and this may have been beyond the means of the coastal landowners in Meirionnydd where the consolidation of the larger estates did not occur until the early 18th century (Lloyd, 1977/78 and Thomas C, 1970). The only records of fisheries that have so far come to light are on inland waterways, mainly based around the Cistercian order at Cymer Abbey near Dolgellau (Williams, 1990).

The absence of smaller-scale weirs suggests that either our information about the Meirionnydd coastline is lacking detail, or that there was no tradition of weir building in this area. A programme of targeted fieldwork and aerial photography along with further documentary work could help to explain the anomalous distribution pattern in Meirionnydd.

5.2 Structure

The most common component of the fish traps of Gwynedd is a stone bank or wall. A minimum of 85% of the traps that were assessed exhibited a stone structure of some type, and a number of traps were partially buried, so the figure could be higher. The stone component ranged from a bank presumably acting as armouring around wooden posts to substantial dry-stone walls standing to a height of up to 3m. In the case of the more dilapidated traps it is difficult to assess whether masonry existed or whether a timber component was inserted straight into a stone and silt bank. Examination of Cored Gwyrfai suggests that the latter arrangement was present in some weirs. Facing stones were visible in 44% of the weirs. In some cases the facing was standing as a double row of stones, once set to each side of timber uprights, e.g. Frairs Bach and perhaps Gorad Maelgwyn (PRNs 892 and 14607). In other cases the facing formed a component of a substantial wall, e.g. Gorad Ddu (PRN 7219), the two crescent-shaped weirs on Anglesey (Lligwy and Llanddona, PRNs 7228 and 7204) and the weir at Newlands on the Alaw Estuary (PRN 7193). Friars Bach (PRN 892) exhibits the remains of both types of facing, showing that some walls supported a wooden superstructure, although it seems likely at least in the case of Gorad Ddu and Cored Coed Mor (PRN 7221) that some traps were entirely dry-stone. Wooden components were understandably less common, most of the traps having been out of use for in excess of 100 years, resulting in the loss of all exposed woodwork. Wood was identified in 21% of the traps that were examined, usually in areas where erosion had removed sediment. This suggests that wood survival may be relatively common. Almost all of the weirs stand on areas of the foreshore that consist of anaerobic muds, and well-preserved buried wood has been recovered from several of these sites **(**Gwynedd Archaeological Trust, 1988 and 1997**)**. Surviving wooden components present good opportunities for dating the traps, and an assessment of the suitability of the timber remains for dating was carried out at the end of the project (see below).

Four of the later traps incorporated iron stakes in the structure. The most striking use of alternative materials for posts can be seen on the Ogwen Weir where several hundred substantial slate posts still run from the shore to the apex of the weir.

The majority of the class D traps had a surviving outer arm, and six of these traps also included a further inturning spur at the end of the outer arm. A number of class B2 and D traps could not be traced as far as the high tide mark. In most cases this was a result of sediment deposition or damage, but in the case of the two weirs at Deganwy (PRN 14607 and 14609, Campbell Bannerman, 2000) and possibly one of the Lleiniog weirs (PRN 14615), it was because of a receding shoreline resulting from coastal erosion.

The direction of the opening of the weirs relative to the tidal flow was recorded where possible and produced a high correlation with trap type. All of the type D traps faced towards the ebb tide but the B2 type traps seemed to be angled somewhat towards the flood tide. Interpretation of B2 traps is problematic, and the opening could be seen as facing towards the shore.

Physical association with other sites or structures was, in the main part, limited to associations with other fish traps, jetties and sewage pipes. The trap at Ynys Tysilio formed part of a tidal mill. The documentary phase of the current project demonstrated cultural associations between many of the weirs and various estates and ecclesiastical bodies. This included the majority of the larger weirs.

6. MANAGEMENT

6.1 Survival and Condition

The site visits in the current project were by necessity brief. Survival was rated as an estimate of the percentage of the site remaining in plan, as further assessment could not be carried out within the remit of the project. Most sites had achieved a state of some stability and 50% could be seen to have over two-thirds of the area of the site remaining. A total of 25% retained between one- and two-thirds of their original area and a further 25% retained less than one-third. It should be stressed that these results refer to the proportion of the site that appeared to be intact; nearly half of the sites at the lower end of the scale were listed as needing further assessment and the sub-surface survival could be substantial in these cases.

Of the surviving weirs identified in the study 42% were assessed as having a ‘high’ condition rating. These sites can be seen as being in a management regime conducive to preserving their historic character. In practice this generally indicates that the monument stands on a remote or unexploited foreshore. Sites assessed with a medium condition rating had generally suffered from some damage or neglect as a result of the exploitation of the foreshore; 36% of sites fell into this category. A significant 22% of the sites achieved a low rating, indicating serious problems of neglect. Sites in this category were mostly damaged beyond repair.

6.2 Threats

It would initially appear that a series of monuments standing on what is often considered to be the ‘natural’ foreshore would not be under a serious threat. Natural erosion was seen to be a minor threat to most of the weirs. The survival of fish traps probably dating from several hundred years before present implies that the foreshore in most cases is reasonably stable. Threat can be seen, in many cases, to be related to terrestrial land use. Three-quarters of the weirs were located off areas of farmland, woodland or sand dunes but 25% were standing off densely populated areas.

A substantial 32% of sites were seen to be under threat and 20% of the sites still visible on the ground had suffered from damage associated with modern structures such as pipes and cables. This damage varied from sewer pipes cutting but not having a great impact on sites in the Conwy Estuary (PRNs 14611 and 14612) to the obliteration of large parts of Gorad y Gut (PRN 1725) by a sewage pipe. The unique and visually impressive stone-built weir, Gorad Ddu (PRN 7219), was also seriously destabilised when a cable was laid to an island in the Menai Straits. Dredging associated with the commercial mussel beds to the east of the docks at Bangor has all but obliterated Cored Cegin and is starting to have an impact on the Ogwen weir (PRNs 14621 and 5466), which has avoided serious damage so far due to the presence of several hundred slate posts. A more low-key threat can be observed at low tide on Friars Bach Weir (PRN 892), where crab and bait collectors pull the stonework apart in search of their catch.

A more complex type of threat is posed by the various types of sea defences that are routinely constructed around the coast. The most basic defences against coastal erosion produce a relatively low direct threat to coastal fish weirs as they rarely extend below high water mark. Breakwaters, groynes and other defences that extend well into the

intertidal zone obviously pose a direct physical threat to coastal archaeology but their effect on tidal flow and patterns of sediment removal and deposition can easily be overlooked. The exposure and associated erosion of sites at the mouth of the Conwy may well be the result of various coastal works that have taken place in the area in recent years.

The intertidal zone, by virtue of its natural flora and fauna and ever-changing character, is often regarded as being untouched by human activity. It is, however, used as a source of food, a convenient area for the laying of pipes, a general dumping ground and a place in which to pursue a wide range of leisure activities. The latter use has encouraged coastal development entailing the construction of sea defences, groynes, slipways, piers and more recently, marina developments. The threats to intertidal archaeology can be as serious as those to 'conventional' terrestrial sites. The lack of awareness of archaeological sites in this zone has, in the past, allowed much damage to go unnoticed and unrecorded. A recent publication by Cadw, *Caring for Coastal Heritage*, reflects and promotes a growing awareness of the importance of coastal archaeology both within the archaeological profession and the general public. This awareness should help to encourage the protection and study of fish weirs and other coastal monument types.

6.3 Protection

6.3.1 Statutory protection

One of the aims of the current project is to identify sites suitable for statutory protection. The survey identified a total of 36 fish traps that could be scored according to the discrimination criteria laid out in Appendix 1**.** These scores were used as indicators to allow the categorisation of the overall importance of the sites. The scoring of the sites was seen to reflect the professional judgement of the surveyor to a large extent. The consideration of the individual characteristics of each site introduced some deviation between the professional judgement scoring and the discrimination criteria.

Category A: 10 sites were judged to be of national importance
Category B: 10 sites were judged to be of regional importance
Category C: 4 sites were judged to be of local importance
Category D: 7 sites were judged to be of minor importance
Category E: 5 sites were judged to require further investigation

Further details of all sites can be found in the Gazetteer (Appendix 2).

The details of all sites included in the gazetteer have been added to the regional SMR, allowing the survey results to inform the planning process. Of the 10 sites judged to be of national importance only one, Gorad Goch (PRN 2757), currently enjoys statutory protection. The following table lists the remaining 9 sites allocated to this category along with two subsidiary category B sites that form a significant group of traps at Lleiniog.

PRN	SITENAME	LOCATION	MAP SQ	NGR
892	FISH TRAP (FRIARS, BACH)	NE OF BEAUMARIS	67NE	SH61507770
1723	FISH TRAP \	TRE-CASTELL	67NE	SH62107860
1722	FISH TRAP - LLEINIOG GROUP	LLEINIOG	67NE	SH62507920
14615	LLEINIOG 3 /	LLEINIOG	67NE	SH62517930
5466	OGWEN FISH WEIR	BANGOR	67SW	SH60007300
7193	FISH TRAP	NEWLANDS	28SE	SH29058071
7204	FISH TRAP	LLANDDONA	58SW	SH57258123
7219	GORAD DDU FISH TRAP	MENAI BRIDGE	57SW	SH54647159
7221	FISH TRAP	COED MOR	57SW	SH54277131
7228	FISH TRAP	TRAETH LLIGWY	58NE	SH50008723
14601	CORED GWYRFAI	AFON GWYRFAI	46SE	SH45306070

The weirs were selected for a variety of reasons; all are well preserved and form, as a body, a representative selection of the major fish trap classes found in Gwynedd. No class A or B1 traps have been included. Only one class A trap was definitely identified in the survey and this was not felt to be of sufficient quality to be classed as being of national importance. No class B1 traps were identified on the ground. The recommendations include one multiphase site, Tre-castell at Lleiniog (PRN 1723). This includes elements of both class C and D traps. Two adjacent sites (PRNs 1722 and 14615) could be considered to form part of a significant group of traps and therefore be included in any programme of statutory protection. The two substantial class B2 traps (PRNs 7204 and 7228) on the east coast of Anglesey have been included as have a selection of the best preserved diverse forms of the class D

traps in the Menai Straits (PRNs 892 5466, 7219 and 7221). Two further class D traps have been included, one on the Gwyrfai channel (PRN 14601) and one on the Alaw estuary (PRN 7193).

Other forms of legislation may help to protect the intertidal archaeological resource. A large proportion of the Menai Straits and Foryd Bay (Gwyrfai estuary) has been notified as a SSSI. This does not in itself confer statutory protection on the archaeology in the designated areas but does severely limit potentially harmful activities. The Menai Straits has also been proposed as a Marine Nature Reserve and the consultative document specifically recognises the importance of the *coredau* of the straits (CCW 1992, 21) and seeks protection of both the ecological and historical resource from bait and crab collectors within certain sanctuary zones (CCW 1992, 25)

The majority of the intertidal zone is in Crown Estate ownership but prescribed rights have been established by landowners over a large proportion of the north-eastern end of the Straits.

6.4 Further management and research recommendations.

Previous work on fish weirs has been very limited and only Gorad Ddu, Gorad y Gut and Ynys Gorad Goch have been adequately recorded. The remaining 17 sites of national or regional importance would benefit from the production of detailed total station plans. This would allow accurate monitoring of erosion or damage and add to the understanding of the monument type. The use of close to vertical aerial photographs can add detail to plans as the window of opportunity for survey is limited by the tides. Fig. 8 was produced using OS data and a perspective-corrected aerial photograph.

The dating of the physical remains of the weirs must also be seen as a priority. Documentary evidence can give some indication of periods of use but does not extend to pre-Medieval times and may not record later reuse. A preliminary assessment of the use of dendrochronology and analysis of wood types was undertaken by the writer and Nigel Nayling of the University of Wales, Lampeter as part of the current project. Two weirs were examined. Split oak stakes from an early phase of the Ogwen weir (PRN 7219) were dated to the mid 16th century. Analysis of the wood types from Cored Gwyrfai (PRN 14601) revealed the presence of douglas fir stakes, thus demonstrating late reuse of a Medieval trap. Results of these analyses are included below in Appendix 4. Many sites are likely to have good wood preservation in anaerobic deposits. Further assessment of levels of wood survival involving limited trial trenching could produce samples suitable for dendrochronological or radiocarbon dating as well as giving an indication of overall wood survival rates.

The foreshore off Deganwy and Llandudno West Shore needs further appraisal. The scouring action of the new course of the Conwy channel has exposed a potentially archaeologically important relict foreshore including 4 or 5 fish weirs, peat deposits and other features. This area urgently needs detailed planning and assessment of its potential.

The current project had limited resources available for documentary research. Further archival research could add greatly to the understanding of the historical background to fish weirs and could potentially identify further sites on the ground. Further oral history could also be collected; a few older members of the public still recall details of the use of fish weirs and as such represent the last living representatives of an ancient tradition.

Further fieldwork is required in Meirionnydd to investigate the absence of traps in this area. Areas with potential for fish trap survival could be investigated by a combination of walk-over survey and aerial photography.

7. ACKNOWLEDGEMENTS

Thanks are due to Brigid and Graham Dempsey for information about Friars Bach Weir, John and Linda Duggan for information about Ogwen Weir, Nigel Bannerman and Cecil Jones for discussions about their work, Nigel Nayling for the dendrochonological dates on the Ogwen Weir and to Kate Griffiths and Astrid Caseldine for the wood identification.

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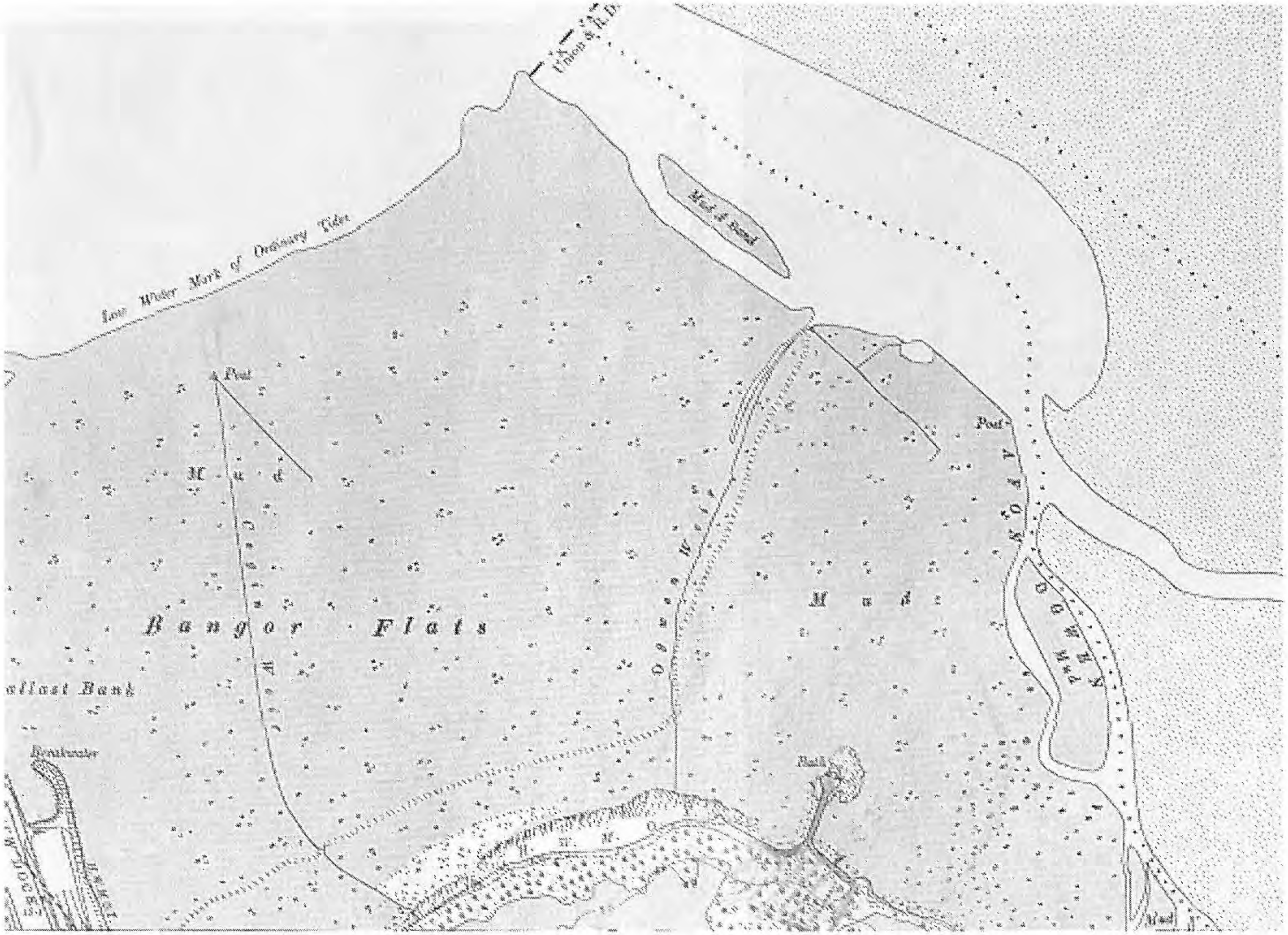

Fig. 1 The Ogwen and Cegin weirs (OS 6" Carnarvonshire VII NW, 1920)

Plate 1 Ogwen Weir in the 1960s (photograph by kind permission of John Duggan)

Plate 2 Friars Bach Weir 1940s or 50s (photograph by kind permission of Brigid Dempsey)

Plate 3 John Girling at Friars Bach Weir, late 19th/early 20th century (photograph by kind permission of Brigid Dempsey)

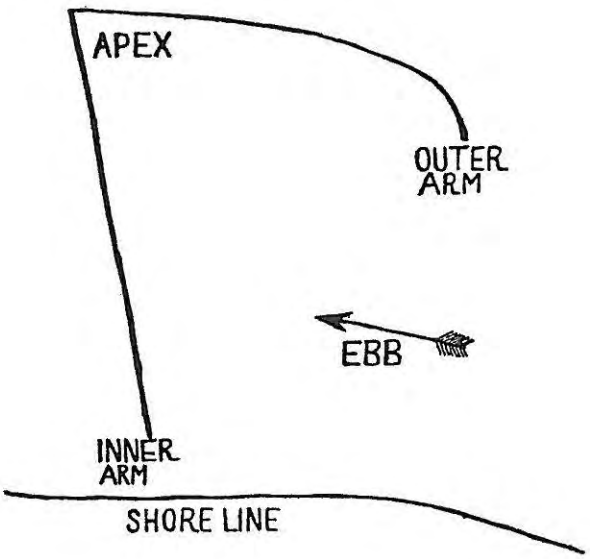

Fig.2 General type for fish weirs (Davis1958)

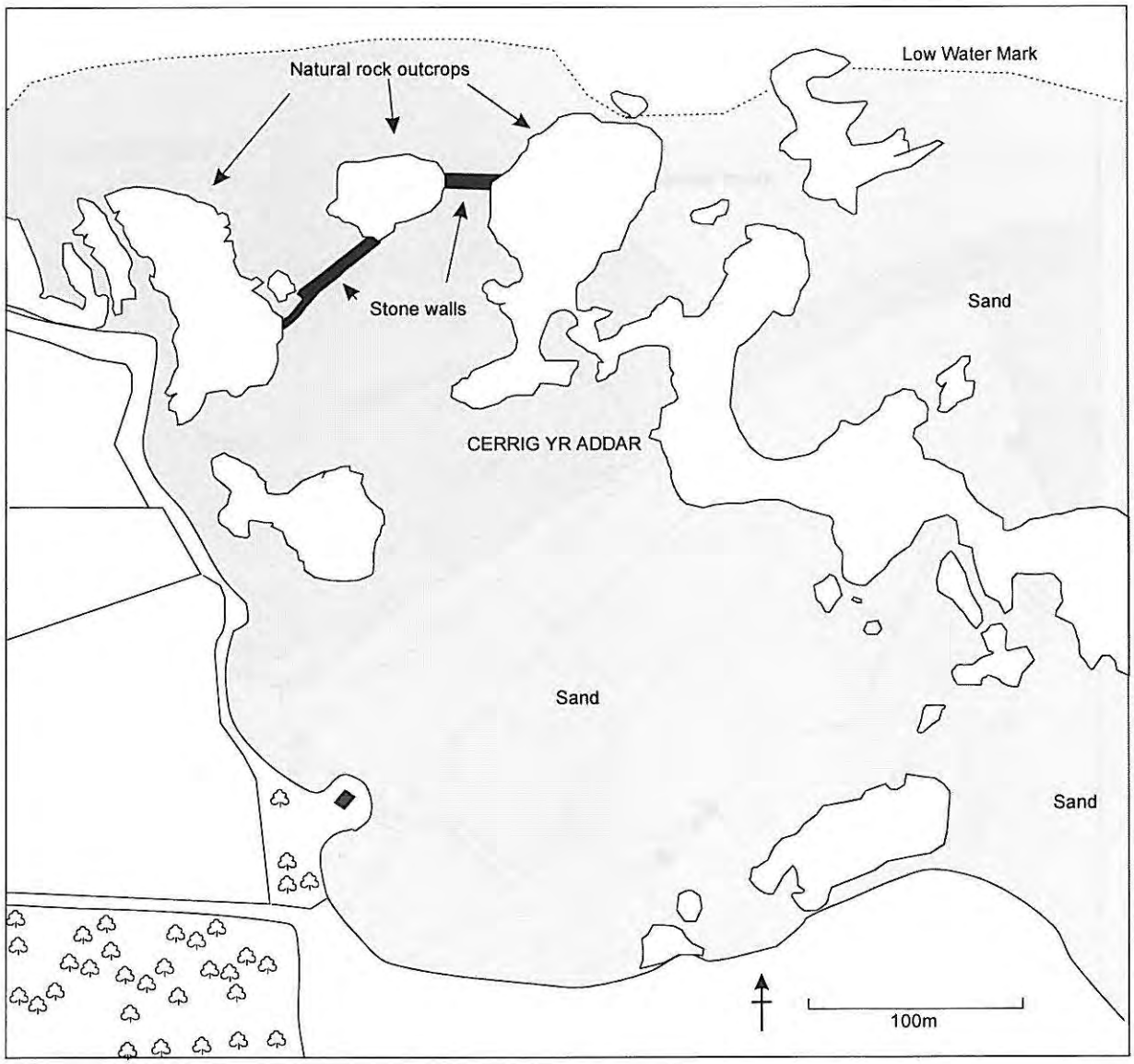

Fig. 3 Cerrig yr Addar Class A fish weir

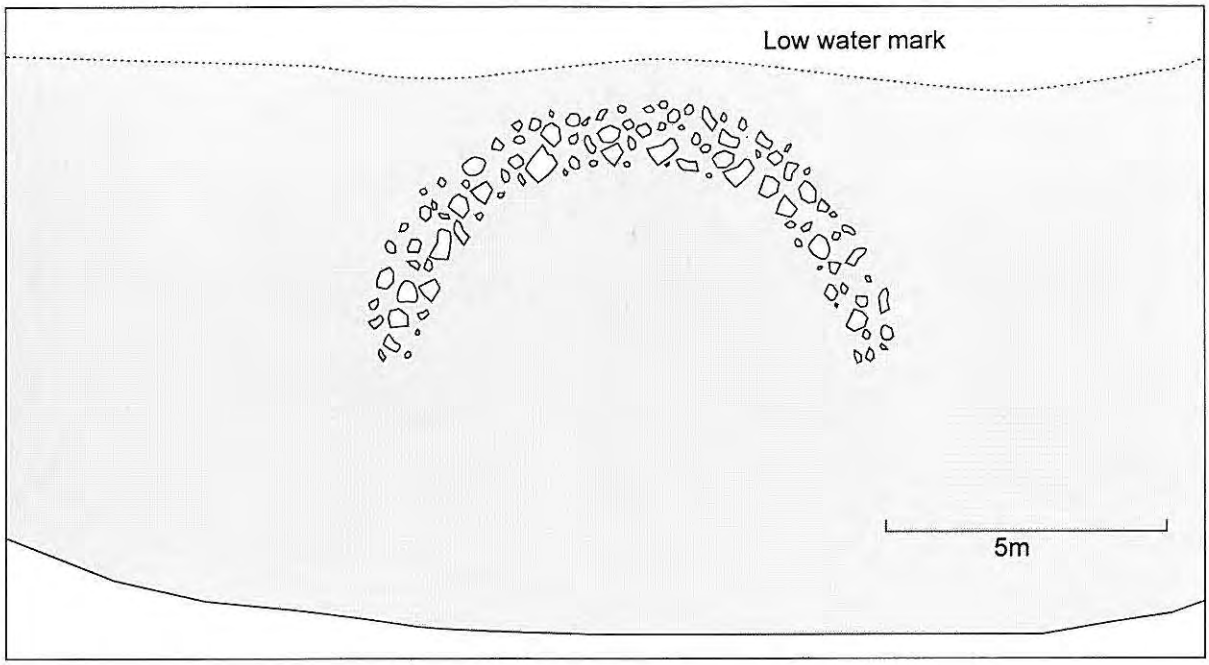

Fig.4 Sketch plan of a typical Class B1 fish weir

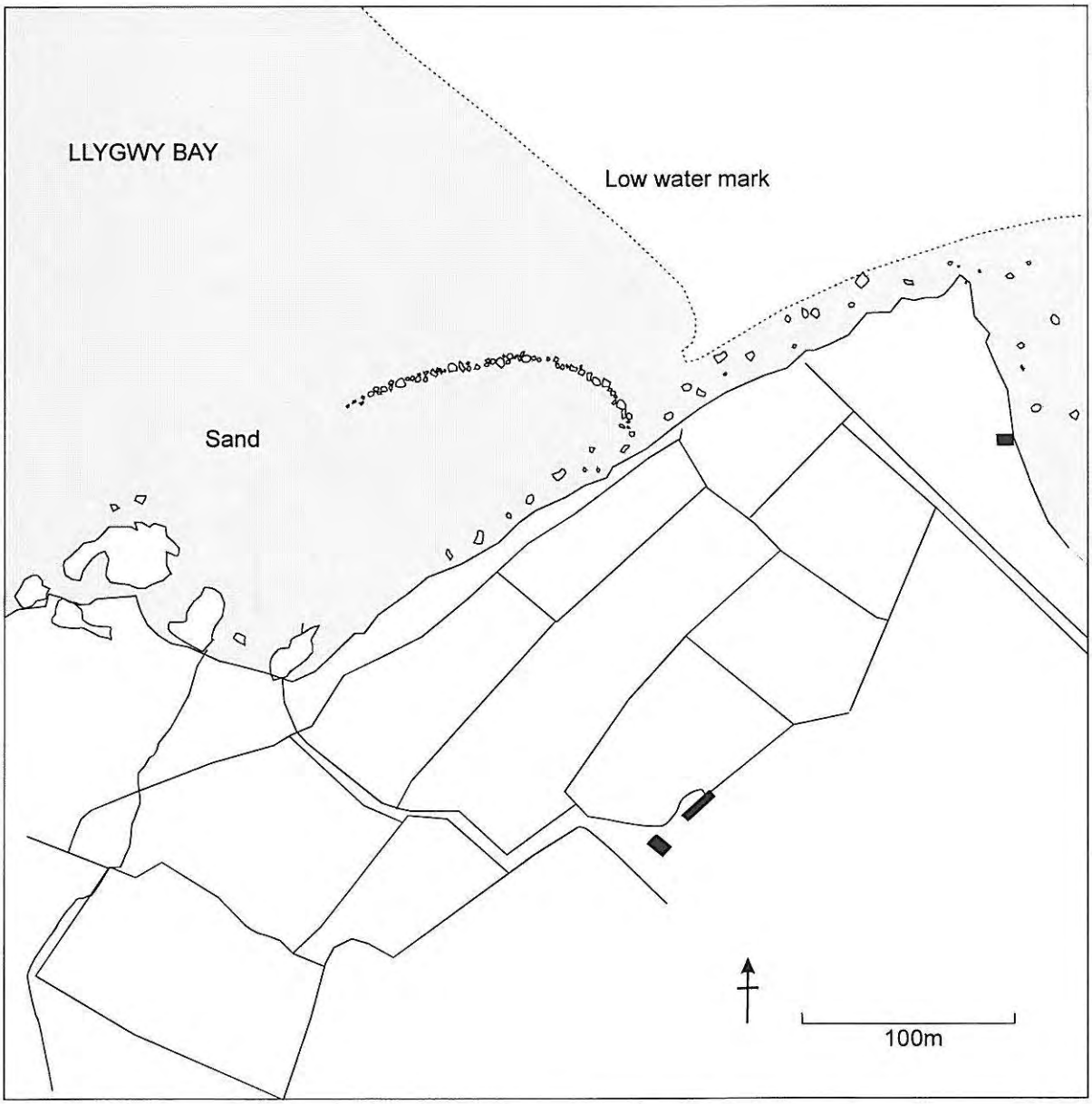

Fig. 5 Fish weir at Lligwy Bay (Class B2)

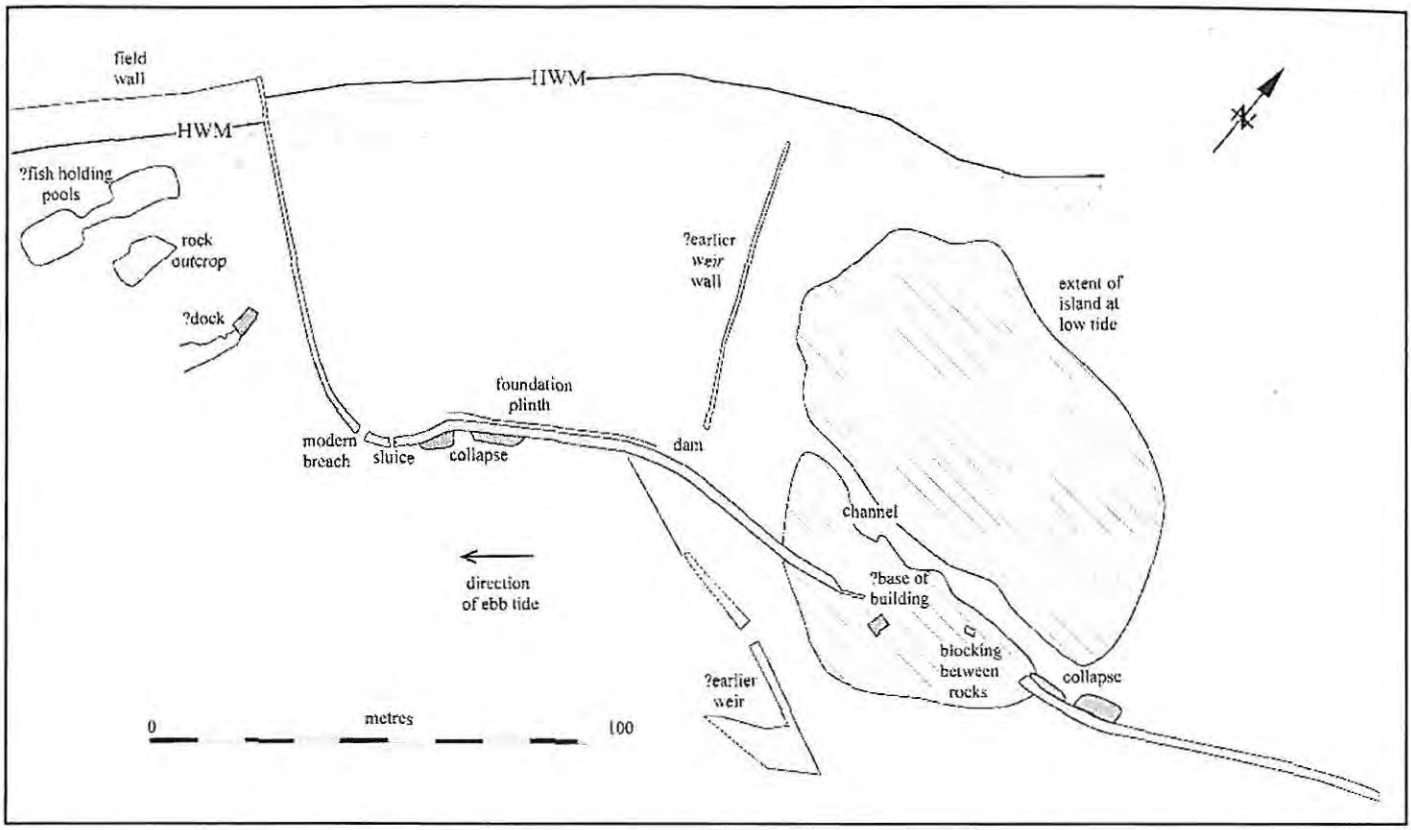

Fig. 7 Gorad Ddu Class D fish weir (from Richards 1998)

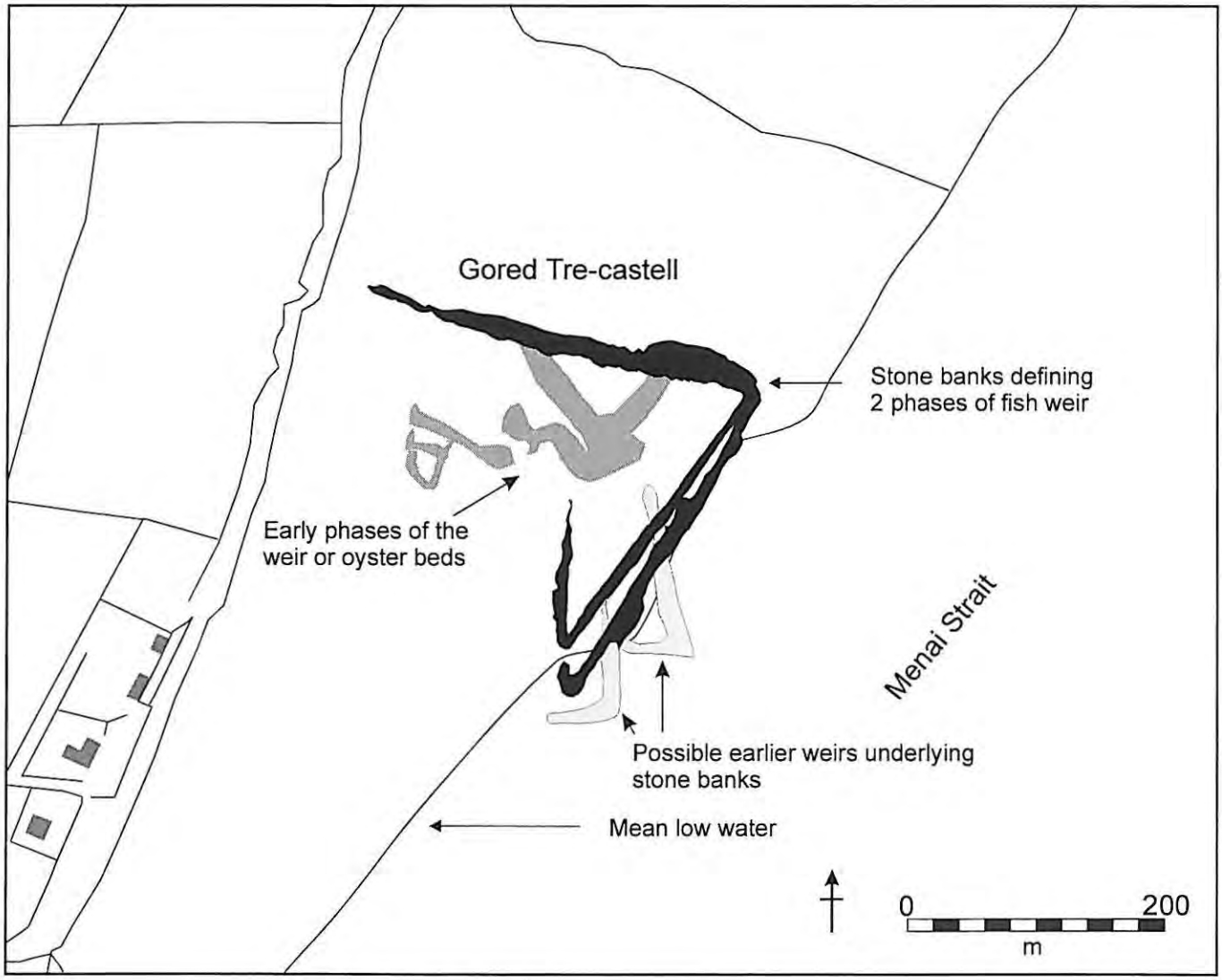

Fig. 8 Gored Tre-castell Class C and D fish weirs

APPENDIX 1

DEVELOPMENT OF CRITERIA FOR ESTABLISHMENT OF MONUMENT VALUE.

1. INTRODUCTION

The current project developed from the realisation that coastal fish weirs are under-represented on the regional SMRs and were not receiving adequate protection from either statutory measures or the planning process.

Analysis of this monument type is still in its infancy. Few attempts have been made to establish absolute dates for fish weirs in Wales. Work in the Severn Estuary (Bell, Caseldine and Neumann, 2000) has, however, demonstrated that prehistoric fish trap technology existed in Wales. The majority of weirs that are currently visible appear to have originated in the Medieval period. The tradition of using fish weirs continued to be widespread until the late 19th Century.

The monument type shows a moderate diversity of form, some of which is clearly attributable to local topography and tradition. A correlation between form and date has yet to be demonstrated. A broad morphological classification has, however, been developed within this paper as an aid to comparative study.

The purpose of the present study is to provide an assessment of each monument in order to identify the monument's value for statutory protection. The data thus generated will also provide a basis for analysis of the monument type.

The value of a monument is determined by various criteria set out by the National Assembly for Wales. The criteria for scheduling ancient monuments allow an unbiased judgment of the point at which a monument can be seen to be of national importance and therefore be suitable for scheduling. The relevant criteria are defined individually below.

At present only one coastal fish weir is scheduled in Gwynedd.

2. DEFINITION OF MONUMENT CLASS

The first requirement of any programme of statutory protection is a definition of monument class. The English Heritage Monuments Protection Programme (MPP) Monument class description (MCD) provides a relatively narrow definition applying mainly to large V or L shaped weirs and demonstrates that a broader definition capable of including regional variations would be advantageous.

A coastal fish weir can therefore be defined as:

An absolutely fixed and enduring structure built within the inter-tidal zone for the purpose of catching fish. This definition specifically excludes temporary nets and barriers, coastal water-filled features (such as oyster beds) and river fisheries.

The definition includes a variety of designs of traps, set between the high and low water mark, usually constructed from stone or wood. The scale ranges from small structures a few metres across to large and often complex structures with elements extending to several hundred metres in length.

Coastal fish weirs can usually be demonstrated to have been long-lived, undergoing a constant programme of repair and modification. Many Medieval weirs can be shown to have continued in use until recent times.

There are four characterisation criteria and eight discrimination criteria for assessing the national importance of monuments. These need to be refined in relation to each monument class. The following definitions therefore apply to coastal fish weirs as defined above.

3.1 Characterisation Criteria

The four characterisation criteria apply to fish weirs in Gwynedd, and by extrapolation, across the whole of Wales, as follows:

3.1.1 Period (currency)

Long-lived. Fish weirs in Gwynedd have been demonstrated to have been in use since the twelfth century and were probably in use before this time. Prehistoric fish weirs have been identified elsewhere in Wales.

3.1.2 Rarity

Rare. Only 37 examples of coastal fish weirs (0.2%of the total number of monuments recorded on the regional SMR) have been positively identified around the coast of Gwynedd.

3.1.3 Diversity (form)

Medium. The form and size of recorded fish weirs recorded in the pilot study exhibits a degree of variation with four main types so far identified. A geographically wider study may reveal further diversity of form.

3.1.4 Period (representivity).

Low. Fish weirs are just one of many classes of Prehistoric, Medieval and Post Medieval monument and as such are not representative of a particular period.

3.2 Discrimination Criteria

Eight discrimination criteria were originally set out by the Secretary of State in 1983 and are described in the English Heritage MPP Monument Evaluation Manual. These criteria can also be applied to monuments in Wales. Five of these break down into two separate parts giving a total of thirteen criteria. Two additional criteria, not explicitly stated by the Secretary of State, are laid out in the Monument Evaluation Manual. The expanded set of fifteen criteria are to be used in the discrimination of coastal fish weirs as follows:

3.2.1 Period

This criterion cannot be applied to site visits as the monument class encompasses several periods and the current state of knowledge does not allow different types of fish weirs to be allocated to specific periods. Medieval documentation does, however, give some indication to periods of use.

3.2.2 Rarity

There are some monument categories which are so scarce that all sites retaining archaeological potential should be preserved. Fish weirs do not, however, fall within this category. A selection should be made that preserves both unusual and commonplace examples taking into account all aspects of the distribution of a particular class of monument, both in a national and regional context. The selection of a representative sample of the resource can be carried out using the criterion of Diversity (types).

3.2.3 Documentation (historical)

Many fish weirs were owned by the larger estates and ecclesiastical bodies and were therefore recorded in the relevant estate papers. Smaller weirs may appear in the historical record as place names. It is proposed that the Documentation (historical) be rated as follows:

LOW	No documentary records
MEDIUM	A single documentary source
HIGH	Two or more documentary sources

3.2.4 Documentation (archaeological)

Very few examples of this monument class have been surveyed or recorded in detail. It is proposed that the Documentation (archaeological) be rated as follows

LOW	Brief description, annotated sketch survey.
MEDIUM	Detailed description, measured survey.
HIGH	Detailed description, survey, excavation.

3.2.5 Group Value (clustering)

Coastal fish weirs can occur singly or in groups reflecting both topographic and socio-economic constraints on their siting. The large scale of the monuments requires that sites within a 2km radius be considered. It is proposed that the Group Value (clustering) be rated as follows:

LOW	Fewer than 2 similar sites within 2km.
MEDIUM	Between 2 and 4 similar sites within 2km.
HIGH	More than 4 similar sites within 2km.

3.2.6 Group Value (association)

Coastal fish weirs may be associated, either temporally or spatially, with a wide range of other classes of contemporary monuments. It is proposed that Group Value (association) be rated as follows:

LOW	Fewer than 2 associated sites within 1km.
MEDIUM	Between 2 and 5 associated sites within 1km.
HIGH	More than 5 associated sites within 1km.

3.2.7 Survival

This criterion assesses the survival of the monument both above and below ground. It is usually possible to establish the overall layout of a fish weir and survival can thus be scored as a proportion of the total original area left intact. It is proposed that Survival be rated as follows:

LOW	Less than one-third of the original area left intact.
MEDIUM	One third to two-thirds of the original area left intact.
HIGH	Over two-thirds of the original area left intact.

3.2.8 Potential

This is one of the most important criteria in archaeological terms, relating to the preservation of archaeological and palaeo-environmental evidence. This is particularly important in a poorly studied monument class such as coastal fish weirs because waterlogged deposits or evidence of constructional details have the potential to add greatly to the understanding of the site type. It is proposed that the potential be rated as follows:

LOW	Stone walls or banks only.
MEDIUM	Well-preserved masonry and some wood survival.
HIGH	Good organic preservation. Substantial timber survival.

3.2.9 Diversity

This is divided into two criteria; features and types.

Diversity (features)

The main components of fish weirs are the arm running from the shore, the arm at low tide, stone walls, wooden posts, wattle, sluice, subsidiary arms and traps, track running from the shore. Some weirs may incorporate all of these features; most will be less complex. It is proposed that Diversity (features) be rated as follows:

LOW	Less than 3 features.
MEDIUM	3 or 4 features.
HIGH	More than 4 features.

Diversity (types)

This criterion, examining the rarity of various types of weir, depends on the existence of a widely accepted typological classification. A provisional classification (see above) has identified four classes and one sub-class of fish weir as follows:

Class A	Modified natural features.
Class B1	Simple curvilinear, not running from the shore.
Class B2	Extended curvilinear, running from the shore.
Class C	Simple V.
Class D	Extended V. A single V-shaped weir running from the shore to low tide.

Weirs that cannot be allocated to a class, as a result of poor preservation or lack of information, should be classified as Class U (Unclassified).

Class D weirs have been shown to be most common within the pilot area. Class B2 weirs have been shown to be widely distributed but relatively scarce. Few examples of Class A, B1 and C weirs have been recorded. It should be noted that this distribution pattern does not necessarily extend beyond the area encompassed by the pilot study (i.e. Gwynedd) and should therefore be seen as a regional distribution until a wider geographical range has been studied. It is proposed that Diversity (types) be rated as follows:

LOW	Class D or U
MEDIUM	Class B2.
HIGH	Class A, Class B1 and Class C

3.2.10 Condition

This criterion overlaps to some degree with survival but can be seen as an assessment of the upstanding remains in relation to both landscape context and land use. The condition may be rated as 'high' where the site is well managed with no need for capital works; most sites that stand on stable 'natural' foreshore would fall into this category. A 'medium' rating would be assigned where a site was showing some signs of neglect but not requiring major capital works. A site showing serious signs of neglect or damage would be assigned a 'low' rating.
To summarise, it is proposed that Condition rated as follows:

LOW	Poorly maintained, serious problems of neglect or damage.
MEDIUM	Moderately maintained, signs of neglect. Capital works not required.
HIGH	Site is well managed.

3.2.11 Fragility

Coastal fish weirs exist within a mobile environment that can result in the exposure of unstable or fragile features. In many cases stability is comparable to terrestrial sites, with vegetation and silts acting to protect the monument. It is proposed that Fragility be rated as follows:

LOW	Stable stone banks, well colonised by shellfish/vegetation or protected by silt or sand.
MEDIUM	Exposed stone banks or masonry, partial colonisation.
HIGH	Unstable banks or masonry, exposed woodwork.

3.2.12 Vulnerability

The level of the vulnerability of a site is related to the nature and stability of the immediate environment and in the case of fish weirs to the current land-use both around the weir and above the high water mark. It is proposed that Vulnerability be rated as follows:

LOW	Stable foreshore, sympathetic use.
MEDIUM	Minor coastal erosion, possible threat from inland development or unsympathetic use on foreshore.
HIGH	Coastal erosion or immediate threats posed by inland development.

The two additional criteria can be applied to coastal fish weirs as follows.

3.2.13 Amenity Value

This criterion rates the potential of a monument as a visual, educational and recreational resource within the landscape. It is proposed that Amenity Value be rated as follows:

LOW	Remains not visible or mutilated.
MEDIUM	Remains visible but not easily understood by the layperson
HIGH	Remains easily visible and understandable.

3.2.14 Nature Conservation Value

Many coastal fish weirs have some effect on inter-tidal ecology and often provide a habitat for many species of plants and animals. It is proposed that Nature Conservation Value be rated as follows:

LOW	No added ecological interest.
MEDIUM	Feature supports added species diversity.
HIGH	Feature supports greatly enhanced diversity and/or unusual species or habitat.

3.3 Professional Judgment

The above criteria should not be regarded as definitive; rather they are indicators which contribute to a wider judgment based on the individual circumstances of a case (Welsh Office Circular 60/96). An excessively rigorous application of the criteria can favour one type within a Monument class or exclude unusual sites. In the case of coastal fish weirs it will be necessary to consider the Diversity (types) criteria in detail in order to ensure that the diversity found within this monument class is fully represented, both between and within the different types. The potential that sites hold for adding to the, at present, sparse, body of knowledge about coastal fish weirs should also be considered to be of great importance. Particular weight should be given to multi-phase sites containing anaerobic conditions where wood could be used to establish a chronological succession of types.

APPENDIX 2

SITE GAZETTEER

1. Key

Several fields are scored. The key to these fields is as follows.

Site Topography 1. Foreshore
2. Estuary
3. Foreshore adjacent to river mouth

Shore slope 1. Slight
2. Moderate
3. Steep

Trap class A. Modified natural features.
B1. Simple curvilinear, not running from the shore.
B2. Extended curvilinear, running from the shore.
C. Simple V.
D. Extended V. A single V-shaped weir running from the shore to low tide.
U. Unclassified.

Opening Facing 1. Shore
2. Angled towards ebb tide
3. Angled towards flood tide

Physically Associated structures:
Phasing 1. Earlier
2. Contemporary
3. Later

Public Access 1. Bad
2. Poor
3. Fair
4. Good
5. Very good

Gen. Condition 1. Bad
2. Poor
3. Fair
4. Good
5. Very good

Land use site 1. Natural
2. Tourist amenity
3. Static fisheries

Land use inland 1. Agriculture
2. Residential
3. Industrial
4. Promenade
5. Woodland
6. Dunes

Threats (score) 1. Slight
2. Medium
3. Severe

Scheduling Criteria

Documentation (historical)
1. No documentary records
2. A single documentary source
3. Two or more documentary sources

Documentation (archaeological)
1. Brief description, annotated sketch survey.
2. Detailed description, measured survey.
3. Detailed description, survey, excavation.

Group Value (clustering)
1. Fewer than 2 similar sites within 2km.
2. Between 2 and 4 similar sites within 2km.
3. More than 4 similar sites within 2km.

Group Value (association)
1. Fewer than 2 associated sites within 1km.
2. Between 2 and 5 associated sites within 1km.
3. More than 5 associated sites within 1km.

Survival
1. Less than one-third of the original area left intact.
2. One-third to two-thirds of the original area left intact.
3. Over two-thirds of the original area left intact.

Potential
1. Stone walls or banks only.
2. Well-preserved masonry and some wood survival.
3. Good organic preservation. Substantial timber survival.

Diversity (features)
1. Less than 3 features.
2. 3 or 4 features.
3. More than 4 features.

Diversity (types)
1. Class D or U
2. Class B2.
3. Class A, Class B1 and Class C

Condition
1. Poorly maintained, serious problems of neglect or damage.
2. Moderately maintained, signs of neglect. Capital works not required.
3. Site is well managed.

Fragility
1. Stable stone banks, well colonised by shellfish/vegetation or protected by silt or sand.
2. Exposed stone banks or masonry, partial colonisation.
3. Unstable banks or masonry, exposed woodwork.

Vulnerability
1. Stable foreshore, sympathetic use.
2. Minor coastal erosion, possible threat from inland development or unsympathetic use on foreshore.
3. Coastal erosion or immediate threats posed by inland development.

Amenity Value
1. Remains not visible or mutilated.
2. Remains visible but not easily understood by the layperson
3. Remains easily visible and understandable.

Nature Conservation Value
1. No added ecological interest.
2. Feature supports added species diversity.
3. Feature supports greatly enhanced diversity and/or unusual species or habitat.

PRN 14596 **SURVEY NUMBER** 01 **NGR** SH16602600 **MAP SQUARE** 12SE
SITENAME ABERDARON TEMPORARY WEIRS **LOCATION:** ABERDARON

SITE DESCRIPTION

Davis records in The Fishing Gear of England and Wales, 1958 that an old man used to build small temporary weirs at Aberdaron within living memory. Jones and Bannerman (1999) record a weir at this location. Both a careful field search and examination of aerial photographs failed to locate the weir at or close to the given map reference. A boulder bank that appeared to be natural and was high up the beach could have been the feature identified.

SITE 1 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	1	
				TOTAL: 15
GROUP VALUE CLUSTERING	1	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT D **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 8/11/1999

PRN 7193 **SURVEY NUMBER** 02 **NGR** SH29058071 **MAP SQUARE** 28SE
SITENAME FISH TRAP **LOCATION:** NEWLANDS

SITE DESCRIPTION

Large and well preserved trap. The arm running from the shore is somewhat fragmentary but incorporates a large outcrop of rock and length of single skin boulder walling. The trap then runs from the outcrop as a 1.6m wide double faced wall with rubble core standing to a height of about 1m. The wall continues out to the edge of the river channel before turning through 90 degrees. A breach in the wall at this point may be the remains of a sluice but the water backed up in the trap was too deep to allow this feature to be examined. The long arm of the trap runs parallel to the shore for 200m before turning in a few degrees and running in a straight line for a further 100m. The line of the wall meanders somewhat and there are a few minor breaches in the upper part of the wall. The outer wall stands to a height of between 0.8 and 1.4m and is sub trapezoidal in section i.e. with both faces battered but the outer more upright than the inner. The wall is 1.4m wide at the base narrowing to 1.2m at the top. The end of the trap appears to have been modified at least once. A rough line of stones continues from the end of the wall towards the shore and another line of stones continues from the same point back towards the interior of the trap in a similar style to many of the Menai Straits weirs. Jones (1983) states that the trap extends for over half a mile, this must be seen as an exaggeration as the outer wall does not continue for more than 350m.

SITE 2 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 230 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 2-3

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Place names Gorad Road and Plas Gorad

PUBLIC ACCESS 5 **GENERAL CONDITION** 5 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT Long term threat possible from encroachment of inland development and coastal
MANAGEMENT RESPONSE The most complete stone built trap outside the Menai Straits. The encroachment of inland development and construction could prove to be threat. Should probably be scheduled.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	1	**CONDITION**	3	
				TOTAL: 28
GROUP VALUE CLUSTERING	2	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	2	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 7/11/1999

PRN 7170 **SURVEY NUMBER** 03 **NGR** SH27468171 **MAP SQUARE** 28SE
SITENAME FISH TRAP **LOCATION:** CERRIG Y ADAR

SITE DESCRIPTION

A very simple trap, utilising the numerous outcrops known as Cerig yr Adar, on a sandy beach to the north of Penrhos nature reserve. Two lengths of ruinous walling, shown on early OS maps as bedrock, complete a semicircle formed by the outcrops. The wall stands to a maximum height of 0.4m with occasional surviving facing stones. The walls are generally spread to about 4m which could either represent collapse or a stone bank used as a base. The site was visited in foul weather and the outer wall was not accessible as waves were breaking over it.

SITE 3 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** 200 **m**

TRAP CLASS A

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 1 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 5

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	3	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 27
GROUP VALUE CLUSTERING	2	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	1	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 5/11/99

PRN 7171 **SURVEY NUMBER** 04 **NGR** SH27788115 **MAP SQUARE** 28SE
SITENAME FISH TRAP **LOCATION:** PENRHOS

SITE DESCRIPTION

Very fragmentary remains of a possible weir. The most visible feature is a low stone bank running out into the river channel. This could be natural. Three wooden posts in the vicinity do not appear to be directly associated with the trap.

SITE 2 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** 250 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 2 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 5

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 21
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	2	**VULNERABILITY**	1	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT D **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 5/11/1999

PRN 7172 **SURVEY NUMBER** 05 **NGR** SH27658199 **MAP SQUARE** 28SE
SITENAME FISH TRAP **LOCATION:** PENRHOS

SITE DESCRIPTION

A rectangular weir shown but not named on turn of the century OS 1:2500. The apex of the weir, about 120m from the shore, is formed by a large rock outcrop. The rest of the weir is visible as an 8m wide spread stone bank. The outer arm also incorporates an outcrop and is about 60m long.

SITE 2 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** 120 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 5

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 22
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	3	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT C **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 5.11.99

PRN 14597 **SURVEY NUMBER** 06 **NGR** SH32002900C **MAP SQUARE** 32NW
SITENAME CORED **LOCATION:** ABERSOCH

SITE DESCRIPTION
Site not located. Majority of Abersoch and adjacent beach walked. Aerial photos from coastal survey consulted but nothing visible.

SITE **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:
DOCUMENTATION, ARCHAEOLOGICAL
DOCUMENTATION, HISTORICAL
GROUP VALUE, ASSOCIATION
GROUP VALUE CLUSTERING
SURVIVAL
DIVERSITY, FEATURES

DIVERSITY, TYPE:
POTENTIAL
AMENITY VALUE
CONDITION
TOTAL:
FRAGILITY
VULNERABILITY
CONSERVATION VALUE

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 10/11/1999

PRN 14598 **SURVEY NUMBER** 07 **NGR** SH33403150 **MAP SQUARE** 33SW
SITENAME LLANBEDROG GORAD **LOCATION:** LLANBEDROG

SITE DESCRIPTION

Site recorded in Jones and Bannerman (1999). Several linear features could be seen on photographs taken for the coastal erosion survey any of which could be the fragmentary remains of a fish weir. Examination on the ground failed to reveal anything apart from a number of natural features on the rocky central part of the shore. No features could be located on the sandy part of the shoe below the town. This area could benefit from further survey and aerial photography as some remains may be buried in sand.

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:

DIVERSITY, TYPE:	
DOCUMENTATION, ARCHAEOLOGICAL	**POTENTIAL**
DOCUMENTATION, HISTORICAL	**AMENITY VALUE**
GROUP VALUE, ASSOCIATION	**CONDITION**
	TOTAL:
GROUP VALUE CLUSTERING	**FRAGILITY**
SURVIVAL	**VULNERABILITY**
DIVERSITY, FEATURES	**CONSERVATION VALUE**

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 10/11/99

PRN 5605 **SURVEY NUMBER** 08 **NGR** SH32304230 **MAP SQUARE** 34SW
SITENAME BOULDER BANK /FISH TRAP **LOCATION:** PORTH PISTYLL

SITE DESCRIPTION

A curving boulder bank runs out from the shore at about 45 degrees. The bank is about 6m wide and could be traced for 50m although it could extend further. The site was visited at an average low tide and much of it was still covered. A stone jetty runs 30m from the shore towards the centre of the possible trap. This is surrounded by various bits of corroded ironwork confirming its links to a quarry a few metres inland. It seems likely that the 'fish weir' acted as a breakwater for the jetty and was constructed for this purpose. It is could however predate the quarry and have been reused although its distance from the steeply sloping shore suggests that it could not have functioned as an efficient trap.

SITE 1 **SHORE SLOPE** 3 **DISTANCE FROM SHORE TO END OF TRAP** 60 **m**

TRAP CLASS B2

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Jetty in centre of possible weir associated with quarry inland.

PUBLIC ACCESS 3 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	2	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 23
GROUP VALUE CLUSTERING	1	**FRAGILITY**	3	
SURVIVAL	2	**VULNERABILITY**	3	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT E **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 10/11/99

PRN 891 **SURVEY NUMBER** 10 **NGR** SH40654983 **MAP SQUARE** 44NW
SITENAME FISH TRAP **LOCATION:** W OF CLYYNOG FAWR

SITE DESCRIPTION

Site known from OS maps and M.Sc. thesis and associated published article by G. Momber. Momber's evidence is based initially on a very dubious interpretation of Gored Aber Saint mentioned in a charter of Edward I and in the record of Caernarfon 1461-83. Gored Aber Saint is located at Clynnog because Beuno 'is the only local Saint'. This anglicised interpretation of the name seems to be unlikely. Later references referring to Cored Coed Alun on the water of Saynt (RCAWM 1550) place the weir in Llanbeblig probably at the mouth of the Seiont.

The site was visited at very low water (0.5m tide). The location given by Momber consists of a very substantial boulder bank with a sandy hollow and a curving low stony bank to one side. The boulder bank is about 100m long and could be the eroded remnants of a fish weir but could equally be natural or even an attempt at coastal defences. The hollow, and curving bank appear to be entirely natural being a product of local hydrological conditions caused by a promontory and the boulder bank.

A similar large stone and boulder bank can be seen at the next headland towards Aberdesach. This is close to the OS reference and could be the remains of a fish weir but again is most probably natural.

This part of the coast is quite exposed making the long term survival of any relatively fragile intertidal archaeological structures somewhat unlikely.

SITE 1 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** 120 **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Church and chapel of St Beuno

PUBLIC ACCESS 3 **GENERAL CONDITION** 2 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Desktop research to ascertain origins of Gorad St Beuno place name and position of trap on estate or tithe maps

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 19
GROUP VALUE CLUSTERING	1	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT E **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 26 Oct

PRN 14600 **SURVEY NUMBER** 13 **NGR** SH47506270C **MAP SQUARE** 46SE
SITENAME CORED ABER SAINT (SITE OF) **LOCATION:** ABER SEIONT

SITE DESCRIPTION

Gored Aber Saint or Seiont aka 3 weirs at Coed Helen are well documented. It was also noted that previous to the year 1799 salmon were taken in the Seiont where it touches with the Menai near the castle. Over fishing occurred to the point that the fish were almost wiped out and fines were levied on any further depredations. Nothing is now visible of these weirs.

SITE 2 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Record of Caernarfon links this weir with Clynnog. Later documentary links to Plas Coch and Coed Helen.

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	1	**CONDITION**	1	
				TOTAL: 15
GROUP VALUE CLUSTERING	1	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT E **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 25 October

PRN 14601 **SURVEY NUMBER** 14 **NGR** SH45306070 **MAP SQUARE** 46SE
SITENAME CORED GWYRFAI **LOCATION:** AFON GWYFRAI CHANNEL

SITE DESCRIPTION

A very well preserved rectangular trap currently being exposed as the sand is being eroded from the channel of the Gwyrfai. The rap runs about 120m from a promontory on the shore before turning 90 degrees towards the ebb with a substantial spur clearly visible turning back at 45 degrees. The arms consist of stone banks, 4m wide and up to 0.5m high. Wooden stakes 10 to 15cm in diameter were clearly visible for much of the outgoing arm. The site was visited in severe weather conditions and it was not possible to access the outer arm or spur. It is possible that this weir has been buried in the sand for some time and carbon dating of the exposed wood could therefore be seen as a priority. A repeat visit allowed better access and eight wood samples were taken for identification. Four were identified as Douglas fir, two as spruce/larch, one as beech and one as larch. This suggests tha the trap was used in recent times.

SITE 2 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** 140 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 3
DESCRIPTION: There are the remains of recent structures on the spit of land, possibly a jetty, at the shore end of the weir which may overlie the end of the weir.

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Links with St Beuno's at Clynnog (Record of Caernarvon)

PUBLIC ACCESS 4 **GENERAL CONDITION** 5 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 3 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Detailed recording, scheduling

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	3	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 29
GROUP VALUE CLUSTERING	1	**FRAGILITY**	3	
SURVIVAL	3	**VULNERABILITY**	3	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 25 Oct

PRN 7219 **SURVEY NUMBER** 20 **NGR** SH54647159 **MAP SQUARE** 57SW
SITENAME GORED DDU FISH TRAP **LOCATION:** MENAI BRIDGE

SITE DESCRIPTION

A very well preserved dry stone trap. The wall runs out at a right angle from the shore for 70m before tuning through 90 degrees to the east and curving towards a low rocky island 96m to the east. Much of the island is covered at high tide but the southern side stands to a similar height as the gorad wall and forms part of the barrier. A few traces of a wall can be seen on its highest point. The wall then continues for another 80m to the east. A natural channel through the centre of the island appears to have been artificially widened perhaps to allow an easier passage into the trap for the fish. A well defined sluice can be seen at the western end of the southern wall. The eastern side of the sluice is well preserved and contains a U shaped groove which in the latter days of the weir
held an iron grating (Lewes 1924). The western side of the sluice is now ruinous. The wall has been breached 5m to the west of the sluice and is very unstable at this point. The wall has lost structural integrity here and the tide flows into the weir through the breach thus causing further damage. The breach was caused when power cables were run to Ynys Gorad Goch in 1997. The wall was reinstated at the time but was obviously poorly built. When the site was surveyed less than a year later a 2m wide breach was visible.

SITE 1 **SHORE SLOPE** 3 **DISTANCE FROM SHORE TO END OF TRAP** 95 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 2

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 1
DESCRIPTION: There appears to be an earlier trap running through the centre of the enclosed area, site 75.

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Baron Hill Estate

PUBLIC ACCESS 4 **GENERAL CONDITION** 5 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT Erosion because of recent breach for power cables
MANAGEMENT RESPONSE The site is unique in both its form and preservation and should be scheduled. Good quality reinstatement work is also required by an experienced dry stone waller where the wall has been breached.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	2
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	3
GROUP VALUE, ASSOCIATION	3	**CONDITION**	2
		TOTAL:	33
GROUP VALUE CLUSTERING	3	**FRAGILITY**	3
SURVIVAL	3	**VULNERABILITY**	2
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	3

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 4 Nov

PRN 14621 **SURVEY NUMBER** 21 **NGR** SH59737290 **MAP SQUARE** 57SE
SITENAME CORED CEGIN **LOCATION:** NR PORT PENRHYN

SITE DESCRIPTION

A single row of round posts, some standing to a height of 0.6m at the inner end, each with a diameter of about 0.1m. The row of stakes run out from the shore to close to the tidal channel of the straits. A local fisherman, Dave Oats, claims that the stakes turn to the NE at the outer end but nothing could be seen during the site visit. The weir stands in the middle of an intensively farmed mussel bed and the activity of the dredgers could well have destroyed or buried the outer part of it. Not used within living memory but shown on 1st ed. OS and 1920s OS with modifications to accommodate new dock.

SITE 1 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 100 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Penrhyn Estate

PUBLIC ACCESS 2 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 3 **LAND USE INLAND** 5

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** 3 **STATIC FISHERIES THREAT** 3 **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE A site of this size cannot be adequately planned within the brief of this project. A total station plan before further destruction occurs would therefore be recommended.

Carbon dating of the wood

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	1	
				TOTAL: 22
GROUP VALUE CLUSTERING	2	**FRAGILITY**	2	
SURVIVAL	2	**VULNERABILITY**	2	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT D **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 1/10/99

PRN 1725 **SURVEY NUMBER** 22 **NGR** SH57347267 **MAP SQUARE** 57SE
SITENAME GORAD Y GYT **LOCATION:** BANGOR

SITE DESCRIPTION

Large weir consisting of two curving arms defined by low stone banks between 10 and 20m wide. A 16m length of wattle fence could be seen close to the inner end of the arm running from the shore. Stakes were mainly of oak.
The remains of rectangular oyster beds overlie the weir. A large proportion of the outer arm of the weir was destroyed in 1997 during the construction of a new sewage outfall.

SITE 1 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 220 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 3
DESCRIPTION: Oyster beds

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Penrhyn Estate. Place name Gorad Road

PUBLIC ACCESS 4 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 2 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	3	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	3	**CONDITION**	1	
				TOTAL: 26
GROUP VALUE CLUSTERING	2	**FRAGILITY**	2	
SURVIVAL	2	**VULNERABILITY**	2	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D Hopewell **DATE VISITED** 30/9/99

PRN 1719 **SURVEY NUMBER** 24 **NGR** SH58407350 **MAP SQUARE** 57SE
SITENAME FISHTRAP BANGOR PIER **LOCATION:** BANGOR

SITE DESCRIPTION

Possible fish weir running from close to the base of Bangor pier. Visible only as a 12m wide, 0.5m high stone bank running out into the straits. The outer end was not visible when site was surveyed. It is possible that this feature is the remains of an early jetty. More documentary evidence needed.

SITE 1 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 400 **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 3 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** 1 **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Further work is needed to definitely assign this site to the fish weir site type. Better AP coverage at low tide and documentary research should identify the site.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	3	**CONDITION**	2	
			TOTAL:	21
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	2	**VULNERABILITY**	2	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT C **NAME OF SURVEYOR** D Hopewell **DATE VISITED** 30/9/99

PRN **SURVEY NUMBER** 29 **NGR** **MAP SQUARE** 57SE
SITENAME BORTHWEN FERRY HOUSE WIER **LOCATION:** ?GLYN GARTH

SITE DESCRIPTION
Documentary evidence suggests that there was a trap at Borthwen ferryhouse. The name Borthwen is preserved as a farm name but no weir has as yet been located. Limited investigation only. Could be the same as Cadnant weir

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Baron Hill Estate

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Revisit and search this stretch of coastline after documentary research.

SCHEDULING CRITERIA:
DOCUMENTATION, ARCHAEOLOGICAL
DOCUMENTATION, HISTORICAL
GROUP VALUE, ASSOCIATION
GROUP VALUE CLUSTERING
SURVIVAL
DIVERSITY, FEATURES
DIVERSITY, TYPE:
POTENTIAL
AMENITY VALUE
CONDITION
FRAGILITY
VULNERABILITY
CONSERVATION VALUE
TOTAL:

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** Dec 1999

PRN 7221 **SURVEY NUMBER** 32 **NGR** SH54277131 **MAP SQUARE** 57SW
SITENAME FISH TRAP **LOCATION:** COED MOR

SITE DESCRIPTION

Dry stone trap similar in many ways to Gorad Ddu. Walls 1.2 to 1.5m wide standing to a maximum height of over 3m. Trap runs parallel to the shore from a small island for 100m. The NE end is ruinous but appears to turn back to the shore and form a sluice. This arm appears to incorporate an outcrop, the fish being trapped in a natural channel running parallel to the long arm of the wall. The wall is generally well preserved but breaches could be seen at several places along its length. No serious erosion was visible.

SITE 1 **SHORE SLOPE** 3 **DISTANCE FROM SHORE TO END OF TRAP** 90 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Site 77 is part of this fish trap

PUBLIC ACCESS 4 **GENERAL CONDITION** 5 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 5

THREATS: **NATURAL EROSION** 2 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE A very well preserved trap, part of a complex of weirs between the bridges. Site worth scheduling.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	3	**CONDITION**	3	
				TOTAL: 27
GROUP VALUE CLUSTERING	3	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	1	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 4/11/1999

PRN 2757 **SURVEY NUMBER** 33 **NGR** SH54507130 **MAP SQUARE** 57SW
SITENAME GORAD GOCH **LOCATION:** SWELLIES, MENAI STRAITS

SITE DESCRIPTION

It was not possible to visit the site as part of the survey. Site already scheduled. Description from SMR, F.M.Davies and Senogles. A unique weir comprising two stone built arms forming a rough double V (the island forms the central part) with iron grid trap sluices. The wall is surmounted by an iron railing imitative of an earlier wooden railing. The fish are caught behind two ramps by the force of the tide. Built in an unusual situation, this trap could be seen as a heavily modified Class E trap. It does, however, incorporate many unique features that set it apart from other traps of this type.

SITE **SHORE SLOPE** 3 **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS C

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 2

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: House and curing tower

PUBLIC ACCESS 1 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	3	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 31
GROUP VALUE CLUSTERING	3	**FRAGILITY**	1	
SURVIVAL	3	**VULNERABILITY**	1	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** N/A **DATE VISITED**

PRN 7214 **SURVEY NUMBER** 34 **NGR** SH56267275 **MAP SQUARE** 57SE
SITENAME FISH TRAP **LOCATION:** CADNANT

SITE DESCRIPTION

An L shaped stone bank forming a roughly square enclosure with the shore and a later causeway. The weir links Ynys Castell to the shore and presumably once formed a barrier across the channel between the island and the shore. The channel is now impeded by a causeway with sluices running beneath it.

The walls consist of spread stone banks for much of the weir. A well built and well preserved drystone wall however, runs out from the shore for 60m and forms part of the trap. This wall cannot be traced beyond this point; it is probable that it continued further out into the sea but has been robbed to provide stone for the causeway or nearby buildings.

A variety of stakes remain on the weir the earliest being oak stumps which could predate the wall if it continued out into the channel. A later row of metal and some square section wooden posts still stand along the top of the stone bank around the weir. Tatters of a variety of nylon nets can still be seen attached to these posts suggesting that the weir has been in use (illegally) in recent years. A channel runs from a tidal pool within the trap and a collection of stones at this point could be the remains of a sluice.

SITE 3 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 140 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 2

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 3
DESCRIPTION: Causeway and jetty overlie end of trap

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Baron Hill / Mostyn estates

PUBLIC ACCESS 3 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE A good example of a class D trap, this could be scheduled and certainly needs to be properly recorded.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	3	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 29
GROUP VALUE CLUSTERING	2	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	2	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D . Hopewell **DATE VISITED** 4/10/99

PRN 7228 **SURVEY NUMBER** 37 **NGR** SH50008723 **MAP SQUARE** 58NE
SITENAME FISH TRAP **LOCATION:** TRAETH LLIGWY

SITE DESCRIPTION

Very good example of a crescent shaped gorad. Walls 4m wide and up to 0.6m high with surviving facing to the top of the wall on the inside. The wall is built from regular rectangular blocks of limestone giving the impression of being dressed stone. Comparison with the blocks of stone on the foreshore shows that this is not so and is a result of the natural cleavage planes of the limestone. The gorad is roughly crescent shaped running at 90 degrees out from the shore for 45m before turning towards the east to form a long, slightly curving, arm running close to parallel to the shore for 103m. The site is located on the NW side of a steep headland which encompasses the side of the long sandy Lligwy bay.

SITE 1 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 100 **m**

TRAP CLASS B2

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 3 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 5 **GENERAL CONDITION** 5 **SITE AT RISK ?**
LAND USE SITE 2 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION** 1
OTHER THREAT
MANAGEMENT RESPONSE The most complete example of its type may be worth scheduling.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	2	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 26
GROUP VALUE CLUSTERING	1	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	1	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 22/10/1999

PRN 7204 **SURVEY NUMBER** 39 **NGR** SH57258123 **MAP SQUARE** 58SW
SITENAME FISH TRAP **LOCATION:** LLANDDONA

SITE DESCRIPTION

A roughly crescent-shaped trap comprising two slightly curving arms, one 120m in length running at 135 degrees (internally in relation to the trap) from the shore and the other extending to 225m and running diagonally across the bay. The gorad runs from the shore at the eastern end of the bay and the apex extends to just below mean low water. The long arm is the best preserved and retains some internal facing. Elsewhere it is ruinous and about 3m wide. The apex end of this arm is more strongly built than the shoreward and a thickening 85m from the apex may mark the remains of a structure. There is also a definite kink in the line of the wall at this point. Marked on Lewis Morris chart of 1748.

SITE 1 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 120 **m**

TRAP CLASS B2

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 3 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Baron Hill estate

PUBLIC ACCESS 5 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION** 0
OTHER THREAT
MANAGEMENT RESPONSE One of two well preserved weirs of this type. Possible scheduling.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	2	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	1	**CONDITION**	3	
				TOTAL: 25
GROUP VALUE CLUSTERING	1	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	1	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 21/10/1999

PRN 1722 **SURVEY NUMBER** 44 **NGR** SH62507920 **MAP SQUARE** 67NE
SITENAME FISH TRAP **LOCATION:** LLEINIOG

SITE DESCRIPTION

Weir with a pronounced right angle between the inner and outer arms. The wall from the shore consists of a stone bank up to 8m wide and 0.2 m high with a well defined line of stones along the top standing up to 0.4m in height. The outer wall could be traced for 220m.

A small structure could be seen, most clearly from APs, on the outer side of and close to the outer end of the wall from the shore. This could be a bass trap.

SITE 1 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 400 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** 1 **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Perhaps scheduling with the adjacent weirs. Full recording

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 24
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	3	**VULNERABILITY**	2	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 13/10/99

PRN 1723 **SURVEY NUMBER** 45 **NGR** SH62107860 **MAP SQUARE** 67NE
SITENAME FISH TRAP **LOCATION:** TRE-CASTELL

SITE DESCRIPTION

Well preserved subrectangular weir defined by spread banks of stone. The wall from the shore varies from a 20m wide bank to a 1.1 to 1.6m wide double line of facing stones very similar in appearance to that found on top of Gorad Bach (PRN 892). The outer wall clearly exhibits two phases both with spurs. The inner of the two is 7m wide, the outer10m wide. Two additional possible spurs run out into the channel of the Straits from the outer phase. As both walls are nothing more than stone banks it is impossible to say which is earlier. Several other vague alignments of stone can be seen from the Aps. One seemingly running from the inner arm of the gorad. This could be an earlier phase. The other stones are probably the remains of oyster beds. No wood

SITE 3 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 350 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 3

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Mostyn Estate

PUBLIC ACCESS 4 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** 1 **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Full recording Possible scheduling

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
			TOTAL:	29
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	3	**VULNERABILITY**	2	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D Hopewell **DATE VISITED** 13/10/99

PRN 892 **SURVEY NUMBER** 46 **NGR** SH61507770 **MAP SQUARE** 67NE
SITENAME FISH TRAP (FRIARS, BACH) **LOCATION:** NE OF BEAUMARIS

SITE DESCRIPTION

A small weir with an unusually elongated outer arm. The inner arm runs from the shore at 90 degrees for 75m. The outer arm then runs at 90 degrees from this (to the SW) and is 88m long. A spur turns back towards the shore at an angle of 45 degrees for 20m. An unusual further spur then turns back into the interior of the trap. This can be traced for about 15m. The stonework is well preserved, much of the trap is defined by a 4m wide bank standing to a height of about 0.5m. The outside of the outer arm is defined by large facing stones standing up to a height of 0.8m in places. The remains of a row of posts runs along the centre of the wall. Two lines of possible facing stones stand to either side of the posts making a 'wall' 1.6m wide and 0.2m high. The core of this structure presumably formed part of the post holes but this has now been eroded away. The posts have an average diameter of between 0.1 and 0.15m and some of them can be positively identified as oak. A few posts stand to a height of 2.0m close to the shore but elsewhere the posts have been eroded down to stumps. A bass trap can be seen 37m from the outer end of the outside arm. This is now poorly defined and can only be seen as a thickening of the outside of the wall forming a small platform at the edge of the low tide mark. A few metal stakes can be seen here but these may not be contemporary. The remains of what appears to be a navigation beacon lies in the channel close to the end of the outer apex. The last inturning spur is low but well defined by a row of facing stones. A row of stumps can be seen on the inside of the outer wall perhaps representing part of an earlier phase of construction.

The weir was used until the mid 1960s by the Girling family who still live in Gorad Bach cottage. Brigid Girling kindly passed on the following information about the weir. The lease to the weir was taken by John Girling in the mid 19th century after he moved from Essex and rented oyster beds below the present Beaumaris Green. A photograph of John Girling remains, probably dating from the end of the 19th century, showing him taking whitebait from the weir with a small net. The photograph was taken from the inside of the weir and shows several details of its construction. Inner facing of the stone work was standing to a height of at least 0.5m. The stake and wattle component was very substantial with oak stakes standing to a height of about 3m and wattle to a height of about 2.2m. The lower 0.7m of wattle was very tightly woven from thin wands and the upper part was more coarsely woven from thicker wood.

Several photographs of the weir exist, some apparently dating from between the 1920s and 1940s, showing a wattle fence extending as far as the end of the first spur. The final spur was visible only as a stone feature suggesting that, at least in latter days, that it was used as a causeway to the bass trap.

The exact method of the functioning of the bass trap remains unclear but it appears that whiebait and small fish were allowed into the trap, perhaps through a smaller wattle mesh, thus attracting the carnivorous bass which were in turn caught in the bass trap by the falling tide. The main weir does not appear to have included a sluice, the fish being removed from the

SITE 1 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** 75 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 2

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 3
DESCRIPTION: NAVGATION BEACON NOW LIES ON THE OUTSIDE OF THE ARM AT LOW TIDE

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: WEIR COTTAGE

PUBLIC ACCESS 4 **GENERAL CONDITION** 5 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** 1 **STATIC FISHERIES THREAT** 1 **VISITOR EROSION** 1
OTHER THREAT 3 crabbing, see site description
MANAGEMENT RESPONSE Scheduling although it is difficult to see how to stop the activities of the crab hunters.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	3	**CONDITION**	2	
				TOTAL: 31
GROUP VALUE CLUSTERING	2	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	2	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	3	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D Hopewell **DATE VISITED** 7/10/99

PRN 14605 **SURVEY NUMBER** 47 **NGR** SH65607450 **MAP SQUARE** 67NW
SITENAME LYME KILN WEIR (SITE OF) **LOCATION:** BEAUMARIS

SITE DESCRIPTION

Lyme kiln weir is reasonably well documented (Davies 1942) and thought to be located off the present town of Beaumaris. Nothing could be identified on the ground. Further documentary work would be helpful in pinpointing the location of this weir and assessing the chances of survival.

SITE **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	1	
				TOTAL: 16
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT D **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 5/10/99

PRN 14606 **SURVEY NUMBER** 48 **NGR** SH61007630 **MAP SQUARE** 67NW
SITENAME FERRYMAN WARTH **LOCATION:** BEAUMARIS

SITE DESCRIPTION

Rather vague rectilinear stone bank that now encompasses a small tidal pool with a small wrecked boat in it. The bank does not run completely parallel to the shore and resembles the outer part of a fish trap. Historical sources record a trap between Beaumaris and the Friary from 1439 onwards probably called Ferryman's Warth. B. Girling records that John Girling had oyster beds in this area at the end of the 19th century probably overlying this weir

The stone bank is a maximum of 5m wide and 0.3m high. The outer wall stands 180m from the shore and is 70m long. The walls between the shore and the trap can be traced for about 25m but it is not clear which runs to the shore. A kink in the southernmost wall may indicate the end of a spur and the beginning of the oyster beds. The remains of a stone wall at the top of the beach may represent the end of the inner, northern wall. Probable oyster beds can be seen about 500m to the N and the faint remains of a jetty 600m to the south.

SITE 1 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** 180 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 3
DESCRIPTION: slipway may overlie end of trap. In addition possible reuse as oysterbeds

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 2 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	3	**CONDITION**	3	
				TOTAL: 24
GROUP VALUE CLUSTERING	3	**FRAGILITY**	1	
SURVIVAL	2	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT C **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 5/10/99

PRN 5466 **SURVEY NUMBER** 49 **NGR** SH60007300 **MAP SQUARE** 67SW
SITENAME OGWEN FISH WEIR **LOCATION:** BANGOR

SITE DESCRIPTION

Very large and well preserved fish weir stretching out 800m into the straits. The arm running from the shore initially runs out at a right angle to the shore before meandering and curving towards the east. The outer arm cuts back at 90 degrees to the end of the above and runs for 300m alongside the Ogwen channel. A final spur runs back towards the shore for about 150m. The most unusual feature of this weir is the use of slate posts. The majority of the two main arms consist of slate posts at a spacing of about 2m, with round-section oak posts (plus an occasional square one) as a base for the wattle between them. The stonework is limited to a narrow rocky bank, presumably as a protection against scouring at the base of the stakes. The remains of a sluice can be seen at the apex of the trap and the remains of recent activity are visible here. The outer 70m or so of both arms includes tubular steel posts along with the wooden and slate. Occasional lengths of rope and net survive, strung between the posts. Erosion by the Ogwen channel has uncovered parts of numerous earlier phases of the weir. Up to 17 rows of posts are visible some with remnants of wattle. A further row of posts runs off the outer arm into the Ogwen channel for at least 20m.

A well preserved section of fallen wattle fence is preserved in the mud close to the apex of the weir.

The weir was in use until the 1960s as part of the Penrhyn estate. Details about its function and operating practice could be obtained from some of the older residents of Bangor.

A section of slate posts have been lost or removed and dredgers from the mussel fisheries now operate within the area encompassed by the weir

SITE 3 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 800 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 5

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Site owned and operated by Penrhyn estate

PUBLIC ACCESS 4 **GENERAL CONDITION** 5 **SITE AT RISK ?**
LAND USE SITE 3 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 2 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** 3 **STATIC FISHERIES THREAT** 3 **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Scheduling. Regulation of activities of mussel farmers. Collection of oral history about form and function.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	3	
DOCUMENTATION, HISTORICAL	3	**AMENITY VALUE**	3	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 32
GROUP VALUE CLUSTERING	2	**FRAGILITY**	3	
SURVIVAL	3	**VULNERABILITY**	3	
DIVERSITY, FEATURES	3	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT A **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 1/ 10/ 1999

PRN 1724 **SURVEY NUMBER** 50 **NGR** SH64108090 **MAP SQUARE** 68SW
SITENAME FISH TRAP **LOCATION:** PENMON POINT

SITE DESCRIPTION
Irregular walls off Penmon point, not uncovered at low tide.

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 16
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT E **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 15/10/99

PRN 4392 **SURVEY NUMBER** 51 **NGR** SH78347840 **MAP SQUARE** 77NE
SITENAME FISH WIER **LOCATION:** CONWY

SITE DESCRIPTION

Site recorded by D. Longley of G.A.T. during A55 road improvements in march 1988. The weir consisted of wooden stakes at a 350-400mm spacing with wattle woven between them. Only one phase was recorded as opposed to the multiple rows of stakes seen in some weirs. A carbon date of 1570 +/- 20 years was obtained from one of the stakes. Now probably destroyed.

SITE 2 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS ?D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** 1 **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	1	
				TOTAL: 17
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT D **NAME OF SURVEYOR** N/A **DATE VISITED**

PRN 14607 **SURVEY NUMBER** 53 **NGR** SH77158068 **MAP SQUARE** 78SE
SITENAME CORED MAELGWYN **LOCATION:** DEGANWY

SITE DESCRIPTION
Site rediscovered by N. Bannerman. Site shown on 17th century Lewis Morris chart. Gorad Maelgwyn.

The gorad can be seen on the foreshore close to the coastal defences off Cerrig Duon to the south of Llandudno West Shore. It comprises a well defined line of stones, some possibly the remnants of facing running in a slightly curving line at 90 degrees to the shore. The trap curves towards the flood tide. It is however possible that the current estuarine conditions were not in operation at the time of its construction. It is difficult to ascertain its position relative to the shore as there has been extensive coastal erosion in this area. Lewis Morris' 18th century charts show a headland in approximately the same position as the current sea defences. Several wooden posts can be seen on the inside of the gorad about 75m from its apex, possibly representing a different phase to the stone bank The foreshore here has been scoured down to red glacial clay revealing a well preserved relict foreshore.

SITE 2 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 240 **m**

TRAP CLASS B2

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 3 **NUMBER OF PHASES VISIBLE** 2

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Adjacent gorad site 55, Mostyn estate.

PUBLIC ACCESS 4 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 6

THREATS: **NATURAL EROSION** 3 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE** 3
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Detailed recording of this area of relict foreshore as erosion in progress.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	2	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 30
GROUP VALUE CLUSTERING	3	**FRAGILITY**	3	
SURVIVAL	3	**VULNERABILITY**	3	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 28/10/1999

PRN 14608 **SURVEY NUMBER** 54 **NGR** SH76607940 **MAP SQUARE** 77NE
SITENAME CONWAY NORTH MARSH TRAP (SITE OF) **LOCATION:** CONWY

SITE DESCRIPTION
Site shown on Collins chart of 1695 and listed as lost by Bannerman and Jones. Not visited, as reclaimed land etc in the vicinity supports Bannerman and Jones observation.

SITE **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	1	**CONDITION**	1	
				TOTAL: 15
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT D **NAME OF SURVEYOR** N/A **DATE VISITED**

PRN 14609 **SURVEY NUMBER** 55 **NGR** SH77158078 **MAP SQUARE** 78SE
SITENAME GORAD WYTHNO **LOCATION:** DEGANWY

SITE DESCRIPTION

Site rediscovered by N. Bannerman who describes it as Cored Wythno, featuring in the Taliesin legend, from a reference in Bingleys 1814 local guide. Cored Wyddno is however described as being between the Dyfi and Aberystwyth in the Hanes Taliesin.

The gorad can be seen on the foreshore close to the coastal defences off Cerrig Duon to the south of Llandudno West Shore. It is defined by a somewhat diffuse line of stones forming a semi circle with the mouth facing the shore. It is difficult to ascertain its position relative to the shore as there has been extensive coastal erosion in this area. Lewis Morris' 18th century charts show a headland in approximately the same position as the current sea defences. This trap appears to be a crescent shaped trap, acting either as a simple beach gorad or as a similar type 4 to the Llygwy bay gorad. The foreshore here has been scoured down to red glacial clay revealing a well preserved relict foreshore.

SITE 2 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 80 **m**

TRAP CLASS B2

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 3 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: Adjacent gorad, site 53

PUBLIC ACCESS 4 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 6

THREATS: **NATURAL EROSION** 3 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE** 3
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Detailed recording of this area of relict foreshore as erosion in progress.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	2	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 25
GROUP VALUE CLUSTERING	3	**FRAGILITY**	2	
SURVIVAL	2	**VULNERABILITY**	3	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 28/10/1999

PRN 14610 **SURVEY NUMBER** 57 **NGR** SH73407885 **MAP SQUARE** 78SE
SITENAME LLYS HELIG WEIRS **LOCATION:** CONWY SANDS

SITE DESCRIPTION
Recorded by Bannerman as possible double V shaped weir. Not yet visited as very low tides needed.

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS ?C

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:

DIVERSITY, TYPE:	
DOCUMENTATION, ARCHAEOLOGICAL	**POTENTIAL**
DOCUMENTATION, HISTORICAL	**AMENITY VALUE**
GROUP VALUE, ASSOCIATION	**CONDITION**
	TOTAL:
GROUP VALUE CLUSTERING	**FRAGILITY**
SURVIVAL	**VULNERABILITY**
DIVERSITY, FEATURES	**CONSERVATION VALUE**

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** **DATE VISITED**

PRN 14611 **SURVEY NUMBER** 58 **NGR** SH75958240 **MAP SQUARE** 78SE
SITENAME GOGARTH WEST **LOCATION:** LLANDUDNO WEST

SITE DESCRIPTION

5m wide bank of stones running at about 45 degrees to the shore with an arm running back towards the shore for about 20m. Only the outer 100m of the trap can be seen. This has been revealed by the newly formed channel of the Conwy. The inner end of the trap is still buried by sand retained by the sewage pipes. N. Bannerman has recovered wooden stakes from the weir which produced radiocarbon dates of 1460. Not all of the weir was accessible at the time of survey and no wood was visible at this time.

SITE 2 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 400 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 3
DESCRIPTION: Large sewage pipes overlie trap

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 3 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 2 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 3 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE** 3
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Recording of the sites along the new Conwy channel.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 26
GROUP VALUE CLUSTERING	3	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	3	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 28/10/1999

PRN 14612 **SURVEY NUMBER** 59 **NGR** SH76308230 **MAP SQUARE** 78SE
SITENAME GOGARTH EAST **LOCATION:** LLANDUDNO WEST

SITE DESCRIPTION

Close to and similar to Gogarth site 58. Visible as a 0.2m high and 4m wide bank of pebbles and some larger stones. The site is visible beyond the large sewage pipe that runs from the west shore. The pipe has retained a depth of sand on the inner shore and the trap presumably continues to the shore beneath the sand. The visible part of the weir extends out into the river channel for c. 80m at roughly 90 degrees to the shore. The bank appears to turn away from the direction of the ebb tide at its furthest extent, suggesting that the hydrographical conditions were different at the time of its construction. Its construction and orientation are clearly different from sites he other two Gogarth weirs and there is no evidence of the complexity needed to catch fish on the incoming tide.

SITE 2 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 300 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 2 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 2 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE** 2
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Changes in the river channel and the construction of coastal defences has resulted in erosion along the whole of Deganwy and West Shore. Monitoring of the erosion and recording of some of the features is recommended.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 22
GROUP VALUE CLUSTERING	3	**FRAGILITY**	2	
SURVIVAL	2	**VULNERABILITY**	3	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 28/10/99

PRN 14613 **SURVEY NUMBER** 60 **NGR** SH76858190 **MAP SQUARE** 78SE
SITENAME GOGARH NO 3 UNCONFIRMED FISH WEIR **LOCATION:** LLANDUDNO

SITE DESCRIPTION

End of a fish trap eroded out of the sand by the Conwy channel. The inner end of the trap appears to still be buried in the sand making an assessment of its overall plan difficult. The longest arm can be traced for 300m and runs at 45 degrees to the shore line. The trap ceases to be visible at a point 350m from the shore although it appears to continue beneath the sand towards the shore. The returning arm cuts back at an acute angle for about 150m, the last visible part of this curves out and runs towards the shore at 90 degrees before petering out. The stone banks are substantial and are in excess of 4m wide in places, standing to an exposed height of 0.4m. A few facing stones are visible on the exposed banks in the Conwy estuary. It is interesting that the return arm is on the side of the flood tide and unless it carried a superstructure of some complexity could not function as a trap in the current hydrographical conditions. Subsequent information from N. Bannerman re. a buried pipe and earlier groynes cast some doubt on the interpretation of this feature as a fish weir. Further erosion may reveal more detail.

SITE 2 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 500 **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 2 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 2 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE** 2
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Recording the various monuments on the eroding intertidal zone and monitoring the rates of erosion.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	2	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	3	
				TOTAL: 27
GROUP VALUE CLUSTERING	3	**FRAGILITY**	2	
SURVIVAL	3	**VULNERABILITY**	3	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 28/10/99

PRN 14622 **SURVEY NUMBER** 61 **NGR** SH83208170C **MAP SQUARE** 88SW
SITENAME CORED (POSSIBLE) **LOCATION:** PENRHYN BAY

SITE DESCRIPTION
Location not known. Frank Rhoden of Penrhyn Bay reported the weir and a site visit seems to be needed. More recent info from N. Bannerman confirms existence of weir poss known as Cored Llys Euryn. Site not visited as fieldwork phase of project finished by the time the information was received. Site recently damaged by a pipeline.

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: ? Llys Euryn

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:
DOCUMENTATION, ARCHAEOLOGICAL
DOCUMENTATION, HISTORICAL
GROUP VALUE, ASSOCIATION
GROUP VALUE CLUSTERING
SURVIVAL
DIVERSITY, FEATURES
DIVERSITY, TYPE:
POTENTIAL
AMENITY VALUE
CONDITION
TOTAL:
FRAGILITY
VULNERABILITY
CONSERVATION VALUE

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** **DATE VISITED**

PRN 14623 **SURVEY NUMBER** 62 **NGR** SH26709480 **MAP SQUARE** 29SE
SITENAME SKERRIES ISLETS **LOCATION:** SKERRIES

SITE DESCRIPTION
Bishop of Bangor's fisheries in the 14th to 16th centuries. Inaccessible during the present project, further work needed.

SITE **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS ?A

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:

DIVERSITY, TYPE:	
DOCUMENTATION, ARCHAEOLOGICAL	**POTENTIAL**
DOCUMENTATION, HISTORICAL	**AMENITY VALUE**
GROUP VALUE, ASSOCIATION	**CONDITION**
	TOTAL:
GROUP VALUE CLUSTERING	**FRAGILITY**
SURVIVAL	**VULNERABILITY**
DIVERSITY, FEATURES	**CONSERVATION VALUE**

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** **DATE VISITED**

PRN 14614 **SURVEY NUMBER** 66 **NGR** SH27704160 **MAP SQUARE** 24SE
SITENAME CARREG OYSTERS UNCONFIRMED FISH TRAP **LOCATION:** PORTH DINLLAEN

SITE DESCRIPTION

Site in Jones and Bannerman gazetteer. Not located in site visit. Carreg oysters is a large outcrop forming a small island off Porth Dinllaen. A bank of sand land joins this to the beach. This appears to be natural but could conceivably be artificial. There is however no reason to believe that it is a fish trap.

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:
DOCUMENTATION, ARCHAEOLOGICAL
DOCUMENTATION, HISTORICAL
GROUP VALUE, ASSOCIATION
GROUP VALUE CLUSTERING
SURVIVAL
DIVERSITY, FEATURES
DIVERSITY, TYPE:
POTENTIAL
AMENITY VALUE
CONDITION
TOTAL:
FRAGILITY
VULNERABILITY
CONSERVATION VALUE

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 10/11/99

PRN 14615 **SURVEY NUMBER** 73 **NGR** SH62517930 **MAP SQUARE** 67NE
SITENAME LLEINIOG 3 **LOCATION:** LLEINIOG

SITE DESCRIPTION

An unusual rectangular weir that does not appear to run from the shore utilising instead a raised natural stony bank at least 150m from the shore as its inner end. This could be an original design feature or a result of coastal erosion. Weir survives as a 115m x 12m inner arm from the bank to low tide mark and an outer 130m long outer arm of comparable width (at 90 degrees to the above). This arm does become narrower (6m) at the end. A further spur runs out from the centre of the outer arm into the channel. The function and phasing of this feature are unclear but it could be seen as a later addition or an earlier rectangular weir. The apex of the main weir is somewhat elongated presumably marking the remains of a sluice. A few roughly parallel stones could represent the sluice channel. Good anaerobic silts could retain preserved wood.

SITE 1 **SHORE SLOPE** 1 **DISTANCE FROM SHORE TO END OF TRAP** 390 **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 2

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** 1 **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Perhaps scheduling along with the other adjacent weirs. Full recording. Possible multiphase weir could produce early date.

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	2	**CONDITION**	2	
				TOTAL: 22
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	3	**VULNERABILITY**	2	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	2	

PROFESSIONAL JUDGEMENT B **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 14/10/99

PRN 14616 **SURVEY NUMBER** 74 **NGR** SH59207590 **MAP SQUARE** 57NE
SITENAME GALLOWS POINT TRAP (SITE OF) **LOCATION:** BEAUMARIS

SITE DESCRIPTION

Site not located. According to Jones and Bannerman documentary evidence shows that an Elizabethan weir existed at this location. Local information from John Duggan landlord of the Union 'Garth' revealed that a favourite place for netting mullet earlier this century was just to the west of Gallows Point. Area under threat from marina development.

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT Marina (level 3 threat)
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	1	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	2	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	1	**CONDITION**	1	
				TOTAL: 16
GROUP VALUE CLUSTERING	2	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT E **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 7/10/99

PRN 14617 **SURVEY NUMBER** 75 **NGR** SH54647159 **MAP SQUARE** 57SW
SITENAME WEIR BENEATH GORAD DDU **LOCATION:** MENAI BRIDGE

SITE DESCRIPTION
A 4m wide linear bank of small stones runs through the centre of the area enclosed by Gorad Ddu. This appears to be the remains of an earlier trap. Further ill defined walls can be seen to the outside of Gorad Ddu which may be associated with this site.

SITE 1 **SHORE SLOPE** 3 **DISTANCE FROM SHORE TO END OF TRAP** 65 **m**

TRAP CLASS ?D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 3
DESCRIPTION: Gorad Ddu overlies this

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 2 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 1

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	1	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	1	
GROUP VALUE, ASSOCIATION	3	**CONDITION**	2	
				TOTAL: 19
GROUP VALUE CLUSTERING	3	**FRAGILITY**	1	
SURVIVAL	1	**VULNERABILITY**	1	
DIVERSITY, FEATURES	1	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT D **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 4/11/99

PRN 7217 **SURVEY NUMBER** 76 **NGR** SH55117184C **MAP SQUARE** 57SW
SITENAME YNYS TYSILIO TRAP AND WEIR **LOCATION:** MENAI BRIDGE

SITE DESCRIPTION

Two dams run between Church Island and the shore. Records of a double tidal mill and associated fisheries survive from the 16th century. The tidal mill could well have acted as both a fish-trap and a mill. The westernmost dam is V-shaped and survives as a 3m wide stone spread, standing to a height of 0.5m. The remains of a sluice may survive at the apex. The position and plan of this dam is consistent with that of a fish weir. The other dam is more substantial and appears to be the remains of a tidal mill.

SITE 1 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS ?A

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING** 2
DESCRIPTION: Two dams form a well documented 16th century tidal mill. This appears to have doubled up as a fish weir. It is not known if either use predated the other.

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 3 **GENERAL CONDITION** 3 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 2

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION** 0
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:		**DIVERSITY, TYPE:**	3	
DOCUMENTATION, ARCHAEOLOGICAL	2	**POTENTIAL**	1	
DOCUMENTATION, HISTORICAL	1	**AMENITY VALUE**	2	
GROUP VALUE, ASSOCIATION	3	**CONDITION**	3	
				TOTAL: 26
GROUP VALUE CLUSTERING	3	**FRAGILITY**	1	
SURVIVAL	2	**VULNERABILITY**	2	
DIVERSITY, FEATURES	2	**CONSERVATION VALUE**	1	

PROFESSIONAL JUDGEMENT C **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 4/11/99

PRN 7222 **SURVEY NUMBER** 77 **NGR** SH54197124 **MAP SQUARE** 57SW
SITENAME DAM S OF COED MOR **LOCATION:** MENAI BRIDGE

SITE DESCRIPTION
Two small drystone dams crossing narrow channels between Morgans Island and the shore at Coed Mor. The dams are about 10m in length, 1.3m wide and standing to a height of 0.3m in places. The southernmost is well preserved, retaining some facing stones. The remains of the northernmost are very slight. These dams form part of site 32 (PRN 7222).

SITE 1 **SHORE SLOPE** 2 **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS D

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** 2 **NUMBER OF PHASES VISIBLE** 1

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS 4 **GENERAL CONDITION** 4 **SITE AT RISK ?**
LAND USE SITE 1 **LAND USE INLAND** 5

THREATS: **NATURAL EROSION** 1 **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE Reclassify as part of PRN 7222

SCHEDULING CRITERIA:
DOCUMENTATION, ARCHAEOLOGICAL
DOCUMENTATION, HISTORICAL
GROUP VALUE, ASSOCIATION
GROUP VALUE CLUSTERING
SURVIVAL
DIVERSITY, FEATURES
DIVERSITY, TYPE:
POTENTIAL
AMENITY VALUE
CONDITION
TOTAL:
FRAGILITY
VULNERABILITY
CONSERVATION VALUE

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 4/11/99

PRN 14618 **SURVEY NUMBER** 79 **NGR** SH78308285 **MAP SQUARE** 78SE
SITENAME CLAWDD YR GORAD **LOCATION:** LLANDUDNO NORTH SHORE

SITE DESCRIPTION
Site recently discovered by Bannnerman, not visited as field work phase of project completed.

SITE **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS U

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION: ?Mostyn Estate

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:

DIVERSITY, TYPE:	
DOCUMENTATION, ARCHAEOLOGICAL	**POTENTIAL**
DOCUMENTATION, HISTORICAL	**AMENITY VALUE**
GROUP VALUE, ASSOCIATION	**CONDITION**
	TOTAL:
GROUP VALUE CLUSTERING	**FRAGILITY**
SURVIVAL	**VULNERABILITY**
DIVERSITY, FEATURES	**CONSERVATION VALUE**

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** **DATE VISITED**

PRN 14620 **SURVEY NUMBER** 80 **NGR** SH65607450 **MAP SQUARE** 67SE
SITENAME CORED LAVAN SANDS **LOCATION:** LAVAN SANDS

SITE DESCRIPTION
Possible Class C weir shown on 1st Ed OS map. Could not be located on the ground

SITE 1 **SHORE SLOPE** **DISTANCE FROM SHORE TO END OF TRAP** **m**

TRAP CLASS C

STONE BASE **FACING STONES** **WATTLE** **SLUICE** **TRACK ON SHORE** **TIMBER POSTS**
METAL POSTS **STONE POSTS** **ARM AT LOW TIDE** **ADDITIONAL SPUR**
TRAP RUNS FROM SHORE **OPENING FACING** **NUMBER OF PHASES VISIBLE**

PHYSICALLY ASSOCIATED STRUCTURES **PHASING**
DESCRIPTION:

CULTURALLY ASSOCIATED STRUCTURES
DESCRIPTION:

PUBLIC ACCESS **GENERAL CONDITION** **SITE AT RISK ?**
LAND USE SITE **LAND USE INLAND**

THREATS: **NATURAL EROSION** **EROSION DUE TO ARTIFICIAL COASTAL CHANGE**
SEA DEFENCES THREAT **DREDGING THREAT** **STATIC FISHERIES THREAT** **VISITOR EROSION**
OTHER THREAT
MANAGEMENT RESPONSE

SCHEDULING CRITERIA:
DOCUMENTATION, ARCHAEOLOGICAL
DOCUMENTATION, HISTORICAL
GROUP VALUE, ASSOCIATION
GROUP VALUE CLUSTERING
SURVIVAL
DIVERSITY, FEATURES
DIVERSITY, TYPE:
POTENTIAL
AMENITY VALUE
CONDITION
TOTAL:
FRAGILITY
VULNERABILITY
CONSERVATION VALUE

PROFESSIONAL JUDGEMENT **NAME OF SURVEYOR** D. Hopewell **DATE VISITED** 1/10/1999

APPENDIX 3

TREE-RING ANALYSIS OF TIMBERS FROM OGWEN WEIR, BANGOR
HARP Dendrochronology Report 2000/01

Report by Nigel Nayling, Dendrochronology Laboratory, University of Wales Lampeter.

1. INTRODUCTION

This document is a technical archive report on the tree-ring analysis of oak uprights from Ogwen weir - a complex, multi-period fish weir, located on the foreshore of the Welsh mainland coast near Bangor (NGR SH605738).

2. METHODOLOGY

Methods employed at the Lampeter Dendrochronology Laboratory in general follow those described in English Heritage (1998). Details of the methods used for the dating of this structure are described below.

The full length of the weir was walked, and exposed timber uprights assessed for their suitability for tree-ring dating. Oak timbers with a minimum of 50 annual rings and some survival of the original sapwood or heartwood/sapwood boundary were sought. Timbers with less than 50 rings present were rejected as such short ring patterns may not be unique in time and may be repeated at a period of time other than the one over which the parent tree was growing (English Heritage 1998, 12; Mills 1988). This rapid assessment suggested the presence of at least three major phases of weir. The first would seem to have been constructed predominantly from relatively immature oak roundwood, possibly from coppiced woodland managed on a relatively long cycle of 20-30 years. This phase appears to have been superseded by construction in softwood of an as yet unidentified genus/species. In places along the weir, partially collapsed wattling, apparently from this phase, was observed. The latest phase comprises lines of slate uprights which were added over a number of years to replace the timber posts (Hopewell pers. Comm.). The densest area of timber posts was encountered along the easternmost arm of the weir, where a plethora of non-oak, hardwood uprights had been driven into the foreshore, possibly to reduce tidal erosion to the face of the weir. A fairly well-defined line of split oak uprights was also observed in this area, just to the east of a better-preserved line of softwood uprights. Samples were taken from these oak posts by partially exposing them, and then sawing out slice samples.

These samples were placed in a freezer for 48 hours until they had become totally frozen and their exposed transverse surfaces were then cleaned with a Surform blade prior to final cleaning using razor blades. The complete sequences of growth rings in the samples were measured to an accuracy of 0.01mm using a micro-computer based travelling stage (Tyers 1997). The ring sequences were plotted onto semi-log graph paper to enable visual comparisons to be made between sequences. In addition cross-correlation algorithms (Baillie and Pilcher 1973; Munro 1984) were employed to search for positions where the ring sequences were highly correlated. These positions were checked visually using the graphs and, where these were satisfactory, new mean sequences were constructed from the synchronised sequences. The *t*-values reported below are derived from the original CROS algorithm (Baillie and Pilcher 1973). A *t*-value of 3.5 or over is usually indicative of a good match, although this is with the proviso that high *t*-values at the same relative or absolute position must be obtained from a range of independent sequences, and that satisfactory visual matching supports these positions.

All the measured sequences from this assemblage were compared with each other and any found to cross-match were combined to form a site master curve. These and any remaining unmatched ring sequences were tested against a range of reference chronologies, using the same matching criteria: high *t*-values, replicated values against a range of chronologies at the same position, and satisfactory visual matching. Where such positions are found these provide calendar dates for the ring-sequence.

The tree-ring dates produced by this process initially only date the rings present in the timber. The interpretation of these dates relies upon the nature of the final rings in the sequence. If the sample ends in the heartwood of the original tree, a *terminus post quem (tpq)* for the felling of the tree is indicated by the date of the last ring plus the addition of the minimum expected number of sapwood rings which are missing. This *tpq* may be many decades prior to the real felling date. Where some of the outer sapwood or the heartwood/sapwood boundary survives on the sample, a felling date range can be calculated using the maximum and minimum number of sapwood rings likely to have been present. The sapwood estimates applied throughout this report are a minimum of 10 and maximum of 46 annual rings, following sapwood estimates given by Tyers (1998). Alternatively, if bark-edge survives, then a felling date can be directly utilised from the date of the last surviving ring. The dates obtained by the technique do not by themselves necessarily indicate the date of the structure from which they are derived. It is necessary to incorporate other specialist evidence concerning the re-use of timbers and the repairs of structures before the

dendrochronological dates given here can be reliably interpreted as reflecting the construction date of phases within the structure.

3. RESULTS

A total of nine samples were taken from the weir, and assigned codes **Ogwen1 - Ogwen9**. All samples had sufficient rings to merit measurement. The details of the nature of individual samples are given in Table 1. The resultant nine ring sequences were compared with each other and cross-matching identified between five of the samples (Table 2). A mean sequence calculated for the five matching samples (**Ogwent5**) was compared with dated reference chronologies from throughout the British Isles and northern Europe. Table 3 shows the correlation of this mean sequence with dated series at the dating position identified of AD1419-AD1558. The relationships between the dated timbers are indicated graphically in Figure 10.

4. INTERPRETATION

The estimated felling dates for the five date timbers are given in Table 1. Two of these samples (**Ogwen6** and **Ogwen9**) retained neither sapwood nor the heartwood/sapwood boundary, so a *terminus post quem* only can be given for each timber. Assuming a minimum of 10 lost sapwood rings (Tyers 1998), the felling dates for these timbers are after AD 1517 and after AD 1531 respectively. The remaining three dated samples all retained bark edge. The earliest dated of these (**Ogwen5**) was felled during the parent tree's period of active growth (i.e. spring/summer) in AD 1556. The parent trees for samples **Ogwen1** and **Ogwen7** were felled during the winter of AD 1556 and AD 1558 respectively. There are a number of possible interpretations for the difference in felling dates of the individual timbers. It could be that this phase was initially constructed in AD 1556 with additions/repairs being added subsequently. Alternatively, timbers could have been cut and stockpiled for use at the later date. On balance, construction in AD 1556 is favoured given the evidence for the maintenance and repair of wooden fish weirs elsewhere.

5. ACKNOWLEDGEMENTS

I am grateful to Dave Hopewell for acting as a guide and providing background information and, along with Doug McElvogue, assisting in sampling the timbers.

APPENDIX 4

GORED GWYRFAI AND OGWEN WEIR WOOD IDENTIFICATION

Report by Kate Griffiths and Astrid Caseldine

Ogwen Weir (later phases)

Taxa	No. of pieces of wood
Ulmus sp. (elm)	1
Quercus sp. (oak)	1
Betula sp. (birch)	3
Alnus glutinosa (L.) Gaertner (alder)	7
Corylus avellana L. (hazel)	4

Gored Gwyrfai (Stakes)

Taxa	No. of pieces of wood
Pseudotsuga menziesii (Mirbel) Franco (Douglas fir)	4
Picea sp./*Larix* sp. (Spruce/larch)	2
Fagus sylvatica L. (beech)	1
Fraxinus excelsior L. (ash)	1

Fig.10 Bar diagram showing the chronological positions of the dated timbers.

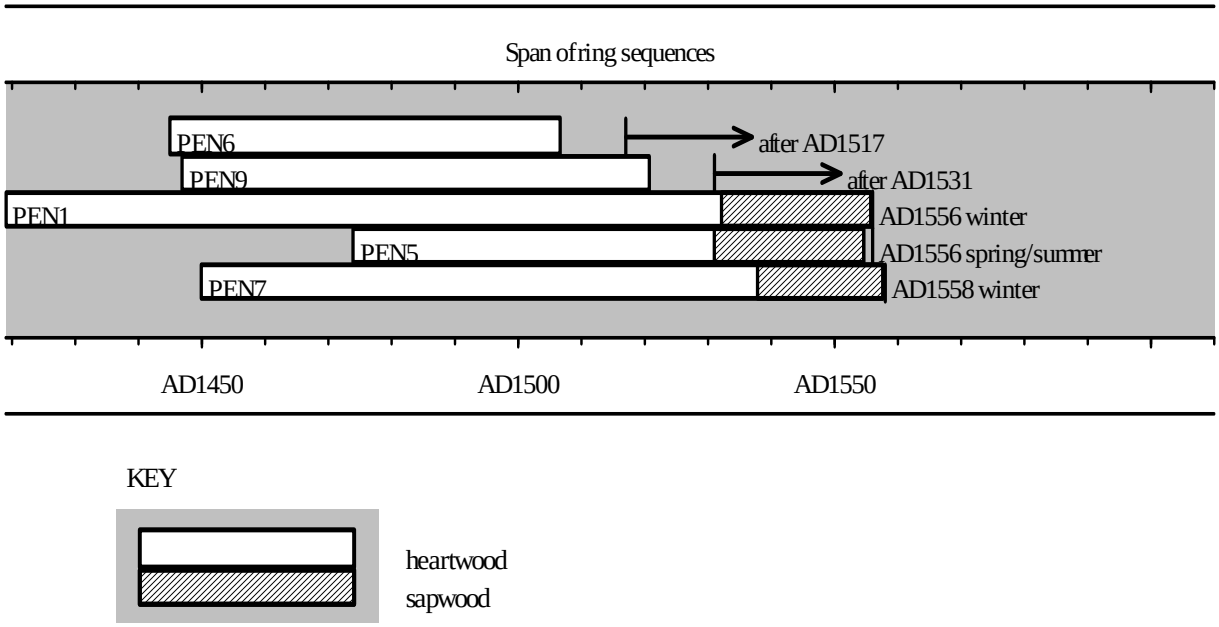

Table 1

List of samples

Sample No	Origin of sample	Cross-section size (mm)	Cross-section of tree	Total rings	Sapwood rings	ARW mm/year	Date of sequence	Felling period
Ogwen1	Eastern arm of fish weir	122 x 48	radial	138	24+Bw	0.87	AD1419-AD1556	AD1556 winter
Ogwen2	Eastern arm of fish weir	88 x 63	radial	96	25+Bw	0.88		
Ogwen3	Eastern arm of fish weir	100 x 73	radial	141	51+Bw	0.68		
Ogwen4	Eastern arm of fish weir	107 x 65	radial	66	28+Bw	1.53		
Ogwen5	Eastern arm of fish weir	88 x 79	radial	82	24+Bs	1.06	AD1474-AD1555	AD1556 spring/summer
Ogwen6	Eastern arm of fish weir	71 x 41	radial	63	-	1.15	AD1445-AD1507	after AD1517
Ogwen7	Eastern arm of fish weir	110 x 71	radial	109	20+Bw	0.92	AD1450-AD1558	AD1558 winter
Ogwen8	Eastern arm of fish weir	138 x 91	radial	149	13+Bw	0.79		
Ogwen9	Eastern arm of fish weir	110 x 60	radial	75	-	1.46	AD1447-AD1521	after AD1531

Total rings = all measured rings. Sapwood rings: Bw = bark edge, winter felled. Bs = bark edge, summer felled ARW = average ring width of the measured rings. All timbers are oak (*Quercus spp*.).

Table 2

a) *t*-value matrix for all samples.

Samples	Ogwen5	Ogwen6	Ogwen7	Ogwen9
Ogwen1	5.36	4.91	5.07	5.07
Ogwen5	*	5.61	3.44	3.22
Ogwen6	*	*	8.40	5.94
Ogwen7	*	*	*	6.20

Table 3

Dating the mean sequence **Ogwent5** to AD1419-AD1558. *t*-values with mutually independent regional reference chronologies and site masters.

Area	Reference chronology	*t*-values
a) Regional Chronologies		
Dublin	Dublin Medieval (Bailllie 1977)	4.59
Welsh Border	Welsh Border (Siebenlist-Kerner 1978)	4.29
West Midlands	England West Midlands 79 chronology mean (Tyers pers. Comm.)	5.04
b) Site masters		
Anglesey	Hafoty, Llansadwen (Hillam pers. Comm.)	5.21
Gwynedd	Llyn Peris boat (Nayling 1999)	5.50
Greater Manchester	Apethorn Fold Farmhouse (Tyers forthcoming)	4.64
Greater Manchester	Hurstwood Great Barn (Nayling 1998)	4.96