

Introductions to
Heritage Assets

River Fisheries and Coastal Fish Weirs



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ENGLISH HERITAGE



Fig. 1. Timber fish weirs off Cleethorpes, Lincolnshire. They are only visible for a very brief period at low spring tides, and are currently undated. In such cases the lengths of the weir-walls vary, but can be several hundred metres long.

INTRODUCTION

The catching of fish in rivers, lakes and tidal waters using weirs and other forms of stationary trap is an ancient activity still practised in a few parts of Britain today. It is sometimes referred to as passive fishing (that is, fishing that does not require the fisherman's full-time presence) to distinguish it from active techniques including spearing, the use of rod and line and net-fishing techniques such as trawling, lavenetting and long-netting. Active techniques leave little direct archaeological evidence apart from fish bones found either on processing sites or at the point of consumption, sometimes in large quantities in middens; other occasional finds are fish spears, hooks, net-weights and -floats, and undiagnostic timber platforms (needed to land a long net for example). All these are excluded from the current discussion which is concerned solely with identifiable structural evidence.

The word 'weir' comes from the Anglo-Saxon *wer*, one meaning of which is a device to trap fish. More specifically, a fish weir may be defined as 'a barrier erected ... in the sea or in a river to deflect fish into an opening where they can be caught in a net or wicker basket'. Most often the weir is V-shaped (although variations to this basic plan are known) with the trap positioned at the apex (Figure 1). However, baskets can be found deployed without associated barriers, either singly in rivers and smaller watercourses, or in groups such as the historic putt and putcher ranks (see below for definitions) peculiar to the Rivers Wye and Severn. Although weirs and traps are mostly constructed out of organic materials (which do not normally survive in archaeological deposits on dryland sites), many have been at least partly preserved by waterlogging. The use of wood

and timber also enables their remains to be accurately dated by radiocarbon and dendrochronology (tree-ring dating).

In England the earliest reliable (albeit circumstantial) evidence for individual fish traps so far published dates from the early Neolithic (approximately 6,000 years ago), but traps in association with weirs have been excavated in Ireland that are 8,000 years old. The English evidence becomes more plentiful in the post-Roman period when there are historical references to set alongside increasing numbers of known archaeological examples: at least two types of fish weir (the *cytwer* and *haecwer*, discussed below) are mentioned in Saxon land charters, for example, and Domesday Book and later documents commonly mention both weirs (*gurgites*) and fisheries. Reference to a fishery can often be taken to indicate the presence of a weir (particularly when the documents measure the render or value in catches of migratory fish such as eels and salmon), but it is important to realise that the term conveys a general legal right to take fish from a defined stretch of river or foreshore, and fishing in such places is likely to have been conducted using active as well as passive techniques.

In Britain, the recognition and study of fish traps and weirs as archaeological monuments dates largely from the 1970s, but there is a much longer tradition of describing the equipment and practices of individuals and communities pursuing what, already by the 20th century, was becoming a fast-disappearing way of life.



Fig. 2. Reconstruction of a Saxon timber fish weir.



Fig. 3. A row of conjoined timber fish traps in Morecambe Bay, Lancashire.

DESCRIPTION

The classic form of weir (probably equating to the Anglo-Saxon *haecwer*) is a 'fish-proof' V-shaped barrier made of wattle hurdles or brushwood bundles (Figure 2) held in place by timber posts or a combination of posts and rubble, designed to channel the fish into a net or basket at the apex or 'eye'. (More recent weirs may comprise nets only: stake nets, for example, are long nets supported on rows of posts which trap the fish directly). Weirs consisting almost entirely of thick rubble walls are also known but seem confined to the coastal waters of south-west England (and Wales), presumably reflecting the use of an alternative raw material where available, the difficulty of anchoring timber stakes into hard rock and shingle beaches and the need for weirs in such situations to withstand the repeated scouring action of waves and tides. River weirs principally trap migratory fish and point up or downstream depending on the species targeted (upstream for salmon; downstream for eels), but seldom stretch across the entire width of the channel: this is partly to allow some fish to escape and thus preserve stocks, but is chiefly because otherwise they would completely obstruct river navigation. Foreshore weirs always point out to sea in order to trap fish behind walls of hurdles or stone as water drains away through and round the barrier on an ebb tide. Variant forms are known, including 'tick' or L shapes, crescents or bows, long linear barriers with or without side walls (although it has been suggested that such structures are coastal revetments) and at least one rectangle; W shapes and zig-zags (Figures 3 and 4) can also occur where two or more V-shaped weirs are placed side by side. Coastal weirs are sometimes arranged in a series of parallel rows, presumably to maximise the size of the catch at both spring and neap tides (Figure 4). In places along the south coast of England, so-called 'sea-ponds' – ponds flushed by the tide and allowing fish in but not out – may be considered to represent a variant form of weir, but are poorly recorded or understood. Many different fish species were taken in coastal weirs, including cod, herring, sprats and crustaceans such as shrimp.

Traps can also be found placed in rivers and smaller watercourses without the benefit of a weir to funnel fish into them. The baskets in such cases can be pegged or weighted down on the river bed or else tied to posts. Unless the basket

itself is preserved, the archaeological evidence will normally be circumstantial and open to alternative interpretation, consisting perhaps of no more than a single pole or a suggestive arrangement of pegs or stone weights. In historic times, fishermen on the Wye and Severn have used baskets of a variety of types and size, known as putts, putcheons, putchers and weels. Long chains of these, sometimes in combination (putts anchored to poles, but putchers arranged in tiers on a stout timber framework) were set into the river at an approximate right angle to the stream (Figure 5). Such structures are traditionally called weirs, but rank is probably a better name; to confuse matters, however, basket ranks may be accompanied by wooden barriers ('hedges' or 'leaders') to help channel fish into them. On the Severn, putt ranks are probably the same as the *cytweiras* or 'basket weirs' referred to in Saxon land charters, but putcher ranks seem to have been introduced only in the early 19th century. Forms of basket rank are known on other rivers also, including the Thames where they were used specifically to catch eels (Figure 6). A few basket ranks are still in use on the Severn; archaeological examples may be represented by no more than double or multiple rows of posts protruding from the river bed.

CHRONOLOGY

As stated, the earliest fish traps and weirs thus far discovered in the British Isles are from Ireland (radiocarbon dated to between 6100 and 5700 BC). It is a reasonable assumption that similar devices were in use in England from at least as early a period, but so far direct archaeological evidence is limited: probable remains of individual estuarine traps have been found at Wootton-Quarr on the Isle of Wight and at Barrow on the south shore of the Humber dating from the early 4th and early 2nd millennia BC, while isolated wattle panels of prehistoric and Roman date recovered from the River Trent at Hemington (Leicestershire), from Seaton Carew (Hartlepool) and from the Severn estuary may be parts of fish weirs, but almost without exception when definite examples of timber weirs have been investigated in English waters they have been found to be Anglo-Saxon or medieval.



Fig. 4. Multiple rows of disused zig-zag fish traps in Bridgwater Bay, Somerset.

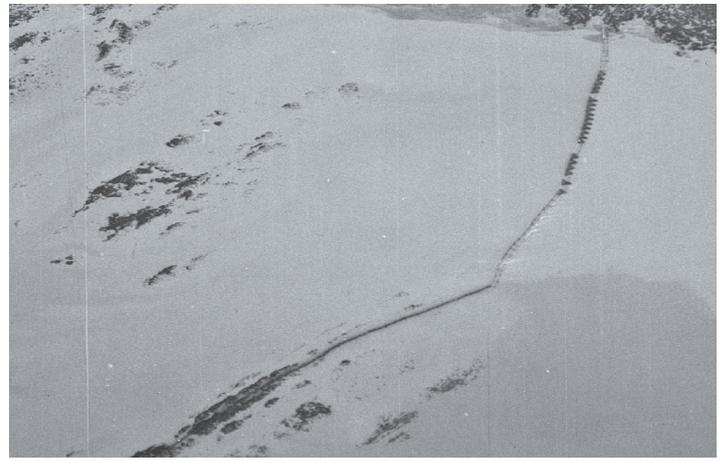
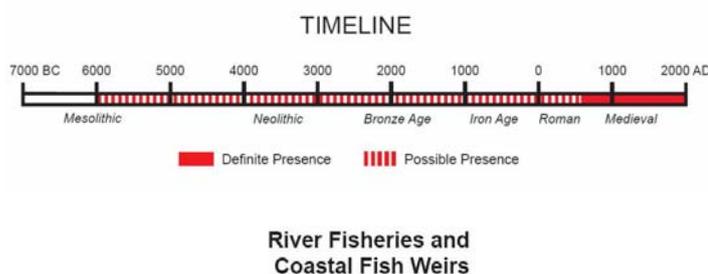


Fig. 5. A vertical photograph taken in 1945 showing a putt and putcher rank still in use off Berkeley (Gloucestershire) in the Severn estuary. The black V-shapes are putts, seemingly flanked by tiers of putchers.

This has led to the suggestion that there was very little investment in fixed fishing structures before circa AD 600. However, the lack of evidence for prehistoric and Roman weirs could be because on the coast such structures now lie beneath several metres of water due to sea-level rises in the intervening period, and are only rarely, if at all, exposed by low tides. None of the stone-built weirs from the west of England has yet been excavated (and would be very difficult to date anyway), but all are likely to be Anglo-Saxon or later simply because prehistoric counterparts will either be submerged or have been washed away (constant repair and maintenance is needed as stones become dislodged: Figure 7). It is harder to account for the apparent dearth of early weirs in rivers, particularly given the large number of prehistoric causeways, trackways, bridges and jetties now known from inland watery contexts. Here, the problem may be one of recognition and interpretation: the identified structures may have had multiple functions, including use as fishing platforms, although there is increasing evidence to suggest fish was not widely eaten in the Iron Age. However, a possible weir dating from the mid-1st millennium BC has been reported from Hemington (the final assessment is yet to be published), while short lengths of stake alignments, in part associated with fragmentary wattle panels, found in late Roman contexts along the margins of the Brayford Pool at Lincoln, have been interpreted as the remains of fish weirs. Eel bones excavated from Roman urban deposits (at Colchester and London for example) may be indirect evidence for fish weirs, but the eels could have been caught using eel-spears or special nets instead. Our present understanding of chronology, therefore, is probably best summarised by the timeline below:



ASSOCIATIONS

Fish weirs do not often have direct, physical associations with other historic features in the landscape. Most likely, any links will be documentary and historical to weirs and fisheries recorded as part of the holdings and rights enjoyed by Anglo-Saxon and medieval manors. There is evidence, particularly from the River Witham in Lincolnshire, to suggest that after the Norman Conquest some, if not most, fisheries had a land-based component comprising a house (perhaps sited on a mound to raise it above flood levels) where the catch was processed, but fishery mounds and fish houses are presently poorly researched and documented. Individual fish traps are occasionally integrated within other structures such as mill races.

FURTHER READING

There is no single, up-to-date, comprehensive work dealing with English fish weirs and fisheries. The most useful national overviews are probably still articles published some 20 years ago by C J Bond, 'Monastic Fisheries', pages 69-112 in M Aston (ed), *Medieval Fish, Fisheries and Fishponds in England* (1988) and by C R Salisbury, 'Primitive British Fishweirs', pages 76-87, in G L Good, R H Jones and M W Ponsford (eds), *Waterfront Archaeology* (1991). Two other very worthwhile regional accounts are also to be found in the same Aston-edited volume – by D J Pannett, 'Fish Weirs of the River Severn with Particular Reference to Shropshire'; and A J White, 'Medieval Fisheries in the Witham and its Tributaries (Lincolnshire)' (pages 309-27 and 371-89 respectively) – while 'sea ponds' are discussed briefly on pages 283-6 of the C K Currie contribution, 'Medieval Fishponds in Hampshire'.



Fig. 6. Eel traps on the River Thames at Bray, Berkshire, photographed by Henry Taunt in 1885.



Fig. 7. Some of the stone-built weirs in Minehead Bay, Somerset, are still in use and need constant maintenance.

Few excavation reports are yet published, and the report on what is probably the first modern excavation of a fish weir in an English river is still worthwhile reading (C R Salisbury, 'An Anglo-Saxon Fish-weir at Colwick, Nottinghamshire', *Transactions of the Thoroton Society* 85 (1982), 26-36) as is that on the earliest such structure so far reported from the British Isles, M McQuade and L O'Donnell, 'Late Mesolithic Fish Traps from the Liffey Estuary, Dublin, Ireland', *Antiquity* 81 (2007), 569-84 – available online at <http://www.antiquity.ac.uk/Ant/081/ant0810569.htm>. Good descriptions and photographs of the basket ranks and other means of fishing the Wye and lower Severn can be found in B Waters, *Severn Tide* (1947), which describes the then already fast-disappearing traditional ways of life of communities along that river. That book, however, omits mention of the stone weirs that line the English shore of the Bristol Channel, particularly around Minehead. A useful brief overview of these is provided by M Langham ('Ancient Monuments at Sea', *Country Life*, 17 November 1983, pages 1458-60), while the most recent mapping and discussion is by S Crowther and A Dickson in the English-Heritage commissioned 2008 volume *Severn Estuary Rapid Coastal Zone Assessment Survey: National Mapping Programme* (available online from the RCZAS pages of the English Heritage website www.english-heritage.org.uk). Articles on the survey, excavation and dating of East Coast timber fish weirs include: R L Hall and C P Clarke, 'A Saxon Inter-tidal Timber Fish Weir at Collins Creek in the Blackwater Estuary', *Essex Archaeology and History* 31 (for 2000), 125-46; and L Everett, *Targeted Inter-Tidal Survey* (2007), also available online from the RCZAS pages of the English Heritage website.

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