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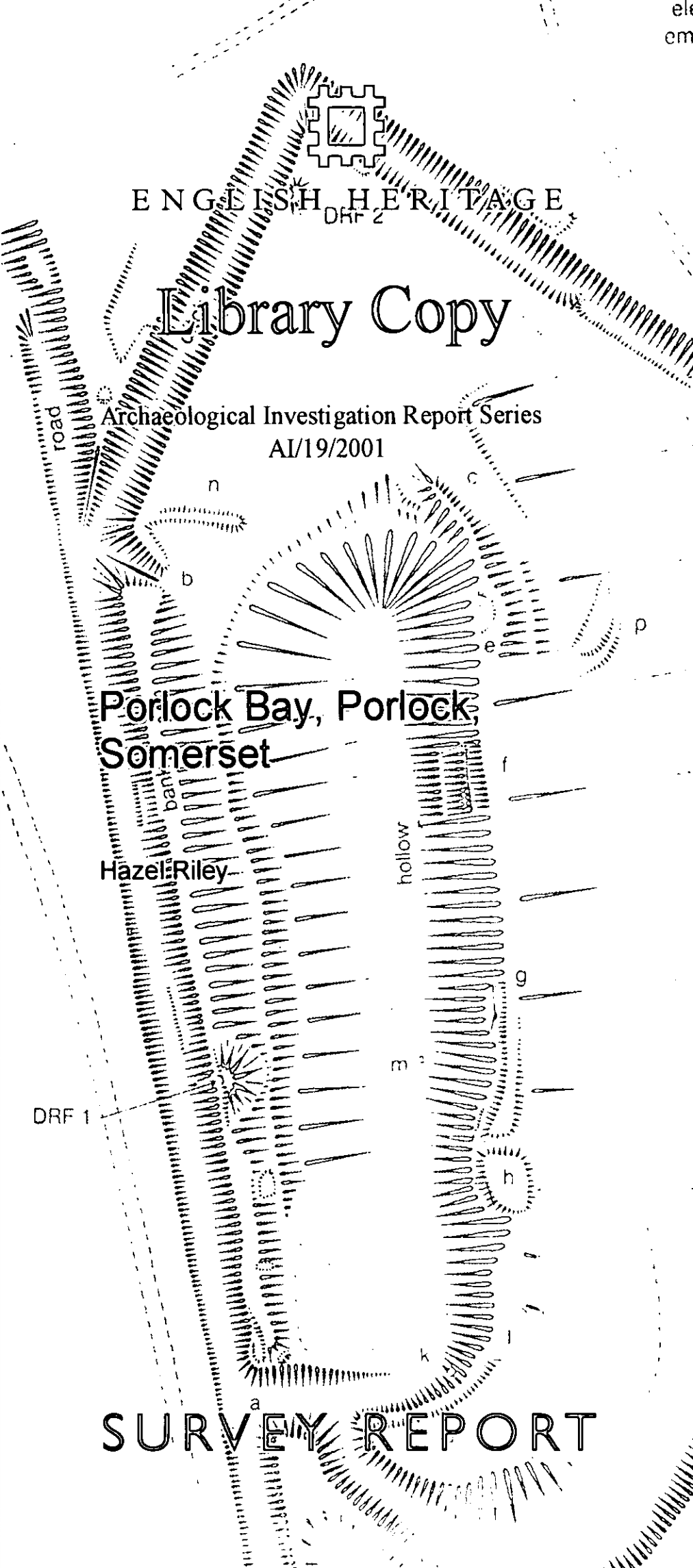
Archaeological Investigation Report Series
AI/19/2001

Porlock Bay, Porlock,
Somerset

Hazel Riley

DRF 1

SURVEY REPORT





ENGLISH HERITAGE

Porlock Bay, Porlock, Somerset

An archaeological survey by English Heritage

County:	Somerset
District:	West Somerset
Parish:	Porlock
OS Map No:	SS 84 NE
NGR:	SS 870 480
NMR No:	SS 84 NE 12
Surveyed:	Hazel Riley
Report by:	Hazel Riley
Surveyors:	Hazel Riley, Paul Pattison, Rob Wilson-North

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PORLOCK BAY, PORLOCK, SOMERSET

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SUMMARY

The submerged forest, visible at low tide on the beach at Porlock Bay, has been the subject of much interest due to the recent breaching of the shingle bank and consequent changing course of a fast-flowing stream. Excavations have also been carried out at the nearby site of an aurochs skeleton, buried in a palaeochannel, and exposed due to erosion. Surveys of the submerged forest were carried out in 1991 and 1998. A further survey in 2001 located the sites of dendrochronological sampling.

INTRODUCTION

Porlock Bay is long stretch (c 4 km) of shingle and pebble beach, bounded to the east by Hurlstone Point and to the west by Gore Point, on the north coast of Exmoor, centred at SS 870 480 (**Fig 1**). The villages of Porlock Weir and Bossington lie at the western and eastern edges of the bay, and the town of Porlock lies 1 km inland. A large shingle ridge backs the beach. Two streams, Horner Water and that which drains Hawkcombe, enter the sea at Bossington and Porlock Weir respectively. Porlock Marsh, an area of low-lying ground, lies immediately behind the shingle ridge. Beyond the marsh the ground rises steeply through woods and pasture fields to the moors of Porlock Common and Doverhay Down to the south and Bossington Hill to the east (**Fig 2**).

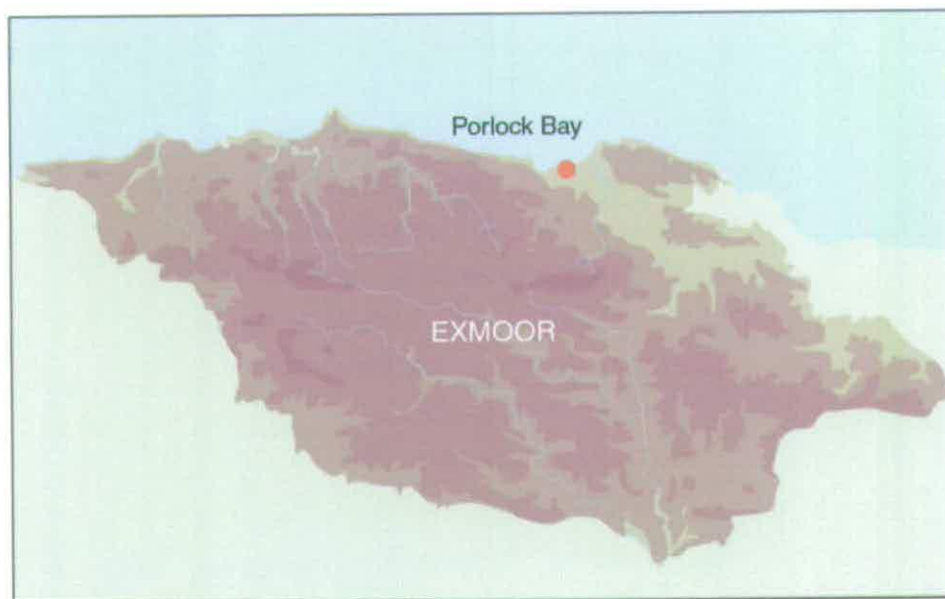


Figure 1: Porlock Bay: location map

ARCHAEOLOGICAL RESEARCH

The archaeological and palaeoenvironmental features at Porlock Bay have been documented for many years. A submerged forest was recognised in 1836 by Sir Henry de

la Beche and investigated by Boyd Dawkins in 1869. He found worked flint under the forest material, since identified as probably Mesolithic in date (Boyd Dawkins 1872; Canti *et al* 1995). Several other chance finds of Mesolithic material have been recorded around Porlock Bay (summarised in Canti *et al* 1995), and a well-known site of late Mesolithic date lies 3 km to the south-west at Hawkcombe Head (Norman 1982).

In 1991 the RCHME undertook a survey of the submerged forest for the ENPA archaeologist, and some environmental sampling of the peat was carried out. In 1994-5 an evaluation of the archaeological and palaeoenvironmental potential of the area was carried out, prior to predicted erosion and inundation of Porlock Marsh caused by the imminent breaching of the shingle ridge. A summary of this work has been published (Canti *et al* 1995). The ridge was eventually breached in October 1996, following storms. As a result of continued monitoring in the area of the breach, the bones of an aurochs were identified and excavated from the foreshore close to the base of the shingle ridge in 1998. Radiocarbon dating of the bones showed that the aurochs was alive during the earlier part of the Bronze Age – a late survival of this ancestor of our domesticated cattle (McDonnell 1998) (Fig 3).



Figure 2: Porlock Bay: air photograph looking east along the coast. The fish weirs at Gore Point are visible in the foreground and Porlock Marsh lies to the top left (NMR 18280/19)

The RCHME's archaeological survey of Exmoor identified and recorded features in the area, and a GPS survey of the submerged forest and other features (below) was carried out in 1998. Further erosion and the rapid changing of the environment close to the site of the aurochs find led to another excavation here in April 2001, to ensure that no material was left to be lost by erosion. The trenches were located to the National Grid by GPS survey by the Exeter Office of EH. Sites of samples taken from the submerged forest for dendrochronological work by Bristol University were also recorded. Co-ordinate information is given in Appendix 1.

THE RCHME AND EH SURVEYS

A survey was undertaken in 1991 to record the extent of the submerged forest for the first time. It was carried out using a total station theodolite. The levels were calculated by reference to an OS benchmark on a nearby building in Porlock Weir (SS 867724 47607). The survey was not referenced to the OS National Grid but a local survey grid was used (Pattison and Wilson-North 1991). The survey carried out as part of the RCHME archaeological survey of Exmoor in 1998 was done using single frequency differential GPS (Global Positioning System) and was located to the OS National Grid (OSGB36) by reference to the triangulation pillar on Selworthy Beacon.

The survey carried out by EH in 2001 to determine the positions of various pegs relating to the excavations was done with dual frequency GPS. It was located to OSGB36 via reference to the OS satellite data from fixed points at the Lizard and Nash Point. This data was obtained from the OS website. The OS benchmark on the building at Porlock Weir was used to obtain all of the heighting information for the three surveys. The internal discrepancies in plan for the two surveys of the submerged forest were negligible. Therefore the local grid of the 1991 survey was transformed to OSGB36 using a transformation programme in ACADMap (R14) and common points to both surveys. This allowed comparison of the peat and tree stumps before and after the breach of the shingle ridge (Fig 7).

THE SUBMERGED FOREST (Fig 7)

The remains of the submerged forest consist of areas of peat, tree stumps and pieces of fallen timber, all exposed on the beach at low tide. The tree stumps and pieces of wood occur either in the peat or are now isolated as the peat has eroded away around them. The area is vulnerable to erosion as the course of the breach outflow channel moves (Fig 6).

The picture is complicated by the fact that the area is sometimes covered with sand, so that exposures will vary at different times. For example, in the area around the sample pegs (3007, 3009, 3011) some peat and wood recorded in 1991 was not visible in 1998, but was visible again in 2001.

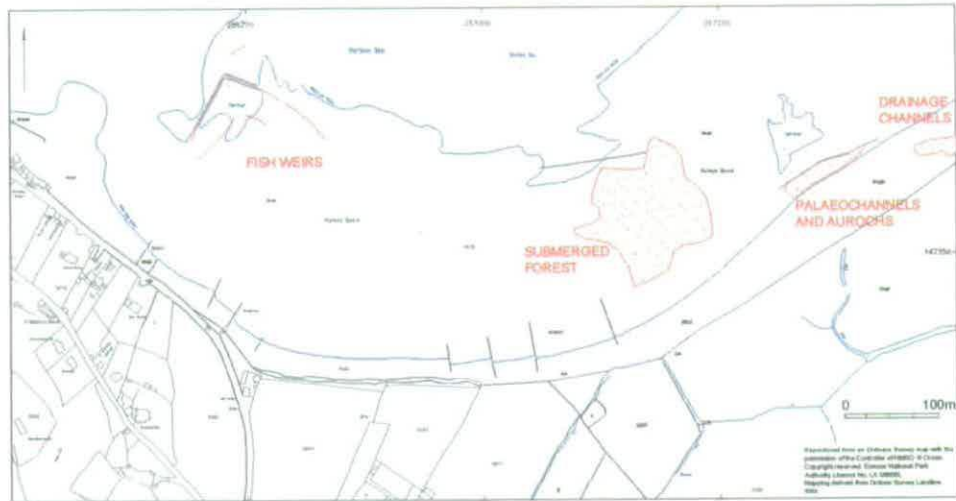


Figure 3: Porlock Bay: map showing the location of the submerged forest



Figure 4: Porlock Bay: the peat exposures and submerged forest remains lie in the area of clean sand between the shingle outcrops (NMR 18280/25)

To the east, the peat is covered with shingle and so its eastern edge cannot be recorded. The best exposures of peat (up to c 10 cm thick) are along the edge of the shingle, where it

is afforded a degree of protection (**Figs 5 and 6**). The peat edge is breaking up and eroding as the shingle shifts with the tides and channel movements. The western edge of the easternmost 'flat doughnut'-shaped peat exposure is eroding as water drains off the area. A small area of peat just to the west of the edge, recorded in 1998, is now very fragmentary and only a few centimetres thick.



Figure 5: Porlock Bay: peat exposure in 1998



Figure 6: Porlock Bay: peat exposure in 2001, with the breach outflow channel flowing over the peat

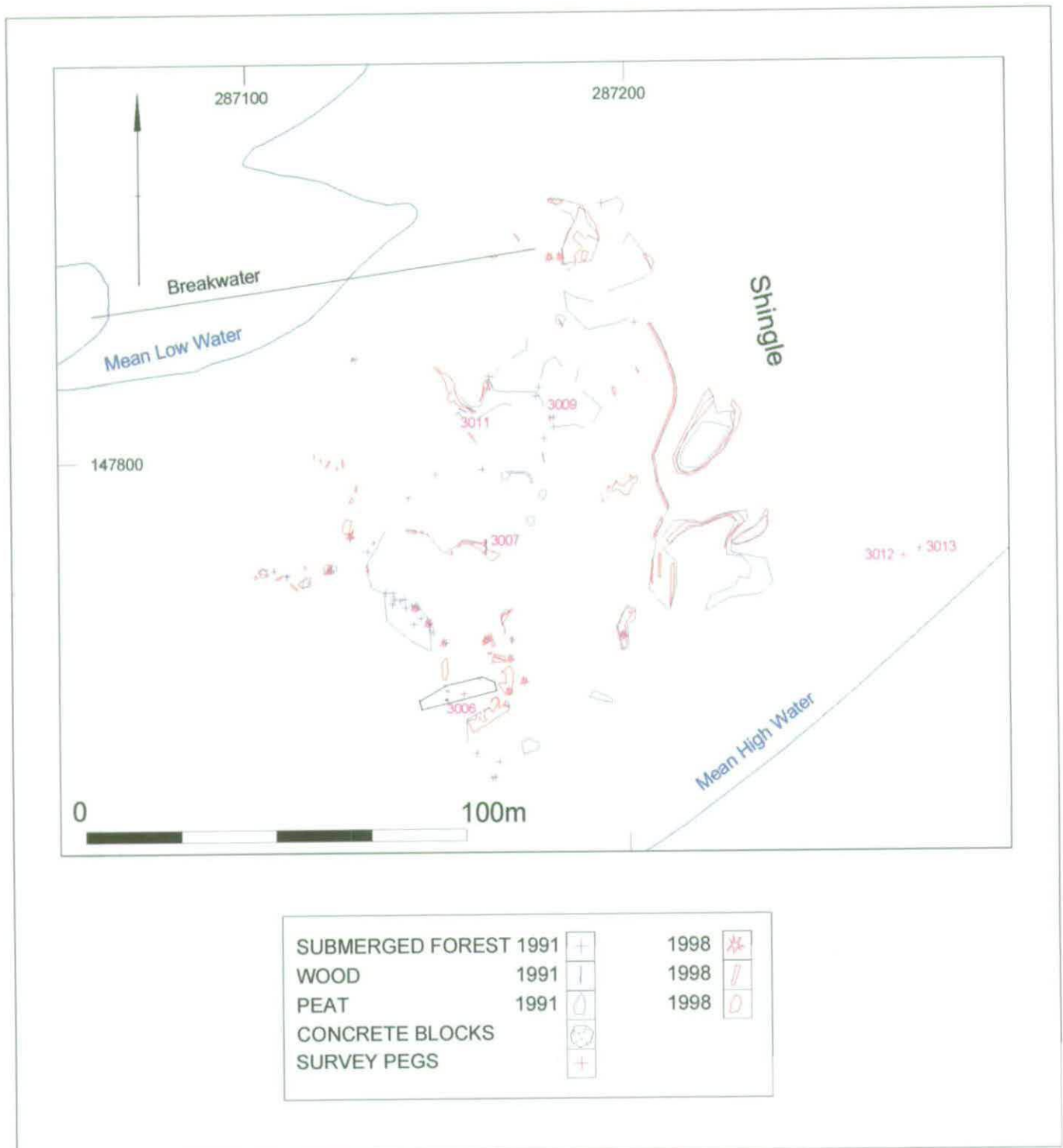


Figure 7: Plan of submerged forest 1991 and 1998, 1:500 scale (based on RCHME and EH plans)

Only some of the northernmost peat exposure, just east of the breakwater, was visible in 1998. Some of the peat is more broken up now than it was in 1991. Only a small part of the edge in the shingle is now visible, perhaps a result of the rocks shifting and so covering it. The westernmost exposure, fragmentary in 1991, remains, but in a very degraded state.

The area around the sample pegs (numbers 3007, 3009, 3011) affords some of the best exposures of peat and wood away from the shingle edge. Some of the peat areas were covered in sand in 1998, but two pieces of wood do appear to have gone since the 1991 survey. The area immediately south of this, just north of the concrete blocks, has undergone the most change. A large exposure of peat and wood (c 30 x 10 m) is now only visible in a few places. The area is covered in sand, but it is difficult to tell (short of excavation) whether the peat survives below it. South of the concrete blocks, most of the wood and all of the peat recorded in 1991 has now disappeared. A large exposure of peat (c 20 x 5 m) on the southern edge of the shingle has disappeared since 1991.

OTHER FEATURES

The remains of structures of various dates, but mostly relating to the use of the coast in the post-medieval period, were also recorded during the RCHME survey work. Detailed records and plans are available in the NMRC, Swindon (Appendix 3). As the breach in the shingle ridge eroded back, some boundary and drainage features were exposed, probably relating to the use of the marsh for agriculture in the post-medieval period (Fig 8). Several stone built fish weirs were recorded, at Porlock Weir and on Gore Point. These features are common along the West Somerset coast and may date to the post-medieval period or earlier. A duck decoy, probably dating from the 18th century, survives as an earthwork on the marsh. It was surveyed in advance of the breaching of the shingle ridge as part of the RCHME Exmoor survey project. The decoy is now partially submerged during very high tides (Canti *et al* 1995, fig 24). Several well-preserved lime kilns, probably dating from the 19th century, were recorded at Bossington, Porlock Weir and Worthy.

The large Victorian house at Ashley Combe, just inland from Porlock Weir, was finally demolished in the 1960s. Its bizarre gardens and tunnels survive on the wooded cliffs. An ornamental boathouse known as Rockford Cottage was part of this elaborate scheme. It survives in a ruinous state on the cliff base close to Worthy.

A coastguard station at Hurlstone Point, built in 1900, was in use until after the Second World War. A string of pillboxes and an ROC post defended the bay in the Second World War. The remains of these buildings are still important features on the beach and on the marsh.



Figure 8: Porlock Bay: using GPS to survey post-medieval boundary features

ACKNOWLEDGEMENTS

Porlock Manor Estate allowed access to the site; Paul Pattison and Rob Wilson-North carried out the 1991 survey of the submerged forest.

REFERENCES

Boyd Dawkins, W 1872 Ancient geography of the west of England
Somerset Archaeol Natur Hist **18**, 26-33

Canti, M, Heal, V, McDonnell, R, Straker, V and Jennings, S 1995 Archaeological and palaeoenvironmental evaluation of Porlock Bay and Marsh
Archaeology in the Severn Estuary **6**, 46-69

McDonnell, R 1998 *Porlock Bay Aurochs December 1998 Excavation Report*
Report for Exmoor National Park Authority

Norman, C 1982 Mesolithic hunter-gatherers 9000-4000 BC, in Aston, M and Burrow I C
G (eds) *The Archaeology of Somerset*, 15-21

Taunton: Somerset County Council

Pattison P and Wilson-North R 1991 Porlock Weir, Somerset RCHME Survey 20
November 1991

Survey report (UID 1003242)

**APPENDIX 1: CO-ORDINATE INFORMATION FROM GPS SURVEY APRIL
2001**

POINT 3006 BRASS RIVET IN CONCRETE

287156.257

147740.777

-2.386

POINT 3007 PEG DENDRO SAMPLE C (GROUND LEVEL)

287162.049

147779.391

-3.235

POINT 3009 PEG DENDRO SAMPLE B (GROUND LEVEL)

287179.623

147810.950

-3.353

POINT 3011 PEG DENDRO SAMPLE A (GROUND LEVEL)

287159.084

147812.778

-3.529

POINT 3012 PEG ORIGIN OF ENPA SURVEY BASELINE

287272.097

147775.253

0.013

POINT 3013 BRASS RIVET IN CONCRETE

287276.421

147776.936

0.219

POINT 3025 TOP OF PEG TRENCH B (15.5 CM TO GROUND LEVEL)

287311.670

147799.953

0.346

POINT 3017 TOP OF PEG TRENCH B (18 CM TO GROUND LEVEL)

287315.811

147804.730

0.247

POINT 3024 AUROCHS PEG (GROUND LEVEL)

287327.551

147822.546

-0.075

POINT 3022 TOP OF PEG TRENCH A (10 CM TO GROUND LEVEL)

287335.809

147827.266

0.334

POINT 3023 BRASS RIVET IN CONCRETE WITH WOODEN POST END OF ENPA
SURVEY BASELINE

287393.412

147840.307

1.005

POINT 3027 BRASS RIVET IN CENTRE OF GROUYNE POST

287097.199

147660.127

3.268

APPENDIX 2: MATERIAL AVAILABLE FROM THE NMRC, SWINDON

Pattison P and Wilson-North R 1991 Porlock Weir, Somerset RCHME Survey 20 November 1991 (Survey report)

Plans at 1:500 scale of the submerged forest and peat 20 November 1991

Plan at 1:1000 scale of the submerged forest and peat September 1998

Archaeological record for submerged forest (NMR SS 84 NE 12)

Plan at 1:2500 scale showing the submerged forest in Porlock Bay

Plan at 1:500 scale showing the submerged forest in 1991 and 1998, and the survey pegs for the 2001 excavations

APPENDIX 3: NMR NUMBERS OF SITES

SS 84 NE 12	SUMERGED FOREST, PORLOCK BAY	SS 8719 4779
SS 84 NE 21	DUCK DECOY, PORLOCK MARSH	SS 8760 4760
SS 84 NE 29	LIMEKILN, PORLOCK WEIR	SS 8632 4799
SS 84 NE 31	ASHLEY COMBE	SS 8572 4814
SS 84 NE 34	GARDENS AT ASHLEY COMBE	SS 8580 4820
SS 84 NE 38	LIMEKILN, BOSSINGTON BEACH	SS 8912 4832
SS 84 NE 44	PILLBOX, BOSSINGTON BEACH	SS 8916 4839
SS 84 NE 45	PILLBOX, BOSSINGTON BEACH	SS 8905 4828
SS 84 NE 46	PILLBOX, BOSSINGTON BEACH	SS 8929 4830
SS 84 NE 48	PILLBOX, PORLOCK WEIR	SS 8640 4805
SS 84 NE 49	PILLBOX, PORLOCK WEIR	SS 8647 4800
SS 84 NE 50	LIME KILN, BOSSINGTON BEACH	SS 8915 4834
SS 84 NE 51	LIME KILN, BOSSINGTON BEACH	SS 8916 4835
SS 84 NE 52	LIME KILN, BOSSINGTON BEACH	SS 8921 4838
SS 84 NE 54	FISH WEIRS, PORLOCK WEIR	SS 8674 4790
SS 84 NE 73	COASTGUARD STATION	SS 8998 4919
SS 84 NE 74	ROC POST, SPARKHAYES LANE	SS 8860 4738

SS 84 NE 75	PILLBOX, PORLOCK WEIR	SS 8641 4797
SS 84 NE 76	PILLBOX, WEST PORLOCK	SS 8701 4716
SS 84 NE 78	LIME KILN, WORTHY	SS 8583 4833
SS 84 NE 79	BOATHOUSE, ASHLEY COMBE	SS 8556 4835
SS 84 NE 86	FISH WEIR, GORE POINT	SS 8563 4849
SS 84 NE 87	FISH WEIR, GORE POINT	SS 8565 4851
SS 84 NE 88	FISH WEIR, GORE POINT	SS 8566 4854
SS 84 NE 89	FISHWEIR, GORE POINT	SS 8571 4859
SS 84 NE 90	FISH WEIR, GORE POINT	SS 8573 4861
SS 84 NE 91	FISH WEIR, GORE POINT	SS 8582 4871
SS 84 NE 92	FISH WEIR, GORE POINT	SS 8587 4872


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